

Flameproof Alternators

ASX-405, ASX-406

Overview

Standard automotive type alternators are a continuous potential source of ignition when operated in hazardous atmospheres where combustible concentrations of gas, vapor or dust may exist. To overcome this, Chalwyn offer a range of hazardous area approved flameproof alternators designed specifically to mount on diesel engines as direct replacements for standard alternators.

Description

Chalwyn alternators use twelve pole rotating field coil technology, designed and approved for use in designated hazardous areas. A range of standard or multi-groove pulleys are available, as well as special versions to meet customer design requirements.



Features and Benefits

- Hazardous Area Rated (see Specifications)
- Speed signal output for overspeed shutdown
- Compact high-performance design
- Certified cable gland kit available
- Wide choice of optional pulleys
- Suitable for offshore conditions



Applications

- For use in ATEX, IECEx, UKEX, CEC, NEC 500 & NEC 505 defined hazardous areas (see Specifications)
- Suitable for a wide range of local ambient temperatures (see Specifications)
- Designed as a belt driven diesel engine mounted alternator



CHALWYN

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Specifications

Standard materials	Enclosure	Aluminium				
	Fan, fan discs, pulleys	Carbon steel				
	Cowl	Copper				
Excitation	ASX-405, ASX-406		Externally excited			
Output / Temperature Class						
	Ambient Temperature Range - °C (°F)	Max. Output Voltage - V	Max. Permitted Current - A	Max. Power Consumption (W)	Temp. Class (Gas)	Temp. Class (Dust)
	-30 to 50 (-22 to 122)	28	50	1400	T4	T135°C
Weight (estimated)	Product Weight		12.9 kg (28.4 lbs)			
	Shipping Weight		16.1 kg (36 lbs)			
Certifications	Ingress protection		IP66			
	Certificate Numbers		SIRA 07ATEX1171X IECEX SIR 14.0029X CSAE 21UKEX1527X CSA14CA2716060X			
Area Classification	ATEX & UKEX (Europe & UK)		II 2 G D			
	ATEX, UKEX, CEC Section 18, & IECEX Zones 1 and 21 (Europe, UK, Canada & IECEX)		Ex db T4 Gb Ex tb IIIC T135°C Db			
	NEC 500 & CEC Annex J18 (USA & Canada)		Class II Division 2, Groups F & G T135°C Class III Division 2			
	NEC 505 & NEC 506 (USA)		Class I Zone 1 AEx db IIB T4 Gb Zone 21 AEx tb IIIC T135°C Db			

Note:

According to NFPA 70, Article 501.5 Zone equipment - Equipment listed and marked in accordance with 505.9(C)(2) for use in Zone 1 locations shall be permitted in Class I, Division 2 locations for the same gas (Groups C & D) and with suitable temperature class (T4).

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Models Available

High Output Standard with SAE J180 Hinge Mount

ASX-405: 24V (side entry cable)

ASX-406: 12V (rear entry cable)

Pulley Selection

Using the table below, select the pulley profile, appropriate width and drive diameter. Consider the alternator speed range when selecting the diameter of the pulley. When fitting a pulley use an 8mm hexagonal Allen drive in the rotor hole and tighten the nut supplied to 60 NM (44 lb ft) torque. If a non-Chalwyn pulley is to be fitted, please forward design details to local factory office. Pulleys are available for all models except as noted below.

Pulley Profile	Belt Width	Drive Diameter (mm)	Pulley Model No.
SPA (Small)	1/2" / 13mm	55	ASX-546
SPA (Medium)	1/2" / 13mm	71	ASX-549
SPA (Large)	1/2" / 13mm	80	ASX-574
SPB (Small)	5/8" / 16mm	66	ASX-539
SPB (Medium)	5/8" / 16mm	71	ASX-548
SPB (Large)	5/8" / 16mm	90	ASX-563
6 Groove Poly-V	DIN 6-PK	56	ASX-575
6 Groove Poly-V	DIN 6-PK	66	ASX-556
8 Groove Poly-V	DIN 8-PK	67	ASX-570
10 Groove Poly-V	DIN 10-PK	71	ASX-571
12 Groove Poly-V	DIN 12-PK	75	ASX-572

