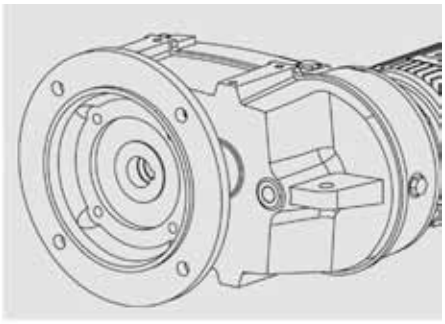
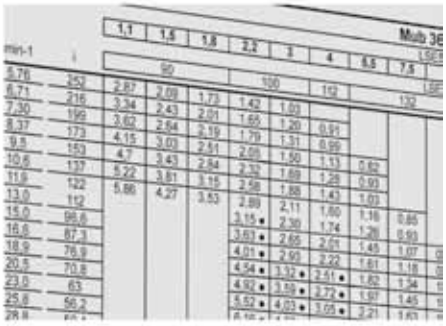
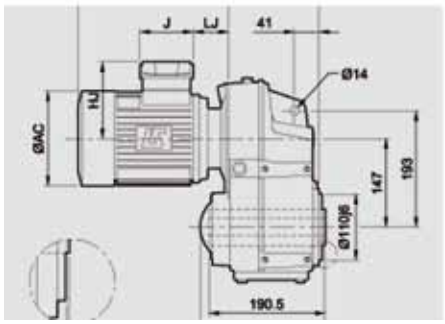
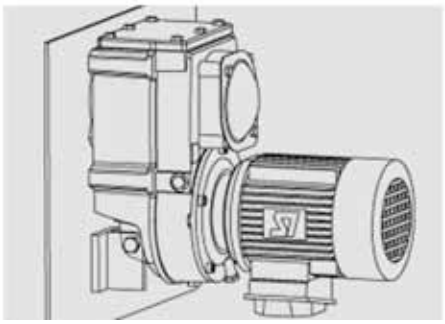
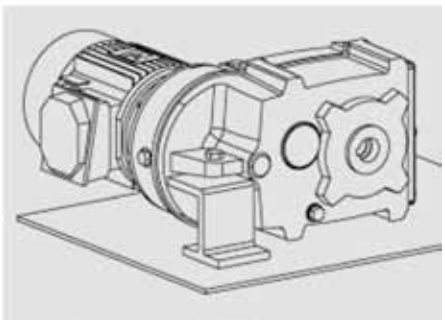
EMERSON
Industrial Automation











LEROY® SOMER

Parallel shaft drive systems
MANUBLOC 3000 / LS, LSES

Selection guide

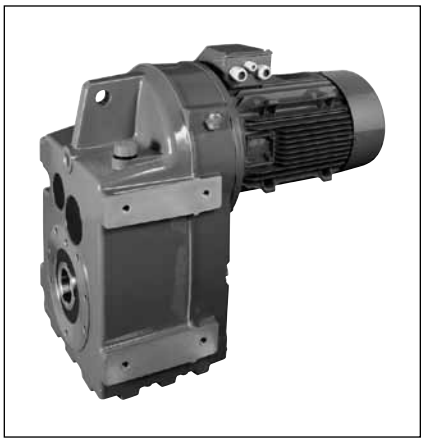
3980 en - 2011.12 / i

Electromechanical products
Manubloc 3000

Contents

Electromechanical products
Manubloc 3000

General



Manubloc 3000 geared motors with parallel gears are used to adapt the speed of the electric motor to that of the driven machine. Their size is therefore determined by the motor power (*P*) expressed in kilowatts (kW) and the output rotation speed of the gearbox (n_S) in revolutions per minute (min^{-1}).
The characteristic parameter of speed reducers is the rated output torque (Mn_S) expressed in Newton-metres (Nm):

$$M_{nS} = \frac{P \times 9550}{n_S} \times \text{efficiency}$$

A range of eight sizes: 31, 32, 33, 34, 35, 36, 37, 38.
Rated output torque up to 14500 Nm.
Power ratings: 0.25 to 110 kW.
Reduction ratios: 2.88 to 318.
Two to three reduction stages.
High efficiency: 95% to 97%.
Reversible.
Quiet operation.

Construction

Manubloc (Mub) gearbox

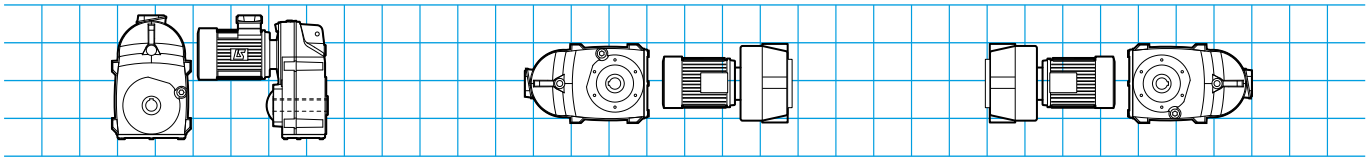
Component	Materials	Remarks
Frame	Cast iron	- use of single-component pearlitic ENGJL-200 cast iron (flake graphite: 200 MPa tensile strength) to ensure unit is fully sealed - monobloc ribbed with internal reinforcements to absorb vibrations and noise, and increase its rigidity - **R** shaft mounting, housing with tapped side **NU** or with flange **BT**, **BS** or **BD**. They are compact and meet industrial requirements
Gears	Ni Cr Mo steel	- cut by gear hob, they are heat treated and then undergo final machining. The quality and precision of the gear cutting allow maximum torque with minimum noise level
Shaft	Steel	- grinding of sealing surfaces - hollow with key in accordance with ISO R773 or hollow with SD shrink disc, output with key for sizes 36 to 38 - tolerance of diameters in accordance with NFE 22-051 and ISO R 775
Lipseals	Nitrile	- antidust lipseals in accordance with DIN 3760 form AS
Lubrication	Oil	- in accordance with ISO 6743/6 - delivered with the quantity of oil corresponding to the operating position, it is fitted with drain, level and breather plugs
Mounting		AP: gearbox with input shaft MI: geared motor with integral motor MU: geared motor with IEC motor, manufactured with universal mounting
Standard motor		LS, LSES: multi-voltage - 230/400 V Y - 400 V Δ three-phase - composite material (80 to 100) pressed steel (≥ 112) ventilation cover, on request fitted with a drip cover for operation in vertical position (shaft facing down) - LS: metal terminal box with cable gland supplied - LSES: terminal box made of composite material (80 to 112) aluminium alloy (≥ 132) equipped with threaded plugs (without cable glands) - IP 55 standard protection
Brake motors		FCR: failsafe brake induction motor, IP 55 protection, from 0.25 to 15 kW (LS), from 0.75 to 11 kW (LSES) FCPL: failsafe brake induction motor, IP 44 protection, 11 to 90 kW (LS, LSES)
Finish	Paint	Shade: RAL 6000 (green), system I (1 polyurethane vinyl layer of 25/30 µm)

Electromechanical products
Manubloc 3000

R, NU mounting

Standard position: gearbox viewed from side F, motor behind.

1 - Mounting

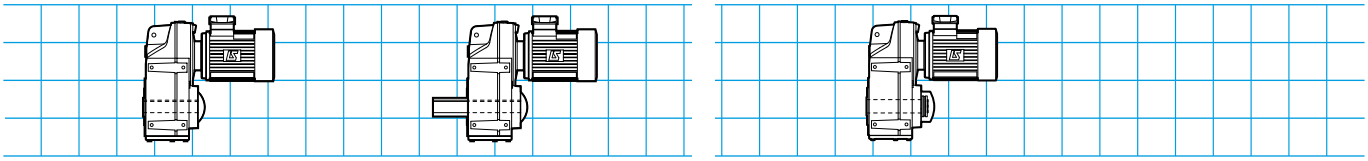


R
Flexible mounting

NUL
Left side with tapped holes

NUR
Right side with tapped holes

2 - Output shaft



H
Cylindrical hollow output shaft (standard)

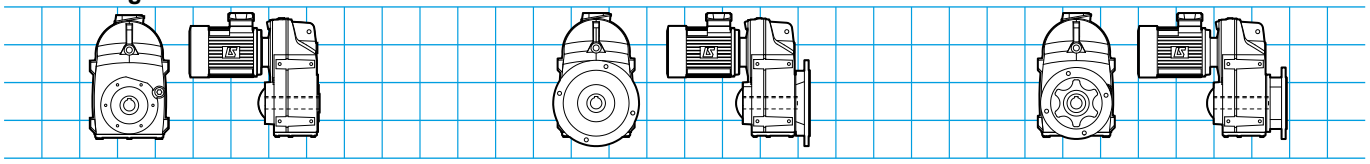
S
Output shaft

SDB
Hollow output shaft with shrink disc

Mounting BT, BS, BD

Standard position: gearbox viewed from side F, motor behind.

1 - Mounting

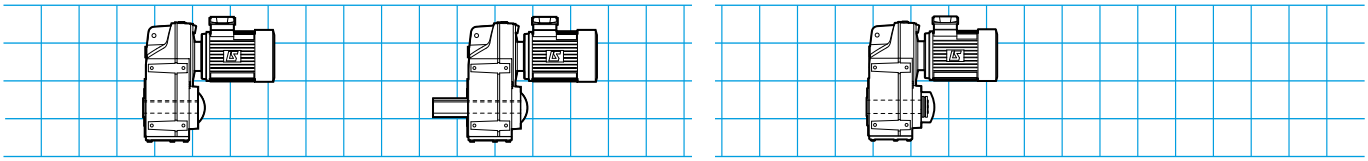


BT
Face mounted

BS
Flange mounted

BD
Flange mounted (different diameter)

2 - Output shaft



H
Cylindrical hollow output shaft (standard)

S
Output shaft

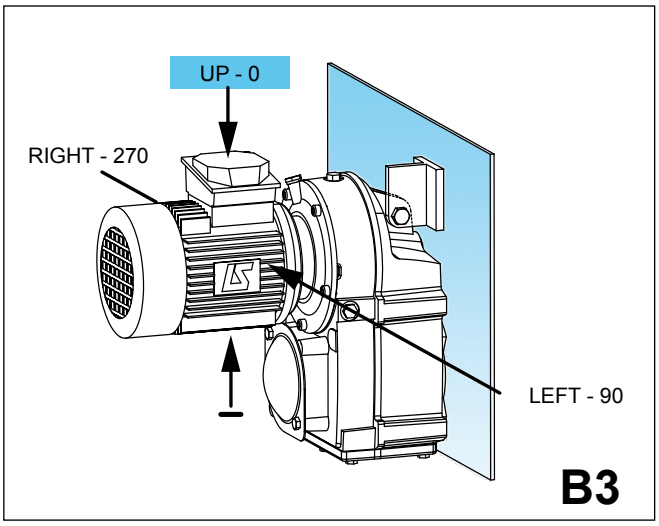
SDB
Hollow output shaft with shrink disc

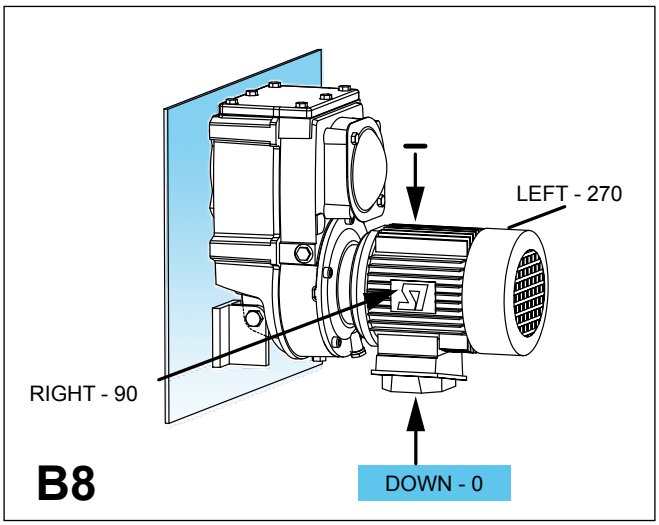
Electromechanical products
Manubloc 3000

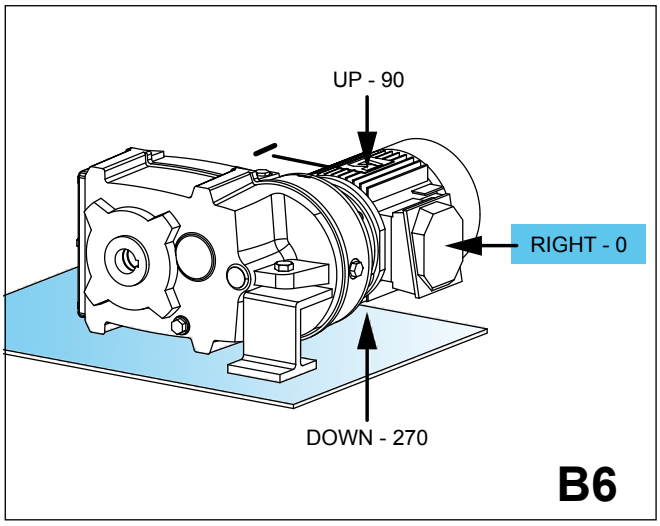
Operating positions R, NU

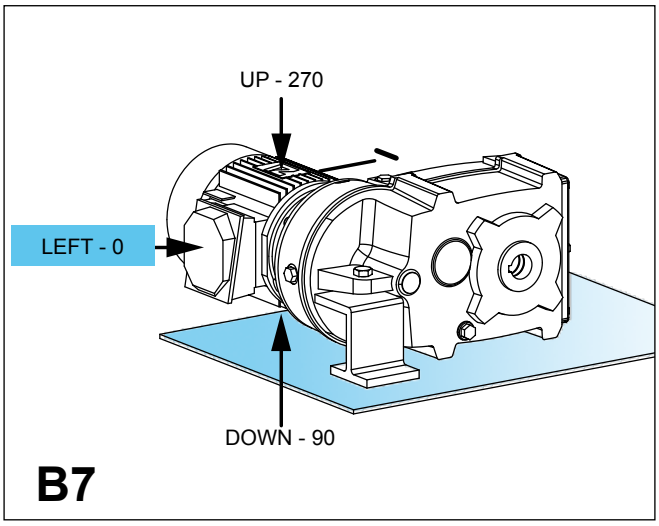
The absolute orientation of the connection (TB: Up, Down, Right, Left, Front, Back) is related to the chosen operating position.

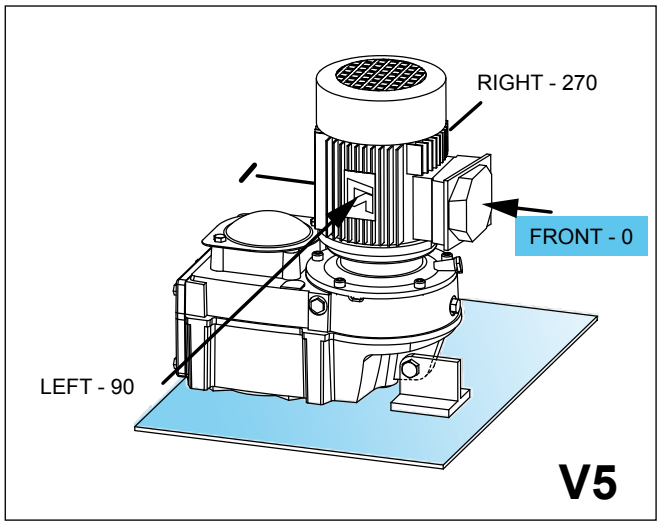
The relative orientation (0-90-180-270, in the trigonometric direction), a consequence of the absolute position, is related to the base of the gearbox (real or imaginary) for an observer, facing the gearbox.

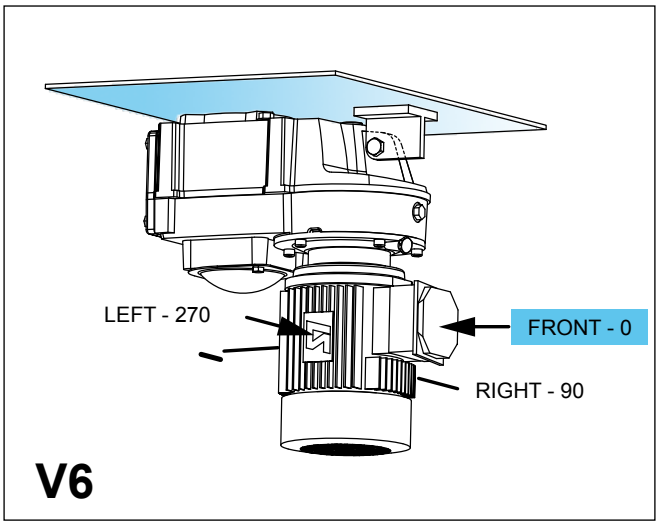












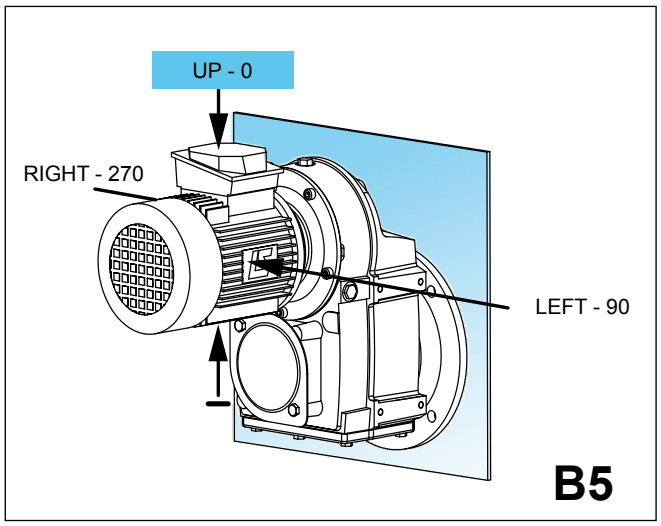
Std terminal box

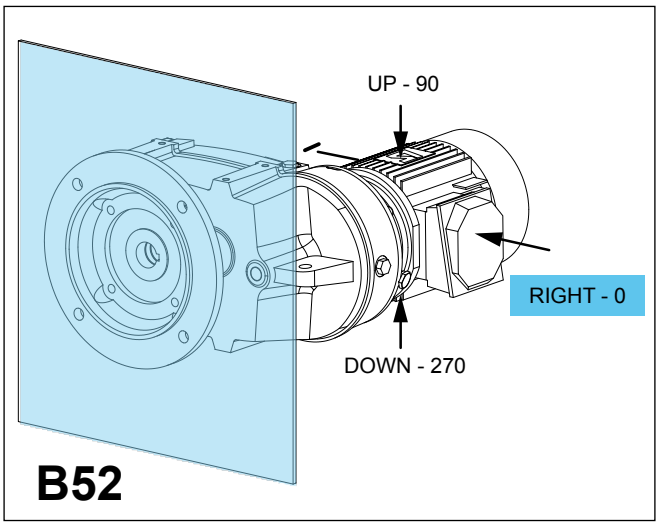
Electromechanical products
Manubloc 3000

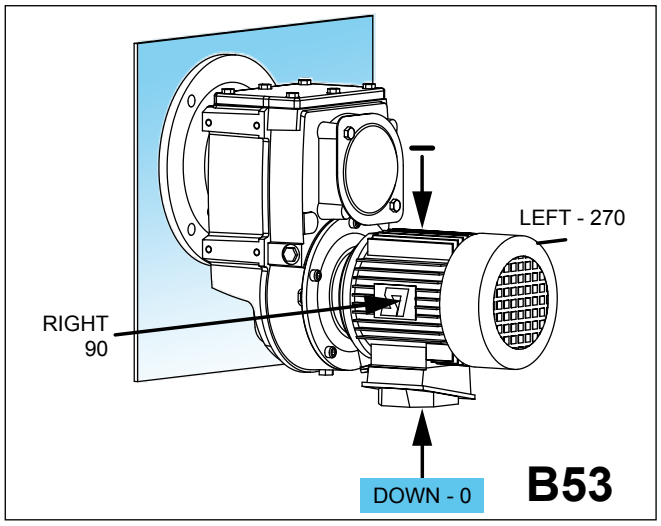
Operating positions BT, BS, BD

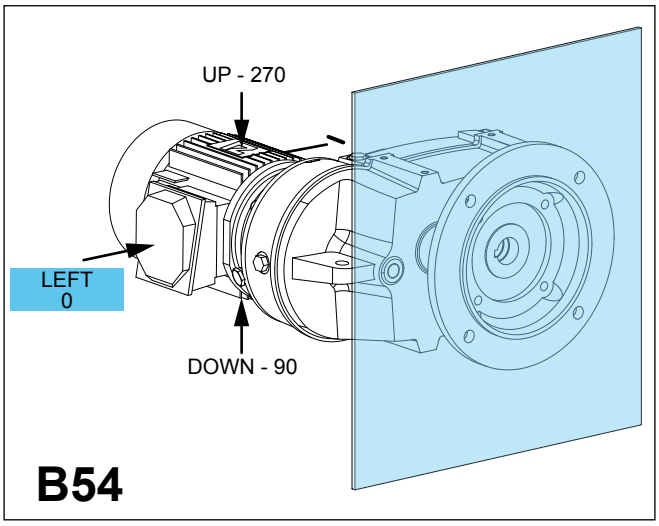
The absolute orientation of the connection (TB: Up, Down, Right, Left, Front, Back) is related to the chosen operating position.

