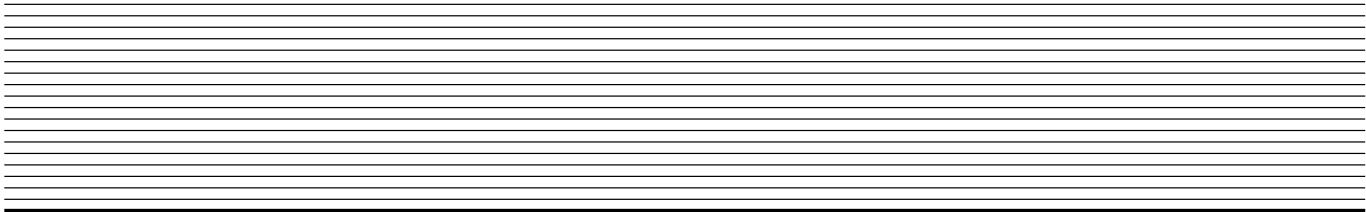


## 1500W range MACHINES

### Technical specifications







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# Asynchronous squirrel cage motor LSFMV90D

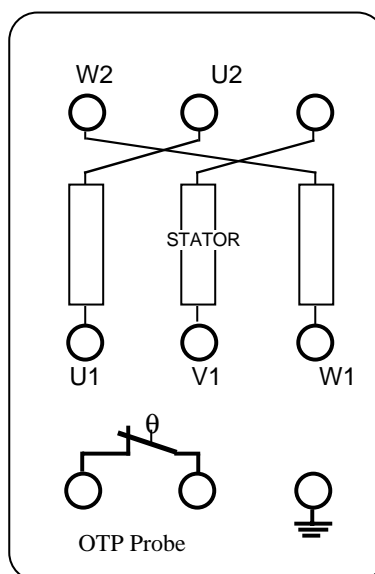
## 5. CONTROL at 28°C - frequency : 50 Hz star connecting

	C	U	I	Pa	n	g	Pu	Rdt	Cos phi
	m.daN	V	A	W	min-1	%	W	%	
no load		400	2,23	210	1496				0,14
1/4	0,26	400	2,31	626	1485	1,00	405	64,60	0,39
2/4	0,5	400	2,59	1028	1472	1,87	775	75,40	0,57
3/4	0,74	400	2,98	1436	1456	2,93	1130	78,70	0,70
4/4	0,97	400	3,46	1848	1440	4,00	1470	79,50	0,77
5/4	1,22	400	4,02	2289	1423	5,13	1812	79,20	0,82
6/4	1,46	400	4,65	2746	1404	6,40	2142	78,00	0,85

## 6. TORQUE CONTROL -

	C	U	I	n	C/Cn	I/In	Pu	Cos phi
	m.daN	V	A	tr.min			W	
Cd	0.03	400	22,00	0	3,00	6,36	0,00	0,00
Ca	2,60	400	20,00	300	2,60			
Cn	1,00	400	3,46	1440	1,00			
Cm	3,30	400	11,80	1100	3,30			

## 7. TERMINALS BOX



**NOTA :** The indicated values correspond to tests on a specific machine. Tests on similar machines may indicate differences. These differences will respect CEI 34.1 norm tolerance

# Asynchronous squirrel cage motor LSFMV90.4

## 1 - MAIN SPECIFICATIONS

- Frequency	:	50 Hz
- Power	:	1.5 kW
- Speed	:	1440 min <sup>-1</sup>
- Stator	:	delta connecting
Voltage	:	400 V
Current	:	3.5 A
- Cos (phi )	:	0.77
- Duty	:	continuous S1
- Protection	:	IP 20
- Mounting position	:	B3
- Insulation	:	Range F
- Temperature rise	:	Range B
- Ambient temperature	:	40°C
- Norms	:	CEI 34.1
- 1 main shaft end	:	Ø 24 mm
- 1 secondary shaft end	:	Ø 19 mm
- Thermal protection	:	1 OTP probe 130°C OTP: Opening Thermal Protection 230V/2,5A with cos Ø = 0,5

**2. TEMPERATURE RISE** : during 60 min.

Winding resistance at 20°C : 8,16 Ω

Winding resistance at 28°C : 10Ω

Delta T : 57,5 K

**3. HIGH POTENTIAL TEST** : Voltage : 2000V during : 1 min.

**4. INSULATION TEST** : Voltage : 500V 2000 MΩ



# Asynchronous squirrel cage motor LSFMV90.4

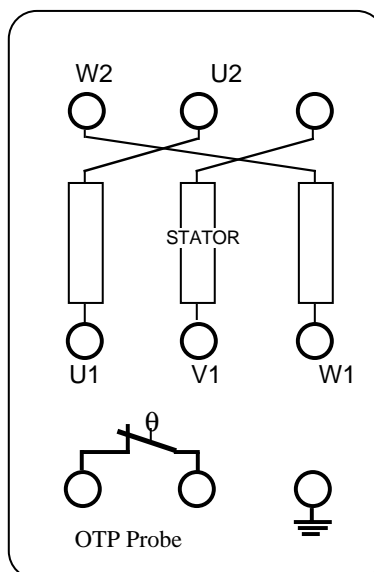
## 5. CONTROL at 28°C - frequency : 50 Hz star connecting

	C	U	I	Pa	n	g	Pu	Rdt	Cos phi
	m.daN	V	A	W	min-1	%	W	%	
no load		400	2,25	200	1500				0,13
1/4	0,09	400	2,45	580	1481	1,30	359	62,00	0,34
2/4	0,2	400	2,70	1020	1469	2,10	766	75,10	0,55
3/4	0,34	400	3,10	1420	1456	2,90	1112	78,30	0,66
4/4	0,44	400	3,50	1860	1441	3,90	1484	79,80	0,77
5/4	0,62	400	4,25	2380	1424	5,10	1875	78,80	0,81
6/4	0,75	400	4,90	2880	1409	6,10	2239	77,70	0,85

## 6. TORQUE CONTROL -

	C	U	I	n	C/Cn	I/In	Pu	Cos phi
	m.daN	V	A	tr.min			W	
Cd	0.03	400	22,00	0	2,70	6,29		
Ca	2,70	400	19,00	250	2,70			
Cn	1,00	400	3,50	1440	1,00			
Cm	3,36	400	1,25	1100	3,36			

## 7. TERMINALS BOX



**NOTA :** The indicated values correspond to tests on a specific machine. Tests on similar machines may indicate differences. These differences will respect CEI 34.1 norm tolerance

# Asynchronous squirrel cage motor LSVMV90

## 1. MAIN CHARACTERISTICS

Asynchronous motor for operation with flux vector controller.

- Frequency	:	50 Hz	- Power	:	1,5 kW
- Rotation speed*	:	1435 min <sup>-1</sup>			
- Stator voltage	:	star coupling 400 V	- delta coupling	:	230 V
- Stator current	:	3,2 A			5,5 A
- Cos φ	:	0,84			
- Inertia	:	J = 0,0049 kg.m <sup>2</sup>			
- Service	:	continuous S1	- Protection	:	IP 55
- Frame	:	B3			
- Insulation	:	Class F	- Heating	:	Classe B
- Ambient temperature	:	40°C			
- Norms	:	CEI 34.1			
- 2 shaft ends	:	1 main shaft Ø 24 mm provided with a half coupling a secondary shaft fitted with a 1024 point encoder			
- Thermal Protection	:	1 OTP probe 130°C . OTP : Opening thermal Protection (contact cal.230V/ 2,5A with cos.Ø = 0,5) Outputs on 2 safety plugs Ø 4mm.			
- Forced ventilation	:				

\* rotation speed : in case of use with flux vector controller, the maximum speed is 4 000 min<sup>-1</sup> .

**2. TEMPERATURE RISE** : during 240 min.

R at 20 °C : 10,73 Ω T : 13°C

R at 28 °c : 13,28 Ω T : 22°C

Delta T : 57,36 K

**3. HIGH POTENTIAL TEST** : Voltage : 2000V during : 1 min.

**4. INSULATION TEST** : voltage : 500V R : 2000 MΩ

# Asynchronous squirrel cage motor LSVMV90

## 5. CONTROL at 28° C

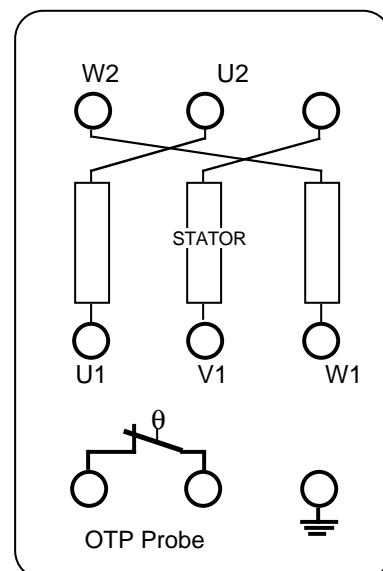
frequency : 50 Hz      Star coupling

	C	U	I	Pa	n	g	Pu	Rdt	Cos phi
	m.daN	V	A	W	tr.min	%	W	%	
no load		400	1,54	136	1500				0,127
1/4	0,18	400	1,63	421	1487	0,90	276	65,40	0,373
2/4	0,53	400	2,14	1009	1468	2,10	807	80,00	0,681
3/4	0,75	400	2,62	1407	1452	3,20	1138	80,90	0,775
4/4	0,99	400	3,20	1857	1435	4,30	1489	80,20	0,838
5/4	1,33	400	4,22	2540	1404	6,40	1953	76,90	0,869
6/4	1,54	400	4,87	2990	1383	7,80	2228	74,50	0,886

