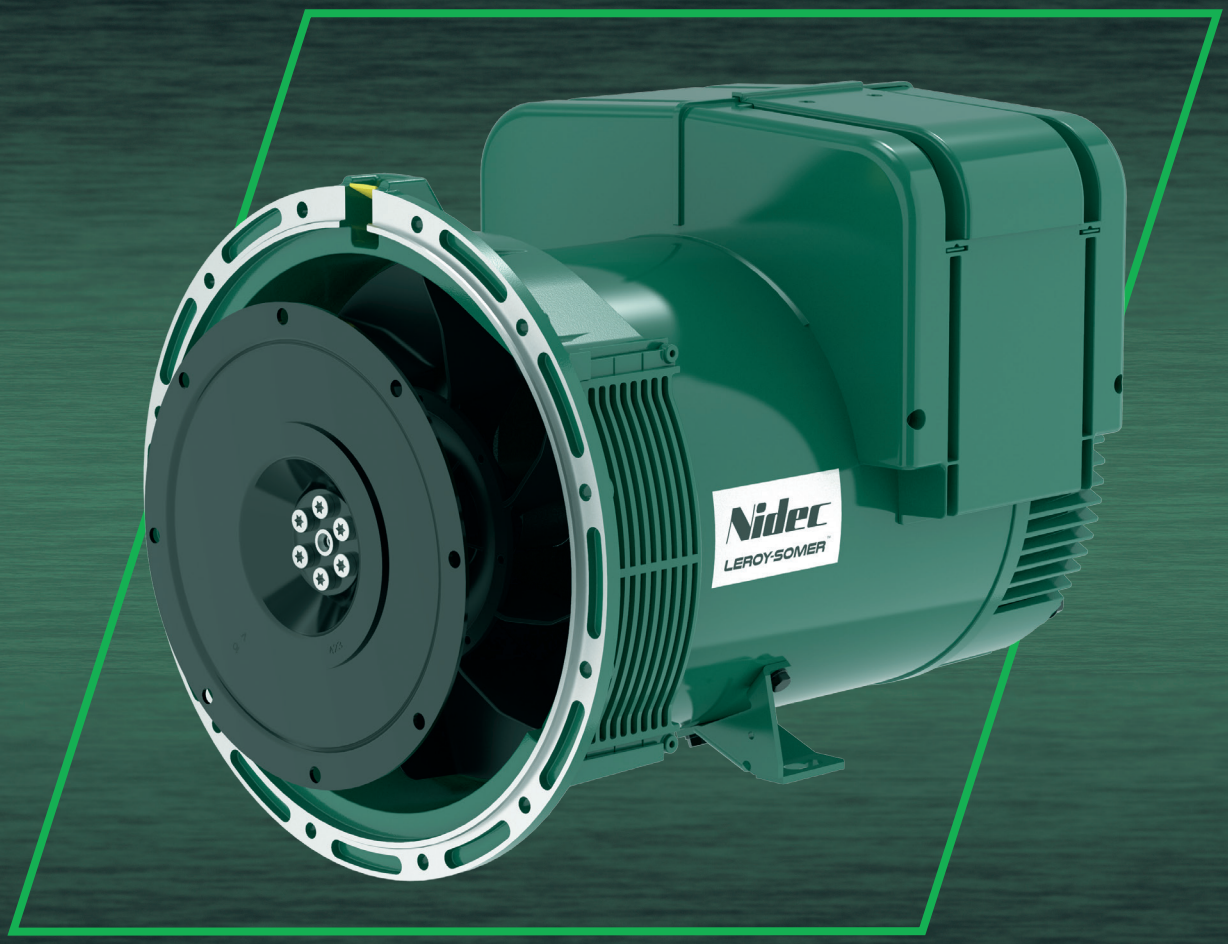
Nidec

Power



LSA 42.3

Low Voltage Alternator - 4 poles

Three-phase

25 to 63 kVA - 50 Hz / 31.5 to 79 kVA - 60 Hz

Electrical and mechanical data

LEROY-SOMER™

The best of performance

The Leroy-Somer™ LSA 42.3 alternator has been designed to offer you the best power generation performances.
With its meticulous design and optimized architecture, the LSA 42.3 strikes the perfect balance between compactness, reliability, performance and longevity.
Whatever your application, the Leroy-Somer™ LSA 42.3 alternator will meet your needs and will adapt to all situations.

Standards

The Leroy-Somer™ LSA 42.3 alternator meets all key international standards and regulations such as IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA C22.2 n°100-14, UL 1446, UL 1004-1 and UL 1004-4.
EC, UKCA, CMIM, CSA, UL 1446, UL recognized and UL listed declarations and certifications are available for the LSA 42.3.
The standards IEC 61000-6-2, IEC 61000-6-3, IEC 61000-6-4, VDE 0875G, VDE 0875N and EN 55011 allow compliance with group 1 class A for the European zone.
The Leroy-Somer™ LSA 42.3 alternator is designed, manufactured and marketed in an ISO 9001 and ISO 14001 quality assurance environment.

Electrical characteristics and performances

- Class H insulation
- 2/3 pitch winding, standard 12-wire (6) reconnectable
- Voltage range:
  - 50 Hz: 220V - 240V and 380V - 415V (440V)
  - 60 Hz: 208V - 240V and 380V - 480V
- High efficiency and motor starting capacity
- Other voltages are possible with optional adapted windings:
  - 50 Hz: 440V (no. 7), 500V (no. 9), 550V (no. 22), 600V (no. 23), 690V (no. 10)
  - 60 Hz: 380V and 416V (no. 8), 600V (no. 9), 690V (no. 22)

Excitation and regulation system

Excitation system				Regulation options		
AVR	**SHUNT**	**AREP** (option)	**PMG** (option)	**C.T. Current transformer for paralleling**	**Mains paralleling**	**Remote voltage potentiometer**
R220	Standard					
D350	Option	Standard	Standard	√*		√
D550**	Option	Option	Option	√*	√	√

*: only with AREP or PMG
**: steel terminal box mounting only
3-phase sensing is included as a standard with digital regulators.

Protection system and options

- Degree of protection: IP 23
- Complete winding protection for clean environments with relative humidity ≤ 95%, including indoor marine environments
- Options:
  - Filters on air inlet: derating 5%
  - Filters on air inlet and air outlet (IP 44): derating 10%
  - Reinforced winding protection for harsh environments and relative humidity greater than 95%
  - Space heater
  - Thermal protection for stator windings
  - Shaft height: H = 225 mm (to be specified when ordering)

Mechanical construction

- Compact rigid assembly to better withstand generator vibrations
- Steel frame and terminal box
- Aluminum flanges and shields
- Two-bearing and single-bearing versions designed to be suitable for commercially-available heat engines
- Half-key balancing two-bearing
- Greased for life bearings (20 000h)
- Direction of rotation: clockwise and anti-clockwise (without derating)

Terminal box design

- Easy access to the voltage regulator (lid) and to the connections
- 8-way terminal block for reconnecting the voltage
- Predrilled holes for cable gland

General characteristics

Insulation class	H
Winding pitch	2/3 (wind. 6)
Number of wires	12
Protection	IP 23
Altitude	≤ 1 000 m
Overspeed	2 250 R.P.M.
Air flow	0.10 m^3/s (50 Hz) - 0.13 m^3/s (60 Hz)

Excitation system	SHUNT	AREP / PMG
AVR type	R220	D350
Voltage regulation (*)	± 0.5%	± 0.25%
Short-circuit current	-	300% (3 IN): 10 s
Total Harmonic Distortion THD (**) in no-load ..... :	< 2%	
Total Harmonic Distortion THD (**) on linear load :	< 4%	
Waveform: NEMA = TIF (**)	< 50	