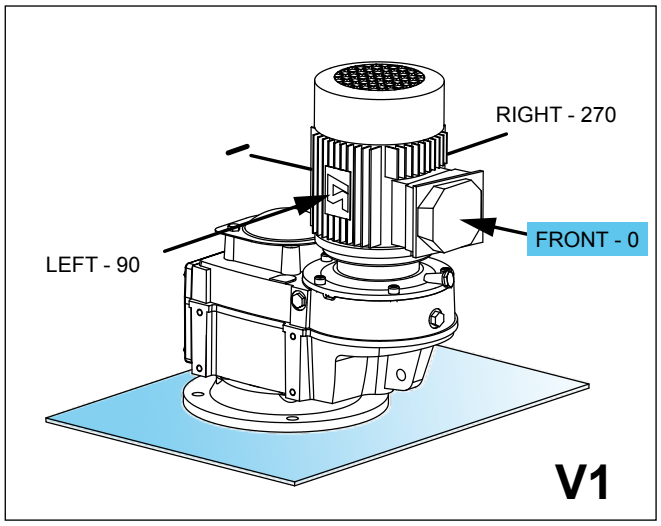
The relative orientation (0-90-180-270, in the trigonometric direction), a consequence of the absolute position, is related to the base of the gearbox (real or imaginary) for an observer, facing the gearbox.

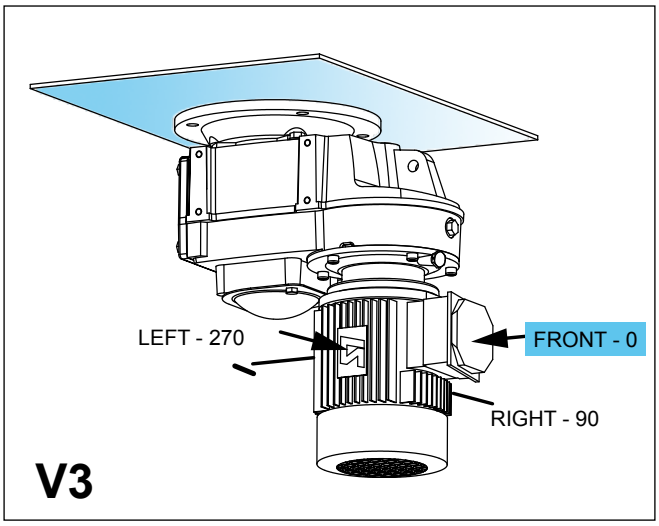








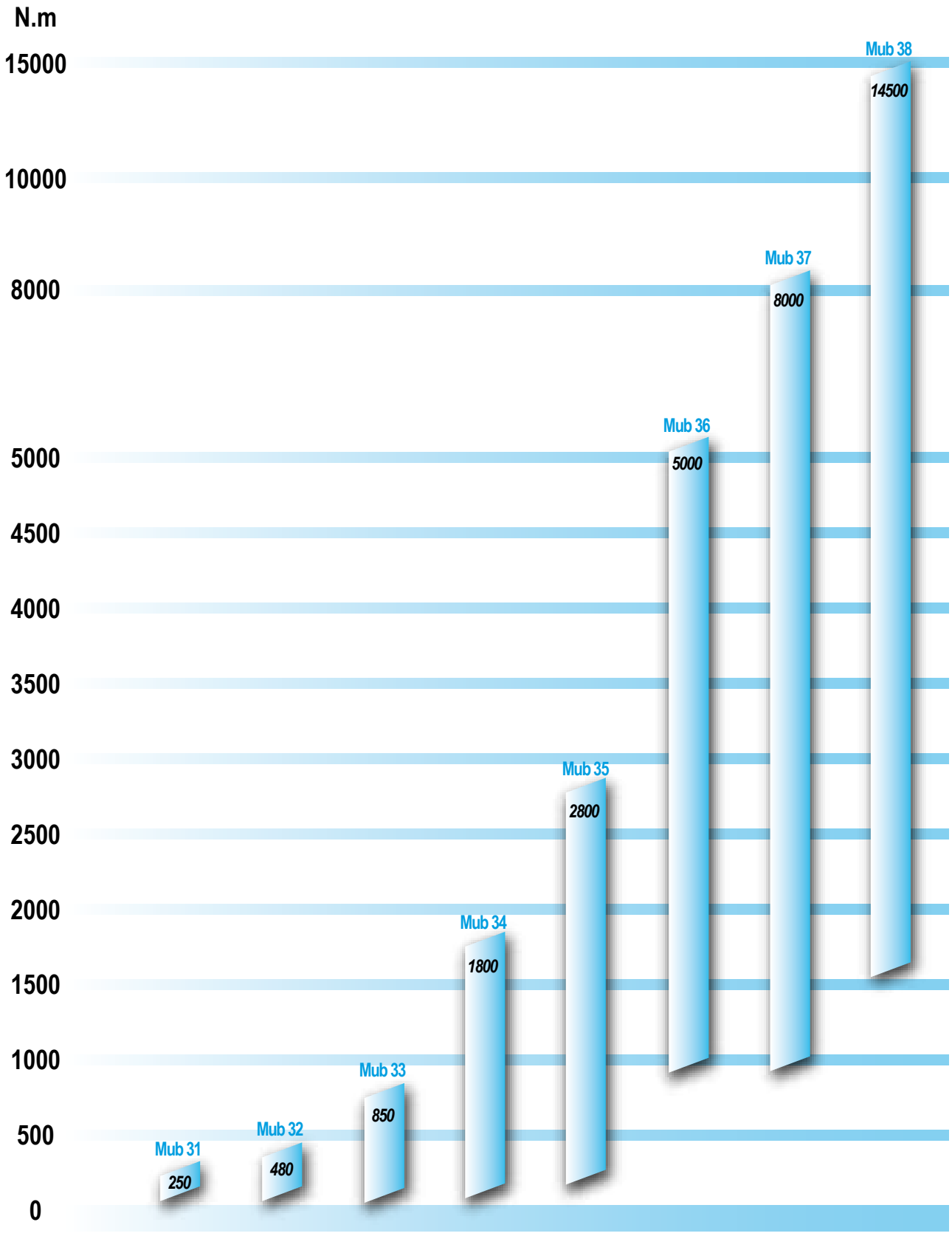




Std terminal box

Electromechanical products
Manubloc 3000

General information - Ranges



Selection

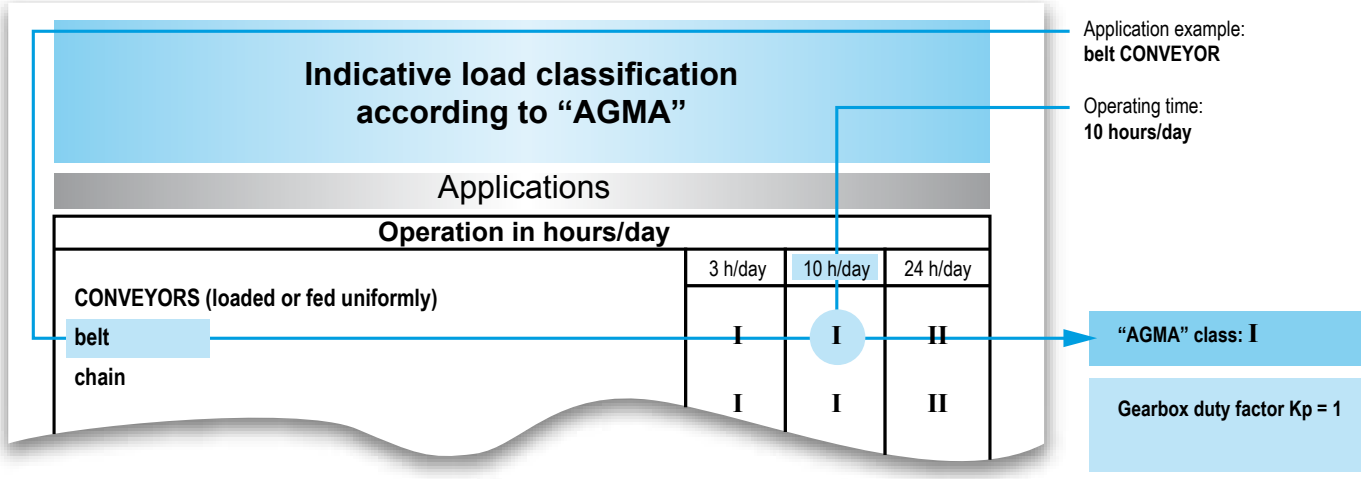
The selection of a gearbox or a geared motor should take account of the application. Some of these applications are listed in the “AGMA” indicative load classification on the next page.

The table opposite summarises the relationship between the “AGMA” class and the duty factor K_p of the gearbox.

“AGMA” class	Gearbox duty factor K_p
I	1
II	1.4
III	2

1st case. – Your application is listed

Follow the indicative load classification table according to "AGMA" on the next page.



2nd case. – Your application is not listed

The “AGMA” selection class is defined by the daily operating time and the type of operation of the application, according to the table below. ▼

Type of application	Daily operating time	“AGMA” class
Shock-free, not many starts	10 hours/day	I
Damped shocks	10 hours/day	II
Shock-free, not many starts	24 hours/day	
Violent shocks, many starts	10 hours/day	III
Damped shocks	24 hours/day	

Electromechanical products
Manubloc 3000

List of applications

OPERATION in hours/day	3 h/day	10 h/day	24 h/day
COOLING TOWERS	-	-	-
AGITATORS			
liquids with variable density	II	II	II
liquids and solids	II	II	II
pure liquids	I	I	II
semi-liquids, variable density	II	II	II*
FOOD AND BEVERAGE INDUSTRY			
cereal cookers	I	I	II
beet choppers	II	II	II
meat choppers	II	II	II
dough mixers	I	II	II
extruding machines	I	II	III
FEEDING (attachment)			
reciprocating	III	III	III*
disks	I	I	II
lattice	I	II	II
belt	I	II	II
screw	I	II	II
TRANSMISSION SHAFT			
loads with moderate shocks	I	II	II
loads with severe shocks	III	III	III*
constant loads	I	I	II
CLAY (industry)			
brick machines	III	III	III*
processing machines	II	II	II
mixers	II	II	II
brick presses	III	III	III*
TIPPERS	III	III	
TIMBER (industry)			
supplying:			
saws in series	III	III	III*
shape-cutting machines	II	II	III
planers	II	II	III
cutting	II	II	III
chains	II	II	III
turntable control	I	II	III
main conveyors	I	II	III
ball conveyors	III	III	III*
circular feed conveyors	I	II	III
burner conveyors	I	II	III
waste conveyors	I	II	II
plank conveyors	III	III	III*
transfer conveyors	I	II	III
devices:			
for planer inclination	I	II	III
for ball turning	III	III	III*
barking machine, feeder	II	II	III
main drive system barking machine	III	III	III*
roller drive system	III	III	III*
haulage of balls:			
inclined	III	III	III*
well	III	III	III*
cross-cut saws:			
chain	II	II	III
reciprocating	II	II	III
sorting tables	I	II	III
ball support plates	III	III	III*
barking drums	III	III	III*
peeling tower	-	-	-
transfer:			
on bogies	I	II	III
chain	I	II	III
BREWERIES, DISTILLERIES			
boilers, continuous duty			II
cookers, continuous duty			II
brewing vats, continuous duty			II
bottling machines	I	I	II
scaling hoppers:			
frequent starts	II	II	III
GRINDERS			
minerals	III	III	III*
stones	III	III	III*
HAMMER MILLS	III	III	III*
ROTARY GRINDERS			
rod mills	III	III	III*
ball mills	III	III	III*
pebble mills	III	III	III*
RUBBER (industry)			
air chamber extruder	II	II	II

OPERATION in hours/day	3 h/day	10 h/day	24 h/day
grinders (2 or more)	II	II	II*
calenders	II	II	II*
extruding machines	II	II	III
sheet forming machines	I	II	II*
mixers	III	III	III*
CLARIFIERS	I	I	II
SORTERS, GRADERS	I	II	II
COMPRESSORS			
lobe	I	II	II
centrifugal	I	II	II
CONVEYORS (loaded or fed uniformly)			
belt	**I**	**I**	**II**
chain	**I**	**I**	**II**
apron	**I**	**I**	**II**
bucket	**I**	**I**	**II**
scraper	**I**	**I**	**II**
screw	**I**	**I**	**II**
assembly	**I**	**I**	**II**
furnace	**I**	**I**	**II**
CONVEYORS (loaded or fed non-uniformly)			
heavy duty:			
belt	**II**	**II**	**II**
chain	**II**	**II**	**II**
apron	**II**	**II**	**II**
bucket	**II**	**II**	**II**
scraper	**II**	**II**	**II**
roller	**I**	**I**	**II**
screw	**II**	**II**	**II**
reciprocating	**III**	**III**	**III***
assembly	**II**	**II**	**II**
furnace	**II**	**II**	**II**
vibratory	**III**	**III**	**III***
removal	**I**	**I**	**-**
CANE KNIVES	II	II	III
SIEVES			
rotary	I	II	III
stone washer with water circulation	I	I	II
DREDGERS			
shaker control	III	III	III*
cutting head control	III	III	III*
sieve control	III	III	III*
conveyors	I	II	II
pumps	I	II	II
cable winding drums	I	II	-
handling winches	II	II	-
service winches	II	II	-
CONTROL (vehicle)	II	II	II
ELEVATORS			
centrifugal unloading	I	I	II
gravity unloading	I	I	II
escalators	I	II	III
buckets:			
continuous load	I	I	II
heavy load	II	II	II
uniform load	I	I	II
hoist for building materials	III	III	-
WINDING MACHINES	_	_	_
FILTERS	I	II	III
FURNACES			
dryers, coolers	I	II	II
tumbling barrels	III	III	III*
CRANES AND LIFTING			
moving truck	-	-	-
moving bridge	-	-	-
bucket winches	-	-	-
hoisting gear	-	-	-
WINDLASSES, CAPSTANS	II	II	II*
PRINTING (presses)	I	I	II
PACKAGING MACHINES			
stackers	II	III	III
wrapping machines	I	I	II
WASHING MACHINES			
drum	II	II	II
reversible	II	II	II
MACHINE TOOLS			
main drive system	I	II	II
auxiliary drive system	I	I	II
punching machines (geared)	III	III	III*
flat planers	III	III	III*

OPERATION in hours/day	3 h/day	10 h/day	24 h/day
bending rollers	II	II	II
nut tappers	II	III	III*
shears	III	III	III
MIXERS			
constant density	I	I	II
variable density	I	II	II
cement, continuous duty	I	II	II
cement, intermittent duty	I	I	-
METALLURGY (industry)			
drawing frames, carriage	III	III	III*
drawing frames, main control	III	III	III*
table conveyor:			
single direction of operation	I	II	III
reverse operation	III	III	III
wire winders	I	II	II
sheet metal winders	I	II	II
spreading roller drive	III	III	III*
splitting lines	II	II	III
wire drawing mills, flatteners	II	II	III
shape-cutting machines	III	III	III*
separating rollers	-	-	-
drying rollers	-	-	-
PAPER (industry)			
aerators	-	-	-
agitators, mixers	I	II	II
wind up turrets	I	I	II
calenders	I	II	II*
conveyors	I	II	II
ball conveyors	III*	III*	III*
cutters, plating machines	I	II	II
bleaching vats	I	II	II
cylinders	I	II	II
felt stitching machines	III*	III*	III*
washers, thickeners	I	II	II*
barking machines (mechanical)	III	III	III
pulp machines, uncoilers	I	II	II
pulp hammers	II	II	II*
presses	I	II*	II*
suction rollers	I	II	II*
dryers	I	II	II*
wood pulp storing machines	I	II	II
barking drums	III	III	III*
felt tension devices	I	II	II
PUMPS			
reciprocating:			
multi-cylinder single-acting	I	II	II
centrifugal	I	I	II
dosing	I	II	II*
rotary:			
geared	I	I	II
lobed, vaned	I	I	II
SEWAGE PLANTS			
surface aerators	III	III	III
duck type aerators	III	III	III
bar screens	I	I	II
screw pumps	I	II	III
TEXTILES			
reelers (except drum)	I	II	II
calenders	I	II	II
padding calenders	I	II	II
carding machines, spinners	I	II	II*
alignment controls	-	-	-
glueing machines	I	II	II
drying machines, mangles	II	II	II
napping mills	I	II	II
washing machines	I	II	II
soap milling machines	I	II	II
dyeing machines	I	II	II
knitting machines	-	-	-
cloth finishing machines:			
washers, spreading machines	I	II	II
dryers, calenders	I	II	II
thread preparation machines:			
weaving looms	II	III	III
spinning machines	I	I	II
dryers	I	II	II
loading hoppers	II	II	II
VENTILATION	-	-	-

** : These classes assume minimum and normal conditions. To take account of variations which may affect the load conditions, it is recommended that applications are carefully researched before making a selection.*

- : Consult Leroy-Somer

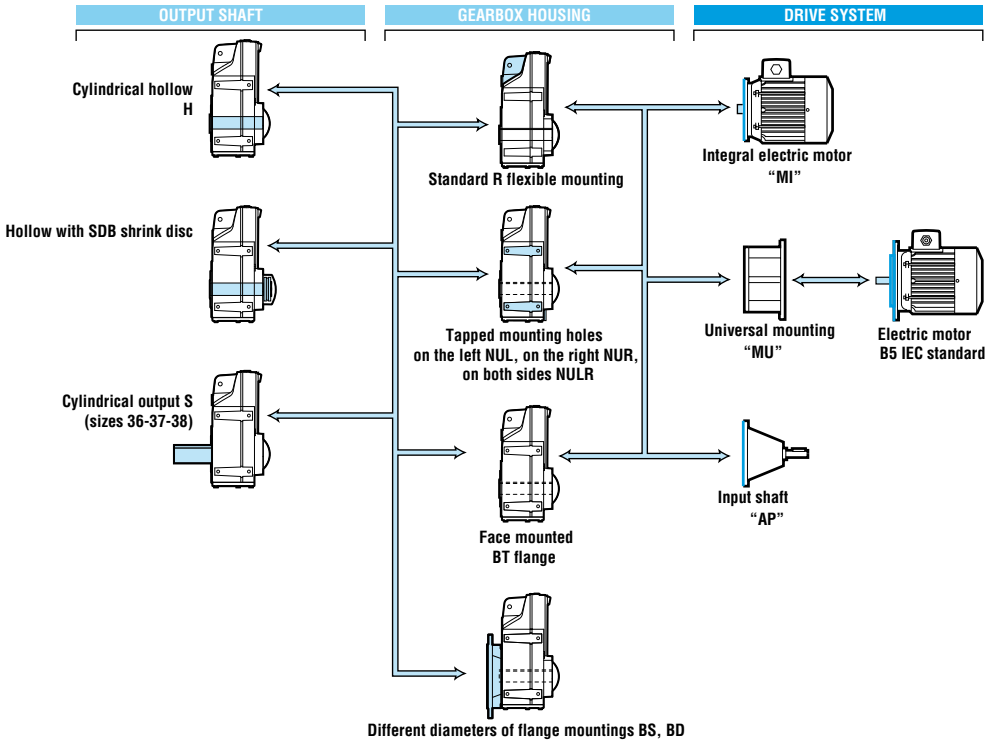
Electromechanical products
Manubloc 3000

Adaptation possibilities

Leroy-Somer offers different types of drive for its gearboxes which meet very wide-ranging needs. They are described in this catalogue.
For other drives, consult the Leroy-Somer technical specialists who will be glad to assist.

