

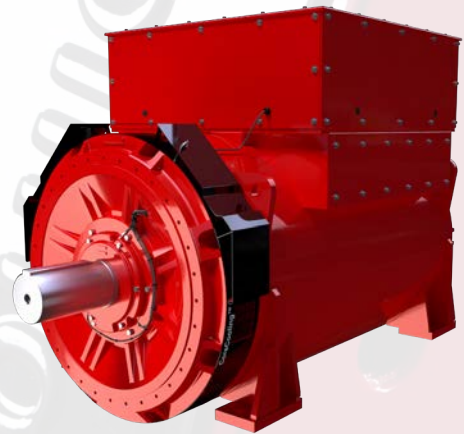


# STAMFORD® S-RANGE STAMFORD® S9



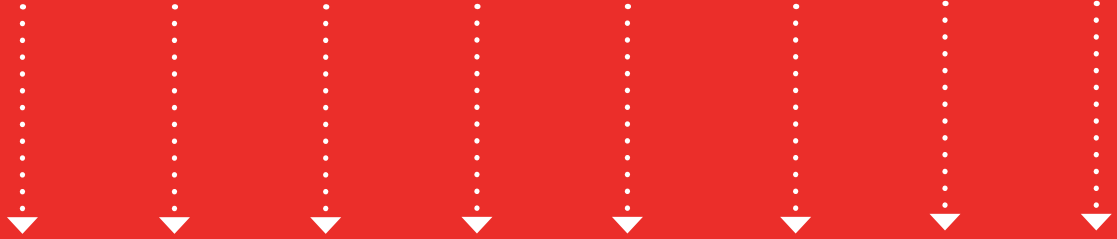
MEDIUM AND HIGH VOLTAGE ALTERNATOR  
1875-4500 kVA 50Hz  
2344-5250 kVA 60Hz

**STAMFORD | AvK™**  
POWERING TOMORROW, TOGETHER



# The S9 Nomenclature

**S 9 H 1 D - E 4 1**



Character	Brand	Family Series	Voltage	Revision	Descriptor	Core Length	Pole	Bearing
Examples	STAMFORD	1/2/3/4/5 etc	L = Low M = Medium H = High	1	D = Dedicated	A/B/C/D/ E/F/G/H	4	1/2

# STAMFORD® S9 Dedicated



True Class H HV technology  
for enhanced power density

Greater serviceability access

Extended  
insulation  
lifetime (HV)

Optimised  
efficiency

Optimised  
power density

Increased  
ratings up to  
5600kVA\*

High efficiency airflow

Higher level of  
integration flexibility

Product evolution through technological revolution.

Our new **CoreCooling™** technology results in improved thermal performance  
and increased power density... it's in the detail.

\*MV - 60Hz 4160V Continuous 125/40°C (5/6th pitch)

# S9 Medium Voltage Dedicated Ratings 5/6<sup>th</sup> Pitch

## 50Hz

Class F 105/40		
Winding Number	51*	
Volts	3300	
Model	kW	kVA
S9M1D-A4	1472	<b>1840</b>
S9M1D-B4	1751	<b>2190</b>
S9M1D-C4	1950	<b>2438</b>
S9M1D-D4	2134	<b>2668</b>
S9M1D-E4	2325	<b>2907</b>
S9M1D-F4	2737	<b>3422</b>
S9M1D-G4	3131	<b>3915</b>
S9M1D-H4	3385	<b>4232</b>

Class H 125/40		
Winding Number	51	
Volts	3300	
Model	kW	kVA
S9M1D-A4	1600	<b>2000</b>
S9M1D-B4	1904	<b>2380</b>
S9M1D-C4	2120	<b>2650</b>
S9M1D-D4	2320	<b>2900</b>
S9M1D-E4	2528	<b>3160</b>
S9M1D-F4	2976	<b>3720</b>
S9M1D-G4	3404	<b>4255</b>
S9M1D-H4	3680	<b>4600</b>

