TAL 046 - TAL 047 - TAL 049

Low Voltage Alternators - 4 pole

180 to 1000 kVA - 50 Hz / 225 to 1250 kVA - 60 Hz
Electrical and mechanical data

LEROY-SOMER™

Nidec
All for dreams

TAL 046 - TAL 047 - TAL 049

Low Voltage Alternators - 4 pole

Adapted to needs

The TAL alternator range is designed to meet the specific needs of telecommunications, commercial & industrial markets, as well as stand-by and prime power applications.

Compliant with international standards

The TAL range complies with international standards and regulations: IEC 60034 and dérivative.
The range is designed, manufactured and marketed in an ISO 9001 and 14001 environment.
It can be integrated into a CE market generator set.

Electrical design

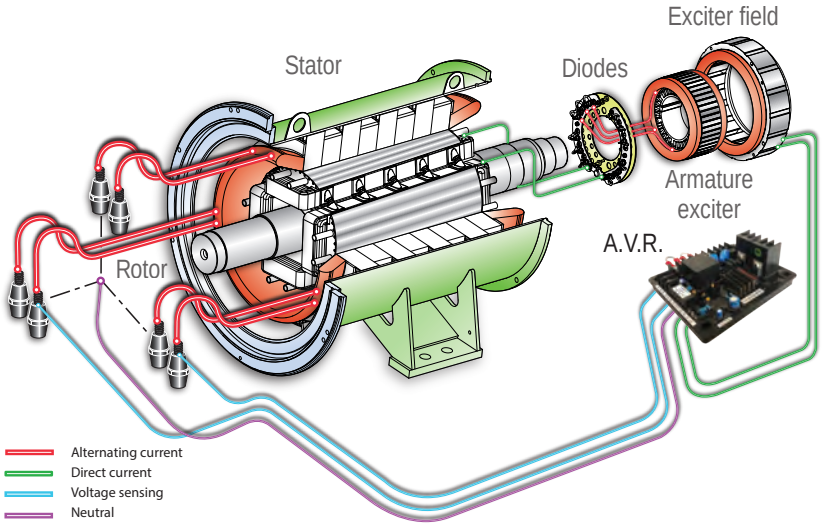
- Class H insulation
- Low voltage winding
- 6-terminal plate (adapted plate for 6 & 12 wires machine)
- Possibility of star and delta connection
- Optimized performance

Robust design

- Compact and rugged assembly to withstand engine vibrations
- Steel frame
- Cast iron flanges and shields
- Single bearing design to be suitable with most diesel engines
- Sealed for life bearing
- Direction of rotation clockwise

Compact terminal box

- Easy access to AVR and terminals
- Standard terminal box with possibility of mounting measurement CTs
- Possibility of current transformer for parallel operation



Environment and protection

- The alternators are IP 23
- Standard winding protection for non-harsh environments with relative humidity ≤ 95%

Available options

- AREP & PMG
- UL / CSA
- Customized painting
- Space heaters
- Droop kit for alternator paralleling
- Stator sensors
- Winding 8 for voltage 380V - 416 V / 60 Hz
- Winding protection for harsh environments and relative humidity greater than 95% (system 2 - 4): possible derating ratio according to the following table

	50 Hz			60 Hz
Type	380 V	400 V	415 V	All voltages
TAL 046	1 except 0.97 for TAL 046 H	1 except 0.97 for TAL 046 H	1 except 0.97 for TAL 046 H	1 except 0.97 for TAL 046 H
TAL 047	1 except 0.97 for TAL 047 F	1 except 0.97 for TAL 047 F	1 except 0.97 for TAL 047 F	1 except 0.97 for TAL 047 F
TAL 049	1	1	1	1

TAL 046 - 180 to 410 kVA - 50 Hz / 225 to 512 kVA - 60 Hz

Low Voltage Alternators - 4 pole

General characteristics - 6 & 12-wire

Insulation class	H
Winding pitch	2/3 (Winding 6 or 6S)
Number of wires	6 or 12
Protection	IP 23
Altitude	≤ 1000 m
Overspeed	2250 R.P.M.
Air flow (m³/s)	0.48
Air flow (m³/s)	0.58

Excitation system 6 wire	SHUNT	AREP / PMG
AVR type	R150	R180
Excitation system 12 wire	SHUNT	AREP / PMG
AVR type	R250	R180
Voltage regulation (*)	± 1 %	
Total Harmonic distortion THD (**) in no-load	< 3.5 %	
Total Harmonic distortion THD (**) in linear load	< 5 %	
Waveform: NEMA = TIF (**)	< 50	
Waveform: I.E.C. = THF (**)	< 2%	

(*) 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.				1 ph.	3 ph.				1 ph.	3 ph.				1 ph.	3 ph.				1 ph.
Y		380V	400V	415V	440V		380V	400V	415V	440V		380V	400V	415V	440V		380V	400V	415V	440V	
Δ		220V	230V	240V			220V	230V	240V			220V	230V	240V			220V	230V	240V		
YY					220V					220V					220V					220V	
ΔΔ						230V					230V					230V					230V
TAL 046 A	kVA	180	**180**	180	171	108	164	**164**	164	156	98	191	**191**	191	181	114	200	**200**	200	188	120
	kW	*144*	*144*	*144*	*137*	*86*	*131*	*131*	*131*	*124*	*78*	*153*	*153*	*153*	*145*	*91*	*160*	*160*	*160*	*150*	*96*
TAL 046 B	kVA	200	**200**	200	190	120	182	**182**	182	173	109	212	**212**	212	201	127	220	**220**	220	209	132
	kW	*160*	*160*	*160*	*152*	*96*	*146*	*146*	*146*	*138*	*87*	*170*	*170*	*170*	*161*	*102*	*176*	*176*	*176*	*167*	*106*
TAL 046 C	kVA	230	**230**	230	219	138	209	**209**	209	200	126	244	**244**	244	232	146	253	**253**	253	240	152
	kW	*184*	*184*	*184*	*175*	*110*	*167*	*167*	*167*	*160*	*101*	*195*	*195*	*195*	*186*	*117*	*202*	*202*	*202*	*192*	*122*
TAL 046 D	kVA	240	**250**	250	238	150	218	**228**	228	216	137	254	**265**	265	252	159	264	**275**	275	261	165
	kW	*192*	*200*	*200*	*190*	*120*	*174*	*182*	*182*	*173*	*110*	*204*	*212*	*212*	*202*	*127*	*211*	*220*	*220*	*209*	*132*
TAL 046 E	kVA	275	**275**	275	261	165	250	**250**	250	238	150	292	**292**	292	277	175	303	**303**	303	287	182
	kW	*220*	*220*	*220*	*209*	*132*	*200*	*200*	*200*	*190*	*120*	*234*	*234*	*234*	*222*	*140*	*242*	*242*	*242*	*230*	*146*
TAL 046 F	kVA	290	**300**	300	285	180	264	**273**	273	259	164	307	**318**	318	302	191	319	**330**	330	313	200
	kW	*232*	*240*	*240*	*228*	*144*	*211*	*218*	*218*	*207*	*131*	*246*	*254*	*254*	*242*	*153*	*255*	*264*	*264*	*250*	*160*
TAL 046 G	kVA	325	**325**	325	309	195	300	**300**	300	281	177	345	**345**	345	327	207	360	**360**	360	340	215
	kW	*260*	*260*	*260*	*247*	*156*	*240*	*240*	*240*	*225*	*142*	*276*	*276*	*276*	*262*	*166*	*286*	*286*	*286*	*272*	*172*
TAL 046 H	kVA	350	**365**	365	347	210	319	**332**	332	316	191	371	**387**	387	368	225	385	**400**	400	380	231
	kW	*280*	*292*	*292*	*277*	*168*	*255*	*266*	*266*	*253*	*153*	*297*	*310*	*310*	*294*	*180*	*308*	*320*	*320*	*304*	*185*
TAL 046 J	kVA	400	**410**	410	390	246	364	**373**	373	355	224	424	**435**	435	413	261	440	**450**	450	430	270
		320	*328*	*328*	*312*	*197*	*291*	*298*	*298*	*284*	*179*	*339*	*348*	*348*	*330*	*209*	*352*	*360*	*360*	*344*	*216*

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

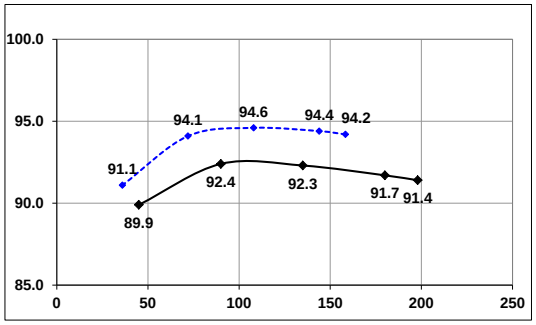
kVA / kW - P.F. = 0.8

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.				1 ph.	3 ph.				1 ph.	3 ph.				1 ph.	3 ph.				1 ph.
Y		380V	416V	440V	480V		380V	416V	440V	480V		380V	416V	440V	480V		380V	416V	440V	480V	
Δ		220V	240V	240V			220V	240V	240V			220V	240V	240V			220V	240V	240V		
YY			208V	220V	240V			208V	220V	240V			208V	220V	240V			208V	220V	240V	
ΔΔ						240V					240V					240V					240V
TAL 046 A	kVA	180	195	210	**225**	120	164	177	191	**205**	108	191	207	223	**239**	126	200	215	229	**250**	131
	kW	*144*	*156*	*168*	*180*	*96*	*131*	*142*	*153*	*164*	*86*	*153*	*166*	*178*	*191*	*101*	*160*	*172*	*183*	*200*	*105*
TAL 046 B	kVA	200	215	230	**250**	132	182	196	209	**228**	120	212	228	244	**265**	140	220	237	253	**275**	145
	kW	*160*	*172*	*184*	*200*	*106*	*146*	*157*	*167*	*182*	*96*	*170*	*182*	*195*	*212*	*112*	*176*	*190*	*202*	*220*	*116*
TAL 046 C	kVA	226	250	262	**288**	152	206	227	238	**262**	138	240	264	278	**305**	161	250	274	288	**316**	167
	kW	*181*	*200*	*210*	*230*	*122*	*165*	*182*	*190*	*210*	*110*	*192*	*211*	*222*	*244*	*129*	*200*	*219*	*230*	*253*	*134*
TAL 046 D	kVA	245	265	280	**313**	165	223	241	255	**284**	150	260	281	297	**331**	175	270	292	308	**344**	182
	kW	*196*	*212*	*224*	*250*	*132*	*178*	*193*	*204*	*227*	*120*	*208*	*225*	*238*	*265*	*140*	*216*	*234*	*246*	*275*	*146*
TAL 046 E	kVA	275	300	315	**344**	182	250	273	287	**313**	165	292	318	334	**364**	192	303	330	347	**378**	200
	kW	*220*	*240*	*252*	*275*	*146*	*200*	*218*	*230*	*250*	*132*	*234*	*254*	*267*	*291*	*154*	*242*	*264*	*278*	*302*	*160*
TAL 046 F	kVA	290	315	340	**375**	200	264	287	309	**337**	180	307	334	360	**395**	210	319	347	375	**412**	218
	kW	*232*	*252*	*272*	*300*	*160*	*211*	*230*	*247*	*270*	*144*	*246*	*267*	*288*	*316*	*168*	*255*	*278*	*300*	*330*	*174*
TAL 046 G	kVA	315	345	365	**406**	215	287	314	332	**370**	195	334	366	387	**431**	227	347	380	402	**447**	236
	kW	*252*	*276*	*292*	*325*	*172*	*230*	*251*	*266*	*296*	*156*	*267*	*293*	*310*	*345*	*182*	*278*	*304*	*322*	*358*	*189*
TAL 046 H	kVA	345	375	400	**456**	231	314	341	364	**415**	210	366	398	424	**483**	250	380	413	440	**502**	254
	kW	*276*	*300*	*320*	*365*	*185*	*251*	*273*	*291*	*332*	*168*	*293*	*318*	*339*	*386*	*200*	*304*	*330*	*352*	*402*	*203*
TAL 046 J	kVA	450	480	500	**512**	282	410	437	455	**466**	257	477	509	530	**543**	300	500	530	550	**581**	320
		360	*384*	*400*	*410*	*226*	*328*	*350*	*364*	*373*	*206*	*382*	*407*	*424*	*434*	*240*	*400*	*424*	*440*	*465*	*256*

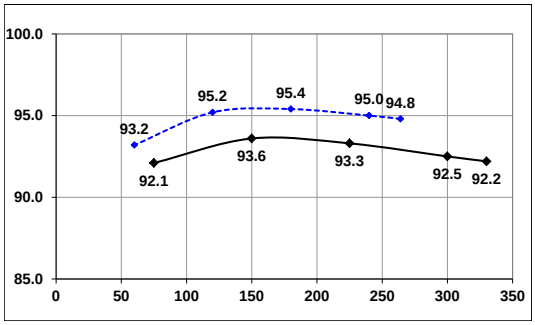
TAL 046 - 180 to 410 kVA - 50 Hz / 225 to 512 kVA - 60 Hz

Low Voltage Alternators - 4 pole

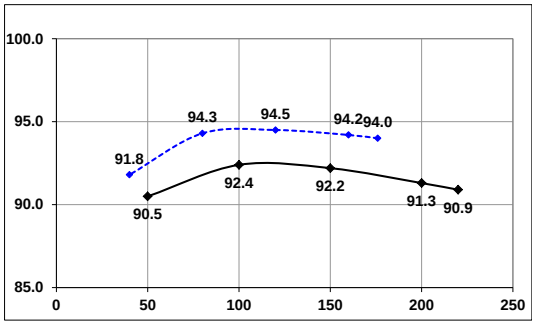
Efficiencies 400 V - 50 Hz (— P.F.: 0.8) (····· P.F.: 1) - 6 & 12-wire



