Volkswagen

The New Polo – International Driving Presentation

Sardinia, Spring 2009

Note:

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Up to 20 percent better fuel economy points the way to the future

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3.6 liter fuel consumption and 96 g/km CO_2 set new benchmark for five-seaters

ESP plus Hill Hold Control are standard; significantly improved crash properties

- Wolfsburg / Sardinia, May 2009. At the Geneva Motor Show at the beginning of March, the Polo debuted with a completely new look and technology. After its celebrated world premiere, this latest Volkswagen is now entering the market. Prof. Dr. Martin Winterkorn: "The new Polo fulfills the highest standards of the automotive present and goes a step further. Its extremely efficient drive technologies, best possible active and passive safety systems, a level of quality never before attained in this car class and impressive design all set new benchmarks in the fifth generation of this bestseller that has sold over 10.6 million units." The Chairman of the Board of Management of the Volkswagen Group continues: "The Polo is clearly the right car at the right time, and that is born out by the latest advance sales figures. Here we have created a Volkswagen that takes the unparalleled success of the Golf concept and effectively transfers it to an independent segment – the Polo class."
- "It is already clear that the Polo will redefine the benchmarks in its class, especially when it comes to preserving natural

resources," says Dr. Ulrich Hackenberg, Member of the Board of Management, Volkswagen Brand, and responsible for technical development. Dr. Hackenberg continues: "As a 90-PS TDI with a BlueMotionTechnology package, the new Polo moves with 3.6 liter fuel consumption. Even our new 105-PS TSI only consumes 5.5 liters per 100 kilometers. We have succeeded in improving fuel economy between 8 and 20 percent over the entire gasoline engine lineup, and between 5 and 15 percent among the diesels. And that is really good."

- Another key fact: No other car in its class has such a mature and high-end image as the new Polo. Comfort, quality and safety have all taken a considerable leap forward. One example: among other things, the Polo was specifically designed to attain the recently established, stricter and more comprehensive, 5-star EuroNCAP rating. The greater structural rigidity of the Polo's bodyshell contributes to these results. In the footwell area alone, intrusion – related to the car body's resistance to deformation in a frontal crash – was lowered by 50 percent! In the case of a side impact, the intrusion value was reduced by 20 percent.

Standard equipment for safety

- In addition, the European version of the Polo now being presented is equipped with standard ESP electronic stabilization program with Hill Hold Control, and it has a highly effective network of airbags

on board, including combined head-thorax airbags (integrated in the front seatbacks), belt tensioners and belt force limiters plus seatbelt warning indicator and head restraints that counteract the risk of whiplash injury (both front seats), three rear head restraints and Isofix preparation for child seats.

- Volkswagen has rearranged the line structure of its equipment lines since the previous model: "Trendline" still represents the entry-level variant, and "Comfortline" still refers to the mid equipment level. New to the lineup – and bringing the Polo in line with the Golf here – is the top version called "Highline". Convenience features that are already standard features of the Polo Trendline include: electro-hydraulic power steering, power windows in front, central locking, cargo area lighting and tie-down points, warning buzzer if lights are left on, height adjustment for driver's seat, illuminated make-up mirrors in the sun visors and green tinted windows. Meanwhile, "Titanium black" trim and "Metric" fabric give the interior a perceptibly high-end ambiance.

Individually combinable high-tech features

- Options that Polo drivers will be able to order on their new Volkswagen include static turning lights integrated in the front fog lights, daytime running lights (from "Comfortline" up), side curtain airbags (head airbag system for front and rear passengers), radio and radio-navigation systems and an integrated hands-free

telephone system. A panorama sunroof and bi-xenon headlights will follow at a later time.

Weight down, fuel consumption down

- Despite significant improvements in all aspects of the car, the Polo's body weight has been reduced by 7.5 percent. Introduction of new TDI and TSI engines, and the 7-speed dual clutch transmission (DSG), has resulted – as described by Dr. Hackenberg – in considerable improvement in fuel economy and reduced emissions over a wide range of engine power outputs. An excellent example here is the new 1.2 TSI. This turbo-charged four-cylinder direct injection gasoline engine produces 77 kW / 105 PS, yet it consumes just 5.5 liters of fuel per 100 kilometers (129 g/km CO_2); this is 20 percent less than on the equivalent model of the previous generation!

Five new engines for the Polo

- In total, seven different engines will be offered on the new Polo in its first year – four gasoline and three diesel – spanning a power range from 44 kW / 60 PS to 77 kW / 105 PS. Five of these engines are entirely new or are being used for the first time in the Polo.
- The new engines include all three TDIs (turbo-diesel direct-injection); thanks to common rail technology implemented

for the first time in the Polo, these engines are both efficient and refined. The potential in the TDI engines is clearly evident in the example of the Polo 1.6 TDI with 66 kW / 90 PS: when combined with a "BlueMotion Technology package", its average fuel consumption of 3.6 liters per 100 kilometers and 96 g/km CO_2 makes it the most fuel efficient and lowest emitting five-seater diesel in the world. The "BlueMotion Technology package" and 90-PS TDI may be ordered on the "Comfortline" and "Highline" equipment versions.

Market launch starts at end of June

- Production of the five-door Polo already started at the end of March. This will be followed, starting in the last week in June, by the market launch of the visually and technically advanced new edition of the million unit bestseller in Germany. Just two weeks later, thanks to an ambitious logistics plan, Volkswagen will begin selling the car across mainland Europe, and soon Polo engines will be revving up across all continents.

The Polo on the iPod and iPhone

- Volkswagen is very much targeting the generation of "mobile gamers" with the new Polo: in parallel to the world premiere at the Geneva International Motor Show, a Polo racing game for iPhone and iPod touch was launched on March 3, 2009 in Apple App Stores. After just two weeks of this innovative type of

marketing, Volkswagen rocketed to number 1 on download charts in 39 countries and even climbed into the top ten on US download charts. So, along with traditional print advertising and media spots, in parallel Volkswagen is counting on interactivity via iPhone and iPod touch for the new Polo. And with success: more than 1.4 million downloads in the Apple App Store within four weeks are proof of the enthusiastic wave that the new Polo racing game "Volkswagen Polo Challenge" has triggered around the globe.

- The "Volkswagen Polo Challenge" is an interactive racing game that takes place in brilliant 3D quality on eight highly detailed and accurately reproduced race courses. In addition, the download contains key information on the new Polo. Those who would also like to try out the Polo in reality can look up the nearest Volkswagen dealer within the game and be navigated there.

