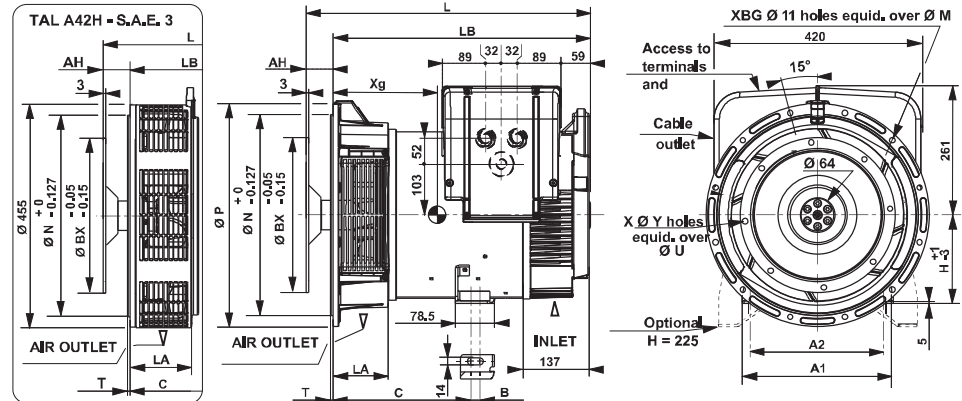


Low Voltage Alternators - 4 pole

TAL-A42- S Dedicated single-phase

Single bearing general arrangement



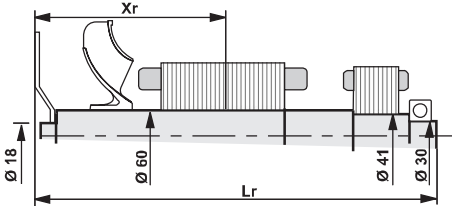
Dimensions (mm) and weight (kg)						H=180(Standard)				H=225 (Option)				Coupling			
Type	L without PMGmaxi*	LB	Xg	Weight (kg)	C	C	B	A1	A2	C	B	A1	A2	Flange	3	4	
TAL-A42-A-S	565	503	237	117	260	260	18	307	279	299	23	400	356	11 1/2	x	-	
TAL-A42-B-S	565	503	242	122	260	260	18	307	279	299	23	400	356	10	x	x	
TAL-A42-C-S	565	503	252	133	260	260	18	307	279	299	23	400	356	8	-	x	
TAL-A42-D/E-S	610	548	275	165	260	260	18	307	279	312,5	23	400	356	7 1/2	-	x	
TAL-A42-F-S	650	548	287	181	260	260	18	307	279	312,5	23	400	356				
TAL-A42-G-S	650	588	295	186	260	260	18	307	279	312,5	23	400	356				
TAL-A42-H-S**	680	618	310	187	260	260	18	307	279	312,5	23	400	356				
TAL-A42-H-S***	703	641	300	195	283	283	18	307	279	335,5	23	400	356				

*Lmaxi=LB + AH maxi** S.A.E.3 *** S.A.E.4

Flange (mm)								Flex plate (mm)					
S.A.E.	P	N	M	XBG	T	LA	CF	S.A.E.	BX	U	X	Y	AH
4	406/455*	361,95	381	12	5/6	122/128,3*	15/16*	11 1/2	352,42	333,38	8	11	39,6
3	452	409,58	428,62	12	5	105,3*/112,5	12	10	314,32	295,28	8	11	53,8
2	490	447,675	466,725	12	6	111	12	8	263,52	244,48	6	11	62

*Specific dimension TAL-A42-H-S

Torsional 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. 7 1/2				S.A.E. 8				S.A.E. 10				S.A.E. 11 1/2			
Type	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J	
TAL-A42-A-S	279	526.2	44.1	0.216	277	558	44.4	0.220	274	549.8	44.9	0.211	272	535.6	45.4	0.244	
TAL-A42-B-S	282	526.2	46.1	0.229	280	558	46.4	0.233	277	549.8	46.9	0.224	274	535.6	47.4	0.257	
TAL-A42-C-S	287	526.2	50.1	0.255	286	558	50.5	0.258	283	549.8	50.9	0.249	281	535.6	51.4	0.282	
TAL-A42-D-S	310	571.2	60.2	0.312	308	603	60.6	0.316	306	594.8	61	0.307	304	580.6	61.5	0.340	
TAL-A42-E-S	310	571.2	60.2	0.312	308	603	60.6	0.316	306	594.8	61	0.307	304	580.6	61.5	0.340	
TAL-A42-F-S	325	611.2	66.2	0.344	323	643	66.5	0.348	321	634.8	66.9	0.339	319	620.6	67.4	0.372	
TAL-A42-G-S	330	611.2	69.2	0.364	328	643	69.5	0.367	326	634.8	69.9	0.358	324	620.6	70.4	0.391	
TAL-A42-H-S	344	641.2	77.5	0.414	342	673	77.8	0.418	340	664.8	78.2	0.430	338	650.6	78.8	0.442	

NOTE : Dimensions are for information only and may be subject to modifications. The torsional analysis of the transmission is imperative. All values are available upon request.

Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA- 50 Hz / 102 to 250 kVA - 60 Hz

General characteristics - 6 & 12-wire

Insulation class	H	Excitation system 6 wires	SHUNT	AREP+/PMG
Winding pitch	2/3 (wind.6S = 6-wire / wind.6 = 12-wire)	AVR type	R120	R180
Number of wires	6 or 12	Excitation system 12 wires	SHUNT	AREP+/PMG
Protection	IP 23	AVR type	R120	R180
Altitude	≤ 1000 m	Voltage regulation (*)	± 1 %	± 0,5 %
Overspeed	2250 R.P.M.	Total Harmonic distortion THD (**) in no-load	< 3,5 %	
Air flow 50 Hz (m³/s)	0,25*	Total Harmonic distortion THD (**) in linear load	< 5 %	
Air flow 60 Hz (m³/s)	0,30**	Waveform: NEMA = T1F (**)	< 50	
AREP+ Short-circuit current = 2.7 In: 5 seconds (***)		Waveform : I.E.C. : THF (**))	< 2%	

(*) 0,29 for L&M (**) 0,34 for L&M ***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:125K				F:105K				H:150K				H:163K				
Phase	3ph.		1ph.		3ph.		1ph.		3ph.		1ph.		3ph.		1ph.		
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	190V 200V 208V 220V*				190V 200V 208V 220V*				190V 200V 208V 220V*				190V 200V 208V 220V*				
ΔΔ	230V				230V				230V				230V				
TAL-A44-C	kVA	81	85	85	42	73	76,5	76,5	38	85	89	89	44	88	93,5	93,5	46
	kW	64,8	68,0	68,0	33,6	58,4	61,2	61,2	30,4	68,0	71,2	71,2	35,2	70,4	74,8	74,8	36,8
TAL-A44-D	kVA	100	100	95	48	90	90	86	43	105	105	100	50,5	110	110	105	53
	kW	80,0	80,0	76,0	38,4	72,0	72,0	68,8	34,4	84,0	84,0	80,0	40,4	88,0	88,0	84,0	42,4
TAL-A44-E	kVA	119	125	119	60	107	112,5	107	54	124	131	124	63	130	137,5	130	66
	kW	95,2	100,0	95,2	48,0	85,6	90,0	85,6	43,2	99,2	104,8	99,2	50,4	104,0	110,0	104,0	52,8
TAL-A44-H	kVA	137,5	137,5	128	67	124	125	115	60	142	142	135	70,5	151,5	151,5	141	74
	kW	110,0	110,0	102,4	53,6	99,2	100,0	92,0	48,0	113,6	113,6	108,0	56,4	121,2	121,2	112,8	59,2
TAL-A44-J	kVA	143	150	143	73	129	135	129	66	150	158	150	77	157	165	157	80
	kW	114,4	120,0	114,4	58,4	103,2	108,0	103,2	52,8	120,0	126,4	120,0	61,6	125,6	132,0	125,6	64,0
TAL-A44-K	kVA	161,5	170	161,5	80	145	153	145	72	170	179	170	84	178	187,5	178	88
	kW	129,2	136,0	129,2	64,0	116,0	122,4	116,0	57,6	136,0	143,2	136,0	67,2	142,4	150,0	142,4	70,4
TAL-A44-L	kVA	180	180	180	90	164	164	164	82	191	191	191	95	200	200	200	99
	kW	144,0	144,0	144	72,0	131,2	131,2	131,2	65,6	152,8	152,8	152,8	76,0	160,0	160,0	160,0	79,2
TAL-A44-M	kVA	192	200	200	100	175	182	175	91	204	212	212	106	211	220	220	110
	kW	153,6	160,0	160,0	80,0	140,0	145,6	145,6	72,8	163,2	169,6	169,6	84,8	168,8	176,0	176,0	88,0

* L.M Only

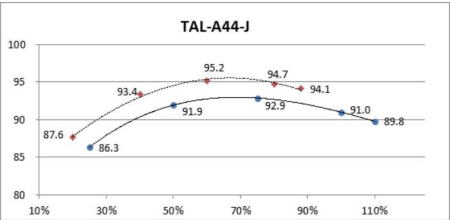
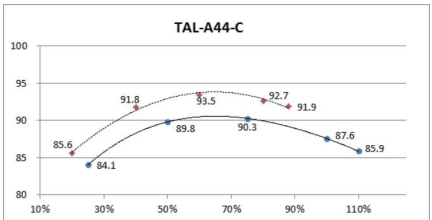
Ratings 60 Hz - 1800 R.P.M. - 6 & 12-wire