## 6. TORQUE CONTROL

	C	U	I	n	C/Cn	I/In	Pu	Cos phi
	m.daN	V	A	tr.min			W	
Cd	2,00	400	18,60	0	2,00	5,81	0,00	0,00
Ca	1,98	400	17,50	250	1,98			
Cn	1,00	400	3,20	1435				
Cm	2,30	400	10,40	1000	2,30			

## 7. TERMINAL BOX



**NOTA :** The indicated values correspond to tests on a specific machine. Tests on similiary machines may indicate differences. These differences will respect CEI 34.1 norm tolerance

# Self piloted synchronous motor

## LSSMV90

### 1. MAIN CHARACTERISTICS

- Frequency	:	50 Hz	- Power	:	1,3 kW
- Rotation speed*	:	3000 min <sup>-1</sup>			
- Voltage	:	400 V 3ph			
- Permanent current	:	2,69 A			
- Peak current	:	6,7 A			
- Permanent torque	:	4,3 Nm			
- Peak torque	:	10,7 Nm			
- Resistance between phases	:	11,5 Ohms			
- Inducance between phases	:	44,3 mH			
- Insulation range	:	classe H			
- Protection	:	IP 65 untill 3000 min <sup>-1</sup> IP 54 above 3000 min <sup>-1</sup>			
- Terminal box	:	Specific box to link with the controller			
- Shaft ends	:	un bout d'arbre principal équipé d'un demi manchon d'accouplement un 2 <sup>e</sup> bout d'arbre équipé d'un codeur 4096 points.			
- 2 shaft ends	:	1 main shaft Ø 24 mm provided with a half coupling a secondary shaft fitted with a 4096 point encoder			
- Thermal Protection	:	1 CTP probe .			

### 2. TORQUE AND THERMAL TESTS

Nominal torque	Nm	3,62	4,17
Nominal speed	min <sup>-1</sup>	3000	3000
Nominal current	A	3	3,23
Nominal power	W	1141	1 312,00
Thermal resistor	°C / W	1	0,50
Coiling maximum temperature	° C	121	146,00
Permanent current "au calage"	A	2,96	3,26
Torque "au calage"	Nm	3,86	4,24

**NOTA** : The indicated values correspond to tests on a specific machine. Tests on similiary machines may indicate differencies. These differencies will respect CEI 34.1 norm tolerance

# Single phase asynchronous motor AM1L

## 1 - MAIN CHARACTERISTICS

- Frequency	:	50 Hz	1-ph voltage	:	230 V
- Nominal power	:	1500W	Rotation speed	:	1500 min <sup>-1</sup>
- Run capacitor	:	40MF/400V			
- start capacitor	:	160MF/250V			
- Protection	:	IP44	Mounting form	:	B3
- Insulation	:	range F			
- Casing	:	ALU	Norm	:	NF C51-111
- Ambient maxi T	:	40°C	Duty	:	S1
- Thermal protector	:	1 OTP 130°C probe			
PTO	:	Opening Thermal Protection (contact cal.230V/ 2,5A with cos φ 0,4) Output on safety terminal with 2 Ø4 mm plugs.			

## 2 - REAL TESTS with U = 230 V 50Hz

### 2.1 - Winding resistance at 20°C

Main pole (PP)	:	1,935 Ω	Auxillary phase (PA)	:	3,537Ω
----------------	---	---------	----------------------	---	--------

### 2.2 - No load test

current	:	2,7A	Power	:	380W	speed	:	1497 min <sup>-1</sup>
---------	---	------	-------	---	------	-------	---	------------------------

### 2.3 - Operating point

Cn	:	10 Nm	IN	:	8,580A	PiN	:	1950W
Nn	:	1432 min <sup>-1</sup>	η	:	76,9	Cos phi	:	0,99

### 2.4 - Locked rotor torque

Cd	:	17,6 Nm	Id	:	47,00A	Pid	:	10800W
Cd/Cn	:	1,2	Id/IN	:	5,5			

### 2.5 - Breakdown torque

Cm	:	20,8Nm	with n	:	1290 min <sup>-1</sup>	Cm/Cn	:	2,1
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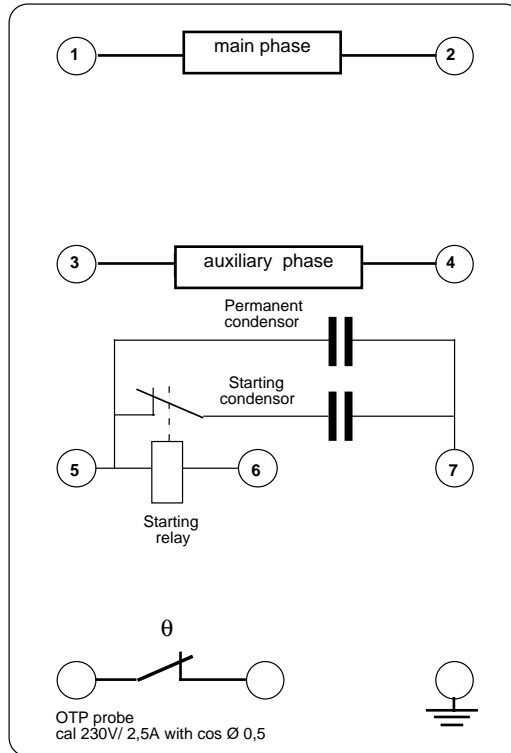
### 2.6 - Temperature rise test

Δθ PP	:	88K	Δθ PA	:	78K
with temperature: 25°C					

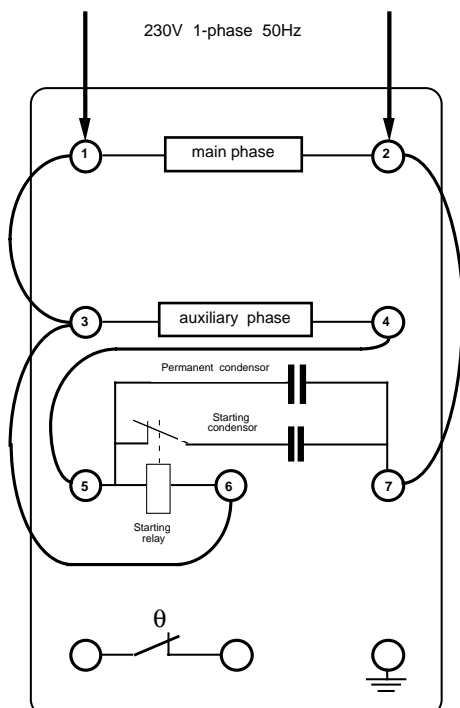
**NOTA** : The indicated values correspond to tests on a specific machine. Tests on similiary machines may indicate differencies. These differencies will respect CEI 34.1 norm tolerance.

# Single phase asynchronous motor AM1L

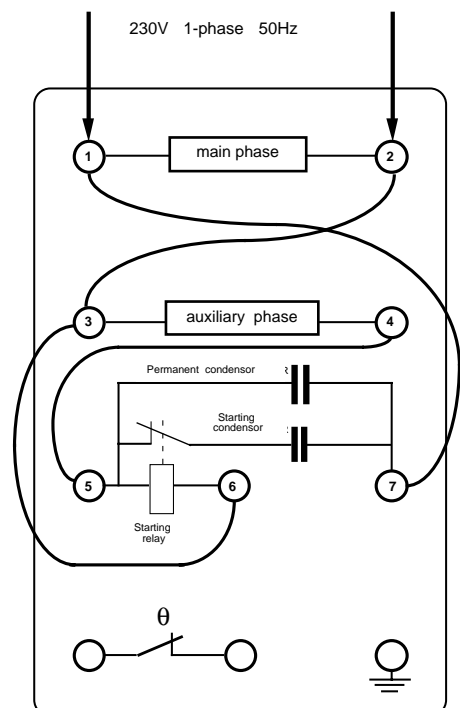
## E . TERMINAL BOX AND CONNECTION DIAGRAM



CONNECTION DIAGRAM  
clockwise rotation



CONNECTION DIAGRAM  
anticlockwise rotation



# 2 speeds DALHANDER coupling motor A2L CP

## 1- MAIN SPECIFICATIONS

Frecuency	: 50Hz	3-phase voltage	: 220 V
Power	: 0,7/1,3 kW	speed	: 1500 /750 min <sup>-1</sup>
Cos phi	: 0,83/0,47	Rendement	: 0,6/0,37 %
Speed	: 1460/730 min <sup>-1</sup>	Service	: S8
In.star	: 1,25/1,38 A	Protection	: IP55
Frame	: IMB3		
insulation range	: F		
Norm	: CEI 34-1		

