

A TURN AHEAD OF THE COMPETITION



G-SERIES 30 TRAINING MANUAL

G30-660 | G30-770

Garrett
ADVANCING MOTION

G Series Naming

- To *differentiate* a new generation of turbochargers.
- Retain the frame size as our most common consumer identifier (GT30 | GT35 ect)
- Showcase industry leading power capability.
- Garrett® to be used before all turbo models (Garrett®30-660 | Garrett® GTX2860R)
 - IP- model names and numbers are hard to protect.
 - TM protects brands | ® protects the appearance, not the function

- Internally nothing changes in 3D drive or to part numbers. Naming is an external facing change.

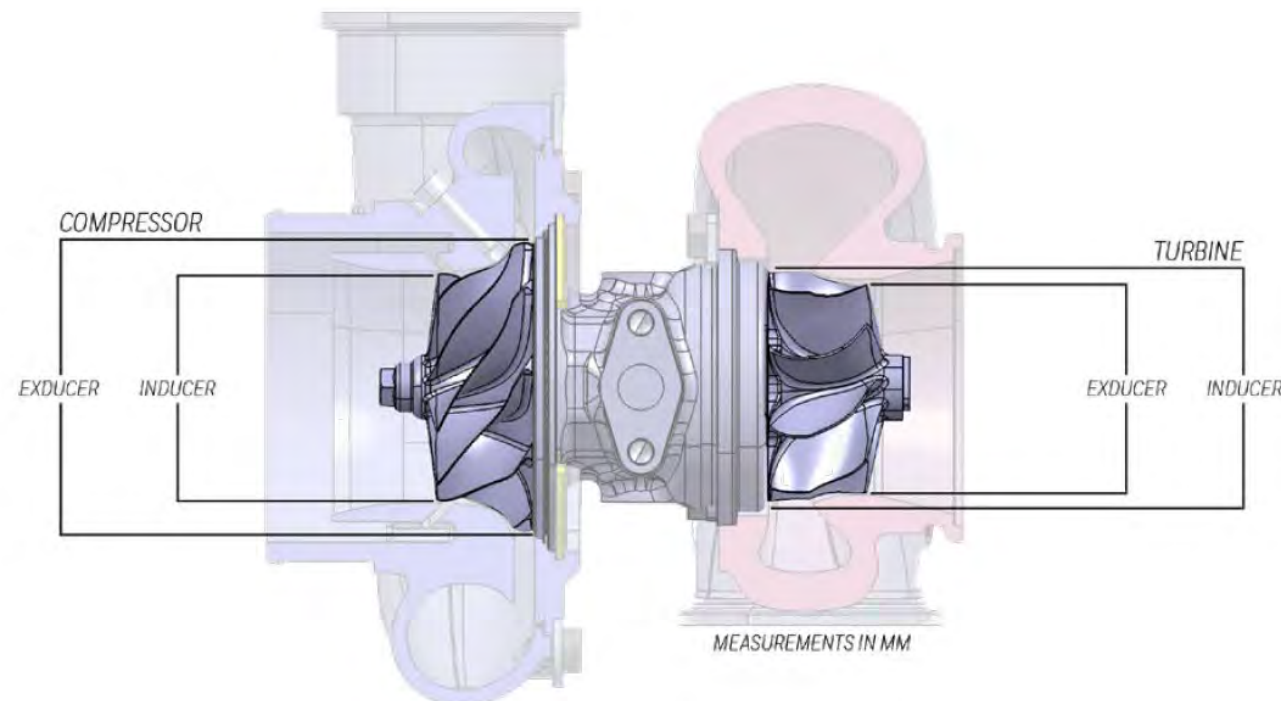
What is Wheel Trim

New G Series 30 turbochargers have a larger trim compared to GTX models.

Wheel trim is a ratio of the inducer to exducer of a compressor wheel and exducer to inducer of the turbine wheel. The larger the trim, the less difference you have between inducer and exducer.

