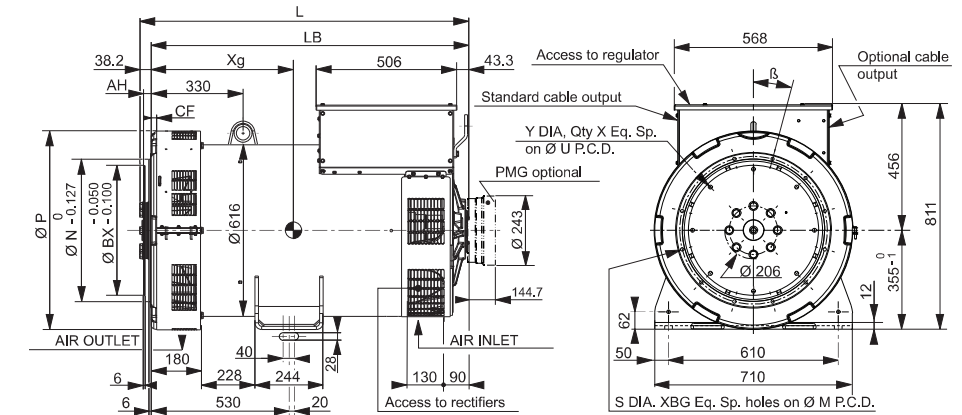


TAL-A473 - 410 to 660 kVA - 50 Hz / 510 to 825 kVA - 60 Hz

Low Voltage Alternators - 4 pole

Single bearing general arrangement - 6 & 12-wire



Dimensions (mm) and weight

Type	L without PMG maxi*	LB	Xg	Weight (kg)
TAL-A473-A	1048	996	450	1013
TAL-A473-B-C	1108	1056	484	1142
TAL-A473-D	1208	1156	515	1230
TAL-A473-E	1228	1176	543	1366
TAL-A473-F	1228	1176	553	1414

* L maxi = LB + AH maxi + 13

Coupling

Flex plate	11 ½	14	18
Flange S.A.E 1	X	X	
Flange S.A.E ½		X	
Flange S.A.E 0		X	X

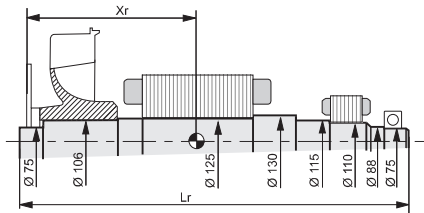
Flange (mm)

S.A.E.	P	N	M	XBG	S	β°	CF
1	713	511.175	530.225	12	12	15°	15
1/2	713	584.2	619.125	12	14	15°	22
0	713	647.7	679.45	16	14	11° 15'	42

Flex plate (mm)

S.A.E.	BX	U	X	Y	AH
11 1/2	352.42	333.38	8	11	39.6
14	466.72	438.15	8	14	25.4
18	571.5	542.92	6	17	15.7

Torsional analysis data



Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): (4J = MD²)

Flex plate	S.A.E. 11 ½				S.A.E. 14				S.A.E. 18			
Type	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J
TAL-A473-A	437	1036	413	6.7	421	1023	414	6.77	411	1015	414	7.03
TAL-A473-B-C	473	1096	456	7.3	457	1083	456	7.41	447	1075	457	7.67
TAL-A473-D	503	1196	491	7.8	487	1183	492	7.88	477	1175	492	8.14
TAL-A473-E	534	1216	545	8.7	518	1203	546	8.83	508	1195	546	9.09
TAL-A473-F	544	1216	563	9.1	529	1203	564	9.18	519	1195	564	9.44

NOTE : Dimensions are for information only and may be subject to modifications. Contractual 2D drawings can be downloaded from the Leroy-Somer site, 3D drawing files are available upon request.

