



AIRWerks

BorgWarner

When DSport magazine started building a Honda engine for the 72MM class limit turbo, they reached for the S400SX3 from BorgWarner's AirWerks division. This turbo is capable of supporting over 1000 horsepower, offers super-quick response and the durability associated with the BorgWarner name.



The passion of power

In 2002, the aftermarket group of BorgWarner Turbo Systems started a program named AirWerks. This independent aftermarket program was created to assist the needs of BorgWarner distributors who currently sell into the market of competitive motorsports or are assisting those customers who are looking for a little more performance to a factory turbocharged car or to retrofit a naturally aspirated engine.



Driver: Glen Hunter

Vehicle: 1956 Chevrolet Bel Air

Racing Venue: Hot Rod Drag Week

Current Turbo of choice: **Twin S400SX**

Team: Lambert Racing

Driver: Rodney and Jesse Lambert

Vehicle: 1986 Ford Mustang

Racing Venue: Outlaw Drag Radial

Current Turbo of choice: **Twin 88mm S500SX**



S1BG

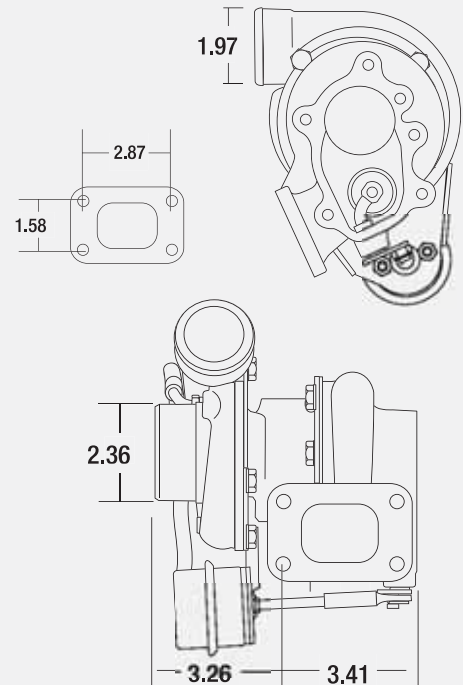
120 - 320 HP Turbo



FEATURES

- Twin hydrodynamic journal bearings
- Integrated wastegate assembly
- Adjustable compressor and turbine housing orientation

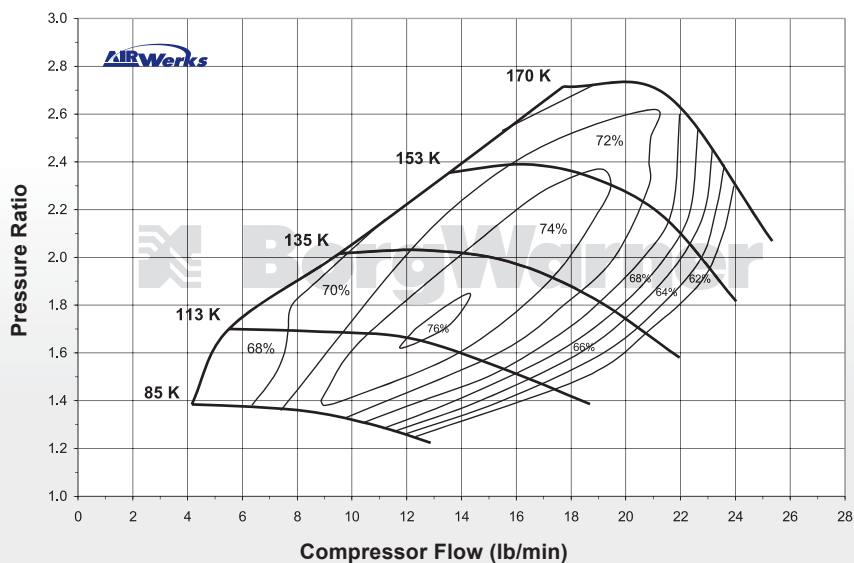
TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Cartridge Assembly	Service Kit
313295	1.90	1.35	34	1.85	47	1.57	40	.35	N/A	318374
313296	2.08	1.55	39	2.08	53	1.80	46	.46	315358	318374
313683	2.08	1.55	39	2.08	53	1.80	46	.61	N/A	318374
313297	2.28	1.70	43	2.08	53	1.80	46	.61	313737	318374
313798	2.28	1.70	43	2.08	53	1.80	46	.81	313737	318374

COMPRESSOR MAP

(Applicable to part number 313296)



S200SX

320 - 580 HP Turbo

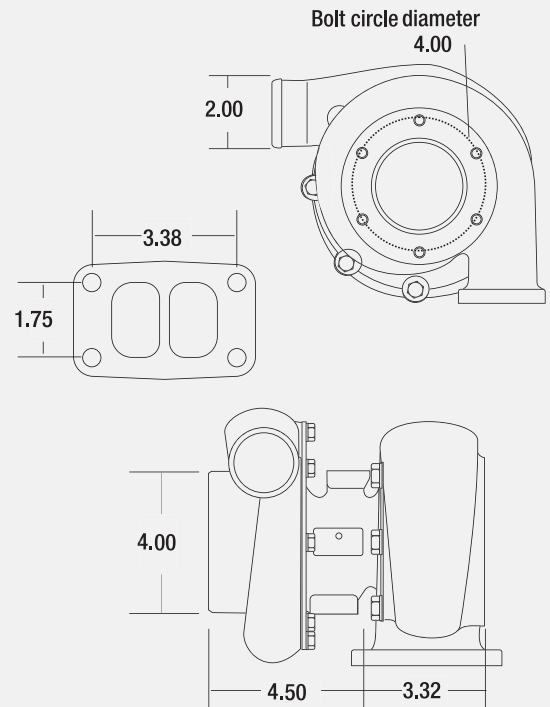


FEATURES

- Twin hydrodynamic journal bearings
- Extended tip technology compressor wheel
- Twin scroll turbine housing
- Adjustable compressor and turbine housing orientation
- Compressor cover recirculation grooves

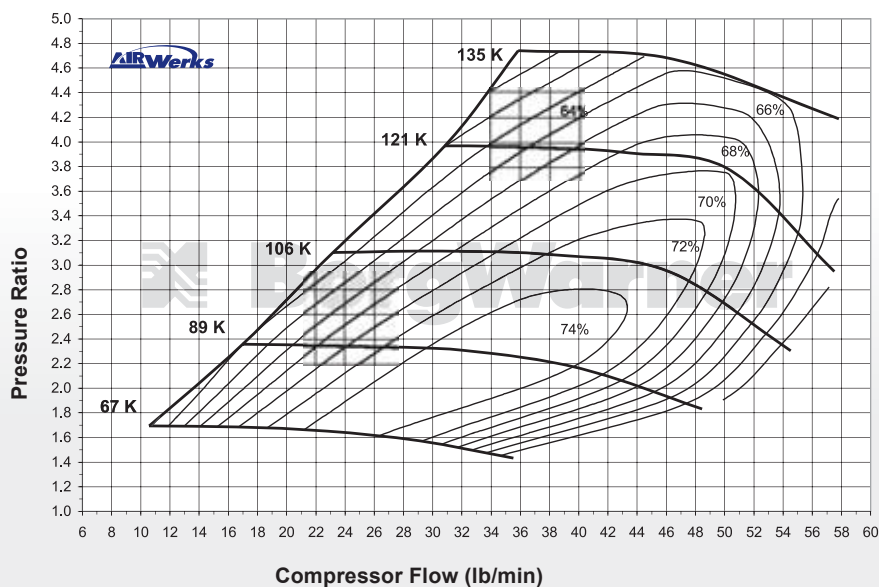


TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Turbine Config.	Cartridge Assembly	Service Kit
317222	3.14	2.20	56	2.92	74	2.54	65	.85	VTF	316999	318382
317246	3.14	2.20	56	2.92	74	2.54	65	.76	VTF	316999	318382

COMPRESSOR MAP



S200SX

220 - 580 HP Turbo

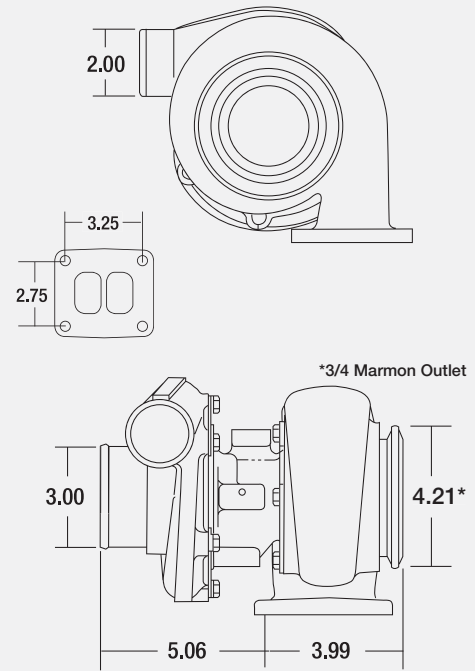


FEATURES

- Twin hydrodynamic journal bearings
- Extended tip technology compressor wheel
- Twin scroll turbine housing
- Adjustable compressor and turbine housing orientation



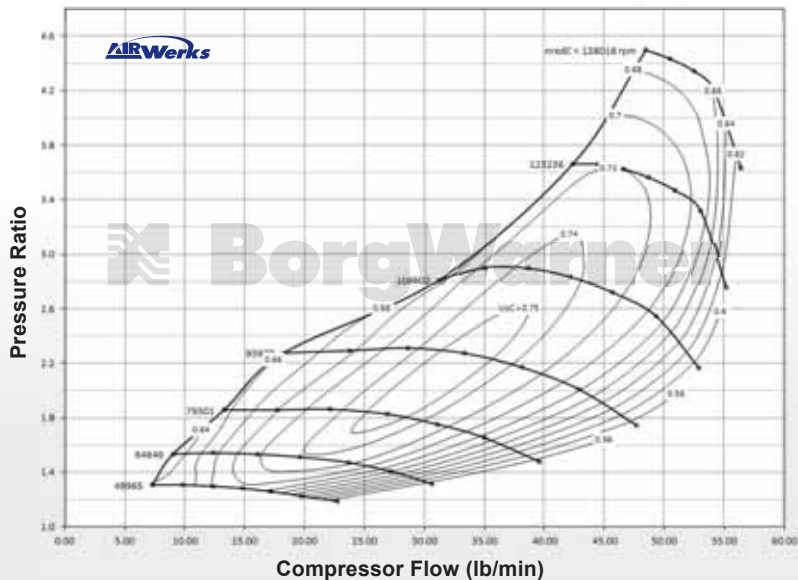
TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer Dia (mm)	Turbine A/R	Turbine Config.	Cartridge Assembly	Service Kit
177258	2.74	1.81	46	2.74	70	2.420	61	.83	VTF	176639	318383
177267	2.74	1.95	50	2.74	70	2.420	61	1.09	VTF	176642	318383
177257	2.74	2.00	51	2.74	70	2.420	61	.83	VTF	176638	318383
177268	3.00	2.20	55.8	2.74	70	2.420	61	1.22	VTF	176637	318383
178034*	3.00	2.20	55.8	2.74	70	2.420	61	1.22	VTF	N/A	318383
178042*	3.00	2.20	55.8	2.74	70	2.420	61	1.27	VTF	N/A	318383

* Compressor inlet diameter 4.00"

COMPRESSOR MAP (Applicable to part number 177268)



TURBINE HOUSING

Part #	A/R	Inlet Configuration		Notes
177191	0.83	Volute, Twin Flow	T4 Bolt Pattern T3 Volute Opening	70mm Turbine Wheel
177193	1.00			
177196	1.09			
177192	1.15			
177194	1.22			
178331	1.27			

S200SX-E

300 - 650 HP Super-Core



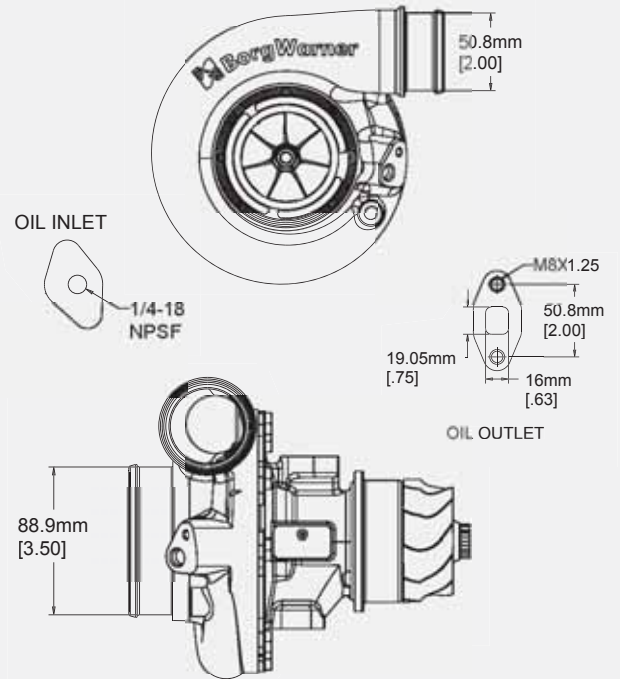
FEATURES

- Integrated speed sensor port
- Forged milled compressor wheel
- Pre-machined boost port
- Optimized compressor stage aerodynamics