Compressor Trim = $(\text{inducer}^2 / \text{exducer}^2) \times 100$

Turbine Trim = $(\text{exducer}^2 / \text{inducer}^2) \times 100$



Compressor Stage Features

- Standard and reverse rotation configurations for all G30 models
- Fully machined ported shroud to help reduce compressor surge.
- Speed sensor port provides racers the option to add a speed sensor. Comparing shaft speed and boost levels on a compressor map will help determine ideal operating conditions to ensure peak power over a wider operating range.
- **Speed Sensor Kits:** G Series speed sensor kits have new part numbers and are **not** compatible with GT/GTX kits. Easier to install and does not need to be adjusted for length like previous sensors. Simply remove bolt that secures the plug, insert the speed sensor and re-tighten the bolt.

G Series Street Kit: **781328-0003** (includes speed sensor, wire harness, gauge)

G Series Pro Kit: **781328-0004** (includes speed sensor, wire harness)

- Fully machined pressure port. Used to supply external wastegates with pressure signal.
- An O-ring between the compressor housing and backplate reduces any boost pressure leakage.

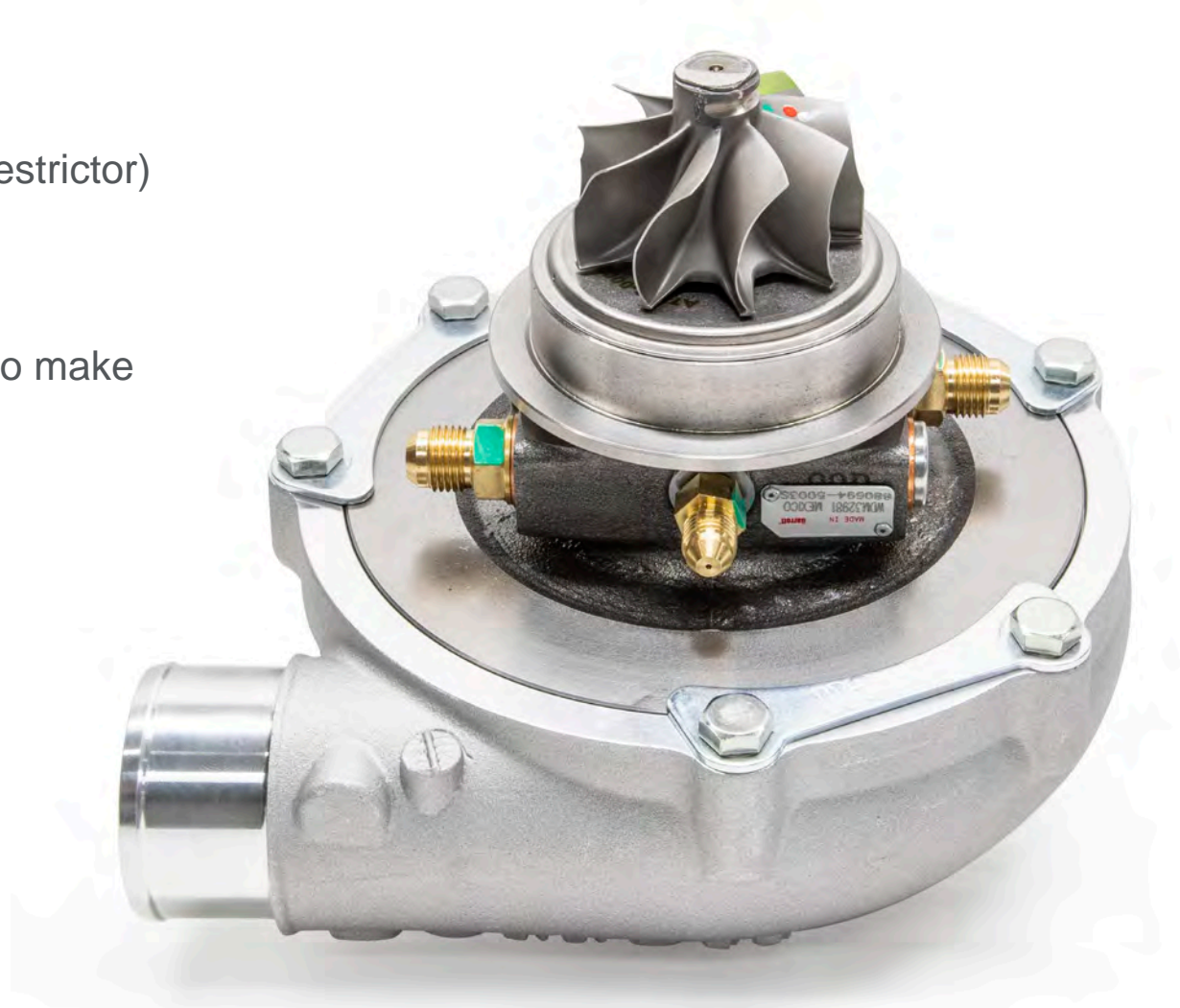


O-ring PN:
G25: 403069-0157
G30/G35: 403069-0162



Center Housing

- Water fittings, plugs, and oil restrictor included (.035" restrictor)
- One piece center housing and backplate
- Center housing to turbine housing V-band connection to make installation quick and easy



Aero and Rotor Group

- **Compressor Wheel**
- CFD engineered, forged fully-machined compressor wheel
- Wider compressor maps for a larger operating area
- 9 blade count

- **Bearing**
- 8mm dual ceramic ball bearing
- Twin piston rings on comp and turbine stage

- **Turbine Wheel**
- Mar-M Turbine wheel construction
