



Shown with foot-mounted motor configuration

Compressor Type

Gas	Air	
Compressor type	Integrally geared Single Stage Turbocompressor	
Frame	GTB-T40	
Regulation control options	X - Variable Discharge Diffuser (1-point) XY - Variable Discharge Diffuser & IGV (2-point) XZ - Variable Discharge Diffuser & 60 Hz VFD (2-point)	
Motor power range	Up to 700 HP	
Mounting options	For D-flanged motor type with common console For foot-mounted motor type with platform base	
Weight (approximate)	Compressor Core Unit	3,300 lbs
	Compressor with D-flange 400 HP motor	6,900 lbs
	Compressor with foot-mounted 400 HP motor	7,300 lbs
	<i>Specific weight depends on motor size and starter auxiliaries selected</i>	
Compressor floor mounting	Machine mounts, epoxied or bolted	

Performance data

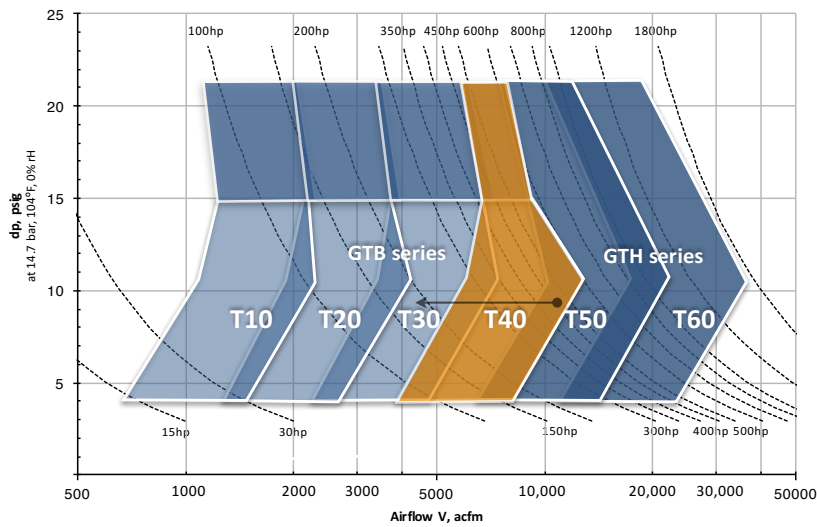
Design flow range	5,300 to 11,100 scfm (defined at 68° F, 14.7 psia, 36% rH)	
Flow regulation range	From 40 - 100% design flow	
Design pressure range	4 - 14 psig	
Vibration level	Below 0.11 in/sec (2.8 mm/s) according to ISO 10816-1	
Sound emission (3 ft distance)	Without noise enclosure: 85 dB(A) With noise enclosure: 75+/-3 dB(A) <i>Conditions: Well-isolated main discharge pipe; Measured sound pressure according to ISO3746</i>	
Discharge velocity	Below 4,500 fpm after discharge diffuser	

Ambient conditions

Inlet temperature range	-20° to +120° F	
Ambient temperature range	0° to +120° F	
H₂S Content in inlet air	Up to 10 ppm	

GTB-T40

Integrally geared single stage turbocompressor



Design point envelope boundaries of product family

Boundaries displayed under condition: 14.7 psia, 104° F, 0% rH

Black dot represents example compressor design point with 450 HP shaft power and 40% flow turndown.

Materials

Main castings	Nodular cast iron EN GJS-400/15 EN1563, design: 95 psig, 200° F
Impeller	Aluminium DIN3.1924 AlCu2MgNi - 5-axis milled from a solid billet
Labyrinth seals	Aluminum alloy
Mechanical components	Steel
Vanes	Stainless steel AISI 316
Gearwheels	High tensile steel 16NiCrS4, hardened and ground
Bearing fast shaft	High precision ceramic angular contact ball bearings or oil film bearings
Bearing slow shaft	Deep groove ball bearings
Lubrication	Forced oil mist lubrication with integral positive displacement pump, oil/air cooler, oil filter 10 µm

Component Description

Compressor drive

Motor type	NEMA rated, AC squirrel cage, D-flange or foot-mounted, premium efficiency
Protection / insulation class	TEFC / F/B or F/F
Motor voltage, frequency	Low voltage, medium voltage, 60 Hz
Coupling	D-flange: Flexible compact type Foot-mounted: Flexible disc coupling with spacer

Inlet systems

Inlet filter	First coarse stage; main stage with G4 bag type filters
Inlet silencer	Labyrinth type with no foam

Discharge systems

Flexible joint	NPS 10", bellow of stainless steel AISI 321, ANSI flanges aluminum
Discharge diffuser	NPS 10"x NPS 20" carbon steel, silenced, ANSI flanged
Blow-off-valve	NPS 5", electrically actuated, butterfly valve in nodular cast iron EN GJS-400, silenced
Check valve	20", dual flap wafer type, nodular cast iron EN GJS-400

Panels and Instrumentation

Local Control panel	Siemens S7-ET200SP PLC; (or Allen Bradley or Modicon); 7" color HMI
Typical Instrumentation	Oil/Air Temperature, Oil/Air Pressure, PSL Oil, LSL-LI Oil, PDT, PDT at air inlet
Surge switch device	At compressor inlet