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

Ratings 50 Hz - 1 500 R.P.M.

kVA / kW - P.F. = 0.8

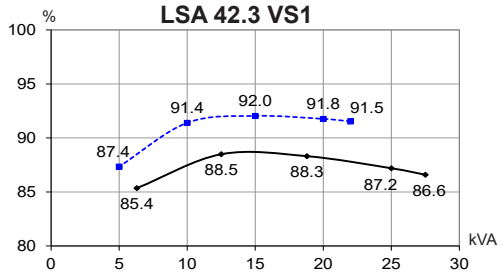
Duty/T°C		Continuous duty/40°C					Continuous duty/40°C					Stand-by/40°C					Stand-by/27°C				
Class/T°K		H/125°K					F/105°K					H/150°K					H/163°K				
Phase		3 ph.				1 ph.	3 ph.				1 ph.	3 ph.				1 ph.	3 ph.				1 ph.
Y		380V	**400V**	415V	440V	ΔΔ	380V	**400V**	415V	440V	ΔΔ	380V	**400V**	415V	440V	ΔΔ	380V	**400V**	415V	440V	ΔΔ
Δ		220V	**230V**	240V		230V	220V	**230V**	240V		230V	220V	**230V**	240V		230V	220V	**230V**	240V		230V
YY			**200V**		220V			**200V**		220V			**200V**		220V			**200V**		220V	
LSA 42.3 VS1	kVA	25	**25**	25	24.5	15	23	**23**	23	22.5	13.5	26.5	**26.5**	26.5	26	16	27.5	**27.5**	27.5	27	16.5
	kW	*20*	***20***	*20*	*19.5*	*12*	*18.5*	***18.5***	*18.5*	*18*	*11*	*21*	***21***	*21*	*21*	*13*	*22*	***22***	*22*	*21.5*	*13*
LSA 42.3 VS2	kVA	27	**27**	27	26	16	24.5	**24.5**	24.5	23.5	14.5	28.5	**28.5**	28.5	27.5	17	30	**30**	30	28.5	17.5
	kW	*21.5*	***21.5***	*21.5*	*21*	*13*	*19.5*	***19.5***	*19.5*	*19*	*11.5*	*23*	***23***	*23*	*22*	*13.5*	*24*	***24***	*24*	*23*	*14*
LSA 42.3 VS3	kVA	32	**32**	32	30	19	29	**29**	29	27.5	17.5	34	**34**	34	32	20	35	**35**	35	33	21
	kW	*25.5*	***25.5***	*25.5*	*24*	*15*	*23*	***23***	*23*	*22*	*14*	*27*	***27***	*27*	*25.5*	*16*	*28*	***28***	*28*	*26.5*	*17*
LSA 42.3 S4	kVA	35	**35**	35	30.5	22	32	**32**	32	28	20	37	**37**	37	32.5	23.5	38.5	**38.5**	38.5	33.5	24
	kW	*28*	***28***	*28*	*24.5*	*17.5*	*25.5*	***25.5***	*25.5*	*22.5*	*16*	*29.5*	***29.5***	*29.5*	*26*	*19*	*31*	***31***	*31*	*27*	*19*
LSA 42.3 S5	kVA	40	**40**	40	35	25	36.5	**36.5**	36.5	32	23	42.5	**42.5**	42.5	37	26.5	45	**45**	45	38.5	27.5
	kW	*32*	***32***	*32*	*28*	*20*	*29*	***29***	*29*	*25.5*	*18.5*	*34*	***34***	*34*	*29.5*	*21*	*36*	***36***	*36*	*31*	*22*
LSA 42.3 M7	kVA	45	**45**	45	39	27	41	**41**	41	35.5	24.5	48	**48**	48	41.5	28.5	50	**50**	50	43	29.5
	kW	*36*	***36***	*36*	*31*	*21.5*	*33*	***33***	*33*	*28.5*	*19.5*	*38.5*	***38.5***	*38.5*	*33*	*23*	*40*	***40***	*40*	*34.5*	*23.5*
LSA 42.3 M8	kVA	50	**50**	50	43	30	45.5	**45.5**	45.5	39	27.5	53	**53**	53	45.5	32	55	**55**	55	47.5	33
	kW	*40*	***40***	*40*	*34.5*	*24*	*36.5*	***36.5***	*36.5*	*31*	*22*	*42*	***42***	*42*	*36.5*	*25.5*	*44*	***44***	*44*	*38*	*26.5*
LSA 42.3 L9	kVA	60	**63**	63	52	36	55	**58**	58	47.5	33	64	**67**	67	55	38	66	**70**	70	57	39.5
	kW	*48*	***50***	*50*	*42*	*29*	*44*	***46***	*46*	*38*	*26.5*	*51*	***54***	*54*	*44*	*30.5*	*53*	***56***	*56*	*46*	*31.5*

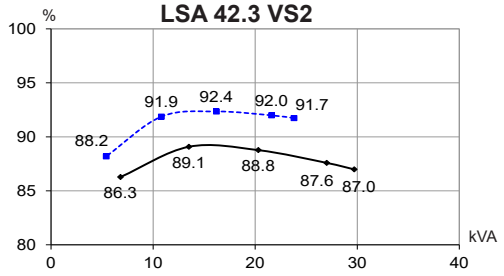
Ratings 60 Hz - 1 800 R.P.M.

