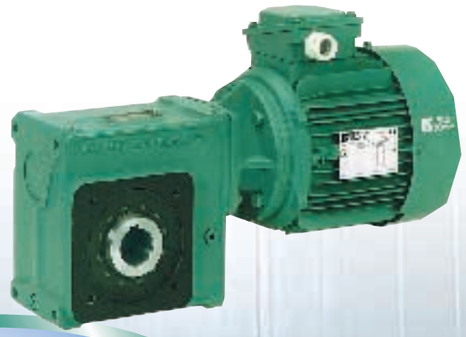
LEROY SOMER®

Ref. 3373GB - 2.33 / a - 10.2000

iA geared motors

Food processing applications

DRIVE SYSTEMS FOR FOOD PROCESSING APPLICATIONS



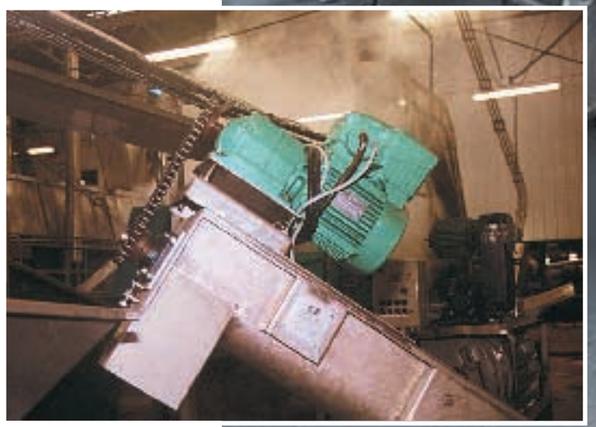
RELIABILITY

HYGIENE

SAFETY

PROTECTION

FINISHING



PROCESSING

MIXING

MATERIALS HANDLING

PACKAGING

MULTIBLOC 2000 iA

GEARBOX WITH HIGH PROTECTION AGAINST SPLASHING FOR FOOD PROCESSING APPLICATIONS

Compact, rigid cast iron frame

No grooves to catch drips and splashes

Stainless steel gearbox and motor nameplates

• Terminal box cover with nitrile seal and stainless steel screws

• IP 68 cable gland secured by concentric screw action

• Black plastic cover (or optional stainless steel cover fixed with stainless steel screws)

• VLS dynamic seal or sliprings on NDE flange

Ready for use with USDA H2 or H1 long-life grease

Anti-fretting corrosion adaptation

Fixed speed or variable speed drives

Machining holes blocked

• Optimum sealing (sealant in spigot joints)

• RAL 9010 white epoxy finish (55 / 75µ m)

Stainless steel screws fix the hollow shaft protective cover, sealed in accordance with the Machinery Directive 89/392/EEC

Protection for machined surfaces

MULTIBLOC 2000 iA

GEARBOX WITH HIGH PROTECTION AGAINST SPLASHING FOR FOOD PROCESSING APPLICATIONS

Approval : USDA H1
Lubricant which may accidentally come into contact with food.
Selection : S1 DUTY

Class 1 (Kp≥1)

Safety of lubricants suitable for food processing applications :

The FDA (Food and Drug Administration 21 CFR 178.3570) has defined essential specifications for white mineral oils acting as material components, intended for contact with food.

The USDA (United States Department of Agriculture) grants approval provided that :

- The components used conform to FDA 21 CFR 178.3570
- The finished product has passed toxicology tests

Approval : USDA H2
Lubricant approved for use in the food industry but which must never come into contact with food, even accidentally.
Selection : S1-S4 DUTY

Class 1 (Kp≥1)

Approval : USDA H1
Lubricant which may accidentally come into contact with food.
Selection : S4 DUTY

MULTIBLOC (Mb) gearbox : plain **NU** (N), baseplate **NS** (S), or flange BS, BN, BD, hollow shaft **H** (C)
Induction motors : LS 4-pole, IP 55, 50 Hz, class F, B14, general applications UG,
- multivoltage : 220/380 V - 230/400 V - 240/415 V from 0.18 to 9 kW
Anti-corrosion brake motors : LS induction type FCR, 4 poles, 50 Hz, class F
- multivoltage : from 0.18 to 3 kW

