

Modular Enclosure

GTB-T20



GENERAL SPECIFICATIONS

Medium	Atmospheric Air, Other gases
Blower type	Centrifugal Single Stage
Gear type	Integrally geared, helical type
Bearing type	Pinion: Hybrid ceramic
	Input shaft: deep groove
Sealing type	Double labyrinth type
Oil pump type	Mechanical, driven by slow shaft
Gasflow regulation	Variable diffuser vanes (VDV)
Head regulation	Inlet guide vanes (IGV)
	VFD (variable frequency drive)
Test procedure	ISO5389/ ASME PTC10 and 13
Balancing procedure	ISO 1940/ Grade 1.0/ 2.5
Quality procedures	ISO9001, ISO14001, ISO45001
Control	PLC based

PERFORMANCE

Flow range	See performance envelope last page
Flow regulation	30-100%
Pressure range	12 mWC
Motor power range	37-250 kW
Sound pressure 1)	Skid: 90-100 db(A)
	Package: 75 – 85 db(A)
Vibration level	In acc. ISO 10816-1 & ISO 20.816-1

AMBIENT CONDITONS

Installation height	< 5000 masl
Ambient temperature	-40 °C to +60 °C
Rel. humidity	0- 100% (tropicalization)
H ₂ S content	up to 10 ppm

1) Under freefield condition according to normative requirements

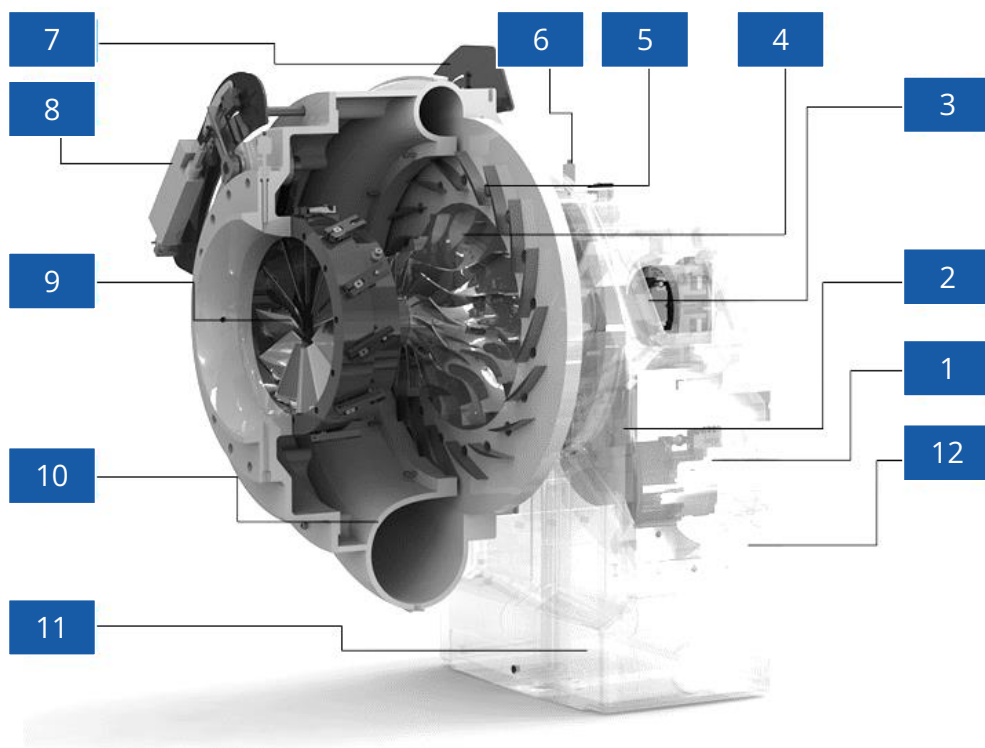
MATERIAL

Casing	Nodular cast iron GJS 400-15 (former GGG40)
Impeller	Aluminium DIN3.1924 AlCu2MgNi
	Construction: milled from solid forged block
	Type: open, radial backwards leaning blades
VDV vanes	Brass alloy CuZnPb or Stainless steel
IGV vanes	Ergal: Aluminum Alloy or Stainless steel
Seals	Fixed: Aluminium alloy AlCuMgPb
	Rotating: High tensile steel 16NiCrS4
Pinion shaft	High tensile Steel 16NiCrS4
Input shaft	High tensile 34CrNiMo6
Bull gear	High tensile 16NiCrS4, hardened & ground
Basement	Structural steel or GJS-400-15 cast console
Enclosure	Steel frame with sandwiched Aluzinc panels
Actuators	Electrical, IP67 or pneumatic
Instruments	Up to IP67
Electrical panel	Painted or stainless steel up to IP65