FACTS SUMMARY

Equipment lines

- Polo Trendline
- Polo Comfortline
- Polo Highline

Engines offered at sales launch in June 2009

- 1.2 MPI with 44 kW / 60 PS
- 1.2 MPI with 51 kW / 70 PS
- 1.4 MPI with 63 kW / 85 PS
- 1.6 TDI with 55 kW / 75 PS
- 1.6 TDI with 66 kW / 90 PS
- 1.6 TDI with 77 kW / 105 PS

Gasoline engine-transmission pairings and equipment lines they may be combined with over the long-term

- 1.2 MPI with 44 kW / 60 PS, SG-5 * /
  Trendline
- 1.2 MPI with 51 kW / 70 PS, SG-5 /
  Trendline, Comfortline
- 1.4 MPI with 63 kW / 86 PS, SG-5, DSG-7 * /
  Comfortline, Highline
- 1.2 TSI with 77 kW / 105 PS, SG-6, DSG-7 /
  Comfortline, Highline

(* SG = manual transmission, DSG = dual clutch transmission)

Diesel engine-transmission pairings and equipment lines they may be combined with over the long-term

- 1.6 TDI with 55 kW / 75 PS, SG-5 * / Trendline
- 1.6 TDI with 66 kW / 90 PS, SG-5, DSG-7 * / Comfortline, Highline
- 1.6 TDI with 66 kW / 90 PS at 96 g/km CO_2, SG-5 / BlueMotionTechnology package for Comfortline, Highline
- 1.6 TDI with 77 kW / 105 PS, SG-5 / Comfortline, Highline

(* SG = manual transmission, DSG = dual clutch transmission)

Key changes compared to the previous generation

- New TSI and Common Rail TDI engines
- All engines fulfill the Euro-5 emissions standard
- Up to 20 percent improvement in fuel economy
- BlueMotionTechnology version sets standards with 3.6 liter fuel economy
- Innovative 7-speed DSG appears in the Polo for first time
- First vehicle in the A0 class that should fulfill the new, more stringent EuroNCAP 5-Star standard
- Body weight reduced by 7.5 percent; gross weight reduced by 2.5 percent
- ABS is standard – worldwide
- ESP is standard – on all major European markets

- Head-thorax airbags are standard – on all major European markets
- Static turning light, integrated in the front fog lights
- Audio and navigation systems from higher vehicle classes (Golf, Passat)
- Completely new level of quality in the A0 class
- Best insurance ratings in the A0 class

Insurance classifications (in Germany)

- Liability: Class 16
- Part comprehensive: Class 15
- Full comprehensive: Class 13

Dimensions

- Length: 3,970 mm (+ 54 compared to prior model)
- Width: 1,682 mm (+ 32 compared to prior model)
- Height: 1,453 mm (- 14 compared to prior model)
- Wheel base: 2,470 mm (+ 04 compared to prior model)
- Track width: fr. 1,463 mm (+ 29 compared to prior model)
  rr. 1,456 mm (+ 30 compared to prior model)

The New Polo –
Safety reaches the level of the next higher class

1:1 transfer of Volkswagen "Design DNA" to the fifth generation Polo

Design of compact Volkswagen orchestrated by Walter de Silva

Wolfsburg / Sardinia, May 2009. Visually speaking, the 2009 Polo was developed 1:1 from the principles of the new Volkswagen "Design DNA". The Scirocco, the first model with this pedigree, was sent to the races in 2008 to take pole position among the world's best cars. Today, this coupé retains its value more consistently than any other car in Germany. The second wave of the new DNA also debuted in 2008 in the new Golf and its high-roofed counterpart, the Golf Plus. These models have since regained number 1 rankings in the eyes of buyers, a fact born out in car registration statistics. Arriving now is the third model based on the new Volkswagen Design DNA – the Polo.

Close network of designers, development engineers and production experts

A precondition for implementing this design philosophy, which is characterized by the greatest precision and clarity, are progressive and highly innovative development and production methods. Designers, development engineers and production experts at Volkswagen work together in closer interaction than is otherwise usual. Their goal was to produce a level of quality, both technical and visual, that is generally only found in cars several classes higher. This alliance was implemented with great success over the past two years by a leadership team under

the direction of Prof. Dr. Martin Winterkorn. On this team, experts such as Prof. Dr. Jochem Heizmann (Member of the Board of Management, Volkswagen Group; Production), Dr. Ulrich Hackenberg (Member of the Board of Management, Volkswagen Brand; Development) and Walter de Silva (Head of Group Design) combine their creative energies to design and produce cars like the new Polo.

DESIGN AND DIMENSIONS

Thanks to the new design DNA defined by Walter de Silva, the impression that this Polo makes – in contrast to many other cars in the so-called A0 or supermini class – is not contrived or 'cute'; instead it is mature.

New Polo shows the new Volkswagen family face

The Polo, with its distinctive new Volkswagen family face, is instead a purposeful and impressive car, which – measuring just 3,970 millimeters in length (+ 54 millimeters compared to previous model) and 1,682 millimeters wide (+ 32 millimeters) – offers space for up to five people and a lot of luggage (280 to 952 liters). The car's generous gain in width combined with a reduction in height (- 13 to 1,453 millimeters) lends the Polo a more dynamic stance and purposeful appearance. The design itself is defined by sharp, precise lines without stylistic gimmicks that quickly fade in popularity; because in the long run, less is more – and the consistently high resale values of Volkswagens are long-standing proof of this claim.

Walter de Silva's creative touch in a style of "Semplicità"

This explains why Walter de Silva intentionally declared "La Semplicità" – "the simplicity" – as his credo here. "La Semplicità" in no way means a diminishment of features. The opposite is the case. Walter de Silva: "Elegance and emotionality, sportiness and dynamics, continue to guide design and styling. In pursuit of simplicity and clarity, one must carefully consider how to express the intentions of designers while speaking to those of the observer."

The starting point for all of these deliberations is the car's reflection on the Volkswagen brand, its history and its values. "Certain distinctive design elements", says de Silva, "have evolved as typical of the brand. Mastery of the architecture and a balance of proportions have formed the foundation, the emphasis on horizontal lines has evolved into a unifying characteristic across models, and a literal love for details has become an essential means of expression." Above all, there is a very high level of quality that can be clearly seen in the unmistakable precision of the car's lines and in the treatment of its surfaces. The new Polo reflects these design principles par excellence.

"The Polo," underscores de Silva, "displays self-assured proportions. As soon as you see the car, you are struck by its dynamic looks, while the design is clean and the overall appearance very purposeful. Reduced radii, tight seams and extremely sharp panel edges in its side profile, engine hood and tailgate underscore the car's logical design concept.

Above all, the gain in width leads to a very full, powerful image from every perspective."

Front end

The Volkswagen family face that has been specially adapted to the Polo with its flat grille and band of headlights that has typified the brand ever since the Scirocco – emphasizes the car's additional width. Moreover, it conveys an image of the car's very low center of gravity. Harmoniously integrated in this face are the Polo's body-colored bumpers beneath the black grille.

In a third horizontal line below this, there is another large air inlet that supplies the engine and brakes with ample air. At its sides, this black band incorporates the daytime running lights and fog lights with integrated turn indicators. The daytime running lights save up to 0.15 liter of fuel per 100 kilometers compared to conventional continuous running lights. Just a few centimeters above the road, the narrow body-colored front spoiler catches the eye. This spoiler has been moved forward, and it makes a decisive contribution towards the car's exemplary pedestrian protection credentials.