MU-FT UNIVERSAL MOUNTING

7 to 275 min^{-1}

Output speed min^{-1}	Exact reduction	LS IM B14 motors, power kW	0.18	0.25	0.37	0.55	0.75	0.9	1.1	1.5	1.8	2.2	3	4	5.5	7.5	9
		Type of LS 4-pole 3-phase motor and frame size	71				80		90			100		112		132	
		Type of 8-pole 3-phase motor and frame size															
7	***100***				***2401***		***2601[5]***										
8.8	***80***		***2201***	***2301***		***2501***			***2601[5]***								
11.7	***60***					***2401***											
14.3	100			*2301*		*2401[3]>*											
17.9	80				*2301*												
23.8	60					*2301*						*2601[5]*					
28.6	50		*3101*							*2501*							
31.8	45							*2401*									
35.8	40																
47.7	30					*2201*		*2301*				*2501*					
56.1	25.5[2]									*2401*				*2601[5]*			
71.5	20[2]			*3101[4]*													
95.3	15[2]																
124.3	11.5[2]																
138.8	10.3[2]						<	<				*2301*	*2401*		*2501*		*2601*
195.9	7.33[2]						<	<						*2401*			
275	5.2																
LS B14 brake motors[1]		Type of LS 4-pole 3-phase brake motor and frame size															
FCR J02			71				80		90			100					
		Type of 8-pole 3-phase brake motor and frame size															
FCR J02			***80***			***90***		***100***									

short lead time as per agreement, see page 10

MANUFACTURING time to be agreed

Types of 8-pole motors and associated gearboxes appear in bold italics.
1. FCR brake with inertia J02.
2. Exact reduction : Mb 2601= 20.5, 15.5 and 7.5 - Mb 2501= 20.5, 15.5 and 7.25 - Mb 2401= 19.5, 14.5 and 7.25 Mb 2301= 7.5 - Mb 3101 - 25, 12.5, 10 and 7.5
3. > The 0.55 kW 4-pole motor mounted on the Mb 2401 is frame size 80.
4.< The motor frame size 80 mounted on the Mb 3101 must have flange B14 FT 85 and shaft extension 14x30.
5. Motors frame size 80 to 112 mounted on the Mb 2601 have adapted flange B5 and shaft extension.

Selection example : Class I and USDA H1

Required power :	0.9 kW
Required speed :	70 min^{-1}
Duty factor necessary for the application :	K = 1
Mounting :	baseplate, hollow shaft

Designation : Mb 2201iA V6 NSD H20 MU-FT 4P LS 80 0.9 kW - IM 3601-400V 50 Hz - UG
(Mb 2201 iA S1 TOOC 20 MU B14 - 4P LS 80 0.9 kW - 400V)

MULTIBLOC (Mb) gearbox : plain **NU** (N), baseplate **NS** (S), or flange BS, BN, BD, hollow shaft **H** (C)
Induction motors : LS 4-pole, IP 55, 50 Hz, class F, B14, general applications UG,
- multivoltage : 220/380 V - 230/400 V - 240/415 V from 0.18 to 9 kW
Anti-corrosion brake motors : LS induction type FCR, 4 poles, 50 Hz, class F
- multivoltage : from 0.18 to 3 kW

MU-FT UNIVERSAL MOUNTING

7 to 275 min^{-1}

Output speed min^{-1}	Exact reduction	LS IM B14 motors, power kW	0.18	0.25	0.37	0.55	0.75	0.9	1.1	1.5	1.8	2.2	3	4	5.5	7.5	9
		Type of LS 4-pole 3-phase motor and frame size	71				80		90			100		112		132	
		Type of 8-pole 3-phase motor and frame size															
7	***100***			***2301***	***2401***				***2601[5]***								
8.8	***80***		***2201***		***2301***	***2401***	***2501***		***2501***								
11.7	***60***											***2601***					
14.3	100				*2301*	*2401[3]>*											
17.9	80											*2601[5]*					
23.8	60		*3101*														
28.6	50																
31.8	45																
35.8	40							*2301*									
47.7	30					*2201*				*2401*		*2501*		*2601[5]*			
56.1	25.5[2]																
71.5	20[2]			*3101[4]*													
95.3	15[2]						<										
124.3	11.5[2]						<	<									
138.8	10.3[2]						<	<				*2301*		*2401*		*2501*	*2601*
195.9	7.33[2]						<	<									
275	5.2																
LS B14 brake motors[1]		Type brake motor 4-pole 3-phase LS and frame size															
FCR J02			71				80		90			100					
		Type of 8-pole 3-phase brake motor and frame size															
FCR J02			***80***			***90***		***100***									