Manubloc Mub 3000 gearboxes can be used in conjunction with the following drives:

- **3-phase induction motors:**
  - LS motor from 0.25 to 110 kW
  - LSES motor from 0.75 to 110 kW
  - FCR, LS brake motor from 0.25 to 15 kW
    LSES from 0.75 to 11 kW
  - FCPL, LS and LSES brake motor from 11 to 90 kW



Designation / Coding

Mub	3433	61.1	BT	H	B5	MI	4P	LSES 112 MU	4 kW LS2 / IE2	230/400 V 50 Hz	UG
Type of Manubloc gearbox	Size and manufacturer code	Exact reduction	Mounting form	Definition of output shaft	Operating position	Integral mounting	Number of poles	Series, frame size, manufacturing code	Motor output power Generation code Class η	Mains voltage and frequency	Use

Example of coding:

Manubloc 3433 B5 4 kW, 24 min^{-1},
class I

Designation :
Mub 3433 i : 61.1 BT H B5
MI 4P LSES 112 MU - 4 kW - LS2 / IE2 - 230/400V - 50 Hz - UG

Code :
474 0064

All the products in this catalogue have a code.
The coding table is incorporated in the price list with the list of designations.
Each electromechanical product is classified first in order of power and then in order of speed.

Electromechanical products
Manubloc 3000

Conditions

Mub : R, NU, BT, BS, BD
LS : IP55 - 50 Hz - Cl. F - 400 V Y - from 0.25 to 0.55 kW - **LSES** : IP55 - 50 Hz - Cl. F - 400VY, 400VΔ - from 0.75 to 110 kW - U.G.
LS, LSES brake FCR : IP55 - 50 Hz - Cl. F - 400 V - U.G. - LS from 0.25 to 15 kW - LSES from 0.75 to 11 kW
LS, LSES brake FCPL : IP44 - 50 Hz - Cl. F - 400 V - from 11 to 90 kW - U.G.

MI
MU
AP

Maximum quantity per order

	Input	Mub 3132	Mub 32--	Mub 33--	Mub 34--	Mub 35--	Mub 36--	Mub 37--	Mub 38--
AP	-	2	2	2	2	2	2	2	2
MI LS	0.25 --> 0.55 kW	2	2	2	-	-	-	-	-
MI LSES	0.75 --> 9 kW	2	2	2	2	2	2	2	2
	11 --> 45 kW	-	-	-	2	2	2	2	2
MI LS FCR	0.25 --> 9 kW	2	2	2	2	2	2	2	2
	11 - 15 kW	-	-	-	2	2	2	2	2
MI LSES FCR	0.75 --> 11 kW								
MI LS. LSES FCPL	11 - 45 kW	-	-	-					
MU LS	0.25 --> 0.55 kW	2	2	2	2	-	-	-	-
MU LSES	0.75 --> 9 kW	2	2	2	2	2	2	2	2
	11 --> 30 kW	-	-	-	2	2	2	2	2
	37 - 45 kW	-	-	-	-	-	1	1	1
	55 --> 75 kW [1]	-	-	-	-	-	-	1	1
	90 - 110 kW [1]	-	-	-	-	-	-		
MU LS FCR	0.25 --> 9 kW	2	2	2	2	2	2	2	2
	11 - 15 kW	-	-	-	1	1	1	1	1
MU LSES FCR	0.75 --> 11 kW								
MU LS. LSES FCPL	11 --> 45 kW	-	-	-					
	55 --> 90 kW [1]	-	-	-					

1. LS B35 obligatory

Mechanical options and pages of dimensions corresponding to the mounting form and H hollow shaft

Type	Mub MI forms							Mounting		
	Shaft	Tapped holes		Flange mounted		Shrink disc Joint		Backstop	Mub	Mub
	R	NUL/R/LR	BT	BS	BD	SDB	FM	AD/AP-MI-MU	MU	AP
Mub 3132	20		21			20-45	44		42	44
Mub 32--	22	22	23	23	22	22-45	44		42	44
Mub 33--	24	24	25	25	24	24-45	44		42	44
Mub 34--	26	26	27	27	26	26-45	44		42	44
Mub 35--	28	28	29	29		28-45	44		42	44
Mub 36--	30	30	31	31	30	30-45	44	30-31-42-45	42	44
Mub 37--	32	32	33	33	32	32-45	44	32-33-42-45	42	44
Mub 38--	34	34	35	35	34	34-45	44	34-35-42-45	42	44

Mechanical options and pages of dimensions corresponding to the mounting form and S output shaft

Type	Mub MI forms					Mounting		
	Shaft	Tapped holes		Flange	Flange	Backstop	Mub	Mub
	R	NUL/R/LR	BT	BS	BD	AD/AP-MI-MU	MU	AP
Mub 36--	36	36	37	37	36	36-37-42-44	42	44
Mub 37--	38	38	39	39	38	38-39-42-44	42	44
Mub 38--	40	40	41	41	40	40-41-42-44	42	44

Options

	Input	Electrical options					Brake options		
	4p / MI-MU	230/400V	400V Δ	PTO/PTC	DLRA	Drip cover	TRR	Different Mf	J01
LS	0.25 --> 0.55 kW		-		-	-	-	-	-
LSES	0.75 - 0.9 kW		-		-	-	-	-	-
	1.1 --> 3 kW				-	-	-	-	-
	4 --> 9 kW MI				-	-	-	-	-
	11 - 15 kW MI				-	-	-	-	-
	18.5 --> 45 kW MI				-	-	-	-	-
	4 --> 9 kW MU				-	-	-	-	-
	11 --> 45 kW MU				-	-	-	-	-
	55 --> 110 kW MU				-	-	-	-	-
LS FCR	0.25 --> 3 kW								
	4 - 5.5 kW								
	7.5 - 9 kW								-
	11 - 15 kW						-		-
LSES FCR	0.75 --> 11 kW								
LS. LSES FCPL	11 --> 45 kW					-			-
	55 --> 90 kW [1]					-			-

1. LS B35 obligatory

DG < 2 WD < 5 WD < 10 WD < 15 WD < To be agreed

DG : Availability ; n WD : Working Days

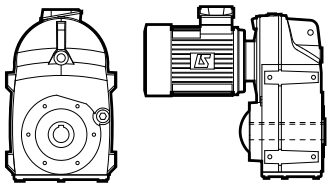
Electromechanical products
Manubloc 3000

Selection

Classes	Mub 3132	
I, II, III (kp = 1, 1.4, 2)	LS IE1, LSES IE2, LS, LSES brake - IP 55 - Cl. F 230V / 400V Y - 400V Δ - 50 Hz - U.G.	Integral mounting **MI** Universal mounting **MU** Input shaft mounting **AP**

		Mub 3132										
		LS, LSES (kW)										
		0.25	**0.37**	**0.55**	**0.75**	**0.9**	**1.1**	**1.5**	**1.8**	**2.2**	**3**	**4**
		3-phase 4-pole LS, LSES										
min-1	i exact	71			80		90			100		112
20.5	70.6	2.22	1.47									
22.7	63.9	2.44	1.61									
26.0	55.8	2.80	1.85	1.21	0.91							
28.5	50.8	3.06	2.02	1.32	1.00	0.82						
33.0	43.9	3.54	2.33	1.53	1.15	0.94						
37.1	39.1	3.96	2.61	1.71	1.29	1.05	0.87					
41.3	35.1	4.40	2.91	1.90	1.43	1.17	0.97					
47.2	30.7	5.01	3.31	2.17	1.63	1.33	1.10	0.81				
50	29	5.30	3.50	2.29	1.72	1.41	1.17	0.85				
59.4	24.4	6.26	4.13	2.71	2.03	1.67	1.38	1.01	0.83			
63.0	23	6.63	4.38	2.87	2.15	1.77	1.46	1.07	0.88			
71.1	20.4	7.45	4.92	3.22	2.42	1.98	1.64	1.20	0.99	0.81		
81.5	17.8	8.48	5.60	3.67	2.76	2.26	1.87	1.36	1.13	0.92		
92.4	15.7	9.60	6.34	4.15	3.12	2.56	2.11	1.54	1.28	1.05		
104	13.9			4.68 •	3.51 •	2.88 •	2.38	1.74	1.44	1.18	0.86	
118	12.3			5.25 •	3.94 •	3.23 •	2.67	1.95	1.62	1.32	0.97	
133	10.9			5.91	4.44	3.64	3.01	2.20	1.82	1.49	1.09	
141	10.3			4.86	3.62	2.98	2.45	1.79	1.48	1.21	0.89	
158	9.19			5.21 •	3.88 •	3.19 •	2.63	1.92	1.59	1.30	0.95	
199	7.28			5.99 •	4.46 •	3.67 •	3.02	2.21	1.83	1.50	1.09	
4-pole and brake LS, LSES		3-phase 4-pole LS, LSES										
LS FCR		71 L			80 L		90 L			100 L		
LSES FCR					**80**		**90**			**100**		

• *MU obligatory*



Selection example

Required power:	0.55 kW
Required speed:	32 min-1
Duty factor required by the application:	Kp = 1.4
Operating position; Mounting form:	Horizontal B5; BT flange

Designation : Mub 3132 i : 43.9 BT H B5 - MI 4p LS71L 0.55 kW - 400VY - U.G.

Electromechanical products
Manubloc 3000

Selection

Classes	Mub 3232 - 3233	
I, II, III (kp = 1, 1.4, 2)	LS IE1, LSES IE2, LS, LSES brake - IP 55 - Cl. F 230V / 400V Y - 400V Δ - 50 Hz - U.G.	Integral mounting **MI** Universal mounting **MU** Input shaft mounting **AP**

Mub 3232-3233

LS, LSES (kW)

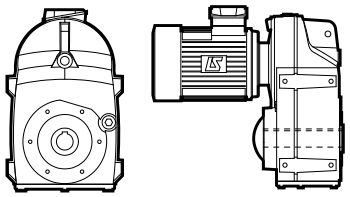
		0.25	0.37	0.55	0.75	0.9	1.1	1.5	1.8	2.2	3	4	5.5
		3-phase 4-pole LS, LSES 4p											
min-1	i exact	71			80			90		100		112	132
6.36	228	1.26	0.83										
7	207	1.39	0.92										
8.06	180	1.59	1.05									**Mub 3233**	
8.84	164	1.74	1.15										
10.2	142	2.01	1.32	0.87									
11.4	127	2.24	1.48	0.97									
12.8	113	2.50	1.65	1.08	0.81								
14.6	99.3	2.85	1.88	1.23	0.92								
15.5	93.8	3.00	1.98	1.30	0.98	0.80							
18.4	79	3.40	2.25	1.48	1.10	0.91							
19.5	74.5	3.54	2.34	1.54	1.15	0.94							
22.0	66	3.84	2.54	1.67	1.24	1.02	0.84						
25.1	57.8	4.17	2.76	1.82	1.35	1.11	0.91						
28.5	50.8	4.51	2.98	1.96	1.46	1.20	0.99						
32.3	44.9			2.12 •	1.57 •	1.29 •	1.06						
37.3	38.9	7.68	5.07	3.32	2.50	2.04	1.69 •						
43.5	33.3	8.96	5.92	3.87	2.91	2.39	1.97	1.44	1.19	0.98		**Mub 3232**	
47.7	30.4	9.83	6.49	4.25	3.20	2.62	2.17	1.58	1.31	1.07			
52.7	27.5		7.16	4.69	3.53	2.89	2.39	1.75	1.45	1.18	0.86		
61.7	23.5		8.40	5.50	4.13	3.39	2.80	2.05	1.69	1.39	1.01		
69.4	20.9		9.45	6.18	4.65	3.81	3.15	2.30	1.91	1.56	1.14	0.86	
77.5	18.7			6.73	5.04	4.14	3.42	2.50	2.07	1.69	1.24	0.94	
87.9	16.5			7.42	5.54	4.55	3.75	2.74	2.27	1.86	1.36	1.03	
97.3	14.9			8.05	5.99	4.93	4.06	2.97	2.46	2.01	1.47	1.11	0.80
111	13.1			8.77	6.53	5.37	4.42	3.23	2.68	2.19	1.60	1.21	0.88
118	12.3			9.20	6.84	5.63	4.64	3.39	2.81	2.30	1.68	1.27	0.92
137	10.6				7.53	6.20	5.10	3.73	3.09	2.53	1.85	1.40	1.01
156	9.32				8.27	6.81	5.60	4.09	3.40	2.78	2.03	1.53	1.11
172	8.42				8.84 •	7.28 •	5.99 •	4.38 •	3.63 •	2.97 •	2.17	1.64	1.19
195	7.45				9.58 •	7.88 •	6.49 •	4.74 •	3.93 •	3.22 •	2.35	1.78	1.29
207	6.99					8.09 •	6.66 •	4.87 •	4.03 •	3.30 •	2.41	1.82	1.32
245	5.91						7.22	5.27	4.37	3.58	2.62	1.97	1.43
294	4.94							5.68	4.71	3.85	2.82	2.13	1.54
370	3.92							6.30	5.22	4.27	3.12	2.36	1.71
4-pole and brake LS, LSES		3-phase 4-pole LS, LSES 4p											
LS FCR		71 L			80 L		90 L			100 L		112	132
LSES FCR					**80**		**90**			**100**		**112**	**132**

• *MU obligatory*

Selection example

Required power:	0.55 kW
Required speed:	12.5 min-1
Duty factor required by the application:	Kp = 1
Operating position; Mounting form:	Horizontal B5; BT flange

Designation : Mub 3233 i : 113 BT H B5 - MI 4p LS71L 0.55 kW - 400VY - U.G.



Electromechanical products
Manubloc 3000

Selection

Classes
I, II, III
(kp = 1, 1.4, 2)

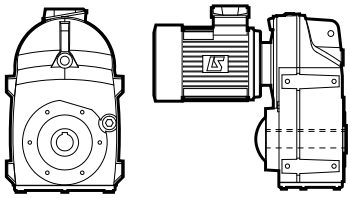
Mub 3332 - 3333
LS IE1, LSES IE2, LS, LSES brake - IP 55 - Cl. F
230V / 400V Y - 400V Δ - 50 Hz - U.G.

Integral mounting	**MI**
Universal mounting	**MU**
Input shaft mounting	**AP**

Mub 3332-3333

		LS, LSES (kW)													
		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**
		3-phase 4-pole LS, LSES													
min-1	i exact	71			80		90			100		112	132		
4.56	318	1.63	1.08												
5.33	272	1.90	1.25	0.82											
5.85	248	2.08	1.37	0.90										Mub 3333	
6.44	225	2.29	1.51	0.99											
7.55	192	2.68	1.77	1.16	0.87										
8.48	171	3.01	1.99	1.30	0.98	0.80									
9.48	153	3.35	2.21	1.45	1.09	0.89									
10.7	135	3.79	2.51	1.64	1.23	1.01	0.83								
11.9	122	4.21	2.78	1.82	1.37	1.12	0.93								
13.6	107	4.76	3.15	2.06	1.55	1.27	1.05								
14.5	100	5.09	3.36	2.20	1.65	1.35	1.12	0.82							
16.7	87	5.81	3.84	2.51	1.89	1.55	1.28	0.94							
19	76.3			2.86	2.15	1.76	1.46	1.06	0.88						
21.0	68.9			3.16 ●	2.37 ●	1.94 ●	1.61 ●	1.18 ●	0.97 ●	0.80 ●					
23.8	61			3.56 ●	2.68 ●	2.19 ●	1.81 ●	1.32 ●	1.10 ●	0.90 ●					
26.7	54.3	9.21	6.09	4.00	2.99	2.45	2.02	1.48	1.23	1.00					
29.5	49.1		6.72	4.41	3.30	2.71	2.23	1.63	1.35	1.11					
33.0	43.9		7.49	4.92	3.67	3.02	2.49	1.82	1.51	1.23	0.90				
38.1	38.1		8.59	5.64	4.21	3.46	2.86	2.09	1.73	1.41	1.03				
43.0	33.7		9.58	6.27	4.71	3.86	3.19	2.33	1.93	1.58	1.16	0.88		Mub 3332	
46.8	31			6.81	5.12	4.19	3.47	2.53	2.10	1.72	1.25	0.95			
52.9	27.4			7.77	5.81	4.77	3.94	2.88	2.38	1.95	1.43	1.08			
59.4	24.4			8.69	6.49	5.33	4.40	3.22	2.66	2.18	1.59	1.21	0.87		
66.2	21.9			9.53	7.16	5.87	4.85	3.55	2.94	2.40	1.76	1.33	0.96		
71.8	20.2				7.81	6.41	5.29	3.87	3.20	2.62	1.92	1.45	1.05		
81.0	17.9				8.75	7.19	5.93	4.34	3.59	2.94	2.15	1.62	1.18	0.87	
93.0	15.6					8.21	6.77	4.95	4.10	3.36	2.45	1.86	1.34	0.99	
103	14.1					9.04 ●	7.46 ●	5.45 ●	4.52 ●	3.69 ●	2.70	2.04	1.48	1.09	
118	12.3						8.45 ●	6.17 ●	5.11 ●	4.18 ●	3.06	2.32	1.68	1.24	
131	11.1						9.29 ●	6.79 ●	5.62 ●	4.60 ●	3.36 ●	2.55 ●	1.84	1.36	
144	10.1							7.50	6.21	5.08	3.72	2.81	2.04	1.50	
166	8.76							8.53	7.06	5.78	4.22	3.20	2.32	1.71	
205	7.09								8.62	7.05	5.16	3.90	2.83	2.08	
264	5.49									8.38	6.13	4.63	3.35	2.47	
4-pole and brake LS, LSES		3-phase 4-pole LS, LSES													
LS FCR		71 L			80 L		90 L			100 L		112	132		
LSES FCR					**80**		**90**			**100**		**112**	**132**		

● *MU obligatory*



Selection example

Required power:	0.55 kW
Required speed:	8 min-1
Duty factor required by the application:	Kp = 1
Operating position; Mounting form:	Horizontal B5; BT flange

Designation : Mub 3333 i : 192 BT H B5 - MI 4p LS71L 0.55 kW - 400VY - U.G.