*Please contact us for the double bearing dimension

TAL-A49 - 750 to 1000 kVA - 50 Hz / 915 to 1250 kVA - 60 Hz

Low Voltage Alternators - 4 pole

General characteristics - 6 & 12-wire

Insulation class	H	Excitation system 6 wire	SHUNT	AREP+ / PMG
Winding pitch	2/3 (Winding 6S or 6)	AVR type	R150	R180
Number of wires	6 or 12	Excitation system 12 wire	SHUNT	AREP+ / PMG
Protection	IP 23	AVR type	R150	R180
Altitude	≤ 1000 m	Voltage regulation (*)	± 0.8 %	± 0.5 %
Overspeed	2250 R.P.M.	Total Harmonic distortion THD (**) in no-load	< 3.5 %	
Air flow (m³/s)	1	Total Harmonic distortion THD (**) in linear load	< 5 %	
Air flow (m³/s)	1.2	Waveform: NEMA = TIF (**)	< 50	
AREP+ Short-circuit current = 2.7 In: 5 seconds (*)		Waveform: I.E.C. = THF (**)	< 2%	

*D350: 2.7In 10 seconds

(*) Steady state (**) Total harmonic distortion between phases, no-load or on-load (non-distorting)

Ratings 50 Hz - 1500 R.P.M. - 6 & 12-wire

kVA / kW - P.F. = 0.8															
Duty / T° C		Continuous / 40 °C				Continuous / 40 °C				Stand-by / 40 °C				Stand-by / 27 °C	
Class / T° K		H / 125° K				F / 105° K				H / 150° K				H / 163° K	
Phase		3 ph.				3 ph.				3 ph.				3 ph.	
Y		380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V	380V	400V
Δ		220V	230V	240V		220V	230V	240V		220V	230V	240V		220V	230V
YY			200V		220V		200V		220V		200V		220V		200V
TAL-A49-B	kVA	750	750	750	680	680	680	680	620	800	800	800	750	825	825
	kW	600.0	600.0	600.0	544.0	544.0	544.0	544.0	496.0	640.0	640.0	640.0	600.0	660.0	660.0
TAL-A49-C	kVA	820	820	820	810	745	745	745	735	870	870	870	860	910	910
	kW	656.0	656.0	656.0	648.0	596.0	596.0	596.0	588.0	696.0	696.0	696.0	688.0	728.0	728.0
TAL-A49-D	kVA	910	910	910	820	830	830	830	745	965	965	965	870	1010	1010
	kW	728.0	728.0	728.0	656.0	664.0	664.0	664.0	596.0	772.0	772.0	772.0	696.0	808.0	808.0
TAL-A49-E	kVA	1000	1000	1000	950	910	910	910	865	1060	1060	1060	1005	1100	1100
	kW	800.0	800.0	800.0	760.0	728.0	728.0	728.0	692.0	848.0	848.0	848.0	804.0	880.0	880.0

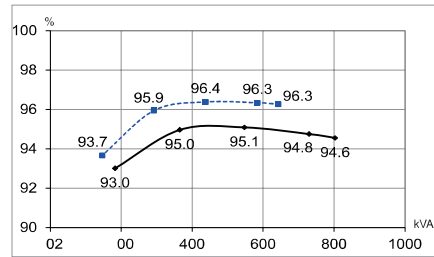
Ratings 60 Hz - 1800 R.P.M. - 6 & 12-wire

kVA / kW - P.F. = 0.8															
Duty / T° C		Continuous / 40 °C				Continuous / 40 °C				Stand-by / 40 °C				Stand-by / 27 °C	
Class / T° K		H / 125° K				F / 105° K				H / 150° K				H / 163° K	
Phase		3 ph.				3 ph.				3 ph.				3 ph.	
Y		380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V	380V	416V
Δ		220V	240V			220V	240V			220V	240V			220V	240V
YY			208V	220V	240V		208V	220V	240V		208V	220V	240V		208V
TAL-A49-B	kVA	745	815	860	940	670	730	775	845	790	865	910	995	820	895
	kW	596.0	652.0	688.0	752.0	536.0	584.0	620.0	676.0	632.0	692.0	728.0	796.0	656.0	716.0
TAL-A49-C	kVA	815	890	940	1025	740	810	855	935	865	945	995	1085	895	980
	kW	652.0	712.0	752.0	820.0	592.0	648.0	684.0	748.0	692.0	756.0	796.0	868.0	716.0	784.0
TAL-A49-D	kVA	905	990	1045	1140	825	900	950	1035	960	1050	1110	1210	1000	1090
	kW	724.0	792.0	836.0	912.0	660.0	720.0	760.0	828.0	768.0	840.0	888.0	968.0	800.0	872.0
TAL-A49-E	kVA	990	1083	1146	1250	900	985	1045	1140	1050	1150	1215	1325	1089	1192
	kW	792.0	866.4	916.8	1000.0	720.0	788.0	836.0	912.0	840.0	920.0	972.0	1060.0	871.2	953.6