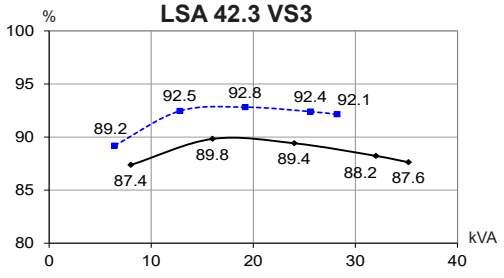
kVA / kW - P.F. = 0.8

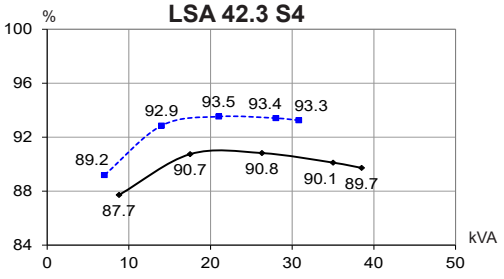
Duty/T°C		Continuous duty/40°C					Continuous duty/40°C					Stand-by/40°C					Stand-by/27°C				
Class/T°K		H/125°K					F/105°K					H/150°K					H/163°K				
Phase		3 ph.				1 ph.	3 ph.				1 ph.	3 ph.				1 ph.	3 ph.				1 ph.
Y		380V	416V	440V	**480V**	ΔΔ	380V	416V	440V	**480V**	ΔΔ	380V	416V	440V	**480V**	ΔΔ	380V	416V	440V	**480V**	ΔΔ
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**	
LSA 42.3 VS1	kVA	29	31.5	31.5	**31.5**	18.9	26.5	28.5	28.5	**28.5**	17	30.5	33.5	33.5	**33.5**	20	32	34.5	34.5	**34.5**	20.8
	kW	*23*	*25*	*25*	***25***	*15*	*21*	*23*	*23*	***23***	*13.5*	*24.5*	*27*	*27*	***27***	*16*	*25.5*	*27.5*	*27.5*	***27.5***	*16.5*
LSA 42.3 VS2	kVA	30	32	34	**34**	19.2	27.5	29	31	**31**	17.5	32	34	36	**36**	20.5	33	35	37.5	**37.5**	21.1
	kW	*24*	*25.5*	*27*	***27***	*15.5*	*22*	*23*	*25*	***25***	*14*	*25.5*	*27*	*29*	***29***	*16.5*	*26.5*	*28*	*30*	***30***	*17*
LSA 42.3 VS3	kVA	34.5	38	40	**40**	23	31.5	34.5	36.5	**36.5**	21	36.5	40.5	42.5	**42.5**	24.5	38	42	44	**44**	25.5
	kW	*27.5*	*30.5*	*32*	***32***	*18.5*	*25*	*27.5*	*29*	***29***	*17*	*29*	*32.5*	*34*	***34***	*19.5*	*30.5*	*33.5*	*35*	***35***	*20.5*
LSA 42.3 S4	kVA	37.5	40.5	43	**44**	24	34	37	39	**40**	22	40	43	45.5	**46.5**	25.5	41.5	44.5	47.5	**48.5**	26.5
	kW	*30*	*32.5*	*34.5*	***35***	*19*	*27*	*29.5*	*31*	***32***	*17.5*	*32*	*34.5*	*36.5*	***37***	*20.5*	*33*	*35.5*	*38*	***39***	*21*
LSA 42.3 S5	kVA	42	46	49	**50**	27.5	38	42	44.5	**45.5**	25	44.5	49	52	**53**	29	46	51	54	**55**	30.5
	kW	*33.5*	*37*	*39*	***40***	*22*	*30.5*	*33.5*	*35.5*	***36.5***	*20*	*35.5*	*39*	*42*	***42***	*23*	*37*	*41*	*43*	***44***	*24.5*
LSA 42.3 M7	kVA	46	50	53.5	**56.5**	30	42	45.5	48.5	**51**	27.5	49	53	57	**60**	32	51	55	59	**62.5**	33
	kW	*37*	*40*	*43*	***45***	*24*	*33.5*	*36.5*	*39*	***41***	*22*	*39*	*42*	*46*	***48***	*25.5*	*41*	*44*	*47*	***50***	*26.5*
LSA 42.3 M8	kVA	51.5	56.5	59.5	**62.5**	34	47	51	54	**57**	31	55	60	63	**66.5**	36	57	62.5	65.5	**69**	37.5
	kW	*41*	*45*	*48*	*50*	*27*	*37.5*	*41*	*43*	***46***	*25*	*44*	*48*	*50*	***53***	*29*	*46*	*50*	*52*	***55***	*30*
LSA 42.3 L9	kVA	63	68	72	**79**	39	58	62	66	**72**	35.5	67	73	77	**84**	41.5	69	75	79	**87**	43
	kW	*50*	*54*	*58*	***63***	*31*	*46*	*50*	*53*	***58***	*28.5*	*54*	*58*	*62*	***67***	*33*	*55*	*60*	*63*	***70***	*34.5*

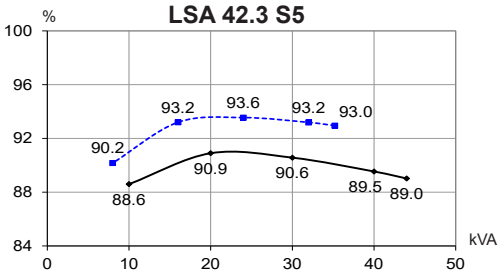
Efficiencies 400 V - 50 Hz (— P.F.: 0.8) (--- P.F.: 1)

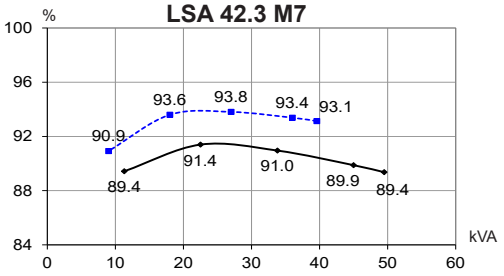


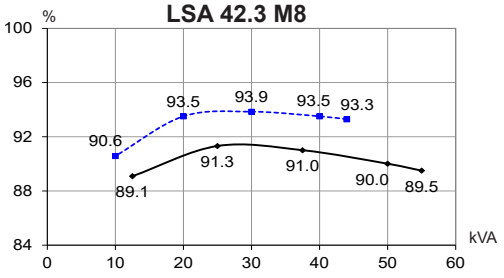


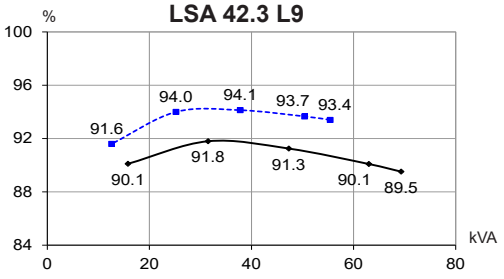












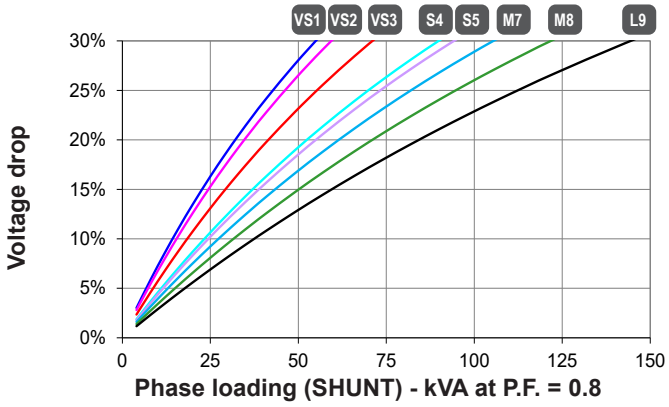
Reactances (%). Time constants (ms) - Class H / 400 V

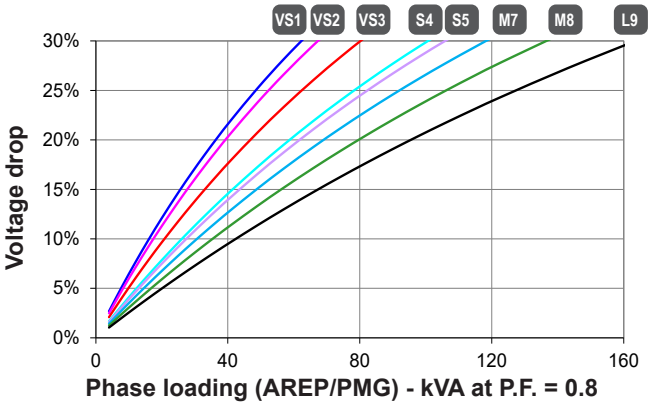
		VS1	VS2	VS3	S4	S5	M7	M8	L9
Kcc	Short-circuit ratio	0.54	0.51	0.48	0.53	0.46	0.43	0.47	0.42
Xd	Direct-axis synchronous reactance unsaturated	240	249	261	229	262	275	264	297
Xq	Quadrature-axis synchronous reactance unsaturated	122	127	133	117	133	140	134	151
T'do	No-load transient time constant	733	759	803	880	880	914	931	962
X'd	Direct-axis transient reactance saturated	16.3	16.4	16.2	13	14.8	15	14.1	15.4
T'd	Short-circuit transient time constant	50	50	50	50	50	50	50	50
X"d	Direct-axis subtransient reactance saturated	8.1	8.2	8.1	6.5	7.4	7.5	7	7.7
T"d	Subtransient time constant	5	5	5	5	5	5	5	5
X"q	Quadrature-axis subtransient reactance saturated	11.5	11.6	11.5	9.2	10.6	10.7	10.1	11
Xo	Zero sequence reactance	0.68	0.68	0.67	0.54	0.62	0.62	0.59	0.64
X2	Negative sequence reactance saturated	9.88	9.91	9.82	7.89	9.02	9.12	8.61	9.37
Ta	Armature time constant	8	8	8	8	8	8	8	8