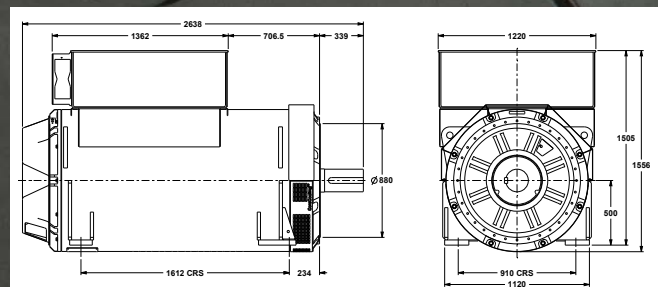
Standby 150/40		
Winding Number	51	
Volts	3300	
Model	kW	kVA
S9M1D-A4	1712	<b>2140</b>
S9M1D-B4	2037	<b>2547</b>
S9M1D-C4	2268	<b>2836</b>
S9M1D-D4	2482	<b>3103</b>
S9M1D-E4	2704	<b>3381</b>
S9M1D-F4	3184	<b>3980</b>
S9M1D-G4	3642	<b>4553</b>
S9M1D-H4	3937	<b>4922</b>

## 60Hz

Class F 105/40		
Winding Number	51	
Volts	4160	
Model	kW	kVA
S9M1D-A4	<b>1840</b>	2300
S9M1D-B4	<b>2082</b>	2604
S9M1D-C4	<b>2318</b>	2898
S9M1D-D4	<b>2598</b>	3248
S9M1D-E4	<b>2870</b>	3588
S9M1D-F4	<b>3308</b>	4135
S9M1D-G4	<b>3819</b>	4775
S9M1D-H4	<b>4121</b>	5152

Class H 125/40		
Winding Number	51	
Volts	4160	
Model	kW	kVA
S9M1D-A4	<b>2000</b>	2500
S9M1D-B4	<b>2264</b>	2830
S9M1D-C4	<b>2520</b>	3150
S9M1D-D4	<b>2824</b>	3530
S9M1D-E4	<b>3120</b>	3900
S9M1D-F4	<b>3596</b>	4495
S9M1D-G4	<b>4152</b>	5190
S9M1D-H4	<b>4480</b>	5600

Standby 150/40		
Winding Number	51	
Volts	4160	
Model	kW	kVA
S9M1D-A4	<b>2140</b>	2675
S9M1D-B4	<b>2422</b>	3028
S9M1D-C4	<b>2696</b>	3371
S9M1D-D4	<b>3021</b>	3777
S9M1D-E4	<b>3338</b>	4173
S9M1D-F4	<b>3847</b>	4810
S9M1D-G4	<b>4442</b>	5553
S9M1D-H4	<b>4793</b>	5992



\*Other windings are available



# S9 Medium Voltage Dedicated Ratings 2/3<sup>rd</sup> Pitch

## 50Hz

Class F 105/40		
Winding Number	851*	
Volts	3300	
Model	kW	kVA
S9M1D-A4	1325	<b>1656</b>
S9M1D-B4	1344	<b>1680</b>
S9M1D-C4	1752	<b>2190</b>
S9M1D-D4	1950	<b>2438</b>
S9M1D-E4	2134	<b>2668</b>
S9M1D-F4	2325	<b>2907</b>
S9M1D-G4	2737	<b>3422</b>
S9M1D-H4	3132	<b>3915</b>

Class H 125/40		
Winding Number	851	
Volts	3300	
Model	kW	kVA
S9M1D-A4	1440	<b>1800</b>
S9M1D-B4	1680	<b>2100</b>
S9M1D-C4	1904	<b>2380</b>
S9M1D-D4	2120	<b>2650</b>
S9M1D-E4	2320	<b>2900</b>
S9M1D-F4	2528	<b>3160</b>
S9M1D-G4	2976	<b>3720</b>
S9M1D-H4	3404	<b>4255</b>