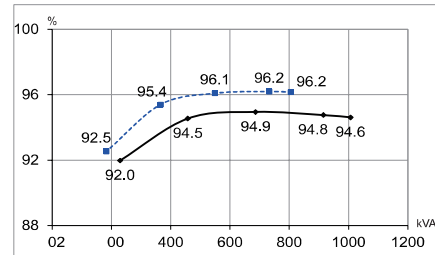
TAL-A49 - 750 to 1000 kVA - 50 Hz / 915 to 1250 kVA - 60 Hz

Low Voltage Alternators - 4 pole

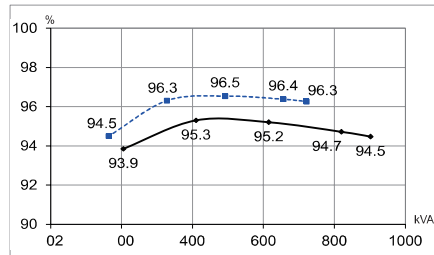
Efficiencies 400 V 50 Hz & 480 V - 60 Hz (— P.F.: 0.8) (----- P.F.: 1) - 6 & 12-wire



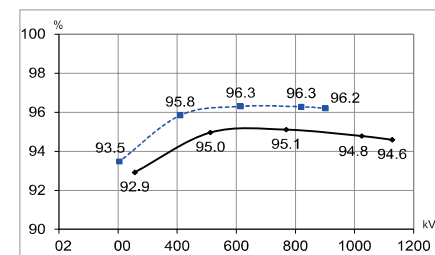
TAL-A49-B - 400V 50 Hz



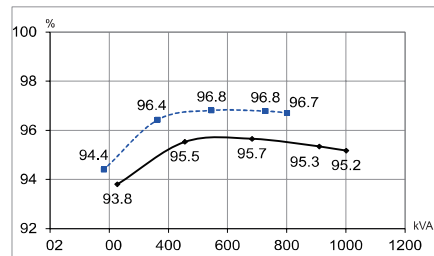
TAL-A49-B - 480V 60 Hz



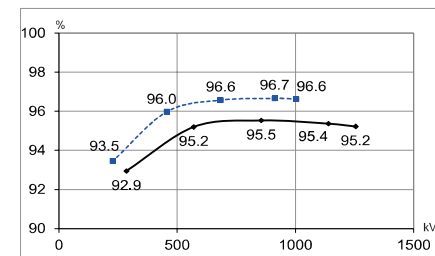
TAL-A49-C - 400V 50 Hz



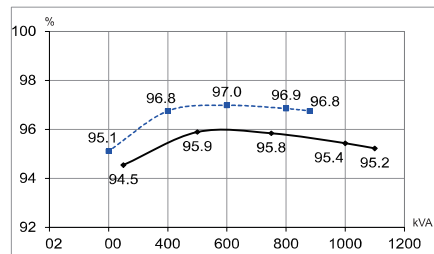
TAL-A49-C - 480V 60 Hz



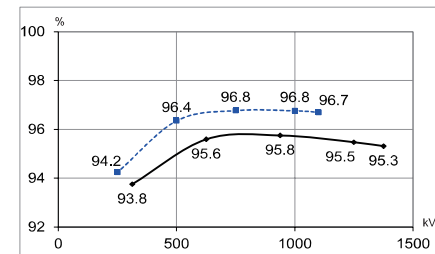
TAL-A49-D - 400V 50 Hz



TAL-A49-D - 480V 60 Hz



TAL-A49-E - 400V 50 Hz



TAL-A49-E - 480V 60 Hz

TAL-A49 - 750 to 1000 kVA - 50 Hz / 915 to 1250 kVA - 60 Hz

Low Voltage Alternators - 4 pole

Reactances (%). Time constants (ms) - Class H / 400 V - 6 & 12-wire

		B	C	D	E
Kcc	Short-circuit ratio	0.42	0.34	0.41	0.34
Xd	Direct-axis synchro. reactance unsaturated	294	348	303	348
Xq	Quadrature-axis synchro. reactance unsaturated	150	177	154	177
Tdo	No-load transient time constant	2074	2094	2138	2153
X'd	Direct-axis transient reactance saturated	14.2	16.6	14.1	16.1
T'd	Short-circuit transient time constant	100	100	100	100
X''d	Direct-axis subtransient reactance saturated	11.3	13.3	11.3	12.9
T''d	Subtransient time constant	10	10	10	10
X''q	Quadrature-axis subtransient reactance saturated	12.8	14.9	12.4	14.1
Xo	Zero sequence reactance	0.59	0.69	0.59	0.67
X2	Negative sequence reactance saturated	12.1	14.11	11.92	13.53