Electromechanical products
Manubloc 3000

Selection

Classes	Mub 3432 - 3433	
I, II, III	LSES IE2, LS, LSES brake - IP 55 - Cl. F	Integral mounting **MI**
(kp = 1, 1.4, 2)	230V / 400V Y - 400V Δ - 50 Hz - U.G.	Universal mounting **MU**
		Input shaft mounting **AP**

Mub 3432-3433

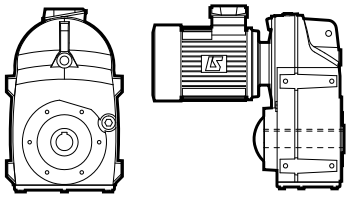
		LSES (kW)															
		0.75	**0.9**	**1.1**	**1.5**	**1.8**	**2.2**	**3**	**4**	**5.5**	**7.5**	**9**	**11**	**15**	**18.5**	**22**	**30**
		3-phase 4-pole LSES															
min-1	i exact	80		90			100		112	132			160		180		200
6.17	235	1.62	1.32	1.09	0.80												
6.84	212	1.79	1.46	1.21	0.88												
7.63	190	1.99	1.63	1.35	0.98	0.81									Mub 3433		
8.79	165	2.29	1.87	1.55	1.13	0.94											
9.93	146	2.58	2.11	1.75	1.28	1.06	0.86										
10.8	134	2.81	2.30	1.90	1.39	1.15	0.94										
12.2	119	3.17	2.59	2.14	1.57	1.30	1.06										
13.7	106	3.55	2.91	2.40	1.75	1.45	1.19	0.87									
15.3	94.8	3.95	3.23	2.67	1.95	1.61	1.32	0.96									
16.6	87.3	4.29	3.51	2.90	2.12	1.75	1.43	1.05									
18.7	77.5	4.82	3.94	3.26	2.38	1.97	1.61	1.18	0.89								
21.5	67.5	5.51	4.51	3.73	2.72	2.25	1.84	1.35	1.02								
23.7	61.1	6.08 •	4.98 •	4.11 •	3.00 •	2.49 •	2.03 •	1.49	1.12	0.81							
27.3	53.2	6.75 •	5.53 •	4.56 •	3.33 •	2.76 •	2.26 •	1.65	1.25	0.90							
29.4	49.3	7.42	6.07	5.02	3.67	3.03	2.48	1.81	1.37								
34.9	41.6	8.76	7.17	5.92	4.33	3.58	2.93	2.14	1.62								
38.8	37.4	9.49	7.78	6.42	4.69	3.88	3.17	2.32	1.76	1.27	0.94						
42.8	33.9		8.35	6.88	5.03	4.16	3.40	2.49	1.88	1.36	1.00	0.84					
46.5	31.2		8.86	7.29	5.32	4.41	3.61	2.64	1.99	1.44	1.06	0.88			Mub 3432		
54.1	26.8		9.78	8.05	5.88	4.87	3.98	2.91	2.20	1.59	1.17	0.98	0.80				
58	25			8.44	6.16	5.11	4.17	3.05	2.30	1.67	1.23	1.02	0.84				
66.2	21.9			9.18	6.70	5.56	4.54	3.32	2.51	1.82	1.34	1.11	0.91				
74.7	19.4			9.96	7.27	6.03	4.93	3.60	2.72	1.97	1.45	1.21	0.99				
84.3	17.2				7.82	6.48	5.30	3.87	2.92	2.12	1.56	1.30	1.06				
94.2	15.4				8.38	6.95	5.68	4.15	3.13	2.27	1.67	1.39	1.14	0.83			
110	13.2				9.27	7.68	6.28	4.59	3.46	2.51	1.85	1.54	1.26	0.92			
121	12				9.81 •	8.13 •	6.65 •	4.86 •	3.67 •	2.66	1.96	1.63	1.33	0.98			
137	10.6					8.79 •	7.18 •	5.25 •	3.96 •	2.87	2.11	1.76	1.44	1.05	0.85		
153	9.46					9.37 •	7.66 •	5.60 •	4.23 •	3.06	2.25	1.88	1.54	1.12	0.91		
172	8.42						8.19 •	5.99 •	4.52 •	3.27	2.41	2.01	1.64	1.20	0.97	0.82	
193	7.53						8.72 •	6.37 •	4.81 •	3.49	2.56	2.14	1.75	1.28	1.04	0.87	
233	6.22						9.78 •	7.15 •	5.40 •	3.91	2.88	2.40	1.96	1.44	1.16	0.98	
302	4.8							8.37 •	6.32 •	4.58	3.37	2.81	2.30	1.68	1.36	1.14	0.84 •
4-pole and brake LS, LSES		3-phase 4-pole LS, LSES															
LS FCR		80 L		90 L			100 L		112	132			160				
LSES FCR		**80**		**90**			**100**		**112**	**132**			**160**				
LS, LSES FCPL													**160**		**180**		**200**

• *MU obligatory*

Selection example

Required power:	4 kW
Required speed:	23.5 min-1
Duty factor required by the application:	Kp = 1
Operating position; Mounting form:	Horizontal B5; BT flange

Designation : Mub 3433 i : 61.1 BT H B5 - MI 4p LSES112MU 4 kW LS2/IE2 - 400VY - U.G.



Electromechanical products
Manubloc 3000

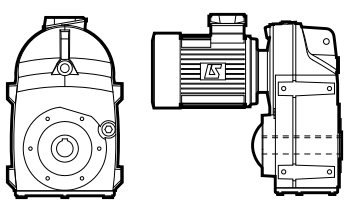
Selection

Classes	Mub 3532 - 3533	
I, II, III (kp = 1, 1.4, 2)	LSES IE2, LS, LSES brake - IP 55 - Cl. F 230V / 400V Y - 400V Δ - 50 Hz - U.G.	Integral mounting **MI** Universal mounting **MU** Input shaft mounting **AP**

Mub 3532-3533

		LSES (kW)												
		1.1	1.5	1.8	2.2	3	4	5.5	7.5	9	11	15	18.5	22	30
		3-phase 4-pole LSES													
min-1	i exact	90			100		112	132			160		180		200
6.74	215	1.79	1.31	1.08	0.88										
7.88	184	2.08	1.52	1.26	1.03										
8.58	169	2.26	1.65	1.36	1.12	0.81								Mub 3533	
9.8	148	2.59	1.89	1.56	1.28	0.93									
11.2	130	2.93	2.14	1.77	1.45	1.06	0.80								
12.4	117	3.26	2.38	1.97	1.61	1.17	0.89								
13.9	104	3.65	2.66	2.21	1.80	1.32	1.00								
15.2	95.3	3.98 •	2.90 •	2.40 •	1.96 •	1.44	1.09								
17.6	82.4	4.59 •	3.35 •	2.77 •	2.27 •	1.66	1.25	0.91							
19.5	74.5	5.07 •	3.70 •	3.06 •	2.50 •	1.83	1.38	1.00							
22.1	65.5	5.74 •	4.19 •	3.47 •	2.83 •	2.07 •	1.57 •	1.13	0.84						
24.0	60.4	6.22 •	4.54 •	3.75 •	3.07 •	2.24 •	1.70 •	1.23	0.91						
27	53.7	6.98 •	5.09 •	4.21 •	3.44 •	2.51 •	1.90 •	1.38	1.02	0.85					
30.3	47.9	7.79 •	5.68 •	4.70 •	3.85 •	2.81 •	2.13 •	1.54	1.13	0.95					
33.7	43	8.67 •	6.32 •	5.23 •	4.28 •	3.13 •	2.37 •	1.71	1.26	1.05	0.86				
37.0	39.2	9.48 •	6.91 •	5.72 •	4.68 •	3.42 •	2.59 •	1.87	1.38	1.15	0.94				
42.4	34.2	10.69 •	7.80 •	6.45 •	5.27 •	3.85 •	2.92 •	2.11	1.56	1.30	1.06				
44.8	32.4	9.95	7.26	6.01	4.91	3.59	2.72	1.97	1.45	1.21					
52.2	27.8		8.31	6.89	5.63	4.11	3.10	2.25	1.65	1.38				Mub 3532	
56.6	25.6		9.42	7.81	6.38	4.66	3.51	2.55	1.87	1.56					
65.0	22.3			8.80	7.19	5.25	3.98	2.88	2.12	1.77	1.45	1.06	0.86		
73.6	19.7				8.25	6.03	4.54	3.29	2.42	2.02	1.65	1.21	0.98	0.82	
82.4	17.6				9.29	6.79	5.11	3.71	2.72	2.27	1.86	1.36	1.10	0.93	
92.4	15.7				9.98	7.29	5.50	3.98	2.93	2.44	2.00	1.46	1.18	1.00	
101	14.4					8.33	6.27	4.55	3.34	2.78	2.28	1.67	1.35	1.14	
117	12.4					7.95	6.01	4.35	3.21	2.68	2.19	1.60	1.30	1.09	0.80
129	11.2					9.23	6.99	5.06	3.73	3.11	2.54	1.86	1.51	1.27	0.93
147	9.89						7.80 •	5.66	4.15	3.46	2.83	2.07	1.68	1.41	1.04
159	9.12						8.23 •	5.97	4.38	3.65	2.98	2.19	1.77	1.49	1.09
179	8.11						9.08 •	6.59	4.84	4.03	3.29	2.41	1.96	1.64	1.21
200	7.24						9.50 •	6.87	5.06	4.22	3.45	2.53	2.05	1.72	1.27
224	6.48							9.21	6.78	5.66	4.62	3.38	2.74	2.30	1.70
245	5.91							9.68	7.13	5.95	4.86	3.56	2.89	2.42	1.78
280	5.17								7.55	6.30	5.15	3.76	3.05	2.56	1.89
327	4.43									6.79	5.55	4.06	3.29	2.77	2.03
365	3.98									5.35	4.37	3.20	2.59	2.18	1.60
4-pole and brake LS, LSES		3-phase 4-pole LS, LSES													
LS FCR		90 L			100 L		112	132			160				
LSES FCR		**90**			**100**		**112**	**132**			**160**				
LS, LSES FCPL											**160**		**180**		**200**

• *MU obligatory*



Selection example

Required power:	9 kW
Required speed:	56 min-1
Duty factor required by the application:	Kp = 1.4
Operating position; Mounting form:	Horizontal B5; BT flange

Designation : Mub 3532 i : 25.6 BT H B5 - MI 4p LSES132MU 9 kW LS2/IE2 - 400VY - U.G.

Electromechanical products
Manubloc 3000

Selection

Classes	Mub 3632 - 3633	
I, II, III (kp = 1, 1.4, 2)	LSES IE2, LS, LSES brake - IP 55 - Cl. F 230V / 400V Y - 400V Δ - 50 Hz - U.G.	Integral mounting **MI** Universal mounting **MU** Input shaft mounting **AP**

Mub 3632-3633

		LSES (kW)																
		1.1	1.5	1.8	2.2	3	4	5.5	7.5	9	11	15	18.5	22	30	37	45	55 [1]
		3-phase 4-pole LSES																
min-1	i exact	90			100		112	132			160		180		200	225		250
5.76	252	2.87	2.09	1.73	1.42	1.03												
6.71	216	3.34	2.43	2.01	1.65	1.20	0.91											
7.30	199	3.62	2.64	2.19	1.79	1.31	0.99											
8.37	173	4.15	3.03	2.51	2.05	1.50	1.13	0.82									Mub 3633	
9.5	153	4.7	3.43	2.84	2.32	1.69	1.28	0.93										
10.6	137	5.22	3.81	3.15	2.58	1.88	1.43	1.03										
11.9	122	5.86	4.27	3.53	2.89	2.11	1.60	1.16	0.85									
13.0	112				3.15 •	2.30	1.74	1.26	0.93									
15.0	96.6				3.63 •	2.65	2.01	1.45	1.07	0.89								
16.6	87.3				4.01 •	2.93	2.22	1.61	1.18	0.99	0.81							
18.9	76.9				4.54 •	3.32 •	2.51 •	1.82	1.34	1.12	0.91							
20.5	70.8				4.92 •	3.59 •	2.72 •	1.97	1.45	1.21	0.99							
23.0	63				5.52 •	4.03 •	3.05 •	2.21	1.63	1.36	1.11	0.81						
25.8	56.2				6.16 •	4.50 •	3.41 •	2.47	1.82	1.52	1.24	0.91						
28.8	50.4									1.69	1.38	1.01	0.82					
31.6	46										1.51	1.10	0.89					
36.1	40.1										1.72	1.26	1.02	0.86				
30.2	48.1		9.85	8.15	6.66	4.87	3.69	2.67	1.97	1.64								
33.9	42.8			8.67	7.09	5.18	3.92	2.84	2.09	1.74	1.43	1.04	0.85				Mub 3632	
37.2	39				8.23	6.01	4.55	3.29	2.43	2.02	1.65	1.21	0.98	0.82				
42.0	34.5				9.30	6.79	5.14	3.72	2.74	2.29	1.87	1.37	1.11	0.93				
46.7	31.1					7.92	6.00	4.34	3.20	2.67	2.18	1.60	1.29	1.09				
52.3	27.7					8.42	6.37	4.61	3.40	2.83	2.32	1.69	1.37	1.15				
56.9	25.5					9.59	7.26	5.26	3.87	3.23	2.64	1.93	1.57	1.32				
66.3	21.9						7.90 •	5.72	4.21	3.51	2.87	2.10	1.70	1.43	1.05	0.86 •		
72.3	20						8.52 •	6.16	4.54	3.79	3.10	2.26	1.84	1.54	1.14	0.92 •		
81.8	17.7						9.38 •	6.79	5.00	4.17	3.41	2.49	2.02	1.70	1.25	1.02	0.84	
95.8	15.1						9.35 •	6.77	4.98	4.16	3.40	2.49	2.02	1.69	1.25	1.01	0.84	
108	13.5							7.76	5.72	4.77	3.90	2.85	2.31	1.94	1.43	1.16	0.96	
120	12.1									5.75	4.70	3.44	2.79	2.35	1.72	1.40	1.15	0.95 •
133	10.9									6.08	4.97	3.64	2.95	2.48	1.82	1.48	1.22	1.00 •
151	9.63									6.51	5.32	3.89	3.16	2.65	1.95	1.59	1.30	1.07 •
170	8.53									6.93	5.67	4.15	3.36	2.83	2.08	1.69	1.39	1.14 •
190	7.62									6.50	5.32	3.89	3.15	2.65	1.95	1.59	1.31	1.08 •
203	7.15										5.50	4.02	3.26	2.74	2.02	1.64	1.35	1.11 •
233	6.22									6.31	5.16	3.77	3.06	2.57	1.89	1.54	1.27	1.04 •
258	5.62									7.17	5.86	4.29	3.48	2.92	2.15	1.75	1.44	1.19 •
292	4.96									7.74	6.33	4.63	3.75	3.15	2.32	1.89	1.55	1.28 •
330	4.39									8.29	6.78	4.96	4.02	3.38	2.48	2.02	1.67	1.37 •
369	3.92									6.50	5.32	3.89	3.15	2.65	1.95	1.59	1.31	1.08 •
394	3.68										5.50	4.02	3.26	2.74	2.02	1.64	1.35	1.11 •
446	3.25										6.41	4.69	3.81	3.20	2.35	1.91	1.58	1.30 •

4-pole and brake LS, LSES	3-phase 4-pole LS, LSES																	
LS FCR	90 L			100 L		112	132			160								
LSES FCR	**90**			**100**		**112**	**132**			**160**								
LS, LSES FCPL										**160**			**180**		**200**	**225**		**250**

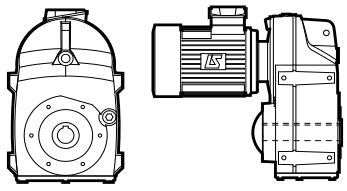
1. LS B35 obligatory

• *MU obligatory*

Selection example

Required power:	9 kW
Required speed:	19 min-1
Duty factor required by the application:	Kp = 1
Operating position; Mounting form:	Horizontal B5 ; BT flange

Designation : Mub 3633 i : 76.9 BT H B5 - MI 4p LSES132MU 9 kW LS2/IE2 - 400VY - U.G.



Electromechanical products
Manubloc 3000

Selection

Classes	Mub 3732 - 3733	
I, II, III	LSES IE2, LS, LSES brake - Cl. F	Integral mounting **MI**
(kp = 1, 1.4, 2)	230V / 400V Y - 400V Δ - 50 Hz - U.G.	Universal mounting **MU**
		Input shaft mounting **AP**

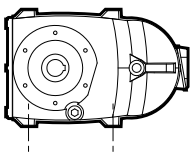
Mub 3732-3733

		LSES (kW)																	
		1.1	**1.5**	**1.8**	**2.2**	**3**	**4**	**5.5**	**7.5**	**9**	**11**	**15**	**18.5**	**22**	**30**	**37**	**45**	**55** [1]	**75** [1]
		3-phase 4-pole LSES																	
min-1	i exact	90			100		112	132			160		180		200	225		250	280
5.95	244	5.09	3.71	3.07	2.51	1.83	1.39	1.01											
6.69	217	5.71	4.16	3.44	2.82	2.06	1.56	1.13	0.83										
7.33	198	6.25	4.56	3.77	3.08	2.25	1.71	1.23	0.91										
8.29	175	7.05	5.14	4.26	3.48	2.54	1.93	1.39	1.03	0.86								Mub 3733	
9.2	158				3.86 •	2.82	2.13	1.54	1.14	0.95									
10.3	141				4.31 •	3.15	2.39	1.73	1.27	1.06	0.87								
11.2	129				4.68 •	3.42	2.59	1.88	1.38	1.15	0.94								
13.1	111				5.44 •	3.98 •	3.01 •	2.18	1.61	1.34	1.10	0.80							
14.3	102				5.92 •	4.33 •	3.28 •	2.37	1.75	1.46	1.19	0.87							
16.1	89.9				6.68 •	4.88 •	3.70 •	2.68	1.97	1.64	1.34	0.98	0.80						
18.9	76.8				7.80 •	5.69 •	4.31 •	3.12	2.30	1.92	1.57	1.15	0.93						
21.2	68.3				8.74 •	6.38 •	4.83 •	3.50	2.58	2.15	1.76	1.29	1.04	0.88					
23.7	61.2									2.39	1.95	1.43	1.16	0.97					
26.2	55.4									2.64	2.16	1.58	1.28	1.07					
29.7	48.8														0.89				
33.5	43.2														0.97				
37.5	38.7														1.04	0.84			
40.0	36.3														1.07	0.87			
45.3	32														1.15	0.94			
30.2	48							4.86	3.58	2.99	2.44	1.79	1.45	1.22					
33.7	43							5.41	3.99	3.33	2.72	1.99	1.61	1.35					
36.1	40.2							5.78	4.26	3.55	2.90	2.12	1.72	1.45					
40.3	36							6.43	4.74	3.95	3.23	2.36	1.92	1.61				Mub 3732	
45.6	31.8							7.23	5.33	4.44	3.63	2.66	2.15	1.81					
51.1	28.4							7.36	5.42	4.52	3.69	2.70	2.19	1.84	1.35	1.10			
57.5	25.2							9.09	6.70	5.59	4.57	3.34	2.71	2.27	1.67	1.36			
64.2	22.6								7.44	6.21	5.07	3.71	3.01	2.53	1.86	1.51	1.25	1.03 •	
72.1	20.1								8.14	6.79	5.55	4.06	3.29	2.76	2.03	1.66	1.36	1.12 •	0.82 •
81.5	17.8								8.79	7.33	5.99	4.39	3.56	2.99	2.20	1.79	1.47	1.21 •	0.89 •
92.4	15.7								9.48	7.90	6.46	4.73	3.84	3.22	2.37	1.93	1.58	1.30 •	0.96 •
105	13.8									8.49	6.94	5.08	4.12	3.46	2.54	2.07	1.70	1.40 •	1.03 •
119	12.2									9.11	7.44	5.45	4.42	3.71	2.73	2.22	1.83	1.50 •	1.10•
132	11									9.56	7.82	5.72	4.64	3.90	2.87	2.33	1.92	1.58 •	1.16 •
150	9.64										8.42	6.16	5.00	4.20	3.09	2.51	2.07	1.70 •	1.25 •
168	8.62										8.91	6.52	5.29	4.44	3.27	2.66	2.19	1.80 •	1.32 •
189	7.68										9.42	6.90	5.59	4.70	3.45	2.81	2.31	1.90 •	1.39 •
210	6.9										9.90	7.24	5.87	4.93		2.95	2.43	2.00 •	1.46 •
240	6.05															3.13	2.57	2.11 •	1.55 •
258	5.63											7.17	5.82	4.89	3.59	2.92	2.40	1.98 •	1.45 •
295	4.91											7.69	6.24	5.24	3.85	3.13	2.58	2.12 •	1.55 •
330	4.39											8.10	6.56	5.51	4.05	3.30	2.71	2.23 •	1.64 •
371	3.91											8.51	6.90	5.80	4.26	3.47	2.85	2.34 •	1.72 •

4-pole and brake LS, LSES	3-phase 4-pole LS, LSES																	
LS FCR	90 L			100 L		112	132			160								
LSES FCR	**90**			**100**		**112**	**132**			**160**								
LS, LSES FCPL										**160**		**180**		**200**	**225**		**250** [1]	**280** [1]

1. LS B35 obligatory

• *MU obligatory*



Selection example

Required power:	30 kW
Required speed:	70 min-1
Duty factor required by the application:	Kp = 2
Operating position; Mounting form:	B6 tapped on the right side; NUR

Designation : Mub 3732 i : 20.1 NUR H B6 - MI 4p LSES200LR 30 kW LS2/IE2- 400VΔ - U.G.