short lead time as per agreement, see page 10

MANUFACTURING time to be agreed

Types of 8-pole motors and associated gearboxes appear in bold italics.
1. FCR brake with inertia J02.
2. Exact reduction : Mb 2601= 20.5, 15.5 and 7.5 - Mb 2501= 20.5, 15.5 and 7.25 - Mb 2401= 19.5, 14.5 and 7.25 Mb 2301= 7.5 - Mb 3101 - 25, 12.5, 10 and 7.5
3. > The 0.55 kW 4-pole motor mounted on the Mb 2401 is frame size 80.
4.< The motor frame size 80 mounted on the Mb 3101 must have flange B14 FT 85 and shaft extension 14x30.
5. Motors frame size 80 to 112 mounted on the Mb 2601 have adapted flange B5 and shaft extension.

Selection example : Class I and USDA H2

Required power :	1.5 kW
Required speed :	70 min^{-1}
Duty factor necessary for the application :	K = 1
Mounting :	baseplate, hollow shaft

Designation : Mb 2301 iA V6 NSD H20 MU-FT 4P LS 90 1.5 kW - IM 3601-400V 50 Hz - UG
(Mb 2301 iA S1 TOOC 20 MU B14 - 4P LS 90 1.5 kW - 400V)

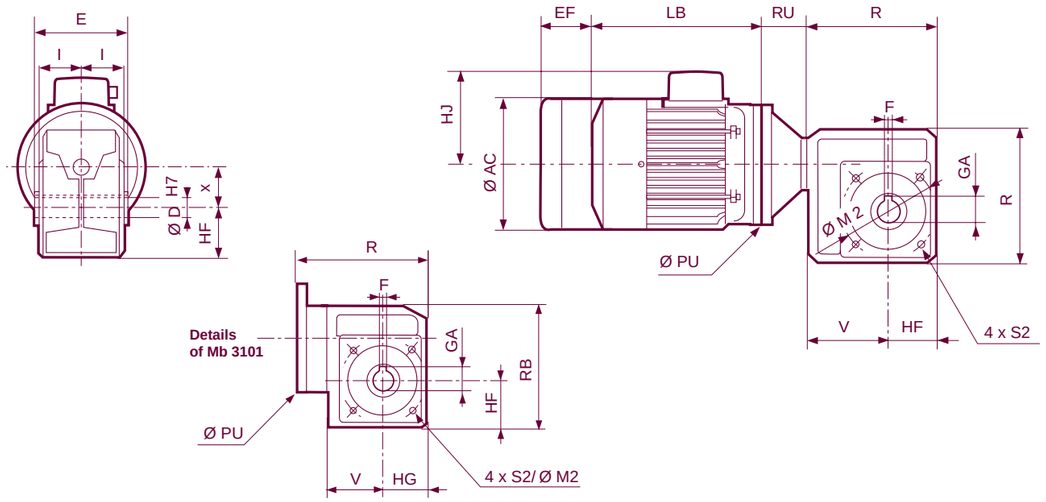
MULTIBLOC 2000 iA

GEARBOX WITH HIGH PROTECTION AGAINST SPLASHING FOR FOOD PROCESSING APPLICATIONS

Multibloc iA geared motors, MU-FT universal mounting, with IM 3601 (IM B14) motor Mb 3101, Mb 2201 to Mb 2601

Dimensions in millimetres

Standard form NU (N)**, hollow shaft H** (C)



Type	NU (N) gearboxes									Weight
	D	E	HF	I	M2	R	S2	V	x	kg
Mb 2601	50	188	103	93.5	-[1]	263	-[1]	160	100	50
Mb 2501	45	168	93	78	180	228	M12 x 20	135	80	45
Mb 2401	35	138	78	64	130	193	M10 x 15	115	63	28
Mb 2301	30	118	66	54	115	163	M8 x 12	97	55	16
Mb 2201	25	108	59	49	105	143	M8 x 12	84	45	11.5
Mb 3101[2]	20	90	50	41	85	123	M8 x 12	50	40	5