Ta	Armature time constant	15	15	15	15

Other class H / 400 V data

io (A)	No-load excitation current SHUNT/AREP+	1.07	0.96	1.1	0.89
ic (A)	On-load excitation current SHUNT/AREP+	3.73	3.97	3.91	3.69
uc (V)	On-load excitation voltage SHUNT/AREP+	41.9	44.4	43.6	40.9
ms	Response time ($\Delta U = 20\%$ transient)	500	500	500	500
kVA	Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) SHUNT*	1325	1389	1560	1753
kVA	Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) AREP+*	1849	1920	2156	2402
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 _{LAD}	17.5	16.5	14.6	16.2
%	Transient ΔU (on-load 4/4) AREP+ - P.F.: 0.8 _{LAD}	11.5	13	11.5	12.7
W	No-load losses	9931	8807	10176	9543
W	Heat dissipation	32326	36543	35534	38279

* P.F. = 0.6

Reactances (%). Time constants (ms) - Class H / 480 V - 6 & 12-wire

		B	C	D	E
Kcc	Short-circuit ratio	0.4	0.32	0.4	0.33
Xd	Direct-axis synchro, reactance unsaturated	307	362	317	363
Xq	Quadrature-axis synchro, reactance unsaturated	156	185	161	185
T'do	No-load transient time constant	2074	2094	2138	2153
X'd	Direct-axis transient reactance saturated	14.8	17.3	14.8	16.8
T'd	Short-circuit transient time constant	100	100	100	100
X''d	Direct-axis subtransient reactance saturated	11.8	13.8	11.8	13.4
T''d	Subtransient time constant	10	10	10	10
X''q	Quadrature-axis subtransient reactance saturated	13.4	15.5	13	14.7
Xo	Zero sequence reactance	0.61	0.72	0.61	0.7
X2	Negative sequence reactance saturated	12.64	14.7	12.44	14.1
Ta	Armature time constant	15	15	15	15