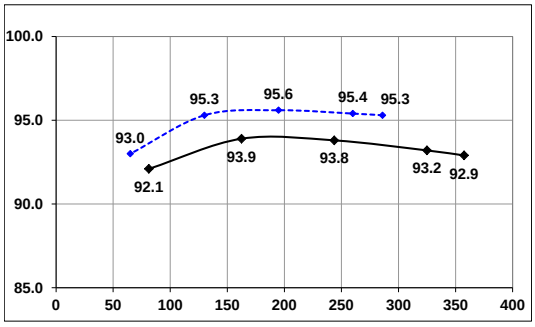
TAL 046 A - 400V 50Hz



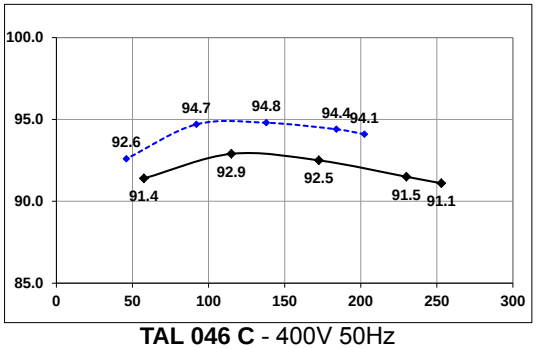
TAL 046 F - 400V 50Hz



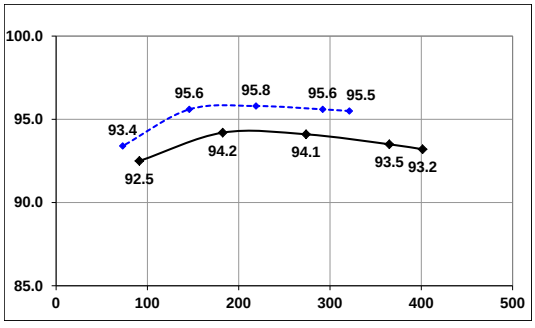
TAL 046 B - 400V 50Hz



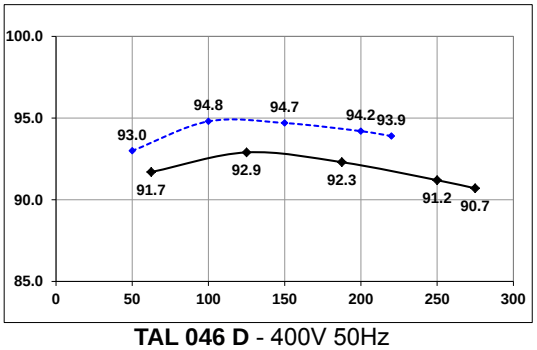
TAL 046 G - 400V 50Hz



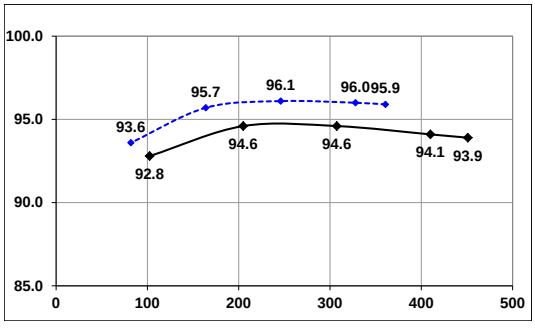
TAL 046 C - 400V 50Hz



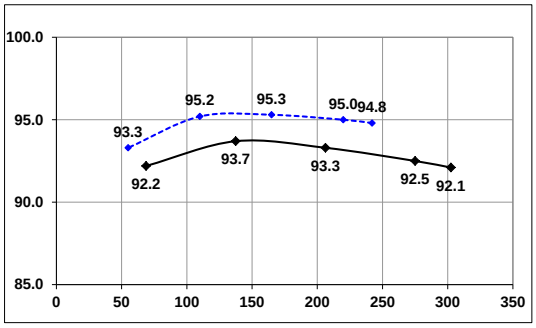
TAL 046 H - 400V 50Hz



TAL 046 D - 400V 50Hz

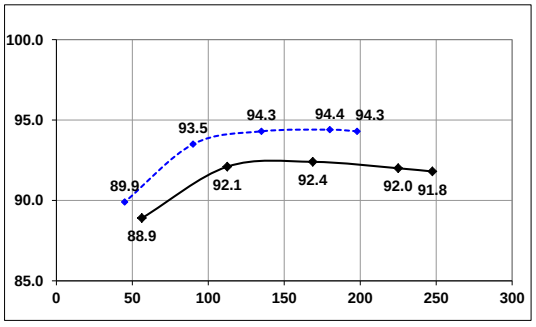


TAL 046 J - 400V 50Hz

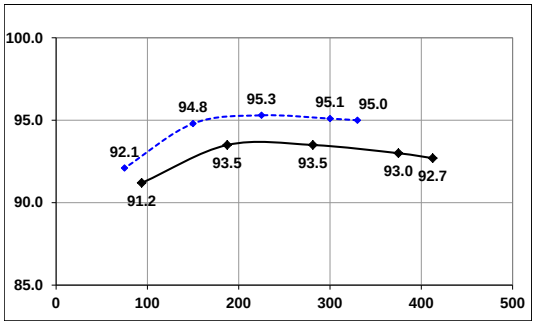


TAL 046 E - 400V 50Hz

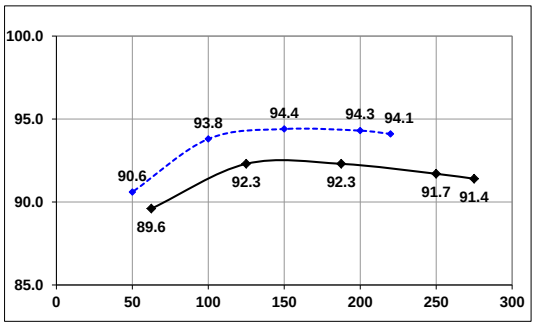
Efficiencies 480 V - 60 Hz (— P.F.: 0.8) (····· P.F.: 1) - 6 & 12-wire



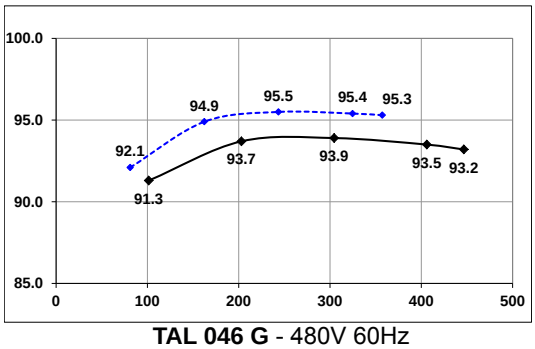
TAL 046 A - 480V 60Hz



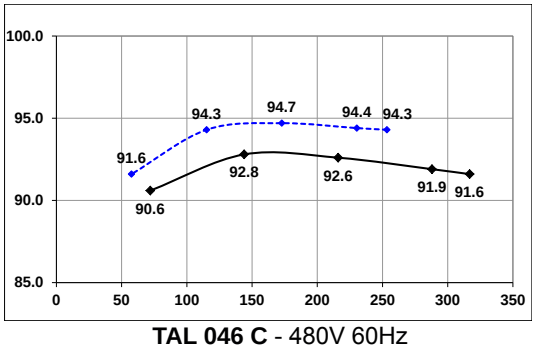
TAL 046 F - 480V 60Hz



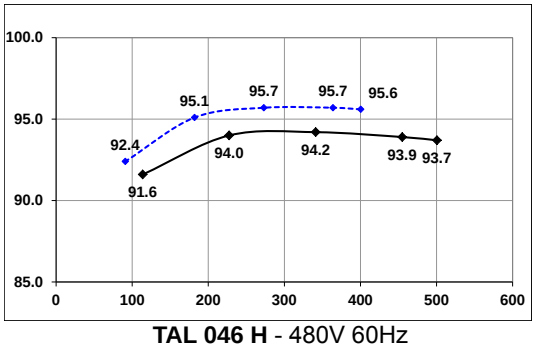
TAL 046 B - 480V 60Hz



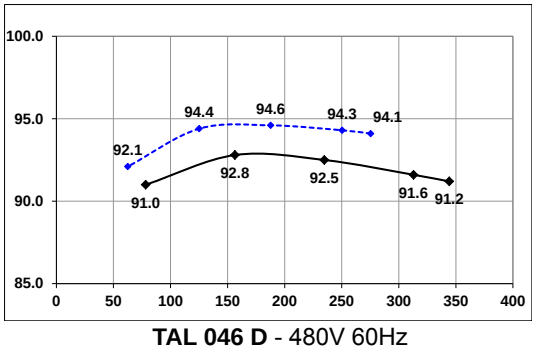
TAL 046 G - 480V 60Hz



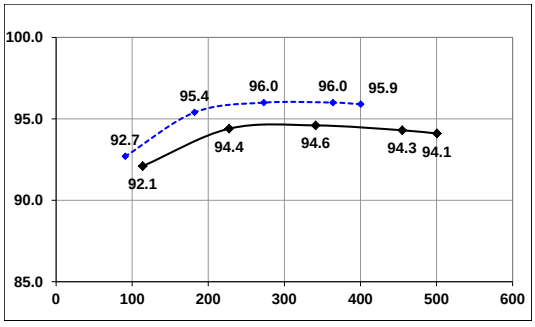
TAL 046 C - 480V 60Hz



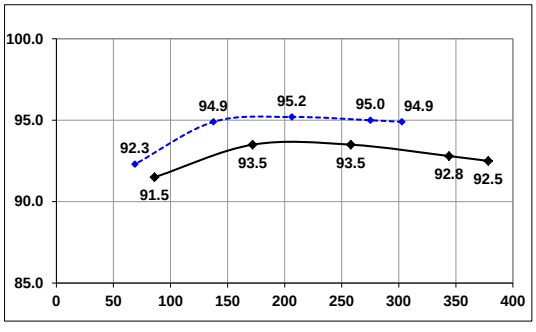
TAL 046 H - 480V 60Hz



TAL 046 D - 480V 60Hz



TAL 046 J - 480V 60Hz



TAL 046 E - 480V 60Hz

TAL 046 - 180 to 410 kVA - 50 Hz / 225 to 512 kVA - 60 Hz

Low Voltage Alternators - 4 pole

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

		A	B	C	D	E	F	G	H	J
Kcc	Short-circuit ratio	0.46	0.42	0.37	0.34	0.37	0.4	0.45	0.43	0.46
Xd	Direct-axis synchro. reactance unsaturated	292	325	340	370	347	335	297	303	291
Xq	Quadrature-axis synchro. reactance unsaturated	149	165	173	188	177	171	151	154	148
T'do	No-load transient time constant	1937	1937	1983	1983	2018	2033	2072	2093	2113
X'd	Direct-axis transient reactance saturated	15.1	16.7	17.1	18.6	17.1	16.5	14.3	14.5	13.7
T'd	Short-circuit transient time constant	100	100	100	100	100	100	100	100	100
X"d	Direct-axis subtransient reactance saturated	12	13.4	13.7	14.9	13.7	13.2	11.4	11.6	11
T"d	Subtransient time constant	10	10	10	10	10	10	10	10	10
X"q	Quadrature-axis subtransient reactance saturated	15.5	17.2	17.4	18.9	17.2	16.4	14.1	14.2	13.4
Xo	Zero sequence reactance unsaturated	0.62	0.69	0.71	0.77	0.71	0.68	0.59	0.6	0.57
X2	Negative sequence reactance saturated	13.82	15.35	15.58	16.94	15.51	14.84	12.81	12.9	12.2
Ta	Armature time constant	15	15	15	15	15	15	15	15	15

Other class H / 400 V data

io (A)	No-load excitation current SHUNT/AREP	0.9	0.9	1.01	1.01	0.82	0.88	0.88	0.85	1.09
ic (A)	On-load excitation current SHUNT/AREP	3.53	3.95	3.84	4.14	4.07	3.94	3.64	3.72	4.04
uc (V)	On-load excitation voltage SHUNT/AREP	46	50.9	35.8	38.4	34.2	39.2	36	36.4	58
ms	Response time (ΔU = 20% transient)	500	500	500	500	500	500	500	500	500
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) SHUNT*	297.6	300.1	372.9	375.3	412.4	449.8	487.3	547.3	614.8
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) AREP*	355	360	445	450	495	540	585	660	740
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 $_{LAG}$	18.7	20.2	19	20.1	20.2	20.2	20.2	20.2	20.2
%	Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 $_{LAG}$	16.5	17.5	16.5	17.5	17.5	17.5	17.5	17.5	17.5
W	No-load losses	3247	3247	3297	3297	3560	3955	4483	4697	5269
W	Heat dissipation	12955	15115	16884	19248	17730	19240	18846	20042	20247

* P.F. = 0.6

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

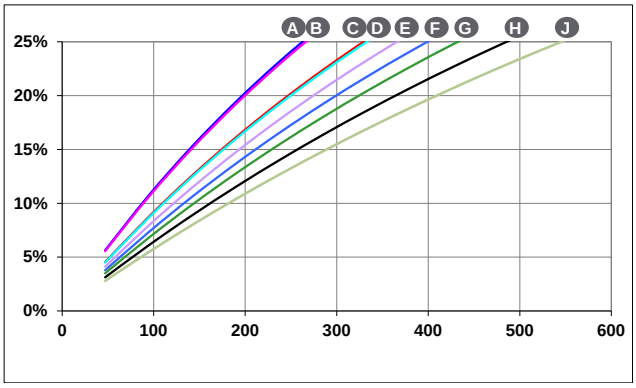
		A	B	C	D	E	F	G	H	J
Kcc	Short-circuit ratio	0.45	0.4	0.36	0.33	0.35	0.4	0.43	0.43	0.44
Xd	Direct-axis synchro. reactance unsaturated	304	338	355	386	361	335	309	303	303
Xq	Quadrature-axis synchro. reactance unsaturated	155	172	181	197	184	171	157	154	154
T'do	No-load transient time constant	1937	1937	1983	1983	2018	2033	2072	2093	2113
X'd	Direct-axis transient reactance saturated	15.7	17.4	17.9	19.4	17.9	16.5	14.9	14.5	14.3
T'd	Short-circuit transient time constant	100	100	100	100	100	100	100	100	100
X"d	Direct-axis subtransient reactance saturated	12.5	13.9	14.3	15.5	14.3	13.2	11.9	11.6	11.4
T"d	Subtransient time constant	10	10	10	10	10	10	10	10	10
X"q	Quadrature-axis subtransient reactance saturated	16.2	18	18.1	19.7	18	16.4	14.7	14.2	14.2
Xo	Zero sequence reactance unsaturated	0.65	0.72	0.74	0.81	0.74	0.68	0.62	0.6	0.59
X2	Negative sequence reactance saturated	14.39	15.99	16.26	17.67	16.17	14.84	13.34	12.9	12.71
Ta	Armature time constant	15	15	15	15	15	15	15	15	15

Other class H / 480 V data

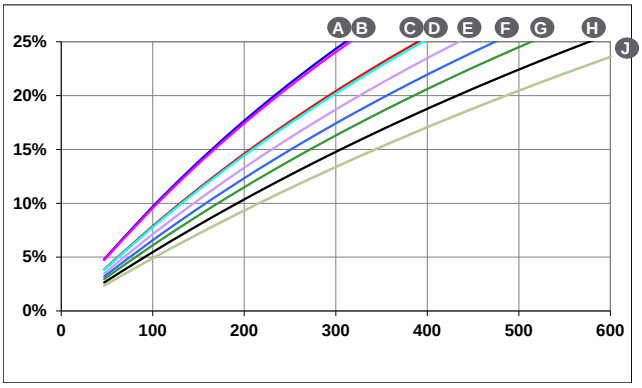
io (A)	No-load excitation current SHUNT/AREP	0.89	0.89	1.01	1.01	0.81	0.87	0.87	0.84	1.08
ic (A)	On-load excitation current SHUNT/AREP	3.43	3.83	3.91	4.21	3.92	3.67	3.52	3.43	3.99
uc (V)	On-load excitation voltage SHUNT/AREP	45.6	50.3	36.6	39.3	33.8	37.4	35.6	34.5	58
ms	Response time (ΔU = 20% transient)	500	500	500	500	500	500	500	500	500
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) SHUNT*	372	375.1	466.9	469.9	515.8	562.3	608.8	682.3	767.7
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) AREP*	445	450	560	565	620	675	730	820	920
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 $_{LAG}$	18.7	20.2	19	20.1	20.2	20.2	20.2	20.2	20.2
%	Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 $_{LAG}$	16.5	17.5	16.5	17.5	17.5	17.5	17.5	17.5	17.5
W	No-load losses	4877	4877	4958	4958	5347	5877	6616	6925	7738
W	Heat dissipation	15504	17904	20040	22678	21064	21511	22517	22683	24404

* P.F. = 0.6

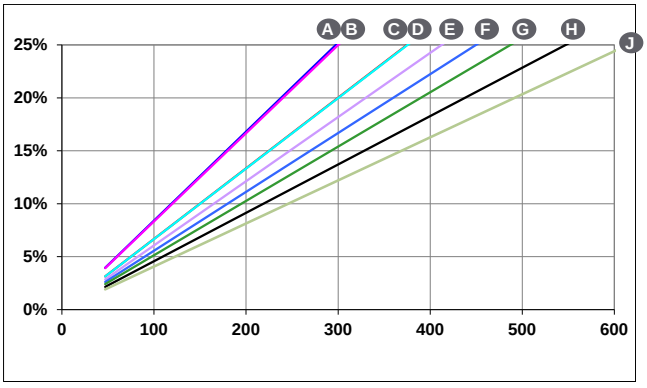
Transient voltage variation 400 V - 50 Hz - 6 & 12-wire



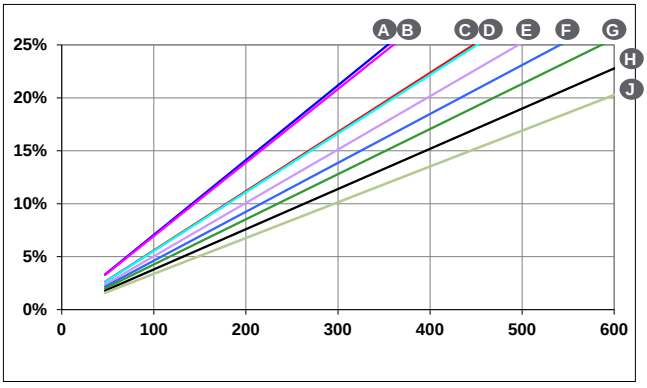
Phase loading (SHUNT) - kVA at 0.8 P.F.