Volkswagen offers the Polo with two different headlights, depending on selected options: the "Trendline" base version is fitted with H4 headlights. H7 dual headlights are installed starting with the "Comfortline". Also integrated in the headlights are the turn signal lights. In terms of styling, external and internal design features of the

headlights with their different lighting elements combine with the lines of the radiator grille to form one unit.

Rear end

The rear of the car is characterized by geometric order and sportiness. The design cue from the headlights, with their line breaking off with an upward turn, is taken up again in the taillights. They also display a very distinctive night look and extend into the Polo's broad shoulder. Supported on these shoulders – in the area of the car's lateral "character line" that can be seen from every perspective – is the roof section. Meanwhile, the tailgate extends right down to the bumper. Just as on the Golf, the Polo's tailgate is opened with the VW logo, which swivels up and functions as a handle. Standard equipment: a roof edge spoiler integrated in the tailgate.

The car's image is also exceptionally powerful from the rear. From this angle, one can clearly see how designers exploited the increased track width (+ 29 millimeters in front and + 30 in rear) and stretched the outer wheels along a vertical plane right up to the wheel wells as though carved out with a knife. That is also why the Polo can easily accommodate very large wheel-tire combinations. The range of optional tire sizes extends all the way to 215/40 R17.

Side profile

The lateral profile line is, among other things, dominated by the distinctively sporty front overhang and extremely short rear overhang, the clearly modeled “character line” and low roof that slopes towards the rear. The prominent shoulder line also gives the vehicle a new lateral structure and emphasizes its generally masculine appearance. Since the fourth generation, the five-door Polo has also sported what is known as a “three window look”. This refers to the third side window integrated in the C pillar. This design feature is especially prominent on the new Polo. In the area of the A and C pillars, the lower window line also takes an upward sweep, a reference to the styling of the headlights and taillights. Also striking are the pronounced side skirts, whose shape offers aerodynamic benefits. The Polo’s underbody is optimized for optimal airflow. Also enhancing aerodynamic performance are the redesigned outside mirror housings, whose air resistance has been reduced by 20 percent compared to the previous model.

QUALITY AND PASSIVE SAFETY

Top results when it comes to static rigidity

High body quality and passive safety are very “perceptible” aboard a car, especially in the rigidity of the car body. This is quite evident on the new Polo, because the Volkswagen offers an excellent value of static torsional rigidity at 180,000 Nm/°. The reason: a car body’s static

rigidity is a key technical property and an important and relevant parameter in evaluating subjective parameters such as safety, quality, and of course driving comfort. The high static rigidity of the new Polo is attained, among other things, by high-strength and very high-strength steels and the right structural design for loading and reinforcement of body nodal points.

This is clearly illustrated at the rear of the Polo: Here too there are very rigid nodal components with envelope-type profile construction, which extend quite far into the contact area of the tailgate hinges. In addition, adhesive joints are used. This construction method optimizes the approach of using a nodal system for rigidity and produces a homogeneous distribution of rigidity in upper body sections. Similar examples of profile-intensive lightweight envelope construction can be found throughout the Polo's body structure.

Greater stability despite reduced weight

Static rigidity was certainly not attained at the cost of added weight. The opposite is true: The car has an excellent lightweight construction factor of 3.6. The lower this factor, the more efficient the implementation of body structure in terms of lightness and rigidity. The new Polo is therefore a perfect example of highly innovative lightweight construction. The fact that the body of this Volkswagen is 7.5 percent lighter than that of the previous model, despite its safety gains, illustrates this impressively.

Top values for dynamic rigidity too

High dynamic rigidity is an essential factor in attaining excellent vehicle dynamics, vibration comfort and ideally balanced acoustics. On the new Polo, the combination of an optimal structural layout of the car body, clever material selection and innovative welding and gluing processes result in top values of 43 Hz for the so-called torsional natural frequency and 46 Hz for the bending natural frequency. In all relevant body zones, high local rigidity values also provide for good sound insulation and therefore for an exceptionally low interior noise level.

Crash behavior

Among its goals, the Polo was specifically designed to attain the new, stricter and more comprehensive, 5-star EuroNCAP rating. The higher structural rigidity of the Polo's bodyshell contributes to these results. In the footwell area alone, intrusion – related to the car body's resistance to deformation in a frontal crash – was lowered by 50 percent! In the case of a side impact, the intrusion value was reduced by 20 percent. Specific actions taken to protect occupants in a frontal, side or rear crash:

Frontal crash

In a frontal crash – such as an offset crash between two vehicles (with half vehicle overlap of both vehicles) that commonly occurs – the very

rigid occupant cell creates a survival space for the driver and passenger. In front, an extremely rigid bumper crossmember was specially designed for an offset crash, in that it takes the impact energy and distributes it to the side of the vehicle not directly affected by the impact too. As a result, both side frame members can now absorb the energy together. The side frames were optimized to achieve a deceleration curve in a frontal crash that significantly reduces on occupant loads.

Moreover, the lower crossmember in the footwell area is designed as a form strengthened component. First, this has reduced its weight by half, and second, it attains very high strength. As previously noted, this has reduced intrusions in the footwell area by up to 50 percent compared to the previous model. In turn, this reduces biomechanical loads to the feet and lower legs enormously. The pedals in the Polo offer passive protection; ideally they prevent injuries in a crash by freeing up space for the feet and lower legs.

The side body section, designed as a type of ring structure – together with the door framed within it – provides for additional form stability, even in frontal accidents with very little overlap. In what are known as load paths, extremely strong, partially form-strengthened sheet metal reinforcements are used here too – in the A-pillar, the similarly braced door rail extending to the B-pillar, the roof frame and the side sills.

Side impact

The Polo development team assigned special priority to effective side impact protection, since the crush zone in the area of the doors is of course quite small. When the new Polo collides with an object on its side, the energy is channeled via the special form-strengthened B-pillar and profiled impact beams arranged diagonally in the door. Compared to the previous model, the seat crossmember and side sills were significantly reinforced. In this way, both the speed of the intruding object, or colliding vehicle in the crash as well as the intrusion itself, are reduced by 20 percent in a side impact, as already mentioned.

Very critical, as a rule, are accidents in which the car collides with a tree from the side. This case is simulated in crash tests by a so-called pole impact. The Polo body offers an extremely high level of safety in this crash type, thanks to a hot-formed and therefore very stable roof frame and rigid side sills. Compared to the previous model, intrusion has also been reduced considerably here. And indeed by 15 percent.

Rear impact

The rear area of the new Polo was reinforced by especially strong side frames. The fuel system is also given a protective enclosure. In tandem with the very stable occupant cell described, the Volkswagen fulfills the highest requirements in a crash involving collision to the rear body section as well.

Pedestrian safety

Along with the focus on protecting occupants on board the Polo, high priority was also given to the safety of other traffic participants. In a relatively compact car like the Polo, partner safety primarily refers to pedestrian safety. Requirements related to pedestrian safety were integrated early in the design phase of development work.