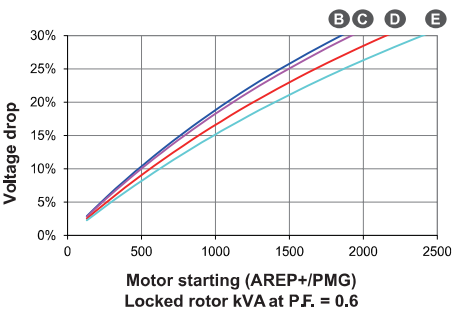
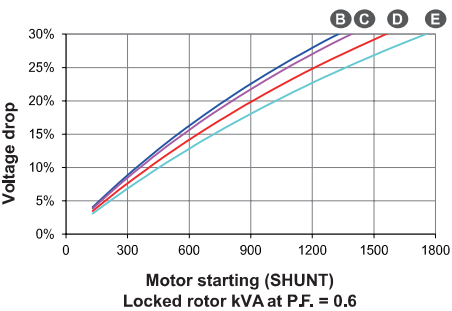
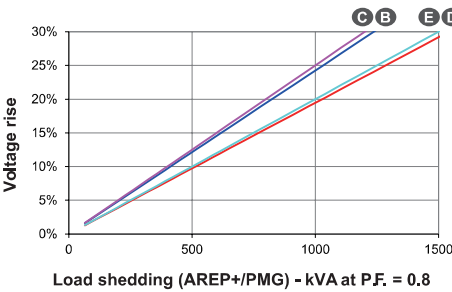
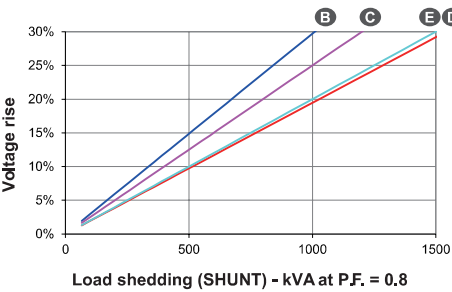
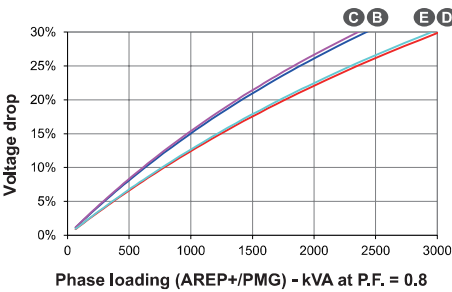
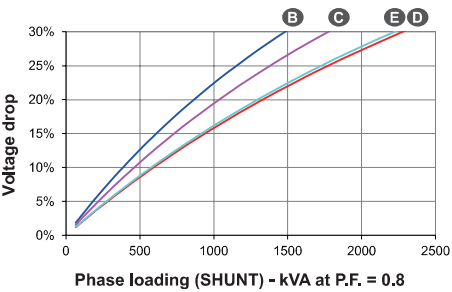
Other class H / 480 V data

io (A)	No-load excitation current SHUNT/AREP+	1.07	0.96	1.09	0.89
ic (A)	On-load excitation current SHUNT/AREP+	3.8	4.04	3.97	3.74
uc (V)	On-load excitation voltage SHUNT/AREP+	43	45.5	44.6	41.9
ms	Response time ($\Delta U = 20\%$ transient)	500	500	500	500
kVA	Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) SHUNT*	1625	1681	1954	2114
kVA	Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) AREP+*	2345	2297	2743	2893
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 _{LAD}	17.9	17.1	15.1	16.7
%	Transient ΔU (on-load 4/4) AREP+ - P.F.: 0.8 _{LAD}	11.9	13.4	11.9	13.1
W	No-load losses	14344	13640	15456	14627
W	Heat dissipation	40438	45078	44272	47348