## 2 - TESTS : Nn = 1500 min<sup>-1</sup>.

2.1 - Résistors at 20 °C : R = 3,6 Ω

2.2 - Tests at 20°C: Frequency : 50 Hz Coupling : delta

Load	T N.m	U V	I A	Pa W	n min <sup>-1</sup>	g %	Pu W	h %	Cos phi
outload	-	220	2,93	220	1 500	-	-	-	0,197
1/4	0,21	220	3,17	553	1 492	0,50	322	58,18	0,458
2/4	0,41	220	3,64	892	1 485	1,00	637	71,43	0,643
3/4	0,61	220	4,27	1230	1 475	1,70	937	76,20	0,758
4/4	0,82	220	5,08	1601	1 466	2,30	1253	78,23	0,827
5/4	1,3	220	6,03	1998	1 455	3,00	1571	78,64	0,870
6/4	1,24	220	7,04	2402	1 444	3,70	1878	78,19	0,895

## 2.3 - Torque tests :

T	N.m	U V	I A	n min <sup>-1</sup>	T <sub>i</sub> /T <sub>n</sub>	I <sub>i</sub> /I <sub>n</sub>
T <sub>d</sub>	1,9	220	35	0	2,16	6,73
T <sub>a</sub>	1,54	220	34	280	1,75	-
T <sub>n</sub>	0,88	220	5,2	1460	-	-
T <sub>m</sub>	2,8	220	22	1200	3,18	-

---

T<sub>d</sub> : starting torque moment  
 T<sub>a</sub> : hanging torque moment  
 T<sub>n</sub> : nominal torque moment  
 T<sub>m</sub> : hanging torque moment

2.4 - High potential test : Voltage : 2000 V During : 1 minute.

2.5 - Insulation test : Voltage : 500 V R (cold) : 2000 M.Ω  
R (hot) : 2000 M.Ω.

# 2 speeds DALHANDER coupling motor A2L CP

## 3 - TESTS : $N_n = 750 \text{ min}^{-1}$

3.1 - Résistors at 20 °C :  $R = 4,76 \Omega$

3.2 - Tests at 20 °C    Frequency : 50 Hz    Coupling : DELTA

LOAD	$T$ N.m	$U$ V	$I$ A	$P_a$ W	$n$ $\text{min}^{-1}$	$g$ %	$P_u$ W	$\eta$ %	Cos $\emptyset$
outload	-	220	6,88	514	750	-	-	-	0,196
1/4	0,23	220	6,80	685	746	0,50	177	25,84	0,264
2/4	0,44	220	6,82	857	742	1,10	343	40,07	0,330
3/4	0,66	220	6,89	1034	739	1,50	509	49,21	0,394
4/4	0,88	220	7,00	1220	735	2,00	677	55,48	0,457
5/4	1,10	220	7,22	1417	731	2,50	843	59,46	0,515
6/4	1,33	220	7,47	1621	726	3,20	1008	62,18	0,569

### 3.3 - Torque tests :

$T$	N.m	$U$	V	$I$	A	$n$	$\text{min}^{-1}$	$T/T_n$	$I/I_n$
$T_d$	2,89	220		27		0		3,04	3,80
$T_a$	2,60	220		23		250		2,74	-
$T_n$	0,95	220		7,1		730		-	-
$T_m$	3,69	220		16,5		595		3,88	-

$T_d$  : starting torque moment  
 $T_a$  : hanging torque moment .  
 $T_n$  : nominal torque moment  
 $T_m$  : hanging torque moment

3.4 - High potential test :    Voltage : 2000 V    During : 1 min.

3.5 - Insulation tests :    Voltage : 500V    R (cold) : 2 000 M.Ω  
R (hot) : 2 000 M.Ω

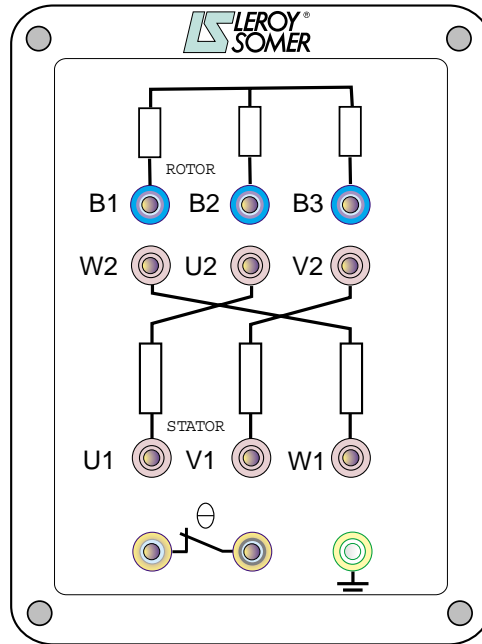
**Nota:** The indicates values correspond to tests on a specific machine AA07A 7154 . Test on similiary machines may indicate differencies. These differencies will respect CEI 34;1 norm tolerance.





# Asynchronous slip-ring motor A3L

## 5- TERMINAL BOX



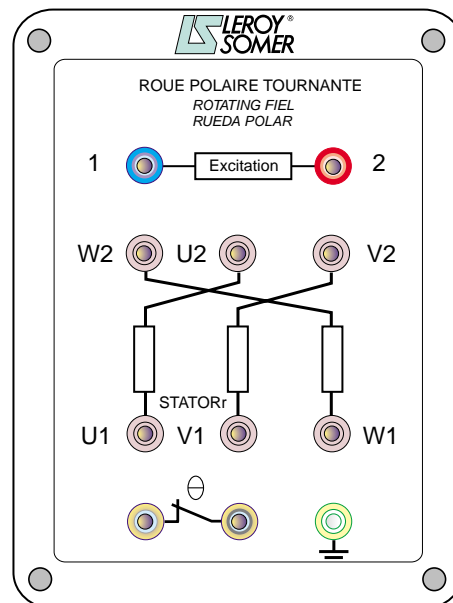
# 3-phase synchronous machine LSAD 23L

## 3- PHASE SYNCHRONOUS MACHINE WITH ROTATING MAGNET WHEEL AND SEPARATE EXCITATION

### 1- MAIN CHARACTERISTICS

	ALTERNATOR	SYNCHRONOUS MOTOR
- Frequency ( f )	: 50 Hz	50 Hz
- Nominal power ( Pn )	: 1,2 kVA	0,9 kW
- Speed( Nn )	: 1500 min <sup>-1</sup>	1500 min <sup>-1</sup>
- Stator coupling	: delta/star	delta/star
• nominal voltage	: 231 / 400 V	231 / 400 V
• nominal current	: 3 / 1,75 A	3,6 / 2 A
- Magnet wheel excitation		
• at Po	: 0,53 A	
• at Pn ( cos $\phi$ =0,8 )	: 1,4 A	1,15 A
• max.voltage on load	: 140V for 1,4A	
- Cos. $\Phi$	: 0,8	0,8
- Duty	: S1	S1
- Protection	: IP 20	
- Mounting position	: B3	
- Insulation	: range F	
- Ambient temperature	: 40°C	
- 2 shaft ends	: $\varnothing$ 19 mm - L = 40 mm	
- Thermal protection	: 1 OTP temperature probe 130°C	
- Efficiency as alternator	: 72% at 1,2 kVA and cos. $\Phi$ =0,8	
- Weight	: 26 kg	

### 2. TERMINAL BOX



# 3-phase synchronous machine LSAD 23L

## 3 - TESTS AS ALTERNATOR

### 3.1 - Off load characteristics

frequency : 50 Hz      star coupling

i exc. (A)	0,06	0,12	0,15	0,25	0,36	0,48	0,53	0,59	0,71	0,78	0,87	1,03	1,17	1,40	1,64
U (V) U1/V1	39	104	135	220	304	380	400	440	480	500	520	540	560	580	596

### 3.2 - Working datas on load for different cos. $\Phi$

frequency : 50 Hz      delta coupling

P (kW)	S (kVA)	cos $\phi$	f (Hz)	Stator U (V)	Stator I (A)
			50	230	0
1,24		1	50	229	3,1
1,03	1,28	0,8	50	231	3,2
	1,23	0,16	50	229	3,09

### 3.3 - Short circuit characteristics

frequency : 50 Hz      star coupling

I eff. (A)	0,24	0,44	0,75	0,96	1,18	1,33	1,60	1,80	2,00
i exc.CC (A)	0,11	0,22	0,38	0,49	0,60	0,68	0,83	0,94	1,06

# 3-phase synchronous machine LSAD 23L

## 4 - TESTS AS SYNCHRONOUS MOTOR.

frequency : 50 Hz      network voltage : 400V      star coupling

The machine may start off load like an asynchronous motor with some precautions.

How to start the machine :

- a- short circuit the magnet wheel with a RCC resistor (value between 300 and 400  $\Omega$  - 150 W ).
- b- Supply progressively the stator until nominal voltage. The machine starts to reach a speed not far from synchronism.
- c- Eradicate RCC resistor and supply progressively the polarity wheel with direct current\* until nominal value , the machine "hangs on to network" and may be loaded.

\* DC supply : U variable from 0 to 170V , I max. 1,6A .