- High temperature rated up to 1050° C | 1922° F
- Turbine flow is 5% higher than GTX



Turbine Housings

- V-band configurations have 360 degree clockability
- Stainless steel turbine housings for temperatures up to 1050° C | 1922° F
- 3 inch (76.2mm) V-band inlet (same as GTX)
- 3.5 inch (90.16mm) V-band outlet (same as GTX)
- V-band 0.61 and 0.83 configurations available at launch
- Additional housing configurations **TBD**

A/R	Inlet	Outlet	Open Volute	Twin Volute	WG	Material
0.61	V-Band	V-Band	Yes	No	No	Stainless Steel
0.83	V-Band	V-Band	Yes	No	No	Stainless Steel



Part Number Overview G30

G30-660	Compressor				Turbine		
	Inducer	Exducer	Trim	A/R	Inducer	Exducer	Trim
	54mm	67mm	65	0.70	60mm	55mm	84
Standard Rotation	Assembly Kit PN		A/R	Inlet	Outlet	Wastegate	Divided
Assembly Kit Includes Super Core and Turbine Kit	880697-5001S		0.61	V-Band	V-Band	Free Float	N
	880697-5002S		0.83	V-Band	V-band	Free Float	N
Reverse Rotation	Assembly Kit PN		A/R	Inlet	Outlet	Wastegate	Divided
Assembly Kit Includes Super Core and Turbine Kit	880698-5001S		0.61	V-Band	V-Band	Free Float	N
	880698-5002S		0.83	V-Band	V-band	Free Float	N

*Additional turbine housing options coming soon. Please check GarrettMotion.com for latest updates.

G30-770	Compressor				Turbine		
	Inducer	Exducer	Trim	A/R	Inducer	Exducer	Trim
	58mm	71mm	65	0.72	60mm	55mm	84
Standard Rotation	Assembly Kit PN		A/R	Inlet	Outlet	Wastegate	Divided
Assembly Kit Includes Super Core and Turbine Kit	880697-5008S		0.61	V-Band	V-Band	Free Float	N
	880697-5009S		0.83	V-Band	V-band	Free Float	N
Reverse Rotation	Assembly Kit PN		A/R	Inlet	Outlet	Wastegate	Divided
Assembly Kit Includes Super Core and Turbine Kit	880698-5007S		0.61	V-Band	V-Band	Free Float	N
	880698-5008S		0.83	V-Band	V-band	Free Float	N