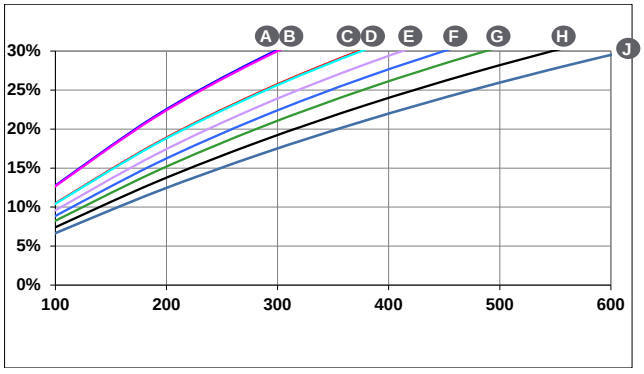
Phase loading (AREP) - kVA at 0.8 P.F.



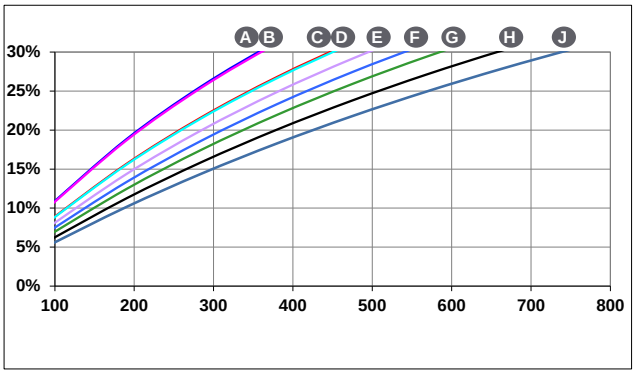
Load shedding (SHUNT) - kVA at 0.8 P.F.



Load shedding (AREP) - kVA at 0.8 P.F.

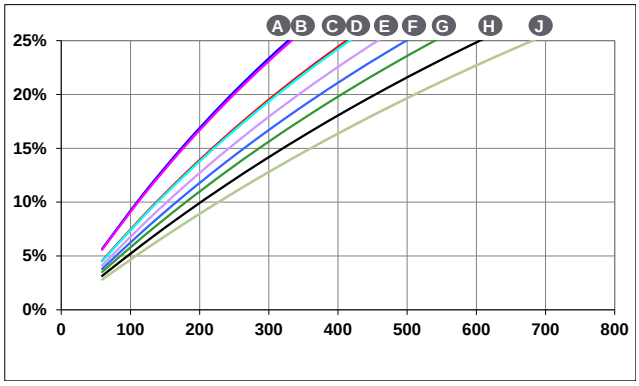


Motor starting (SHUNT) - Locked rotor kVA at 0.6 P.F.

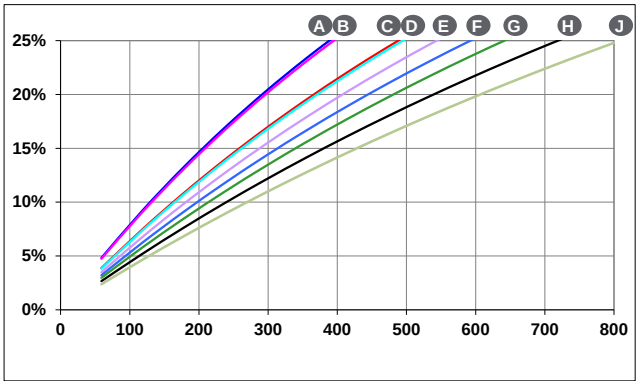


Motor starting (AREP) - Locked rotor kVA at 0.6 P.F.

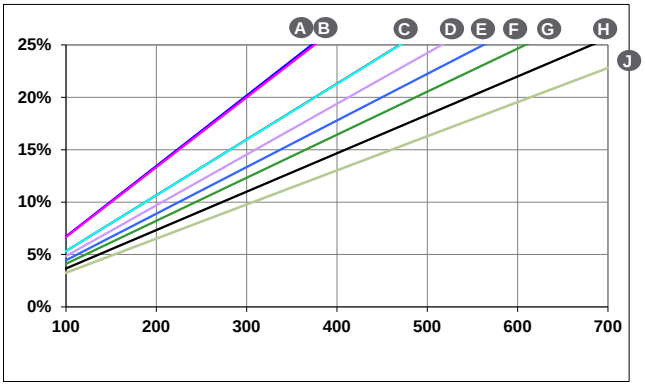
Transient voltage variation 480 V - 60 Hz - 6 & 12-wire



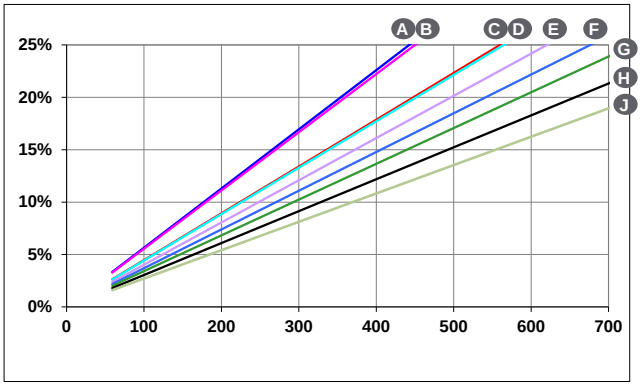
Phase loading (SHUNT) - kVA at 0.8 P.F.



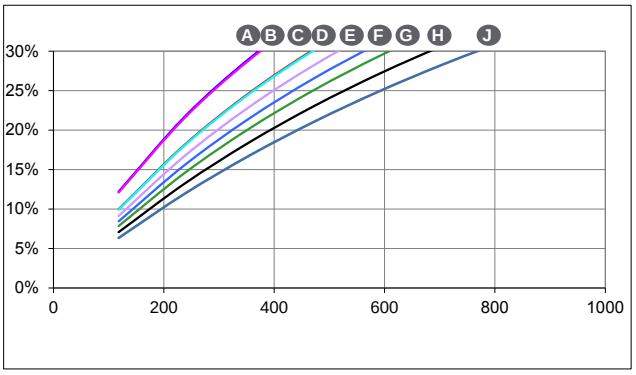
Phase loading (AREP) - kVA at 0.8 P.F.



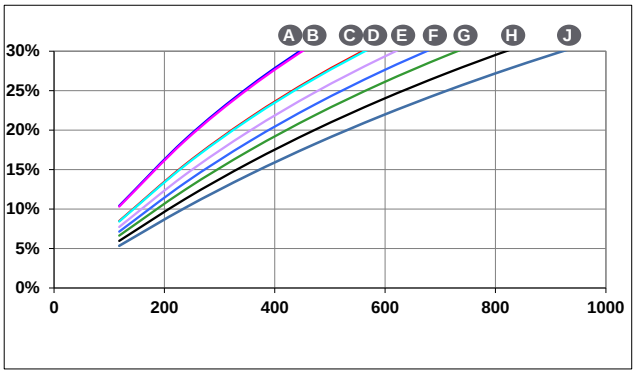
Load shedding (SHUNT) - kVA at 0.8 P.F.



Load shedding (AREP) - kVA at 0.8 P.F.



Motor starting (SHUNT) - Locked rotor kVA at 0.6 P.F.

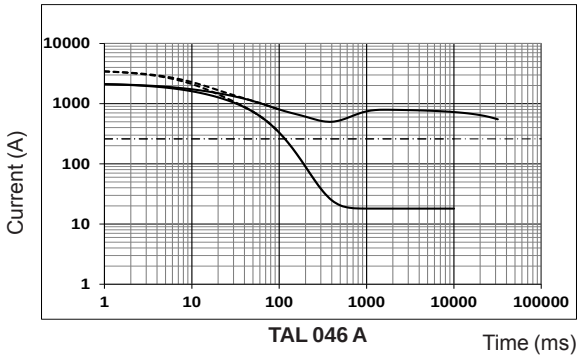


Motor starting (AREP) - Locked rotor kVA at 0.6 P.F.

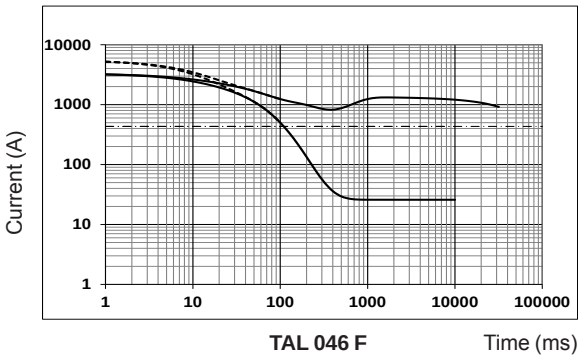
TAL 046 - 180 to 410 kVA - 50 Hz / 225 to 512 kVA - 60 Hz

Low Voltage Alternators - 4 pole

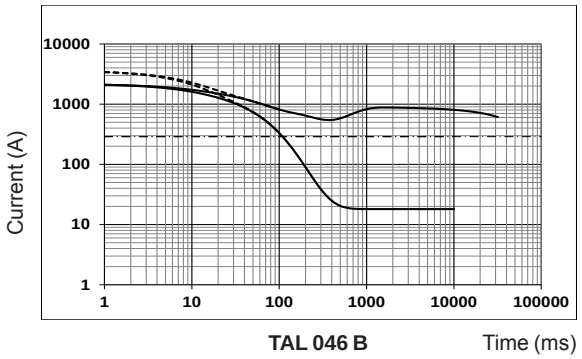
3-phase short-circuit curves at no load and rated speed (star connection Y) - 6 & 12-wire



