

Garrett G35900 Turbocharger Specs and Performance

Choosing a turbocharger is one of the most important decisions in any performance build. Pick one that is too small and you run out of airflow early. Pick one that is too large and the car feels lazy until the revs are high. The Garrett G35900 turbocharger was designed to avoid that tradeoff, giving builders a unit that responds quickly yet still has a very high power ceiling. In this guide we focus on the G35900 specifically its published rating, how to understand its specifications and dimensions, how to read its compressor map, what turbine housings can do for you and how to install it correctly. If you are new to the Garrett lineup, it can also help to look at the traditional [GTseries](#) turbochargers to see how the newer G Series fits into the bigger picture.



Where the G35900 Fits in the Garrett Range

The G35900 is part of Garrett's newer G Series, which replaced many classic designs with more advanced aerodynamics and a refined ball bearing cartridge. The "900" in the name refers to the approximate upper horsepower rating, while the "35" identifies the frame size.

Garrett lists the power window of the G35900 at roughly 450 to 900 horsepower. That is a wide range, which is exactly why it is popular. A tuner can start the project at a conservative power level with a mild setup and later increase boost, fuel and engine strength without having to replace the turbo. It sits above the compact units found in the [Garrett GT25](#) and [GT28](#) families, which are better suited to smaller power targets and below the heavy frames used for four-figure outputs.

Garrett G35900 Specifications Explained

When people search for Garrett G35900 specifications, they usually want to know a handful of key facts. Here is how to think about each one.

Power rating

The published figure is approximately 450–900 horsepower. Treat this as a guide to the turbo's capability under good conditions, not a promise for every engine.

Bearing system

The turbo uses a dual ball bearing cartridge. This reduces friction, speeds up spooling and offers good durability when the oil supply is clean and consistent.

Compressor wheel

The compressor wheel is a billet aluminium design shaped for high flow and efficiency. Exact inducer and exducer measurements, trim values and wheel part numbers should be confirmed from the official datasheet for the specific part number you are buying, because different variants exist.

Turbine wheel

The turbine wheel is made from a high temperature alloy and is designed to handle the heat of a boosted engine. As with the compressor, confirm the exact wheel details from the datasheet.

Rotation and flange styles

Turbos may be available in standard or reverse rotation and with different inlet and outlet flange styles. These details affect how the turbo fits your manifold and exhaust, so check them before purchase. Because specifications can change between production runs and between suppliers, always crosscheck the information on the product page and the manufacturer's documentation. Accuracy matters when you are ordering fittings, manifolds and piping.

Garrett G35 Turbo Dimensions and Fitment

Physical size is often underestimated. The G35900 is a mid to large frame unit, so make sure you have enough room in the engine bay before you commit. Consider:

- The overall width and height of the compressor and turbine housings
- The position and angle of the compressor outlet
- Clearance from the firewall, chassis rails and steering components
- The routing of the oil feed and drain lines

- The location of the wastegate and its dump tube

A well planned layout makes the installation cleaner and often improves spool. If you are using a readymade Garrett G35 turbo kit, the layout is already worked out for you, which saves time and fabrication cost.

How to Read the Garrett G35 Compressor Map

The compressor map is the most valuable tool for matching any turbo to an engine. It looks like a contour chart with airflow on the horizontal axis and pressure ratio on the vertical axis.

Step 1 Calculate your airflow. Estimate the engine's airflow at several RPM points based on displacement, volumetric efficiency and boost pressure.

Step 2 Calculate the pressure ratio. Add your boost pressure to atmospheric pressure, then divide by atmospheric pressure. For example, 20 psi of boost at sea level gives a pressure ratio of about 2.4.
Step 3 Plot the points. Mark each RPM point on the map.

Step 4 Check the zones. Your points should fall inside the efficient islands, away from the surge line on the left and the choke area on the right. If your line crosses into surge, the turbo may stall and fluctuate under load. If it enters the choke, efficiency drops sharply and the air gets very hot. A good match keeps the engine inside the efficient region from the point where boost starts until the final shift point. For many builds the G35900 offers a wide operating range, which is one of its strongest advantages.

Garrett G35 Turbine Housing Sizes and Options

The turbine housing is where you finetune the character of the setup. The two main factors are the A/R ratio and the style of housing.

A/R ratio

A smaller A/R speeds the exhaust gas up and drives the turbine earlier, giving a quicker boost response. A larger A/R lets gas flow more freely and lowers backpressure at high RPM, which can improve top end power.

Housing style

Housings are available for different manifold styles, including Vband connections for easy fitting and removal. Some builds use singlescroll manifolds, while others benefit from a divided design that separates pulses from different cylinders and improves response.

Housing sizes and availability can differ by supplier and by production batch, so confirm the current options before you design your manifold. As a general guide:

- Street and road race cars often prefer a smaller A/R for strong midrange.
- Drag, rollingstart and highRPM builds often work best with a larger A/R.

- Drift cars usually want a balance, with quick response and good control at high throttle.