Electromechanical products
Manubloc 3000

Selection

Classes
I, II, III
(kp = 1, 1.4, 2)

Mub 3832 - 3833
LSES IE2, LS, LSES brake - Cl. F
230V / 400V Y - 400V Δ - 50 Hz - U.G.

Integral mounting	**MI**
Universal mounting	**MU**
Input shaft mounting	**AP**

Mub 3832-3833

		LSES (kW)												
		7.5	9	11	15	18.5	22	30	37	45	55 [1]	75 [1]	90 [1]	110 [1]
		3-phase 4-pole LSES												
min-1	i exact	132		160		180		200 LT	225		250	280		315
6.59	220	1.47	1.23	1.00										
7.40	196	1.64	1.37	1.12	0.82									
7.88	184	1.76	1.47	1.20	0.88									
8.84	164	1.96	1.64	1.34	0.98	0.79							Mub 3833	
9.93	146	2.22	1.85	1.51	1.11	0.90								
11.2	130	2.48	2.07	1.69	1.24	1.00	0.84							
12.6	115	2.79	2.33	1.90	1.39	1.13	0.95							
14.1	103	3.11	2.59	2.12	1.55	1.26	1.05							
15.8	92	3.47	2.90	2.37	1.73	1.41	1.18	0.87						
17.8	81.5	3.91	3.26	2.66	1.95	1.58	1.33	0.98	0.80					
20.2	71.7	4.43	3.70	3.02	2.21	1.79	1.50	1.11	0.90					
23.0	63.1	5.02	4.18	3.42	2.50	2.03	1.70	1.25	1.02	0.84				
26.0	55.7	5.67	4.73	3.86	2.83	2.29	1.93	1.42	1.15	0.95	0.78 •			
28.7	50.5	6.24	5.20	4.25	3.11	2.52	2.12	1.56	1.27	1.04	0.86 •			
32.9	44.1	7.12	5.94	4.85	3.55	2.88	2.42	1.78	1.45	1.19	0.98 •			
36.8	39.4	7.94	6.62	5.41	3.96	3.21	2.70	1.98	1.62	1.33	1.10 •	0.80 •		
41.3	35.1	8.89	7.42	6.06	4.43	3.60	3.02	2.22	1.81	1.49	1.23 •	0.90 •		
45.9	31.6	9.86	8.22						2.01	1.65	1.36 •	1.00 •	0.83 •	
52.3	27.7		9.35						2.28	1.88	1.55 •	1.14 •	0.95 •	
47.1	30.8		5.89	4.82	3.52	2.86	2.40	1.77	1.44 •					
52.7	27.5		6.77	5.53	4.05	3.28	2.76	2.03	1.65 •				Mub 3832	
59.2	24.5		9.91	8.10	5.92	4.80	4.03	2.97	2.42	1.99	1.64 •			
66.2	21.9			9.29	6.79	5.51	4.63	3.40	2.77	2.28	1.88 •			
74.4	19.5			9.61	7.03	5.70	4.79	3.52	2.86	2.36	1.94 •	1.42 •	1.18 •	0.97 •
83.3	17.4				8.08	6.56	5.51	4.05	3.29	2.71	2.23 •	1.63 •	1.36 •	1.11 •
94.2	15.4				8.44	6.85	5.75	4.23	3.44	2.83	2.33 •	1.71 •	1.42 •	1.16 •
106	13.7				9.47	7.68	6.45	4.74	3.85	3.17	2.61 •	1.91 •	1.59 •	1.30 •
116	12.5				9.75	7.90	6.64	4.88	3.97	3.27	2.68 •	1.97 •	1.64 •	1.34 •
132	11					8.84	7.42		4.44	3.65	3.00 •	2.20 •	1.83 •	1.50 •
146	9.96					9.44	7.93		4.74	3.90	3.21 •	2.35 •	1.96 •	1.60 •
166	8.75						8.63		5.16	4.24	3.49 •	2.56 •	2.13 •	1.74 •
179	8.11						8.74		5.22	4.30	3.53 •	2.59 •	2.16 •	1.76 •
209	6.95						9.93		5.94	4.88	4.01 •	2.95 •	2.45 •	2.00 •
229	6.33								6.29	5.18	4.26 •	3.12 •	2.60 •	2.12 •
253	5.73								6.70	5.51	4.53 •	3.32 •	2.77 •	2.26 •
289	5.01								6.47	5.32	4.38 •	3.21 •	2.67 •	2.18 •
330	4.4								7.03	5.78	4.75 •	3.49 •	2.90 •	2.37 •
355	4.08								7.03	5.78	4.75 •	3.49 •	2.90 •	2.37 •
415	3.49								7.90	6.50	5.34 •	3.92 •	3.26 •	2.66 •
456	3.18								7.83	6.45	5.31 •	3.90 •	3.24 •	2.65 •
503	2.88								8.57	7.05	5.81 •	4.26 •	3.55 •	2.90 •

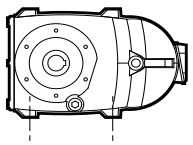
4-pole and brake LS, LSES	3-phase 4-pole LS, LSES										
LS FCR	132		160								
LSES FCR	**132**		**160**								
LS, LSES FCPL			**160**		**180**		**200**	**225**	**250 [1]**	**280 [1]**	NC

1. LS B35 obligatory
• *MU obligatory*
NC : Consult us

Selection example

Required power:	45 kW
Required speed:	31 min-1
Duty factor required by the application:	Kp = 1
Operating position; Mounting form:	B6 tapped on the right side; NUR

Designation : Mub 3833 i : 44.1 NUR H B6 - MI 4p LSES225MR 45 kW LS2/IE2 - 400VΔ - U.G.



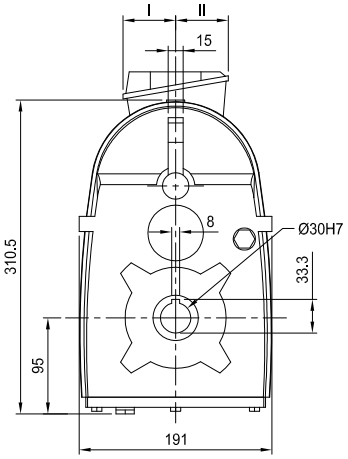
Dimensions

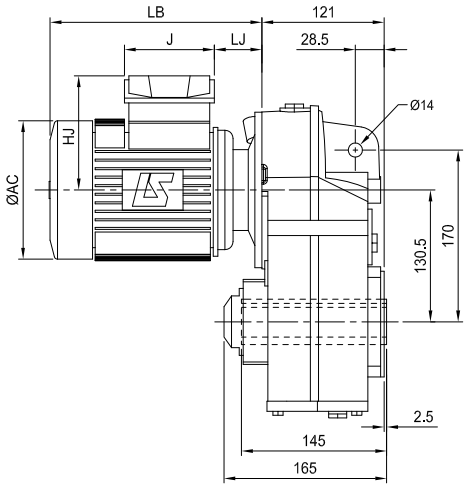
**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3132**

Dimensions in millimetres

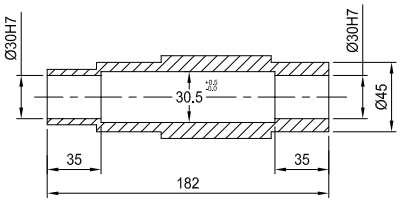
- R shaft form, H cylindrical hollow shaft

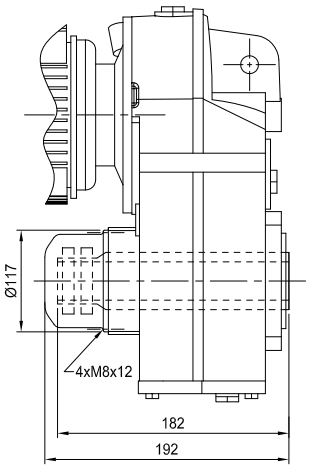
Mub: 15.5 kg + Motor





- Details of the SDB shrink disc option





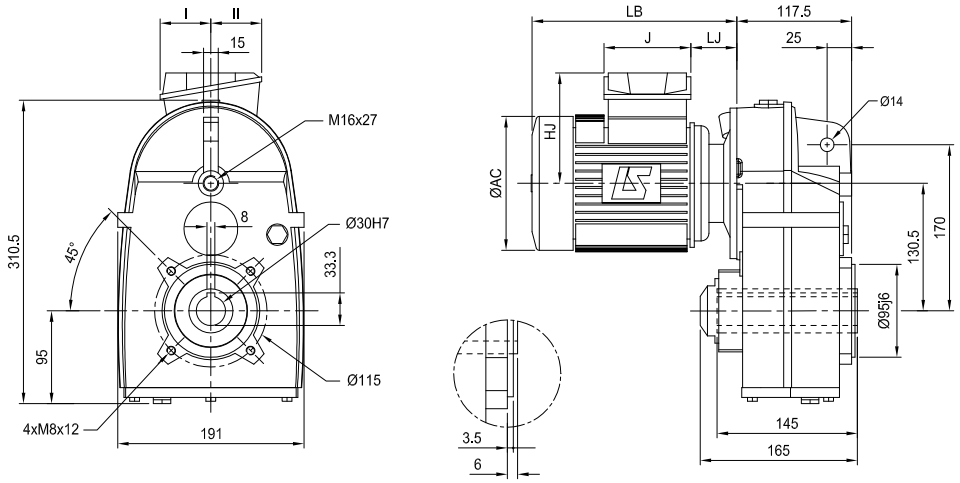
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3132**

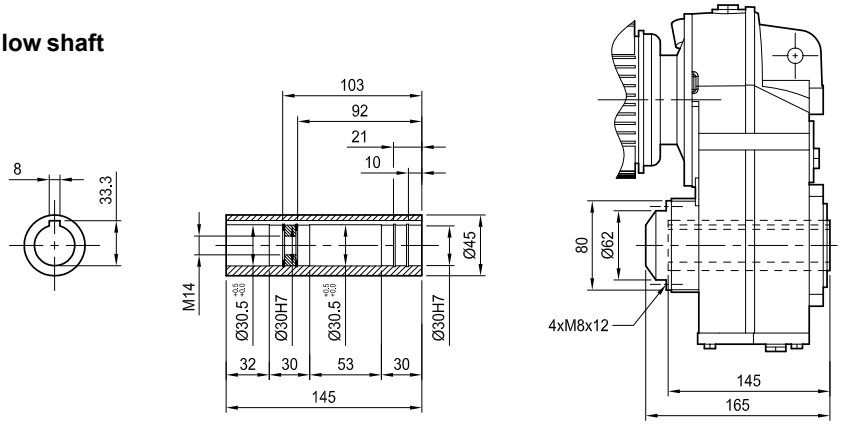
Dimensions in millimetres

- BT flange form, H cylindrical hollow shaft

Mub: 15.5 kg + Motor



- Details of the H standard hollow shaft



Type	4-pole motors															
	LSES								LSES FCR							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 80	170	135	86	288.5	67.5	43	43	11.7	172	146	160	349.5	46	55	55	18
LSES 90	190	135	86	290	71	43	43	15.2	184	156	160	349.5	58.5	55	55	24.2
LSES 100 LR	200	140	86	354.5	72	43	43	25.7	200	161	160	410	59.5	55	55	30

Type	4-pole motors															
	LS								LS FCR							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 71 L	140	109	86	217	49	43	43	8.3	140	135	160	268	34	55	55	11.3
LS 80 L	-	-	-	-	-	-	-	-	172	146	160	300	46	55	55	18
LS 90 L	-	-	-	-	-	-	-	-	184	156	160	349.5	58.5	55	55	24.2
LS 100 L	-	-	-	-	-	-	-	-	200	161	160	397.5	59.5	55	55	30

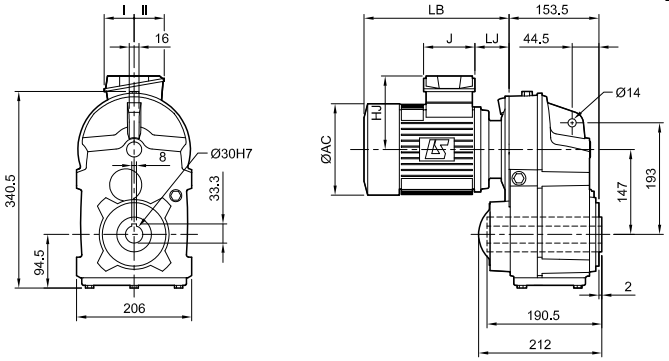
Dimensions

Dimensions of Manubloc (Mub) gearboxes, MI integral mounting, Mub 3232 and Mub 3233

Dimensions in millimetres

- R form, H cylindrical hollow shaft

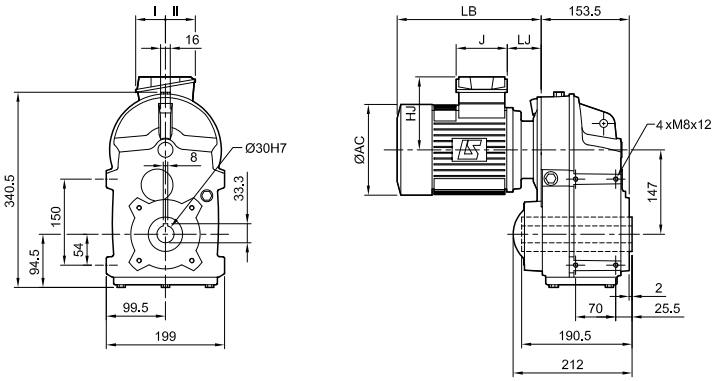
Mub: 26 kg + Motor



- NUL[1] tapped holes form, H cylindrical hollow shaft

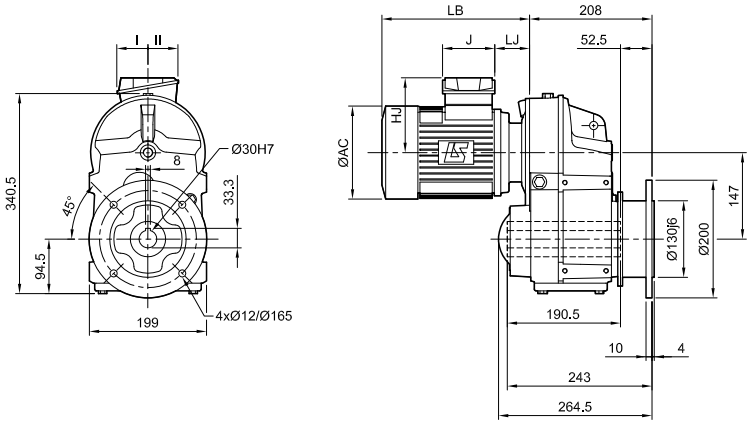
Mub: 26 kg + Motor

1. NUR right option: identical tapped holes

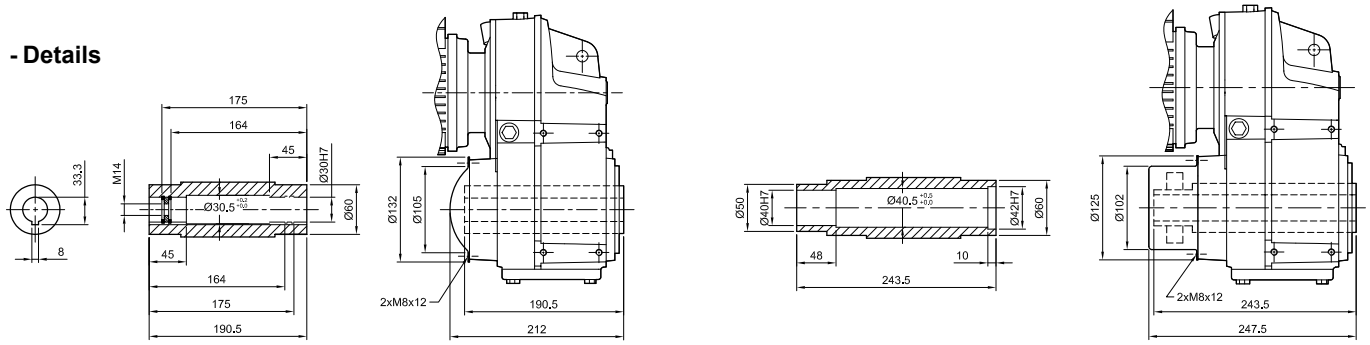


- BD flange form, H cylindrical hollow shaft

Mub: 30 kg + Motor



- Details



H standard hollow shaft

SDB shrink disc option

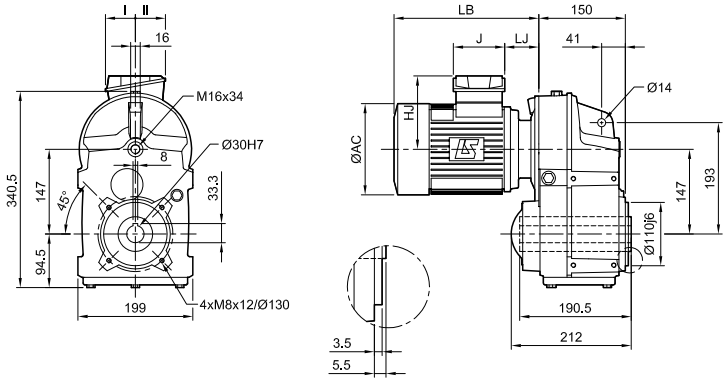
Dimensions

Dimensions of Manubloc (Mub) gearboxes, MI integral mounting, Mub 3232 and Mub 3233

Dimensions in millimetres

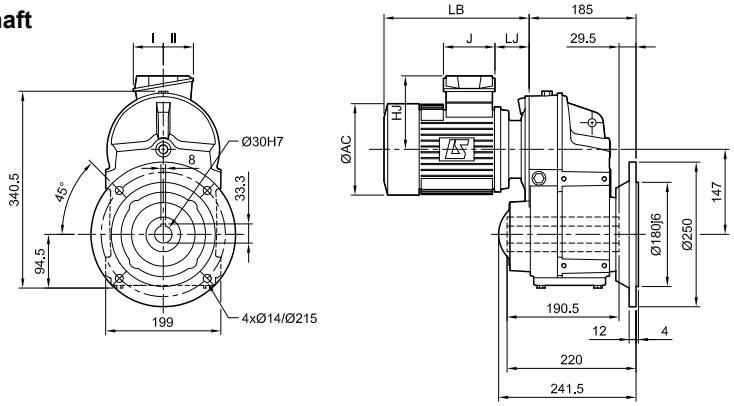
- BT flange form, H cylindrical hollow shaft

Mub: 26 kg + Motor



- BS flange form, H cylindrical hollow shaft

Mub: 31 kg + Motor



Type	4-pole motors															
	LSES								LSES FCR							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 80	170	135	86	288	67.5	43	43	11.7	172	146	160	349.5	46	55	55	18
LSES 90	190	135	86	290	71	43	43	15.2	184	156	160	349.5	58.5	55	55	24.2
LSES 100 LR	200	140	86	354.5	72	43	43	25.7	200	161	160	410	59.5	55	55	30
LSES 112 MU	235	149	86	371	73.5	43	43	35	235	169	160	434	61	55	55	44.5
LSES 132 SU	260	172	126	397	52.5	63	63	42	235	169	160	477	61	55	55	48