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:125K					F:105K					H:150K					H:163K					
Phase		3ph.			1ph.		3ph.			1ph.		3ph.			1ph.		3ph.			1ph.		
Y		380V 416V 440V 480V					380V 416V 440V 480V					380V 416V 440V 480V					380V 416V 440V 480V					
Δ		220V 240V 254V 277V					220V 240V 254V 277V					220V 240V 254V 277V					220V 240V 254V 277V					
YY		190V 208V 220V 240V					190V 208V 220V 240V					190V 208V 220V 240V					190V 208V 220V 240V					
ΔΔ		240V					240V					240V					240V					
TAL-A44-C		kVA	81	88	93	102	52	72,5	79,5	83,5	92	47	85	93	97	107	54,6	89	97	102	112	57
		kW	64,8	70,4	74,4	81,6	41,6	58,0	63,6	66,8	73,6	37,6	68,0	74,4	77,6	85,6	43,7	71,2	77,6	81,6	89,6	45,6
TAL-A44-D		kVA	95	104	109	120	65	85	93,5	98	108	58,5	100	109	115	126	68	104	114	120	132	72
		kW	76,0	83,2	87,2	96,0	52,0	68,0	74,8	78,4	86,4	46,8	80,0	87,2	92,0	100,8	54,4	83,2	91,2	96,0	105,6	57,6
TAL-A44-E		kVA	119	130	137	150	76	107	117	123	135	68,4	124	136	143	158	80	130	143	150	165	83
		kW	95,2	104,0	109,6	120,0	60,8	85,6	93,6	98,4	108,0	54,7	99,2	108,8	114,4	126,4	64,0	104,0	114,4	120,0	132,0	66,4
TAL-A44-H		kVA	130	143	150	165	81	117	129	135	150	73	137	150	158	173	85	143	157	165	182	89
		kW	104,0	114,4	120,0	132,0	64,8	93,6	103,2	108,0	120,0	58,4	109,6	120,0	126,4	138,4	68,0	114,4	125,6	132,0	145,6	71,2
TAL-A44-J		kVA	142	156	164	180	95	128	140	147	162	85,5	149	164	172	189	100	156	171	180	198	105
		kW	113,6	124,8	131,2	144,0	76,0	102,4	112,0	117,6	129,6	68,4	119,2	131,2	137,6	151,2	80,0	124,8	136,8	144,0	158,4	84,0
TAL-A44-K		kVA	161	177	186	204	105	145	159	167	184	94,5	169	185	195	214	110	177	194	204	224	115
		kW	128,8	141,6	148,8	163,2	84,0	116,0	127,2	133,6	147,2	75,6	135,2	148,0	156,0	171,2	88,0	141,6	155,2	163,2	179,2	92,0
TAL-A44-L		kVA	180	195	210	225	113	164	177	191	205	102	191	207	223	239	119	200	215	231	250	124
		kW	144,0	156,0	168,0	180,0	90,4	131,2	141,6	152,8	164,0	81,6	152,8	165,6	178,4	191,2	95,2	160,0	172,0	184,8	200,0	99,2
TAL-A44-M		kVA	200	215	230	250	125	182	196	209	228	114	212	228	244	265	133	220	237	253	275	136
		kW	160,0	172,0	184,0	200,0	100,0	145,6	156,8	167,2	182,4	91,2	169,6	182,4	195,2	210,0	106,4	176,0	189,6	202,4	220,0	108,8

Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz

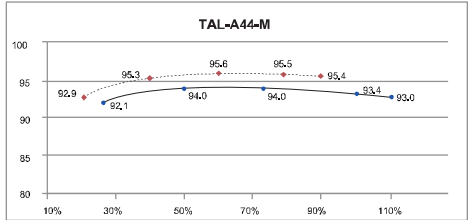
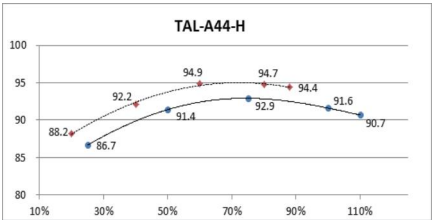
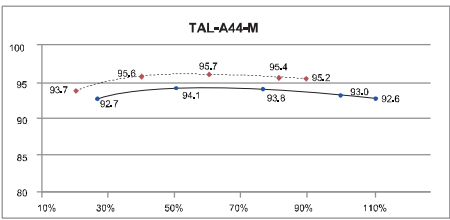
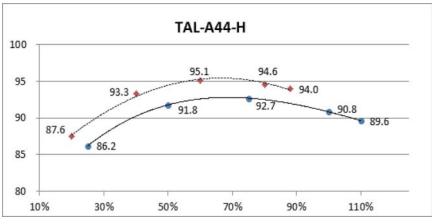
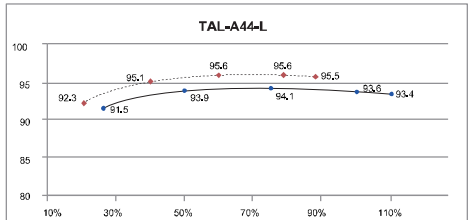
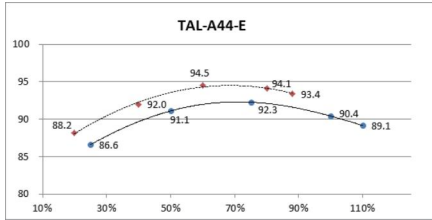
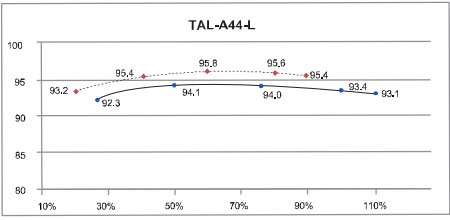
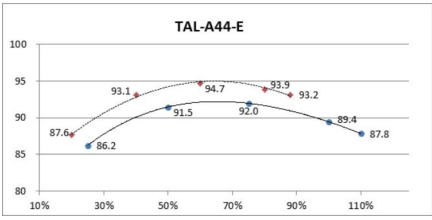
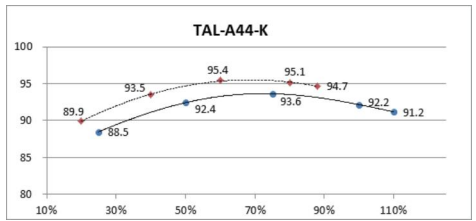
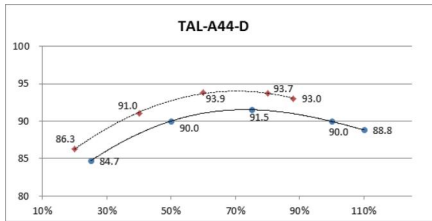
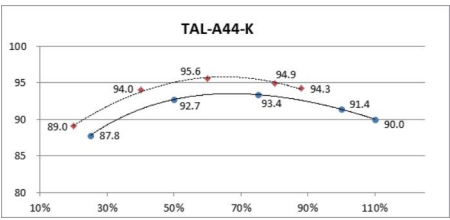
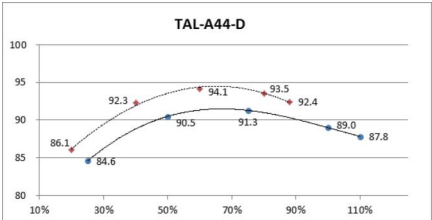
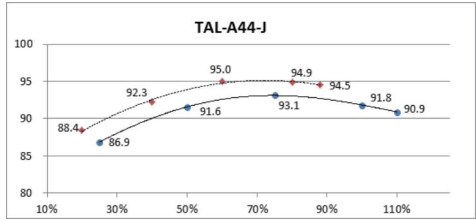
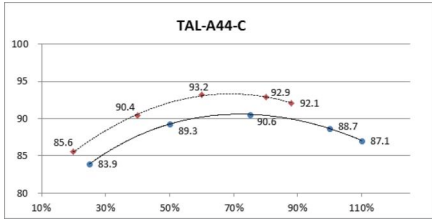
Efficiencies 400 V - 50 Hz (— P.F.: 0.8) (..... P.F.: 1) - 6 & 12-wire



Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz

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



Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz

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

	TAL-A44-C	TAL-A44-D	TAL-A44-E	TAL-A44-H	TAL-A44-J	TAL-A44-K	TAL-A44-L	TAL-A44-M
Kcc	Short-circuit ratio	0,50	0,59	0,4	0,56	0,61	0,37	0,33
Xd	Direct-axis synchronous reactance unsaturated	321	303	365	307	290	373	381
Xq	Quadrature-axis synchronous reactance unsaturated	193	182	219	184	174	224	194
T'do	No-load transient time constant	1747	1796	2211	1952	2013	2077	2025
X'd	Direct-axis transient reactance saturated	17,7	17,2	16,4	16,1	15,0	16,6	18,8
T'd	Short-circuit transient time constant	100	100	100	100	100	100	100
X''d	Direct-axis subtransient reactance saturated	10,6	10,3	9,8	9,6	9,0	9,9	10,1
T''d	Subtransient time constant	10,0	10,0	10,0	10,0	10,0	10,0	10,0
X''q	Quadrature-axis subtransient reactance saturated	21,0	20,4	19,4	19,1	17,8	19,7	21,9
Xo	Zero sequence reactance saturated	0,6	0,6	0,6	0,6	0,6	0,7	0,78
X2	Negative sequence reactance saturated	15,8	15,4	14,6	14,4	13,4	14,8	16,62
Ta	Armature time constant	15	15	15	15	15	15	15

Other class H/400V data	TAL-A44-C	TAL-A44-D	TAL-A44-E	TAL-A44-H	TAL-A44-J	TAL-A44-K	TAL-A44-L	TAL-A44-M
ms	Response time ($\Delta U=20\%$)	500	500	500	500	500	500	500
W	No-load losses	1890	2213	2503	2436	2533	2954	2665
W	Heat dissipation	9625	9888	11256	11145	11868	12796	10134

Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz

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

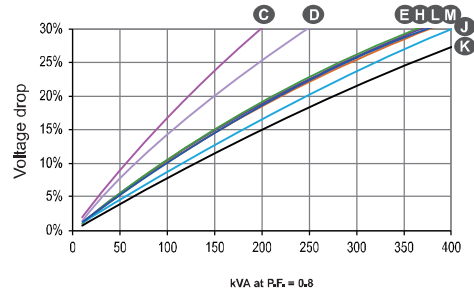
	TAL-A44-C	TAL-A44-D	TAL-A44-E	TAL-A44-H	TAL-A44-J	TAL-A44-K	TAL-A44-L	TAL-A44-M
Kcc	Short-circuit ratio	0,50	0,59	0,4	0,56	0,61	0,37	0,32
Xd	Direct-axis synchronous reactance unsaturated	321	303	365	307	290	373	358
Xq	Quadrature-axis synchronous reactance unsaturated	193	182	219	184	174	224	182
T'do	No-load transient time constant	1747	1796	2211	1952	2013	2077	2025
X'd	Direct-axis transient reactance saturated	17,7	17,2	16,4	16,1	15,0	16,6	17,6
T'd	Short-circuit transient time constant	100	100	100	100	100	100	100
X''d	Direct-axis subtransient reactance saturated	10,6	10,3	9,8	9,6	9,0	9,9	10,6
T''d	Subtransient time constant	10,0	10,0	10,0	10,0	10,0	10,0	10,0
X''q	Quadrature-axis subtransient reactance saturated	21,0	20,4	19,4	19,1	17,8	19,7	20,5
Xo	Zero sequence reactance saturated	0,6	0,6	0,6	0,6	0,6	0,7	0,73
X2	Negative sequence reactance saturated	15,8	15,4	14,6	14,4	13,4	14,8	15,59
Ta	Armature time constant	15	15	15	15	15	15	15

Other class H/480V data	TAL-A44-C	TAL-A44-D	TAL-A44-E	TAL-A44-H	TAL-A44-J	TAL-A44-K	TAL-A44-L	TAL-A44-M
ms	Response time ($\Delta U=20\%$)	500	500	500	500	500	500	500
W	No-load losses	2722	3187	3604	3508	3647	4253	3923
W	Heat dissipation	10395	10667	12217	12105	12863	13807	12145

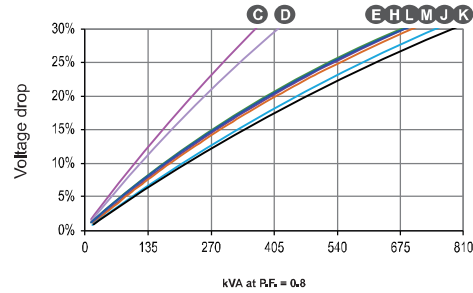
Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz

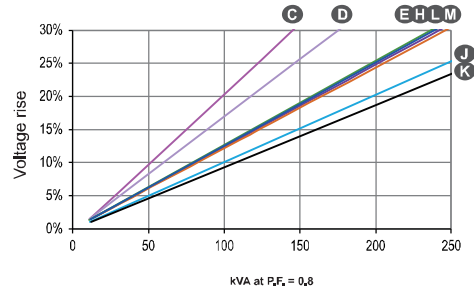
Transient voltage variation 400V - 50 Hz - 12-wire



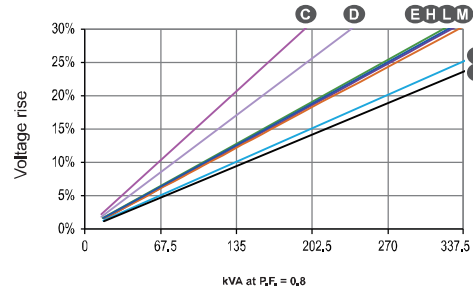
Phase loading (SHUNT) - kVA at P.F. = 0.8



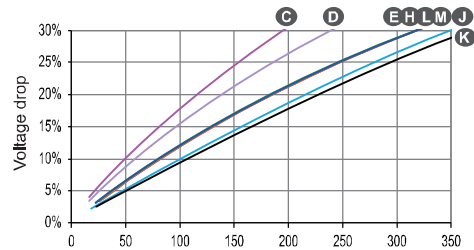
Phase loading (AREP+/PMG) - kVA at P.F. = 0.8



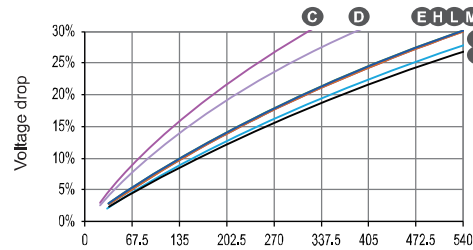
Load shedding (SHUNT) - kVA at P.F. = 0.8



Load shedding (AREP+/PMG) - kVA at P.F. = 0.8



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



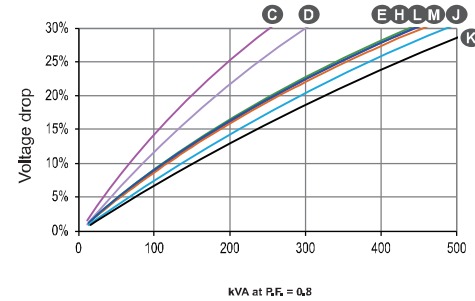
Motor starting (AREP+/PMG)
- locked rotor kVA at P.F. = 0.6

- 1) For a starting P.F. other than 0.6, the starting kVA must be multiplied by $K = \text{Sine P.F.} / 0.6$
- 2) For voltages other than 400V (Y), 230V (Δ) at 50 Hz, then kVA must be multiplied by $(400/U)^2$ or $(230/U)^2$.