In the front hood area, interior sheet metal was designed to provide maximum deformation space to prevent punching through onto the hard area of the engine block. The hinges of the engine hood were also optimized for pedestrian safety. The fenders have separate deformation elements as well. In addition, the bumpers were of course integrated into this concept to guarantee the best possible protection of pedestrians.

Restraint systems

The new Polo has a highly effective network of airbags as standard equipment, including combined head-thorax airbags (integrated in the front seatbacks), belt tensioners and seatbelt limiters plus seatbelt warning indicator, head restraints that counteract whiplash (both front restraints), three rear head restraints and Isofix mounting preparation for suitable child seats. On the active side, the standard electronic stabilization program (ESP) completes the safety system.

The safest Polo of all times

The sum result of all of these actions is effective. The body provides an exceptionally good foundation for attaining very low crash loading of the people on board, based on the car's optimized crash deceleration, low level of intrusions and the safety cell that is created. The restraint systems individually tuned to the Polo also make a contribution toward reducing injury risk as much as possible. And so this Volkswagen is advancing to become one of the world's safest cars in its class.

Greater stability for lower insurance costs

The body of the Polo – thought through to the last detail – has a direct effect on insurance costs. Because they are conspicuously low. The reason: Even minor parking lot collisions can result in significant damages. To minimize them, the front bumper system consists of a highly stable crossmember and – this is also crucial – integrated softer deformation elements. By targeted reinforcement measures in the area of the system of lower side frames, it was possible to increase the force level in the side frame by 25 percent (!) compared to the previous model.

This energy can be readily absorbed by the easy-to-replace bumper system, and more expensive subassemblies such as the radiator and climate control components are protected by the side frames. The resulting damage is much less in the case of a parking lot accident. And this alleviates repair costs and has a positive effect on insurance

classifications: In Germany, the Polo base model was rated for liability class 16, part comprehensive class 15 and comprehensive class 13. This means that the new Volkswagen attains the best ratings in its vehicle class.

The New Polo –
Perfection in Ergonomics and Quality

Interior brings new level of quality to the supermini class

New cockpit in the five-seater has decidedly driver-oriented ergonomics

Wolfsburg / Sardinia, May 2009. All Volkswagens are known for their intuitive user controls and excellent ergonomic properties – regardless of the proportions of their driver and passengers. These are clearly properties of the new Polo too. The entire interior was redesigned. Starting with the "Comfortline", the surface of the instrument panel is upgraded by so-called slush technology (a high-end surface structure that is soft to the touch). The lower cabin section as well as door inserts and interior trim panels may be ordered in either "Anthracite" or "Seashell".

Driver-oriented ergonomics

Noteworthy here is the center console that is now turned more toward the driver for convenience. The controls on this console are laid out as on the previous model, but they have been completely redesigned. At the very top there are two central air vents, which have high-end bezels in aluminum look from the "Comfortline" up ("Trendline": high-gloss black). On the console level below this, Polo drivers will find a familiar row of switches with details like the hazard lights switch, which is readily accessible and visible, and push buttons for the heated rear window and optional heated seats. The next level down contains controls for the new radio and radio-navigation systems that are all

being introduced on the Polo for the first time. Top of the line equipment here is the RNS 310 – a radio-navigation system with touchscreen, multimedia interface (MEDIA-IN), MP3 functionality (via CD, DVD or SD card) and AUX-IN socket on its front panel. The RNS 310 may also be upgraded to include a hands-free telephone unit.

Finally, the lowermost console level is home to the completely redesigned user controls for the ventilation or climate control system ("Climatic" is standard equipment starting on the Comfortline). A practical feature here is optional cooling of the glove box. Also integrated here: a sunglasses compartment, deactivation switch for the front passenger's airbag and – if included as options – switches for the tire monitoring indicator (air pressure monitoring) and an MP3 port. The vehicle service book is stored in a space-saving storage slot at the base of the glove box.

White instrument backlighting

The instruments of the Polo were also redesigned; they now have white backlighting and are styled like those on the Golf. The fuel gauge is digital in the new generation Polo. Like the bezels for the air vents, the rotary light switch – still located on the left – gets a high-end metallic look from the "Comfortline" up.

Similar to other new models of the Volkswagen brand, new three-spoke steering wheels were developed for the Polo. The top version sports a leather steering wheel that is somewhat more compact than on the Golf.

An optional multifunctional leather steering wheel (with user controls in the left spoke) will be offered too. Making a decidedly ergonomic impression are the armrests in the door trim panels (with storage bin for a 1.5 liter bottle) and a front center armrest (folding with storage compartment) that can now be ordered on the Polo for the first time.

More space at all seating positions

The driver's seat, front passenger's seat and rear bench seat were all redesigned. More space is now offered at all five seating locations in the Polo. In particular, knee room in the rear has grown with an increase in the interior length to 1,674 millimeters (+ 8 millimeters). Shoulder room in front (1,372 millimeters) has also increased by 22 millimeters. Thanks to these new dimensions, the new Polo offers a considerably more spacious interior ambiance. The Polo also proves to be very versatile: Folding the rear bench seat (with standard 60:40 split starting on the "Comfortline") is very simple; the car then offers a level cargo surface with the dual cargo floor that is standard equipment from the "Comfortline" up. The dual cargo floor can be mounted at two different heights.

The New Polo –

TDI up to 15 percent more fuel efficient, TSI up to 20 percent

Already in 2009: seven engines for the new Polo – five of them are new

New TSI consumes 5.5 liters and new BlueMotion Technology TDI 3.6 liters

Wolfsburg / Sardinia, May 2009. Seven engines will be offered on the new Polo during its first year of production – four gasoline and three diesels. Five of these engines are either brand new or new to the Polo; three of them can be paired with the innovative 7-speed dual clutch transmission (DSG) as an option instead of the manual 5-speed or 6-speed transmission. All engines satisfy limits of the new Euro-5 emissions standard.

The gasoline engines, two three-cylinder and two four-cylinder engines, sport a power range extending from 44 kW / 60 PS to 77 kW / 105 PS. New to the lineup are the two most powerful gasoline engines, the 1.4 liter with 63 kW / 85 PS and the 1.2 TSI with the noted 105 PS that is shifted by a standard 6-speed transmission.