Type	4-pole motors															
	LS								LS FCR							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 71 L	140	109	86	217	49	43	43	8.3	140	135	160	268	34	55	55	11.3
LS 80 L	-	-	-	-	-	-	-	-	172	146	160	300	46	55	55	18
LS 90 L	-	-	-	-	-	-	-	-	184	156	160	349.5	58.5	55	55	24.2
LS 100 L	-	-	-	-	-	-	-	-	200	161	160	397.5	59.5	55	55	30
LS 112 MG	-	-	-	-	-	-	-	-	235	169	160	434	61	55	55	44.5
LS 132 S	-	-	-	-	-	-	-	-	235	169	160	457	61	55	55	48

Electromechanical products
Manubloc 3000

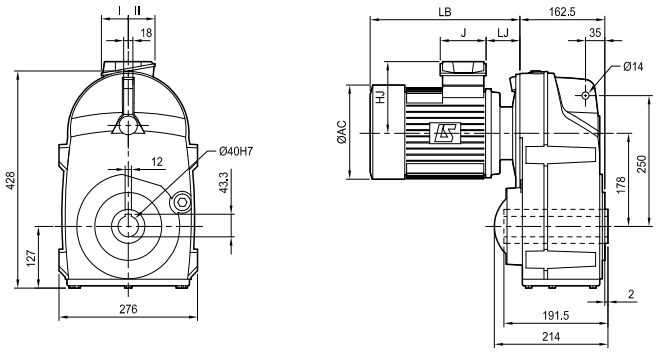
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3332 and Mub 3333**

Dimensions in millimetres

- R form, H cylindrical hollow shaft

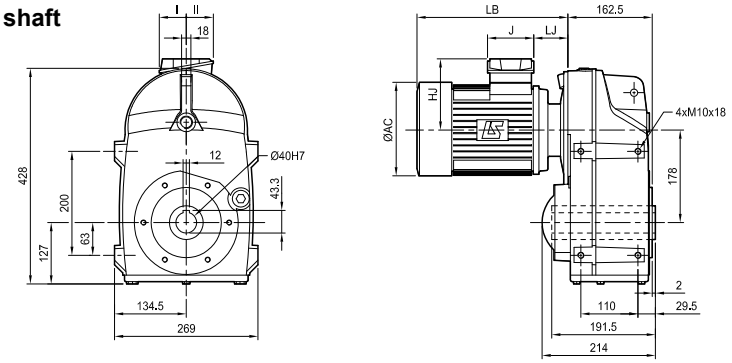
Mub: 43 kg + Motor



- NUL[1] tapped holes form, H cylindrical hollow shaft

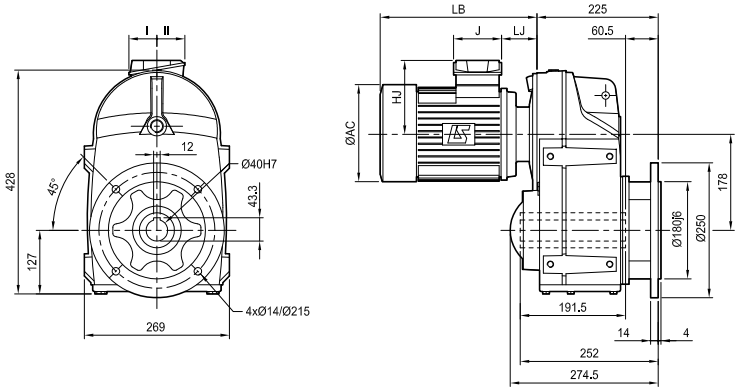
Mub: 43 kg + Motor

1. NUR right option: identical tapped holes

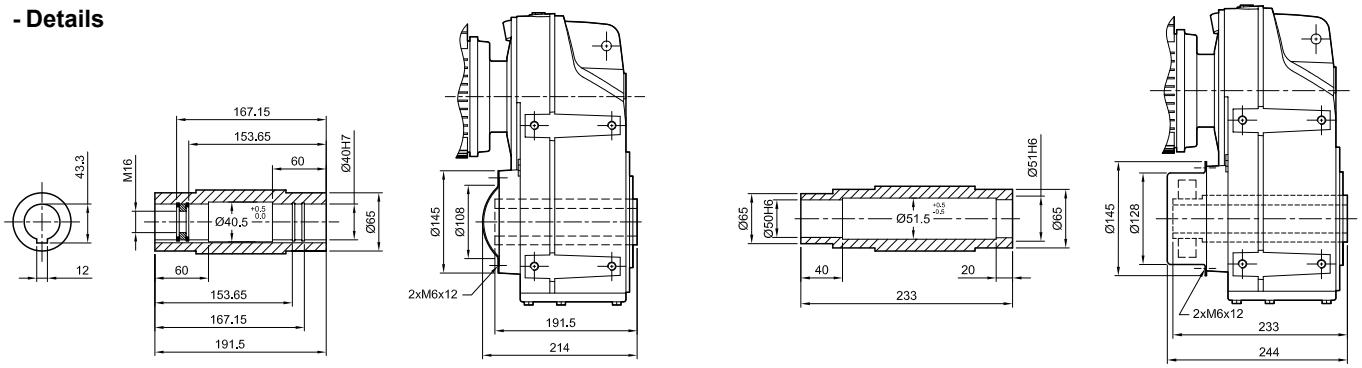


- BD flange form, H cylindrical hollow shaft

Mub: 50 kg + Motor



- Details



H standard hollow shaft

Shrink disc option

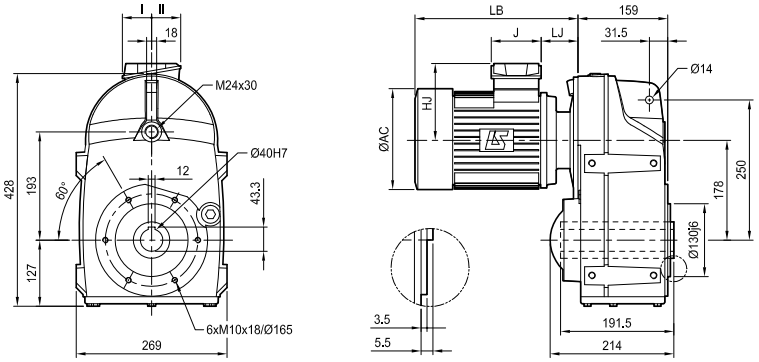
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3332 and Mub 3333**

Dimensions in millimetres

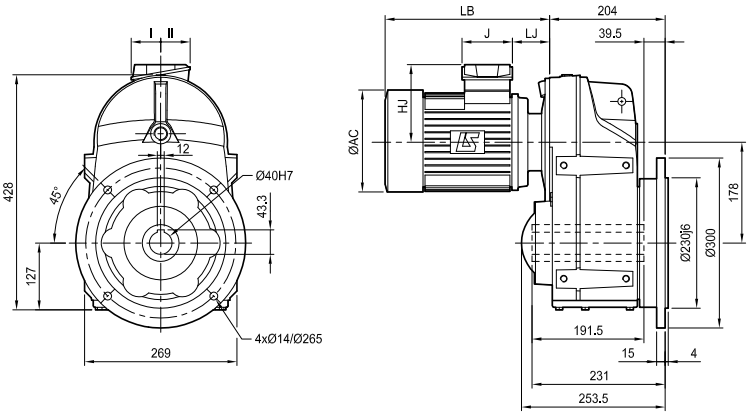
- BT flange form, H cylindrical hollow shaft

Mub: 43 kg + Motor



- BS flange form, H cylindrical hollow shaft

Mub: 51 kg + Motor



Type	4-pole motors							
	LSES							
	AC	HJ	J	LB	LJ	I	II	kg
LSES 80	170	135	86	284	63.5	43	43	11.7
LSES 90	190	135	86	286	67	43	43	15.2
LSES 100 LR	200	140	86	350.5	68	43	43	25.7
LSES 112 MU	235	149	86	367	69.5	43	43	35
LSES 132 MU	265	190	126	460	52.5	63	63	68

Type	4-pole motors															
	LSES FCR															
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 80	172	146	160	345.5	42	55	55	18								
LSES 90	184	156	160	345.5	54.5	55	55	24.2								
LSES 100 LR	200	161	160	406	55.5	55	55	30								
LSES 112 MU	235	169	160	430	58	55	55	44.5								
LSES 132 MU	280	188	160	541	73	55	55	80								

Type	4-pole motors															
	LS								LS FCR							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 71 L	140	109	86	213	45	43	43	8.3	140	135	160	264	21.5	55	55	11.3
LS 80 L	-	-	-	-	-	-	-	-	172	146	160	296	42	55	55	18
LS 90 L	-	-	-	-	-	-	-	-	184	156	160	345.5	54.5	55	55	24.2
LS 100 L	-	-	-	-	-	-	-	-	200	161	160	393.5	55.5	55	55	30
LS 112 MG	-	-	-	-	-	-	-	-	235	169	160	430	58	55	55	44.5
LS 132 M	-	-	-	-	-	-	-	-	280	188	160	541	73	55	55	80

Electromechanical products
Manubloc 3000

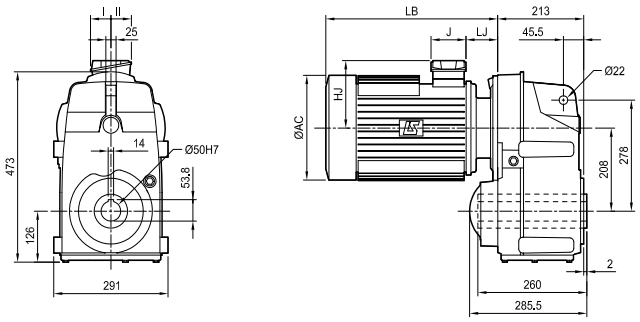
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3432 and Mub 3433**

Dimensions in millimetres

- R form, H cylindrical hollow shaft

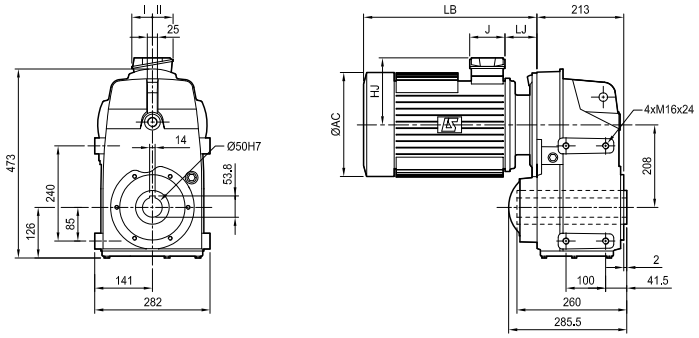
Mub: 70 kg + Motor



- NUL[1] tapped holes form, H cylindrical hollow shaft

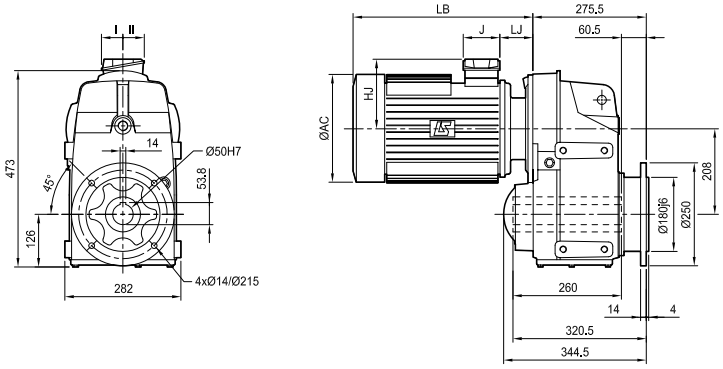
Mub: 65 kg + Motor

1. NUR right option: identical tapped holes

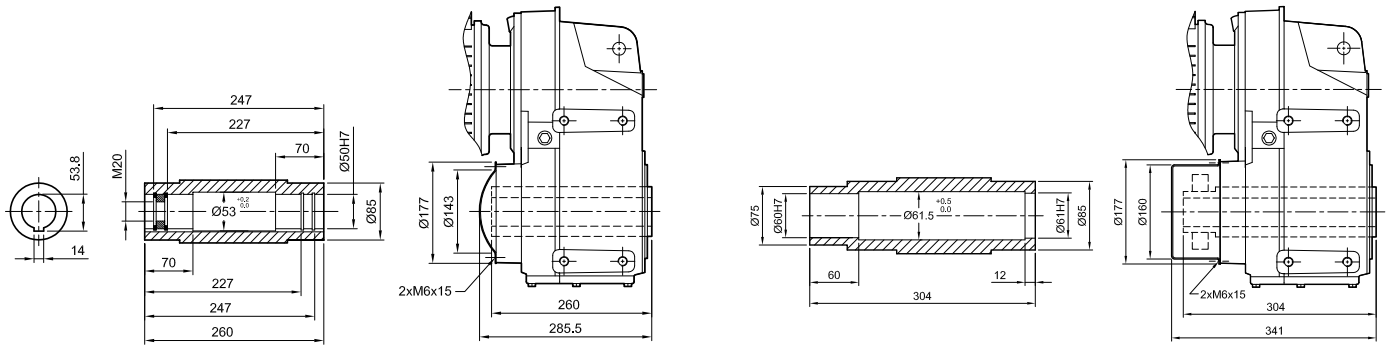


- BD flange form, H cylindrical hollow shaft

Mub: 78 kg + Motor



- Details



H standard hollow shaft

Shrink disc option

Electromechanical products
Manubloc 3000

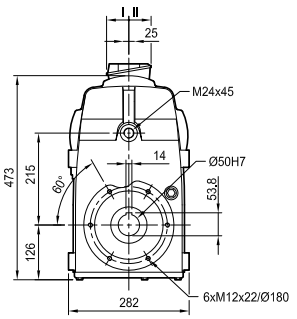
Dimensions

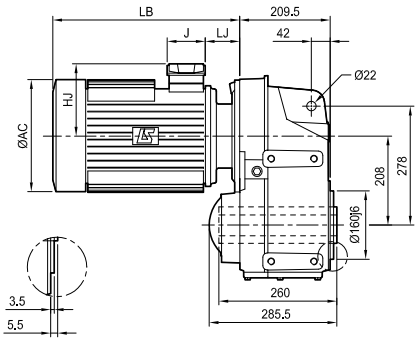
**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3432 and Mub 3433**

Dimensions in millimetres

- BT flange form, H cylindrical hollow shaft

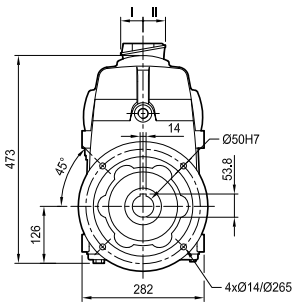
Mub: 69 kg + Motor

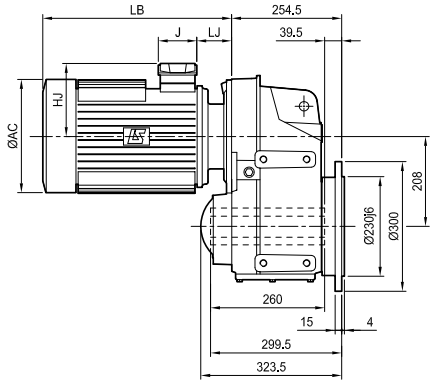




- BS flange form, H cylindrical hollow shaft

Mub: 79 kg + Motor





Type	4-pole motors																							
	LSES								LSES FCR								LSES FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 80 LG	170	135	86	288.5	68	43	43	11.7	172	146	160	345.5	46.5	55	55	18								
LSES 90 L	190	135	86	286	67	43	43	15.2	184	156	160	345.5	54.5	55	55	24.2	-	-	-	-	-	-	-	-
LSES 100 LR	200	140	86	350.5	68	43	43	25.7	200	161	160	406	55.5	55	55	30	-	-	-	-	-	-	-	-
LSES 112 MU	235	149	86	367	69.5	43	43	35	235	169	160	434	62	55	55	44.5	-	-	-	-	-	-	-	-
LSES 132 MU	265	190	126	464	69	63	63	68	280	188	160	545	77	55	55	80	-	-	-	-	-	-	-	-
LSES 160 L	312	222	126	508	60.8	63	63	91	316	231	160	620	96	55	55	110	345	235	134	681	56.8	92	63	140
LSES 180 LR	312	248	186	533	67.8	112	98	115	-	-	-	-	-	-	-	-	345	235	134	696	57	92	63	155

Type	4-pole motors															
	LS FCR								LS FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 80 L	172	146	160	300.5	46.5	55	55	18	-	-	-	-	-	-	-	-
LS 90L	184	156	160	345.5	54.5	55	55	24.2	-	-	-	-	-	-	-	-
LS 100L	200	161	160	393.5	55.5	55	55	30	-	-	-	-	-	-	-	-
LS 112 MG	235	169	160	434	62	55	55	44.5	-	-	-	-	-	-	-	-
LS 132 M	280	188	160	545	77	55	55	80	-	-	-	-	-	-	-	-
LS 160L	316	231	160	620	96	55	55	110	345	235	134	681	56.8	92	63	140
LS 180LR	-	-	-	-	-	-	-	-	345	235	134	696	57	92	63	155

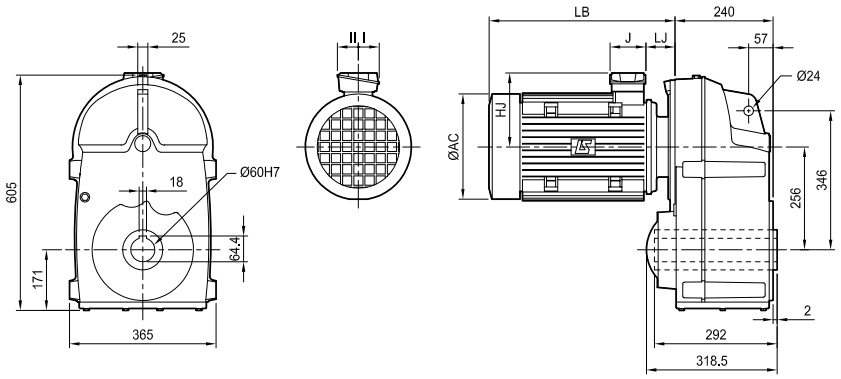
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3532 and Mub 3533**

Dimensions in millimetres

- R form, H cylindrical hollow shaft

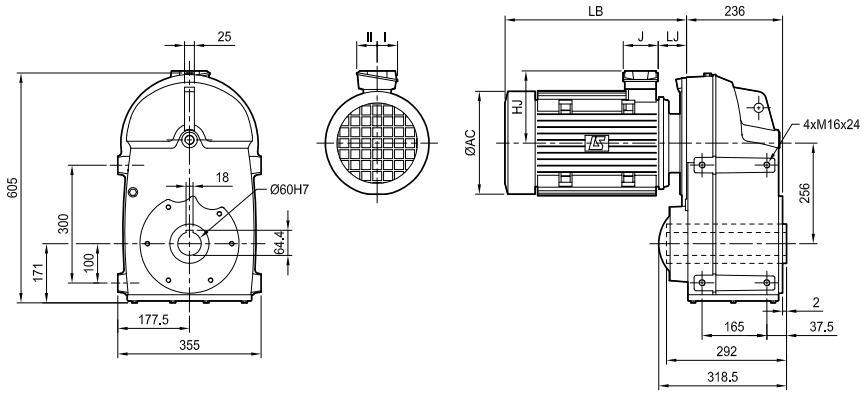
Mub: 116 kg + Motor



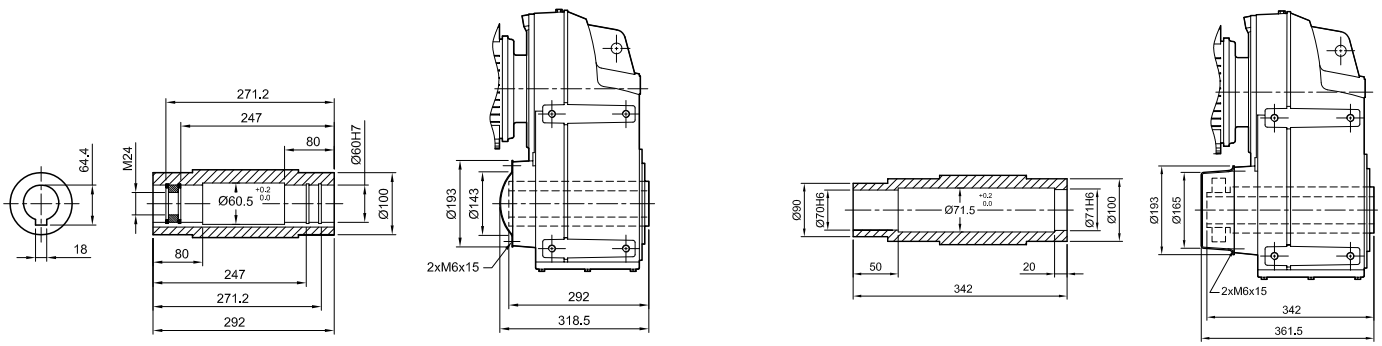
- NUL[1] tapped holes form, H cylindrical hollow shaft