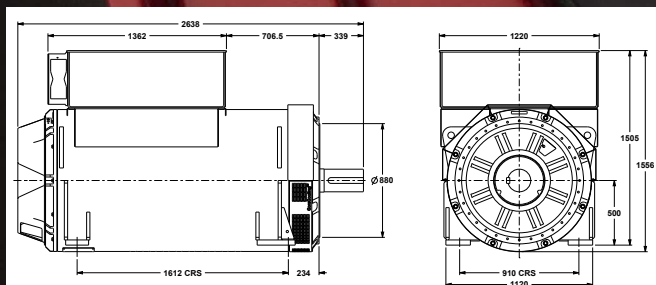
Standby 150/40		
Winding Number	851	
Volts	3300	
Model	kW	kVA
S9M1D-A4	1541	<b>1926</b>
S9M1D-B4	1797	<b>2247</b>
S9M1D-C4	2037	<b>2547</b>
S9M1D-D4	2268	<b>2836</b>
S9M1D-E4	2482	<b>3103</b>
S9M1D-F4	2704	<b>3381</b>
S9M1D-G4	3184	<b>3980</b>
S9M1D-H4	3642	<b>4553</b>

## 60Hz

Class F 105/40		
Winding Number	851	
Volts	4160	
Model	kW	kVA
S9M1D-A4	<b>1693</b>	2116
S9M1D-B4	<b>1913</b>	2392
S9M1D-C4	<b>2083</b>	2604
S9M1D-D4	<b>2318</b>	2898
S9M1D-E4	<b>2598</b>	3248
S9M1D-F4	<b>2870</b>	3588
S9M1D-G4	<b>3308</b>	4135
S9M1D-H4	<b>3820</b>	4775

Class H 125/40		
Winding Number	851	
Volts	4160	
Model	kW	kVA
S9M1D-A4	<b>1840</b>	2300
S9M1D-B4	<b>2080</b>	2600
S9M1D-C4	<b>2264</b>	2830
S9M1D-D4	<b>2520</b>	3150
S9M1D-E4	<b>2824</b>	3530
S9M1D-F4	<b>3120</b>	3900
S9M1D-G4	<b>3596</b>	4495
S9M1D-H4	<b>4152</b>	5190

Standby 150/40		
Winding Number	851	
Volts	4160	
Model	kW	kVA
S9M1D-A4	<b>1969</b>	2461
S9M1D-B4	<b>2225</b>	2782
S9M1D-C4	<b>2422</b>	3028
S9M1D-D4	<b>2696</b>	3371
S9M1D-E4	<b>3021</b>	3777
S9M1D-F4	<b>3338</b>	4173
S9M1D-G4	<b>3848</b>	4810
S9M1D-H4	<b>4442</b>	5553



\*Other windings are available

# S9 High Voltage Dedicated Ratings 5/6<sup>th</sup> Pitch

## 50Hz

Class F 105/40				
Winding Number	83*			
Volts	10500		11000	
Model	kW	kVA	kW	kVA
S9H1D-A4	1380	1725	1400	1750
S9H1D-B4	1649	2062	1692	2116
S9H1D-C4	1851	2314	1851	2314
S9H1D-D4	2090	2613	2090	2613
S9H1D-E4	2400	3000	2400	3000
S9H1D-F4	2741	3427	2741	3427
S9H1D-G4	2988	3735	2988	3735
S9H1D-H4	3312	4140	3312	4140

Class H 125/40				
Winding Number	83			
Volts	10500		11000	
Model	kW	kVA	kW	kVA
S9H1D-A4	1500	1875	1520	1900
S9H1D-B4	1800	2250	1840	2300
S9H1D-C4	2012	2515	2012	2515
S9H1D-D4	2272	2840	2272	2840
S9H1D-E4	2608	3260	2608	3260
S9H1D-F4	2980	3725	2980	3725
S9H1D-G4	3248	4060	3248	4060
S9H1D-H4	3600	4500	3600	4500

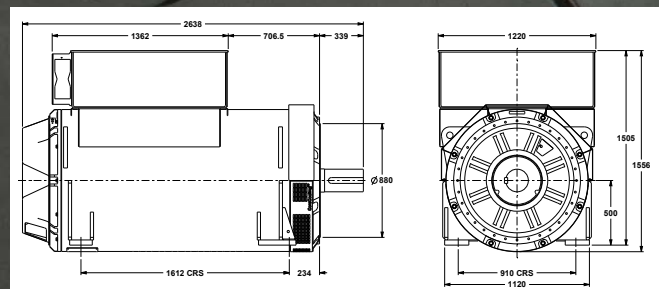
Standby 150/40				
Winding Number	83			
Volts	10500		11000	
Model	kW	kVA	kW	kVA
S9H1D-A4	1604	2006	1626	2033
S9H1D-B4	1926	2408	1968	2461
S9H1D-C4	2152	2691	2152	2691
S9H1D-D4	2431	3039	2431	3039
S9H1D-E4	2790	3488	2790	3488
S9H1D-F4	3188	3986	3188	3986
S9H1D-G4	3475	4344	3475	4344
S9H1D-H4	3852	4815	3852	4815