* P.F. = 0.6

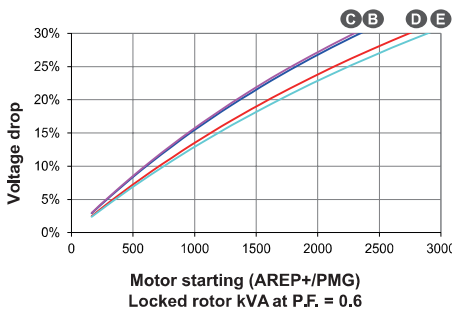
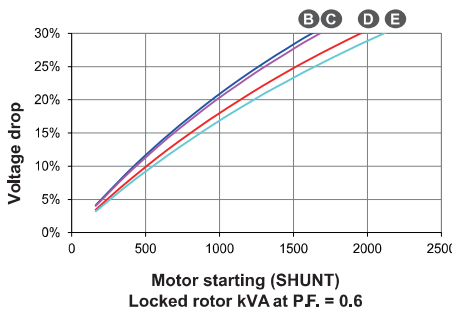
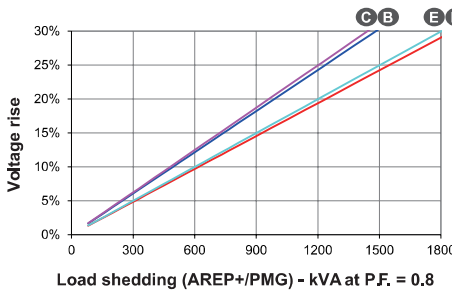
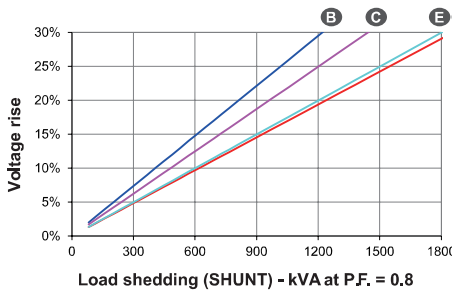
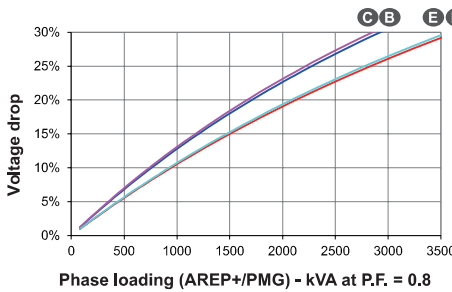
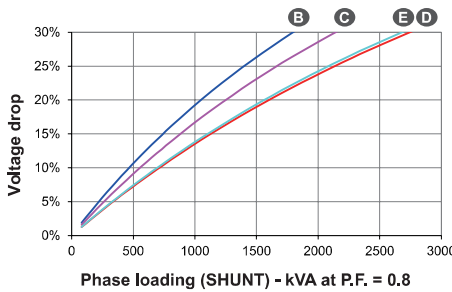
Low Voltage Alternators - 4 pole

Transient voltage variation 400 V - 50 Hz - 6 & 12-wire



Low Voltage Alternators - 4 pole

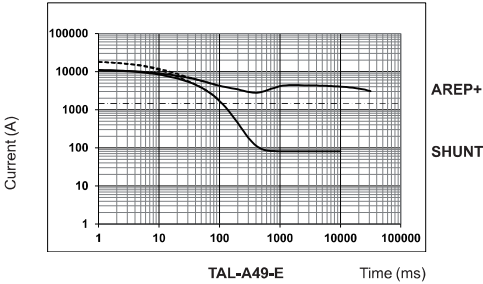
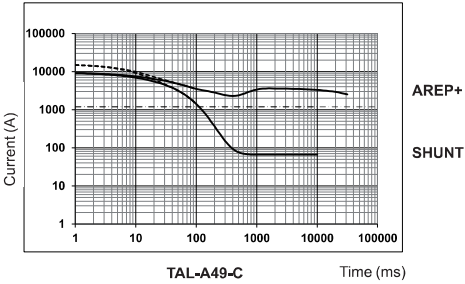
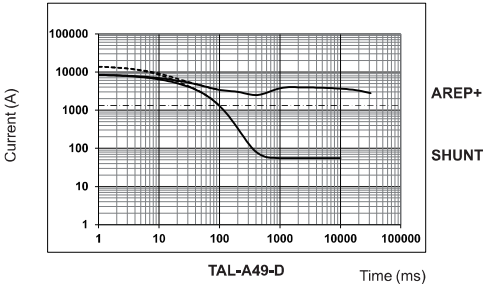
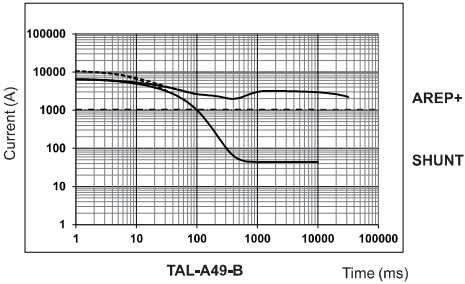
Transient voltage variation 480 V - 60 Hz - 6 & 12-wire



