

Performance and core specifications

4-pole alternators for continuous or standby diesel generator sets in buildings, hospitals, airports, telecoms and industry.

1000–2000 kW

50 Hz continuous

4 POLES

1500 / 1800 rpm

50 / 60 Hz

B31 / B32 winding

IP23

Class H insulation

EXCITATION AND DYNAMIC PERFORMANCE

Transistor-based AVR regulation (KR440). Self-excitation has no sustained short-circuit capability; optional PMG supplies 3 times nominal current for 10 seconds.

At 60% rated current and PF 0.4: transient voltage dip <15%; recovery from a 15% dip <1.5 s.

Parallel operation with alternators or mains requires suitable AVR and current transformers.

Overload capability follows NEMA.

WINDING AND POWER QUALITY

Standard B31 / B32 windings operate at 50 or 60 Hz. Single-phase reconnection or dedicated windings are available. Operating PF: 0.8–1.0; derating is required below 0.8.

THD 1.2%~2.5% at no-load or linear load per IEC; TIF <50 per NEMA.

MECHANICAL CONSTRUCTION

Single- or double-bearing configurations with engine adaptors and coupling discs. Rotors balanced to ISO 1940; double-bearing rotors use half-key balancing. Heavy-duty regreasable bearings; steel frame with cast-iron or steel housings and flanges, depending on model.

Class H insulation; winding protection accepts up to 95% relative humidity. Additional coatings are available for harsh environments. Accessible terminal box accommodates AVR, reconnection, CTs and optional modules.

Bidirectional operation is stated in the source; its general-parameter table specifies clockwise rotation. Maximum overspeed: 2250 rpm, or $1.25 \times$ rated speed at 60 Hz.

STANDARDS

GB 755, BS 5000, IEC 60034, VDE 0530, CSA C22.2-100 and NEMA MG-1.22. Design, manufacture and marking under ISO 9001.

General parameters and efficiency

Parameter	Value	Parameter	Value
Ambient temperature	40°C	Temperature rise	125K
Short-circuit current multiple	$\geq 300\%$	Altitude	1000 m
Voltage regulation	$\pm 1\%$	Cooling method	IC01
Insulation class	Class H	Exciter system	Brushless self-excitation
Direction of rotation	Clockwise	Duty type	S1
Winding pitch	2/3	Maximum speed	2250 rpm
Phases	3	Power factor	0.8
Protection grade	IP23	Number of poles	4
TIF	<50	Frequency	50/60 Hz
AVR model	KR440	THF	<2%
THD	1.2%~2.5%		

MOMENT OF INERTIA AND FULL LOAD EFFICIENCY

Model	Inertia J kg·m²	50 Hz / 400 V Efficiency %	60 Hz / 440 V Efficiency %
KR734B	36.432	96	96.1
KR734C	37.189	96.1	96.2
KR734D	42.541	96.2	96.3
KR734E	45.689	96.2	95.3
KR734F	50.505	96.3	96.4
KR734G	57.478	96.3	96.4
KR734H	59.759	96.4	96.4
KR734J	62.689	96.4	96.4

Inertia values apply to single-bearing units. Efficiency values are at 100% load.

50 Hz electrical ratings

1500 rpm • Standard winding: 3-phase, power factor 0.8.

Continuous: 125K rise / 40°C ambient.

Standby: 163K rise / 27°C ambient.

Model	Unit	Continuous				Standby			
		380V	400V	415V	440V	380V	400V	415V	440V
KR734B	kVA	1400	1400	1400	1330	1568	1568	1568	1463
	kW	1120	1120	1120	1064	1254	1254	1254	1170
KR734C	kVA	1563	1563	1563	1484	1750	1750	1750	1633
	kW	1250	1250	1250	1188	1400	1400	1400	1306
KR734D	kVA	1688	1688	1688	1603	1890	1890	1890	1763
	kW	1350	1350	1350	1283	1512	1512	1512	1411
KR734E	kVA	1900	1900	1900	1805	2128	2128	2128	1986
	kW	1520	1520	1520	1444	1702	1702	1702	1588
KR734F	kVA	2063	2063	2063	1959	2310	2310	2310	2155
	kW	1650	1650	1650	1568	1848	1848	1848	1724
KR734G	kVA	2250	2250	2250	2138	2520	2520	2520	2351
	kW	1800	1800	1800	1710	2016	2016	2016	1881
KR734H	kVA	2375	2375	2375	2256	2660	2660	2660	2482
	kW	1900	1900	1900	1805	2128	2128	2128	1986
KR734J	kVA	2500	2500	2500	2375	2800	2800	2800	2613
	kW	2000	2000	2000	1900	2240	2240	2240	2090

WINDING CONNECTION VOLTAGES

Connection	Voltage options
Star Y	380V / 400V / 415V / 440V
Delta Δ	220V / 230V / 240V
Parallel star YY	220V (Y = 440 V)

Only 12-wire alternators can realise these connections. For other voltages, consult the factory.