## 60Hz

Class F 105/40						
Winding Number	91					
Volts	12470		13200		13800	
Model	kW	kVA	kW	kVA	kW	kVA
S9H1D-A4	1463	1829	1549	1936	1619	2024
S9H1D-B4	1766	2208	1865	2332	1950	2438
S9H1D-C4	1994	2493	2112	2640	2208	2760
S9H1D-D4	2186	2733	2314	2893	2419	3024
S9H1D-E4	2476	3096	2620	3275	2741	3427
S9H1D-F4	2804	3505	2966	3708	3102	3878
S9H1D-G4	3058	3823	3238	4048	3385	4232
S9H1D-H4	3323	4154	3518	4398	3680	4600

Class H 125/40						
Winding Number	91					
Volts	12470		13200		13800	
Model	kW	kVA	kW	kVA	kW	kVA
S9H1D-A4	1590	1988	1638	2104	1760	2200
S9H1D-B4	1920	2400	2028	2535	2120	2650
S9H1D-C4	2168	2710	2296	2870	2400	3000
S9H1D-D4	2384	2980	2524	3155	2640	3300
S9H1D-E4	2692	3365	2848	3560	2980	3725
S9H1D-F4	3048	3810	3224	4030	3372	4215
S9H1D-G4	3324	4155	3520	4400	3680	4600
S9H1D-H4	3612	4515	3824	4780	4000	5000

Standby 150/40						
Winding Number	91					
Volts	12470		13200		13800	
Model	kW	kVA	kW	kVA	kW	kVA
S9H1D-A4	1701	2172	1800	2251	1883	2354
S9H1D-B4	2054	2568	2169	2712	2268	2836
S9H1D-C4	2319	2900	2456	3071	2568	3210
S9H1D-D4	2550	3189	2700	3376	2824	3531
S9H1D-E4	2880	3601	3047	3809	3188	3986
S9H1D-F4	3261	4077	3449	4312	3608	4510
S9H1D-G4	3556	4446	3766	4708	3937	4922
S9H1D-H4	3864	4831	4091	5115	4280	5350



\*Other windings are available



# S9 High Voltage Dedicated Ratings 2/3<sup>rd</sup> Pitch

## 50Hz

Class F 105/40				
Winding Number	983*			
Volts	10500		11000	
Model	kW	kVA	kW	kVA
S9H1D-A4	1124	1405	1178	1472
S9H1D-B4	1466	1833	1494	1868
S9H1D-C4	1722	2153	1722	2153
S9H1D-D4	1844	2305	1844	2305
S9H1D-E4	2082	2603	2082	2603
S9H1D-F4	2390	2988	2390	2988
S9H1D-G4	2731	3414	2731	3414
S9H1D-H4	2976	3721	2976	3721

Class H 125/40				
Winding Number	983			
Volts	10500		11000	
Model	kW	kVA	kW	kVA
S9H1D-A4	1222	1527	1280	1600
S9H1D-B4	1600	2000	1624	2030
S9H1D-C4	1872	2340	1872	2340
S9H1D-D4	2012	2515	2012	2515
S9H1D-E4	2272	2840	2272	2840
S9H1D-F4	2608	3260	2608	3260
S9H1D-G4	2980	3725	2980	3725
S9H1D-H4	3248	4060	3248	4060