Also new to the Polo are all three common rail turbo-diesels. These high-torque four-cylinder engines produce between 55 kW / 75 PS and 77 kW / 105 PS. A BlueMotion Technology version based on the mid-range power level of 66 kW / 90 PS will also debut in 2009; this Polo will consume just 3.6 liters of fuel per 100 kilometers and emit only 96 g/km CO_2. A summary of all engines being offered on the Polo in 2009:

Gasoline engines

Engine	kW/PS	l/100 km	g/km CO_2	Max. km/h	Transm.
1.2	44 / 60	5.5	128	157	5-speed
1.2	51 / 70	5.5	128	165	5-speed
1.4*	63 / 85	5.9	139	177	5-speed
1.2 TSI*	77 / 105	5.5**	129**	190	6-speed

Diesel engines

Engine	kW/PS	l/100 km	g/km CO_2	Max. km/h	Transm.
1.6 TDI	55 / 75	4.2	109	170	5-speed
1.6 TDI*	66 / 90	4.2	109	180	5-speed
1.6 TDI***	66 / 90	3.6**	96**	180	5-speed
1.6 TDI	77 / 105	4.2	109	189	5-speed

* Optional with 7-speed dual clutch transmission

** Forecast value

*** Values for TDI with BlueMotion package

GASOLINE ENGINES IN DETAIL

1.2 MPI with 44 kW / 60 PS and 51 kW / 70 PS

Entry into the world of Polo engines is offered by two proven three-cylinder engines with 60 PS or optional 70 PS and a multi point injection (MPI) engine. The 1.2-liter engines were further perfected in terms of

weight, acoustics and attainment of the Euro-5 emissions standard for use in the new generation of the Polo. One example of a technical modification exhibited by the agile and economical three-cylinders is an optimized reduced-noise chain for the timing and oil pump drives. Engine management was also reconfigured. Technical modifications made in the engine area and body-related improvements have resulted in fuel consumption savings of an average of 0.3 liters per 100 kilometers relative to comparable versions of the previous model. CO_2 emissions were similarly reduced from 138 to 128 g/km.

Both 1.2-liter engines aboard the Polo, each with four valves per cylinder, consume 5.5 liters of super or normal gasoline in combined mode. This contrasts with a respectable top speed of 157 km/h and 16.1 seconds for the sprint from 0 to 100 km/h for the lightweight 1067 kilogram * 60-PS version. The 70-PS version reaches a top speed of 165 km/h and can sprint to 100 km/h in 14.1 seconds if necessary.

(* includes driver weighing 68 kg, 7 kg of luggage and fuel tank 90 % full)

The 60-PS 1.2 MPI engine delivers its maximum power at 5,200 rpm; its maximum torque of 108 Newton-meter is available at 3,000 rpm. The Polo with 70 PS develops its maximum power at 5,400 rpm; its 112 Newton-meter maximum torque is available at an identical 3,000 rpm. While the 60-PS engine is paired with the base “Trendline” version, the 70-PS engine may also be ordered as an option on the higher “Comfortline” equipment line.

1.4 MPI with 63 kW / 85 PS

The most powerful gasoline engine in the Polo lineup at the time of market launch is the 1.4 MPI that is equipped with new engine electronics and a new injection system as well. The four-cylinder aluminum block engine outputs 85 PS (at 5,000 rpm). Its maximum torque of 132 Newton-meter is available at 3,800 rpm. For the first time on a Polo, this engine will be available with an optional 7-speed dual clutch transmission over the mid-term.

Besides offering good comfort and dynamic performance, the just 95 kilogram heavy – or rather light – engine is distinguished above all by its excellent economy. The Polo 1.4 MPI, when paired with standard 5-speed transmission, consumes 5.9 liters fuel per 100 kilometers on average. This puts its CO_2 value at 139 g/km. With this engine too, it was possible to significantly reduce fuel consumption and emissions compared to the previous model. And indeed by 0.4 liter and 11 g/km CO_2. As on the three-cylinder engines, the three-way catalytic converter of the four-cylinder is equipped with an optimized noble metal coating with the goal of impressively fulfilling Euro-5 emissions limits.

When it comes to dynamic performance, the Polo 1.4 MPI scores points with a top speed of 177 km/h and a 0-100 km/h sprint time of 12.1 seconds. In this case, the engine's elasticity is also very good: in fifth gear this Polo accelerates from 80 to 120 km/h in just 18 seconds. The 1.4-liter engine can be ordered with either the "Comfortline" or "Highline" version.

1.2 TSI with 77 kW / 105 PS

A new Volkswagen highlight in drive technology is the 1.2 TSI of the Polo. It is debuting sometime this year. The turbocharged four-cylinder engine was completely redeveloped, and it follows the downsizing philosophy of the internationally successful 1.4 TSI and 2.0 TSI. This expresses itself as maximum power with minimal fuel consumption. The latest TSI is characterized by sensational performance data. For example, the 105 PS Polo 1.2 TSI accelerates from a standstill to 100 km/h after just 9.7 seconds and can move at 190 km/h if necessary. This contrasts with fuel consumption and emissions values on the level of the already very good 60-PS base version: 5.5 liter consumption and 129 g/km CO_2. Compared to the retired 1.6-liter engine of the previous model, average fuel consumption was lowered by 1.2 liter (!). This corresponds to a 30 g/km reduction in CO_2 emissions.

The 1.2 TSI reaches its peak power at 5,000 rpm. The maximum torque of 175 Newton-meter – from 1.2 liters of displacement – is available between 1,500 and 3,500 rpm. The Polo 1.2 TSI is delivered with a standard 6-speed manual transmission. As an option, this engine may also be paired with the 7-speed DSG developed by Volkswagen. Plans call for offering the TSI together with the “Comfortline” and “Highline” equipment lines.

DIESEL ENGINES IN DETAIL

1.6 TDI with 55 kW / 75 PS, 66 kW / 90 PS and 77 kW / 105 PS

The common rail diesels of the fifth generation Polo are entirely new developments. They output 75 PS, 90 PS and 105 PS. A version of the 90-PS TDI with BlueMotion package is also being offered; it consumes just 3.6 liters of diesel per 100 kilometers. All Polo TDIs come with a standard diesel particulate filter (DPF).

Like the 2.0-liter TDIs with common rail direct injection, the 1.6-liter four-cylinder, 16-valve engines exhibit ideal acoustic properties, a high level of agility and – a crucial factor here – extremely low fuel consumption and emissions. Of course, all variants of the Polo 1.6 TDI fulfill limits of the new Euro-5 emissions standard.

Technically, the 1,598 cm^3 displacement TDI in this segment sets the highest standard on the market. Using a common rail system, the diesel fuel is sprayed directly into the combustion chamber at a pressure of 1,600 bar. Piezo actuators control multiple injections with highly precise fuel quantities and timing.

In an effort to reduce internal engine friction, crankshaft, valve and oil pump drives were optimized. A square stroke/bore ratio minimizes friction losses at the cylinder liners. Furthermore, flow energy losses were reduced in oil and coolant loops as well as air induction and charge air flows. This has resulted in a lineup of TDI engines that

offers uncompromisingly low fuel consumption and emissions without lacking in comfort or dynamic performance in the least.

1.6 TDI with 55 kW / 75 PS

The 75-PS version already outputs a maximum torque of 195 Newton-meter between 1,500 and 2,000 rpm. Fuel consumption: 4.2 liters. CO_2 emissions: 109 g/km. Its maximum power is output at 4,000 rpm. In this version, the Polo 1.6 TDI can move at 170 km/h and accelerates to 100 km/h in 13.9 seconds. When shifted by the standard 5-speed transmission, the car takes exactly 18.0 seconds for the elastic sprint from 80 to 120 km/h in top gear.