60 Hz electrical ratings

1800 rpm • Standard winding: 3-phase, power factor 0.8.

Continuous: 125K rise / 40°C ambient.

Standby: 163K rise / 27°C ambient.

Model	Unit	Continuous				Standby			
		416V	440V	460V	480V	416V	440V	460V	480V
KR734B	kVA	1505	1610	1680	1680	1656	1771	1848	1848
	kW	1204	1288	1344	1344	1324	1417	1478	1478
KR734C	kVA	1680	1797	1875	1875	1848	1977	2063	2063
	kW	1344	1438	1500	1500	1478	1581	1650	1650
KR734D	kVA	1814	1941	2025	2025	1995	2135	2228	2228
	kW	1451	1553	1620	1620	1596	1708	1782	1782
KR734E	kVA	2043	2185	2280	2280	2247	2404	2508	2508
	kW	1634	1748	1824	1824	1797	1923	2006	2006
KR734F	kVA	2217	2372	2475	2475	2439	2609	2723	2723
	kW	1774	1898	1980	1980	1951	2087	2178	2178
KR734G	kVA	2419	2588	2700	2700	2661	2846	2970	2970
	kW	1935	2070	2160	2160	2129	2277	2376	2376
KR734H	kVA	2553	2731	2850	2850	2808	3004	3135	3135
	kW	2043	2185	2280	2280	2247	2404	2508	2508
KR734J	kVA	2688	2875	3000	3000	2956	3163	3300	3300
	kW	2150	2300	2400	2400	2365	2530	2640	2640

WINDING CONNECTION VOLTAGES

Connection	Voltage options
Star Y	416V / 440V / 460V / 480V
Delta Δ	240V (Y = 416 V)
Parallel star YY	208V / 220V / 230V / 240V

Only 12-wire alternators can realise these connections. For other voltages, consult the factory.

Reactance and time constants

Reactance in %; time constants in ms. Kcc is the short-circuit ratio.

50 HZ AT 400 V

Model	Kcc	Xd	X'd	X''d	Xq	X''q	X2	X0	T'd	T''d	T'do	Ta
KR734B	0.28	354	24.2	18.0	216	24.2	2.11	1.77	48	6	1969	410
KR734C	0.25	403	26.6	19.5	246	26.6	2.31	1.84	52	7	2204	488
KR734D	0.29	346	22.8	16.7	211	22.5	1.96	1.56	39	5	1665	487
KR734E	0.25	394	23.7	16.9	240	23.9	2.04	1.28	40	5	1840	535
KR734F	0.27	375	22.4	15.9	228	22.4	1.91	1.23	35	4	1609	600
KR734G	0.22	457	26.9	18.9	277	26.8	2.29	1.43	39	5	1815	745
KR734H	0.27	377	22.4	15.8	229	22.2	1.90	1.28	31	4	1443	865
KR734J	0.24	424	25.0	17.5	257	24.7	2.11	1.41	33	4	1547	946

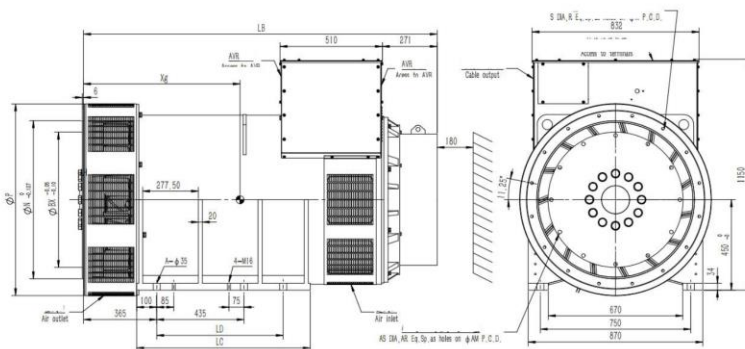
60 HZ AT 440 V

Model	Kcc	Xd	X'd	X''d	Xq	X''q	X2	X0	T'd	T''d	T'do	Ta
KR734B	0.25	395	27.0	20.1	241	26.9	2.35	1.97	45	6	2196	381
KR734C	0.22	447	29.5	21.7	273	29.5	2.56	2.04	48	6	2447	452
KR734D	0.26	386	25.4	18.6	235	25.2	2.19	1.75	37	5	1859	475
KR734E	0.23	437	25.7	18.1	265	25.9	2.20	1.44	36	5	2041	480
KR734F	0.24	413	24.7	17.5	251	24.7	2.11	1.35	32	4	1770	571
KR734G	0.20	503	29.7	20.8	306	29.6	2.52	1.57	35	4	2000	708
KR734H	0.24	419	24.9	17.5	254	24.6	2.10	1.41	29	4	1604	734
KR734J	0.21	471	27.7	19.4	286	27.4	2.34	1.55	30	4	1718	851