### Nominal working point

Pu (W)	Cu (N.m)	n (min <sup>-1</sup> )	Pa (W)	P (VA)	cos $\Phi$	F (Hz)	U (V)	I (A)	I exc. (A)	
1000	6,37	1500	1330	(1660)	0,8	50	400	2,4	(1,8)	(overload)
1000	6,37	1500	1230	1230	1	50	400	1,78	1,15	← Nominal

### MORDEY curve - off load

Network voltage : 400V    frequency : 50 Hz    star coupling    speed : 1500 min<sup>-1</sup>

Ueff. V	Ieff. A	Pabs. kW	cos $\Phi$	i exc. A	
404	0,95	0,13	0,20	0,00	Avec R
404	0,20	0,11	0,77	0,44	Sans R
404	0,72	0,11	0,22	0,10	
404	0,55	0,11	0,27	0,20	
404	0,40	0,10	0,38	0,30	
403	0,24	0,10	0,63	0,40	
402	0,17	0,11	0,93	0,50	
404	0,23	0,11	0,68	0,60	
403	0,38	0,12	0,45	0,70	
403	0,55	0,13	0,33	0,80	
403	0,72	0,13	0,27	0,90	
403	0,88	0,15	0,24	1,00	
401	1,06	0,16	0,22	1,10	
402	1,22	0,17	0,20	1,20	
401	1,39	0,19	0,20	1,30	
402	1,55	0,21	0,19	1,40	
403	1,79	0,23	0,19	1,50	
403	2,02	0,267	0,19	1,6	



**During tests on load, be careful with the stability limits of the machine. The machine may "take off". The statoric current becomes important and may be superior to nominal current.**

**NOTA :** The indicated values correspond to tests on a specific machine. Tests on similar machines may indicate differences. These differences will respect CEI 34.1 norm tolerance

# DC Motor with separate excitation

## MS100

### 1 - MAIN SPECIFICATIONS

- Power	:	1,5 kW	
- Speed	:	1500 min <sup>-1</sup>	speed max. : 4000 min <sup>-1</sup>
- Efficiency without excitation	:	0,81	
- ARMATURE			
Voltage	:	200 V	voltage max. : 420 V
Current	:	9,2 A	
- Inductance	:	57 mH	
- Inertia	:	6.10 <sup>-3</sup> kg.m <sup>2</sup>	
- EXCITATION			
Voltage	:	190 V D. C	
Current	:	0,44 A	
- Duty	:	S6 60 %	
- Protection	:	IP 20	
- Mounting position	:	B3	
- Insulation	:	Range F	
- Ambient temperature	:	40°C	
- 1 main shaft end	:	Ø 19 mm	
- 1 secondary shaft end	:	Ø 14 mm	
- Thermal protection	:	2 temperature OTP probes 130°C (1 into 1 of the auxiliary poles and 1 into 1 of the main poles)	

### 2 - WINDING

<b>2.1 - Armature</b>	:	24 slots - collector 72 segments - 2 poles - mush one layer : slot pitch 11 (1 à 12) - collector pitch 1 (1 à 2) 6 x 0,8 mm <sup>2</sup> turns - Ri = 1,9 Ω -	
<b>2.2 - Field magnet</b>	:	2250 x 0,375 mm <sup>2</sup> turns - R exc = 371 Ω -	
<b>2.3 - Auxiliary poles</b>	:	110 x 1,4 mm <sup>2</sup> turns - Rpa = 0,75 Ω -	
<b>2.4 - Brushes</b>	:	brushes - number 1 - dimensions 8 x 20 - quality A 212 -	

### 3 - RESISTORS

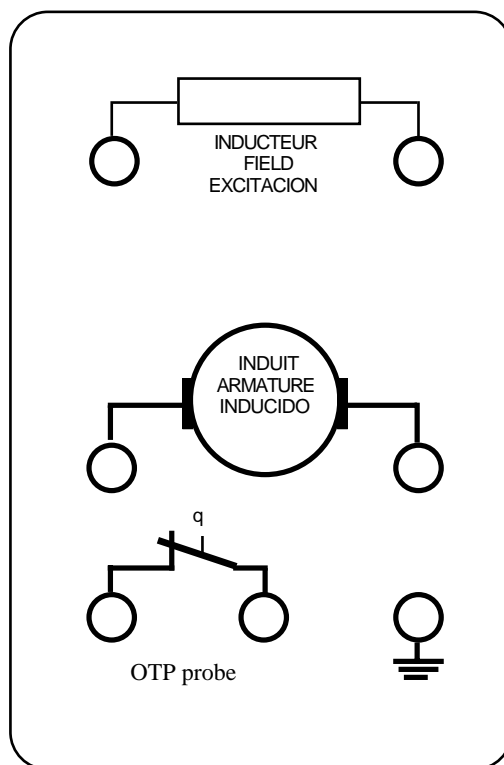
<b>3.1 - Armature</b>	:	Ri = 1,9Ω at 20 ° C
<b>3.2 - Field magnet</b>	:	Rexc = 371Ω at 20 ° C
<b>3.3- Auxiliary poles</b>	:	Rap = 0,75Ω at 20 ° C

# DC Motor with separate excitation MS100

## 4 - OFF LOAD and ON LOAD TESTS - separate excitation

	U excit	i excit	U armature	I armature	n
	V	A	V	I	min-1
Off- load under heat	190	0,44	200	0,7	1695
On-load under heat	190	0,44	200	9,2	1525

## 5 - TERMINAL BOX



**NOTA :** The indicated values correspond to tests on a specific machine. Tests on similar machines may indicate differences. These differences will respect CEI 34.1 norm tolerance

# DC motor with shunt or separate excitation MSC1L

## 1 - MAIN SPECIFICATIONS

- Power	: 1,5 kW	- rotation speed	: 1500 min <sup>-1</sup>
- Moment	: 9,7 Nm		
- ARMATURE voltage	: 220 V	- Current	: 7,5 A
- EXCITATION voltage	: 220 V	- Current	: 0,37 A
- Duty	: S6 60%		
- Protection	: IP 23	- Mounting position	: B3
- Insulation	: range F	- Ambient max temperature	: 40°C
- 1 main shaft end	: Ø 19 mm	- 1 secondary shaft end	: Ø 14 mm
- Thermal protection	: 2 temperature OTP probes 130°C (1 into 1 of the auxiliary poles and 1 into 1 of the main poles)		

## 2 - WINDING

**2.1 Armature** : 24 slots - collector 72 segments - 2 poles - mush one layer :  
slot pitch 11 (1 à 12) - collector pitch 1 (1 à 2)  
7 x 0,75 mm<sup>2</sup> turns  
Ri = 2,31 Ω cold (ambient T : 24°C)  
Ri = 3,02 Ω hot (ambient T : 24°C)  
ΔT = 80,6 k

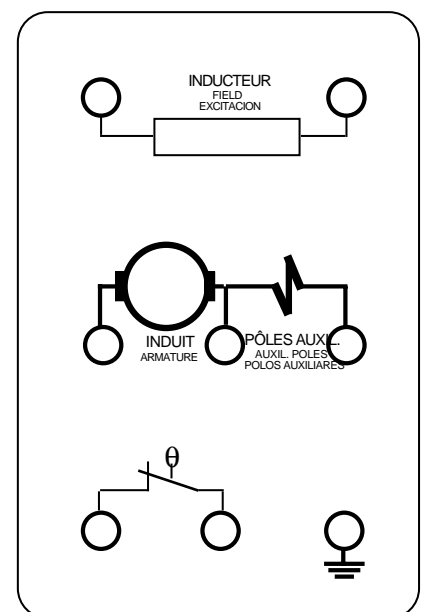
**2.2 - Field magnet** : 2600 x 0,335 mm<sup>2</sup> turns  
Rexc = 524,5 Ω cold (ambient T : 24°C)  
Rexc = 638,0 Ω hot (ambient T : 24°C)  
ΔT = 57 k

**2.3 - Auxiliary poles** : 128 x 1,32 mm<sup>2</sup> turns  
Rpa = 1,08 Ω cold (ambient T : 24°C)  
Rpa = 1,38 Ω hot (ambient T : 24°C)  
ΔT = 72,9 k

**3 - COMMUTATOR** : Hot temperature (ambient T =24°C)  
θ = 67°C

**4 - BRUSHES** : brushes - number 1 - dimensions 8 x 20 -  
quality A 212 -

TERMINAL BOX





# DC motor with shunt or separate excitation MSC1L

## 5 - TEST ON-LOAD with separate excitation -

$U_{excit}$	$i_{excit}$	$U_{armature}$	$I_{armature}$	load	$N$	$T$	$P$
V	A	V	I		tr.min <sup>-1</sup>	Nm	kW
220	0,334	220	2,20	1/4	1 570	2,42	0,39
"	"	"	4,09	1/2	1 511	4,85	0,76
"	"	"	6,08	3/4	1 466	7,20	1,09
"	"	"	8,10	4/4	1 430	9,70	1,42
"	"	"	10,40	5/4	1 382	12,10	1,71
"	"	"	13,10	6/4	1 330	14,50	1,98