Not included with turbo assemblies: Speed sensor, Turbine outlet V-Band, Drain port fitting



SUPER-CORE FRAME DIMENSIONS



TURBINE HOUSING

Super-Core Part #	Comp. Wheel O.D. (in)	Comp. Wheel O.D. (mm)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)
12709095019	2.74	69.60	2.05	52.17	2.74	69.56	2.42	61.43
12769095003	3.00	76.20	2.25	57.15	2.74	69.56	2.42	61.43

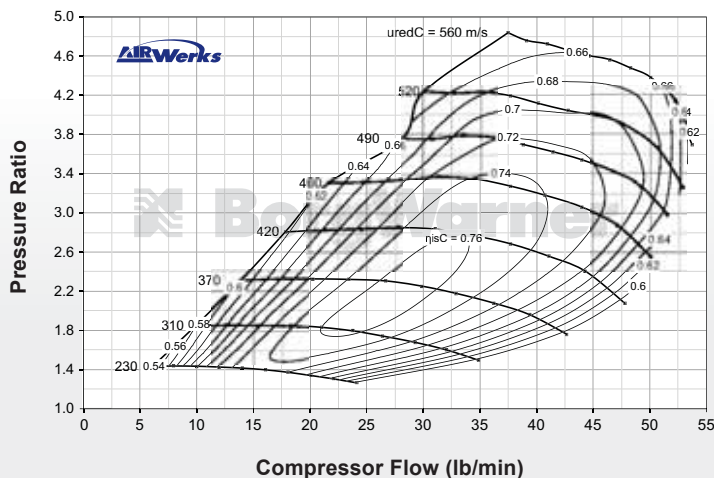
Part #	A/R	Inlet Configuration	Notes
177191	0.83	Volute, Twin Flow T4 Bolt Pattern T3 Volute Opening	70mm Turbine Wheel
177193	1.00		
177196	1.09		
177192	1.15		
177194	1.22		
178331	1.27		

All turbine housing mounting hardware, clamp plates and cap screws are included with Super-Core.

COMPRESSOR MAPS

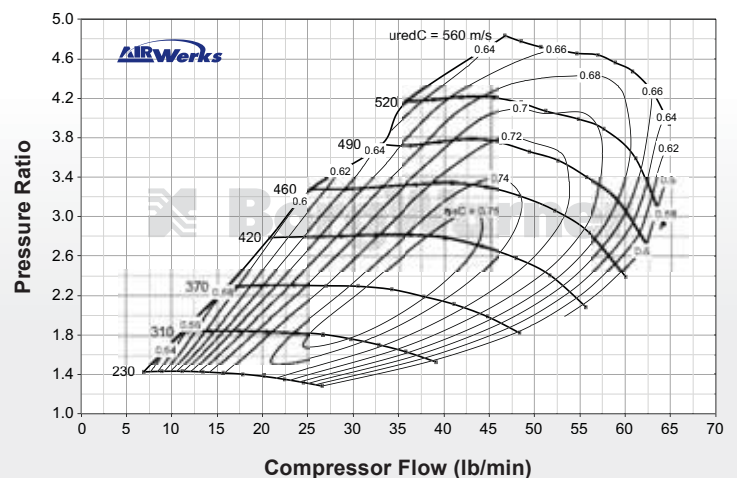
S200SX-E 300 - 550 HP Super-Core

Part Number: 12709095019



S200SX-E 300 - 650 HP Super-Core

Part Number: 12769095003



S300SX3

320 - 800 HP Turbo

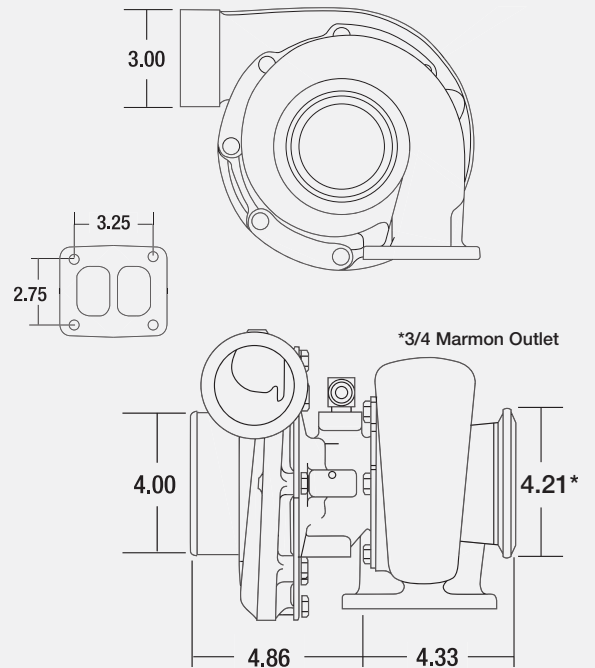


FEATURES

- Twin hydrodynamic journal bearings
- Extended tip technology compressor wheel
- Twin scroll turbine housing options available
- Adjustable compressor and turbine housing orientation
- Compressor cover recirculation grooves

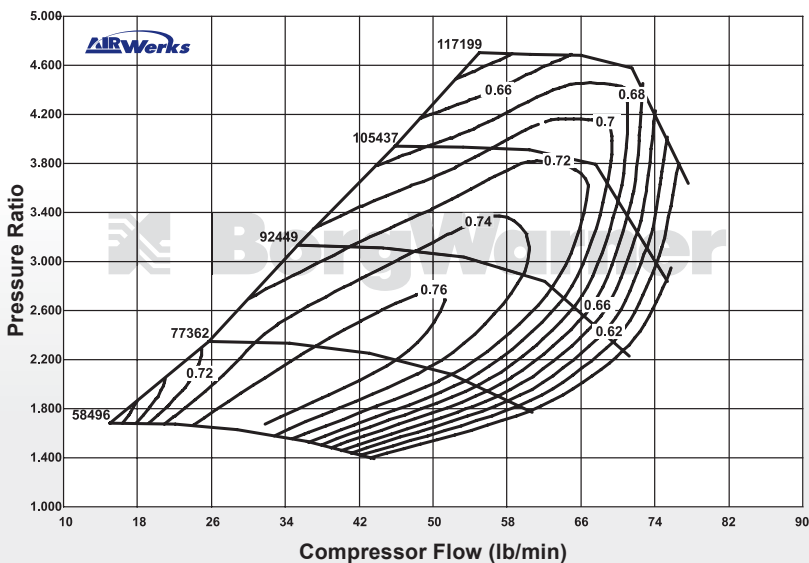


TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia.	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D.	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer	Turbine Wheel Exducer (mm)	Turbine A/R	Cartridge Assembly	Service Kit
177281	3.60	2.60	66	3.14	80	2.89	73	.88	176634	318393
177275	3.60	2.60	66	3.14	80	2.89	73	.91	176646	318393
177272	3.29	2.36	60	3.00	76	2.66	68	.91	176635	318393

COMPRESSOR MAP (Applicable to part number 177281 & 177275)



TURBINE HOUSING

Part #	A/R	Inlet Configuration	Notes
177211	0.88	Volute, Open Flow	80mm Turbine Wheel
177208	0.91	Volute, Twin Flow	
179905	1.00	Volute, Twin Flow	
177210	0.88	Volute, Open Flow	76mm Turbine Wheel
177207	0.91	Volute, Twin Flow	
177209	1.00	Volute, Twin Flow	

S300SX3

320 - 800 HP Turbo

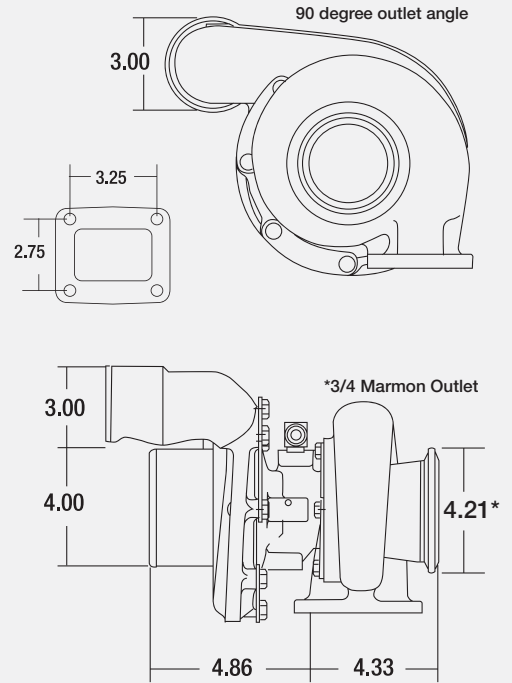


FEATURES

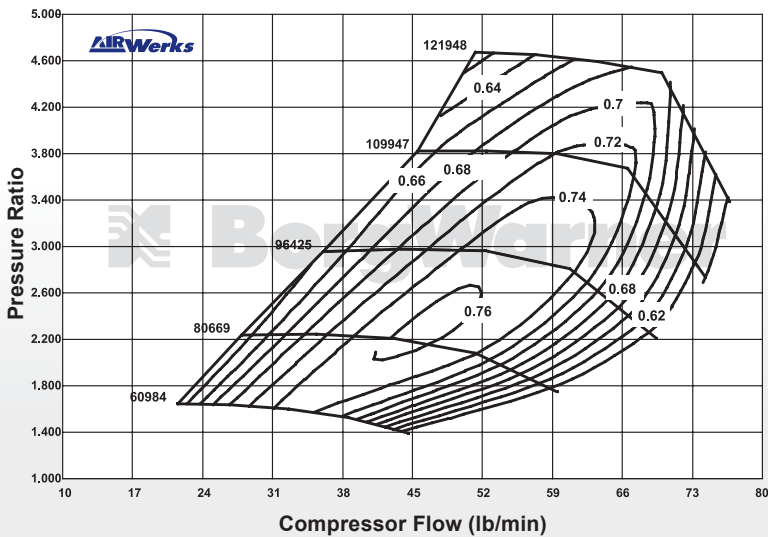
- Twin hydrodynamic journal bearings
- Extended tip technology compressor wheel
- Twin scroll turbine housing options available
- Adjustable compressor and turbine housing orientation
- Compressor cover recirculation grooves



TURBO FRAME DIMENSIONS



COMPRESSOR MAP (Applicable to part number 177283)



TURBINE HOUSING

Part #	A/R	Inlet Configuration	Notes
177211	0.88	Volute, Open Flow	80mm Turbine Wheel
177208	0.91	Volute, Twin Flow	
179905	1.00	Volute, Twin Flow	
177210	0.88	Volute, Open Flow	76mm Turbine Wheel
177207	0.91	Volute, Twin Flow	
177209	1.00	Volute, Twin Flow	

S300SX-E

320 - 1000 HP Super-Core

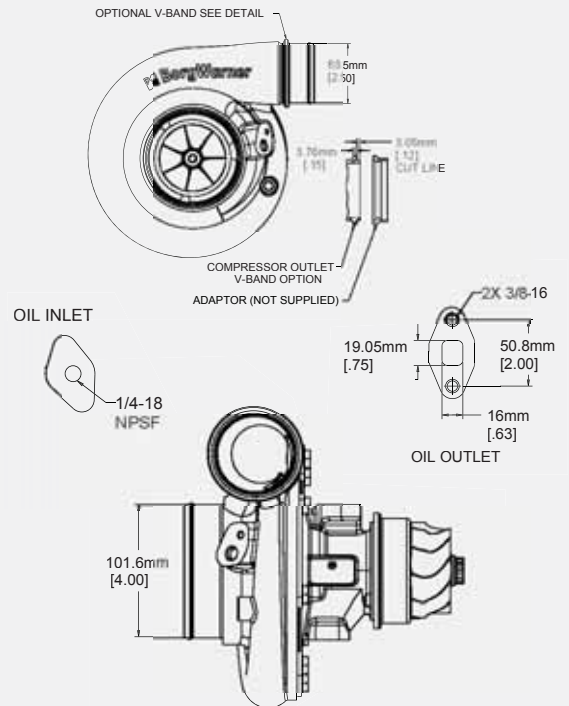


FEATURES

- 360 degree thrust bearing
- Integrated speed sensor port
- Forged milled compressor wheel
- Flexible compressor cover outlet options
- Pre-machined boost port
- Optimized compressor stage aerodynamics



SUPER-CORE FRAME DIMENSIONS



Not included with turbo assemblies: Speed sensor, Turbine outlet V-Band, Drain port fitting

Super-Core Part #	Comp. Wheel O.D. (in)	Comp. Wheel O.D. (mm)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)
13009097056	3.29	83.47	2.42	61.44	3.00	76.20	2.66	67.56
13009097053					3.14	79.76	2.89	73.37
13009097006	3.44	87.37	2.48	62.99	3.00	76.20	2.66	67.56
13009097047					3.14	79.76	2.89	73.37
13009097008			2.54	64.47	3.00	76.20	2.66	67.56
13009097055					3.14	79.76	2.89	73.37
13009097049	3.60	91.44	2.60	66.11	3.14	79.76	2.89	73.37
13009097051			2.72	69.00				

All turbine housing mounting hardware, clamp plates and cap screws included with Super-Core.

