# The New Polo GTI | Press Release

## GTI Equipment –
## Sporty and Legendary

GTI insignia: “Denver” alloy wheels and red stripes in the radiator grille

GTI workspace: Sport seats, leather sport steering wheel and DSG shift gate

Adelaide, November 2010. The new top model in the Polo range is easy to recognise as a GTI at first glance – inside and outside. It openly displays the visual insignia of this unique badge.

GTI exterior: Since the first Golf GTI of the year 1976, the GTI badge has become one of the most familiar signets in the world of automotive sportiness. One of the typical visual insignias of this badge is the unmistakable front end. Here the new Polo GTI also stands out from the crowd with the two classic red trim stripes on its radiator grille. From its role model – the larger Golf GTI – it has adopted the honeycomb structure of the air intakes in the uniquely styled front apron. Also GTI-specific are the fender flares and the rear spoiler painted in body colour. Other exterior details of the Polo GTI include 17-inch alloy wheels in “Denver” design that offer a view of the red painted brake callipers, as well as a customised rear apron with a diffuser look in its lower section. Integrated on the left side are the chrome dual tailpipes of the exhaust system.

One other feature is available optionally for the first time on the new Polo GTI in this model series: the completely new layout of the bi-xenon headlights. As mentioned previously, also integrated in the dual headlights were the LED daytime running lights and static cornering lights.

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GTI interior: Here too the Polo impresses with genuine GTI ambiance. This is already achieved by the standard top sport seats with their classic fabric covers in typical tartan pattern, which stylishly recall the first GTIs of the 1970s. The roof liner, roof pillar trim, grab handles and sun visors are all styled in a sporty black; a glossy black surface treatment also decorates the panels of the centre console. They are coordinated with intentionally contrasting colour and material accents such as brushed chrome for the air vent surrounds and chrome accents for the round control knobs. Also completely styled in this brushed chrome look are the inside door handles, frames for the gear shift lever and parking brake, the DSG gearshift gate and the three spokes of the leather sport steering wheel. Styled in classic red are the distinctive decorative seams on the gearshift boot, parking brake grip and steering wheel.

Moreover, the extensive list of standard features emphasise that sportiness and comfort are not incompatible concepts in the new Polo GTI. Along with the features already mentioned, they also include pedal caps in aluminium look, electric window lifts in front (three-door) and rear (five-door), electric adjusting and heated door mirrors, air conditioning, remote control of central locking and front fog lights. The leather trimmed steering wheel is equipped with two DSG paddles, one on the left and one on the right.

Then there is of course a passive safety package with front airbags, front side and curtain airbags as well as seatbelt pre-tensioners in front – features that make this Volkswagen not only the best and most fuel efficient Polo GTI since the model series was begun, but also the safest.

## TSI Drive –
## More Power by Engine Charging

GTI performance: 132 kW and 250 Nm leave no questions unanswered

GTI sustainability: 6.1 l/100 km and 142 g/km $CO_2$ are new GTI records

Adelaide, November 2010. The global tradition of the sporty top Polo model version reaches back nearly a quarter of a century and is based on the legendary Polo Coupé G40 from 1986. As the first car ever to be equipped with a mechanical G-charger – it re-defined the vehicle dynamic limits in this segment. Its engine had a power of 83 kW and made the Polo G40, which in top condition today is a coveted collector's item, nearly 200 km/h fast. In contrast, the predecessor of the new Polo GTI globally first switched over to turbo technology in the year 2006. Its base version had a power of 110 kW; the legendary Cup Edition then took this figure up to 132 kW.

At the end of November, the first new Polo GTIs go on sale in Australia. The combination of direct injection, super charger and turbocharger under one engine bonnet will generate plenty of excitement in this segment. The 132 kW 16-valve four-cylinder engine reaches its maximum power at 6,200 rpm. Its maximum torque of 250 Newton-metres is also impressive for an engine of this size. It is already there from 2,000 rpm and stays at a constantly high level up to 4,500 rpm. These numbers highlight the fact that the very torque-strong and rpm-loving 1.4 TSI has an easy game of it with the Polo GTI. It breathes a rare level of agility into the quick front-wheel drive car in all of life's situations and at all engine speeds.