## 6. TEST ON-LOAD with shunt excitation with rheostat R = 200 Ω

$U_{excit}$	$i_{excit}$	$U_{armature}$	$I_{armature}$	load	$N$	$T$	$P$
V	A	V	I		tr.min <sup>-1</sup>	Nm	kW
190	0,3	220	2,56	1/4	1 630	2,42	0,39
190	"	"	4,50	1/2	1 580	4,85	0,76
191	"	"	6,60	3/4	1 539	7,20	1,09
191	"	"	8,90	4/4	1 500	9,70	1,42
192	"	"	11,50	5/4	1 472	12,10	1,71
192	"	"	15,10	6/4	1 462	14,50	1,98

## 7. DEEXCITATION LIMIT ON-LOAD with stability

$U_{excit}$	$i_{excit}$	$U_{armature}$	$I_{armature}$	$N$	$T$	$P$
V	A	V	I	tr.min <sup>-1</sup>	Nm	kW
146	0,24	220	8,60	1 670	8,70	1,49

## 8. OVERLOAD STABILITY LIMIT > à6/4

$U_{excit}$	$i_{excit}$	$U_{armature}$	$I_{armature}$	$N$	$T$	$P$
V	A	V	I	tr.min <sup>-1</sup>	Nm	kW
198	0,32	220	19,30	1 340	17,00	2,22

## 9. CURVE without load with $N = 1\ 500\ \text{min}^{-1}$

$i_{excit}$	A	0,00	0,05	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50	0,55
$U$ increasing armature	V	25	63	114	148	169	183	194	202	208	213	218	222
$U$ decreasing armature	V	26	83	128	160	172	189	196	204	210	214	219	

**NOTA :** The indicated values correspond to tests on a specific machine. Tests on similar machines may indicate differences. These differences will respect CEI 34.1 norm tolerance24

# DC generator with shunt or separate excitation MSC4L

## 1 - MAIN SPECIFICATIONS

- Power	: 1,5 kW	- rotation speed	: 1500 min <sup>-1</sup>
- ARMATURE voltage	: 220 V	- Current	: 6,8 A
- EXCITATION voltage	: 220 V	- Current	: 0,44 A
- Duty	: S6 60%		
- Protection	: IP 23	- Mounting position	: B3
- Insulation	: range F	- Ambient max temperature	: 40°C
- 1 main shaft end	: Ø 19 mm	- 1 secondary shaft end	: Ø 14 mm
- Thermal protection	: 2 temperature OTP probes 130°C (1 into 1 of the auxiliary poles and 1 into 1 of the main poles)		

## 2 - WINDING

**2.1 Armature** : 24 slots - collector 72 segments - 2 poles - mush one layer :  
slot pitch 11 (1 à 12) - collector pitch 1 (1 à 2)  
9 x 0,67 mm<sup>2</sup> turns  
Ri = 3,704 Ω cold (ambient T : 24°C)  
Ri = 4,687 Ω hot (ambient T : 24°C)  
ΔT = 66,3 k

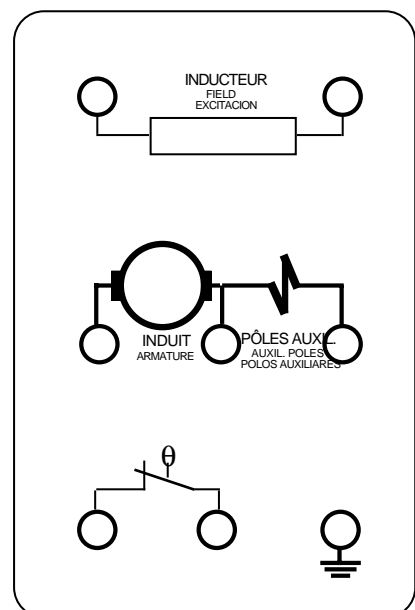
**2.2 - Field magnet** : 2500 x 0,375 mm<sup>2</sup> turns  
Rexc = 393,7 Ω cold (ambient T : 24°C)  
Rexc = 482,5 Ω hot (ambient T : 24°C)  
ΔT = 55,8 k

**2.3 - Auxiliary poles** : 210 x 1,25 mm<sup>2</sup> turns  
Rpa = 2,10 Ω cold (ambient T : 24°C)  
Rpa = 2,65 Ω hot (ambient T : 24°C)  
ΔT = 65,3 k

**3 - COMMUTATOR** : Hot temperature (ambient T =24°C)  
θ = 80°C

**4 - BRUSHES** : brushes - number 1 - dimensions 8 x 20 -  
quality A 212 -

### TERMINAL BOX



# DC generator with shunt or separate excitation MSC4L

## 5 - TEST : GENERATOR with separate excitation -

anticlockwise

<i>u</i> excit	<i>i</i> excit	<i>U</i> armature	<i>I</i> armature	load	<i>N</i>	<i>Tu</i> on shaft end	<i>Pu</i> on shaft end
V	A	V	A		min <sup>-1</sup>	Nm	kW
88	0,22	220	0,00	/	1 500	/	/
193	0,44	259	1,70	1/4	"	3,19	0,49
188	"	247	3,40	1/2	"	6,35	0,97
187	"	233	5,10	3/4	"	9,20	1,41
180	"	220	6,80	4/4	"	11,94	1,84
194	"	204	8,50	5/4	"	14,78	2,28
195	"	181	10,20	6/4	"	17,13	2,64
196	"	272	0,00	/	"		

## 5 - TEST : GENERATOR with shunt excitation -

anticlockwise

<i>u</i> excit	<i>i</i> excit	<i>U</i> armature	<i>I</i> armature	load	<i>N</i>	<i>Tu</i> on shaft end	<i>Pu</i> on shaft end
V	A	V	A		min <sup>-1</sup>	Nm	kW
291	0,65	291	0	/	1 500	/	/
269	0,56	269	1,7	1/4	"	4,44	0,69
252	0,51	252	3,4	1/2	"	7,47	1,15
232	0,46	232	5,1	3/4	"	10,13	1,56
207	0,41	207	6,8	4/4	"	12,54	1,94
159	0,32	159	8,5	5/4	"	13,42	2,07

## 6 - INDUCTANCE MEASUREMENT at50Hz

CIRCUITS	Voltage and current	Inductance	
Armature	61,7 V / 1,3 A	0,151 H	<b>P.A : Auxiliary poles</b>
	117 V / 2,4 A	0,155 H	
	169 V / 3,5 A	0,153 H	
P.A	44,5 V / 1,6 A	88,5 mH	<b>P.P : Main poles</b>
	81,4 V / 3 A	86,4 mH	
	119,3 V / 4,5 A	84,4 mH	
P.P	87,4 V / 5 mA	55,66 H	
	139,9 V / 7,5 mA	59,4 H	
	219 V / 11 mA	63,4 H	

**NOTA :** The indicated values correspond to tests on a specific machine. Tests on similiary machines may indicate differences. These differences will respect CEI 34.1 norm tolerance

# DC Generator oscillating setup shunt excitation MSC7L.

## 1 - MAIN CHARACTERISTICS

- Power on shaft	: 1,5 kW	- rotation speed	: 1500 min <sup>-1</sup>
- ARMATURE voltage	: 220 V	- Current	: 6,8 A
- EXCITATION voltage	: 220 V	- Current	: 0,44 A
- Duty	: S6 60%		
- Protection	: IP 23	- Monting position	: B3
- Insulation	: range F	- Max. ambientTemperature	: 40°C
- 1 main shaft end	: Ø 19mm	- 1 secondary shaft end	: Ø 14 mm
- Thermal protection	: 2 temperature OTP probes 130°C (1 into 1 of the auxiliary poles and 1 into 1 of the main poles)		

## 2 - WINDING

**2.1 Armature** : 24 slots - collector 72 blades - 2 poles - mush one layer :  
slot pitch 11 (1 à 12) - collector pitch 1 (1 à 2)  
9 x 0,67 mm<sup>2</sup> turns  
Ri = 3,704 Ω cold (ambient T : 24°C)  
Ri = 4,687 Ω hot (ambient T : 24°C)  
ΔT = 66,3 k

**2.2 - Field magnet** : 2500 x 0,375 mm<sup>2</sup> turns  
Rexc = 393,7 Ω cold (ambient T : 24°C)  
Rexc = 482,5 Ω hot (ambient T : 24°C)  
ΔT = 55,8 k

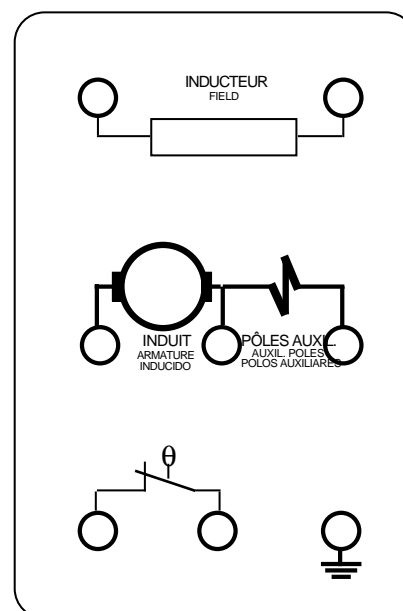
**2.3 - Auxiliary poles** : 210 x 1,25 mm<sup>2</sup> turns  
Rpa = 2,10 Ω cold (ambient T : 24°C)  
Rpa = 2,65 Ω hot (ambient T : 24°C)  
ΔT = 65,3 k