1.6 TDI with 66 kW / 90 PS

Those wishing to reduce costs of ownership, fuel consumption and emissions even further will want to order the new Polo 1.6 TDI with the BlueMotion package. Here the car's power is 90 PS, and thanks to the innovative array of Volkswagen fuel-saving measures – including an automatic start-stop system – fuel consumption is just 3.6 liters of diesel per 100 kilometers. And that corresponds to a CO_2 value of just 96 g/km. In the standard version without BlueMotion package the 90-PS TDI consumes 4.2 liters. The 90-PS TDI engines provide their maximum torque of 230 Newton-meter between 1,500 and 2,500 rpm.

1.6 TDI with 77 kW / 105 PS

The most dynamic engine, the 105-PS version, goes to work with 250 Newton-meters of torque (1,500 to 2,500 rpm). It accelerates to 100 km/h in 10.4 seconds and reaches a top speed of 189 km/h. Average fuel consumption: 4.2 liters diesel per 100 kilometers. Economizing with the Polo is fun too.

DSG DUAL CLUTCH TRANSMISSION

7-speed DSG

The new Polos are delivered with standard, precise-shifting and well staged 5-speed transmissions. In the case of the 1.2 TSI, a 6-speed transmission is also used. The 7-speed dual clutch transmission (DSG) on the Polo delivers a new maximum of efficiency, dynamic response and comfort. It is offered as an option on the 1.4 MPI with 85 PS, 1.6 TDI with 90 PS and 1.2 TSI with 105 PS. The transmission can be individually tuned for the use of different engines by calibrating various individual parameters, characteristic curves and maps.

Layout and operation of the 7-speed-DSG

The world's first 7-speed DSG for large-scale production has – as its most prominent design characteristics – two dry clutches whose pressure is regulated hydraulically. Engine power is transmitted to the dual clutch

via the crankshaft and a dual-mass flywheel. Clutch I handles the odd-numbered gears, and clutch II the even gears plus reverse gear. The results of this sophisticated clutch management: when shifting, there are no gaps in propulsive power. Comfort and convenience are excellent, and the driver experiences an incomparably dynamic yet comfortable shifting feeling.

Responsible for this – along with an intelligent mechatronic system (electro-hydraulic transmission control) – are two clutches as well as two drive shafts and three final drive shafts. This networked system makes it possible to continually "lie in wait", ready to go into action at the next higher driving level. And indeed it is lightning-fast. Example: while the Polo is driven in sixth gear, the seventh gear is already engaged, but is not yet "active". As soon as the ideal shifting point has been reached, the clutch responsible for sixth gear automatically opens, while the other one closes and "pre-activates" seventh gear. This produces an overlap between opening and closing of the two clutches, and this leads to the comfortable shifting described above. The entire shifting process is completed within a few hundredths of a second, which is much faster than even the most highly trained professional driver could achieve.

Some exciting numbers on the 7-speed DSG

- 1.7 liters of oil operate in the 7-speed DSG
- 70 kilograms is the weight of the 7-speed DSG
- 250 Newton-meter is the maximum torque of engines that can be paired with the 7-speed DSG

- 2003 was the year in which the first DSG was introduced (6-speed DSG in the Golf R32)
- 2005 was the year in which the powerful 1001 PS Bugatti Veyron 16.4 was launched with DSG
- 2007 (end of the year) is when series production began for the 7-speed DSG (first used in the Golf TSI with 90 kW)
- 2009 is when the 7-speed DSG first appears in the Polo

The New Polo –

ESP is standard feature in 85 percent of all EU countries

Optimized McPherson front suspension and semi-independent rear suspension

Further improvements in directional stability and comfort

Wolfsburg / Sardinia, May 2009. Volkswagen has redesigned many aspects of the Polo's chassis with its McPherson front suspension and semi-independent rear suspension. For example, its track width was increased by 29 millimeters in front and 30 in the rear (new dimensions: 1,464 mm front, 1,456 mm rear). This has resulted in improved vehicle dynamics. Comfort was enhanced in parallel.

Improved directional stability

In front, Volkswagen has integrated a completely redesigned McPherson strut type suspension in the Polo. The front wheels were moved five millimeters forward to achieve a greater caster angle, and this offers greater directional stability. Furthermore, new strut bushes are used on the Polo; on the one hand they are lighter, and they also improve ride comfort. Larger wheels can now be used as well, and this further improves comfort. At the same time, these wheels have a positive effect on driving performance.

ESP enhances safety as standard equipment

The Polo is being sold in Germany and in many other countries with electronic stabilization program (ESP), including hill hold control, anti-lock braking system (ABS), braking assistant, anti-slip regulation (ASR),

electronic limited-slip differential (EDS) and engine braking control (MSR) as standard equipment. Overall braking system performance was modified for the new generation Polo; among other elements, the 8.5 inch brake booster is being replaced by a higher performance 10 inch system.

With an eye toward attaining the goal of a five star rating in the EuroNCAP crash test, the steering column – with its continuously variable height and reach adjustment – was completely redeveloped. This redesign led to reduced weight. The standard electro-hydraulic power steering system was taken from the previous model and adapted to the new front suspension kinematics. Engineers developed entirely new tuning of the steering system. Steering feel and responsiveness as well as the center point – which defines steering feel in the straight-line tracking position – now set new standards.

The New Polo –
Uncompromising Safety Features

"Trendline", "Comfortline" and "Highline" to be offered at market launch

Semi-automatic climate control is included starting on "Comfortline"

Wolfsburg / Sardinia, May 2009. Compared to the previous model, Volkswagen has rearranged the line structure of its equipment lines: "Trendline" still represents the entry-level variant, and "Comfortline" still refers to the mid equipment level. New to the lineup – and bringing the Polo in line with the Golf here – is the top version called "Highline".

POLO TRENDLINE

The Polo Trendline already sports an interior with features that include a number of accents in an elegant high-gloss black. In addition, the Polo Trendline offers extensive safety and convenience features. Take active safety, for example: besides ABS, in 85 percent of all countries in the European Union – among other countries – standard on-board features also include the electronic stabilization program (ESP) including hill hold control.

And passive safety: In addition to front airbags and combined head/thorax airbags (front passenger airbag can be deactivated), the Polo also offers five head restraints, five three-point harnesses (height-adjustable in front), belt tensioners and belt force limiters in front, and Isofix-compatible child seat preparation (at the outer seating positions

on the rear bench seat). The front head restraints were also designed to counteract the risk of whiplash injury.

Consider these convenience features: Standard equipment includes electro-hydraulic power steering, power windows in front, central locking, cargo area lighting and tie-down points, warning buzzer if lights are left on, height adjustment for driver's seat, illuminated make-up mirrors in the sun visors and green tinted windows. Meanwhile, "Titanium black" trim and "Metric" fabric give the interior a perceptibly high-end ambiance.

