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Sent: 14 November 2025 11:10 AM
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Subject: RE: Compressor comparison

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Please find a brief energy-saving comparison between your current Sigma (HPC) 10 bar unit and the proposed G-TEC 16-08-500 (15 kW) compressed-air workstation.

Key facts

- Your existing Sigma/HPC 10 bar machine (15 kW) — typical FAD ~ 2.11 m³/min @ 10 bar.
- The G-TEC 16-08-500 is a 15 kW unit with nominal data: ~2.35 m³/min @ 8 bar (500-litre receiver, integrated dryer). It is available in VSD (DV) versions.
- Pressure mismatch: The G-TEC 16-08-500 is rated for 8 bar — it will not meet a 10 bar system requirement. A G-TEC 10 bar variant (e.g. G-TEC 16-10) exists and should be used where 10 bar is required.

Energy / cost example (scaleable)
Assumptions used (conservative, clearly stateable):

- Electricity cost for business: £0.22 / kWh (market average / business rates — adjust to your tariff).
- Compressor motor power (both machines): 15 kW nameplate.
- Operating hours: present results per hour, then example annual at 2,000 hours (adjustable).
- VSD energy saving assumption: 25% average energy reduction vs fixed-speed at typical variable load (conservative mid-range from industry guidance: 20–35% typical).

Calculations:

- Fixed-speed Sigma @ full load: 15 kW → 15.0 kWh per hour → cost = 15 × £0.22 = £3.30 / hour.
  · Annual @ 2,000 h = 30,000 kWh → £6,600 / year.
- G-TEC (VSD) 15 kW average (assume 25% energy reduction): avg power = 15 × 0.75 = 11.25 kW → 11.25 kWh / hour → cost = 11.25 × £0.22 = £2.48 / hour.
  · Annual @ 2,000 h = 22,500 kWh → £4,950 / year.
- Estimated annual saving (example): £6,600 − £4,950 = £1,650 / year (≈25% lower energy bill for compressed air).
  · If the site has more variable demand, VSD savings commonly reach 30–35% (higher saving potential).

Compressor Model: G-TEC 16-08-500 V83TB92PWSB80

GENERAL DATA				
Nominal input power	kW HP	15 20,0		
Min/Max pressure limits	bar *psi*	5 ÷ 8 73 ÷ 116		
Supply frequency	Hz	50		
Main voltage supply value	V - ph	400 ±5%	-	n.ph 3~
Auxiliary voltage supply value	V - ph	24 ±5%	-	n.ph 1~
Drive type	-	Belt		
Air-end model	-	FS50		
Electronic controller model	-	DNAir2		
Entire compressor IP grade	-	IP 20		
Ambient Working Temperature	°C	min. +2	-	max. +45

WORKING DATA				
Working pressure	bar *psi*	8 *116*		
Air flow (acc. to ISO 1217 Annex C and Annex E for variable speed compressors)	l/min m^3/min c.f.m.	2350 2,35 83		
Starting current / Rated current / Dryer current	A	86	/ 30 /	2,9
Max final air temperature above ambient	°C	17		
Removed heat	kJ/h	51300		
Sound pressure (acc. to ISO 3744:2010 - ISO 3745:2012-Annex A)	dB(A)	67		± 3 dB(A)

ELECTRIC MOTOR				
Electric motor type & Nominal power (acc. to IEC 60034-1)	kW	ASYNC	-	15
Synchronous speed	min^{-1}	3000		
Size & Construction form	-	132	-	IM B34
IP degree of protection and insulation class of the electric motor	-	IP 55	-	class F

VENTILATOR				
Type and number of installed fans	-	Radial	-	n. 1
Absorbed power	kW	0,28		
IP degree of protection & Insulation class of the fan	-	IP44	-	class F
Fan flow rate	m^3/h	1021		
Static pressure	Pa	446		

LUBRICANT		
Type	-	RotarEcoFluid 46
Oil quantity	l	5,5
Oil carry over	mg/m^3	2-4

SAFETY DEVICES		
Max oil working temperature	°C	110
Pre-alarm oil working temperature	°C	105
Safety valve setting	bar	14
Protection type from electric motor overload	-	Thermal relay

DIMENSIONS & DOCUMENTATION		
Length x Width x Height	mm	2000 x 740 x 1666
Weight	kg	468
Air outlet size	G	3/4"
Dimensional drawing code	-	DIM0043
Wiring diagram code	-	9016200
End User Compressor Manual Code	-	#197DD7020

GTEC will only process invoices based on the amount quoted and as reflected in our Purchase Order (PO). Any discrepancies must be raised immediately, with written confirmation from GTEC required before processing. Invoices submitted without prior approval for variations will be processed strictly as per our PO. GTEC reserves the right to reject or delay payment for invoices that do not comply with these terms.

Kind regards,

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