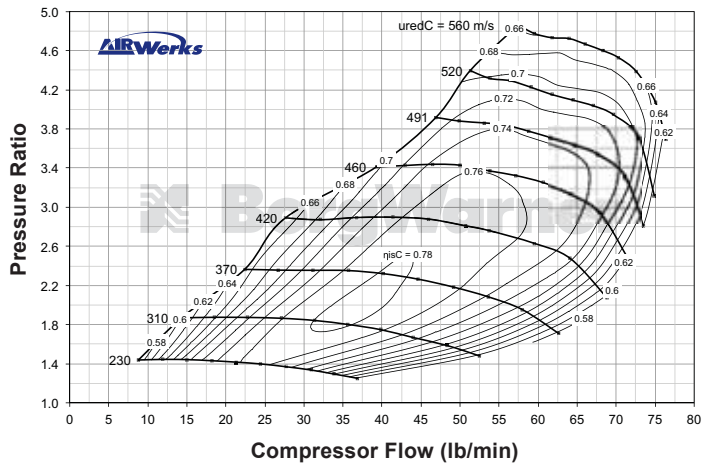
TURBINE HOUSING

Part #	A/R	Inlet Configuration		Notes
177211	0.88	Volute, Open Flow	T4 Inlet	80mm Turbine Wheel
177208	0.91	Volute, Twin Flow		
179905	1.00	Volute, Twin Flow		
177210	0.88	Volute, Open Flow		76mm Turbine Wheel
177207	0.91	Volute, Twin Flow		
177209	1.00	Volute, Twin Flow		

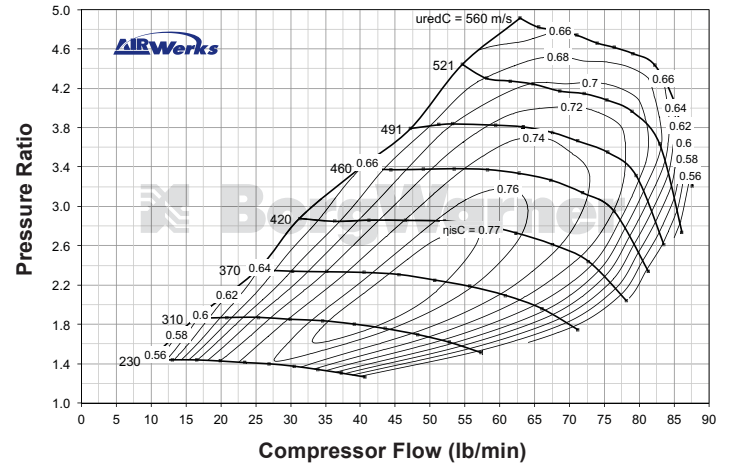


S300SX-E 400 - 775 HP

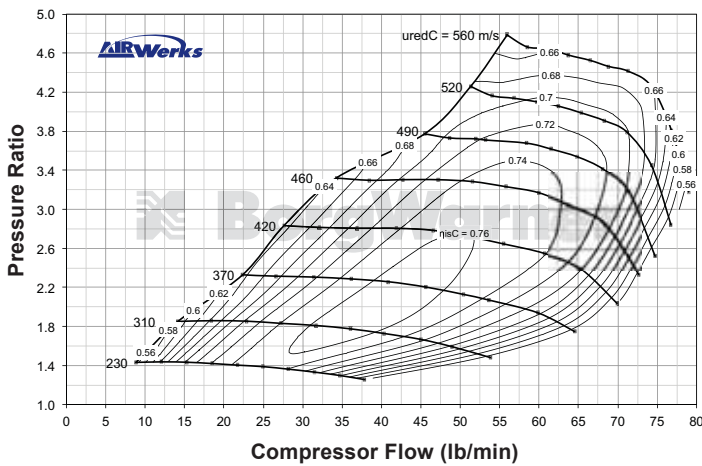
Part Number: 13009097053, 13009097056

**S300SX-E** 500 - 875 HP

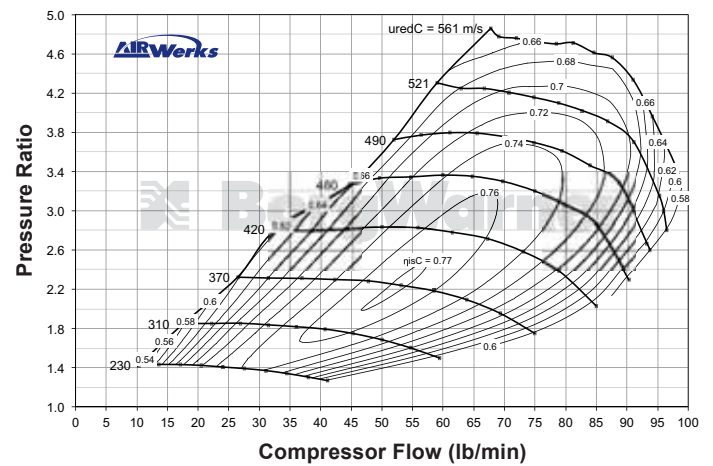
Part Number: 13009097049

**S300SX-E** 450 - 785 HP

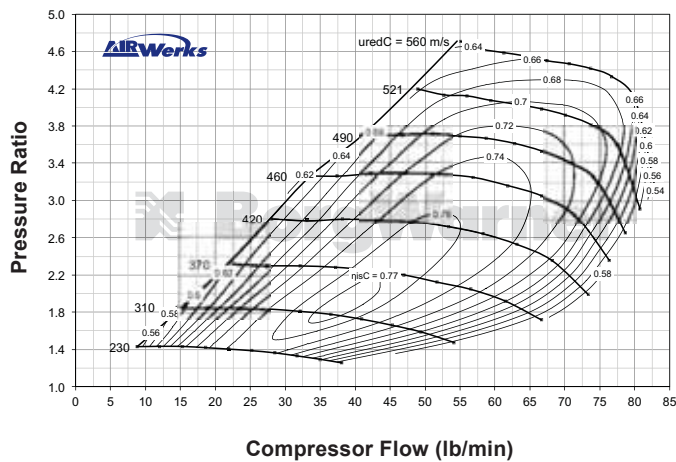
Part Number: 13009097006, 13009097047

**S300SX-E** 500 - 1000 HP

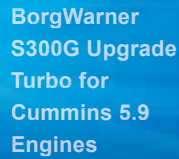
Part Number: 13009097051

**S300SX-E** 450 - 825 HP

Part Number: 13009097008, 13009097055

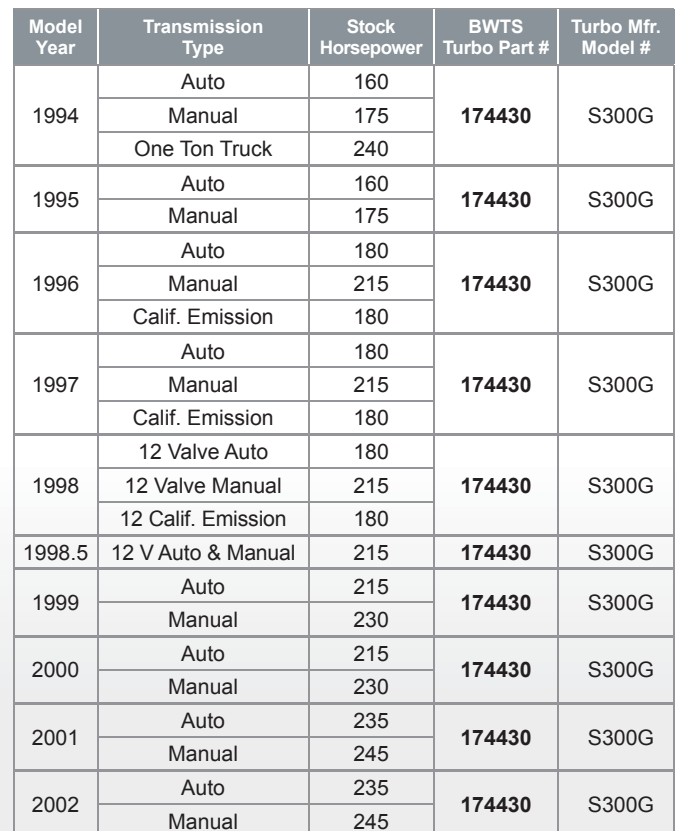


Cummins 5.9 Upgrade



- 4" Exhaust System
- Performance Chip
- High Flow Fuel Injectors
- High Flow Air Filter
- Ram Air Intake Tube
- Boost Control Fitting

COMPRESSOR MAP (Applicable to part number 177281 & 177275)



K29-3775

500 - 875 HP Turbo

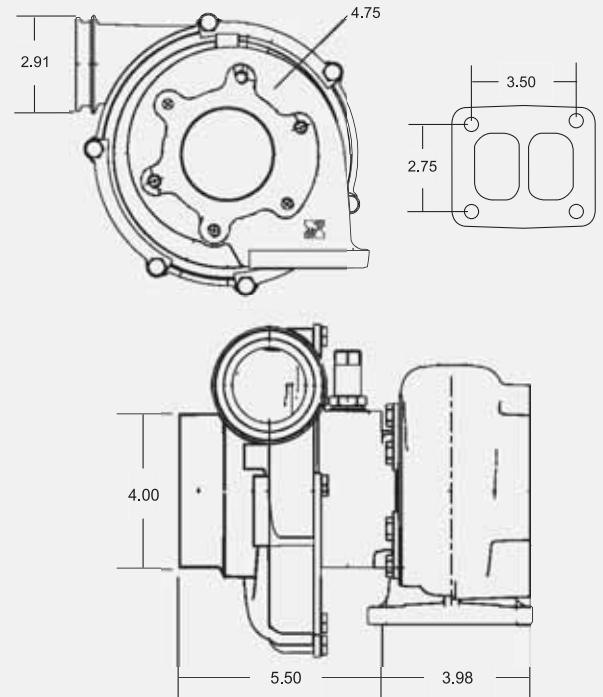


FEATURES

- Twin hydrodynamic journal bearings
- Forged milled compressor wheel
- Twin scroll turbine housing
- Adjustable compressor and turbine housing orientation
- Compact design

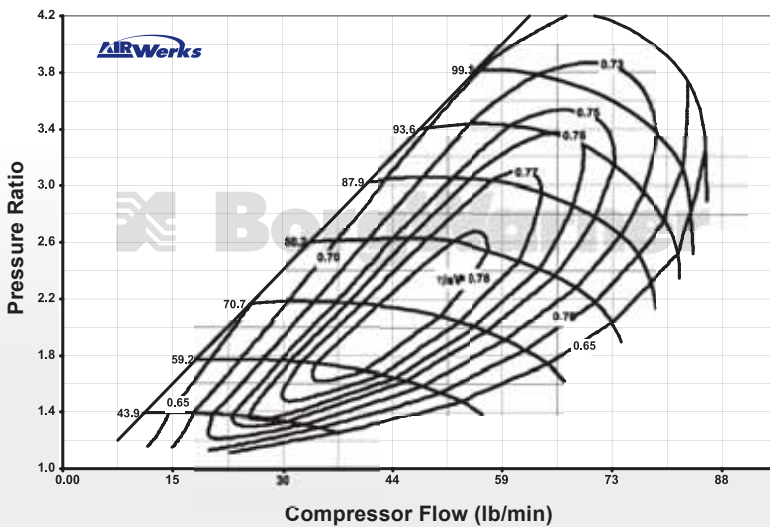


TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Cartridge Assembly	Service Kit
53299887129	3.70	2.79	70.93	3.23	82	2.80	71.00	17 ² cm	N/A	5331 711 0005