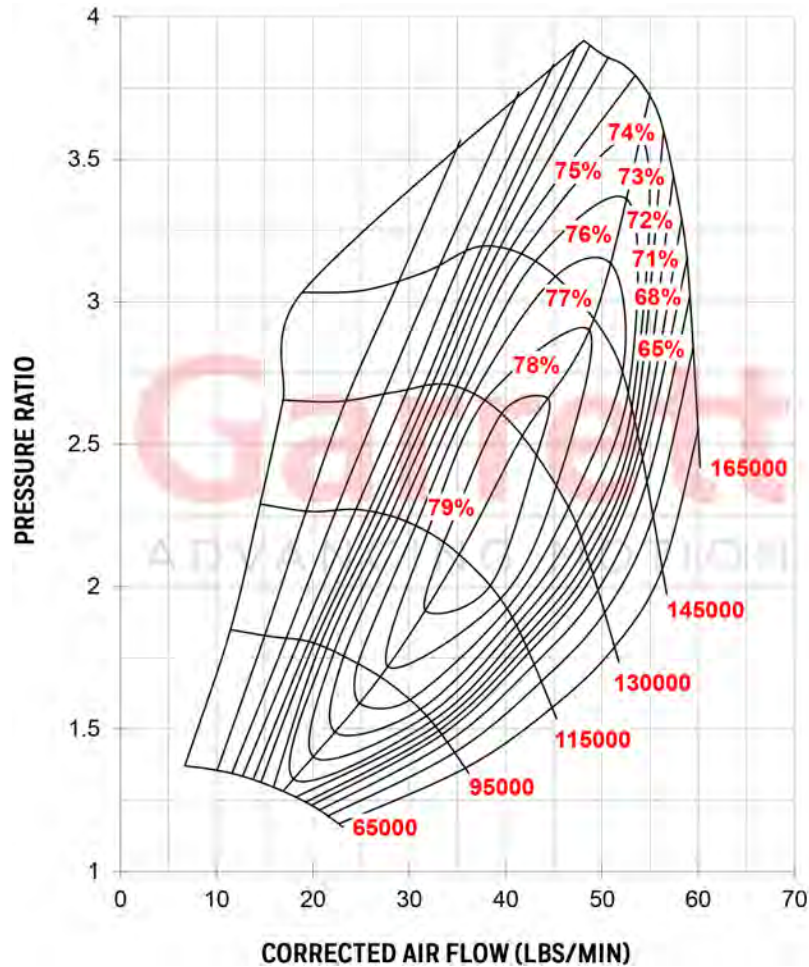
*Additional turbine housing options coming soon. Please check GarrettMotion.com for latest updates.

- (8) G30 part numbers
- .61 / .83 A/R V-band turbine options
- Non-divided | free float wastegate
- Standard and reverse rotation configurations

Garrett® G30-660

Horsepower: 350-660

Displacement: 2.0L-3.5L



- (60LBS/MIN | .453KG/SEC)
- New G Series compressor wheel aerodynamics
- Fully machined speed sensor and pressure ports
- Standard and reverse rotation configurations available
- Oil restrictor and water fittings included
- One piece center housing and backplate
- 4 water jacket ports for customizable installation
- Mar-M turbine wheel aero rated up to 1050 deg C | 1922 deg F
- Stainless steel turbine housings for temperatures up to 1050 C | 1922 deg F