**3 - COMMUTATOR** : Hot temperature (ambient T =24°C)  
θ = 80°C

**4 - BRUSHES** : brushes - number 1 - dimensions 8 x 20 -  
quality A 212 -

**5 - TERMINAL BOX** : Outputs on safety terminals for male  
plugs Ø 4mm comprising : The plugs  
corresponding to machines'circuits and 2  
plugs corresponding to OTP thermal  
protection plugs to be connected in  
series in the control circuit

### TERMINAL BOX



# DC Generator oscillating setup shunt excitation MSC7L.

## 6 - TEST : GENERATOR with separate excitation

Anticlockwise

$u_{excit}$	$i_{excit}$	$U_{armature}$	$I_{armature}$	load	$N$	$Tu$ on shaft	$Pu$ on shaft
V	A	V	A		$min^{-1}$	Nm	kW
88	0,22	220	0,00	/	1 500	/	/
193	0,44	259	1,70	1/4	"	3,19	0,49
188	"	247	3,40	1/2	"	6,35	0,97
187	"	233	5,10	3/4	"	9,20	1,41
180	"	220	6,80	4/4	"	11,94	1,84
194	"	204	8,50	5/4	"	14,78	2,28
195	"	181	10,20	6/4	"	17,13	2,64
196	"	272	0,00	/	"		

## 7 - TEST : GENERATOR with shunt excitation

Anticlockwise

$u_{excit}$	$i_{excit}$	$U_{armature}$	$I_{armature}$	load	$N$	$Tu$ on shaft	$Pu$ on shaft
V	A	V	A		$min^{-1}$	Nm	kW
291	0,65	291	0	/	1 500	/	/
269	0,56	269	1,7	1/4	"	4,44	0,69
252	0,51	252	3,4	1/2	"	7,47	1,15
232	0,46	232	5,1	3/4	"	10,13	1,56
207	0,41	207	6,8	4/4	"	12,54	1,94
159	0,32	159	8,5	5/4	"	13,42	2,07

## 8 - INDUCTANCE MEASUREMENT at 50Hz

CIRCUITS	Voltage and current	Inductance	
Induit	61,7 V / 1,3 A	0,151 H	P.A : Auxiliary poles P.P : Main poles
	117 V / 2,4 A	0,155 H	
	169 V / 3,5 A	0,153 H	
P.A	44,5 V / 1,6 A	88,5 mH	
	81,4 V / 3 A	86,4 mH	
	119,3 V / 4,5 A	84,4 mH	
P.P	87,4 V / 5 mA	55,66 H	
	139,9 V / 7,5 mA	59,4 H	
	219 V / 11 mA	63,4 H	

# DC Generator oscillating setup shunt excitation MSC7L.

## 9 - TEST : MOTOR with separate excitation

### 9.1 Series test

<i>u</i> excit	<i>i</i> excit	<i>U</i> armature	<i>I</i> armature	<i>N</i>	<i>T</i>	<i>P</i>	rotation
V	A	V	A	min <sup>-1</sup>	Nm	kW	
220	0,555	220	0,20	1 155	/	/	clockwise
220	0,555	220	7,25	908	12,50	1,17	clockwise
209	0,437	220	7,33	956	11,90	1,17	clockwise
123	0,259	220	7,7	1 200	9,51	1,17	clockwise
207	0,437	220	7,25	952	/	/	anticlockwise

### 9.2 Test on load

Clockwise

<i>u</i> excit	<i>i</i> excit	<i>U</i> armature	<i>I</i> armature	load	<i>N</i>	<i>T</i>	<i>P</i>
V	A	V	A		min <sup>-1</sup>	Nm	kW
120	0,259	220	1,92	1/4	1 313	2,59	0,349
121	"	"	3,85	1/2	1 250	5,35	0,686
121	"	"	5,77	3/4	1 215	7,68	0,958
123	"	"	7,70	4/4	1 200	9,51	1,17
123	"	"	9,62	5/4	1 198	10,74	1,32
124	"	"	11,55	6/4	1 225	10,85	1,36

### 9.3 Desexcitation limit

Clockwise

<i>u</i> excit	<i>i</i> excit	<i>U</i> armature	<i>I</i> armature	<i>N</i>	
V	A	V	A	min <sup>-1</sup>	
267	0,555	220	7,70	836	stable
162	0,327	"	"	1 004	"
119	0,239	"	"	1 200	"
92	0,188	"	"	1 440	"
75	0,15	"	"	1 765	stability limit
65	0,133	"	"	1 960	instable



### 9 - Test off load as motor

<b><i>U</i> excit</b>	<b>A</b>	233,00	162,00	114,00	90,00	72,00	57,00	43,00	37,00	30,00	25,00	22,00
<b><i>i</i> excit</b>	<b>A</b>	0,58	0,05	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
<b><i>U</i> armature</b>	<b>V</b>	220	220	220	220	220	220	220	220	220	220	220
<b><i>I</i> armature</b>	<b>A</b>	0,2	0,18	0,17	0,165	0,167	0,17	0,18	0,19	0,215	0,24	0,27
<b><i>N</i></b>	<b>min<sup>-1</sup></b>	1 138	1 231	1 337	1 432	1 541	1 695	1 943	2 121	2 435	2 687	2 969

**NOTA** : The indicated values correspond to tests on a specific machine. Tests on similiary machines may indicate differencies. These differencies will respect CEI 34.1 norm tolerance

# DC Generator oscillating setup shunt excitation MSC7L.

## 10 - RESISTANT TORQUE MOMENT MEASUREMENT

This machine is oscillating setup with 2 arms : 1 short arm with a counterweight and another arm length 1 meter from the machine center with a weight  $M = 9,81\text{N}$

At first, to equilibrate the machine T, place the counterweight on the short arm in a way to compensate the weight of the opposite arm (the weight M must have been removed before)

Then, when the machine is running with a specific load, equilibrate the frame with the weight M sliding along the graduated arm to obtain the length L (in meters)

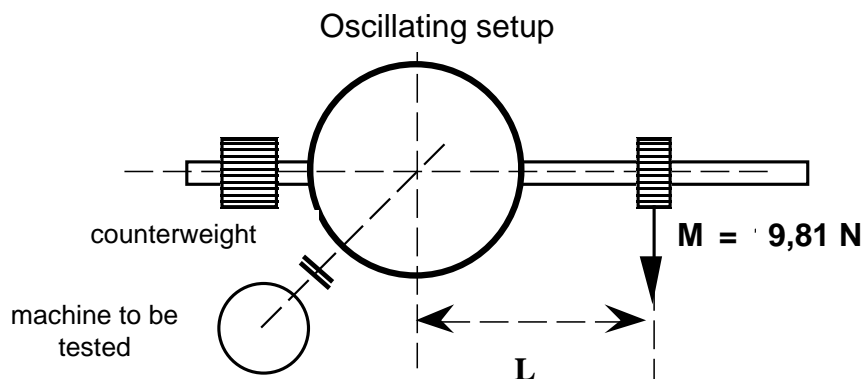
The resistant torque moment T is the result of  $M \times L \rightarrow T = M \cdot g \cdot L$  with  $M = 9,81\text{ N}$

*Nota* : The machine is delivered with 2 removable arms

Option : The machine may be equipped with a 50 kg force sensor. Associated with a torque readout ref LCCA (available on request with extra cost), it permits to obtain a direct read of torque moment. In this case, the arms are removed.

The arms will be used only for the force sensor calibration and then, removed for security needs.

**Important** : Before each use, check the right position of the 2 stops of the machine.



# Polyexcitation DC machine MSC8L

## 1 - MAIN SPECIFICATIONS

	MOTOR	GENERATOR
- Power	: 1,125 kW	1,25 kW
- Rotation speed	: 1200 min <sup>-1</sup>	1500 min <sup>-1</sup>
- Current	: 6,15 A	5,68 A
- Moment	: 9,1 Nm	
- Voltage	: 220 V	220V
- Duty	: S6 60%	
- Protection	: IP 23	- Mounting position : B3
- Insulation	: range F	-Max ambient temperature : 40°C
- 1 main shft end	: Ø 19 mm	-1 secondary shaft end : Ø 14 mm
-- Thermal protection	: 2 temperature OTP probes 130°C (1 into 1 of the auxiliary poles and 1 into 1 of the main poles)	

## 2 - WINDING

**2.1 Armature** : 24 slots - collector 72 blades - 2 poles - mush one layer :  
slot pitch 11 (1 à 12) - collector pitch 1 (1 à 2)  
8 x 0,9 mm<sup>2</sup> turns  
Ri = 2,25 Ω cold (ambient T : 29°C)  
Ri = 2,55 Ω hot (ambient T : 31°C)  
ΔT = 34,2 k

**2.2 - Field magnet** : Main pole = 1600 x 0,3 mm<sup>2</sup> turns  
serie 1 = 44 x 1,5 mm<sup>2</sup> turns  
serie 2 = 72 x 1,5 mm<sup>2</sup> turns  
Rexc = 466 Ω cold (ambient T : 29°C)  
Rexc = 520 Ω hot (ambient T : 31°C)  
ΔT = 28,6 k