1. Option on Mb 2601: M2 =165, S2 = 6 x M10 x 15. 2.See details of Mb 3101: HG = 48 and RB = 127.

Type	Hollow output shaft H (C)			
	D	E	F	GA
Mb 2601	50	188	14	53.8
Mb 2501	45	168	14	48.8
Mb 2401	35	138	10	38.3
Mb 2301	30	118	8	33.3
Mb 2201	25	108	8	28.3
Mb 3101	20	90	6	22.8

Induction motors, brake and gearboxes

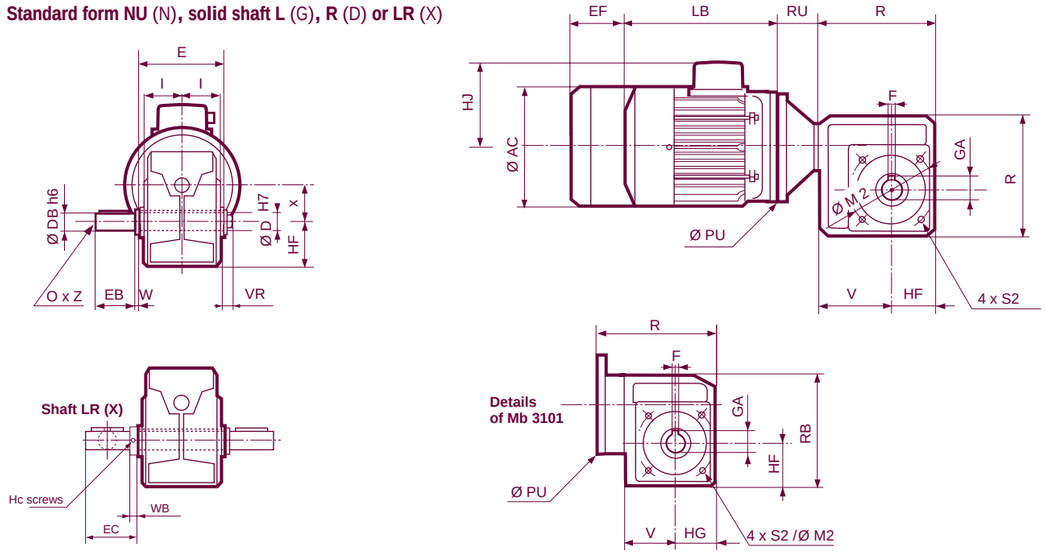
Frame size	3-phase LS			Weight	Brake		Gearboxes											
	AC	HJ	LB	kg	EF max. FCR J02	Weight[1] kg	3101 RU	3101 PU	2201 RU	2201 PU	2301 RU	2301 PU	2401 RU	2401 PU	2501 RU	2501 PU	2601 RU	2601 PU
71	140	130	183	8.3	62	3	-	105	30	105	35	105	50	120[2]	50	120[2]	-	-
80	170	130	215	11	50	7	-	105[3]	32	120	36	120	50	120	50	120	59[4]	200[4]
90	190	138	245	15.2	59	9	-	-	32	120[3]	38	140	50	140	50	140	59[4]	200[4]
100	200	152	290	21	62	9	-	-	-	-	35	140[3]	50	160	50	160	51[4]	250[4]
112	235	152	315	24.4	-	-	-	-	-	-	35	140[3]	50	160	50	160	51[4]	250[4]
132	280	201	387	60	-	-	-	-	-	-	-	-	50	160[3]	50	160[3]	51	250

1. Brake weight supplement.
2. Caution : motor with larger size IEC flange and shaft extension.
3. Caution : motor with smaller size IEC flange and shaft extension.
4. Caution : flange mounted motor (IM 3001: B5).