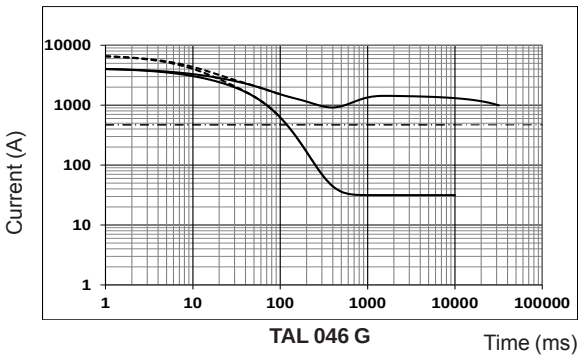
TAL 046 A



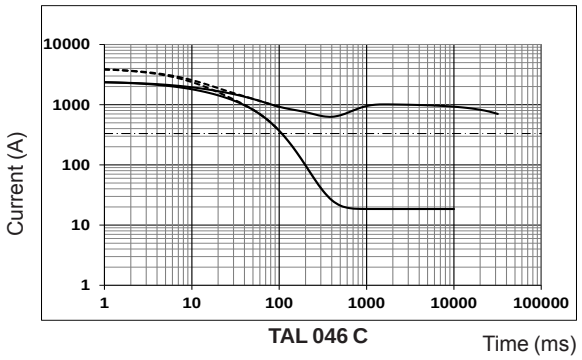
TAL 046 F



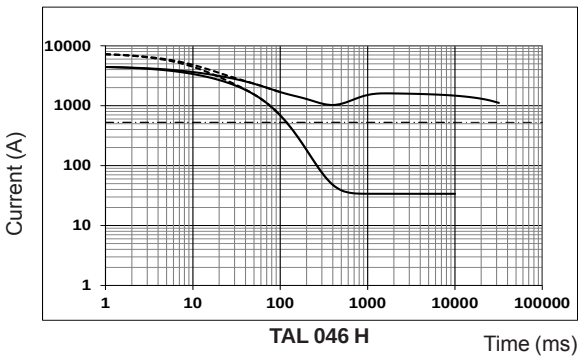
TAL 046 B



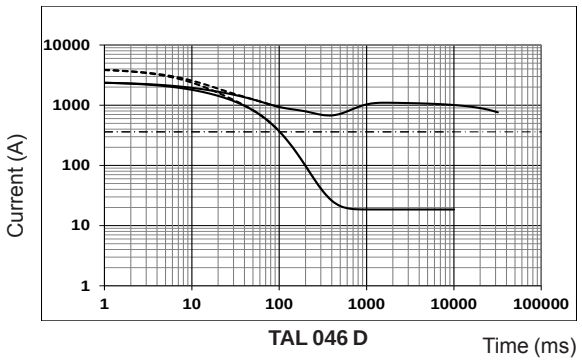
TAL 046 G



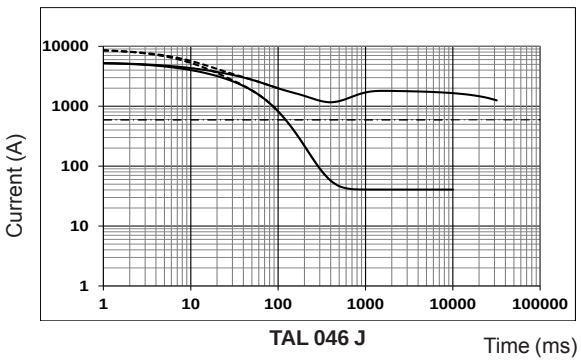
TAL 046 C



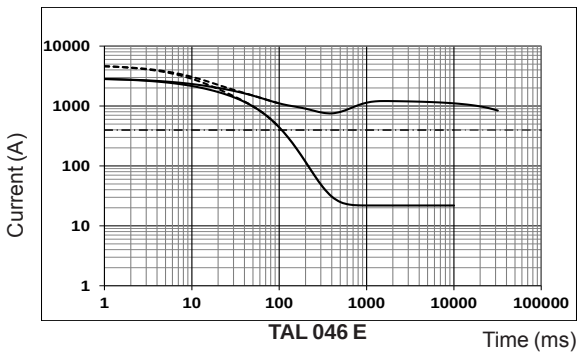
TAL 046 H



TAL 046 D



TAL 046 J



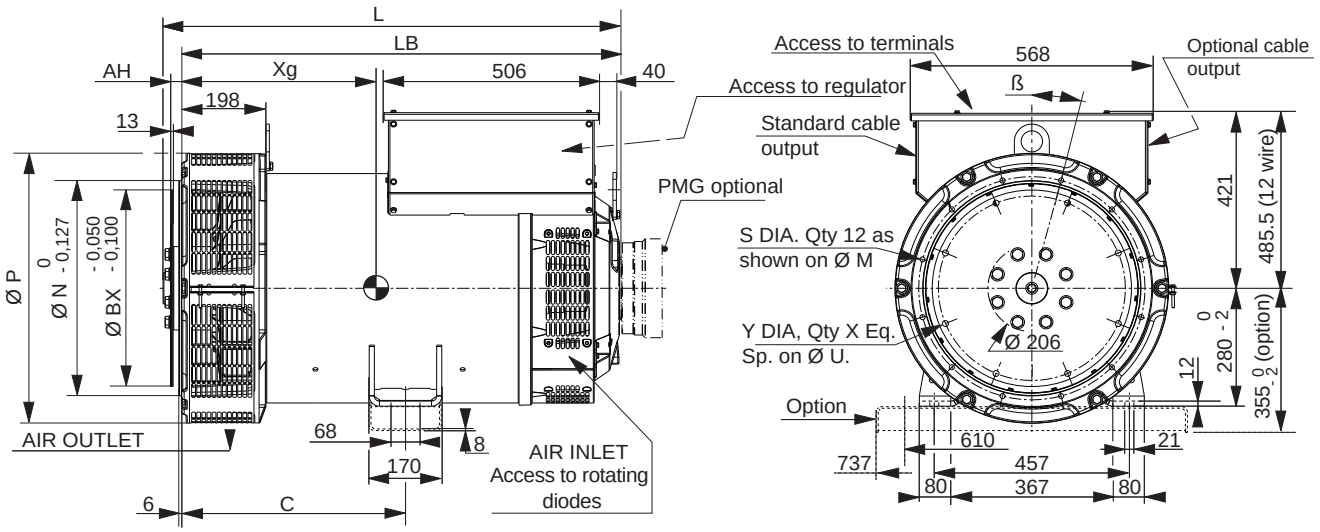
TAL 046 E

Symmetrical _____
Asymmetrical ---------

TAL 046 - 180 to 410 kVA - 50 Hz / 225 to 512 kVA - 60 Hz

Low Voltage Alternators - 4 pole

Single bearing general arrangement - 6 & 12-wire



Dimensions (mm) and weight					
Type	L without PMG	LB	Xg	C	Weight (kg)
TAL 046 A	944**/935	892	408	429	569
TAL 046 B	944**/935	892	414	429	599
TAL 046 C	944**/935	892	423	429	674
TAL 046 D	944**/935	892	423	429	682
TAL 046 E	989**/980	937	445	429	754
TAL 046 F	989**/980	937	445	429	754
TAL 046 G*	1084**/1075	1032	493	525	888
TAL 046 H*	1084**/1075	1032	493	525	888
TAL 046 J***	-	-	-	-	-

Coupling			
Flex plate	11 1/2	14	18
Flange S.A.E 3	X		
Flange S.A.E 2	X		
Flange S.A.E 1	X	X	
Flange S.A.E 1/2		X	
Flange S.A.E 0		X	X

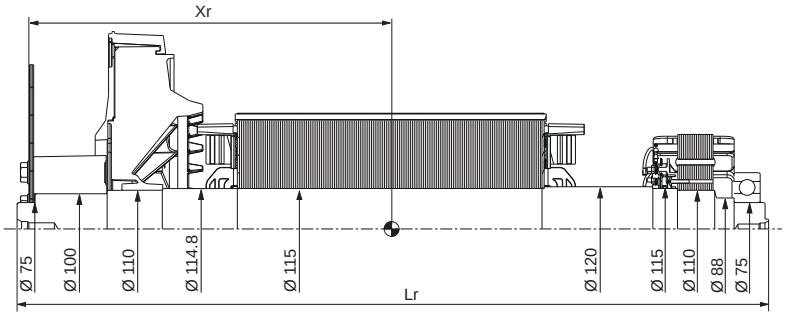
* Shaft height = 355 mm optional
** Dimensions with SAE 11 1/2
*** Available soon (please order TAL 047 A)

Flange (mm)					
S.A.E.	P	N	M	S	ß °
3	641	409.575	428.625	11	15°
2	641	447.675	466.725	11	15°
1	641 (713 : J)	511.175	530.225	12	15°
1/2	713	584.2	619.125	14	15°
0	713	647.7	679.45	14	11° 15'

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

**** Optional

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				Flex plate S.A.E. 14			
Type	Xr	Lr	M	J	Xr	Lr	M	J
TAL 046 A	413	923	243	2.46	401	923	244	2.62
TAL 046 B	413	923	243	2.46	401	923	244	2.62
TAL 046 C	420	923	255	2.64	408	923	256	2.8
TAL 046 D	420	923	255	2.64	408	923	256	2.8
TAL 046 E	460	968	304	3.28	448	968	305	3.44
TAL 046 F	460	968	304	3.28	448	968	305	3.44
TAL 046 G	508	1063	358	3.97	497	1063	359	4.13
TAL 046 H	508	1063	358	3.97	497	1063	359	4.13
TAL 046 J***	-	-	-	-	-	-	-	-

***Available soon (please order TAL 047 A)

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.

TAL 047 - 410 to 660 kVA - 50 Hz / 570 to 825 kVA - 60 Hz

Low Voltage Alternators - 4 pole

General characteristics - 6 & 12-wire

Insulation class	H
Winding pitch	2/3 (Winding 6 or 6S)
Number of wires	6 or 12
Protection	IP 23
Altitude	≤ 1000 m
Overspeed	2250 R.P.M.
Air flow (m^3/s)	0.9
Air flow (m^3/s)	1.1

Excitation system 6 wire	SHUNT	AREP / PMG
AVR type	R150	R180
Excitation system 12 wire	SHUNT	AREP / PMG
AVR type	R250	R180
Voltage regulation (*)	± 1 %	
Total Harmonic distortion THD (**) in no-load	< 3.5 %	
Total Harmonic distortion THD (**) in linear load	< 5 %	
Waveform: NEMA = TIF (**)	< 50	
Waveform: I.E.C. = THF (**)	< 2%	

(*) 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	415V	440V
Δ		220V	230V	240V		220V	230V	240V		220V	230V	240V		220V	230V	240V	
YY					220V				220V				220V				220V
TAL 047 A	kVA	390	**410**	410	385	355	**375**	375	350	415	**435**	435	410	430	**450**	450	425
	kW	*310*	*330*	*330*	*310*	*285*	*300*	*300*	*280*	*330*	*350*	*350*	*330*	*345*	*360*	*360*	*340*
TAL 047 B	kVA	430	**455**	455	430	390	**415**	415	390	455	**480**	480	455	475	**500**	500	475
	kW	*345*	*365*	*365*	*345*	*315*	*330*	*330*	*315*	*365*	*385*	*385*	*365*	*380*	*400*	*400*	*380*
TAL 047 C	kVA	475	**500**	500	460	430	**455**	455	420	505	**530**	530	490	525	**550**	550	505
	kW	*380*	*400*	*400*	*370*	*345*	*365*	*365*	*335*	*405*	*425*	*425*	*390*	*420*	*440*	*440*	*405*
TAL 047 D	kVA	525	**550**	550	535	480	**500**	500	485	555	**585**	585	565	580	**605**	605	590
	kW	*420*	*440*	*440*	*430*	*380*	*400*	*400*	*390*	*445*	*465*	*465*	*455*	*460*	*485*	*485*	*470*
TAL 047 E	kVA	585	**600**	600	570	530	**545**	545	520	620	**635**	635	605	645	**660**	660	625
	kW	*470*	*480*	*480*	*455*	*425*	*435*	*435*	*415*	*495*	*510*	*510*	*485*	*515*	*530*	*530*	*500*
TAL 047 F	kVA	645	**660**	660	620	585	**600**	600	565	685	**700**	700	655	710	**725**	725	680
	kW	*515*	*530*	*530*	*495*	*470*	*480*	*480*	*450*	*545*	*560*	*560*	*525*	*570*	*580*	*580*	*545*

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

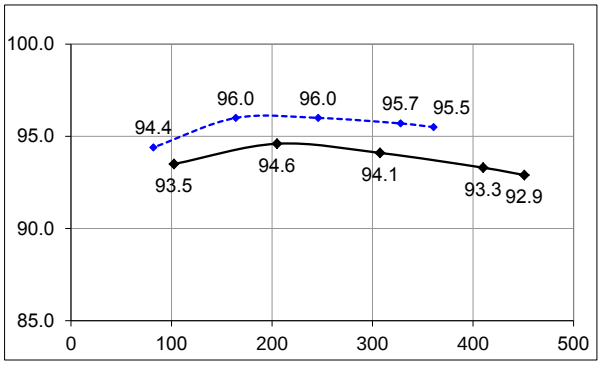
kVA / kW - P.F. = 0.8

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	440V	480V
Δ		220V	240V	240V		220V	240V	240V		220V	240V	240V		220V	240V	240V	
YY			208V	220V	240V		208V	220V	240V		208V	220V	240V		208V	220V	240V
TAL 047 A	kVA	450	480	500	**512**	396	442	442	**465**	475	513	533	**550**	500	530	550	**581**
	kW	*360*	*384*	*400*	*410*	*317*	*354*	*354*	*372*	*380*	*410*	*426*	*440*	*400*	*424*	*440*	*465*
TAL 047 B	kVA	475	510	531	**570**	441	473	493	**518**	503	543	566	**592**	527	562	585	**625**
	kW	*380*	*408*	*425*	*456*	*353*	*378*	*394*	*414*	*402*	*434*	*453*	*474*	*422*	*450*	*468*	*500*
TAL 047 C	kVA	520	555	590	**625**	473	505	537	**569**	551	588	625	**663**	570	610	650	**690**
	kW	*416*	*444*	*472*	*500*	*379*	*404*	*430*	*455*	*441*	*471*	*500*	*530*	*455*	*490*	*520*	*550*
TAL 047 D	kVA	562	610	630	**690**	523	566	587	**632**	600	651	672	**729**	615	671	695	**750**
	kW	*450*	*488*	*504*	*552*	*418*	*453*	*470*	*506*	*480*	*521*	*538*	*583*	*490*	*537*	*555*	*600*
TAL 047 E	kVA	602	661	685	**750**	556	609	634	**675**	643	707	734	**780**	660	725	755	**825**
	kW	*482*	*529*	*548*	*600*	*445*	*487*	*507*	*540*	*514*	*566*	*587*	*624*	*528*	*580*	*605*	*660*
TAL 047 F	kVA	650	715	755	**825**	592	650	687	**750**	689	758	800	**875**	720	785	830	**910**
	kW	*526*	*572*	*604*	*660*	*474*	*496*	*550*	*600*	*551*	*607*	*640*	*700*	*576*	*628*	*664*	*728*

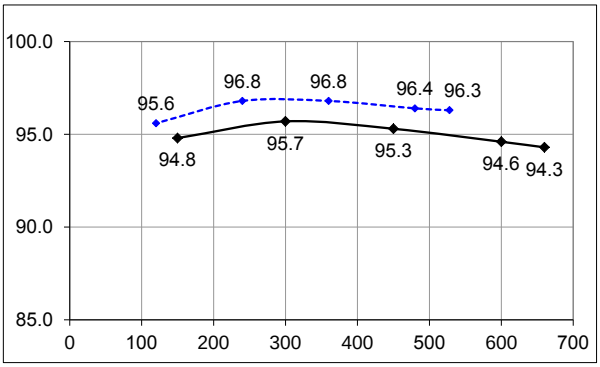
TAL 047 - 410 to 660 kVA - 50 Hz / 570 to 825 kVA - 60 Hz

Low Voltage Alternators - 4 pole

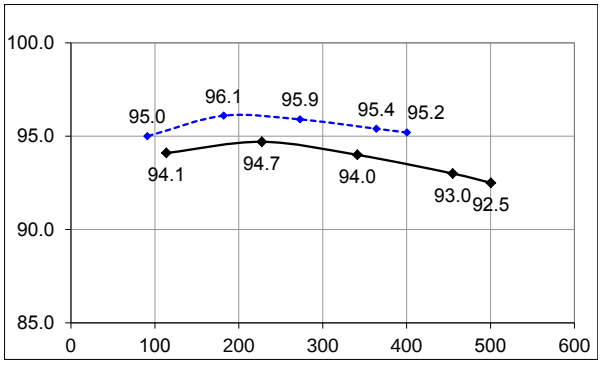
Efficiencies 400 V 50 Hz (— P.F.: 0.8) (····· P.F.: 1) - 6 & 12-wire



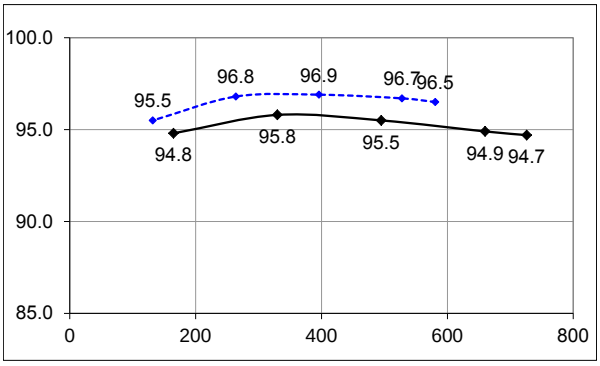
TAL 047 A - 400V 50 Hz



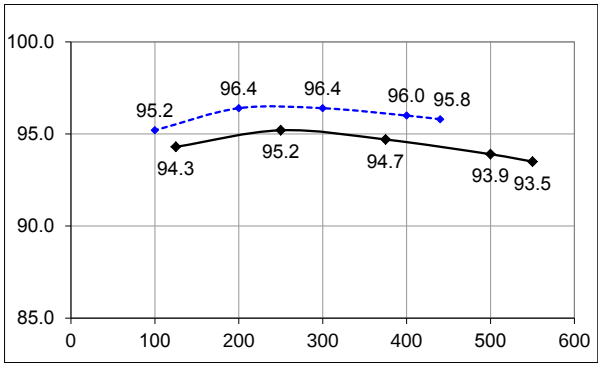
TAL 047 E - 400V 50 Hz



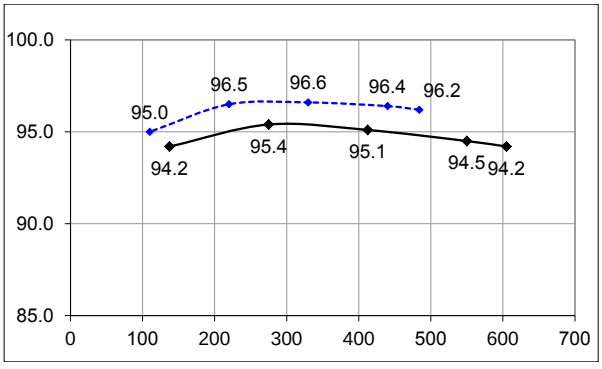
TAL 047 B - 400V 50 Hz



TAL 047 F - 400V 50 Hz



TAL 047 C - 400V 50 Hz

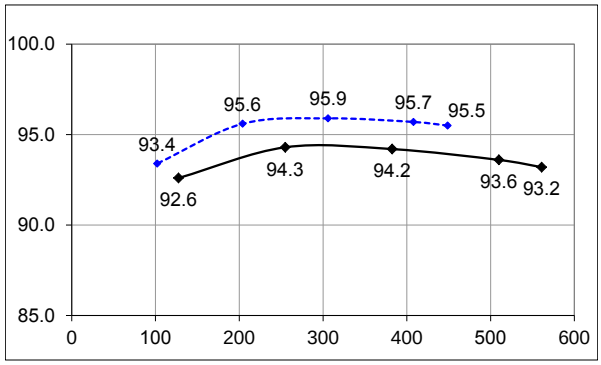


TAL 047 D - 400V 50 Hz

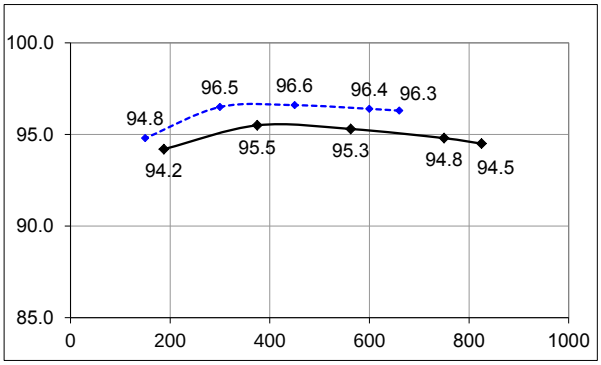
TAL 047 - 410 to 660 kVA - 50 Hz / 570 to 825 kVA - 60 Hz