Speed calculation formula

$$\frac{\text{Crankshaft pulley diameter (mm)}}{\text{Alternator pulley drive diameter (mm)}} \times \text{Engine Speed (rpm)} = \text{Alternator Speed (rpm)}$$

Target Alternator Speeds

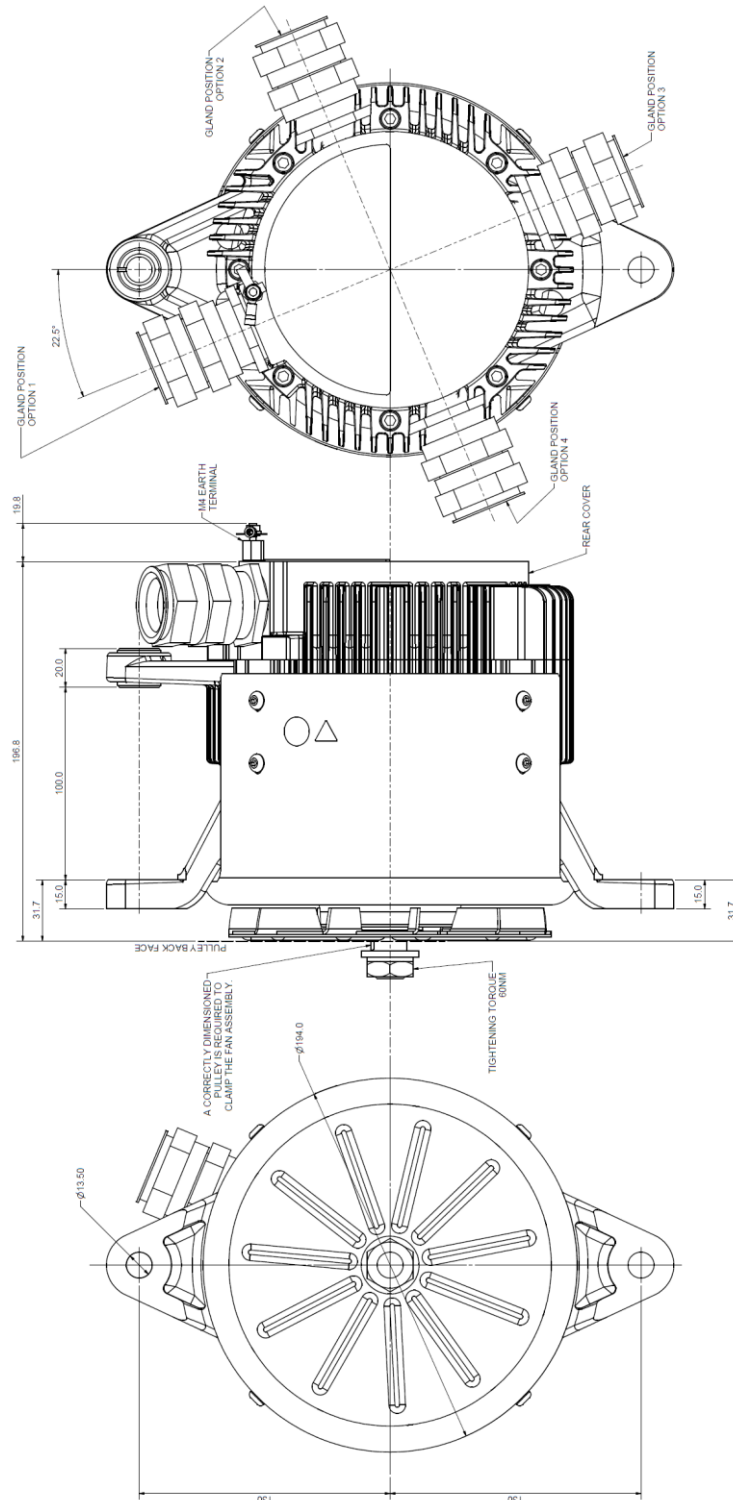
Engine Speed (rpm)	Alternator Speed (rpm)
Fixed	4000 - 6000
Variable	3000 - 7000
Low idle	2000 - 2500

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Dimensions

ASX-405 – Shown with optional Cable Gland kit fitted for clarity



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Chalwyn's quality
management system
is approved by LRQA.