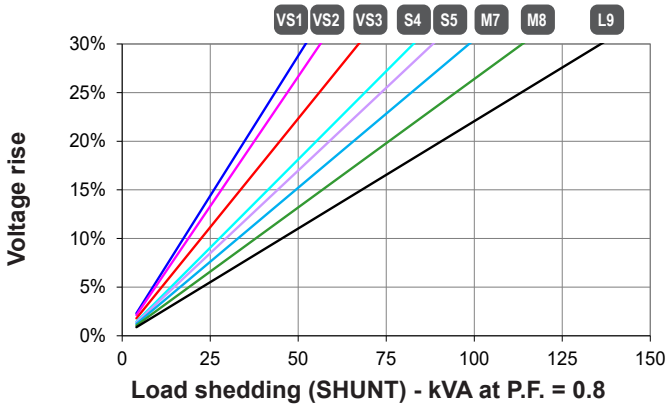
Other class H/400 V data

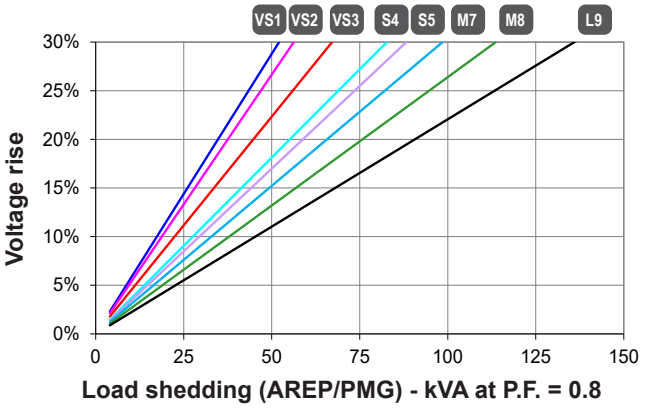
io (A)	No-load excitation current (SHUNT/AREP)	0.55/0.85	0.52/0.8	0.51/0.79	0.49/0.75	0.49/0.75	0.46/0.71	0.5/0.78	0.5/0.77
ic (A)	On-load excitation current (SHUNT/AREP)	1.77/2.72	1.75/2.68	1.8/2.76	1.55/2.38	1.76/2.7	1.77/2.71	1.9/2.91	2.2/3.37
uc (V)	On-load excitation voltage (SHUNT/AREP)	30.2/19.3	29.8/19	30.4/19.5	26.2/16.8	29.4/18.8	29.4/18.8	31.1/19.9	35/22.4
ms	Response time (ΔU = 20% transient)	500	500	500	500	500	500	500	500
kVA	Start (ΔU = 20% cont. or (ΔU = 30% trans.) SHUNT	53	57	68	93	93	104	122	135
kVA	Start (ΔU = 20% cont. or (ΔU = 30% trans.) AREP	64	68	82	112	111	124	138	150
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 $_{LAG}$	16.3	16.3	16.2	14.3	15.4	15.5	15	15.8
%	Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 $_{LAG}$	14.7	14.7	14.6	13	14	14	13.6	14.2
W	No-load losses	719	713	762	861	861	879	1 029	1 120
W	Heat dissipation	2 938	3 058	3 414	3 072	3 736	4 050	4 438	5 543

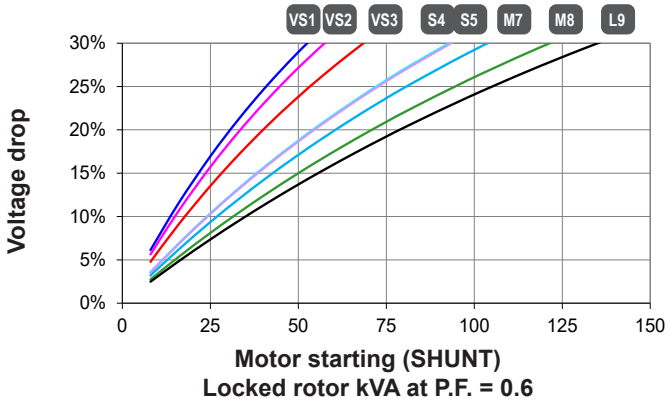
Transient voltage variation 400V - 50 Hz

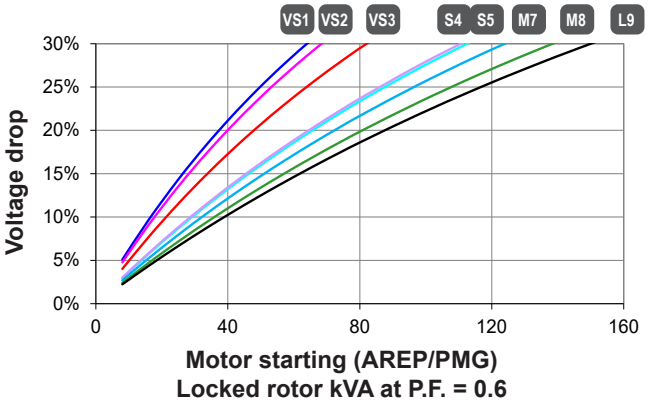






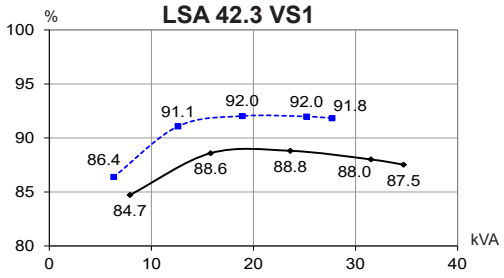


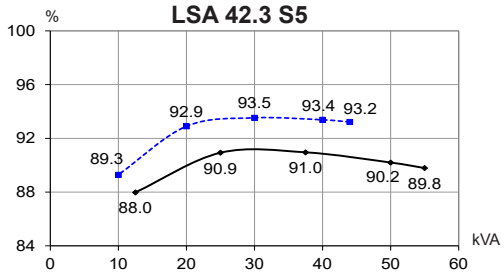


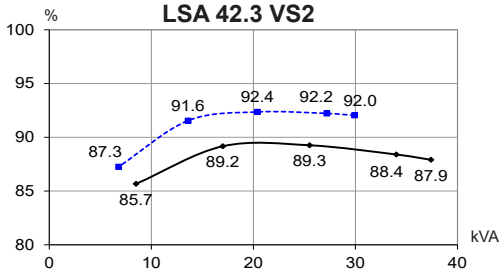


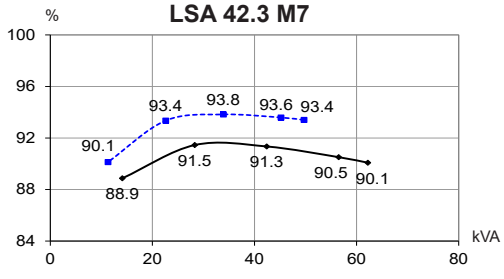
1) For a starting P.F. other than 0.6, the starting kVA must be multiplied by K = Sine P.F. / 0.8
2) For voltages other than 400V (Y), 230V (Δ) at 50 Hz, then kVA must be multiplied by $(400/U)^2$ or $(230/U)^2$.