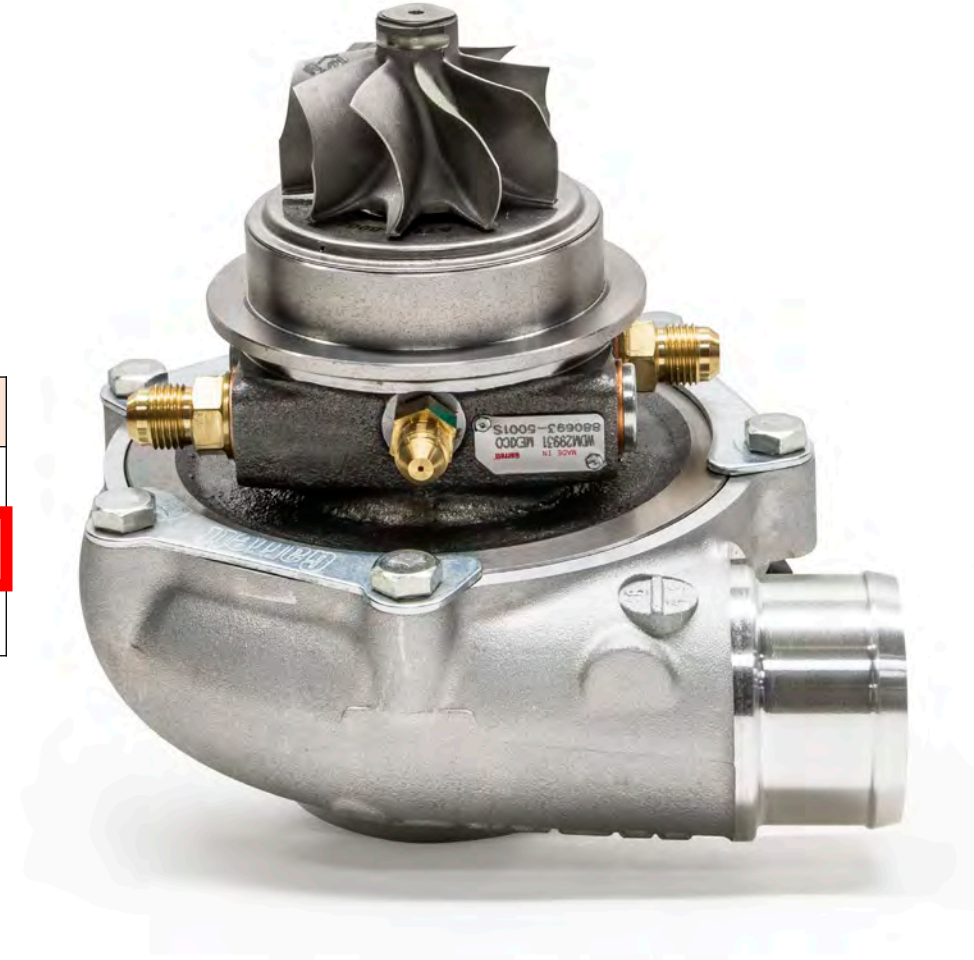
G30-660	Compressor				Turbine		
	Inducer	Exducer	Trim	A/R	Inducer	Exducer	Trim
	54mm	67mm	65	0.70	60mm	55mm	84
Standard Rotation	Assembly Kit PN		A/R	Inlet	Outlet	Wastegate	Divided
Assembly Kit Includes Super Core and Turbine Kit	880697-5001S		0.61	V-Band	V-Band	Free Float	N
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Reverse Rotation	Assembly Kit PN		A/R	Inlet	Outlet	Wastegate	Divided
Assembly Kit Includes Super Core and Turbine Kit	880698-5001S		0.61	V-Band	V-Band	Free Float	N
	880698-5002S		0.83	V-Band	V-band	Free Float	N

*Additional turbine housing options coming soon. Please check GarrettMotion.com for latest updates.

