



Shown model in B5 console configuration
with flanged motor, and XY control

Compressor Type

Medium	Air
Compressor type	Integrally geared Single Stage Turbocompressor
Frame family	GT-B-T40
Regulation systems available	X – Variable Discharge Diffuser (1-point) XY – Variable Discharge Diffuser & IGV (2-point) XZ – Variable Discharge Diffuser & VFD (2-point)
Motor power range	Up to 450 kW
Mounting versions available	For B5 flanged motor type with common console For B3 motor type with common basement
Weight (approximate)	Compressor Core Unit 1.500 kg Compressor B5 with 250 kW motor 3.000 kg Compressor B3 with 250 kW motor 3.300 kg <i>Specific weight depends on motor size and starter auxiliaries selected</i>
Compressor floor mounting	Machine mounts, glued or bolted

Performance data

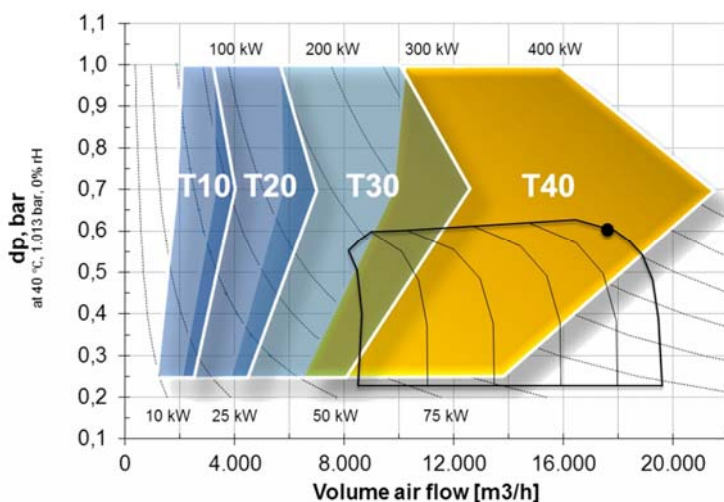
Design flow range	9.000 to 18.000 Nm ³ /h defined at 0° C, 1.013 bar 0% rH
Flow regulation range	From 40 – 100% design flow
Design pressure range	0,3 to 0,95 bar(a) defined at 0° C, 1.013 bar 0% rH
Vibration level	below 2.8 mm/s according to ISO 10816-1
Sound emission (1m distance)	Without noise enclosure: 85 dB(A) With noise enclosure: 75+/-3 dB(A) <i>Conditions: Well isolated main discharge pipe; Measured according sound pressure ISO3746</i>
Discharge velocity	Below 25 m/s after discharge diffuser

Ambient conditions

Inlet temperature range	-20° to +40° C
Ambient temperature range	0° to +40° C
H ₂ S Content in inlet air	Up to 10 ppm

GT-B-T40

Integrally geared single stage turbocompressor



Design point envelope boundaries of product family

Boundaries displayed under condition: 1,013 bar(a), 40°C, 0% rH

Black dot, indicates design point of an example compressor with 300 kW shaft power and 40% flow turndown.

Materials

Main castings	Nodular cast iron EN GJS-400/15 EN1563, design: 6,5 bar, 200°C
Impeller	Aluminium DIN3.1924 AlCu2MgNi – milled from a solid blank
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
Bearing slow shaft	Deep groove ball bearings
Lubrication	Forced oil mist lubrication with integrated positive displacement pump, oil/air cooler, oil filter 10 µm

Component Description

Compressor drive

Motor type	E-motor, AC squirrel cage, B3 or B5, IE2/IE3
Protection / insulation class	IP55 / F/B or F/F
Motor voltage, frequency	Low voltage, medium voltage, 50/60 Hz
Coupling	B5 configuration: Flexible compact type B3 configuration: 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	DN250, bellow of stainless steel AISI 321, flanges aluminum DIN2501 PN10
Discharge diffuser	DN250-DN300/500, carbon steel, silenced, flanged DIN2501 PN10
Blow-off-valve	DN100/150, electrically actuated, butterfly valve in nodular cast iron EN GJS-400, silenced
Check valve	DN300-500, dual flap wafer type, nodular cast iron EN GJS-400

Panels and Instrumentation

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

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