Low Voltage Alternators - 4 pole

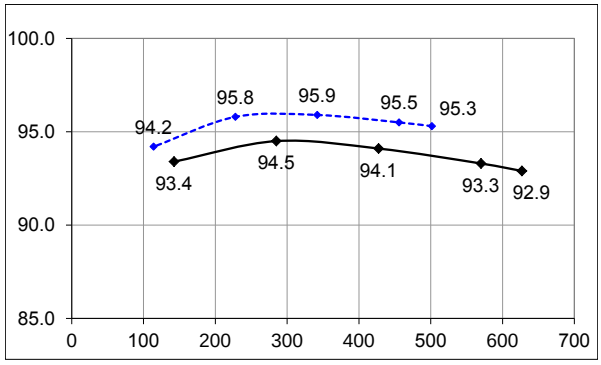
Efficiencies 480 V - 60 Hz (— P.F.: 0.8) (····· P.F.: 1) - 6 & 12-wire



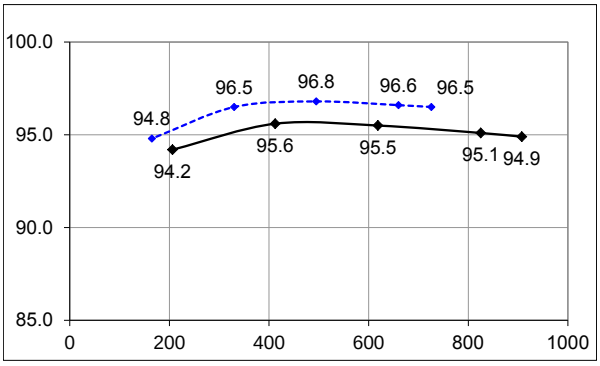
TAL 047 A - 480V 60 Hz



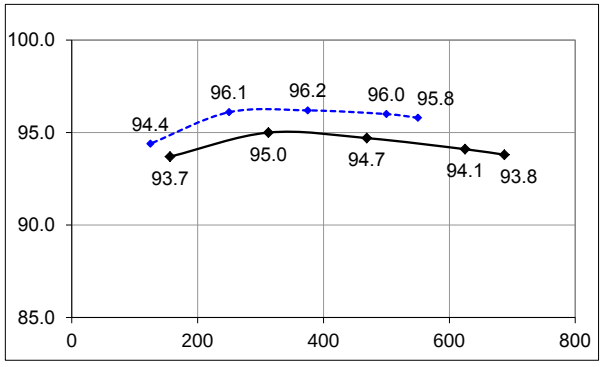
TAL 047 E - 480V 60 Hz



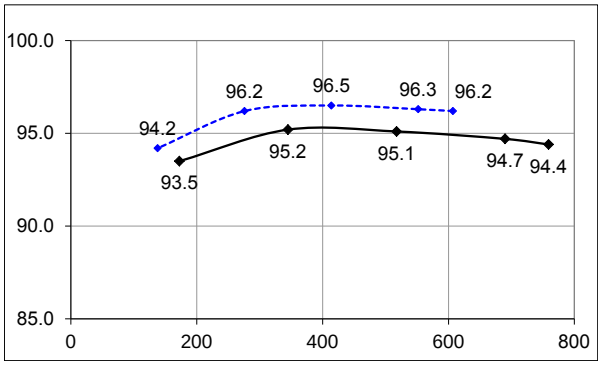
TAL 047 B - 480V 60 Hz



TAL 047 F - 480V 60 Hz



TAL 047 C - 480V 60 Hz



TAL 047 D - 480V 60 Hz

TAL 047 - 410 to 660 kVA - 50 Hz / 570 to 825 kVA - 60 Hz

Low Voltage Alternators - 4 pole

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

		A	B	C	D	E	F
Kcc	Short-circuit ratio	0.35	0.28	0.31	0.39	0.32	0.36
Xd	Direct-axis synchro. reactance unsaturated	347	410	372	310	361	328
Xq	Quadrature-axis synchro. reactance unsaturated	177	209	189	158	184	167
T'do	No-load transient time constant	1601	1631	1705	1773	1797	1832
X'd	Direct-axis transient reactance saturated	21.6	25.1	21.8	17.5	20	17.9
T'd	Short-circuit transient time constant	100	100	100	100	100	100
X"d	Direct-axis subtransient reactance saturated	15.1	17.6	15.2	12.2	14	12.5
T"d	Subtransient time constant	10	10	10	10	10	10
X"q	Quadrature-axis subtransient reactance saturated	16.6	20.1	19.1	16.5	19.5	18
Xo	Zero sequence reactance unsaturated	0.9	1.04	0.9	0.72	0.83	0.74
X2	Negative sequence reactance saturated	15.91	18.88	17.21	14.41	16.8	15.31
Ta	Armature time constant	15	15	15	15	15	15
Other class H / 400 V data							
io (A)	No-load excitation current SHUNT/AREP	0.97	0.85	0.87	0.97	0.85	0.93
ic (A)	On-load excitation current SHUNT/AREP	4.23	4.39	4.06	3.8	3.89	3.87
uc (V)	On-load excitation voltage SHUNT/AREP	44.1	45.7	42.2	39.4	40.3	40.1
ms	Response time (ΔU = 20% transient)	500	500	500	500	500	500
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) SHUNT*	615.3	705	750	825	900	990
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) AREP*	739	844.3	900	990.4	1080.4	1188.4
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 $_{LAG}$	20.1	19.5	20	20	20	20
%	Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 $_{LAG}$	17.5	17.1	17.5	17.5	17.5	17.5
W	No-load losses	4261	4004	4376	5192	4831	5487
W	Heat dissipation	23446	27263	25923	25409	27042	27875

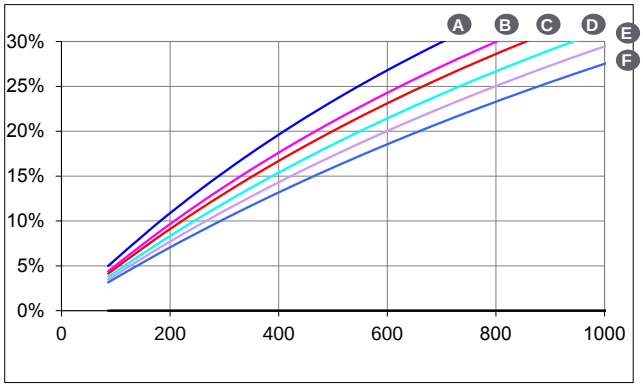
* P.F. = 0.6

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

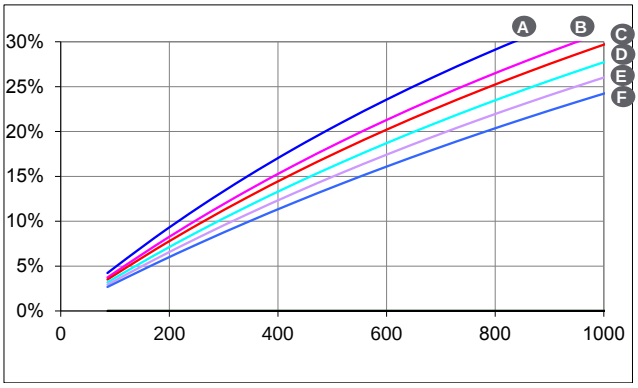
		A	B	C	D	E	F
Kcc	Short-circuit ratio	0.34	0.27	0.3	0.37	0.3	0.35
Xd	Direct-axis synchro. reactance unsaturated	359	428	387	324	376	342
Xq	Quadrature-axis synchro. reactance unsaturated	183	218	197	165	191	174
T'do	No-load transient time constant	1601	1631	1705	1773	1797	1832
X'd	Direct-axis transient reactance saturated	22.4	26.2	22.7	18.3	20.9	18.6
T'd	Short-circuit transient time constant	100	100	100	100	100	100
X"d	Direct-axis subtransient reactance saturated	15.7	18.4	15.9	12.8	14.6	13
T"d	Subtransient time constant	10	10	10	10	10	10
X"q	Quadrature-axis subtransient reactance saturated	17.2	21	19.9	17.3	20.3	18.8
Xo	Zero sequence reactance unsaturated	0.93	1.09	0.94	0.76	0.87	0.77
X2	Negative sequence reactance saturated	16.5	19.71	17.92	15.07	17.5	15.95
Ta	Armature time constant	15	15	15	15	15	15
Other class H / 480 V data							
io (A)	No-load excitation current SHUNT/AREP	0.97	0.85	0.87	0.97	0.85	0.93
ic (A)	On-load excitation current SHUNT/AREP	4.31	4.51	4.15	3.88	3.97	3.94
uc (V)	On-load excitation voltage SHUNT/AREP	45.1	47.1	43.3	40.5	41.3	41
ms	Response time (ΔU = 20% transient)	500	500	500	500	500	500
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) SHUNT*	765.4	880	940	1085	1125	1240
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) AREP*	919.3	1057.7	1125	1242.5	1350.5	1485.6
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 $_{LAG}$	20.1	20	19.5	20	20	20
%	Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 $_{LAG}$	17.5	17.1	17.5	17.5	17.5	17.5
W	No-load losses	6583	6247	6766	7888	7408	8312
W	Heat dissipation	27873	32539	31057	30808	32559	33674

* P.F. = 0.6

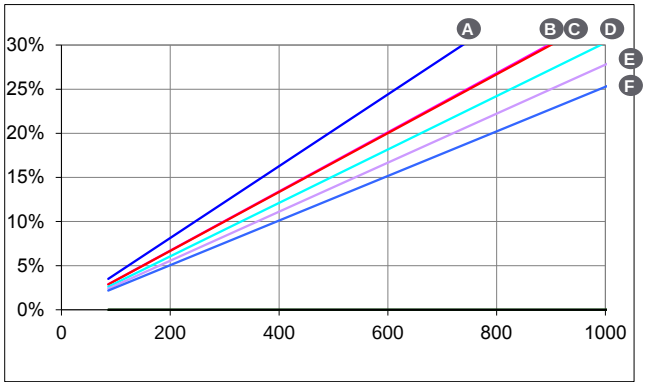
Transient voltage variation 400 V - 50 Hz - 6 & 12-wire



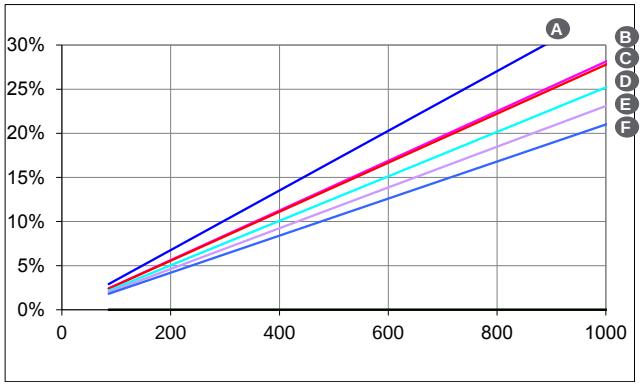
Phase loading (SHUNT) - kVA at 0.8 P.F.



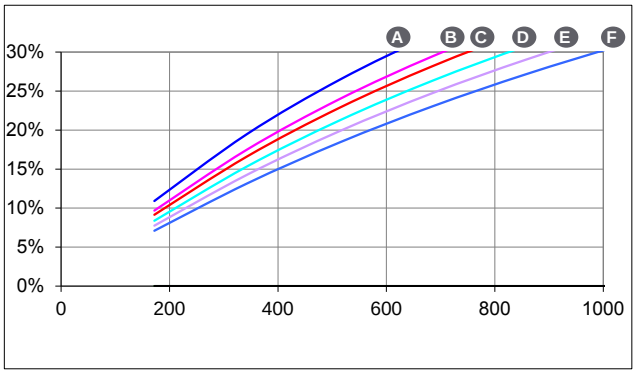
Phase loading (AREP) - kVA at 0.8 P.F.



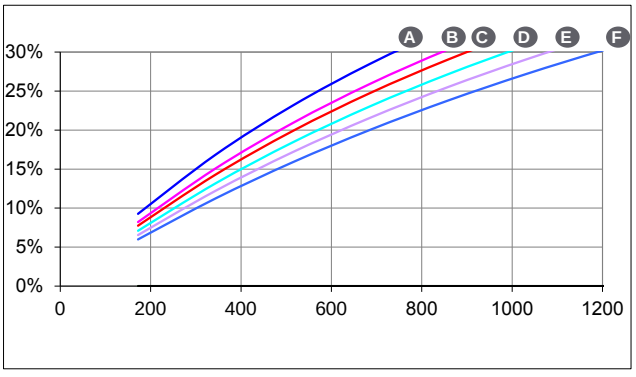
Load shedding (SHUNT) - kVA at 0.8 P.F.



Load shedding (AREP) - kVA at 0.8 P.F.

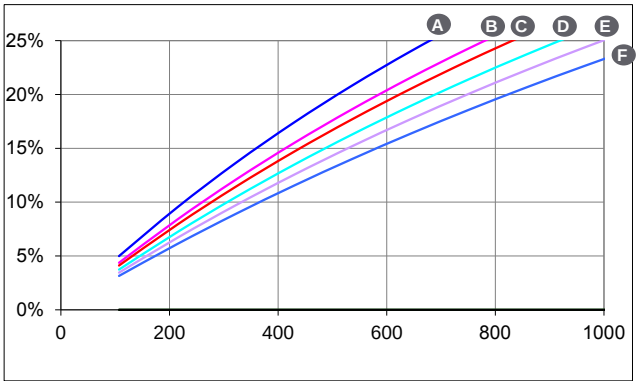


Motor starting (SHUNT) - Locked rotor kVA at 0.6 P.F.

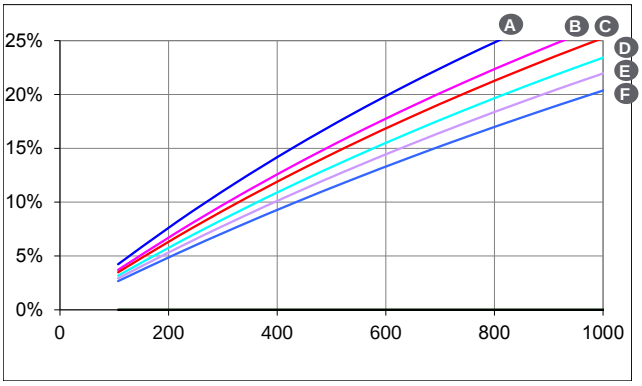


Motor starting (AREP) - Locked rotor kVA at 0.6 P.F.