TAL-A49 - 750 to 1000 kVA - 50 Hz / 915 to 1250 kVA - 60 Hz

Low Voltage Alternators - 4 pole

3-phase short-circuit curves at no load and rated speed (star connection Y) - 6 & 12-wire

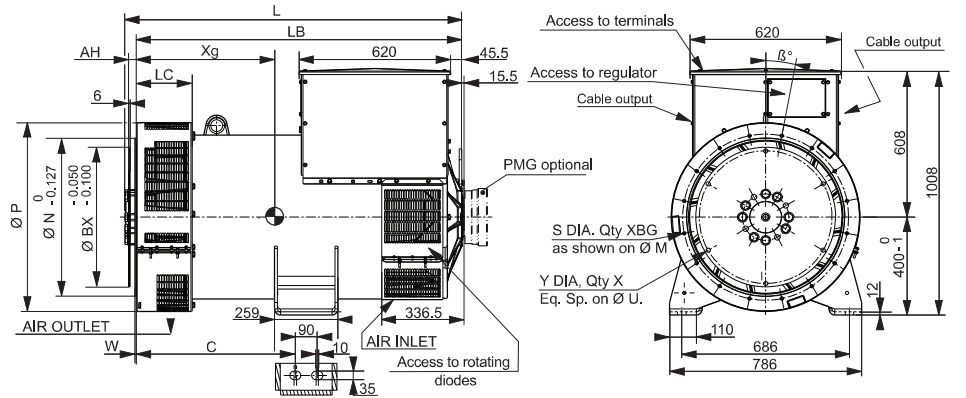


Symmetrical _____
Asymmetrical _____

TAL-A49 - 750 to 1000 kVA - 50 Hz / 915 to 1250 kVA - 60 Hz

Low Voltage Alternators - 4 pole

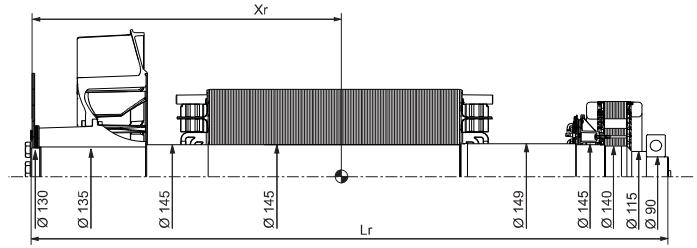
Single bearing general arrangement - 6 & 12-wire



Dimensions (mm) and weight						Coupling		
Type	L without PMG	LB	C	Xg	Weight (kg)	Flex plate	14	18
TAL-A49-B	1372	1331	650	629	1574	Flange S.A.E 1	X	
TAL-A49-C	1372	1331	650	636	1635	Flange S.A.E 1/2	X	
TAL-A49-D	1462	1421	650	673	1788	Flange S.A.E 0	X	X
TAL-A49-E	1462	1421	650	681	1837	Flange S.A.E 00		X

Flange (mm)								Flex plate (mm)					
S.A.E.	P	N	M	LC	XBG	W	β°	S.A.E.	BX	U	X	Y	AH
1	773	511.175	530.225	228.5	12	6	15°	14	466.7	438.15	8	14	25.4
1/2	773	584.2	619.125	228.5	12	6	15°	18	571.5	542.92	6	17	15.7
0	773	647.7	679.45	228.5	16	6	11° 15'						
00	883	787.4	850.9	245	16	7	11° 15'						