PACKAGE – see quote for details

Drive motor	AC squirrel cage, B3 or B5, IE2-4, F/B or F/F, IP55 or higher, 400-690 V or medium voltage, 50 – 60 Hz
Inlet filter	2-stage filter: 30-50% and 60-85% ISO 16890, glassfiber-free, none-corroding, moisture-resistant, Fire Class F1
Inlet filter	Labyrinth type, integrated with filter
Blow-off valve	Electical actuated butterfly type
	DIN2501,PN10 or ANSI
Flexible compensator	Bellow of stainless steel AISI 321, flanges aluminium DIN2501 PN10
Cone diffuser	With integrated silencer (optional)
	Flanges DIN2501,PN10 or ANSI
Checkvalve	Dual plate, mounting between flanges
Cooling system	Via air or water heat exchanger
Coupling	flexible type, safety factor 1.5
Safety monitoring	Anti-surge, Temperature and pressure monitoring oil and inlet/ outlet

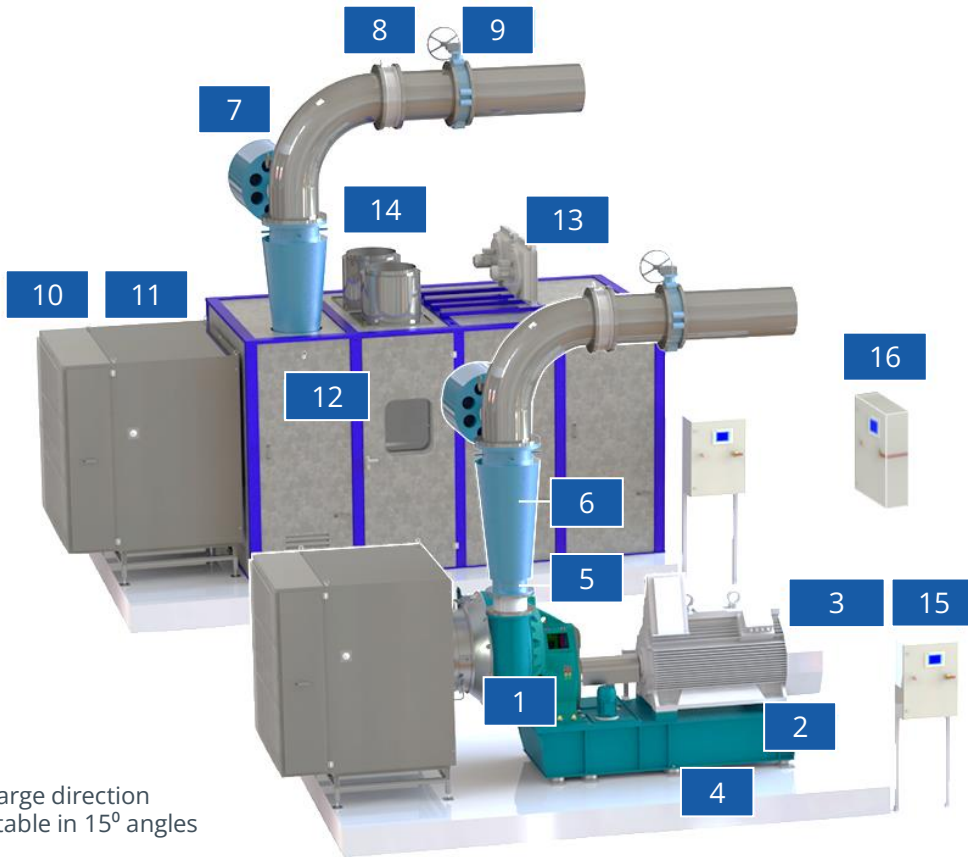
Typical Assembly of blower/ compressor



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 technical options should therefore be specified in the contract.

- 1 Input drive shaft with radial bearings (DE, NDE)
- 2 Bull gear
- 3 Pinion shaft with radial bearings (C and M)
- 4 Open, back-leaning Impeller
- 5 Variable Diffuser Vanes (VDV)
- 6 Vibration sensor, Accelerometer, possible X, Y, Z
- 7 VDV actuator, positioner and end-switches
- 8 IGV actuator, positioner and end-switches
- 9 Inlet Guide Vanes (IGV)
- 10 Volute Casing
- 11 Lubrication oil reservoir (only GTB)
- 12 Mechanical oil pump