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ADVANCING MOTION

G35 - TURBINE HOUSING SIZES
RIGHT SIZE / BETTER RESPONSE / MORE POWER

G35 TURBINE HOUSING OPTIONS

T25	T3	T4	T6	T7
A/R 0.63	A/R 0.82	A/R 0.94	A/R 1.06	A/R 1.32
Fast spool Best for smaller displacement engines	Balanced response Great for street & light performance	Good balance Street, strip & tuned setups	Higher flow For higher power and larger engines	Maximum flow Best for high horsepower race builds

KEY BENEFITS

- BETTER BOOST CONTROL
- IMPROVED THROTTLE RESPONSE
- HIGHER AIRFLOW CAPACITY
- FLEXIBLE FOR DIFFERENT BUILDS

A/R RATIO

G35 | POWER • CONTROL • PERFORMANCE

Boost Threshold and Spool Behaviour

The boost threshold is the engine speed at which the turbo can deliver a useful amount of boost under load. It depends on engine size, camshaft timing, exhaust design, gearing and the turbine housing.

Thanks to the ball bearing system and lightweight rotating assembly, the G35900 typically reaches its threshold earlier than older journal bearing turbos of a similar flow capacity. On a wellmatched engine, the car can feel strong and responsive in the middle of the rev range, which makes it far more enjoyable on the road and easier to drive on a circuit.

To improve spool further you can:

1. Use a well designed exhaust manifold with smooth, equal length runners.
2. Select a turbine housing with a sensible A/R for your engine size.
3. Reduce restrictions in the exhaust after the turbine.
4. Keep the intake and charge piping smooth and as short as practical.
5. Choose camshafts that complement the turbo, not fight against it.

Horsepower Rating What to Realistically Expect

The horsepower rating is a useful starting point, but remember that it depends on many things working together. A realistic expectation requires a complete setup:

- A strong engine with forged internals for higher outputs
- A fuel system that can support the target power with a safety margin

- An efficient intercooler and properly sized charge piping
- A freeflowing exhaust
- A professional tune on quality fuel

Many owners find that the G35900 supports excellent power on a 2.0 to 3.0 litre engine and still has room to grow. A larger engine can use more of the upper range. If you need to go beyond what this unit can deliver, the larger [Garrett GT42](#) and [GT40](#) families are worth reviewing.

Garrett G35 Turbo Oil Feed Line and Installation Guide

Reliable lubrication is the single most important factor in turbo life. These principles apply to any Garrett G35 turbo installation guide.

Oil feed line

Use a clean, high quality braided line from a reliable source of pressurised oil, such as a filtered takeoff from the engine's oil system. Follow the manual regarding fitting size and whether a restrictor is needed. Avoid kinks, sharp bends and heat sources.

Oil drain line

The drain should be as large and straight as possible, falling downward to the sump with a continuous slope. A restricted drain causes oil to back up in the bearing housing, which can leak into the compressor or turbine.

Installation steps

1. Check that the flanges, gaskets and studs are the correct type and in good condition.
2. Mount the turbo to the manifold and torque everything to specification.
3. Install the wastegate and route its dump so it does not disturb the turbine outlet.
4. Connect the oil feed and drain lines and check for leaks.
5. Install charge piping, the intercooler and the blowoff or recirculation system.
6. Prime the turbo with fresh oil before the first start.
7. Start the engine, check for oil and exhaust leaks and warm up gently.

Is the G35900 Better Than a GT35?

It is a common question. The older [Garrett GT35](#) remains a respected option and is often easier to source and package for certain engines. The G35900, however, is built on newer technology and many builders choose it for stronger response and efficiency at higher power. The best choice depends on your target power, budget, engine size and the parts you already own. If you are weighing the two, review both product pages carefully and compare the published data.

Common Mistakes to Avoid

- Choosing a turbo based only on the maximum horsepower number
- Neglecting the oil drain and causing leaks
- Skipping the compressor map and ending up in surge or choke
- Using a small wastegate that cannot control boost
- Failing to support the engine with fuel, cooling and tuning
- Buying from an unreliable source without warranty or documentation

Conclusion

The Garrett G35900 turbocharger combines modern aerodynamics, ball bearing response and a wide power window in a package that suits many types of builds. By reading the compressor map, picking the right turbine housing, planning the oil system properly and supporting the engine with the right parts, you can create a dependable and very fast setup. When you are ready to compare options, visit [Arctic Performance Parts](#) and explore the full range of Garrett products.

Frequently Asked Questions (FAQs)

What is the power rating of the Garrett G35900?

Garrett's published range is roughly 450–900 horsepower, depending on engine setup, fuel and tuning.

Does the G35900 have ball bearings?

Yes. It uses a dual ball bearing cartridge for faster spool and good durability.

Which turbine housing should I choose?

Smaller A/R housings give quicker response, while larger ones help to lend power. Match the choice to engine size and how you use the car.

Can I use it on a small engine?

On a 2.0 litre engine it can work well if the goal is high power, but expect later spool than a smaller turbo.

Do I need a custom tune?

Yes. A professional tune is essential for safety and to unlock the turbo's performance.