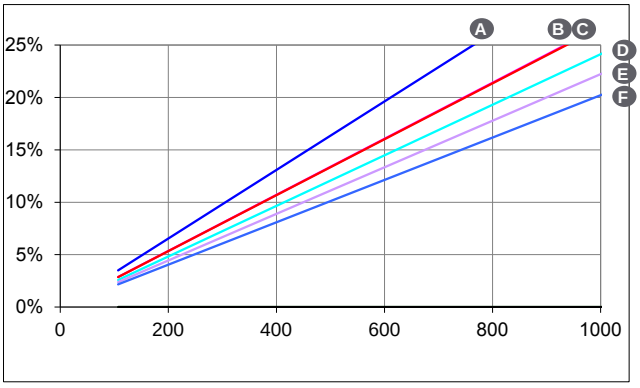
Transient voltage variation 480 V - 60 Hz - 6 & 12-wire



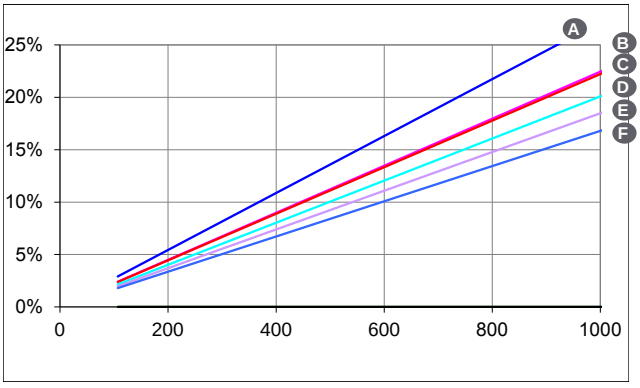
Phase loading (SHUNT) - kVA at 0.8 P.F.



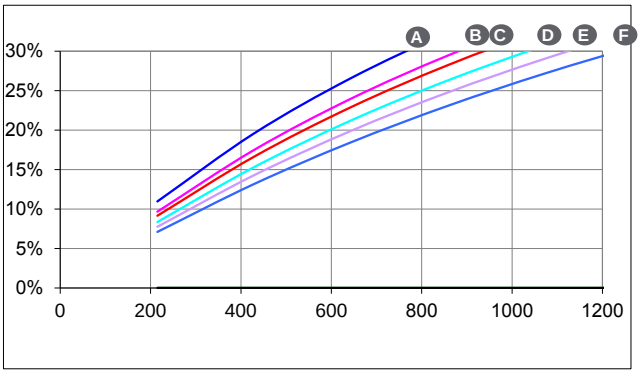
Phase loading (AREP) - kVA at 0.8 P.F.



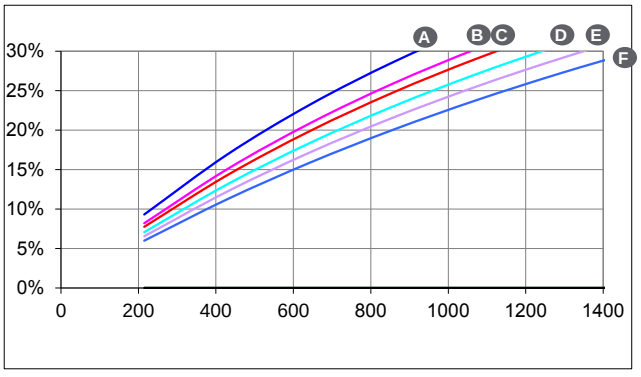
Load shedding (SHUNT) - kVA at 0.8 P.F.



Load shedding (AREP) - kVA at 0.8 P.F.



Motor starting (SHUNT) - Locked rotor kVA at 0.6 P.F.

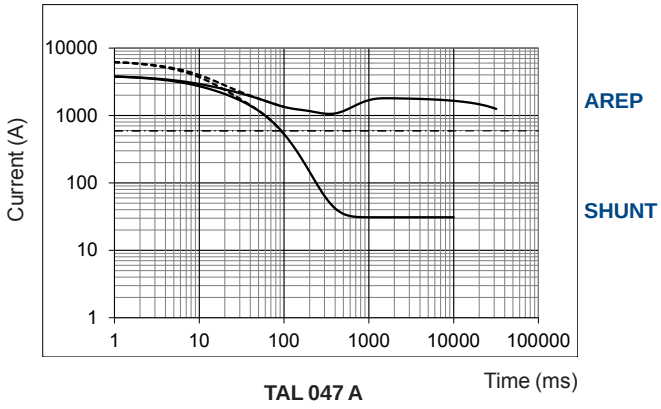


Motor starting (AREP) - Locked rotor kVA at 0.6 P.F.

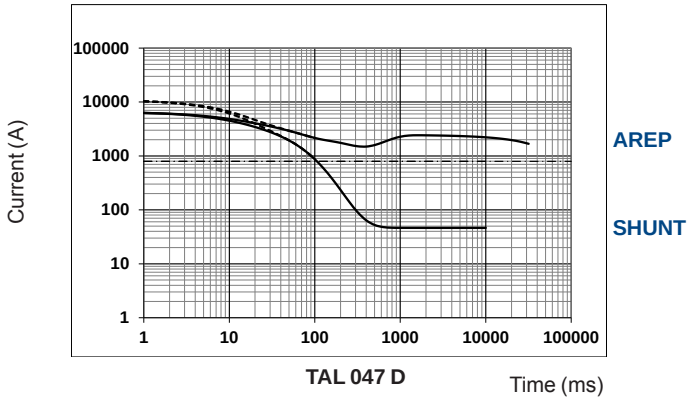
TAL 047 - 410 to 660 kVA - 50 Hz / 570 to 825 kVA - 60 Hz

Low Voltage Alternators - 4 pole

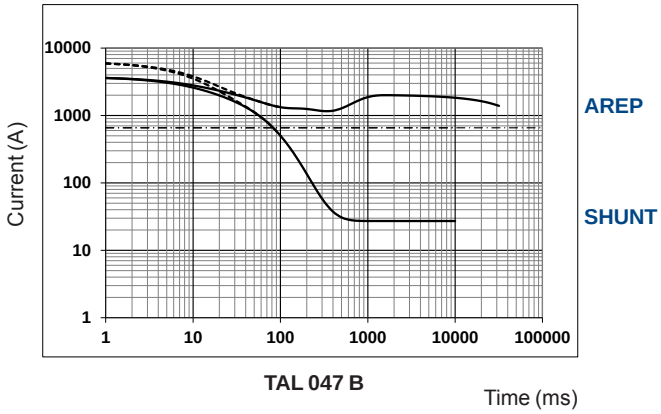
3-phase short-circuit curves at no load and rated speed (star connection Y) - 6 & 12-wire



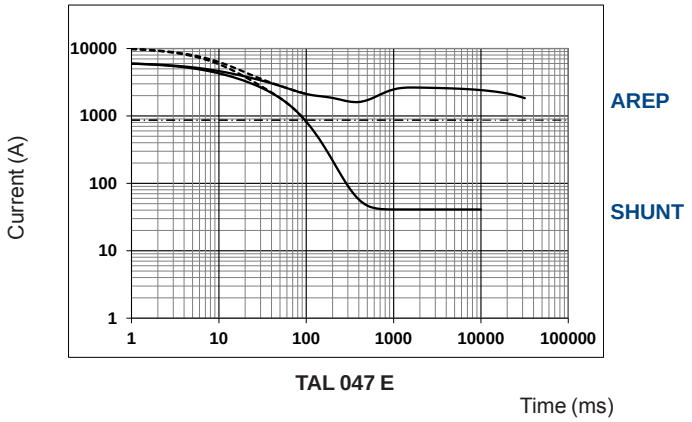
TAL 047 A



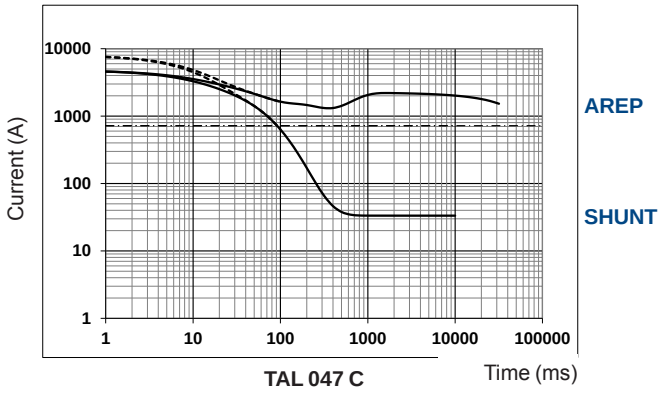
TAL 047 D



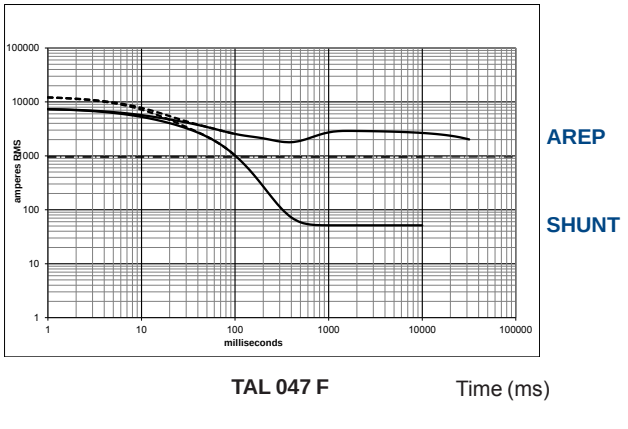
TAL 047 B



TAL 047 E



TAL 047 C

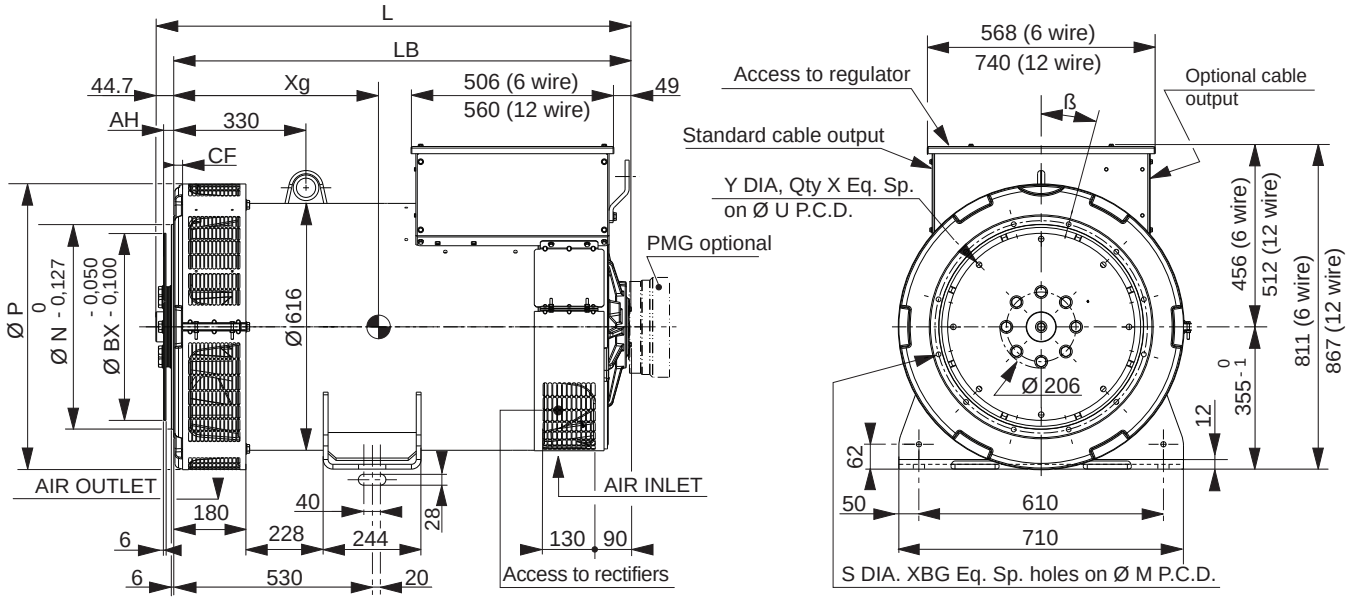


TAL 047 F

TAL 047 - 410 to 660 kVA - 50 Hz / 570 to 825 kVA - 60 Hz

Low Voltage Alternators - 4 pole

Single bearing general arrangement - 6 & 12-wire



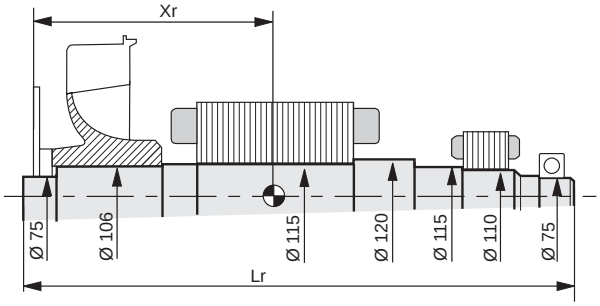
Dimensions (mm) and weight				
Type	L without PMG	LB	Xg	Weight (kg)
TAL 047 A	1041	996	437	976
TAL 047 B	1101	1056	471	1113
TAL 047 C	1101	1056	471	1113
TAL 047 D	1201	1156	511	1240
TAL 047 E	1201	1176	520	1289
TAL 047 F	1221	1176	545	1372

Coupling			
Flex plate	14	18	
Flange S.A.E 1	X		
Flange S.A.E 1/2	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. 14				Flex plate S.A.E. 18			
Type	Xr	Lr	M	J	Xr	Lr	M	J
TAL 047 A	418.3	1020	374.9	5.92	408.5	1020	376	6.18
TAL 047 B	456	1080	426.6	6.77	446	1080	427.7	7.03
TAL 047 C	456	1080	426.6	6.77	446	1080	427.7	7.03
TAL 047 D	496	1180	477	7.5	486	1180	478.1	7.76
TAL 047 E	507	1180	493.8	7.8	497	1180	494.9	8.06
TAL 047 F	528	1200	525.2	8.32	518	1200	526.3	8.58

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.