**2.3 - Auxiliary poles** : 140 x 1,5 mm<sup>2</sup> turns  
Rpa = 1,13 Ω cold (ambient T : 29°C)  
Rpa = 1,29 Ω hot (ambient T : 31°C)  
ΔT = 36,1 k

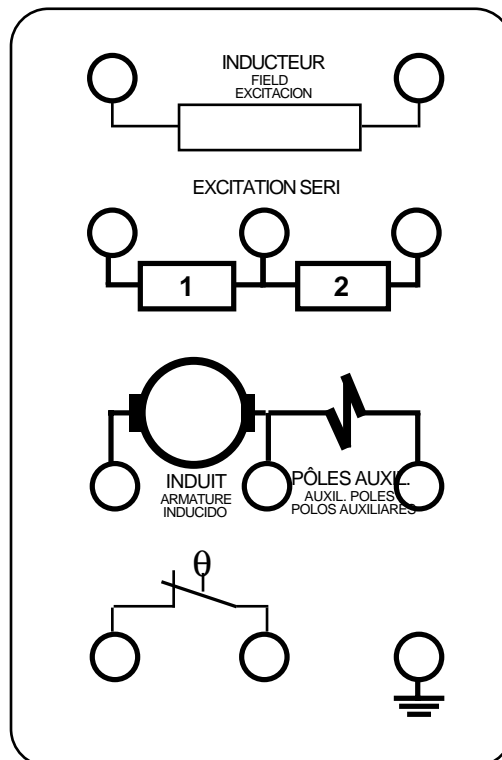
**3 - COMMUTATOR** : Hot temperature (ambient T = 24°C)  
θ = 54°C

**4 - BRUSHES** : brushes - number 1 - dimensions 8 x 20 -  
quality A 212 -



# Polyexcitation DC machine MSC8L

- 5 - TERMINAL BOX :** Outputs on safety terminals for male plugs Ø 4mm comprising :  
The plugs corresponding to the machines' circuits and 2 plugs corresponding to OTP thermal protection plugs to be connected in series in the control circuit



## 6 - TEST ON LOAD - MOTOR with separate excitation

u excit	i excit	U armature	I armature	load	N	T	P
V	A	V	A		min <sup>-1</sup>	Nm	kW
153	0,287	220	1,52	1/4	1 195	2,24	0,27
154	"	"	3,04	1/2	1 180	4,80	0,58
154	"	"	4,56	3/4	1 187	7,12	0,87
154	"	"	6,08	4/4	1 200	9,15	1,13
154	"	"	7,60	5/4	1 240	10,77	1,37
154	"	"	9,12	6/4	1 307	11,84	1,59

# Polyexcitation DC machine MSC8L

## 7 - TEST ON LOAD - HOT MOTOR with shunt excitation

u excit	i excit	U armature	I armature	N	T	P
V	A	V	A	min <sup>-1</sup>	Nm	kW
175	0,321	220	2,50	1 164	4,00	0,48
178	"	"	4,00	1 150	6,47	0,76
178	"	"	5,00	1 155	7,97	0,95
179	"	"	6,00	1 168	9,29	1,12
180	"	"	7,00	1 180	10,53	1,28
180	"	"	8,00	1 204	11,54	1,43
181	"	"	9,00	1229	12,50	1,58

## 8 - TEST ON LOAD - HOT MOTOR with compound excitation (series 1)

u excit	i excit	U armature	I armature	N	T	P
V	A	V	A	min <sup>-1</sup>	Nm	kW
60	0,11	220	2,50	1 418	3,22	0,47
61	"	"	4,00	1 326	5,51	0,75
61	"	"	5,00	1 276	7,11	0,93
61	"	"	6,20	1 218	8,99	1,13
62	"	"	7,00	1 184	10,26	1,25
62	"	"	8,00	1 142	11,88	1,39
62	"	"	9,00	1101	13,56	1,53
62	"	"	10,00	1061	15,03	1,64

## 9 - TEST ON LOAD - HOT MOTOR with compound excitation (series 2)

U armature	I armature	N	T	P
V	A	min <sup>-1</sup>	Nm	kW
220	3	1 900	2,80	0,55
220	4	1 698	4,19	0,73
220	5	1 517	5,82	0,91
220	6	1 361	7,67	1,07
220	7	1 236	9,67	1,23
220	8	1 140	11,75	1,37
220	9	1047	14,01	1,51
220	10	978	16,15	1,621

## 10 - TEST ON LOAD - HOT MOTOR with series 1 and 2

U induit	I induit	N	T	P utile
V	A	min <sup>-1</sup>	Nm	kW
220	3	1 364	3,98	0,56
220	4	1 192	6,03	0,74
220	5	1 056	8,38	0,91
220	6	957	10,84	1,07
220	7	880	13,44	1,21
220	8	812	16,13	1,34
220	9	755	18,91	1,47
220	10	705	21,6	1,56

# Polyexcitation DC machine MSC8L

## 11 - TEST ON LOAD - HOT GENERATOR with separate excitation

u excit	i excit	U armature	I armature	load	N
V	A	V	A		min <sup>-1</sup>
174	0,319	278	0,00	0	1 500
175	"	271	1,42	1/4	1 500
176	"	258	2,84	1/2	1 500
177	"	240	4,26	3/4	1 500
178	"	220	5,68	4/4	1 500
179	"	207	7,10	5/4	1 500
180	"	185	8,52	6/4	1500

## 12 - TEST ON LOAD - HOT GENERATOR with shunt excitation

u excit	i excit	U armature	I armature	load	N	T	absorb.P
V	A	V	A		min <sup>-1</sup>	Nm	kW
248	0,43	308	0,00	0	1 500	1,19	0,18
240	0,42	298	1,42	1/4	1 500	3,93	0,61
228	0,405	285	2,84	1/2	1 500	6,64	1,02
206	0,372	259	4,26	3/4	1 500	8,59	1,32
174,5	0,32	220	5,68	4/4	1 500	9,78	1,51
131	0,23	163	7,10	5/4	1 500	9,62	1,48

**Nota :** At a load of 6/4, the armature voltage falls down.

## 13 - TEST ON LOAD - HOT GENERATOR with compound excitation (series 1)

u excit	i excit	U armature	I armature	load	N	T	absorb.P
V	A	V	A		min <sup>-1</sup>	Nm	kW
83	0,16	226	1,42	1/4	1 500	2,50	0,99
83,5	0,16	226	2,84	1/2	1 500	4,93	0,76
83,2	0,159	224	4,26	3/4	1 500	7,28	1,12
82	0,158	221	5,68	4/4	1 500	9,76	1,50
80,5	0,153	216	7,10	5/4	1 500	12,15	1,87
78,8	0,148	209	8,52	6/4	1 500	14,54	2,24

**NOTA :** The indicated values correspond to tests on a specific machine. Tests on similar machines may indicate differences. These differences will respect CEI 34.1 norm tolerance

# Eddy current brake DRO2L

## 1 • MAIN CHARACTERISTICS

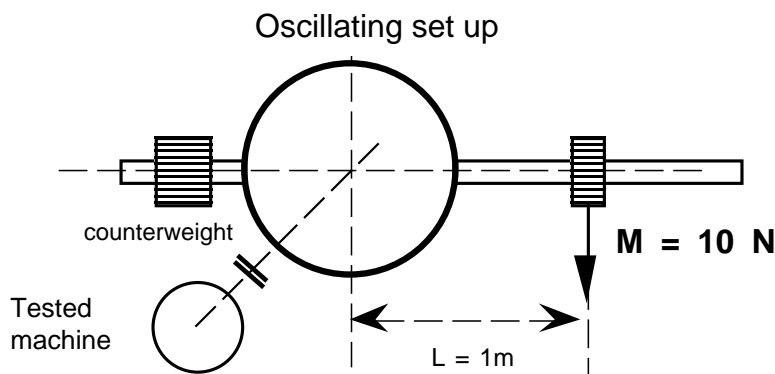
- Power output : 1500W for 60 min. service  
3000W for 30 min. service
- Rated speed : 1500 min<sup>-1</sup>
- maximum speed : 4000 min<sup>-1</sup>
- D C Excitation : nominal I = 3 A U = 30 V
- Rotor Inertia moment : 0,071 m2 kg
- Protection : OTP type probe (Opening Thermal Protection 130°C  
(contact rating 230V/2,5A with cos phi 0,5)

## 2 - PRINCIPLE

This machine is used to measure the motor torque on the drive shaft of tested machines.  
It is consisting of a "Balance" mounted stator with 2 abutments and an armature driven by the tested machine.

On the armature, you can find 2 removable arms :

- The short arm is fitted with a counterweight **CP** in a way to equilibrate the machine
- The other arm (length 1 m from machine center) fitted with a weight **M** of 10 N allows to measure the torque moment on the drive shaft of the tested motor.



## 3 - OPERATING INSTRUCTION

The calibration is made with the counterweight when the machine is stopped (arm without P weight)  
-> note its position and overtighten it.