POLO COMFORTLINE

Outward identifying characteristics of the Polo Comfortline include body-colored outside mirror housings and door handles, H7 dual headlights, daytime running lights and 15-inch wheels with special full wheel covers. On the convenience side, the range of standard equipment is complemented by such features as semi-automatic climate control (Climatic), electrically-adjustable and heated exterior mirrors, additional height adjustment on front passenger's seat, storage drawers under the front seats, various accents in aluminum look (instruments, air vents, rotary light switch, radio and climate system controls), asymmetrical split and folding rear bench seat and seatbacks, dual cargo floor, storage pockets on front seatbacks and remote control central locking.

Inside, the Polo Comfortline features center seat panels in embossed "Fonzie" fabric. At this equipment level, besides "Anthracite", "Seashell" is also offered as a trim color. If the car buyer chooses "Seashell", the lower instrument panel area is styled in a contrasting color.

POLO HIGHLINE

The top model of the new generation Polo is called "Highline" – a classic Volkswagen equipment line designation. From the outside, this most luxurious of all Polos is distinguished by chrome trim on the radiator grille, 15-inch alloy wheels and standard front fog lights starting at the "Comfortline" equipment version. Inside, details like a three-spoke leather steering wheel (lower middle spoke in chrome), front center armrest, multifunctional display and tire monitoring indicator, height-adjustable front sport seats, leather trimmed parking brake lever and gearshift knob, and an elegant striped pattern on the seats ("Livon" design), which lend the "Highline" model a special, high-end flair. All three equipment versions will be offered at market launch. An overview of their key features:

POLO TRENDLINE –
OVERVIEW OF STANDARD EQUIPMENT (EXCERPT)

Exterior and wheels

- Turn signal lights laterally integrated in outside mirrors
- Roof post trim, high-gloss
- Galvanized body
- Radiator grille and air intake screen in black
- Steel wheels, 5 J x 14, with full wheel covers, tires 175/70 R 14
- Bumpers in car color
- Green tinted glass

Interior

- Storage bins in all doors (space for 1.5 liter bottles in front)
- 2 cup holders in rear
- Driver's seat, height adjustable
- 4 roof-mounted grab handles, damped
- Cargo area cover
- Rear bench seat and seatback folding, not split, 3 seat positions
- Fabric seat covers, "Metric" pattern
- 12-V appliance outlet in cargo area
- Tie-down eyes in cargo area

Safety

- Airbag for driver and front passenger, front passenger airbag can be deactivated
- Three-point automatic safety belts in front with height adjustment and belt tensioners
- 3 three-point automatic safety belts in rear
- Electronic stabilization program (ESP) incl. anti-lock braking system (ABS) with braking assistant, anti-slip regulation (ASR), electronic limited-slip differential (EDS) and engine braking control (MSR)
- ISOFIX-compatible child seat preparation on rear bench seat
- Head airbags including side curtain airbags in front
- Safety-optimized head restraints, front
- 3 head restraints, rear
- Triangular safety reflector and first aid kit
- Electronic immobilizer

Convenience

- Outside mirror with interior adjuster, aspherical on driver's side
- Hill hold control
- Daytime running lights
- Power windows, front
- Cargo area lighting
- Holder for first aid kit and triangular safety reflector
- Rear window wiper with intermittent adjustment at switch

- Heating and ventilation system with 4-stage blower and recirculation switch
- Interior lighting in front with shutoff delay and contact switches at all doors
- Instrument backlighting in white, dimmable; red night design for switches
- Instrument cluster with electronic speedometer, odometer and trip odometer, tachometer
- Convenience turn signal (1 press = 3 flashes)
- Steering column, height and length adjustable
- Make-up mirrors in sun visors
- Power steering, electro-hydraulically controlled
- Dust and pollen filter
- Tire Mobility Set: 12-Volt compressor and tire sealant
- Warning tone if lights are left on
- Warning tone and indicator lamp if seatbelt in front is unfastened
- Central locking

POLO COMFORTLINE – FEATURES VARYING FROM THE TRENDLINE (EXCERPT)

Exterior and wheels

- Outside mirror housings and door handles in car color
- Radiator grille black with chrome trim strip
- Steel wheels, 6 J x 15, with full wheel covers, tires 185/60 R 15

Interior

- Storage pockets on front seatbacks
- Air vents and gear shift: bezels in brushed chrome
- Parking brake lever knob in brushed chrome
- Glove box with cooling feature
- Instruments with decorative bezels in brushed chrome
- Foamed instrument panel
- Illuminated front footwell
- Rotary light switch with brushed chrome bezel
- Center armrest in front with storage box and fold-out cup holders in rear
- Rear bench seat and seatback, folding, asymmetrical split, with dual cargo floor
- Storage drawers under the front seats
- Fabric seat covers, “Fonzie” pattern
- Fabric floor mats, front and rear
- Front seats height adjustable

Convenience

- Outside mirrors, power adjustable and heated
- Dual-tone signal horn
- Power windows in all doors
- “Climatic” climate control system including dust and pollen filter with activated charcoal insert
- 2 reading lamps in front, 1 in rear

- Make-up mirror, illuminated, in sun visors
- ParkPilot, acoustic warning signal if there are obstacles in area behind the car
- Central locking with RF remote control, 2 folding RF keys

POLO HIGHLINE – FEATURES VARYING FROM THE TRENDLINE (EXCERPT)

Exterior and wheels

- 4 “Riverside” alloy wheels, 6 J x 15, tires 185/60 R 15
- Outside mirror housings and door handles in car color
- Radiator grille in black with chrome trim strip
- Bumper in car color; air inlet screen has chrome surround

Interior

- Storage pockets on front seatbacks
- Air outlets and gearshift boot have brushed chrome bezels
- Decorative “Pepper Grey metallic” inserts in center console
- Parking brake knob in brushed chrome
- Glove box with cooling feature
- Instruments with decorative rings in brushed chrome
- Foamed instrument panel
- Leather steering wheel (3 spoke) with brushed chrome trim
- Illuminated front footwell

- Rotary light switch with brushed chrome bezel
- Center armrest in front with storage box and fold-out cup holders in rear
- Rear bench seat and seatback, folding, asymmetrical split, with dual cargo floor
- Gearshift and parking brake grips in leather
- Storage drawers under the front seats
- Fabric seat covers, “Livon” pattern
- Sport seats in front
- Fabric floor mats, front and rear
- Front seats heated
- Front seats height adjustable

Safety

- Front fog lights

Convenience

- Outside mirror, power adjustable and heated
- Dual tone signal horn
- Power windows in all doors
- “Climatic” climate control including dust and pollen filter with activated carbon insert
- 2 reading lamps in front, 1 in rear
- Make-up mirrors, illuminated, in sun visors
- Multifunctional display

- ParkPilot, acoustic warning signals if there are obstacles in the area behind the car
- Tire monitoring indicator
- Windshield washer nozzles automatically heated
- Headlamp cleaning system
- Warning indicator lamp for windshield washer fluid level
- Central locking for RF remote control with folding key

OPTIONAL FEATURES

The new Polo can be further individualized by an extensive offering of special options. Besides classic individual features, Volkswagen also offers special equipment packages, in which related features are bundled together.