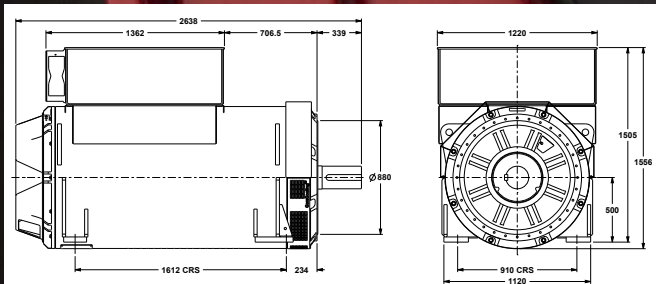
Standby 150/40				
Winding Number	983			
Volts	10500		11000	
Model	kW	kVA	kW	kVA
S9H1D-A4	1307	1634	1370	1712
S9H1D-B4	1712	2140	1737	2172
S9H1D-C4	2003	2504	2006	2508
S9H1D-D4	2152	2691	2152	2691
S9H1D-E4	2431	3039	2431	3039
S9H1D-F4	2790	3488	2790	3488
S9H1D-G4	3188	3986	3188	3986
S9H1D-H4	3475	4344	3475	4344

## 60Hz

Class F 105/40						
Winding Number	991					
Volts	12470		13200		13800	
Model	kW	kVA	kW	kVA	kW	kVA
S9H1D-A4	1130	1413	1197	1496	1251	1564
S9H1D-B4	1529	1912	1619	2024	1692	2116
S9H1D-C4	1766	2208	1865	2332	1950	2438
S9H1D-D4	1994	2493	2112	2640	2208	2760
S9H1D-E4	2186	2733	2314	2893	2419	3024
S9H1D-F4	2476	3096	2620	3275	2741	3427
S9H1D-G4	2804	3505	2965	3707	3102	3878
S9H1D-H4	3058	3823	3238	4048	3385	4232

Class H 125/40						
Winding Number	991					
Volts	12470		13200		13800	
Model	kW	kVA	kW	kVA	kW	kVA
S9H1D-A4	1229	1536	1301	1626	1360	1700
S9H1D-B4	1662	2078	1760	2200	1840	2300
S9H1D-C4	1920	2400	2028	2535	2120	2650
S9H1D-D4	2168	2710	2296	2870	2400	3000
S9H1D-E4	2384	2980	2524	3155	2640	3300
S9H1D-F4	2692	3365	2848	3560	2980	3725
S9H1D-G4	3048	3810	3224	4030	3372	4215
S9H1D-H4	3324	4155	3520	4400	3680	4600

Standby 150/40						
Winding Number	991					
Volts	12470		13200		13800	
Model	kW	kVA	kW	kVA	kW	kVA
S9H1D-A4	1315	1644	1392	1740	1455	1819
S9H1D-B4	1779	2224	1883	2354	1968	2461
S9H1D-C4	2054	2568	2169	2712	2268	2835
S9H1D-D4	2320	2900	2456	3070	2568	3210
S9H1D-E4	2551	3189	2700	3376	2824	3531
S9H1D-F4	2880	3601	3047	3809	3188	3986
S9H1D-G4	3261	4077	3449	4312	3608	4510
S9H1D-H4	3556	4446	3766	4708	3937	4922



\*Other windings are available



# Specification

MODEL	S9 Dedicated- MV	S9 Dedicated- HV
Maximum continuous ratings at 50Hz (kVA) 125/40°C*	2000-4600	1875-4500
Maximum continuous ratings at 60Hz (kVA) 125/40°C**	2500-5600	2200-5000
Specifications		
Voltage Range	3300-4160	5500-13800
Poles	4	
Technology	Bar Wound	
Application	Prime Power/Standby	
AVR	Digital	
Voltage Sensing	2 Phase	
Bearing Arrangement	Single/Double	
SAE Adaptors	SAE 0 / 00	
Centre Height	500	
Terminals	6	
Material Insulation Class	H	
Excitation System	PMG	
Ingress Protection	IP23	
	IP54 Terminal Box	
Connection with other machines	Paralleling capability	
Bearings re-grease interval	Up to 3000 hours	
Temperature Monitoring	Winding RTDs	
Environmental Protection	Anti-Condensation Heater	
Optional Features		
Voltage Sensing	3 Phase sensing	
Application	Grid	
Centre Height	265, 349, 450	
Current Transformers	1, 2, 3 per phase	
Earth Fault Protection	Current Transformer	
Prime Movers		
Diesel Engine	✓	
Gas Engine	✓	

\*MV - 50Hz 3300V Continuous 125/40°C (5/6th pitch)

\*\*MV - 60Hz 4160V Continuous 125/40°C (5/6th pitch)