Multibloc iA geared motors, MU-FT universal mounting, with IM 3601 (IM B14) motor Mb 3101, Mb 2201 to Mb 2601

Dimensions in millimetres

Standard form NU (N)**, solid shaft L** (G)**, R** (D) **or LR** (X)



Type	NU (N) gearboxes									Weight kg	
	D	E	HF	I	M2	R	S2	V	x	L or R	LR
Mb 2601	50	188	103	93.5	-[1]	263	-[1]	160	100	54.5	56.5
Mb 2501	45	168	93	78	180	228	M12 x 20	135	80	48.5	50
Mb 2401	35	138	78	64	130	193	M10 x 15	115	63	29.5	30.5
Mb 2301	30	118	66	54	115	163	M8 x 12	97	55	17	18
Mb 2201	25	108	59	49	105	143	M8 x 12	84	45	12	12.5
Mb 3101[2]	20	90	50	41	85	123	M8 x 12	50	40	5.2	5.3

1. Option on Mb 2601: M2 =165, S2 = 6 x M10 x 25. 2.See details of Mb 3101: HG = 48 and RB = 127.

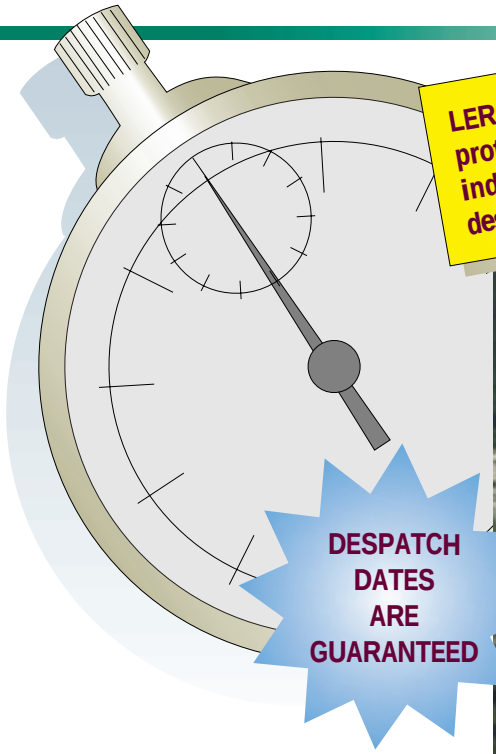
Type	Solid output shaft L (G), R (D) or LR (X)										
	DB	EB	EC	F	GA	O	Z	VR	Hc screws	W	WB
Mb 2601	50	100	105	14	53.5	M16	36	16	M5	5	8
Mb 2501	45	90	95	14	48.5	M16	36	16	M5	5	8
Mb 2401	35	70	75	10	38	M12	28	12	M5	5	8
Mb 2301	30	60	65	8	33	M10	22	10	M5	5	8
Mb 2201	25	50	55	8	28	M10	22	10	M5	5	8
Mb 3101	20	40	45	6	22.5	M 6	16	6.5	M5	5	8

Induction motors, brake and gearboxes

Frame size	3-phase LS			Weight	Brake		Gearboxes											
	AC	HJ	LB	kg	EF max. FCR J02	Weight kg	3101 RU	3101 PU	2201 RU	2201 PU	2301 RU	2301 PU	2401 RU	2401 PU	2501 RU	2501 PU	2601 RU	2601 PU
71	140	130	183	8.3	62	3	-	105	31	105	35	105	50	120[2]	50	120[2]	-	-
80	170	130	215	11	50	7	-	105[3]	33	120	36	120	50	120	50	120	59[4]	200[4]
90	190	138	245	15.2	59	9	-	-	33	120[3]	38	140	50	140	50	140	59[4]	200[4]
100	200	152	290	21	62	9	-	-	-	-	35	140[3]	50	160	50	160	51[4]	250[4]
112	235	152	315	24.4	-	-	-	-	-	-	35	140[3]	50	160	50	160	51[4]	250[4]
132	280	201	387	60	-	-	-	-	-	-	-	-	50	160[3]	50	160[3]	51	250