Mub: 115 kg + Motor

1. NUR right option: identical tapped holes



- Details



Standard hollow shaft

Shrink disc option

Electromechanical products
Manubloc 3000

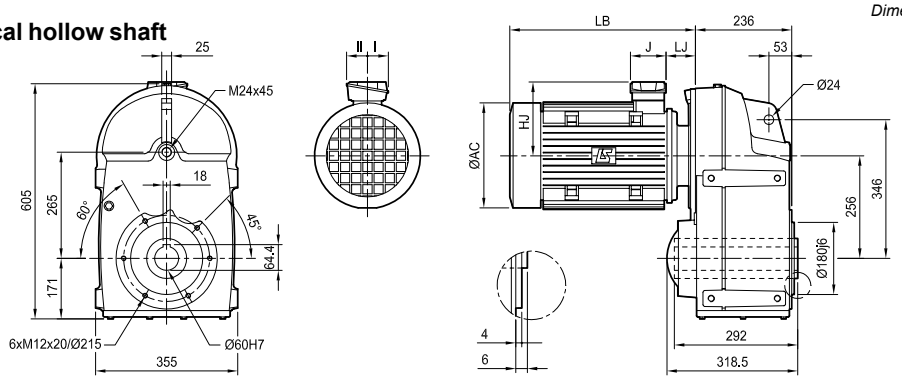
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3532 and Mub 3533**

Dimensions in millimetres

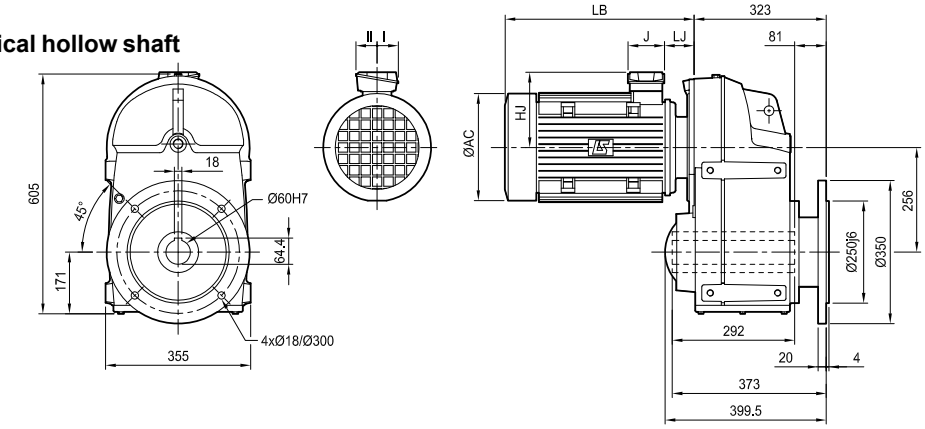
- BT flange form, H cylindrical hollow shaft

Mub: 115 kg + Motor



- BS flange form, H cylindrical hollow shaft

Mub: 130 kg + Motor



Type	4-pole motors																							
	LSES								LSES FCR								LSES FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 90 L	190	135	86	281	62	43	43	15.2	184	156	160	340.5	49.5	55	55	24.2								
LSES 100 LR	200	140	86	345.5	63	43	43	25.7	200	161	160	401	50.5	55	55	30	-	-	-	-	-	-	-	-
LSES 112 MU	235	149	86	362	64.5	43	43	35	235	169	160	425	53	55	55	44.5	-	-	-	-	-	-	-	-
LSES 132 MU	265	190	126	455	60	63	63	68	280	188	160	536	56	55	55	80	-	-	-	-	-	-	-	-
LSES 160 L	312	222	126	499	51.8	63	63	91	316	231	160	611	87	55	55	110	312	235	134	672	47.8	92	63	140
LSES 180 LR	312	248	186	524	58.8	112	98	115	-	-	-	-	-	-	-	-	345	235	134	687	48	92	63	150
LSES 200 LR	350	256	186	618	67.5	112	98	164	-	-	-	-	-	-	-	-	384	256	186	826	67.5	111	98	240

Type	4-pole motors															
	LS FCR								LS FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 90 L	184	156	160	340.5	49.5	55	55	24.2	-	-	-	-	-	-	-	-
LS 100 L	200	161	160	388.5	50.5	55	55	30	-	-	-	-	-	-	-	-
LS 112 MG	235	169	160	425	53	55	55	44.5	-	-	-	-	-	-	-	-
LS 132 M	280	188	160	536	56	55	55	80	-	-	-	-	-	-	-	-
LS 160 LR	316	231	160	611	87	55	55	110	312	235	134	672	47.8	92	63	140
LS 180 LR	-	-	-	-	-	-	-	-	345	235	134	687	48	92	63	150
LS 200 LT	-	-	-	-	-	-	-	-	384	256	186	826	67.5	111	98	240

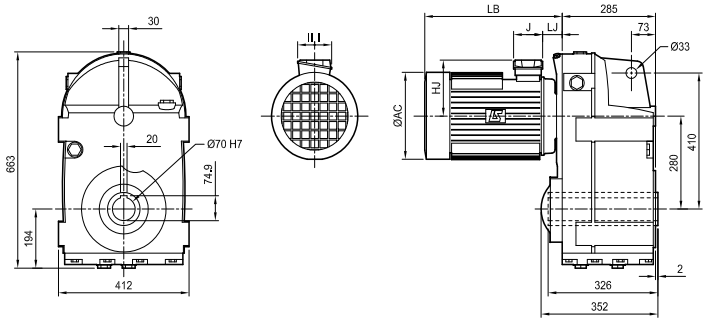
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3632 and Mub 3633**

Dimensions in millimetres

- R form, H cylindrical hollow shaft

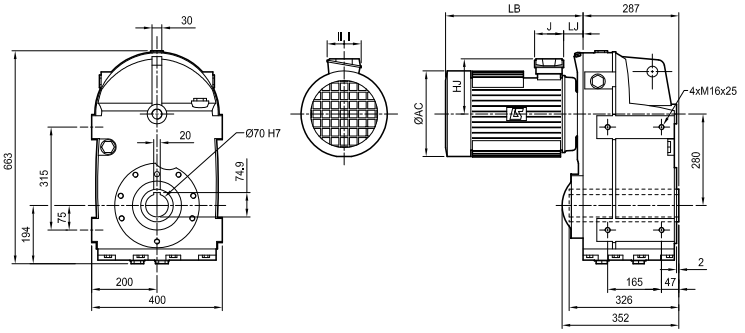
Mub : 197 kg + Motor



- NUL[1] tapped holes form, H cylindrical hollow shaft

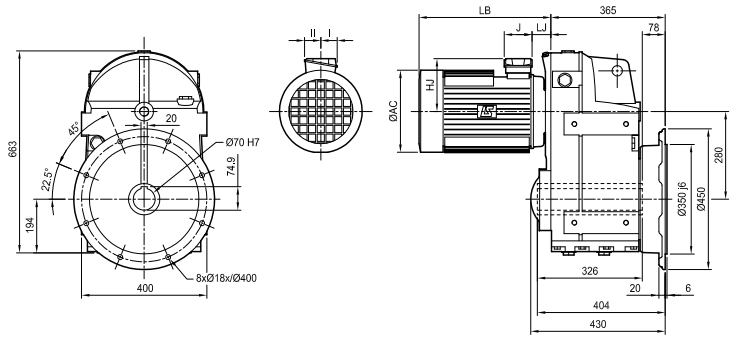
Mub : 195 kg + Motor

1. NUR right option: identical tapped holes



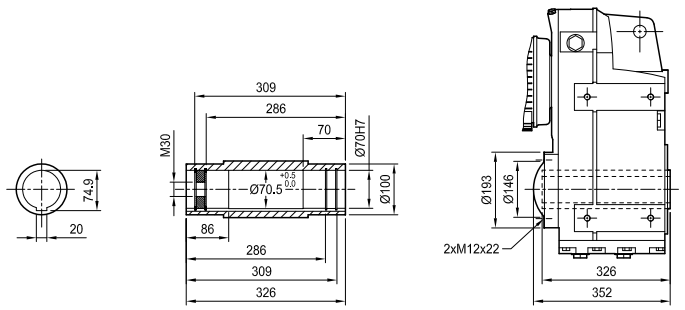
- BD flange form, H cylindrical hollow shaft

Mub : 223 kg + Motor

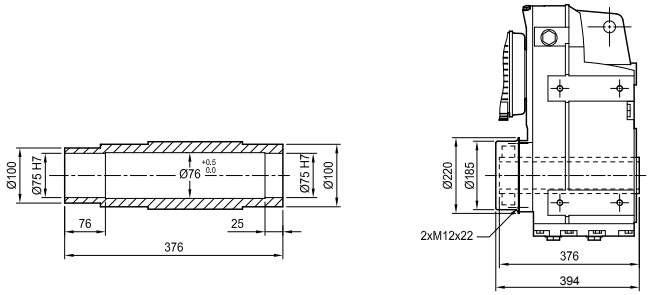


- Details

H standard hollow shaft



SDB shrink disc option



Electromechanical products
Manubloc 3000

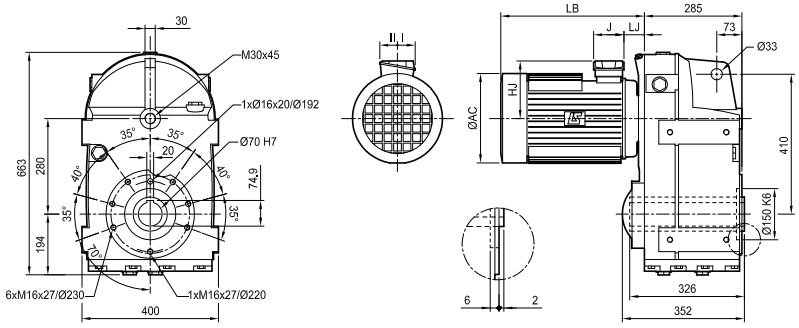
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3632 and Mub 3633**

Dimensions in millimetres

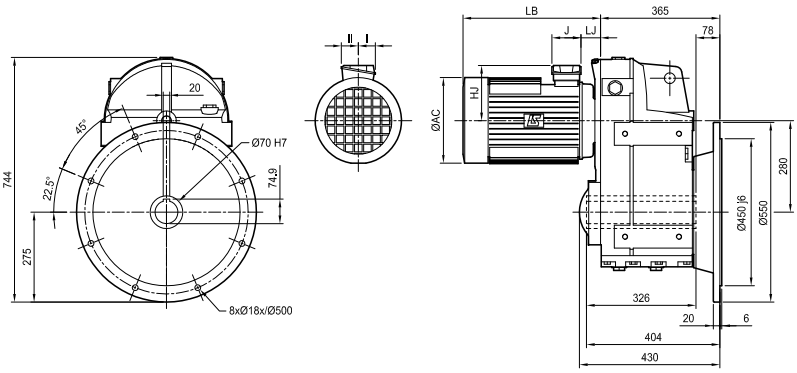
- BT flange form, H cylindrical hollow shaft

Mub: 195 kg + Motor



- BS flange form, H cylindrical hollow shaft

Mub: 229 kg + Motor



Type	4-pole motors																								
	LSES								LSES FCR								LSES FCPL								
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	
LSES 90 L	190	135	86	272	53	43	43	15,2	190	156	160	331,5	48,5	55	55	24,2	-	-	-	-	-	-	-	-	
LSES 100 LR	200	140	86	336,5	54	43	43	25,7	200	161	160	394,5	52	55	55	30	-	-	-	-	-	-	-	-	
LSES 112 MU	235	149	86	353	55,5	43	43	35	235	169	160	421	51	55	55	44,5	-	-	-	-	-	-	-	-	
LSES 132 MU	265	190	126	446	51	63	63	68	280	188	160	527	66,5	55	55	80	-	-	-	-	-	-	-	-	
LSES 160 L	312	222	126	490	42,8	63	63	91	316	231	160	564	58	55	55	110	345	235	134	672	47,8	92	63	140	
LSES 180 LR	312	248	186	515	49,8	112	98	115	-	-	-	-	-	-	-	-	345	235	134	678	39	92	63	150	
LSES 200 LR	350	256	186	609	58,5	112	98	164	-	-	-	-	-	-	-	-	384	256	186	774	84,5	111	98	240	
LSES 225 MR	390	310	231	674	59,5	119	142	235	-	-	-	-	-	-	-	-	410	276	186	837	82	111	98	320	

Type	4-pole motors															
	LS FCR								LS FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 90 L	190	156	160	331.5	48.5	55	55	24.2	-	-	-	-	-	-	-	-
LS 100 L	200	161	160	382	52	55	55	30	-	-	-	-	-	-	-	-
LS 112 MG	235	169	160	421	51	55	55	44.5	-	-	-	-	-	-	-	-
LS 132 M	280	188	160	527	66.5	55	55	80	-	-	-	-	-	-	-	-
LS 160 L	316	231	160	564	58	55	55	110	345	235	134	672	47.8	92	63	140
LS 180 LR	-	-	-	-	-	-	-	-	345	235	134	678	39	92	63	150
LS 200 LT	-	-	-	-	-	-	-	-	384	256	186	774	84.5	111	98	240
LS 225 MR	-	-	-	-	-	-	-	-	410	276	186	837	82	111	98	320

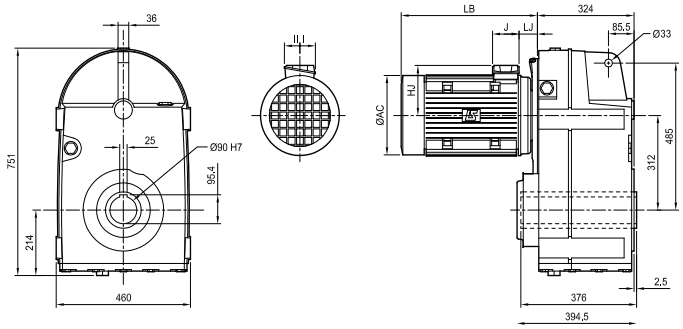
Dimensions

Dimensions of Manubloc (Mub) gearboxes, MI integral mounting, Mub 3732 and Mub 3733

Dimensions in millimetres

- R form, H cylindrical hollow shaft

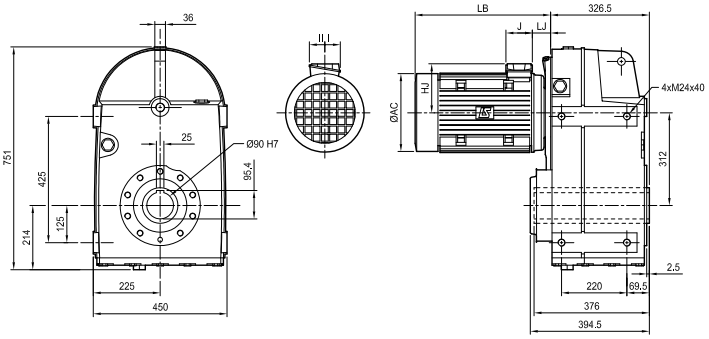
Mub : 283 kg + Motor



- NUL[1] tapped holes form, H cylindrical hollow shaft

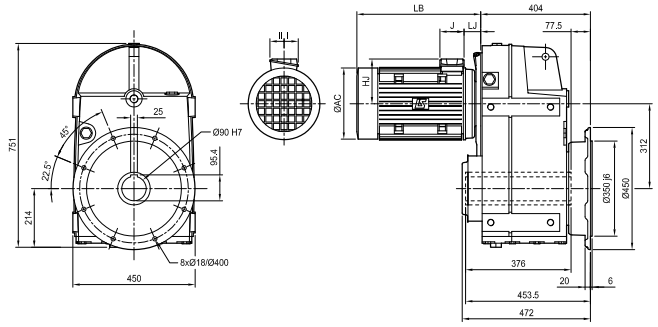
Mub : 280 kg + Motor

1. NUR right option: identical tapped holes



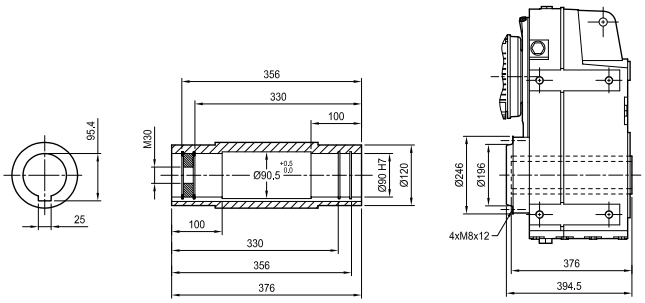
- BD flange form, H cylindrical hollow shaft

Mub : 310 kg + Motor

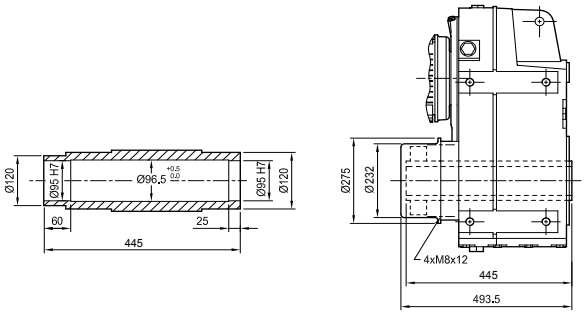


- Details

H standard hollow shaft



SBD shrink disc option



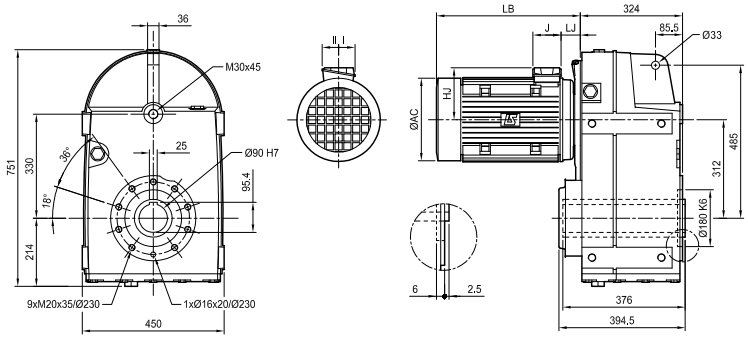
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3732 and Mub 3733**