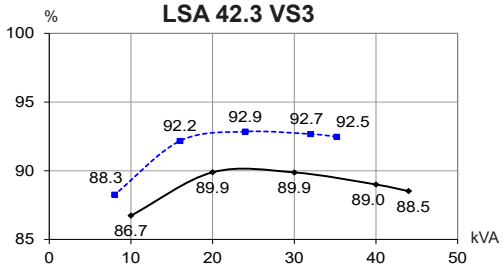
Efficiencies 480 V - 60 Hz (— P.F.: 0.8) (--- P.F.: 1)

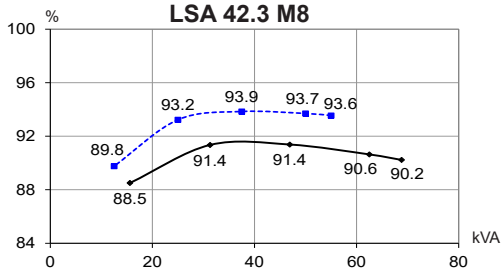


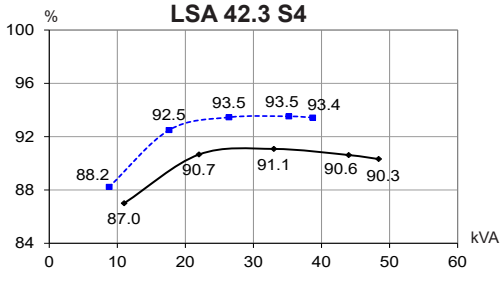


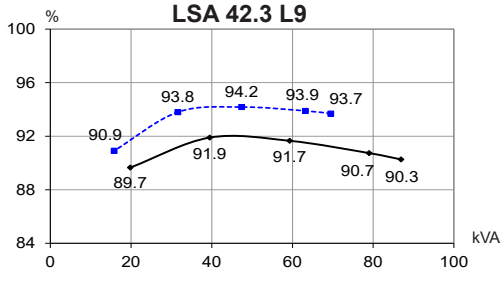












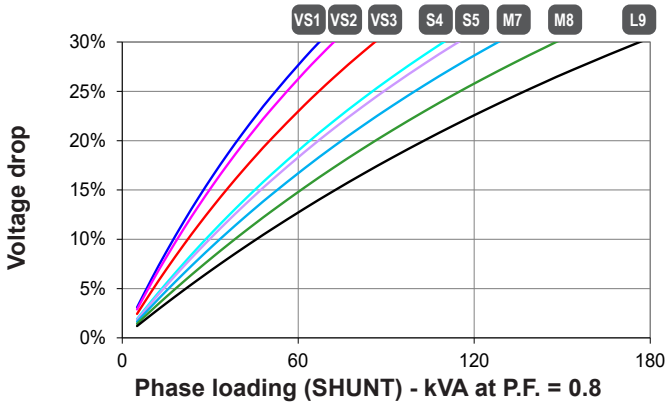
Reactances (%). Time constants (ms) - Class H / 480 V

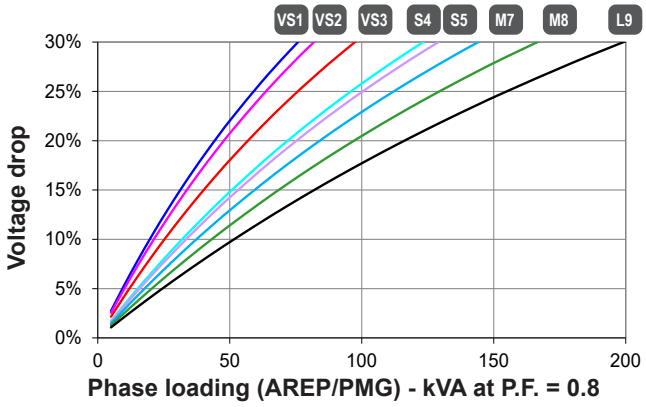
		VS1	VS2	VS3	S4	S5	M7	M8	L9
Kcc	Short-circuit ratio	0.52	0.48	0.46	0.51	0.44	0.41	0.45	0.4
Xd	Direct-axis synchronous reactance unsaturated	252	261	272	240	273	287	275	310
Xq	Quadrature-axis synchronous reactance unsaturated	128	133	138	122	139	146	140	158
T'do	No-load transient time constant	733	759	803	880	880	914	931	962
X'd	Direct-axis transient reactance saturated	17.2	17.2	16.9	13.6	15.5	15.7	14.7	16.1
T'd	Short-circuit transient time constant	50	50	50	50	50	50	50	50
X"d	Direct-axis subtransient reactance saturated	8.6	8.6	8.4	6.8	7.7	7.8	7.3	8
T"d	Subtransient time constant	5	5	5	5	5	5	5	5
X"q	Quadrature-axis subtransient reactance saturated	12.1	12.1	12	9.7	11	11.2	10.5	11.5
Xo	Zero sequence reactance	0.71	0.71	0.7	0.56	0.64	0.65	0.61	0.67
X2	Negative sequence reactance saturated	10.37	10.4	10.24	8.27	9.39	9.55	8.97	9.8
Ta	Armature time constant	8	8	8	8	8	8	8	8

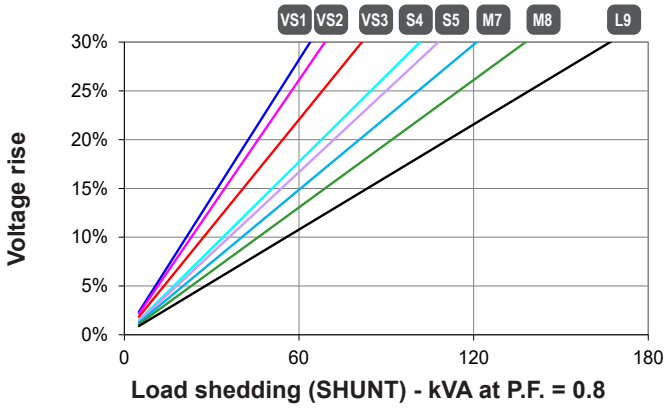
Other class H/480 V data

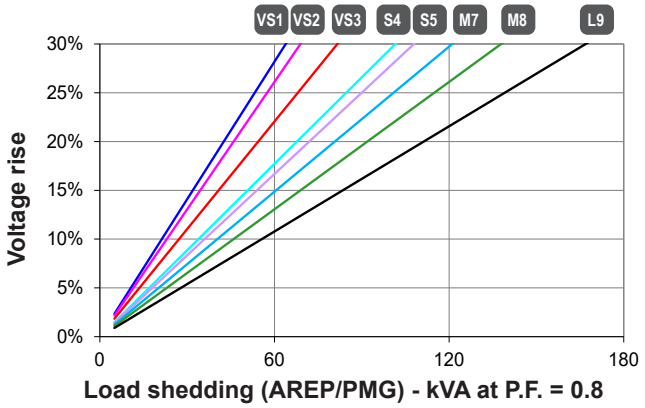
io (A)	No-load excitation current (SHUNT/AREP)	0.55/0.85	0.52/0.8	0.51/0.79	0.49/0.75	0.49/0.75	0.46/0.71	0.5/0.77	0.5/0.77
ic (A)	On-load excitation current (SHUNT/AREP)	1.79/2.74	1.76/2.71	1.8/2.76	1.56/2.39	1.75/2.69	1.77/2.71	1.87/2.87	2.14/3.28
uc (V)	On-load excitation voltage (SHUNT/AREP)	30.8/19.7	30.3/19.4	30.8/19.7	26.7/17.1	29.8/19	29.8/19.1	31.3/20	35.1/22.4
ms	Response time (ΔU = 20% transient)	500	500	500	500	500	500	500	500
kVA	Start (ΔU = 20% cont. or (ΔU = 30% trans.) SHUNT	63	68	82	112	112	125	147	169
kVA	Start (ΔU = 20% cont. or (ΔU = 30% trans.) AREP	76	82	99	135	134	150	177	200
%	Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 $_{LAG}$	16.8	16.8	16.6	14.7	15.8	15.9	15.4	16.2
%	Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 $_{LAG}$	15.1	15.1	15	13.3	14.3	14.4	13.9	14.6
W	No-load losses	1 021	1 016	1 087	1 229	1 229	1 258	1 462	1 590
W	Heat dissipation	3 431	3 568	3 954	3 640	4 343	4 737	5 160	6 443