Torsional analysis data

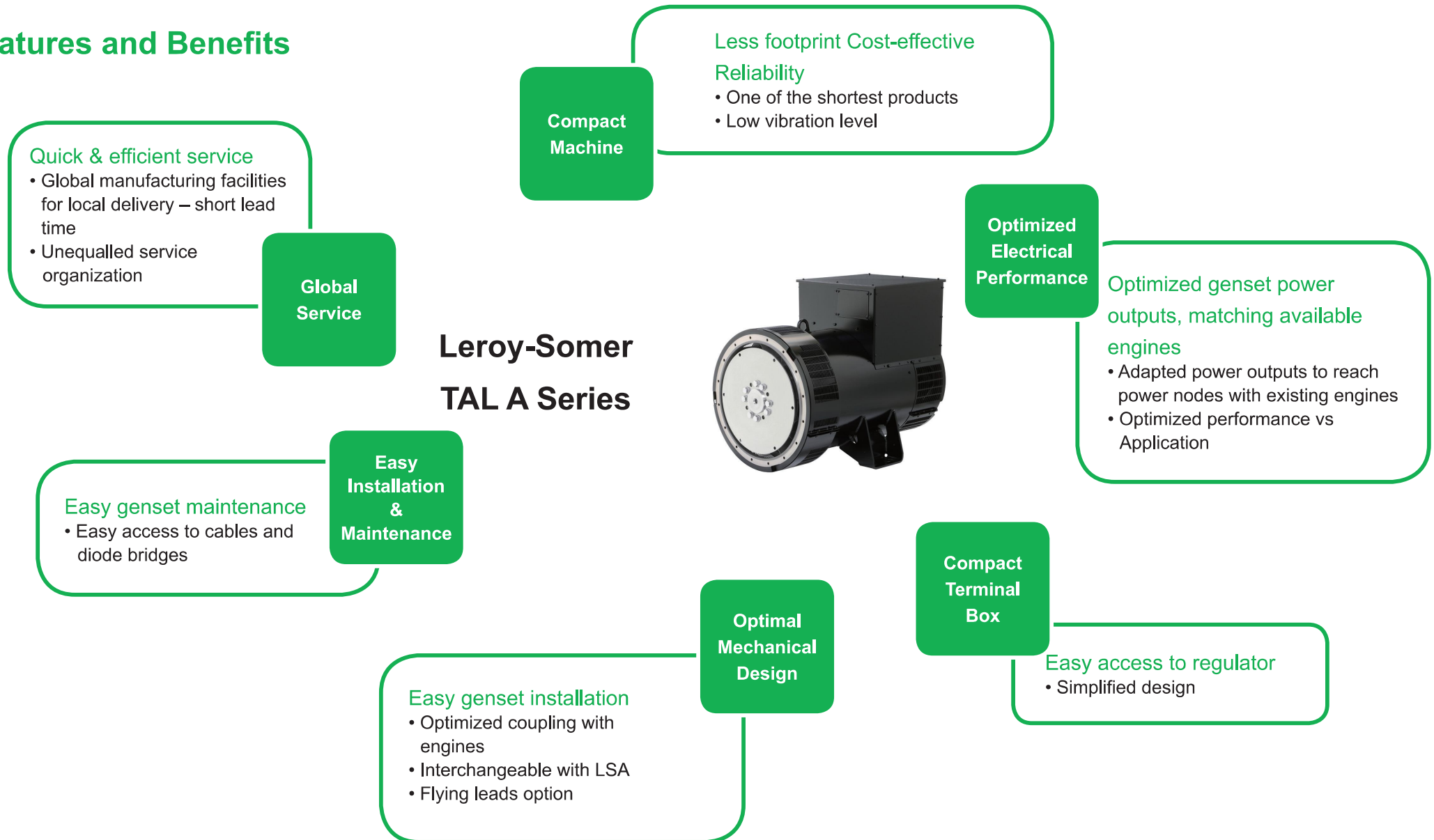


	Xr	Lr	M	J	Xr	Lr	M	J
TAL-A49-B	625	1351	623	9.99	614	1351	625	10.25
TAL-A49-C	633	1351	640	10.35	622	1351	642	10.61
TAL-A49-D	671	1441	697	11.34	659	1441	699	11.60
TAL-A49-E	679	1441	724	11.92	667	1441	726	12.18

NOTE : Dimensions are for information only and may be subject to modifications. Contractual 2D drawings can be downloaded from the Leroy-Somer site, 3D drawing files are available upon request.
*Please contact us for the double bearing dimension

Product Feature

Features and Benefits





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