COMPRESSOR MAP



DODGE RAM



S400SX

400 - 1300 HP Turbo

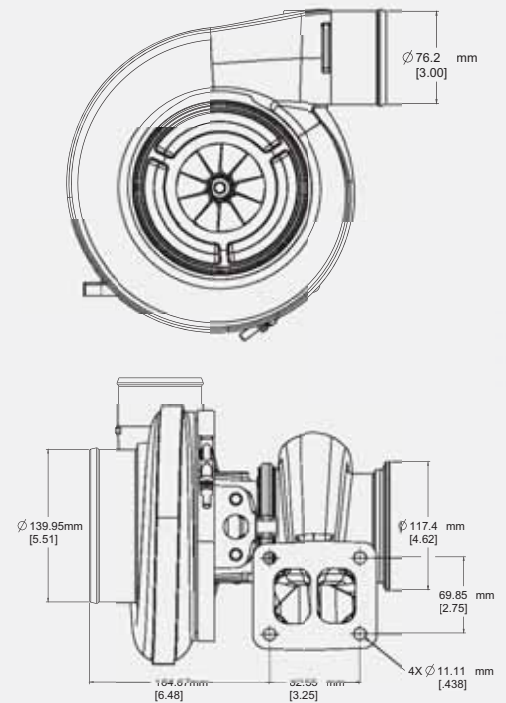


FEATURES

- Twin hydrodynamic journal bearings
- Extended Tip Technology Compressor Wheel
- Twin Scroll Turbine Housing
- Adjustable compressor and turbine housing orientation
- Standard turbine inlet and outlet connections
- Compressor cover recirculation grooves



TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Super-Core	Cartridge Assembly	Service Kit
178855	3.60	2.66	67.66	3.29	83.47	2.92	74.29	1.10	179352*	178856	318396
14879880082	3.78	2.83	72	3.44	87.37	3.22	81.74	1.10	14009097006	14009097007	318396
179174	3.94	2.94	74.56	3.44	87.37	3.22	81.74	1.10	179175	14009097001	318396
179176	4.13	2.99	76.00	3.44	87.37	3.22	81.74	1.10	178781*	178782	318396
179180	4.32	3.16	80.30	3.44	87.37	3.22	81.74	1.25	179179*	179181	318396
179182	4.32	3.24	82.20	3.44	87.37	3.22	81.74	1.25	179184*	179183	318396

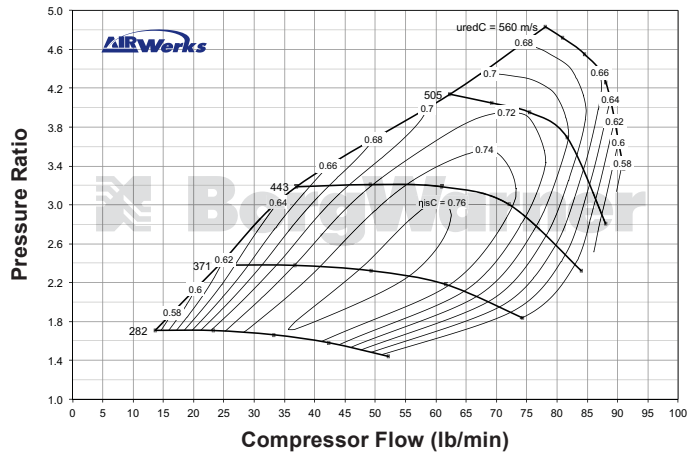
TURBINE HOUSING

Part #	A/R	Inlet Configuration		Notes
177102	0.90	Volute, Twin Flow	T4 Inlet	87mm Turbine Wheel
177103	1.00			
177104	1.10			
177105	1.25			
178787	0.90			
178788	1.00			
178789	1.10			
178790	1.25			

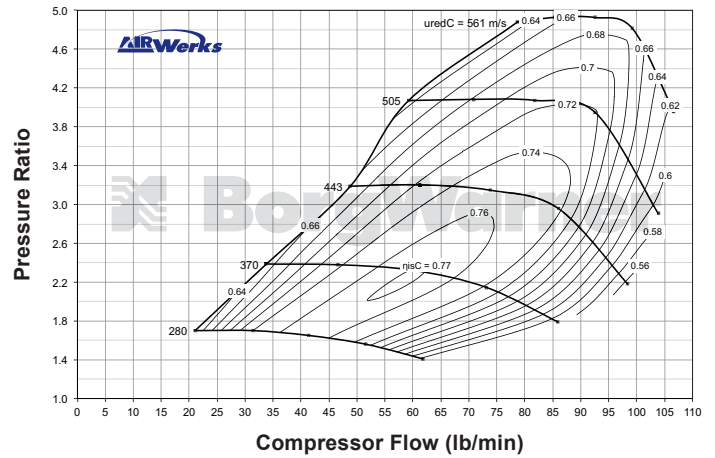


S400SX 400 - 900 HP

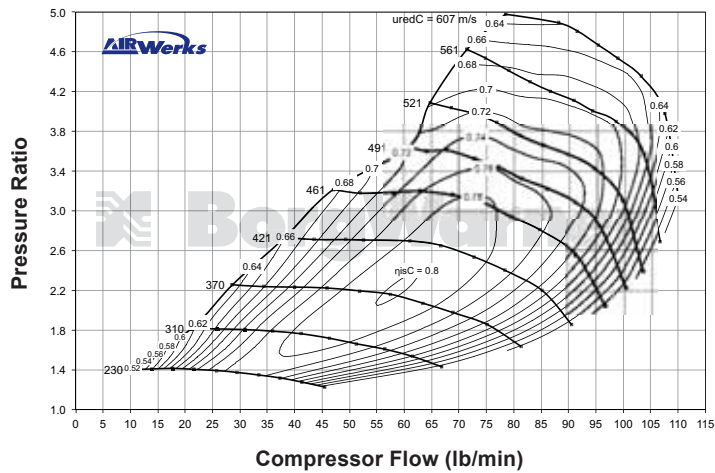
Part Number: 178855

**S400SX** 550 - 1100 HP

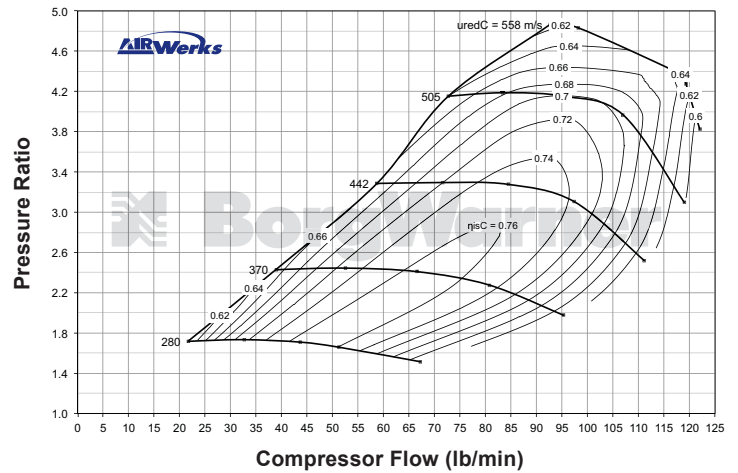
Part Number: 179176

**S400SX-E** 500 - 1100 HP

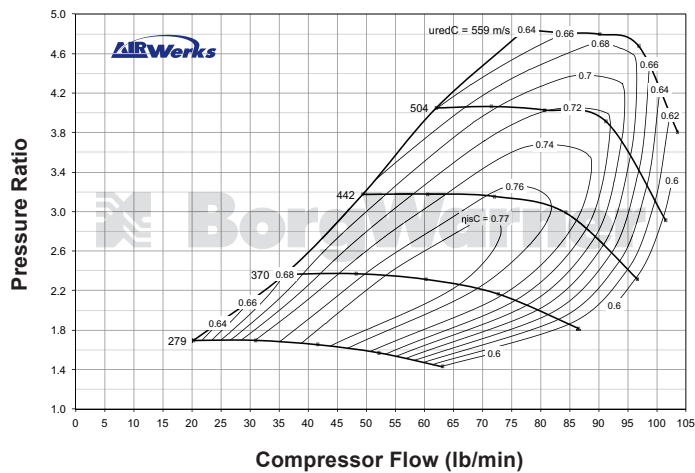
Part Number: 14879880082

**S400SX** 750 - 1250 HP

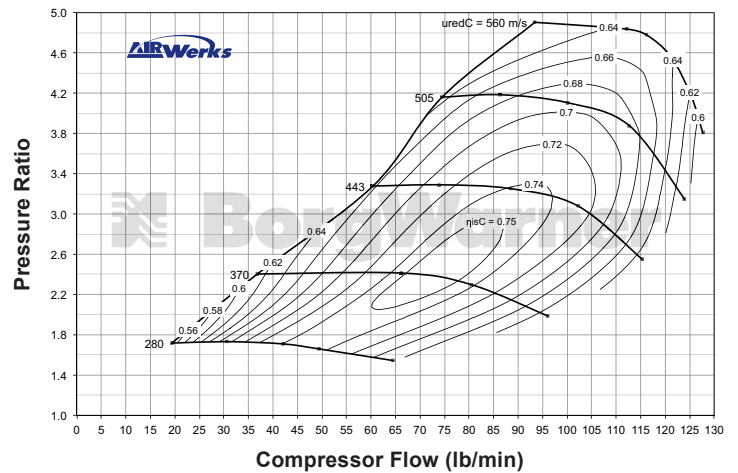
Part Number: 179180

**S400SX** 500 - 1050 HP

Part Number: 179174

**S400SX** 750 - 1300 HP

Part Number: 179182



S400SX3

500 - 1050 HP Turbo

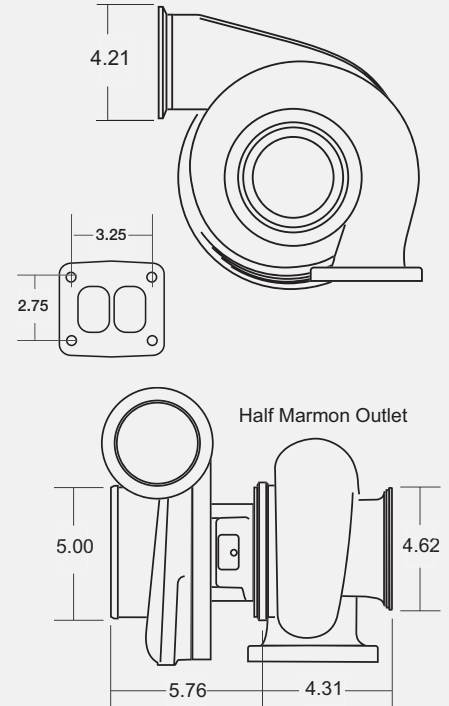


FEATURES

- Twin hydrodynamic journal bearings
- Extended tip technology compressor wheel
- Twin scroll turbine housing
- Adjustable compressor and turbine housing orientation
- Standard turbine inlet and outlet allows for drop-in to existing turbocharged applications
- Compressor cover recirculation grooves

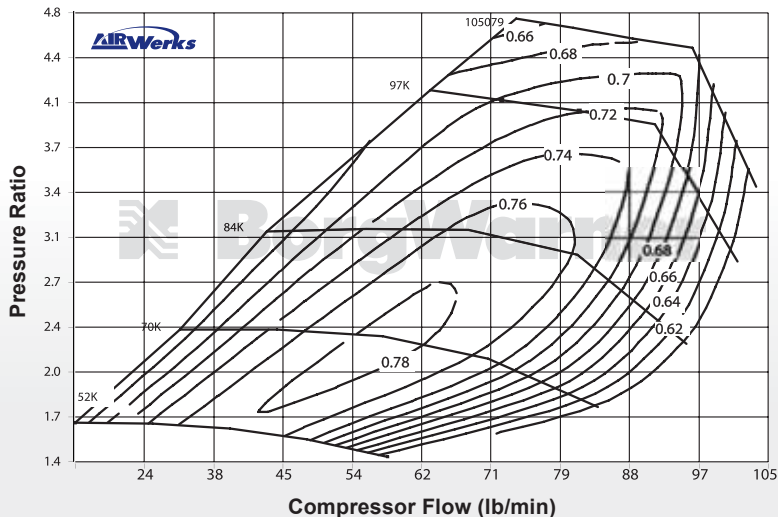


TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Cartridge Assembly	Service Kit
177248	3.94	2.80	71.08	3.29	83	2.93	74	1.10	177249	318396
177101	3.94	2.94	74.56	3.29	83	2.93	74	1.10	176807	318396