Garrett® G30-660 vs G25-660

- Larger 60mm turbine wheel (+6mm)
- Supports higher turbine flow up to 3.5L engine displacement (+0.5L)
- 74% turbine efficiency +2%
- Same outline dimensions

	Displacement	HP	Compressor				Turbine	
			Inducer	Exducer	Trim	A/R	Inducer	Exducer
G30-660	2.0L - 3.5L	350-660	54mm	67mm	65	0.70	60mm	55mm
G25-660	1.4L - 3.0L	350-660	54mm	67mm	65	0.70	54mm	49mm



Garrett® G30-660 vs GTX3067R



- Why G30-660?
- Supports larger engine displacement up to 3.5L (+0.5L)
- 28% increase in compressor flow (+160 more horsepower)
- 74% turbine efficiency +2%
- Mar-M turbine wheel material rated up to 1050° C | 1922° F
- Stainless steel turbine housings for temps up to 1050° C | 1922° F

G30-660

- 660HP Rating
- 0.72 AR, 65 Trim
- Comp Efficiency 76%

GTX3067R

- 500HP Rating
- 0.60 AR, 55 Trim
- Comp Efficiency 79%

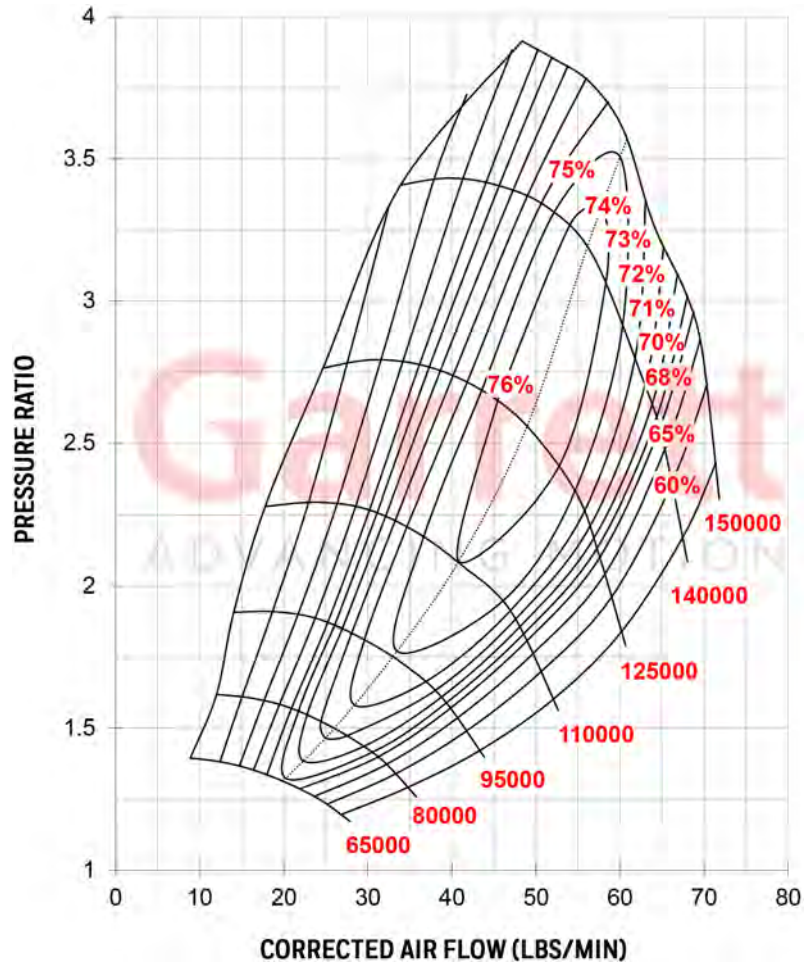


	Displacement	HP	Compressor				Turbine	
			Inducer	Exducer	Trim	A/R	Inducer	Exducer
G30-660	2.0L - 3.5L	350-660	54mm	67mm	65	0.70	60mm	55mm
GTX3067R	1.8L - 3.0L	275-500	50mm	67mm	55	0.60	60mm	55mm

Garrett® G30-770

Horsepower: 475-770

Displacement: 2.0L-3.5L



(70LBS/MIN | .529KG/SEC)

- New G Series compressor wheel aerodynamics
- Fully machined speed sensor and pressure ports
- Standard and reverse rotation configurations available
- Oil restrictor and water fittings included
- One piece center housing and backplate
- 4 water jacket ports for customizable installation
- Mar-M turbine wheel aero rated up to 1050 deg C | 1922 deg F
- Stainless steel turbine housings for temperatures up to 1050 C | 1922 deg F