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Weighing 1,189 kg, the Polo GTI accelerates to 100 km/h in just 6.9 seconds. At the same time, it is the most fuel efficient and lowest emitting GTI ever produced. Combined fuel consumption: just 6.1 litres per 100 kilometres. That is equivalent to $CO_2$ emissions of just 142 g/km. By comparison: Its direct predecessor with regard to power –equipped with a 110 kW 1.8-litre turbo engine - consumed 8.0 litres per 100 kilometres (equivalent to 190 g/km $CO_2$). This means that the new car is 24 percent more fuel efficient. That's real progress.

## Technology of the 132 kW TSI in detail

Especially interesting from a technical perspective is a look at the complementary operating modes of the supercharger and turbo charger. The mechanically belt-driven supercharger boosts the TSI's torque at low engine speeds. Its engine charging is based on the Roots Principle. A special aspect of the supercharger used here is its internal gearing, which enables a high compressor power boost at low engine speeds.

At higher engine speeds, the turbocharger is also activated (with wastegate control). The supercharger and turbocharger are arranged in series here. The supercharger is actuated by a solenoid integrated in a module within the water pump. A control door ensures that the proper amount of fresh air reaches the turbocharger or supercharger for any given operating point. In pure turbocharger mode, the control door is open. The air then follows the familiar and conventional path for turbo engines: via the front intercooler and throttle valve to the inlet pipe. Starting at an engine speed of 3,500 rpm, the supercharger turns all of the work over to the turbocharger.

## DSG transmission: Extremely efficient, extremely sporty

Having a positive effect on this dynamic is the standard 7-speed DSG. The direct shift gearbox unifies the sports appeal and economy of a manual gearbox with the operating convenience of an automatic. As an alternative to the fully-automatic mode, the DSG may also be shifted manually – either by gearshift lever via the Tiptronic shift gate or via the standard shift paddle on the steering wheel.

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 one handles the odd-numbered gears, and clutch two 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 experience is incomparably dynamic.

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.

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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 global numbers about the 7-speed DSG

- **2003:** year in which the first DSG was introduced globally (in the Golf R32)
- **2005:** launch year of the 1001 PS Bugatti Veyron 16.4 with DSG globally
- **2007:** series production of the 7-speed DSG began at the end of this year (first used globally in the Golf TSI with 90 kW)
- **2009:** 7-speed DSG was first used in the Polo in this year globally

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## Sport Chassis –
## 15 Millimetres Lower, ESP, XDL and 17-Inch Tyres

GTI handling: ESP and XDL keep the strongest Polo on course

GTI layout: MacPherson front suspension and semi-independent rear suspension

Adelaide, November 2010. The top performing variant in the Polo model range is a thoroughly sporty and safe car. Among the systems responsible for this is the GTI sport chassis including ESP and the XDL extended electronic differential lock. It ensures that the Polo GTI's power is cleanly transferred to the road, even in tight corners. The running gear is based on the fundamental layout of a MacPherson front suspension and semi-independent rear suspension combined with exceptionally dynamic tuning. New, stiffer dampers are linked to specially modified springs that lower the ride height by 15 millimetres compared to "Normal versions". The effect: lower angles of body roll and a lower centre of gravity. Both have positive effects on the vehicle's dynamics through curves. Serving the same purpose are the low-profile tyres (215/40 R17 87V) on alloy wheels in GTI-typical 5-hole "Denver" styling (7"x17), whose look the new top Polo shares with the Golf GTI.

### Perfectly regulated: ESP plus XDL sets the direction

When it comes to safety, the Polo GTI is fully equipped right from the factory, e.g. with generously dimensioned brakes and the standard ESP Stabilisation Program. Networked with this are numerous other electronic modules such as the Anti-lock Braking System (ABS), Hill Start Assist, Anti-Slip Regulation (ASR), Engine Drag Torque Control (MSR) and Electronic Differential Lock (EDL).

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Tyre pressure is also sensed by the standard low tyre pressure indicator.

A modern extension of familiar EDL functions is the XDL extended electronic differential lock, like the one Volkswagen presented for the first time on the Golf GTI. XDL improves handling through fast curves and calibrates the car to be more “neutral”, since it prevents slip of the unloaded wheel at the inside of the curve by active brake intervention, improving traction. This system, standard equipment on the Polo GTI, accesses existing sensor data such as steering wheel angle, yaw rate and wheel speeds. The effect: more safety and driving fun, because the Polo GTI steers even more precisely with XDL.

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