TAL 049 - 730 to 1000 kVA - 50 Hz / 915 to 1250 kVA - 60 Hz

Low Voltage Alternators - 4 pole

General characteristics - 6 & 12-wire

Insulation class	H
Winding pitch	2/3 (Winding 6S or 6)
Number of wires	6 or 12
Protection	IP 23
Altitude	≤ 1000 m
Overspeed	2250 R.P.M.
Air flow (m^3/s)	1
Air flow (m^3/s)	1.2

Excitation system 6 wire	SHUNT	AREP / PMG
AVR type	R150	R180
Excitation system 12 wire	SHUNT	AREP / PMG
AVR type	R250	R180
Voltage regulation (*)	± 1 %	
Total Harmonic distortion THD (**) in no-load	< 3.5 %	
Total Harmonic distortion THD (**) in linear load	< 5 %	
Waveform: NEMA = TIF (**)	< 50	
Waveform: I.E.C. = THF (**)	< 2%	

(*) 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	415V	440V
Δ		220V	230V	240V		220V	230V	240V		220V	230V	240V		220V	230V	240V	
YY					220V				220V				220V				220V
TAL 049 B	kVA	-	**730**	-	665	-	**660**	-	600	-	**780**	-	730	-	**805**	-	765
	kW	-	*584*	-	*532*	-	*528*	-	*480*	-	*624*	-	*584*	-	*644*	-	*612*
TAL 049 C	kVA	-	**820**	-	810	-	**760**	-	710	-	**910**	-	885	-	**910**	-	925
	kW	-	*656*	-	*648*	-	*608*	-	*568*	-	*728*	-	*708*	-	*728*	-	*740*
TAL 049 D	kVA	-	**910**	-	820	-	**820**	-	740	-	**1000**	-	920	-	**1010**	-	965
	kW	-	*728*	-	*656*	-	*656*	-	*592*	-	*800*	-	*736*	-	*808*	-	*772*
TAL 049 E	kVA	-	**1000**	-	950	-	**900**	-	840	-	**1085**	-	1030	-	**1130**	-	1080
	kW	-	*800*	-	*760*	-	*720*	-	*672*	-	*868*	-	*824*	-	*904*	-	*864*

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

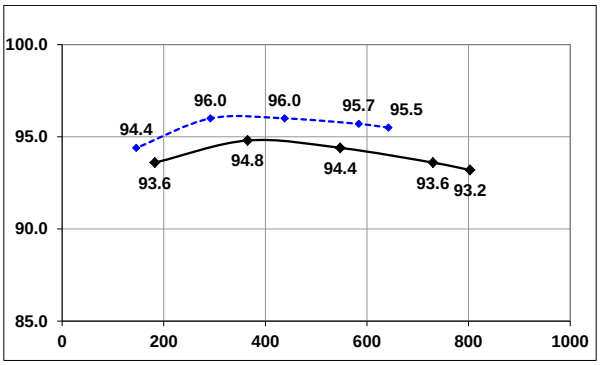
kVA / kW - P.F. = 0.8

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	440V	480V
Δ		220V	240V			220V	240V			220V	240V			220V	240V		
YY			208V	220V	240V		208V	220V	240V		208V	220V	240V		208V	220V	240V
TAL 049 B	kVA	725	795	840	**915**	655	715	760	**825**	770	845	890	**970**	800	875	925	**1005**
	kW	*580*	*636*	*672*	*732*	*524*	*572*	*608*	*660*	*616*	*676*	*712*	*776*	*640*	*700*	*740*	*804*
TAL 049 C	kVA	815	890	940	**1025**	735	805	850	**925**	865	945	1000	**1090**	895	980	1040	**1130**
	kW	*652*	*712*	*752*	*820*	*588*	*644*	*680*	*740*	*692*	*756*	*800*	*872*	*716*	*784*	*832*	*904*
TAL 049 D	kVA	905	990	1045	**1140**	815	895	940	**1025**	960	1050	1110	**1210**	1000	1090	1155	**1255**
	kW	*724*	*792*	*836*	*912*	*652*	*716*	*752*	*820*	*768*	*840*	*888*	*968*	*800*	*872*	*924*	*1004*
TAL 049 E	kVA	990	1083	1146	**1250**	891	975	1031	**1125**	1049	1148	1215	**1325**	1089	1192	1260	**1375**
	kW	*792*	*866*	*917*	*1000*	*713*	*780*	*825*	*900*	*839*	*918*	*972*	*1060*	*871*	*954*	*1008*	*1100*

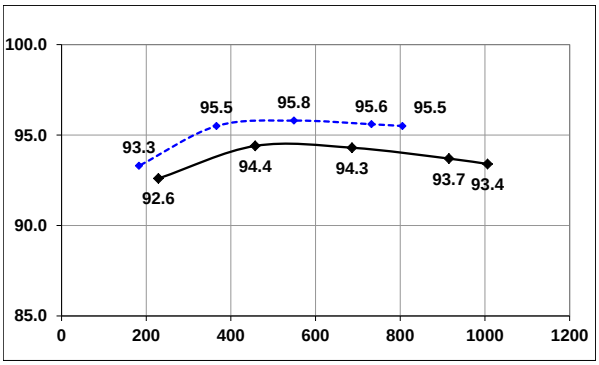
TAL 049 - 730 to 1000 kVA - 50 Hz / 915 to 1250 kVA - 60 Hz

Low Voltage Alternators - 4 pole

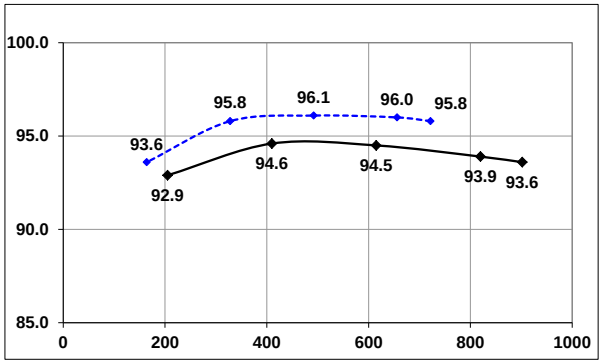
Efficiencies 400 V 50 Hz & 480 V - 60 Hz (— P.F.: 0.8) (····· P.F.: 1) - 6 & 12-wire



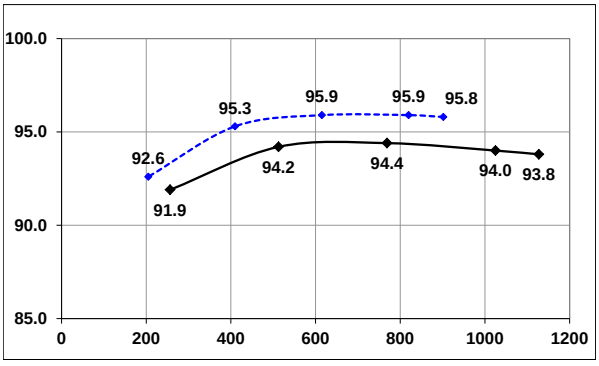
TAL 049 B - 400V 50 Hz



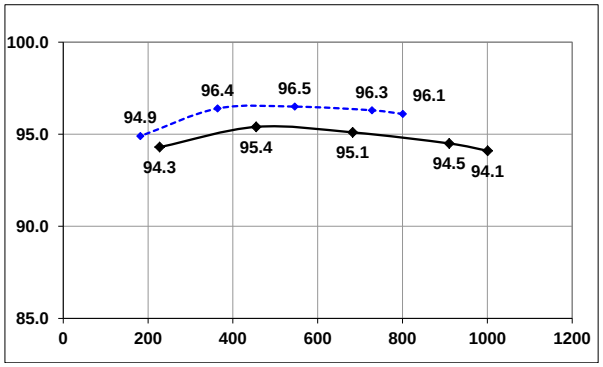
TAL 049 B - 480V 60 Hz



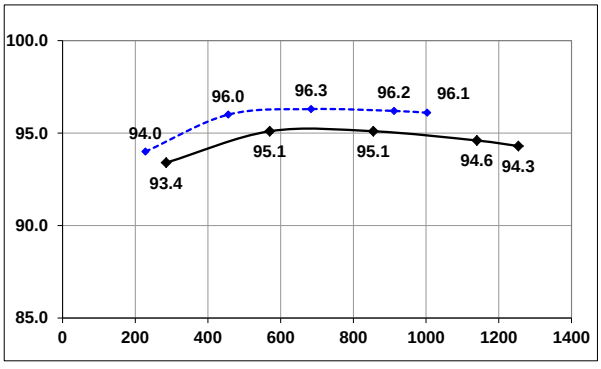
TAL 049 C - 400V 50 Hz



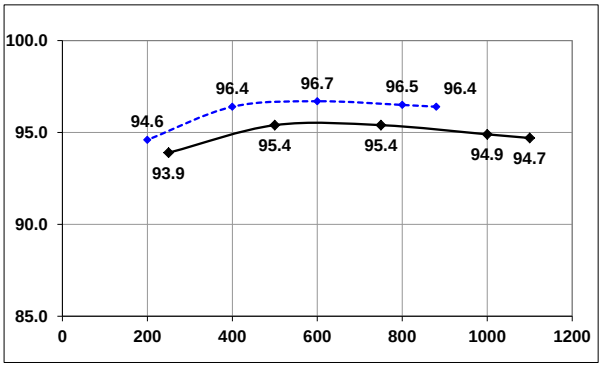
TAL 049 C - 480V 60 Hz



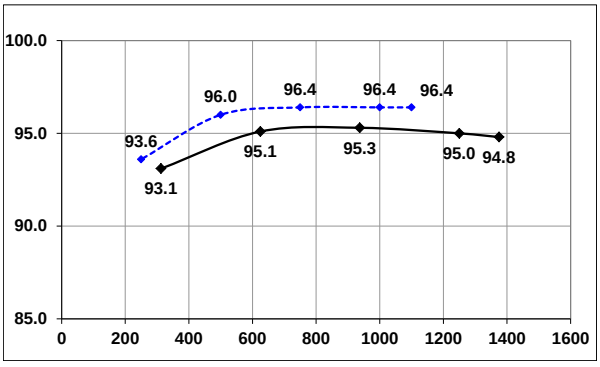
TAL 049 D - 400V 50 Hz



TAL 049 D - 480V 60 Hz



TAL 049 E - 400V 50 Hz



TAL 049 E - 480V 60 Hz

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

		B	C	D	E
Kcc	Short-circuit ratio	0.28	0.37	0.28	0.38
Xd	Direct-axis synchro. reactance unsaturated	403	330	402	348
Xq	Quadrature-axis synchro. reactance unsaturated	205	168	205	177
T'do	No-load transient time constant	2028	2074	2108	2153
X'd	Direct-axis transient reactance saturated	19.8	15.9	19	16.1
T'd	Short-circuit transient time constant	100	100	100	100
X"d	Direct-axis subtransient reactance saturated	15.9	12.7	15.2	12.9
T"d	Subtransient time constant	10	10	10	10
X"q	Quadrature-axis subtransient reactance saturated	18.3	14.4	16.9	14.1
Xo	Zero sequence reactance unsaturated	0.82	0.66	0.79	0.67
X2	Negative sequence reactance saturated	17.12	13.59	16.11	13.53
Ta	Armature time constant	15	15	15	15

Other class H / 400 V data

io (A)	No-load excitation current SHUNT/AREP	0.81	1.13	0.83	1.01
ic (A)	On-load excitation current SHUNT/AREP	4.15	4.75	4.15	3.92
uc (V)	On-load excitation voltage SHUNT/AREP	47.1	53.8	46.9	44.2
ms	Response time (ΔU = 20% transient)	500	500	500	500
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) SHUNT*	1095.5	1230.6	1365.7	1500.7
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) AREP*	1315	1475	1640	1800
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 $_{LAG}$	20.1	20.1	20.1	20.1
%	Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 $_{LAG}$	17.5	17.5	17.5	17.5
W	No-load losses	7774	10303	8702	10583
W	Heat dissipation	39606	41957	42307	42151

* P.F. = 0.6

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

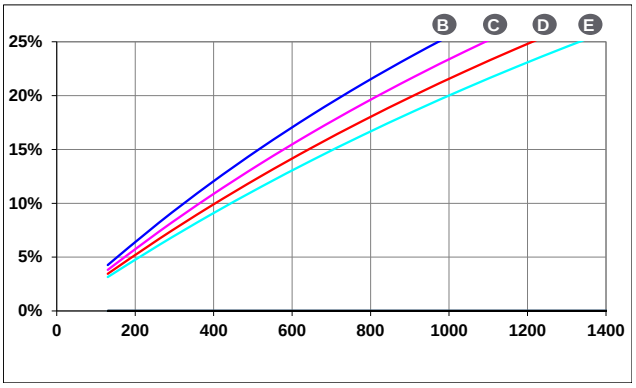
		B	C	D	E
Kcc	Short-circuit ratio	0.27	0.36	0.27	0.36
Xd	Direct-axis synchro. reactance unsaturated	421	344	419	363
Xq	Quadrature-axis synchro. reactance unsaturated	214	175	214	185
T'do	No-load transient time constant	2028	2074	2108	2153
X'd	Direct-axis transient reactance saturated	20.7	16.6	19.9	16.8
T'd	Short-circuit transient time constant	100	100	100	100
X"d	Direct-axis subtransient reactance saturated	16.6	13.2	15.9	13.4
T"d	Subtransient time constant	10	10	10	10
X"q	Quadrature-axis subtransient reactance saturated	19.1	15	17.7	14.7
Xo	Zero sequence reactance unsaturated	0.86	0.69	0.82	0.7
X2	Negative sequence reactance saturated	17.89	14.16	16.82	14.1
Ta	Armature time constant	15	15	15	15

Other class H / 480 V data

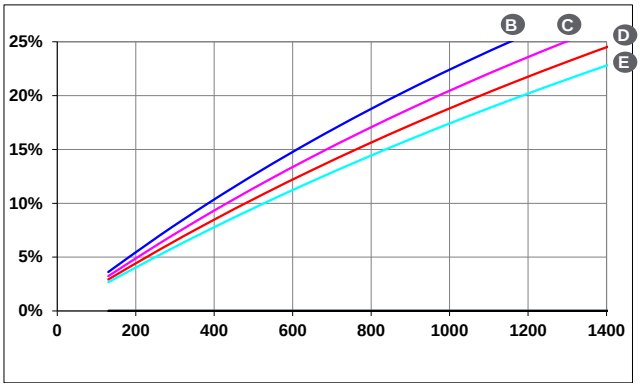
io (A)	No-load excitation current SHUNT/AREP	0.81	1.13	0.82	1.01
ic (A)	On-load excitation current SHUNT/AREP	4.28	4.86	4.26	3.99
uc (V)	On-load excitation voltage SHUNT/AREP	48.6	55.2	48.3	45.2
ms	Response time (ΔU = 20% transient)	500	500	500	500
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) SHUNT*	1373.2	1538.3	1710.9	1875.9
kVA	Start (ΔU = 20% cont. or ΔU = 30% trans.) AREP*	1650	1845	2050	2250
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 $_{LAG}$	20.1	20.1	20.1	20.1
%	Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 $_{LAG}$	17.5	17.5	17.5	17.5
W	No-load losses	12224	15725	13536	16134
W	Heat dissipation	48497	51438	51942	51990

* P.F. = 0.6

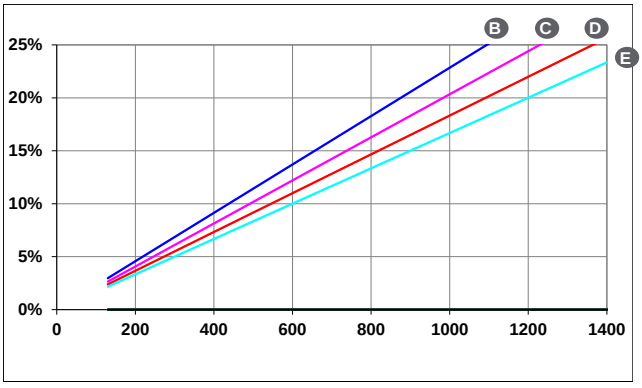
Transient voltage variation 400 V - 50 Hz - 6 & 12-wire



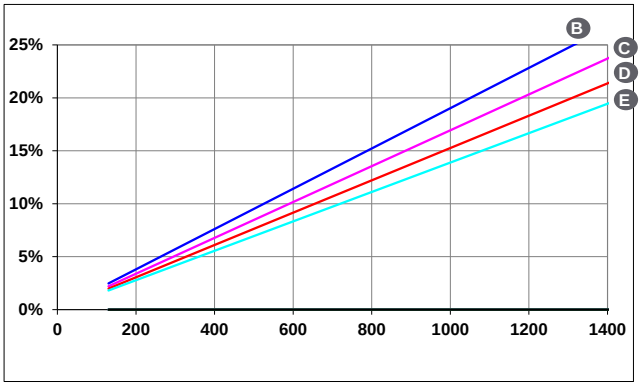
Phase loading (SHUNT) - kVA at 0.8 P.F.



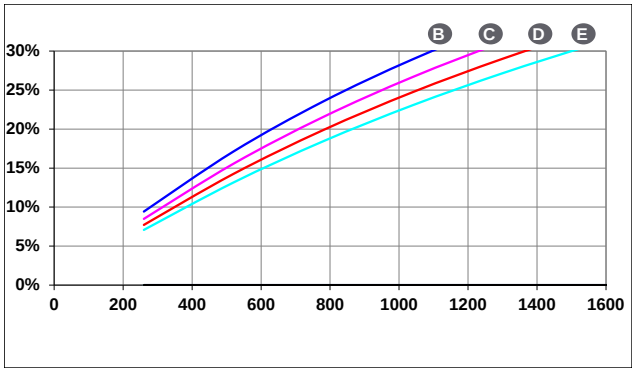
Phase loading (AREP) - kVA at 0.8 P.F.