Loading : the Eddy current brake, driven by the tested machine, is excited by a DC adjustable power supply (1,5A)  
When the load and the bench speed are stabilized, get the weight **M** into position on the arm for calibration.

-> Now, we can determine the torque moment *on the shaft* " T " and deduce the mechanical power 'Pm'

The torque nominal moment "T" is the result of  $M \times L$  ->  $T = M \times L$  with  $M = 10 \text{ N}$

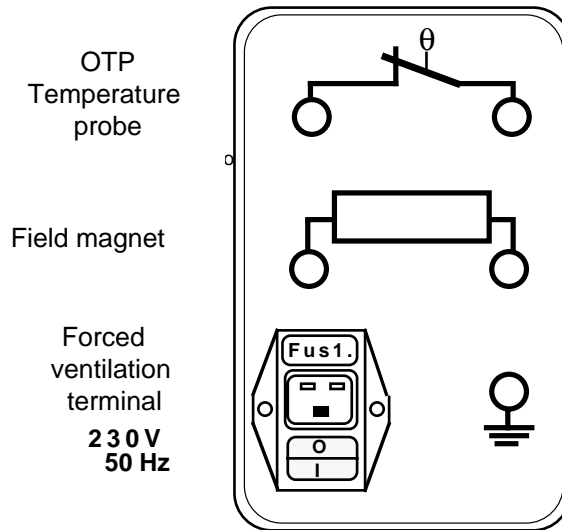
Option : The machine may be equipped with a 50 kg force sensor. Associated with a torque readout ref LCCA (available on request with extra cost), it permits to obtain a direct read of torque moment. In this case, the arms are removed.

The arms will be used only for the force sensor calibration and then, removed for security needs.

**Important** : Before each use, check the right position of the 2 stops of the machine.

# Eddy current brake DRO2L

## 4 - TERMINAL BOX



## 5 - TESTS

The indicated values are done for a speed rotation =  $1500\text{min}^{-1}$  and after a 10 minutes working time at nominal torque.

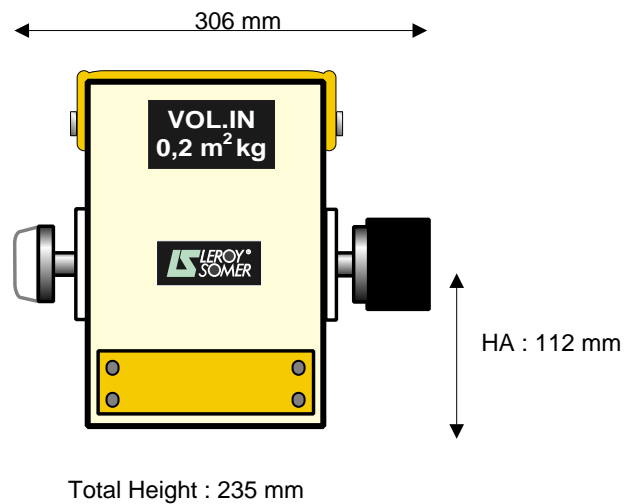
C (Nm)	I (A)	U (V)
4	0,9	4,4
6	1,13	5,5
8	1,35	6,6
10	1,54	7,6
12	1,73	8,4
14	1,91	9,3
16	2,07	10
18	2,3	11,1
20	2,61	12,4

**Important** : The working time at maxi excitation intensity (with braking torque : 20 N.m) is limited at 10 minutes. After, return to I excit = 0 and let the brake working unload at nominal speed during about 20 minutes.

# Flywheel VOLIN

## 1. TECHNICAL SPECIFICATIONS

- Inertia : 0,2 m<sup>2</sup> kg
- Max rotation speed : 4000 min<sup>-1</sup>
- 2 shaft ends Ø 24 mm each equipped with a half coupling
- Weight : 47 kg
- Dimensions :



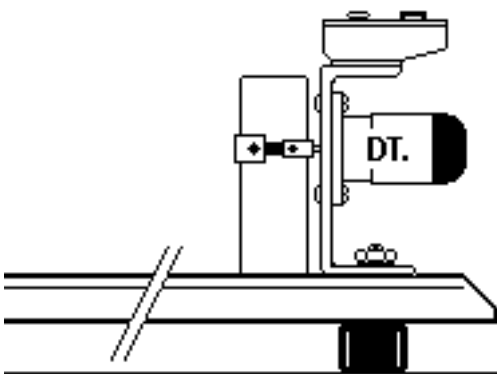
# Dynamo Tachymétrique DT 444L

## 1 - DESIGNATION

Le capteur de vitesse est une dynamo tachymétrique qui fournit une tension proportionnelle à la vitesse de rotation .

Celle ci, montée sur un support de fixation, est équipée d'un 1/2 manchon permettant de l'accoupler rapidement sur le 2ème bout d'arbre de la machine d'essai.

(Il est impératif , lors de la commande , de préciser le type de machine et diamètre du bout d'arbre sur lequel il est prévu de monter le 1/2 manchon )



## 2 - CARACTERISTIQUES

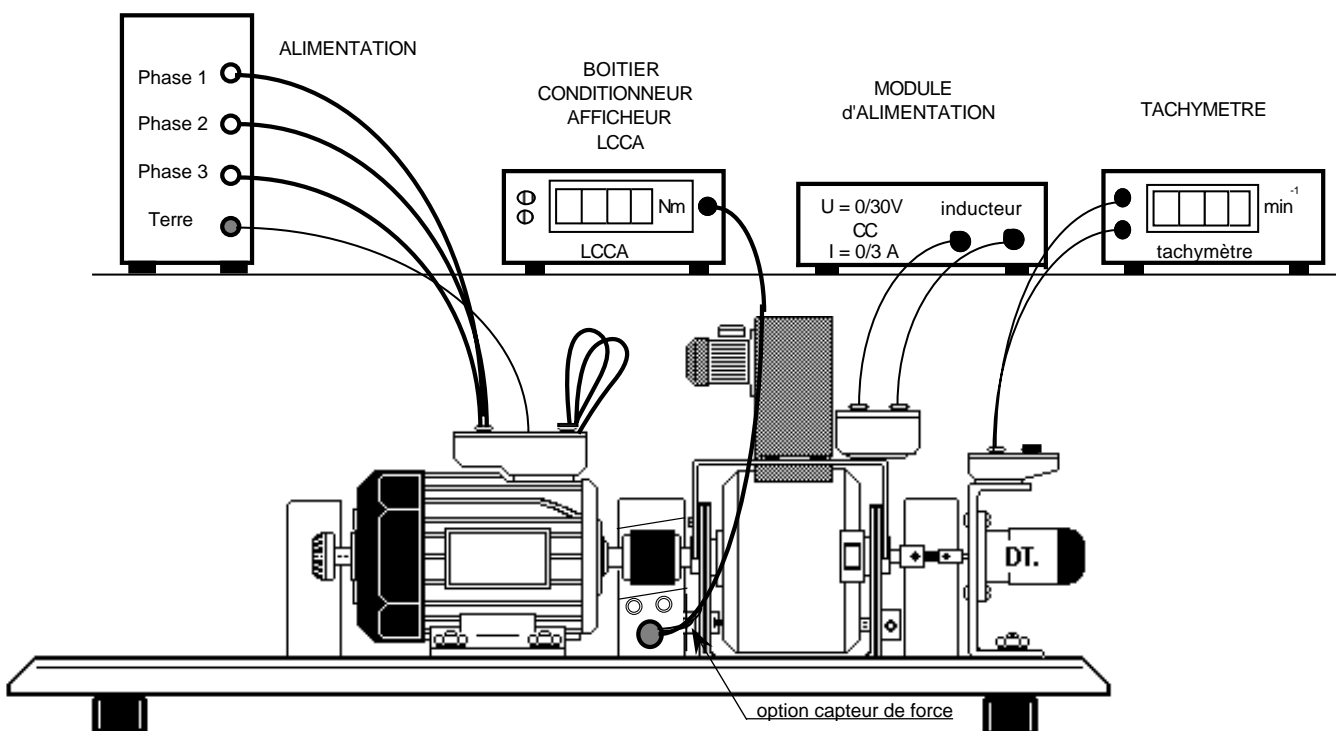
Constante de vitesse : 0,02 V par tour minute,  
f.e.m à 1 000 min<sup>-1</sup> : 20 V . I maxi. : 0,18 A .  
Vitesse maxi. : 10 000 min<sup>-1</sup> . R 'induit : 100 Ω .

La boîte à borne de la DT dispose de 2 sorties :  
- l'une "tension directe" par bornes de sécurité de 4 mm donnant 20V à 1000 min<sup>-1</sup> .  
- l'autre sur fiche DIN donnant 20V à 1000 min<sup>-1</sup> .

Cette sortie à tension réduite,obtenu par un pont diviseur monté dans le bornier , est destinée à être connectée à la prise DT du Module de Mesures Mécaniques réf.MOD'MECA. par un cordon DIN 5 broches fournir avec le module de mesure.



Exemple de montage d'un banc d'essai équipé du frein à courant de Foucault DRO2L et de la D.T 444 L









MOTEURS LEROY-SOMER 16015 ANGOULEME CEDEX-FRANCE

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