G30-770	Compressor				Turbine		
	Inducer	Exducer	Trim	A/R	Inducer	Exducer	Trim
	58mm	71mm	65	0.72	60mm	55mm	84
Standard Rotation	Assembly Kit PN		A/R	Inlet	Outlet	Wastegate	Divided
Assembly Kit Includes Super Core and Turbine Kit	880697-5008S		0.61	V-Band	V-Band	Free Float	N
	880697-5009S		0.83	V-Band	V-band	Free Float	N
Reverse Rotation	Assembly Kit PN		A/R	Inlet	Outlet	Wastegate	Divided
Assembly Kit Includes Super Core and Turbine Kit	880698-5007S		0.61	V-Band	V-Band	Free Float	N
	880698-5008S		0.83	V-Band	V-band	Free Float	N

*Additional turbine housing options coming soon. Please check GarrettMotion.com for latest updates.

Garrett® G30-770 vs GTX3071R Gen II



- Why G30-770?
- Supports larger engine displacement up to 3.5L (+0.5L)
- 14% increase in compressor flow (+95 more horsepower)
- 74% turbine efficiency +2%
- Mar-M turbine wheel material rated up to 1050° C | 1922° F
- Stainless steel turbine housings for temperatures up to 1050° C | 1922° F

G30-770

- 770HP Rating
- 0.72 AR, 65 Trim
- Comp Efficiency 76%

GTX3071R Gen2

- 675HP Rating
- 0.60 AR, 58 Trim
- Comp Efficiency 72%

			Compressor				Turbine	
	Displacement	HP	Inducer	Exducer	Trim	A/R	Inducer	Exducer
G30-770	2.0L - 3.5L	475-770	58mm	71mm	65	0.72	60mm	55mm
GTX3071R Gen II	1.8L - 3.0L	340-675	54mm	71mm	58	0.60	60mm	55mm



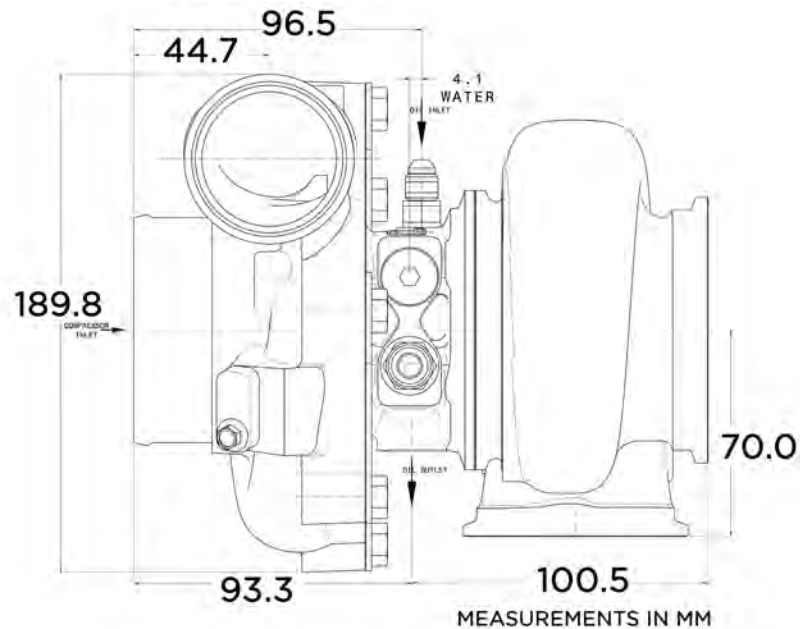
Sizing Comparison: G30 vs GTX30

- G30 turbine housings are larger axially than GTX

Turbo	Turbine housing	Axial length(mm)
G30-770	V-Band / free float	193.8
GTX3071R	V-Band / free float	188.1

- 5.7mm larger than GTX Gen II
- (0.25" Inch)

G30-770



GTX3071R