COMPRESSOR MAP (Applicable to part number 177101)



TURBINE HOUSING

Part #	A/R	Inlet Configuration		Notes
177102	0.90	Volute, Twin Flow	T4 Inlet	83mm Turbine Wheel
177103	1.00			
177104	1.10			
177105	1.25			

S400SX4

500 - 1050 HP Turbo

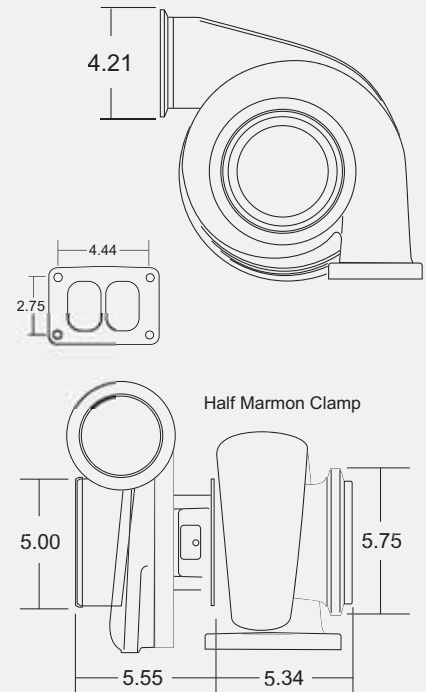


FEATURES

- Twin hydrodynamic journal bearings
- Extended tip technology compressor wheel
- Twin scroll turbine housing
- Adjustable compressor and turbine housing orientation
- Compressor cover recirculation grooves

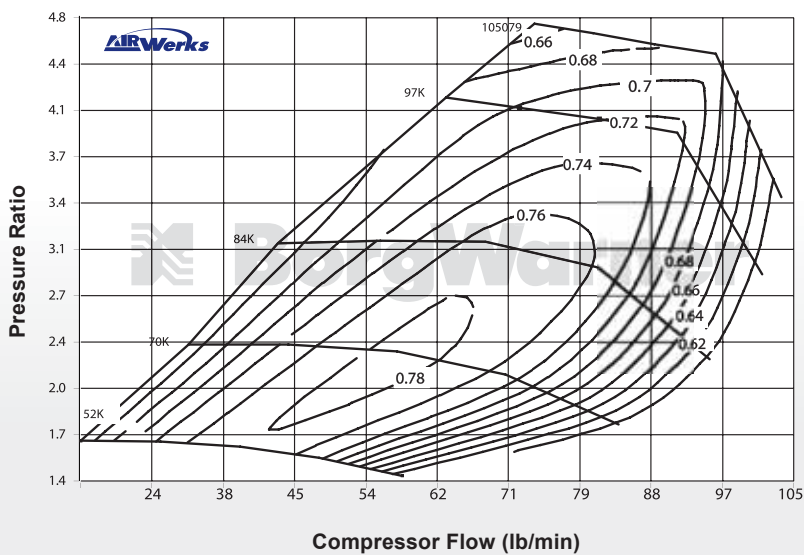


TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Cartridge Assembly	Service Kit
171701	3.94	2.80	71	3.77	96	3.47	88	1.32	171699	176391
171702	3.94	2.94	75	3.77	96	3.47	88	1.32	171703	176391
176806	3.94	2.94	75	3.29	83	2.93	74	1.10	176807	318396

COMPRESSOR MAP (Applicable to part numbers 171702 and 176806)



TURBINE HOUSING FOR 176806 ONLY

Part #	A/R	Inlet Configuration	Notes
176809	0.90	Volute, Twin Flow	83mm Turbine Wheel
176810	1.00		
176811	1.10		
176812	1.25		

TURBINE HOUSING FOR 171701 AND 171702

Part #	A/R	Inlet Configuration	Notes
14961019007	1.15	Volute, Twin Flow	96mm Turbine Wheel
171698	1.32		
14961016101	1.45		
14961016100	1.58		

S400SX4

750 - 1250 HP Turbo

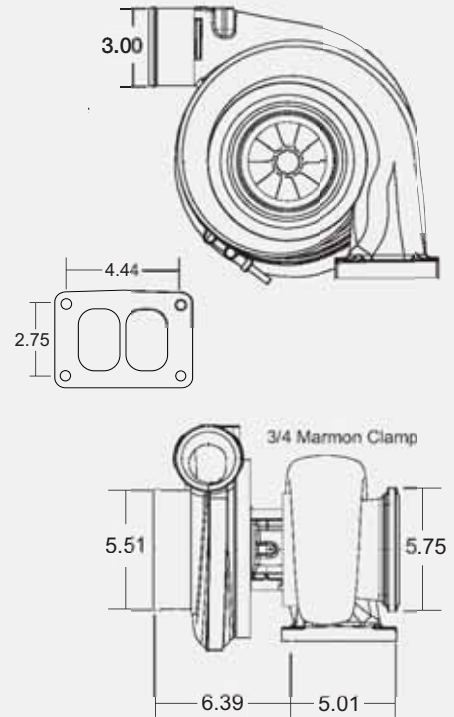


FEATURES

- Twin hydrodynamic journal bearings
- Extended tip technology compressor wheel
- Twin scroll turbine housing
- Adjustable compressor and turbine housing orientation
- Compressor cover recirculation grooves

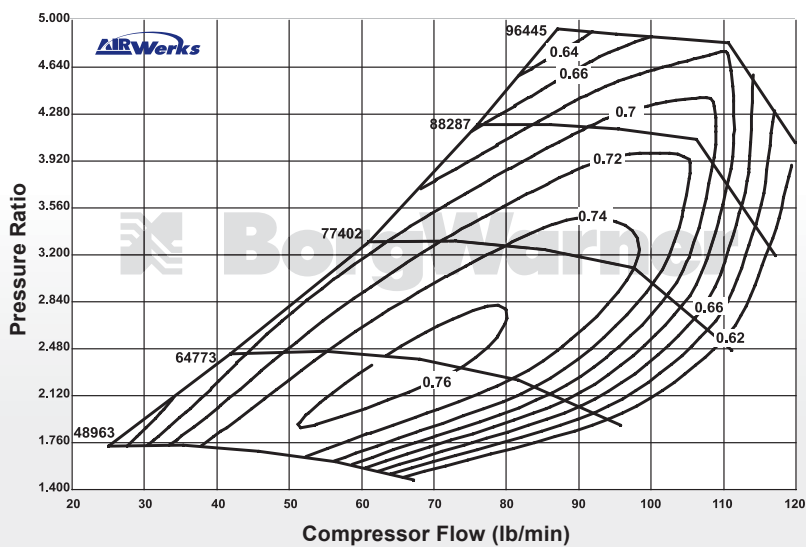


TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Cartridge Assembly	Service Kit
177287	4.32	3.16	80	3.77	96	3.47	88	1.32	176654	176391

COMPRESSOR MAP



TURBINE HOUSING

Part #	A/R	Inlet Configuration		Notes
14961019007	1.15	Volute, Twin Flow	T6 Inlet	96mm Turbine Wheel
171698	1.32			
14961016101	1.45			
14961016100	1.58			

S400SX Super-Core

400 - 1300 HP Turbo



FEATURES

83MM (O.D.) TURBINE WHEEL

Component	Part Number
Turbo	178855
Super-Core	179352



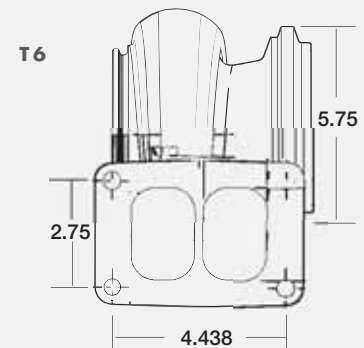
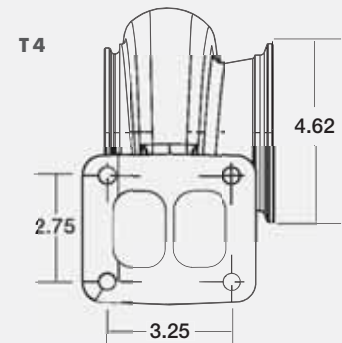
87MM (O.D.) TURBINE WHEEL

Component	Part Number	Part Number	Part Number	Part Number	Part Number
Turbo	14879880082	179174	179176	179180	179182
Super-Core	14009097006	179175	178781	179179	179184

TURBINE HOUSING OPTIONS

Part #	A/R	Inlet Configuration		Outlet Configuration	Turbine Wheel
177102	0.90	Volute, Twin Flow	T4 Inlet	Half Marmon	83mm Turbine Wheel
177103	1.00				
177104	1.10				
177105	1.25				
178787	0.90	Volute, Twin Flow	T4 Inlet	Half Marmon	87mm Turbine Wheel
178788	1.00				
178789	1.10				
178790	1.25				
176809	0.90	Volute, Twin Flow	T6 Inlet	Half Marmon	83mm Turbine Wheel
176810	1.00				
176811	1.10				
176812	1.25				
14961019007	1.15	Volute, Twin Flow	T6 Inlet	Full Marmon	96mm Turbine Wheel
171698	1.32				
14961016101	1.45				
14961016100	1.58				

TURBO FRAME DIMENSIONS



RICKY EVERLY, SFWD | S400SX3

S500SX

900 - 1475 HP Turbo



S500SX

900 - 1575 HP Turbo



FEATURES

- Twin hydrodynamic journal bearings
- Extended Tip Technology Compressor Wheel
- Available in twin scroll and open flow turbine volute options
- Adjustable compressor and turbine housing orientation
- Compressor cover recirculation grooves

- Optimized compressor inlet geometry
- Dual machined compressor cover discharge connection (v-band or hose bead)
- Premachined speed sensor mounting boss



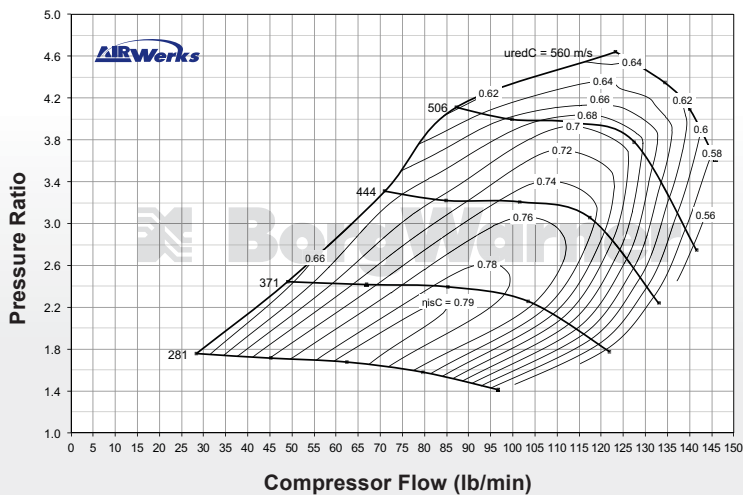
Turbo Part #	Comp. Wheel O.D. (in)	Comp. Wheel O.D. (mm)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Super-Core	Cartridge Assembly	Service Kit
179188	4.73	120.20	3.47	88.19	4.32	109.73	3.90	99.08	0.85	179186*	179187	173611
179191	4.73	120.20	3.57	90.67	4.32	109.73	3.90	99.08	0.85	179190*	179189	173611