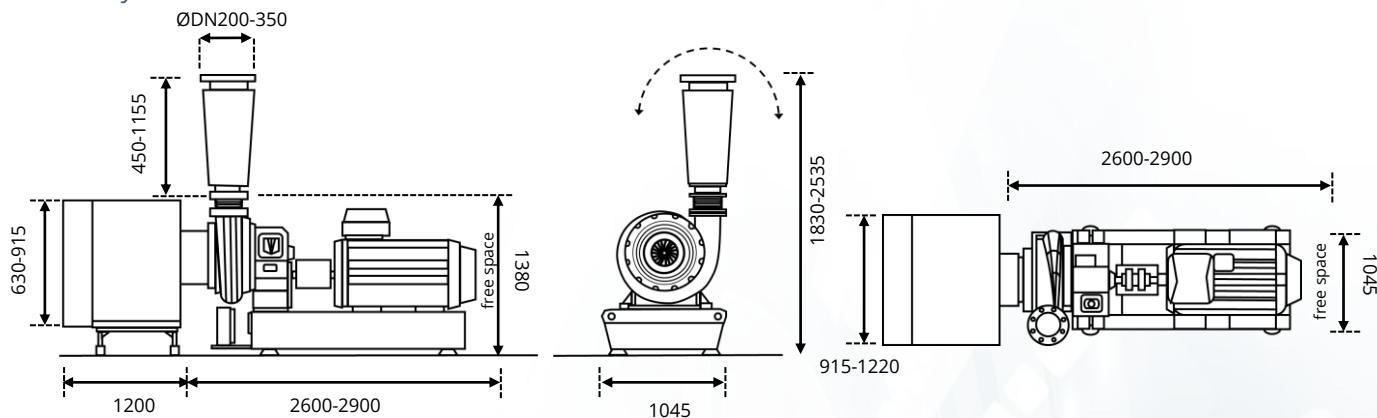
Typical Assembly of modular package



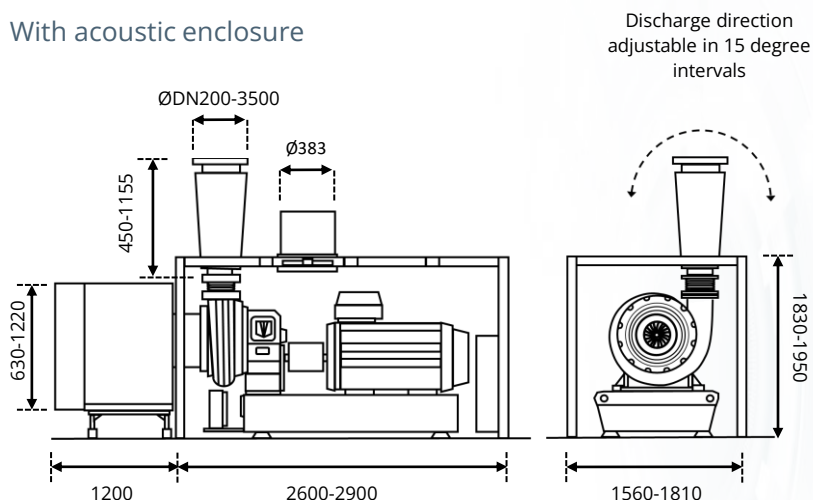
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|---|--|----|---|
| 1 | Single Stage compressor/ blower with integrated gearbox | 9 | Isolation valve - electrically or manually actuated |
| 2 | Common base-frame | 10 | 2-stage Inlet filter, pocket filter type |
| 3 | Main drive motor - low or medium voltage, details as per project | 11 | Inlet silencer (labyrinth type) |
| 4 | Vibration damper/ Machine mounts | 12 | Fully collapsible acoustic enclosure |
| 5 | Flexible compensator (discharge) | 13 | Lube oil cooler (air or water), position flexible |
| 6 | Cone diffuser with integrated discharge silencer - flanged | 14 | Enclosure ventilation fan |
| 7 | Blow-Off-Valve with -silencer | 15 | Local Control Panel (LCP) |
| 8 | Dual flap, none-return check valve | 16 | Master Control System (MCS) |

Dimensions

Skid only



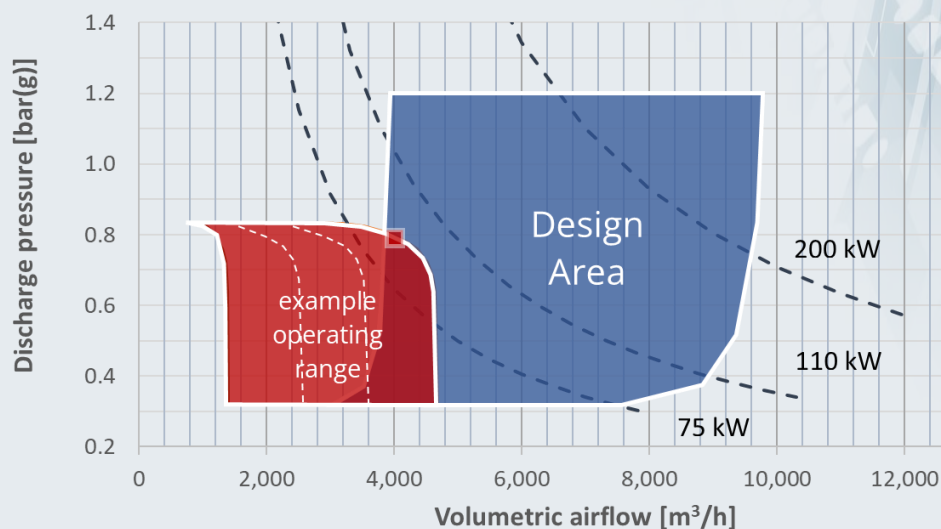
With acoustic enclosure



Discharge direction
adjustable in 15 degree
intervals

Dimensions are approximate and can be adapted to blower/ compressor building constraints. It is advisable to leave 1 meter on each side from blower to other objects.

Performance envelope



Indicative only. Precise design will be provided in project quotation or contract. Please approach your Next Turbo sales contact. Power figure indicate nominal motor size.

How to read?

Rectangular design point can be chosen from blue design area. Corresponding red area marks the final machine operational envelope.