Classic options

Classic individual features include options such as tinted windows (65 percent light absorbing) from the B-pillar to the rear, 16-inch ("Cartagena") or 17-inch alloy wheels ("Boavista"), semi-automatic or fully automatic climate control ("Climatic" and "Climatronic"), Alcantara upholstery, a center armrest, multifunctional leather steering wheel, sport chassis or various special, metallic and pearl effect paints. A panorama sunroof and bi-xenon headlights will follow at a later date.

Infotainment

Volkswagen can satisfy nearly any wish for information and entertainment in the Polo with an optional mobile telephone prep with Bluetooth interface, the “MEDIA-IN” multimedia interface and various radio and navigation systems. These include the “RCD 210” Radio-CD-MP3 systems (with 2 x 20 Watt output, 4 loudspeakers), “RCD 310” (with 4 x 20 Watt output, six loudspeakers, dual tuner, AUX-IN multimedia socket) and “RCD 510” (with 4 x 20 Watt output, six loudspeakers, touchscreen, dual tuner, AUX-IN multimedia socket) and “RNS 310” radio-navigation system as an extension module for the “RCD 310” Radio-CD-MP3 system.

Option packages

On the Polo Trendline, the following features are combined in the two alternative option packages “Cool & Sound with Climatic” and “Cool & Sound with Climatronic”: climate control or automatic climate control, glove box with cooling feature, dust and pollen filter with activated carbon insert and “RCD 210” radio system. Another option package, tailored to the Polo Trendline and Comfortline, is the “Driver Assistance Systems” package with cruise control system, multifunctional display, tire monitoring indicator and ParkPilot in rear. When the “Winter package” is ordered, drivers also get these bundled options: heated windshield washer nozzles, headlight cleaning system, heated front seats and a warning lamp for low washer fluid level; these are all standard features on the Polo Highline.

Exterior colors

Volkswagen offers the Polo in ten different color options. Five are uni-color paints and four are metallic paints. One color comes as a pearl effect paint. An overview of all Polo colors:

- “Black” (uni-color paint)
- “Candy white” (uni-color paint)
- “Flash red” (uni-color paint)
- “Ocean blue” (uni-color paint)
- “Savanna yellow” (uni-color paint)
- “Hot orange metallic” (metallic paint)
- “Reflex silver” (metallic paint)
- “Shadow blue” (metallic paint)
- “Pepper grey” (metallic paint)
- “Deep black” (pearl effect paint)

Polo BlueMotion Concept Car –

At 3.3 liter fuel consumption, this Polo is one of the world's most economical cars

New 1.2 liter TDI engine reduces Polo's CO_2 emissions to just 87 g/km

Market launch of the most fuel efficient Polo of all times expected in 2010

Wolfsburg / Sardinia, May 2009. It is still a concept – the most fuel efficient five-seater in the world. Its name: Polo BlueMotion. Fuel consumption: 3.3 liters CO_2 emissions: just 87 g/km! Likelihood of going into production: extremely high! However, before a potential production launch, development must be completed on the brand new 1.2 liter TDI with common rail injection. And that is precisely what the team led by Development Chief Dr. Ulrich Hackenberg is working on with great emphasis. "I anticipate," says Dr. Hackenberg, "that we will be able to go into production in February 2010. Meeting this schedule will be an athletic accomplishment. Yet the engine and other systems of the Polo BlueMotion are already performing with such promise that we are on course to meet our goal."

The "other systems" to which he refers include an automatic start-stop system and regenerative braking. These two technologies alone reduce fuel consumption of the 55 kW / 75 PS three-cylinder direct-injection diesel by up to 0.25 liters per 100 kilometers.

But that is not all that is being done. On the Polo BlueMotion concept car, which weighs in at just 1,080 kilograms, Volkswagen is calling upon an entire array of efficiency measures, including an aerodynamic package for the body that is lowered by 10 millimeters (including modified

front end), an aerodynamically optimized underbody and low rolling resistance tires on 15-inch alloy wheels. Altogether, these modifications yield fuel savings totaling 0.9 liters compared to a conventional Polo TDI with the same power. This has lowered CO_2 emissions by about 20 percent.

Other features on the Polo BlueMotion concept car include a custom interior with “Power On” trim, and a display for upshifting and tire pressure. The design study is painted in the new exterior color “Emotion blue”.

Start-stop system in detail

Especially worthwhile is a look at the fully intuitive operation of the start-stop system. As the driver approaches a red stop light in the Polo BlueMotion concept car, he or she applies the brakes to bring the vehicle to a stop, shifts into neutral (which should be standard practice with a conventional car) and takes his or her foot off the clutch. This shuts off the engine momentarily. A “Start Stop” message now appears in the multifunctional display. As soon as the traffic light turns green again, the driver fully depresses the clutch, the engine starts, the “Start Stop” message disappears, and the driver puts the car back in gear and resumes driving.

Regenerative braking in detail

Regenerative braking helps to recover energy that would otherwise be lost in driving in as efficient a way as possible. During deceleration and braking phases of the Polo BlueMotion concept car – i.e. whenever the driver simply releases the accelerator pedal or intentionally brakes – the alternator's charging voltage is elevated, which converts the car's kinetic energy into electrical energy to charge the battery.

Thanks to alternator control – which regulates the alternator as a function of engine efficiency for optimal battery charging – it is possible to lower alternator voltage at other times, e. g. during acceleration or driving at a constant speed. It is even possible to switch off the alternator entirely. This reduces engine load and improves fuel economy. Special software for energy management and similarly modified engine controller software are needed to utilize regeneration.

The new umbrella brand BlueMotionTechnology

Volkswagen is presenting the Polo concept car in Sardinia under the new umbrella brand "BlueMotionTechnology". This label covers all production-mature or near-production technologies and products that significantly reduce fuel consumption and CO_2 emissions. These are developments such as the new start-stop system and regenerative braking implemented on the Polo BlueMotion concept, as well as the highly innovative SCR catalytic converter on the new Passat CC BlueTDI. However, they also include the NO_X storage catalytic converter that has

already been successfully introduced in the USA, electric and hybrid drive systems, and innovative engine systems like the one in the Touran TSI EcoFuel. A launching point for these extremely fuel efficient and low-emission products was the Polo BlueMotion, which in 2006 was the first five-seater to bring fuel consumption down to 3.8 liters per 100 kilometers. The Polo BlueMotion concept car now surpasses this record value by 0.5 liters.

The range of BlueMotion models already available today includes the Golf series, Jetta, Caddy, Touran, Sharan, and the Passat and Passat Wagon. A recent survey by the organization “Deutsche Automobil Treuhand DAT”, the renowned and world’s oldest institution for automotive market research, demonstrates just how successful the BlueMotion label has become today. In a representative survey, the highly regarded DAT found that 85 percent of German car drivers are familiar with the BlueMotion label. The next best competitor only attained a recognition level of 36 percent. This makes BlueMotion the number 1 among automotive environmental labels.