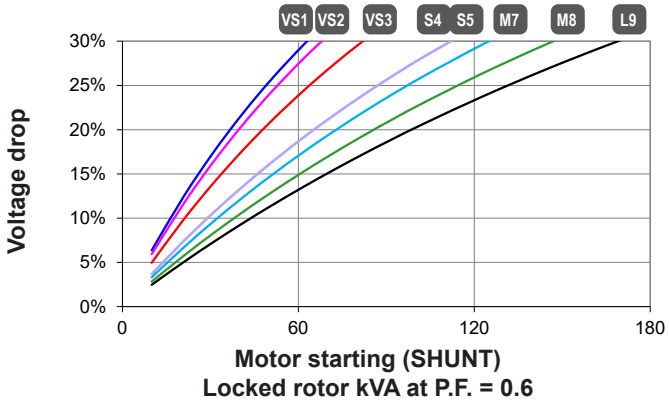
Transient voltage variation 480V - 60 Hz

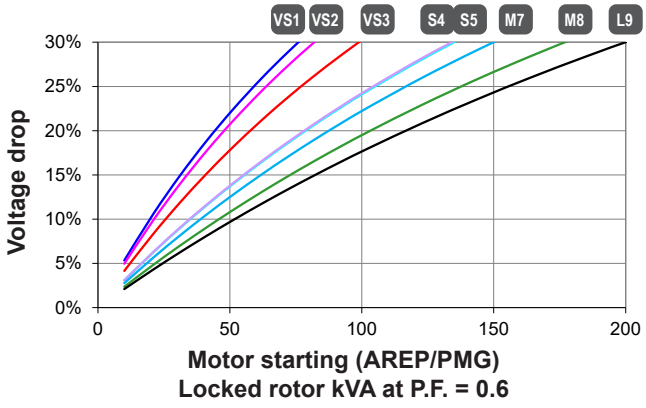










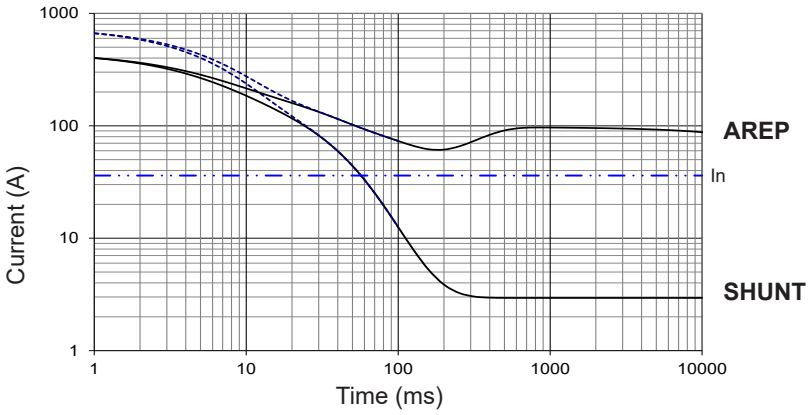


1) For a starting P.F. other than 0.6, the starting kVA must be multiplied by K = Sine P.F. / 0.8
2) For voltages other than 480V (Y), 277V (Δ), 240V (YY) at 60 Hz, then kVA must be multiplied by $(480/U)^2$ or $(277/U)^2$ or $(240/U)^2$.

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

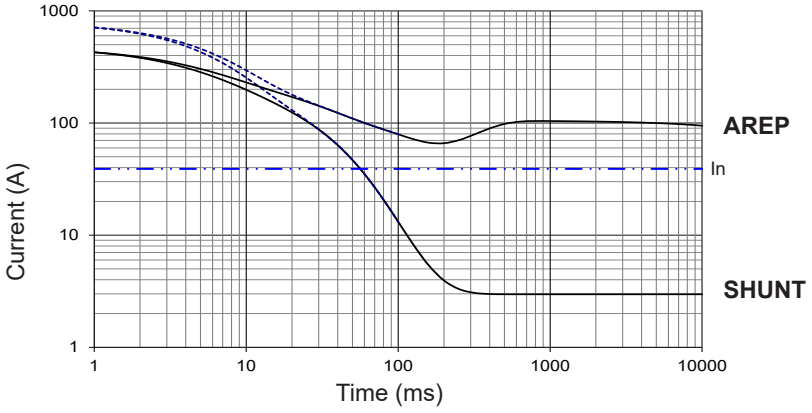
LSA 42.3 VS1

Symmetrical ——
Asymmetrical - - -



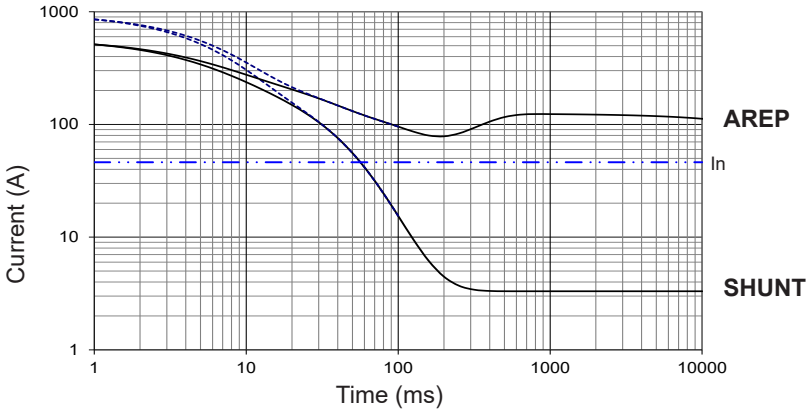
LSA 42.3 VS2

Symmetrical ——
Asymmetrical - - -



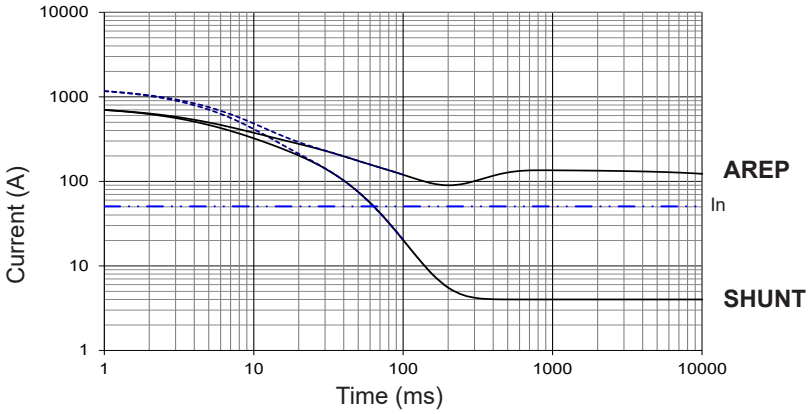
LSA 42.3 VS3

Symmetrical ——
Asymmetrical - - -



LSA 42.3 S4

Symmetrical ——
Asymmetrical - - -

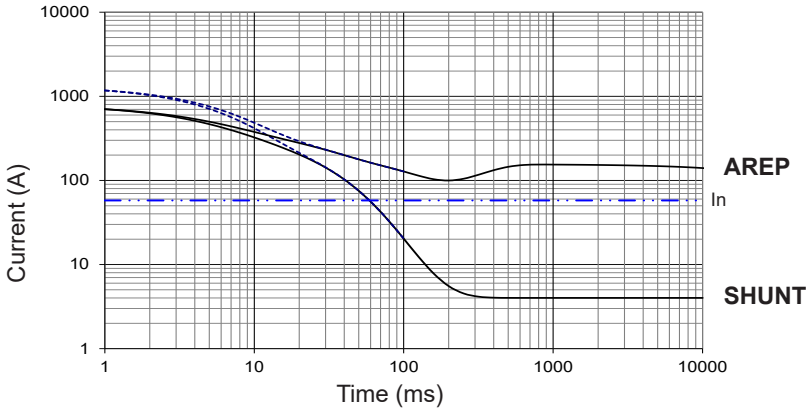


Influence due to connection
Curves shown are for star (Y) connection.
For other connections, use the following multiplication factors:
- Series delta : current value x 1.732 - Parallel star : current value x 2