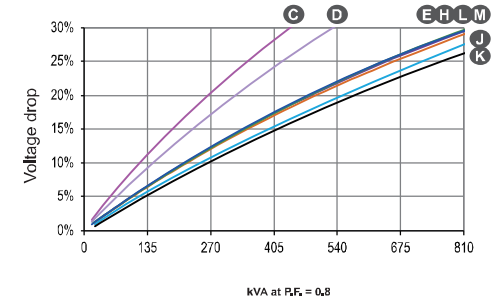
Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz

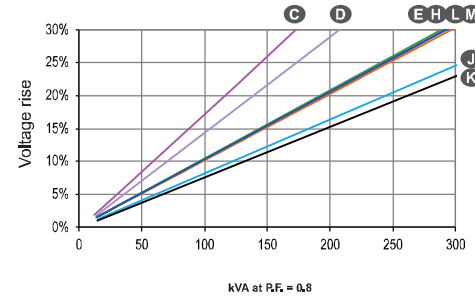
Transient voltage variation 480V - 60 Hz - 6-wire



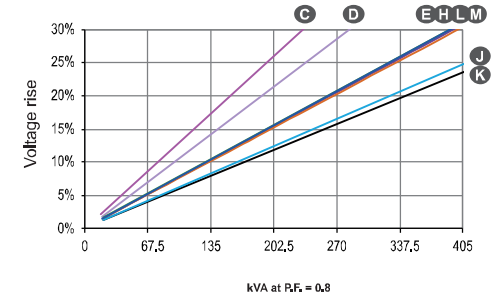
Phase loading (SHUNT) - kVA at P.F. = 0.8



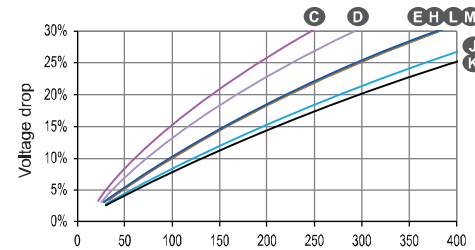
Phase loading (AREP+/PMG) - kVA at P.F. = 0.8



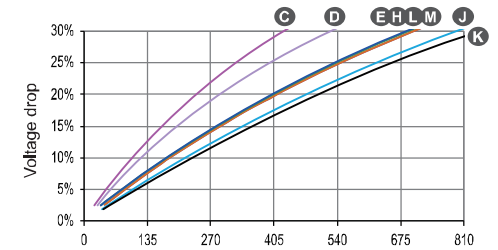
Load shedding (SHUNT) - kVA at P.F. = 0.8