\*HV - 50Hz 10500V Continuous 125/40°C (5/6th pitch)

\*\*HV - 60Hz 13800V Continuous 125/40°C (5/6th pitch)

GA Drawings are indicative of S9D-G/H core dimensions

Please contact our applications department for additional voltages that are available

Ratings are preliminary and are subject to change

# Accessories

Factory Build Options
Anti-Condensation Heater
Quadrature Droop Kit
Bearing RTD (Each Bearing)
Air Inlet Filter
Drip Proof Louvres
Excitation Loss Module
Diode Failure Detector

Available With	DM110	DECS150	UNITROL
Current Sensing Kit	✓	✓	✓
Controlled Short Circuit	✓	✓	✓
Frequency Detection Module	✓	✓	✓
Power Factor Controller	✓	✓	✓
Remote Control Interface	✓	✓	✓
Dual AVR	X	X	X

Voltage Regulator Options	With PMG
no AVR	✓
DM110	✓
DECS100	✓
DECS 150	✓
UNITROL 1010	✓
Deif DVC310	✓

**3 YEAR  
WARRANTY**



# Applications



## Case Study

### Purpose:

Nickel Sulphide Mine

### Location:

Western Region, Australia

### Specified:

**STAMFORD® S9 HV**



Contract Power launched **STAMFORD® S9** to the fleet of eight **STAMFORD® HVSI804R1** units for the 12 MW power plant at the Savannah Nickel Sulphide Mine, located in the East Kimberly Region of Western Australia. The Savannah Mine is one of the three mining projects in this region.

“The **STAMFORD®** alternators have proven very reliable over the years in our Mining installations. With the modifications made to the new S9, they now become even more serviceable for these remote locations.”

- Contract Power Australia



## End-to-end Support

From pre-sales applications support all the way through to our extensive worldwide channel of customer service and authorised Parts and Service dealers servicing your **STAMFORD® I AvK®** alternators, we're there for you.

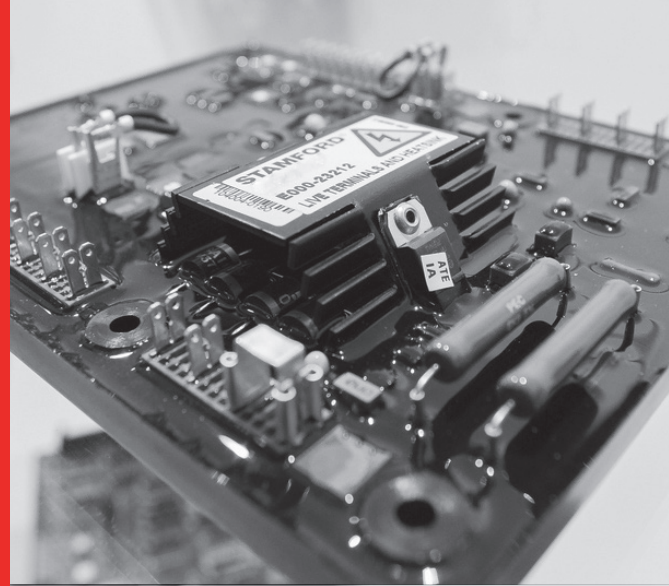
Selecting the right alternator for the right application? We understand the performance requirements that each application and operating environment demands.

**Always Advancing**—We also offer a comprehensive suite of Service Training courses designed to introduce, refresh, develop or expand your existing knowledge of STAMFORD and AvK genuine products.

We are here to support your future decarbonisation goals, through our end-to-end expertise in versatile solutions. Backed by the reassurance of our world-renowned brands recognised for reliability and complete peace of mind, we are with you on your journey towards sustainability.



[stamford-avk.com/future-ready](https://stamford-avk.com/future-ready)





CoreCooling™



**stamford-avk@cummins.com**

**www.stamford-avk.com**



Copyright 2023, Cummins Generator Technologies Ltd. All rights reserved.  
STAMFORD and AvK are registered trademarks of Cummins  
Generator Technologies Ltd.

Part No. PB\_S9\_EN/HP\_Rev.5.2

**STAMFORD | AvK™**

**POWERING TOMORROW, TOGETHER**