*Super-Core options found on page 53

COMPRESSOR MAPS

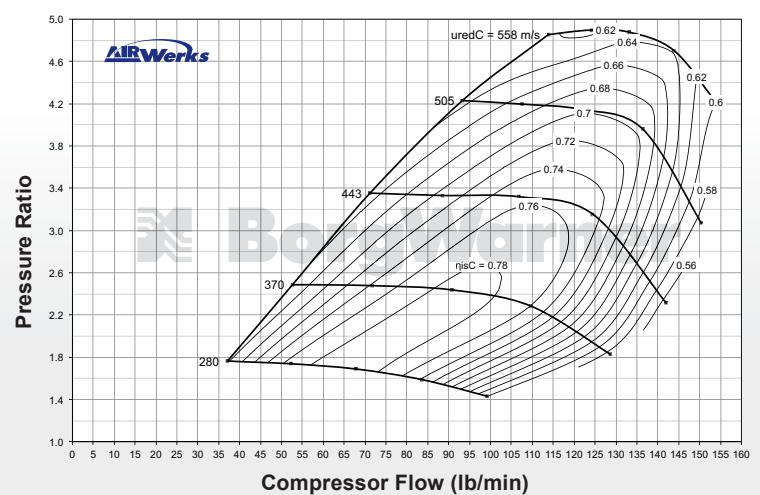
S500SX 900 - 1475 HP Turbo

Part Number: 179188



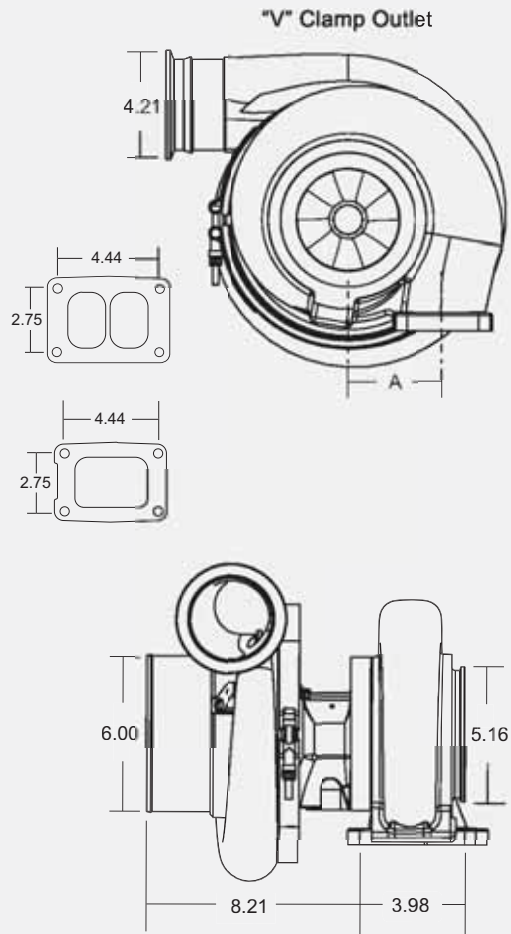
S500SX 900 - 1575 HP Turbo

Part Number: 179191



S500SX

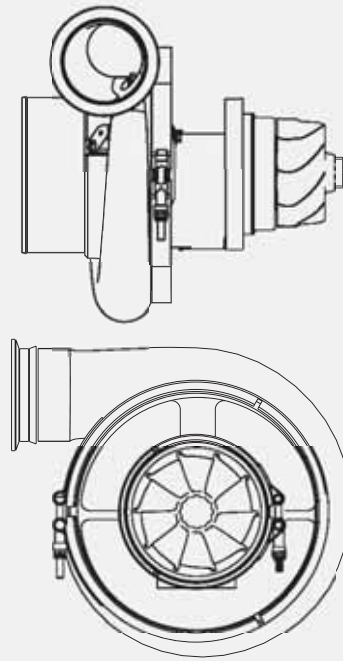
TURBO FRAME DIMENSIONS



TURBINE HOUSING

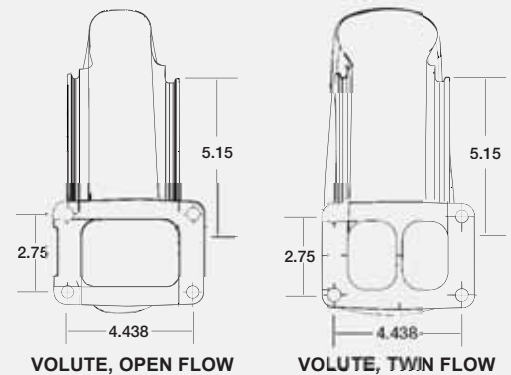
Part #	A/R	Turbine Inlet Centerline (A)	Other Notes
179159	0.85	3.62"	Volute, Open Flow
179160	1.00	3.62"	Volute, Open Flow
179161	1.15	4.25"	Volute, Open Flow
178498	1.30	3.62"	Volute, Open Flow; .50" Longer Turbine Discharge
179162	1.45	4.25"	Volute, Open Flow
179478	1.15	3.62"	Volute, Twin Flow (Divided)
179192	1.45	3.62"	Volute, Twin Flow (Divided)
179193	1.60	3.62"	Volute, Twin Flow (Divided)

S500SX Super-Core



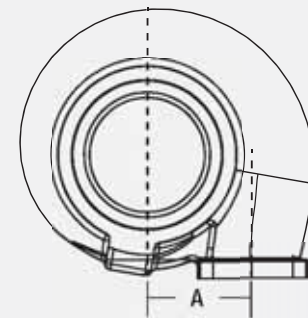
T6

TURBO FRAME DIMENSIONS



VOLUTE, OPEN FLOW

VOLUTE, TWIN FLOW



110MM (O.D.) TURBINE WHEEL

Component	Part #	Part #
Turbo	179188	179191
Super-Core	179186	179190

S510

1000 - 1650 HP Turbo

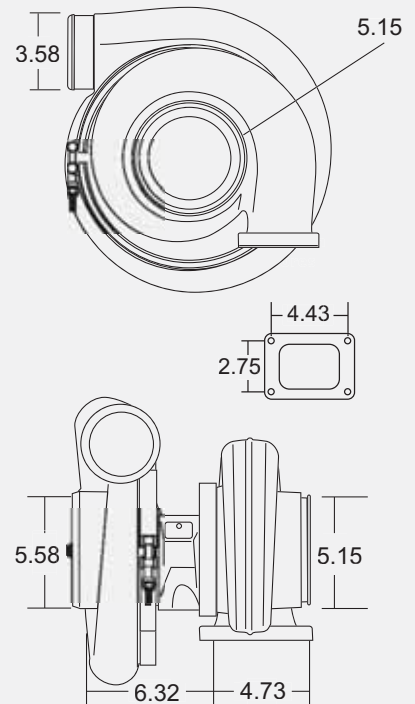


FEATURES

- Twin hydrodynamic journal bearings
- Extended tip technology compressor wheel
- Open flow turbine housing
- Adjustable compressor and turbine housing orientation
- Compressor cover recirculation grooves

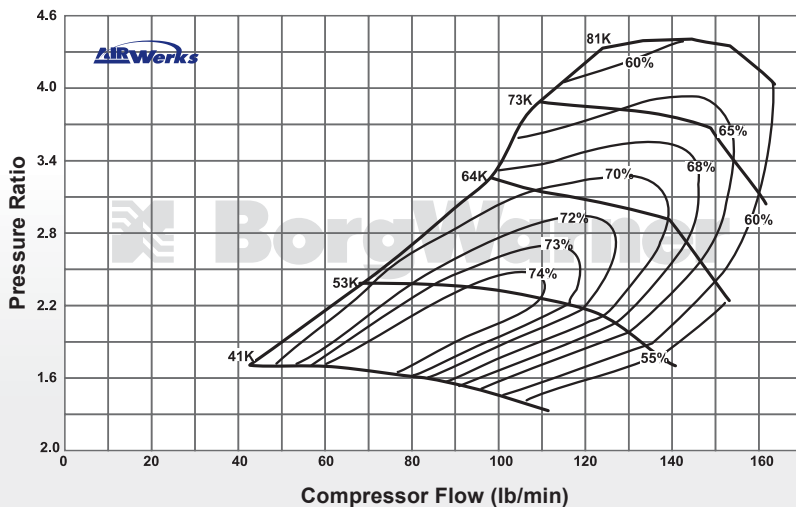


TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine A/R	Cartridge Assembly	Service Kit
174289	5.18	3.75	95	4.32	110	3.90	99	1.15	174291	173611
174290	5.18	3.75	95	4.32	110	3.90	99	1.45	174291	173611

COMPRESSOR MAP



K44

1100 - 2000 HP Turbo

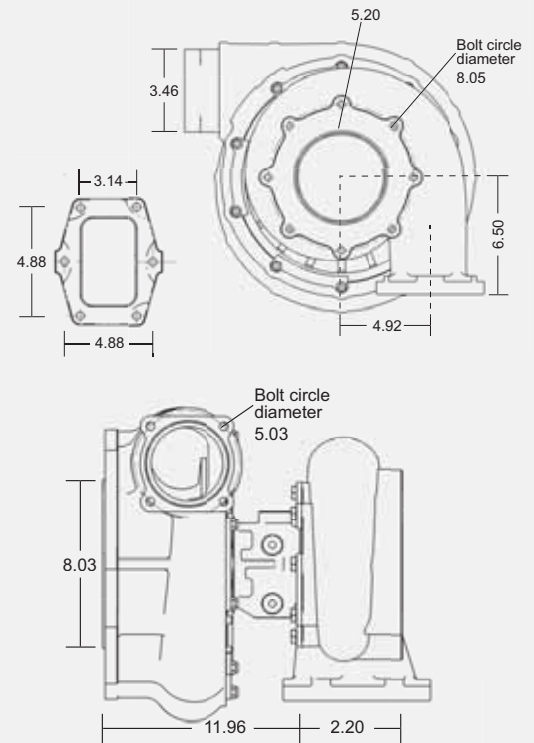


FEATURES

- 360 degree thrust bearing
- Twin hydrodynamic journal bearings.
- Adjustable compressor and turbine housing orientation
- Compressor cover recirculation grooves
- Frequency optimized compressor wheel

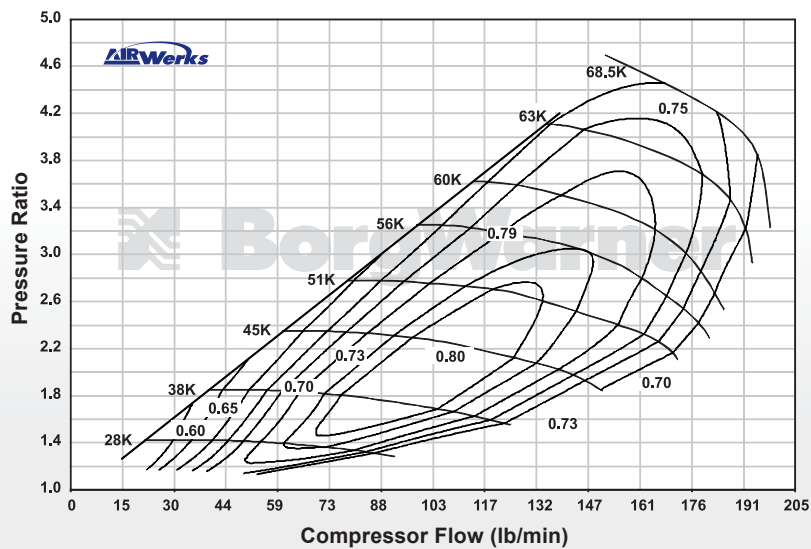


TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine Area	Cartridge Assembly	Service Kit
5344 988 6900	6.14	4.24	107.7	5.51	140	4.92	125	32 cm2	5344 710 0018	5344 711 050

COMPRESSOR MAP (Applicable to part number 177101)