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

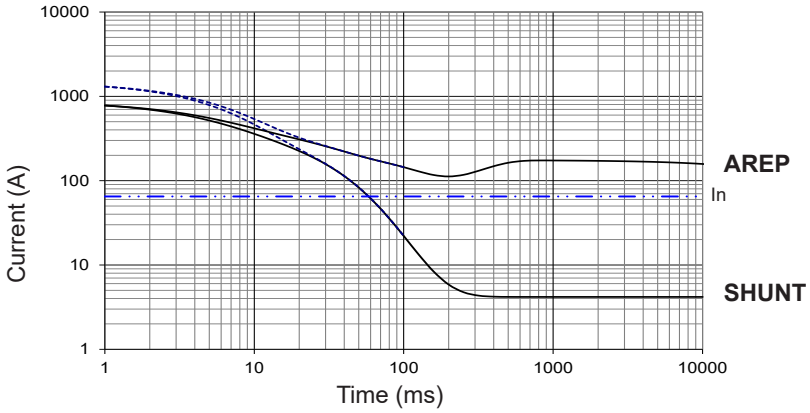
LSA 42.3 S5

Symmetrical ——
Asymmetrical - - -



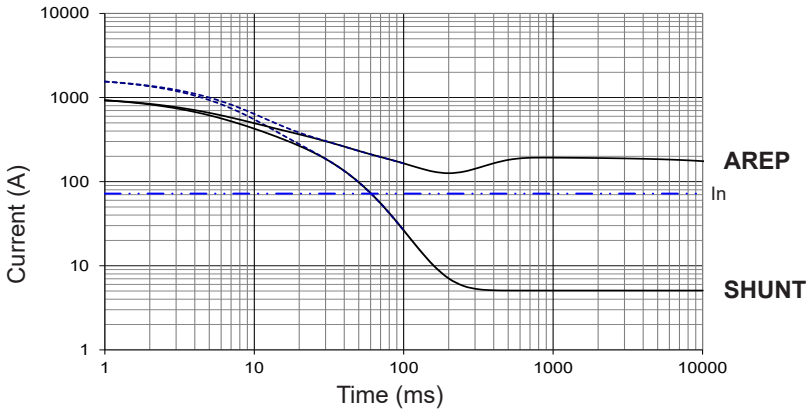
LSA 42.3 M7

Symmetrical ——
Asymmetrical - - -



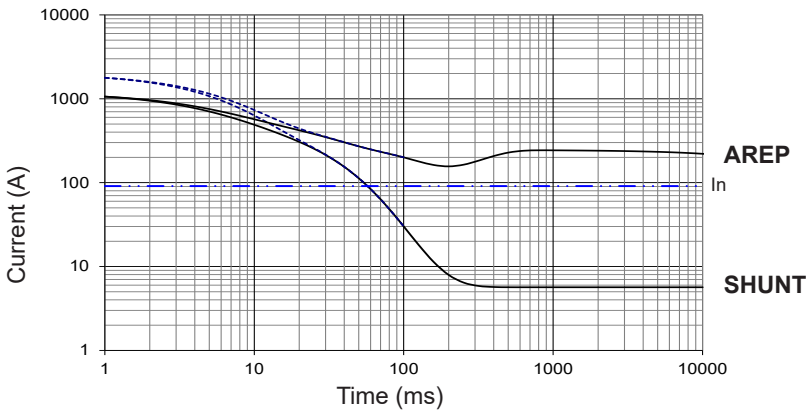
LSA 42.3 M8

Symmetrical ——
Asymmetrical - - -



LSA 42.3 L9

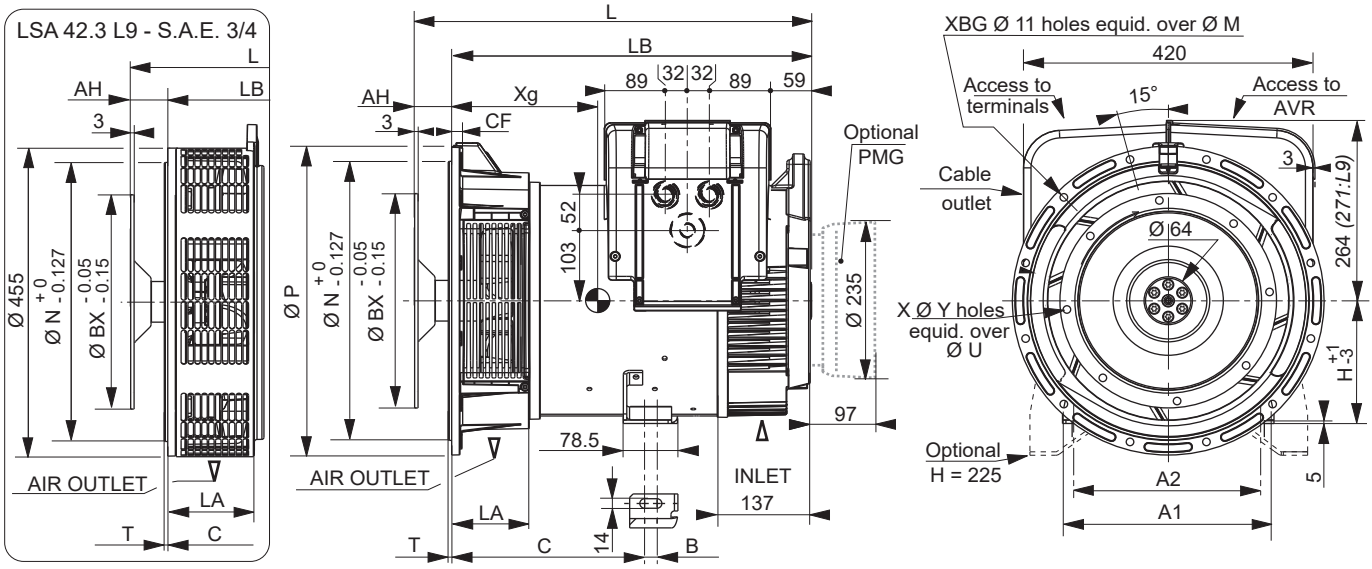
Symmetrical ——
Asymmetrical - - -



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 (AREP/PMG)	10 sec.	5 sec.	2 sec.