Load shedding (AREP+/PMG) - kVA at P.F. = 0.8



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

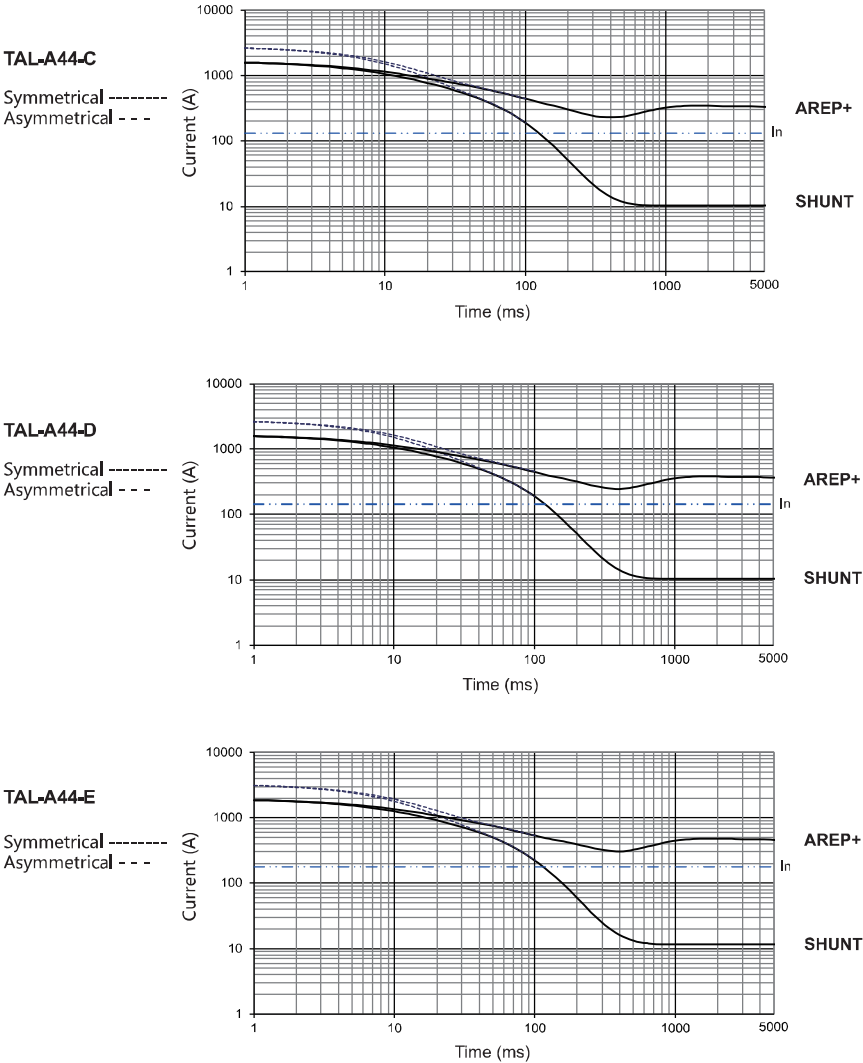


Motor starting (AREP+/PMG)
- locked rotor kVA at P.F. = 0.6

- 1) For a starting P.F. other than 0.6, the starting kVA must be multiplied by $K = \text{Sine P.F.} / 0.6$
- 2) For voltages other than 480V (Y), 277V (Δ), 240V (YY) at 60 Hz, then kVA must be multiplied by $(480/U)^2$ or $(277/U)^2$ or $(240/U)^2$.

Low Voltage Alternators - 4 pole

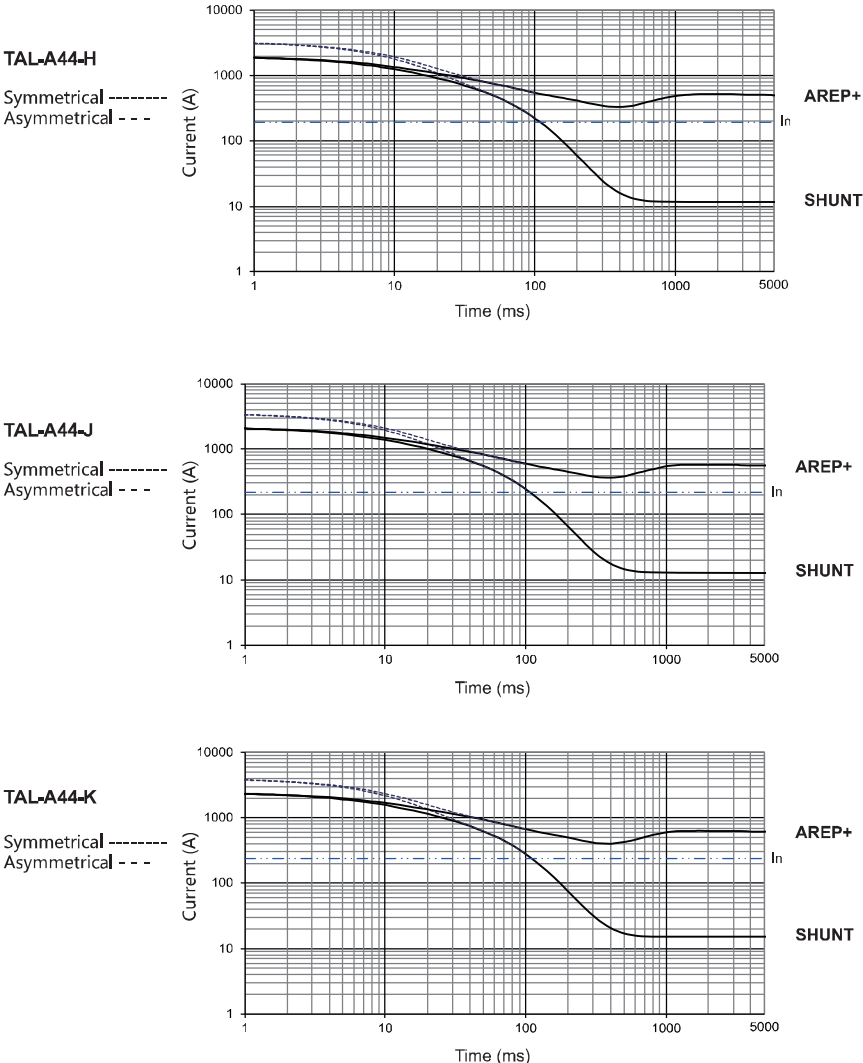
TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz



Influence due to connection
For (Δ) connection, use the following multiplication factor:
- Current value x 1,732.

Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz



Influence due to short-circuit
Curves are based on a three-phase short-circuit.
For other types of short-circuit,
use the following multiplication factors.

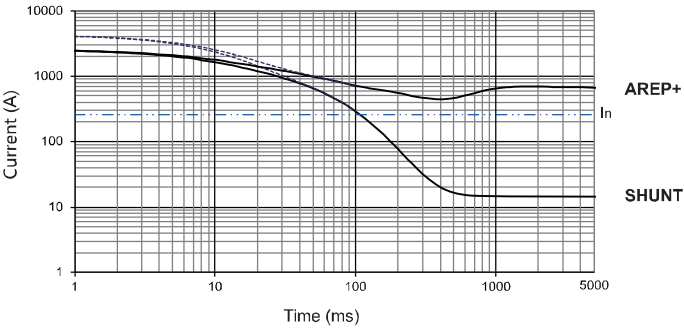
	3 - phase	2 - phase L / L	1 - phase L / N
Instantaneous (max.)	1	0,87	1,3
Continuous	1	1,5	2,2
Maximum duration		1,5	

Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz

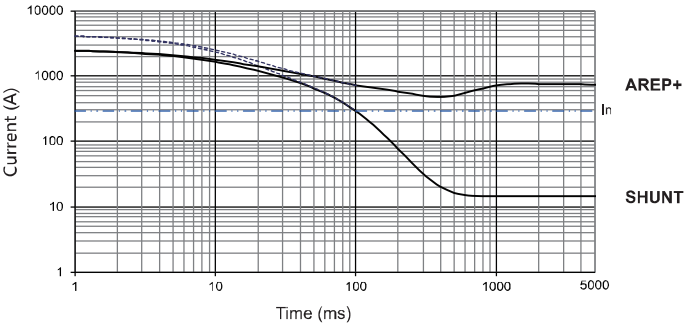
TAL-A44-L

Symmetrical -----
Asymmetrical - - -



TAL-A44-M

Symmetrical -----
Asymmetrical - - -



Influence due to connection

For (Δ) connection, use the following multiplication factor:
- Current value x 1,732,

Influence due to short-circuit

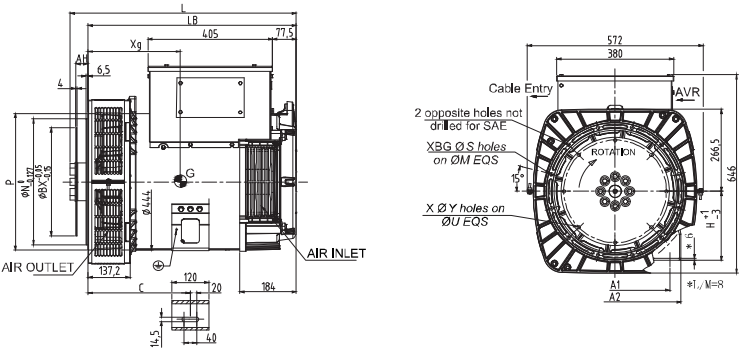
Curves are based on a three-phase short-circuit.
For other types of short-circuit,
use the following multiplication factors.

	3 - phase	2 - phase L / L	1 - phase L / N
Instantaneous (max.)	1	0,87	1,3
Continuous	1	1,5	2,2
Maximum duration		1,5	

Low Voltage Alternators - 4 pole

TAL-A44 - Three-phase 85 to 200 kVA - 50 Hz / 102 to 250 kVA - 60 Hz

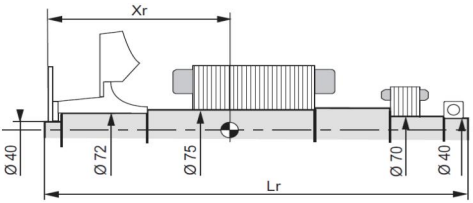
Single bearing general arrangement - 4, 6 & 12-wire



Dimensions (mm) and weight (kg)						Shaft Height(mm)		Coupling			
Type	L	LB	Xg	Weight/kg		standard	option	Flange	1	2	3
TAL-A44-C	735	677	301	267		H	225(*)	270(**)	280(**)	Flex plate	
TAL-A44-D	735	677	313	295		Feet length			11 1/2	x	x
TAL-A44-E	735	677	329	334		C	332,5	405	429	10	x
TAL-A44-H	805	747	353	368		A1	356	406	457	10	x
TAL-A44-J	805	747	365	398		A2	474	474	541	8	-
TAL-A44-K	847	787	383	433		(*) not available for L and M					
TAL-A44-L	930	872	416	554		(**) only for L and M					
TAL-A44-M	930	872	416	554							

Flange (mm)						Flex plate (mm)					
S.A.E.	P	N	M	S	XBG	S.A.E.	BX	U	X	Y	AH
3	445	409,575	428,62	11	12	11 1/2	352,42	333,38	8	11	39,6
2	485	447,675	466,725	11	12	10	314,32	295,28	8	11	53,8
1	560,5(*)	511,18	530,22	12	10						

Torsional analysis data



Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): (4J = MD²)									
Type	Flex Plate SAE 10				Flex Plate SAE 11 1/2				
	Xr	Lr	M	J	Xr	Lr	M	J	
TAL-A44-C	341	704	113	0,805	308	704	113	0,821	
TAL-A44-D	354	704	120	0,867	325	704	120	0,883	
TAL-A44-E	372	729	139	1,026	359	729	138	1,041	
TAL-A44-H	399	774	153	1,141	389	774	153	1,157	
TAL-A44-J	410	774	165	1,248	400	774	164	1,264	
TAL-A44-K	429	814	180	1,383	420	814	180	1,399	
TAL-A44-L	465	914	224,1	1,753	450,7	899	223,7	1,769	
TAL-A44-M	465	914	224,1	1,753	450,7	899	223,7	1,769	

NOTE : Dimensions are for information only and may be subject to modifications. Contractual 2D/3D drawings can be downloaded from the Leroy-Somer site. The torsional analysis of the transmission is imperative. All values are available upon request.
*Please contact us for the double bearing dimension



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