BorgWarner Turbos for Upgraded Passenger Car Engines

OEM	Vehicle	Build Date	Engine	Stock Turbo(s)	Original Rating	Stock Turbo Limit
Audi	various vehicles with longitudinal engine	up to 1999	1.8T 20V	K03-005, K03-013	150 hp	195 hp
Audi	various vehicles with transverse engine	up to 2000	1.8T 20V	K03-011, K03-026, K03-035, K03-044, K03-045	150-180 hp	200 hp
Audi	various vehicles with longitudinal engine	from 2000	1.8T 20V	K03-025, K03-029	150-180 hp	200 hp
Audi	various vehicles with transverse engine	from 2004	2.0 TFSI	K03-086, K03-105 (integrated manifold)	185-200 hp	245 hp
Audi	A4	from 2007	1.8 TFSI	K03-119, K03-141 (integrated manifold)	120-160 hp	220 hp
Audi	various		1.8T 20V	various K03, K04	150-225 hp	–
Audi	various		1.8T 20V	various K03, K04	150-225 hp	–
Audi	S4, A6, allroad		2.7T 30V biturbo	K03-016 + K03-017	230-265 hp	315 hp
Ford	Focus ST/XR5, Kuga, Mondeo, S-Max	from 2003	HUBA, HUWA, HYDA, B5254	K04-033, K04-130 (integrated manifold)	200-230 hp	305 hp
Mini	Cooper S	from 2006	EP6 DTS/ CDTs	K03-118, K03-181 (twin-scroll turb/hsg)	163-184 hp	220 hp
Mini	Cooper S	from 2009	EP6 DTS/ CDTs	K03-163 (twin-scroll turb/hsg)	163-200 hp	220 hp
Opel	Astra, Zafira	from 2000	Z20LET	K04-024	190-200 hp	240 hp
Opel	Astra, Zafira	from 2005	Z20LER, Z20LEL	K04-048	170-200 hp	240 hp
Peugeot, Citroen	207, 208, DS3	from 2006	EP6 DT/ CDT	K03-104, K03-120, K03-121 (twin-scroll turb/hsg)	140-156 hp	180 hp
Peugeot, Citroen	308, RCZ, DS4	from 2009	EP6 DTS/ CDTs	K03-163 (twin-scroll turb/hsg)	163-200 hp	220 hp
Peugeot, Citroen	207, 208, DS3	from 2009	EP6 DT/ CDT	K03-179, K03-217, K03-243 (twin-scroll turb/hsg)	140-156 hp	180 hp
Porsche	911 turbo (model 993)	1994 to '97	3.6 biturbo	K16-6735 + K16-6736	408 hp	500 hp
Porsche	911 turbo (model 996)	2000 to '05	3.6 biturbo	K16-6726 + K16-6727	420 hp	500 hp
Porsche	911 turbo (model 997)	from 2005	3.6 biturbo	K04-0060 + K04-0061 (VTG)	480 hp	575 hp
Seat	Alhambra	up to 2000	1.8T 20V	K03-022	150 hp	195 hp
Seat	Alhambra	from 2000	1.8T 20V	K03-049	150 hp	200 hp
Seat/Skoda	various		1.8T 20V	various K03, K04	150-225 hp	–
Seat/Skoda	various		1.8T 20V	various K03, K04	150-225 hp	–
VW	various vehicles with longitudinal engine	up to 1999	1.8T 20V	K03-005, K03-013	150 hp	195 hp
VW	Sharan	up to 2000	1.8T 20V	K03-022	150 hp	195 hp
VW	Sharan	from 2000	1.8T 20V	K03-049	150 hp	200 hp
VW	various vehicles with transverse engine	up to 2000	1.8T 20V	K03-011, K03-026, K03-035, K03-044, K03-045	150-180 hp	200 hp
VW	various vehicles with transverse engine	up to 2000	1.8T 20V	K03-011, K03-026, K03-035, K03-044, K03-045	150-180 hp	200 hp
VW	various vehicles with longitudinal engine	from 2000	1.8T 20V	K03-025, K03-029	150-180 hp	200 hp
VW	various		1.8T 20V	various K03, K04	150-225 hp	–
VW	various		1.8T 20V	various K03, K04	150-225 hp	–
VW	various vehicles with transverse engine	from 2004	2.0 TFSI	K03-086, K03-105 (integrated manifold)	185-200 hp	245 hp
Volvo	C30, S40, V50, XC60, C70	from 2003	T3 / T6 / T7 / T8	K04-033, K04-130 (integrated manifold)	200-230 hp	305 hp

Upgrade Turbo	Plug & Play	Upgrade Turbo Limit	Max. T3 continuously	Max. T3 temporarily
5304 988 7500	yes	225 hp	930°C	950°C
5304 988 7501	yes	230 hp	930°C	950°C
5304 988 7500	yes	225 hp	930°C	950°C
5304 988 0064	yes**	305 hp	1025°C	1050°C
5303 988 0106	yes	245 hp	930°C	950°C
5316 988 6717	NO	250 hp	950°C	980°C
5324 988 7200	NO***	340 hp	950°C	980°C
5304 988 0025 + 5304 988 0026	yes	475 hp	930°C	950°C
5316 998 0010	yes*****	375 hp	950°C	980°C
5303 988 0146	yes****	245 hp	950°C	980°C
5303 988 0298	yes	245 hp	950°C	980°C
5304 998 0049	yes*****	290 hp	930°C	950°C
5304 998 0049	yes	290 hp	930°C	950°C
5303 988 0117	yes	220 hp	950°C	980°C
5303 988 0298	yes	245 hp	950°C	980°C
5303 988 0426	yes	220 hp	950°C	980°C
5324 988 7003 + 5324 988 7004	yes	555 hp	950°C	980°C
5324 988 7005 + 5324 988 7006	yes	555 hp	950°C	980°C
5304 988 0080 + 5304 988 0081	yes	610 hp	950°C	980°C
5304 988 7500	NO*	225 hp	930°C	950°C
5304 988 7500	NO*	225 hp	930°C	950°C
5316 988 6717	NO	250 hp	950°C	980°C
5324 988 7200	NO***	340 hp	950°C	980°C
5304 988 7500	yes	225 hp	930°C	950°C
5304 988 7500	NO*	225 hp	930°C	950°C
5304 988 7500	NO*	225 hp	930°C	950°C
5304 988 7501	yes	230 hp	930°C	950°C
5304 988 7501	yes	230 hp	930°C	950°C
5304 988 7500	yes	225 hp	930°C	950°C
5316 988 6717	NO	250 hp	950°C	980°C
5324 988 7200	NO***	340 hp	950°C	980°C
5304 988 0064	yes**	305 hp	1025°C	1050°C
5316 998 0010	yes*****	375 hp	950°C	980°C

*Compressor housing orientation different.

**Original turbo has electronic pop-off valve integrated into comp/hsg, upgrade turbo has not.

External pop-off valve has to be fitted. Moreover, K04-064 has a larger compressor housing discharge.

*** Upgrade turbo without wastegate, external wastegate required.

**** Turbine housing outlet gasket with BMW OE part no. 7 589 503 required.

***** Piece of coolant pipe already fitted, may require adaptation of coolant piping.

***** Slightly different position and size of compressor discharge.

BV50

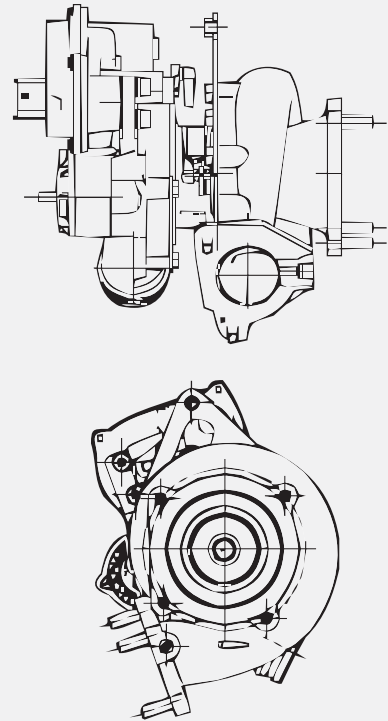
Porsche 997 Upgrade



F E A T U R E S

BorgWarner was the first manufacturer in the world to offer VTG turbochargers for gasoline engines in mass production. BV turbos employ materials and designs that are optimally tuned to the high thermal loads in gasoline engines. BorgWarner has developed a robust VTG mechanism that works reliably even in the toughest of conditions and also employ a CFD-Optimized vane design that provides excellent efficiency.

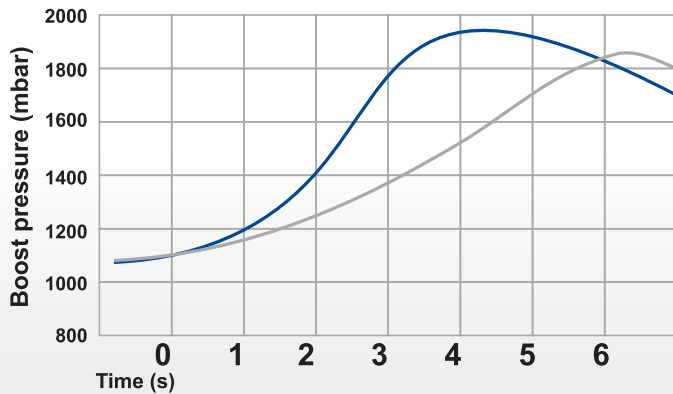
TURBO FRAME DIMENSIONS



Manufacturer	Vehicle	Reference No.	Year	HP	Liters	Service Turbo No.	Model Spec	Remarks
Porsche	911 Turbo (997)	997.123.014.72	2005	480	3.6	5304 988 0060	BV50-2277	Stock Turbo (Right Side)
Porsche	911 Turbo (997)	997.123.013.72	2005	480	3.6	5304 988 0061	BV50-2277	Stock Turbo (Left Side)
Porsche	911 GT2 (997)	997.123.078.71	2007	530	3.6	5304 988 0080	BV50-2280	Upgrade Turbo (Right Side)
Porsche	911 GT2 (997)	997.123.014.70	2007	530	3.6	5304 988 0081	BV50-2280	Upgrade Turbo (Left Side)

TURBO COMPARISON

~ VTG ~ Wastegate



PORSCHE 911 GT2 (997)

K03-2080

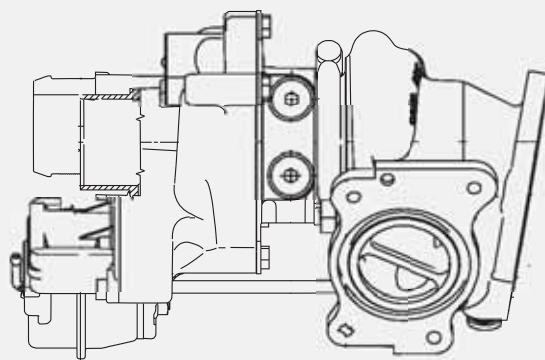
Mini Upgrade



F E A T U R E S

- High temperature alloy turbine housing
- Extended tip compressor wheel
- Twin scroll turbine housing
- Water cooled bearing housing

TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (mm)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbo Area	Cartridge Assembly	Service Kit
5303 988 0146	51.00	1.61	41	1.77	45	1.58	40.3	4 cm ²	—	—

Manufacturer	Year	Engine	Stock Turbo	Stock Turbo	Upgrade HP	Upgrade Turbo Part #	Model Spec	Remarks
Mini	From 2006	EP6 DTS	5303 988 0163	215	255	5303 988 0146	K03-2080	Twin Scroll Turbine Housing



MINI COOPER

K03-2080

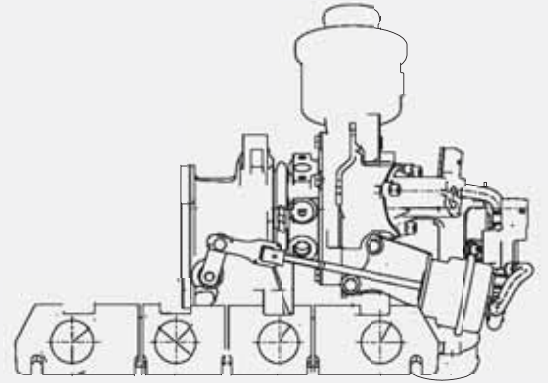
Audi A4 Upgrade



FEATURES

- High temperature alloy turbine housing
- Extended tip compressor wheel
- Water cooled bearing housing

TURBO FRAME DIMENSIONS



The 1.8 TFSI also uses a compact integrated turbocharger module. Since the manifold and turbine housing are combined to form a single component made of a highly heat-resistance material, this system not only saves space, it also offers thermodynamic advantages.

Manufacturer	Vehicle	Year	Engine	Stock Turbo	Stock Turbo HP Limit	Upgrade HP	Upgrade Turbo Part #	Model Spec	Remarks
Audi	A4	From 2007	1.8 TFSI	5303 988 0141	215	255	5303 988 0106	K03-2080D	Integrated Manifold
Audi	A4	From 2007	1.8 TFSI	5303 988 0119	160	255	5303 988 0106	K03-2080D	Integrated Manifold



AUDI A4 UPGRADE | K03-2080

"The 1.8 TFSI also uses a compact integrated turbocharger module. Since the manifold and turbine housing are combined to form a single component made of a highly heat-resistance material, this system not only saves space, it also offers thermodynamic advantages."