Single-bearing dimensions



Dimensions (mm) and weight (kg)					H = 180 (Standard)				*H = 225 (Option)*			
Type	L without PMG maxi*	LB	Xg	Weight	C	B	A1	A2	*C*	*B*	*A1*	*A2*
LSA 42.3 VS1	565	503	237	117	260	18	307	279	*299*	*23*	*400*	*356*
LSA 42.3 VS2	565	503	242	122	260	18	307	279	*299*	*23*	*400*	*356*
LSA 42.3 VS3	565	503	252	133	260	18	307	279	*299*	*23*	*400*	*356*
LSA 42.3 S4/S5	610	548	275	165	260	18	307	279	*312.5*	*23*	*400*	*356*
LSA 42.3 M7	650	588	287	181	260	18	307	279	*312.5*	*23*	*400*	*356*
LSA 42.3 M8	650	588	295	186	260	18	307	279	*312.5*	*23*	*400*	*356*
LSA 42.3 L9**	680	618	310	187	260	18	307	279	*312.5*	*23*	*400*	*356*
LSA 42.3 L9***	703	641	300	195	283	18	307	279	*335.5*	*23*	*400*	*356*

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

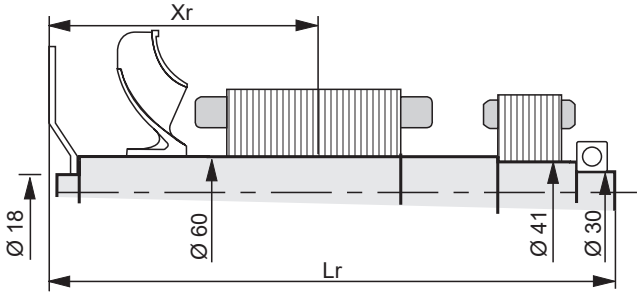
Coupling			
Flange	**2**	**3**	**4**
Flex plate			
11 ½	x	x	-
10	x	x	x
8	-	x	x
7 ½	-	x	x

Flange (mm)							
S.A.E.	P	N	M	XBG	T	LA	CF
4	406/455*	361.95	381	12	5*/6	114/128*	15/16*
3	452	409.58	428.62	12	5	113/105*	15/12*
2	490	447.675	466.725	12	6	111	12

* Specific dimension LSA 42.3 L9

Flex plate (mm)					
S.A.E.	BX	U	X	Y	AH
11 ½	352.42	333.38	8	11	39.6
10	314.32	295.28	8	11	53.8
8	263.52	244.48	6	11	62
7 ½	241.3	222.25	8	9	30.2

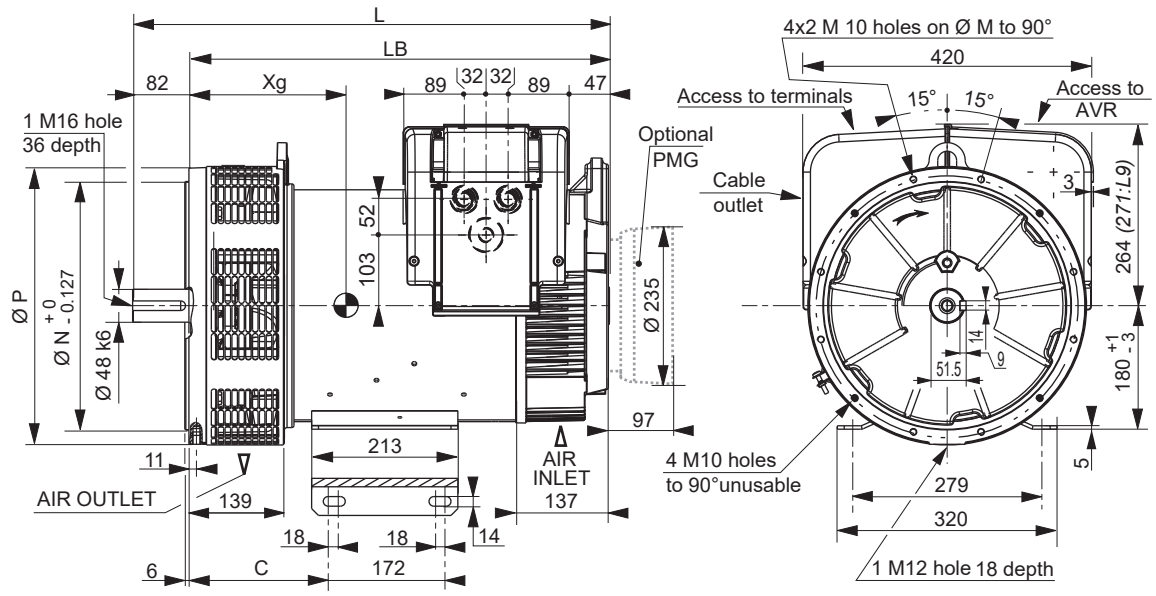
Torsional analysis data



Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): (4J = MD²)																
Flex plate	S.A.E. 7 ½				S.A.E. 8				S.A.E. 10				S.A.E. 11 ½			
Type	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J
LSA 42.3 VS1	275.01	526.2	47.1	0.2012	330.9	558	47.96	0.2069	290.39	549.8	48.39	0.2174	278.1	535.6	48.63	0.2304
LSA 42.3 VS2	277.42	526.2	48.99	0.2122	303.5	558	49.85	0.2179	293.06	549.8	50.28	0.2284	281.68	535.6	50.52	0.2414
LSA 42.3 VS3	282.73	526.2	53.08	0.2343	309.17	558	53.94	0.24	298.84	549.8	54.37	0.2505	289.09	535.6	54.61	0.2635
LSA 42.3 S4/S5	304.7	571.2	63.37	0.2854	331.69	603	64.23	0.2911	321.56	594.8	64.66	0.3016	311.45	580.6	64.9	0.3146
LSA 42.3 M7	319.47	611.2	69.45	0.3132	346.7	643	70.31	0.3189	336.64	634.8	70.74	0.3294	325.22	620.6	70.98	0.3424
LSA 42.3 M8	324.35	611.2	72.45	0.3297	351.7	643	73.31	0.3354	341.69	634.8	73.74	0.3459	331.36	620.6	73.98	0.3589
LSA 42.3 L9	338.23	641.2	79.59	0.3693	365.83	673	80.45	0.375	356.27	664.8	80.88	0.3855	341.06	650.6	81.12	0.3985

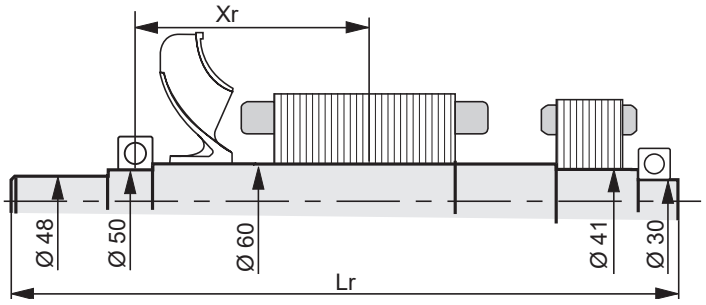
NOTE : Dimensions are for information only and may be subject to modifications. Contractual 2D drawings can be downloaded from the Nidec Power website, 3D drawing files are available upon request.
The torsional analysis of the transmission is imperative. All values are available upon request.

Two-bearing dimensions



Dimensions (mm) and weight (kg)								
Type	L without PMG	LB	N	M	P	C	Xg	Weight
LSA 42.3 VS1	610	528	361.95	381	406	189.25	242	129
LSA 42.3 VS2	610	528	361.95	381	406	189.25	247	134
LSA 42.3 VS3	610	528	361.95	381	406	189.25	257	145
LSA 42.3 S4/S5	655	573	361.95	381	406	202.75	280	170
LSA 42.3 M7	695	613	361.95	381	406	202.75	292	185
LSA 42.3 M8	695	613	361.95	381	406	202.75	300	190
LSA 42.3 L9	725	643	409.58	428.62	455	202.75	314	207

Torsional analysis data



Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): (4J = MD²)				
Type	Xr	Lr	M	J
LSA 42.3 VS1	245.17	603	46.67	0.1935
LSA 42.3 VS2	247.66	603	48.57	0.2045
LSA 42.3 VS3	253.16	603	52.65	0.2266
LSA 42.3 S4/S5	275.27	648	62.95	0.2778
LSA 42.3 M7	290.08	688	69.02	0.3056
LSA 42.3 M8	297.2	688	72.02	0.3221
LSA 42.3 L9	310.96	718	79.24	0.3617

NOTE : Dimensions are for information only and may be subject to modifications. Contractual 2D drawings can be downloaded from the Nidec Power website, 3D drawing files are available upon request.
The torsional analysis of the transmission is imperative. All values are available upon request.

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