SYMBOL DEFINITIONS

Code	Parameter	Code	Parameter
Kcc	Short circuit ratio	X2	Negative sequence saturation reactance
Xd	Direct axis synchronous unsaturated reactance	X0	Zero sequence unsaturated reactance
X'd	Direct Axis Transient Saturation Reactance	T'd	Short-circuit transient time constant
X''d	Direct Axis Subtransient Saturation Reactance	T''d	Subtransient time constant
Xq	Quadrature axis Synchronous Unsaturated Reactance	T'do	Open circuit time constant
X''q	Quadrature Subtransient Saturation Reactance	Ta	Armature time constant

Single bearing outline and dimensions



MOUNTING DIMENSIONS

Model	LB	LC	LD	A	Xg mm	Weight kg	Package L × W × H mm
KR734B	1497	635	/	6	623	2668	1730*1050* 1370
KR734C	1497	635	/	6	645	2854	1730*1050* 1370
KR734D	1607	635	/	6	683	3085	1800*1050* 1370
KR734E	1607	635	/	6	700	3140	1800*1050* 1370
KR734F	1687	635	/	6	740	3471	1950*1050* 1370
KR734G	1767	865	630	8	780	3804	2030*1050* 1370
KR734H	1862	865	630	8	800	3825	2150*1050* 1370
KR734J	1862	865	630	8	828	4566	2150*1050* 1370

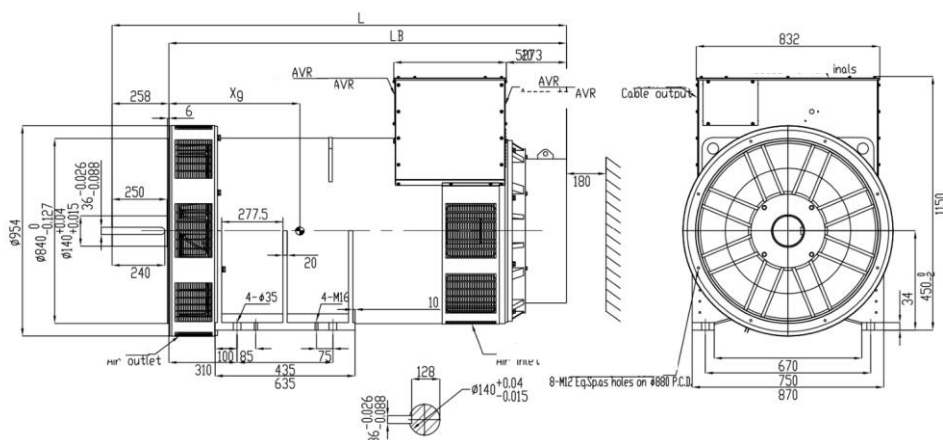
FLANGE DIMENSIONS IN mm

S.A.E	P	N	M	R-øS	W	a°
#00	954	787.3	850.9	16-ø14	6	11.25°
#0	954	647.7	679.45	16-ø14	6	11.25°

COUPLING DISC DIMENSIONS IN mm

S.A.E	BX	AM	AR-øAS	AH
#18	571.5	542.9	6-ø17	15.7
#21	673.1	641.35	12-ø17	0
#24	733.3	692	12-ø21	0

Double bearing outline and dimensions



MOUNTING DIMENSIONS IN mm

Model	L	LB	Xg mm
KR734B	1700	1442	600
KR734C	1700	1442	620
KR734D	1810	1552	658
KR734E	1810	1552	675
KR734F	1890	1632	715
KR734G	1970	1712	765
KR734H	2062	1804	775
KR734J	2062	1804	803

WEIGHT AND PACKAGING

Model	Weight kg	Package L × W × H mm
KR734B	2693	1930*1050*1350
KR734C	2879	1930*1050*1350
KR734D	3110	2000*1050*1350
KR734E	3165	2000*1050*1350
KR734F	3496	2150*1050*1350
KR734G	3829	2230*1050*1350
KR734H	3850	2350*1050*1350
KR734J	4591	2350*1050*1350