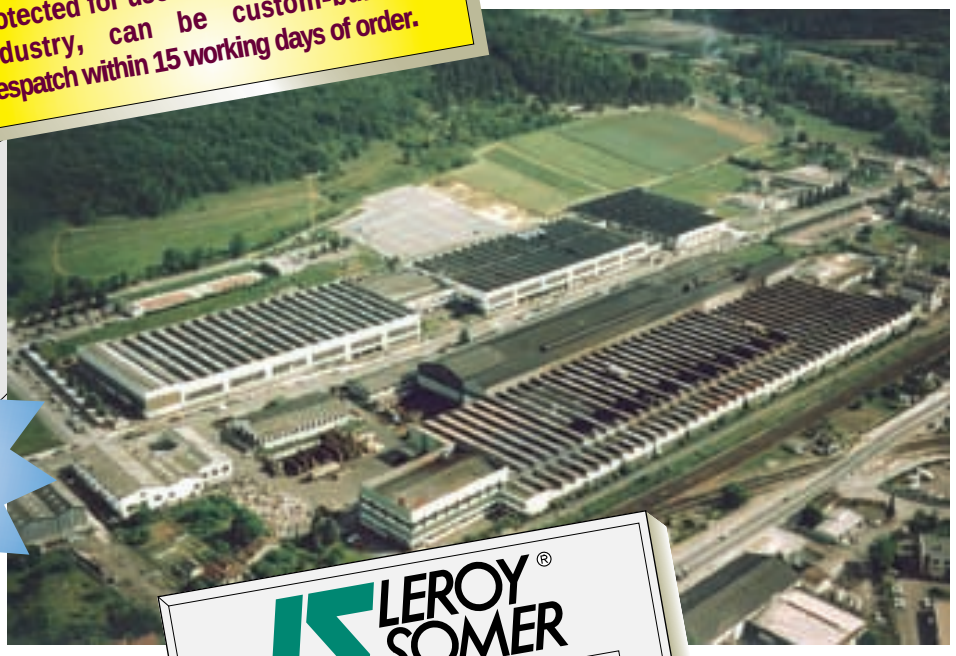
1. Brake weight supplement.
2. Caution : motor with larger size IEC flange and shaft extension.
3. Caution : motor with smaller size IEC flange and shaft extension.
4. Caution : flange mounted motor (IM 3001: B5).

AVAILABILITY AND SERVICE



DESPATCH DATES ARE GUARANTEED

LEROY-SOMER geared motors specially protected for use in the food processing industry, can be custom-built for despatch within 15 working days of order.

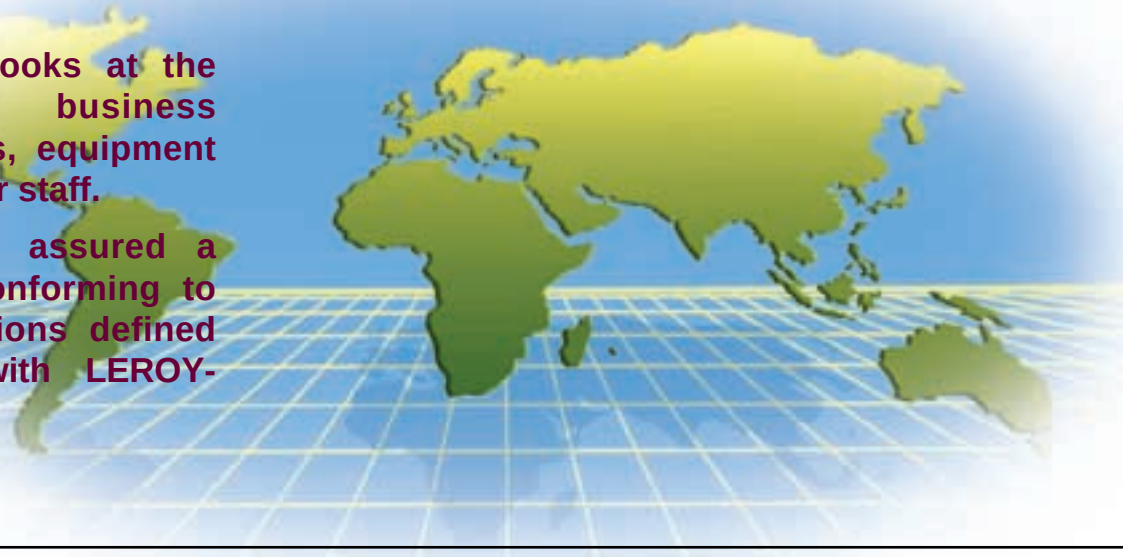


- **LEROY-SOMER** SERVICE CENTRES **specialize in the repair and maintenance of equipment.**

These Service Centres have been approved following a rigorous quality assessment.