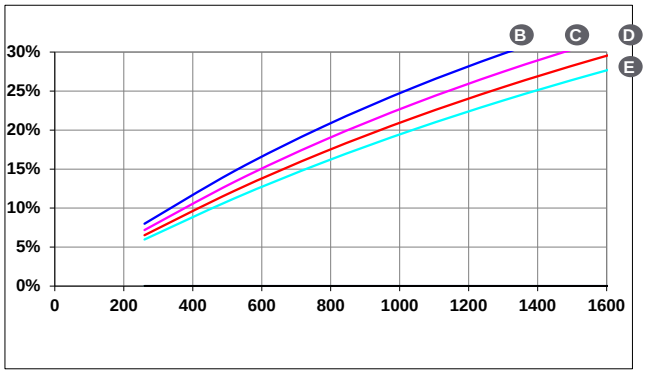
Load shedding (SHUNT) - kVA at 0.8 P.F.



Load shedding (AREP) - kVA at 0.8 P.F.

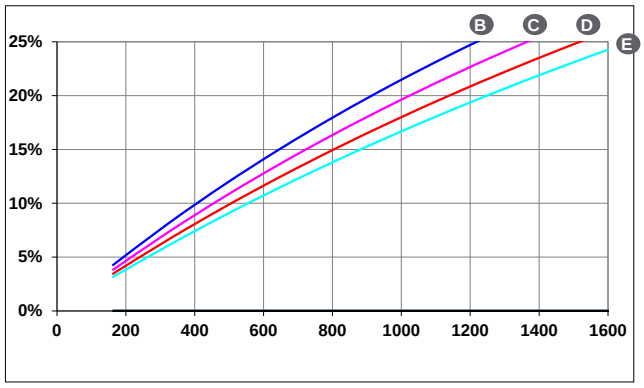


Motor starting (SHUNT) - Locked rotor kVA at 0.6 P.F.

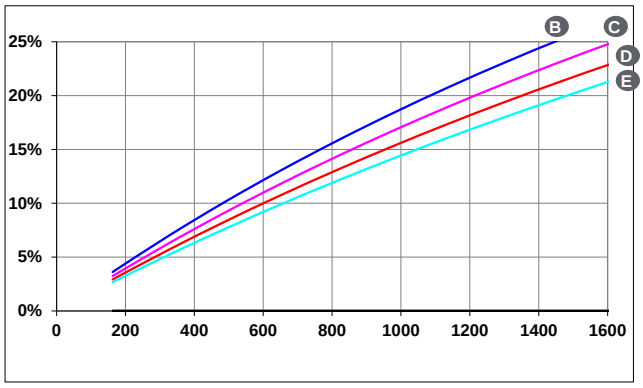


Motor starting (AREP) - Locked rotor kVA at 0.6 P.F.

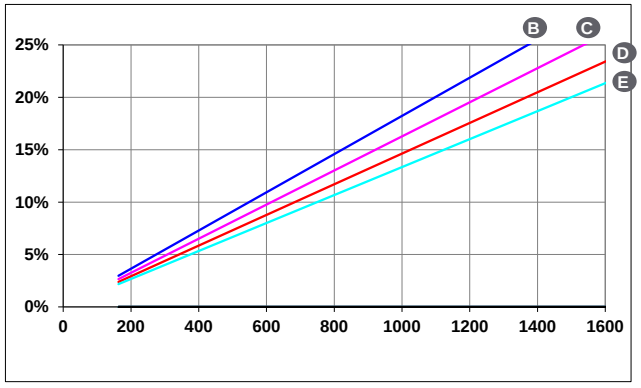
Transient voltage variation 480 V - 60 Hz - 6 & 12-wire



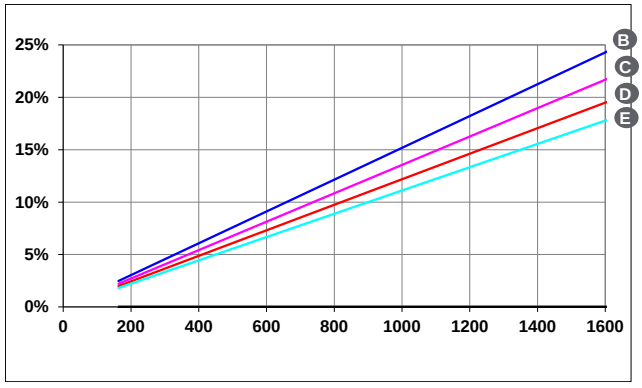
Phase loading (SHUNT) - kVA at 0.8 P.F.



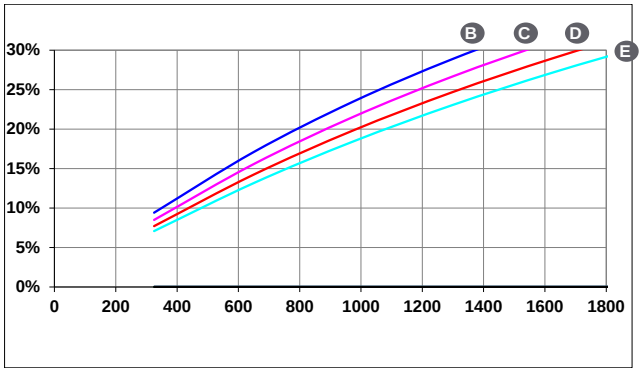
Phase loading (AREP) - kVA at 0.8 P.F.



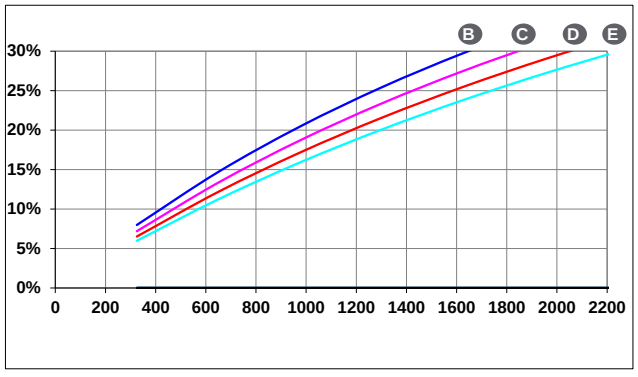
Load shedding (SHUNT) - kVA at 0.8 P.F.



Load shedding (AREP) - kVA at 0.8 P.F.

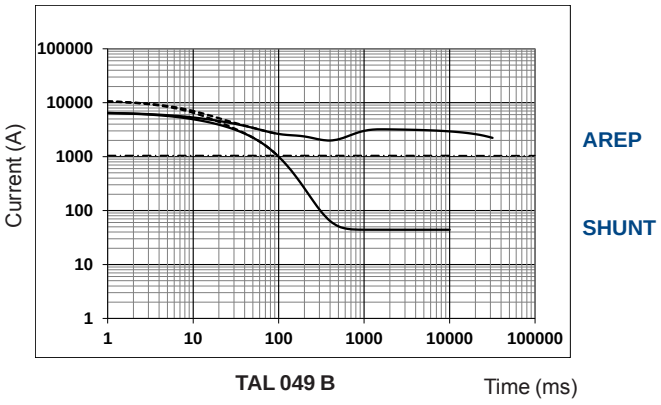


Motor starting (SHUNT) - Locked rotor kVA at 0.6 P.F.

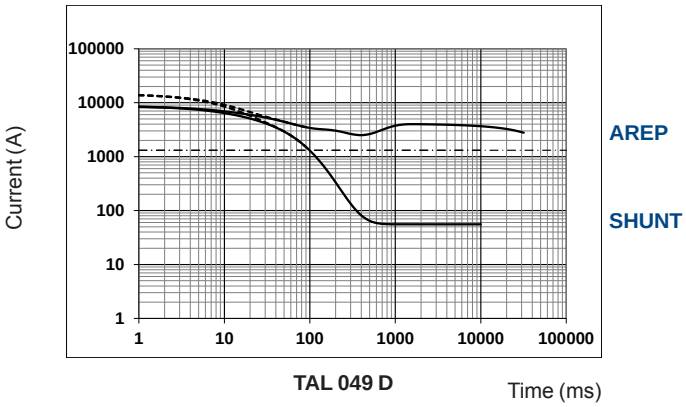


Motor starting (AREP) - Locked rotor kVA at 0.6 P.F.

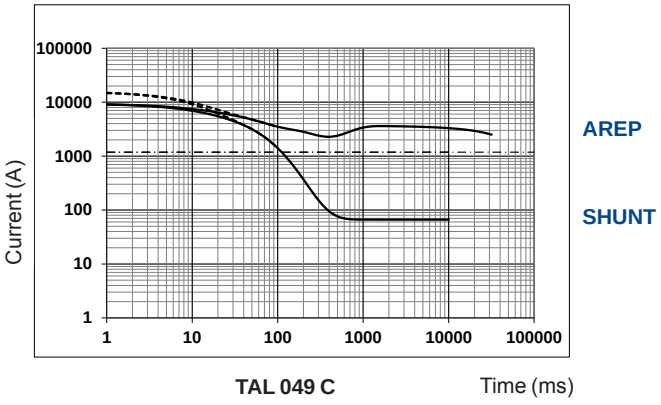
3-phase short-circuit curves at no load and rated speed (star connection Y) - 6 & 12-wire



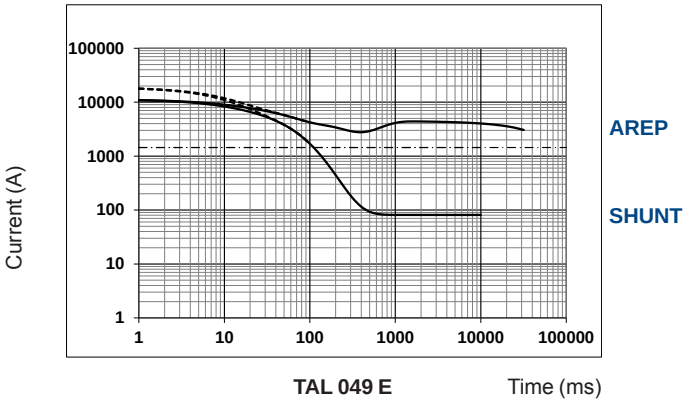
TAL 049 B



TAL 049 D



TAL 049 C



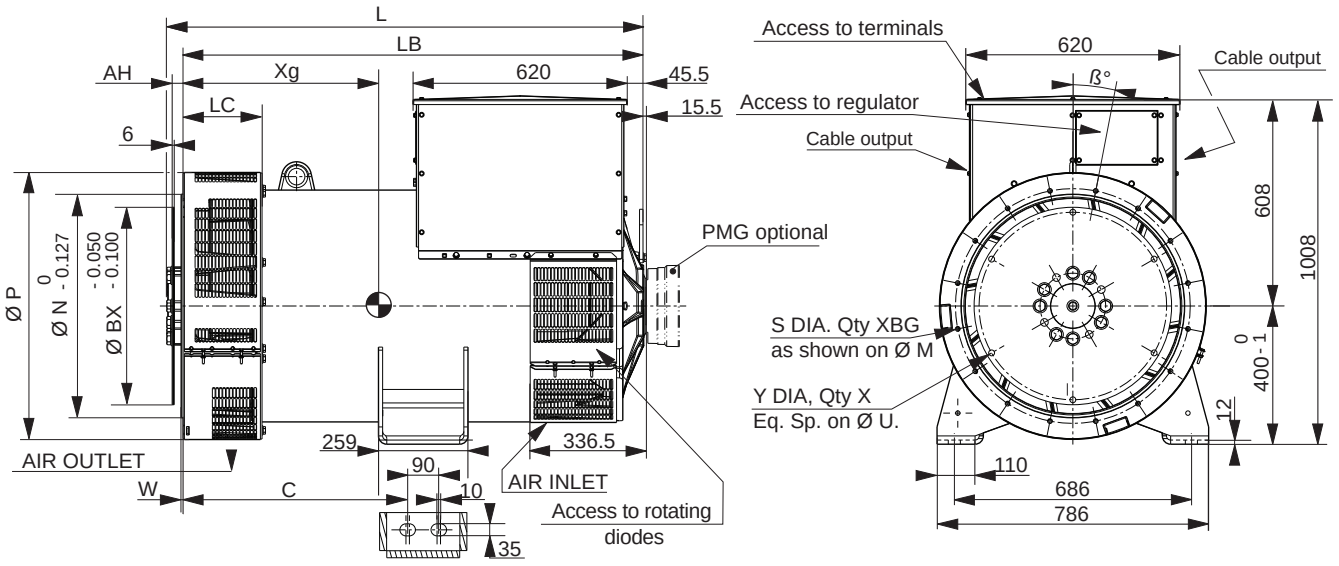
TAL 049 E

Symmetrical _____
Asymmetrical ---------

TAL 049 - 730 to 1000 kVA - 50 Hz / 915 to 1250 kVA - 60 Hz

Low Voltage Alternators - 4 pole

Single bearing general arrangement - 6 & 12-wire



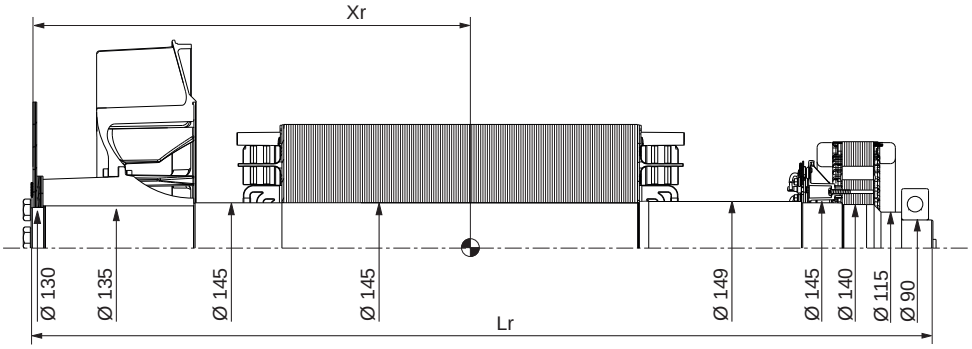
Dimensions (mm) and weight					
Type	L without PMG	LB	C	Xg	Weight (kg)
TAL 049 B	1372	1331	650	629	1574
TAL 049 C	1372	1331	650	636	1635
TAL 049 D	1462	1421	650	673	1788
TAL 049 E	1462	1421	650	681	1837

Coupling		
Flex plate	14	18
Flange S.A.E 1	X	
Flange S.A.E 1/2	X	
Flange S.A.E 0	X	X
Flange S.A.E 00		X

Flange (mm)							
S.A.E.	P	N	M	LC	XBG	W	ß°
1	773	511.175	530.225	228.5	12	6	15°
1/2	773	584.2	619.125	228.5	12	6	15°
0	773	647.7	679.45	228.5	16	6	11° 15'
00	883	787.4	850.9	245	16	7	11°15'

Flex plate (mm)					
S.A.E.	BX	U	X	Y	AH
14	466.7	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	Flex plate S.A.E. 14				Flex plate S.A.E. 18			
	Xr	Lr	M	J	Xr	Lr	M	J
TAL 049 B	626	1345	602	9.61	614	1345	604	9.87
TAL 049 C	634	1345	628	10.16	622	1345	630	10.42
TAL 049 D	671	1435	684	11.12	659	1435	686	11.38
TAL 049 E	681	1435	701	11.48	669	1435	703	11.74

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.

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