K04-2075

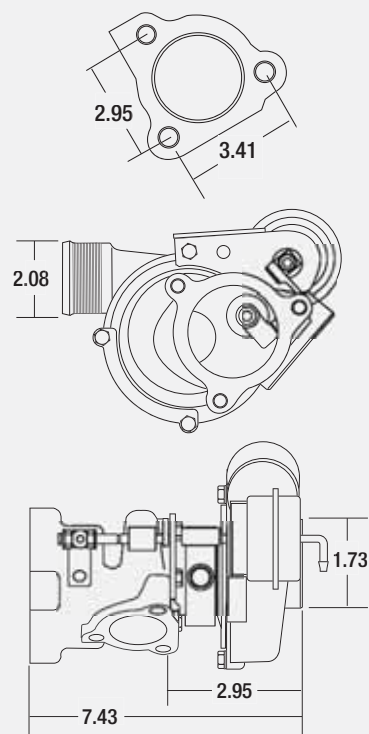
220 HP Turbo



FEATURES

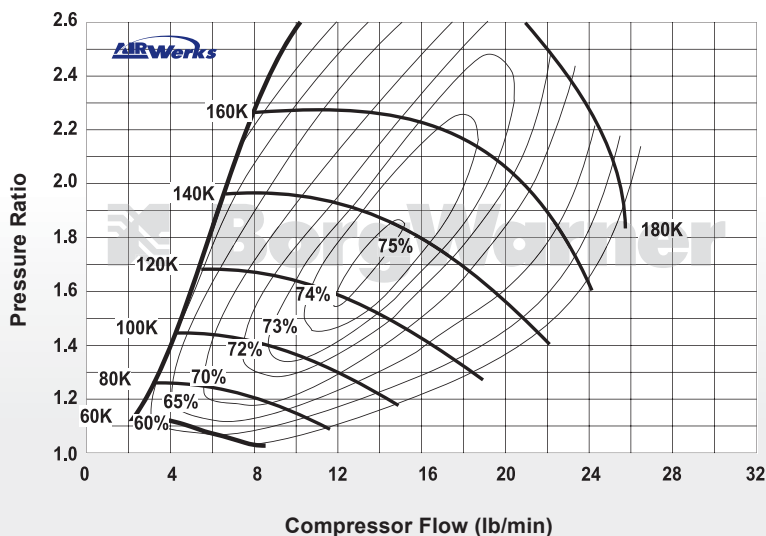
How about a BorgWarner AirWerks K04 series performance upgrade turbo, developed specifically for Audi and VW 1.8 liter engines? This upgrade option can enhance engine performance as much as 15%. Ultimate output may vary depending on prior engine condition, fuel settings and other supporting performance components. Only qualified companies and tuner shops should attempt to make performance modifications to the engine and the vehicle.

TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine Area	Cartridge Assembly	Service Kit
5304 988 7500	1.97	1.48	37.6	1.81	46	1.65	42	4 cm ²	5304 710 0503	5303 711 0000

COMPRESSOR MAP



VEHICLE APPLICATION DATA

Application Model	Model Year	Engine Spec	Rated HP
Audi A4 A6 / 1.8T	95-99	1.8 liter 5-Valve, Inline	220
Passat	96-99	1.8 liter 5-Valve, Inline	220

K04-2075

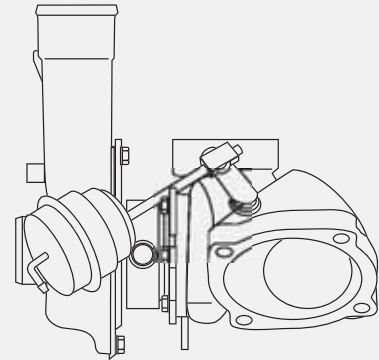
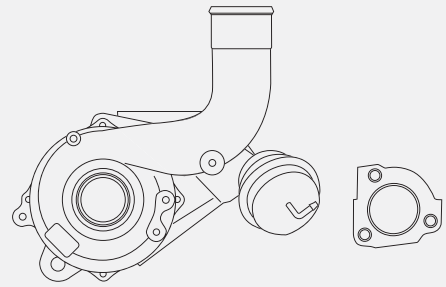
220 HP Turbo



FEATURES

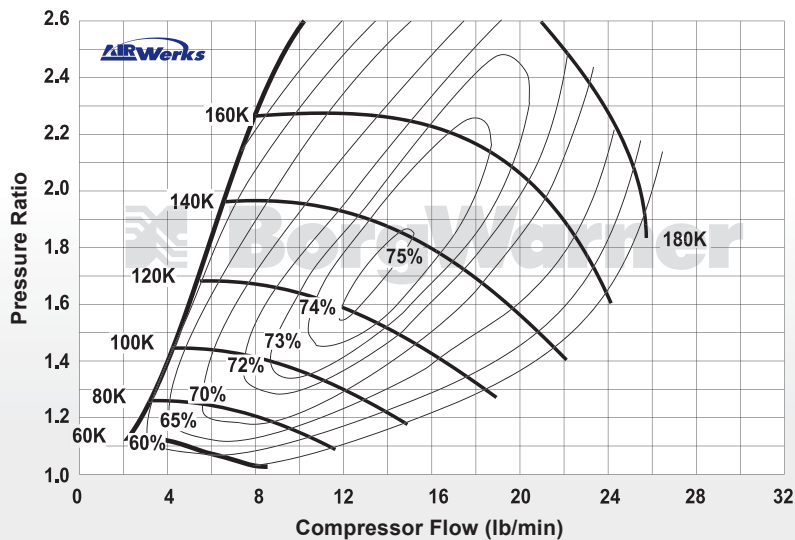
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TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine Area	Cartridge Assembly	Service Kit
5304 988 7501	1.97	1.48	37.6	1.81	46	1.65	42	5 cm ²	N/A	5303 711 0000

COMPRESSOR MAP



VEHICLE APPLICATION DATA

Application Model	Model Year	Engine Spec	Rated HP
Audi A3 1.8T, VW Beetle	96-01	1.8 Liter 5-Valve, Transverse	220
Golf	1996	1.8 Liter 5-Valve, Transverse	220

K04-2283

325 Peak Horsepower

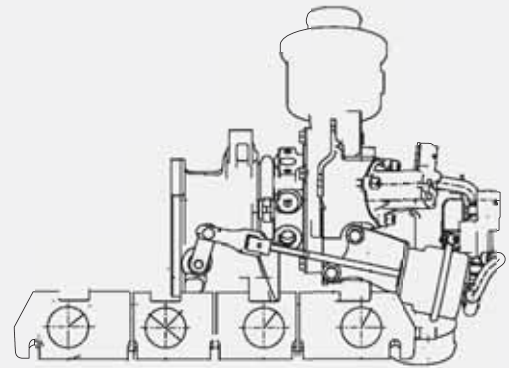


FEATURES

- High-temperature alloy turbine housing
- Extended tip compressor wheel
- Water cooled bearing housing

***Upgrade turbo does not come with a compressor recirculation valve or the mounting detail for one. An external valve will have to be used.**

TURBO FRAME DIMENSIONS



The electrical recirculation valve, which is also integrated into the compressor casing, guarantees fast response times when closing the throttle valve. The use of a “latest generation” turbine wheel helps increase the efficiency of the turbocharger significantly, while optimized thermodynamics have led to further improvements in fuel consumption and transient behavior, i.e. the acceleration of the engine at full throttle. **Original turbo has electronic pop-off valve integrated into comp/hsg, upgrade turbo has not. External pop-off valve has to be fitted.** Moreover, K04-064 has a larger compressor housing discharge.

Manufacturer	Vehicle	Year	Engine	Stock Turbo	Stock Turbo HP Limit	Upgrade HP	Upgrade Turbo Part #	Model Spec	Remarks
Audi	A3	From 2004	2.0 TFSI	5303 988 0105	255	325	5304 988 0064*	K04-2283D	Integrated Manifold
Audi	A3	From 2003	2.0 TFSI	5303 988 0086	255	325	5304 988 0064*	K04-2283D	Integrated Manifold



A U D I A 3

K16-2480

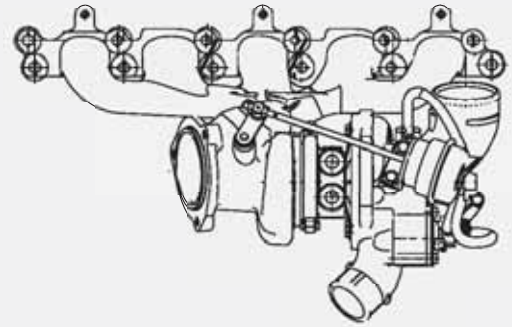
370 Peak Horsepower



F E A T U R E S

- High-temperature alloy turbine wheel
- Extended tip compressor wheel
- Water cooled bearing housing

TURBO FRAME DIMENSIONS



Volvo's requirement for the developers at BorgWarner was to replace the bi-turbo boosting of the previous engine with a new unit with single-turbo boosting. The new 6-cylinder engine also had to possess at least the same transient response as its predecessor, and of course fuel consumption and emissions needed to be brought up to date. With the K16 used in the Volvo 6-cylinder engine, BorgWarner unveils the first in a wide range of turbos for gasoline engines displacing from 1.6 to 3.0 liters or between 150 and 285 bhp.

Manufacturer	Vehicle	Year	Engine	Stock Turbo	Stock Turbo HP Limit	Upgrade HP	Upgrade Turbo Part #	Model Spec	Remarks
Volvo	S40/V50/XC60/C70	From 2003	2.5L RNC-RS	5304 988 0033	300	370	5316 998 0010	K16-2480D	Integrated Manifold
Ford	Focus	From 2005	2.5L RNC-RS	5304 988 0033	300	370	5316 998 0010	K16-2480D	Integrated Manifold



V O L V O

K27-3072

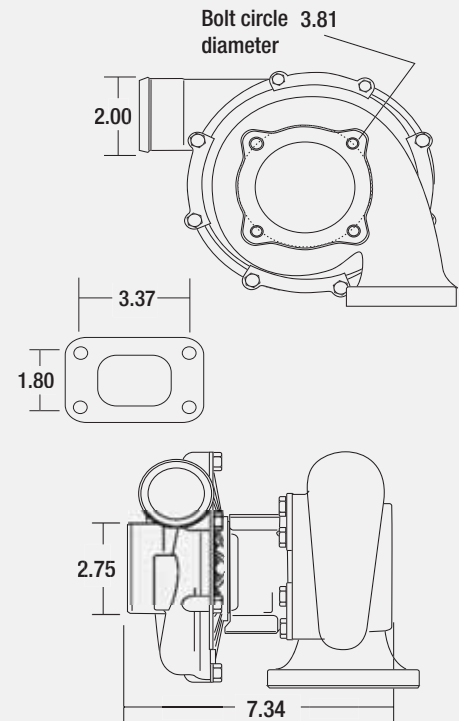
250 - 550 HP Turbo



FEATURES

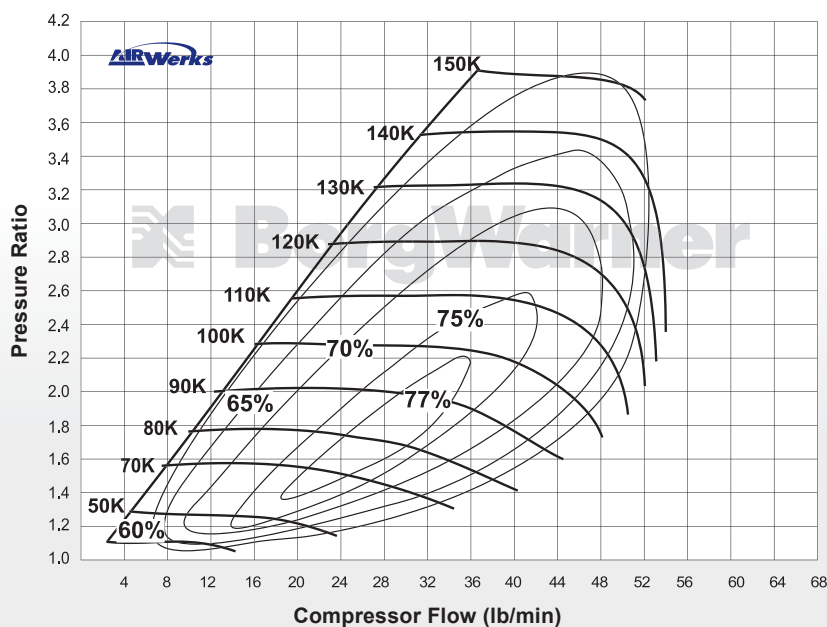
- Twin hydrodynamic journal bearings
- Open volute design
- Adjustable compressor and turbine housing orientation
- Compact design
- High temperature alloy turbine housing

TURBO FRAME DIMENSIONS



Turbo Part #	Comp. Wheel O.D. (in)	Comp Wheel Inducer Dia. (in)	Comp Wheel Inducer Dia. (mm)	Turbine Wheel O.D. (in)	Turbine Wheel O.D. (mm)	Turbine Wheel Exducer (in)	Turbine Wheel Exducer (mm)	Turbine Area	Cartridge Assembly	Service Kit
5327 988 7200	3.00	2.16	55	2.75	70	2.31	59	11 ² cm	5327 710 0518	5327 711 0040

COMPRESSOR MAP



PORSCHE 930 TURBO