This assessment looks at the organisation, its business portfolio, resources, equipment and the skills of their staff.

The user is thus assured a reliable service, conforming to technical specfications defined in collaboration with LEROY-SOMER.



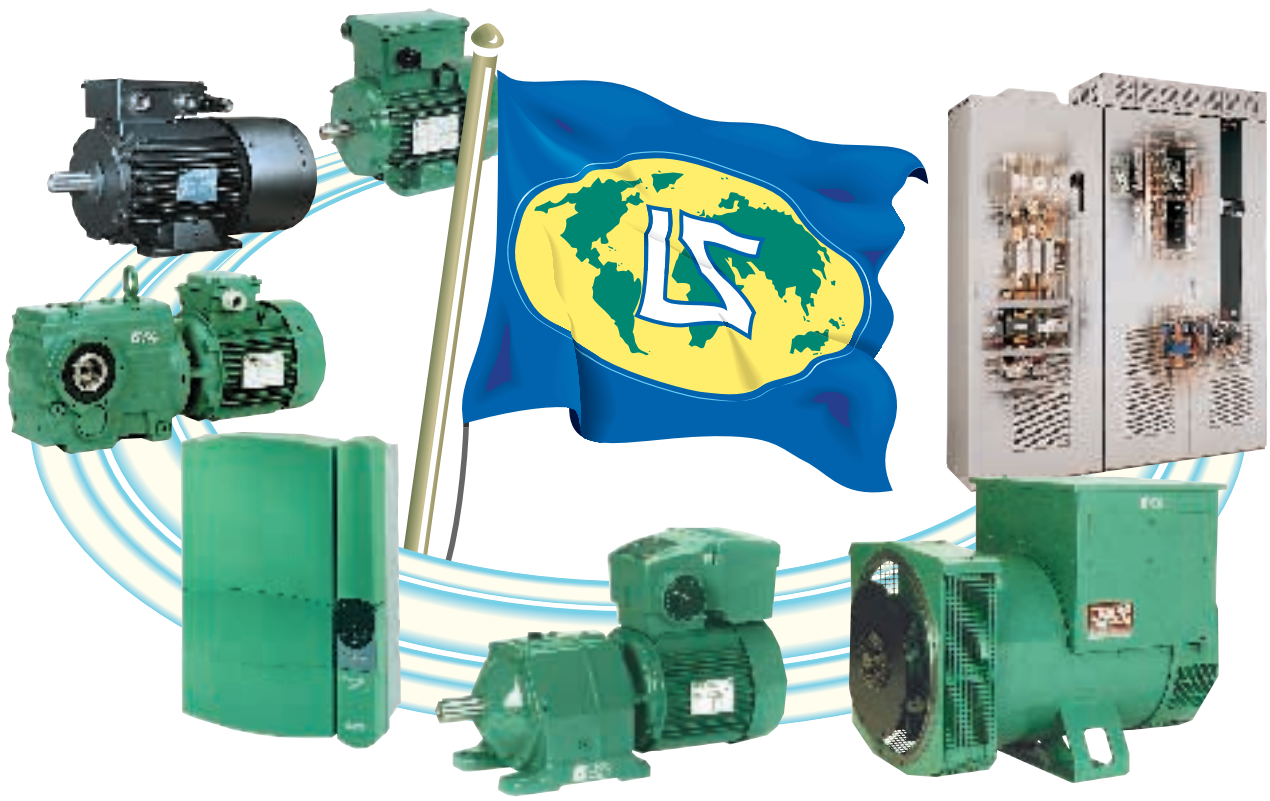
LEROY SOMER®

DRIVE SYSTEMS

ELECTRIC - ELECTROMECHANICAL - ELECTRONIC MOTORS

ENERGY

ALTERNATORS - ASYNCHRONOUS and DIRECT CURRENT GENERATORS



A WORLDWIDE PRESENCE

36 FACTORIES / 470 SALES OFFICES and SERVICE CENTRES WORLDWIDE

MOTEURS LEROY-SOMER 16015 ANGOULÊME CEDEX - FRANCE

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