Dimensions in millimetres

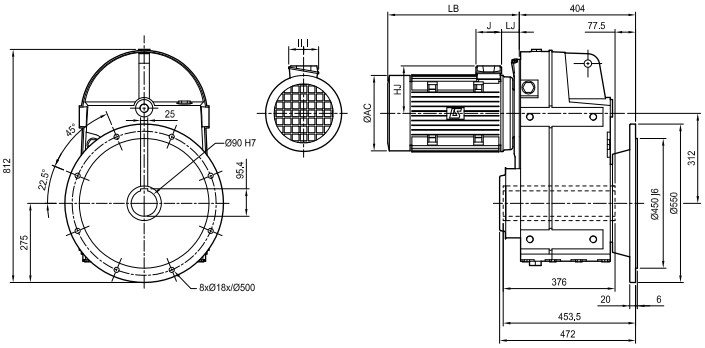
- BT flange form, H cylindrical hollow shaft

Mub: 280 kg + Motor



- BS flange form, H cylindrical hollow shaft

Mub: 316 kg + Motor



Type	4-pole motors																								
	LSES								LSES FCR								LSES FCPL								
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 90 L	190	135	86	272	53	43	43	15,2	190	156	160	331,5	48,5	55	55	24,2	-	-	-	-	-	-	-	-
LSES 100 LR	200	140	86	336,5	54	43	43	25,7	200	161	160	394,5	52	55	55	30	-	-	-	-	-	-	-	-
LSES 112 MU	235	149	86	353	55,5	43	43	35	235	169	160	421	51	55	55	44,5	-	-	-	-	-	-	-	-
LSES 132 MU	265	190	126	446	51	63	63	68	280	188	160	527	66,5	55	55	80	-	-	-	-	-	-	-	-
LSES 160 L	312	222	126	490	42,8	63	63	91	316	231	160	564	58	55	55	110	345	235	134	672	47,8	92	63	140
LSES 180 LR	312	248	186	515	49,8	112	98	115	-	-	-	-	-	-	-	-	345	235	134	678	39	92	63	150
LSES 200 LR	350	256	186	609	58,5	112	98	164	-	-	-	-	-	-	-	-	384	256	186	774	84,5	111	98	240
LSES 225 MR	390	310	231	674	59,5	119	142	235	-	-	-	-	-	-	-	-	410	276	186	837	82	111	98	320

Type	4-pole motors															
	LS FCR								LS FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 90 L	190	156	160	331.5	48.5	55	55	24.2	-	-	-	-	-	-	-	-
LS 100 L	200	161	160	382	52	55	55	30	-	-	-	-	-	-	-	-
LS 112 MG	235	169	160	421	51	55	55	44.5	-	-	-	-	-	-	-	-
LS 132 M	280	188	160	527	66.5	55	55	80	-	-	-	-	-	-	-	-
LS 160 L	316	231	160	564	58	55	55	110	345	235	134	672	47.8	92	63	140
LS 180 LR	-	-	-	-	-	-	-	-	345	235	134	678	39	92	63	150
LS 200 LT	-	-	-	-	-	-	-	-	384	256	186	774	84.5	111	98	240
LS 225 MR	-	-	-	-	-	-	-	-	410	276	186	837	82	111	98	320

Electromechanical products
Manubloc 3000

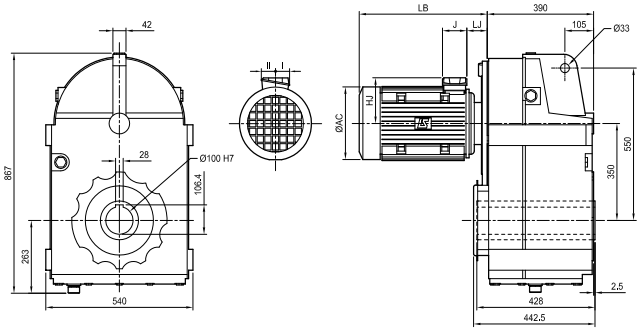
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3832 and Mub 3833**

Dimensions in millimetres

- R form, H cylindrical hollow shaft

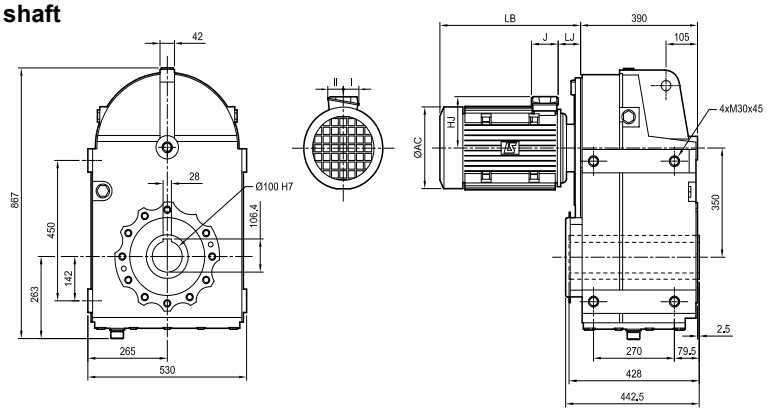
Mub: 335 kg + Motor



- NUL[1] tapped holes form, H cylindrical hollow shaft

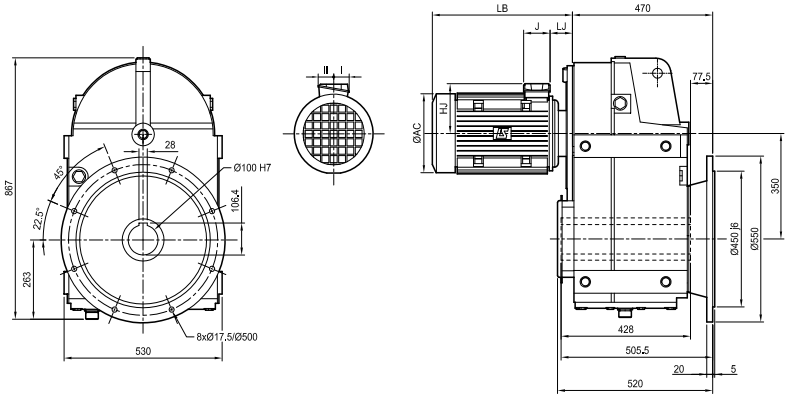
Mub: 332 kg + Motor

1. NUR right option: identical tapped holes

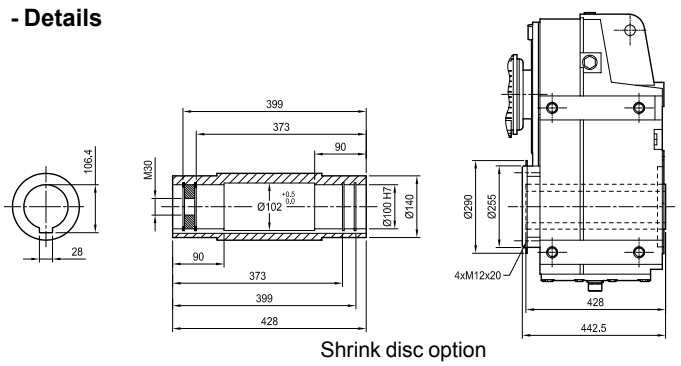


- BD flange form, H cylindrical hollow shaft

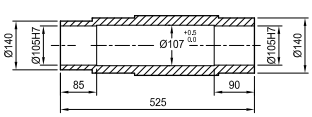
Mub: 367 kg + Motor



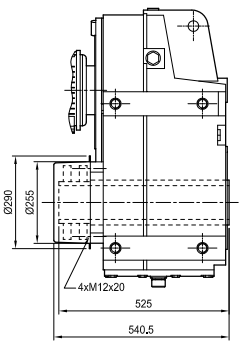
- Details



Shrink disc option



H standard hollow shaft



Electromechanical products
Manubloc 3000

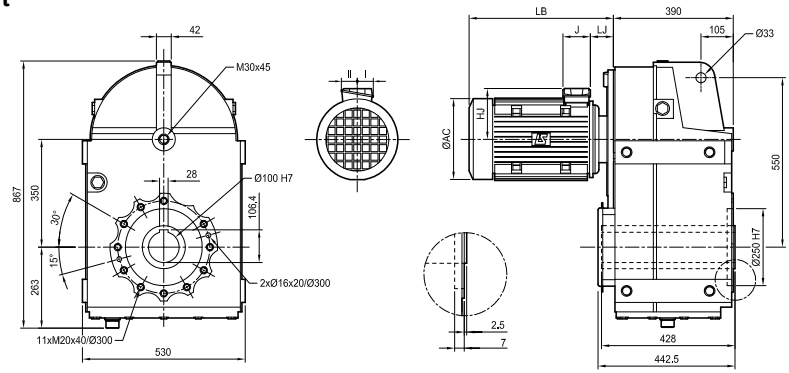
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3832 and Mub 3833**

Dimensions in millimetres

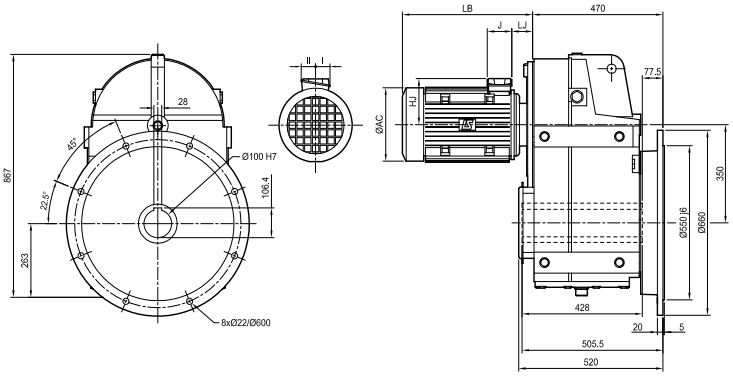
- BT flange form, H cylindrical hollow shaft

Mub: 332 kg + Motor



- BS flange form, H cylindrical hollow shaft

Mub: 390 kg + Motor



Type	4-pole motors																								
	LSES								LSES FCR								LSES FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 132 MU	265	190	126	433	38	63	63	68	280	186	160	514	46	55	55	80	-	-	-	-	-	-	-	-
LSES 160 L	312	222	126	477	29,8	63	63	91	316	196	160	551	45	55	55	110	345	235	134	650	25,8	92	63	140
LSES 180 LR	312	248	186	502	36,8	112	98	115	-	-	-	-	-	-	-	-	345	249	186	665	36,8	111	98	150
LSES 200 LR	350	256	186	596	45,5	112	98	164	-	-	-	-	-	-	-	-	384	256	186	801	45,5	111	98	240
LSES 225 MR	390	310	231	661	46,5	119	142	235	-	-	-	-	-	-	-	-	410	276	186	865	69	111	98	320

Type	4-pole motors														
	LS FCR								LS FCPL						
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 132 M	280	186	160	514	46	55	55	80	-	-	-	-	-	-	-	-
LS 160 L	316	196	160	551	45	55	55	110	345	235	134	650	25.8	92	63	140
LS 180 LR	-	-	-	-	-	-	-	-	345	249	186	665	36.8	111	98	150
LS 200 LT	-	-	-	-	-	-	-	-	384	256	186	801	45.5	111	98	240
LS 225 MR	-	-	-	-	-	-	-	-	410	276	186	865	69	111	98	320

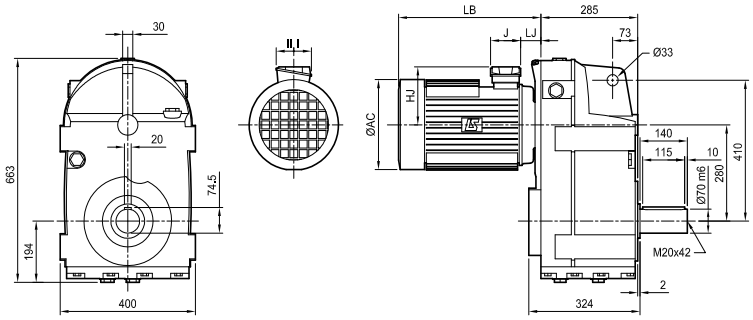
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3632 and Mub 3633**

Dimensions in millimetres

- R form, S output shaft

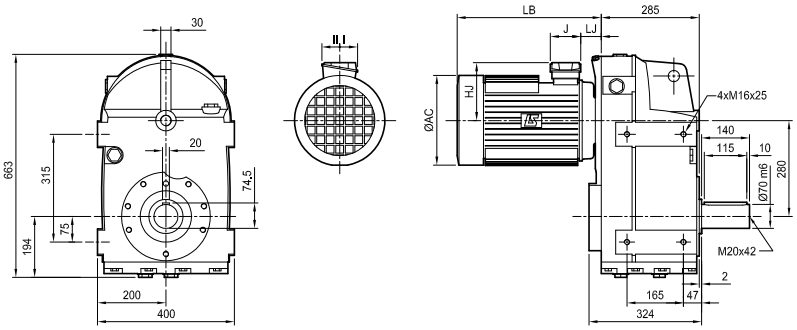
Mub : 207 kg + Motor



- NUL[1] tapped holes form, S output shaft

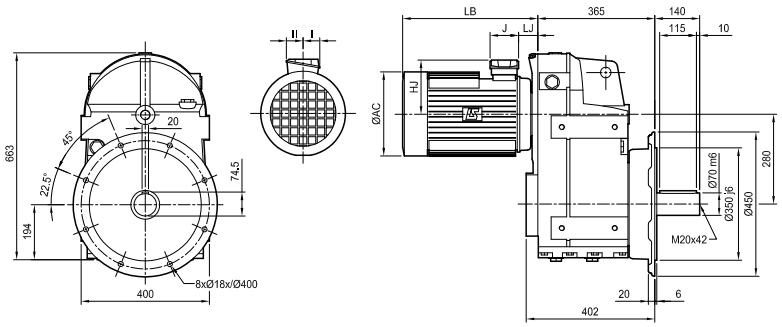
Mub : 205 kg + Motor

1. NUR right option: identical tapped holes



- BD flange form, S output shaft

Mub : 233 kg + Motor



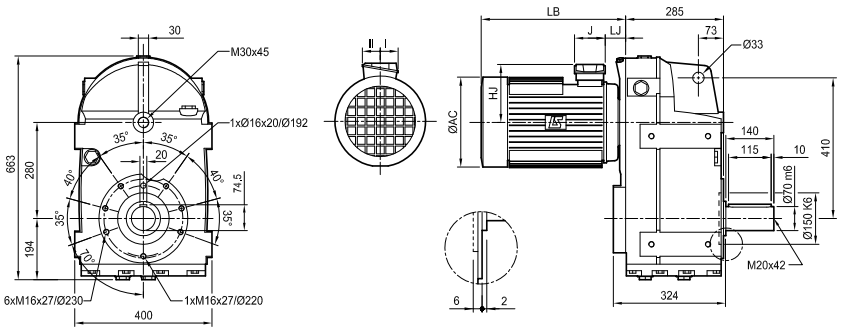
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3632 and Mub 3633**

Dimensions in millimetres

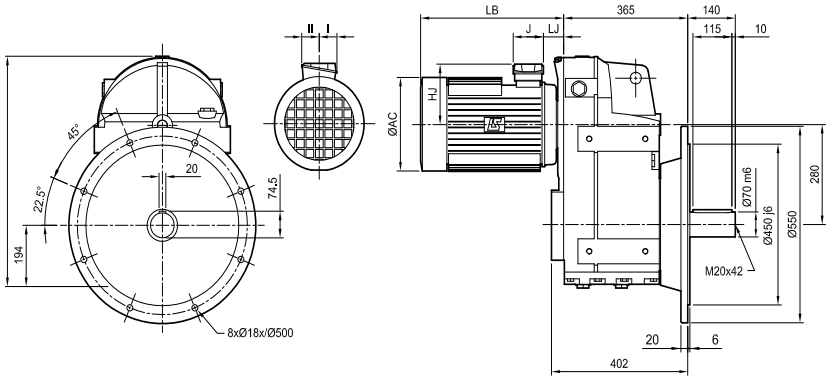
- BT flange form, S output shaft

Mub: 205 kg + Motor



- BS flange form, S output shaft

Mub: 239 kg + Motor



Type	4-pole motors																								
	LSES								LSES FCR								LSES FCPL								
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 90 L	190	135	86	272	53	43	43	15,2	190	156	160	331,5	48,5	55	55	24,2	-	-	-	-	-	-	-	-
LSES 100 LR	200	140	86	336,5	54	43	43	25,7	200	161	160	394,5	52	55	55	30	-	-	-	-	-	-	-	-
LSES 112 MU	235	149	86	353	55,5	43	43	35	235	169	160	421	51	55	55	44,5	-	-	-	-	-	-	-	-
LSES 132 MU	265	190	126	446	51	63	63	68	280	188	160	527	66,5	55	55	80	-	-	-	-	-	-	-	-
LSES 160 L	312	222	126	490	42,8	63	63	91	316	231	160	564	58	55	55	110	345	235	134	672	47,8	92	63	140
LSES 180 LR	312	248	186	515	49,8	112	98	115	-	-	-	-	-	-	-	-	345	235	134	678	39	92	63	150
LSES 200 LR	350	256	186	609	58,5	112	98	164	-	-	-	-	-	-	-	-	384	256	186	774	84,5	111	98	240
LSES 225 MR	390	310	231	674	59,5	119	142	235	-	-	-	-	-	-	-	-	410	276	186	837	82	111	98	320

Type	4-pole motors														
	LS FCR								LS FCPL						
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 90 L	190	156	160	331.5	48.5	55	55	24.2	-	-	-	-	-	-	-	-
LS 100 L	200	161	160	382	52	55	55	30	-	-	-	-	-	-	-	-
LS 112 MG	235	169	160	421	51	55	55	44.5	-	-	-	-	-	-	-	-
LS 132 M	280	188	160	527	66.5	55	55	80	-	-	-	-	-	-	-	-
LS 160 L	316	231	160	564	58	55	55	110	345	235	134	672	47.8	92	63	140
LS 180 LR	-	-	-	-	-	-	-	-	345	235	134	678	39	92	63	150
LS 200 LT	-	-	-	-	-	-	-	-	384	256	186	774	84.5	111	98	240
LS 225 MR	-	-	-	-	-	-	-	-	410	276	186	837	82	111	98	320

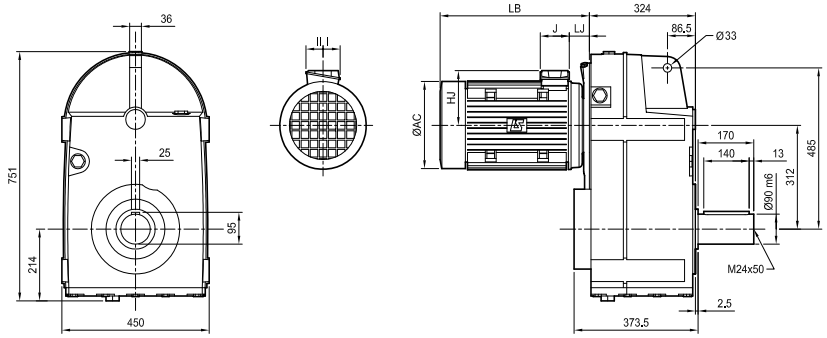
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3732 and Mub 3733**

Dimensions in millimetres

- R form, S output shaft

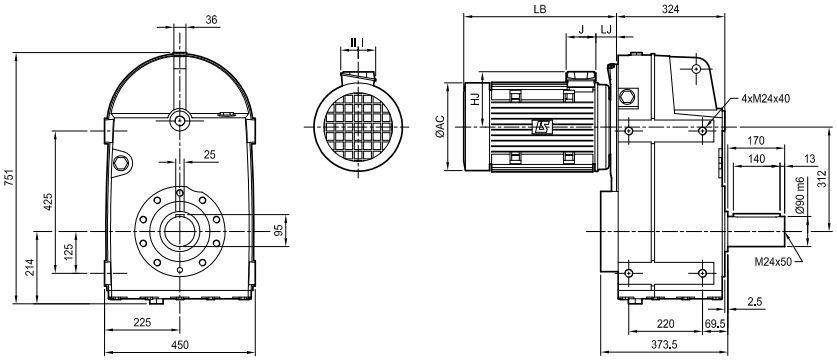
Mub: 297 kg + Motor



- NUL[1] tapped holes form, S output shaft

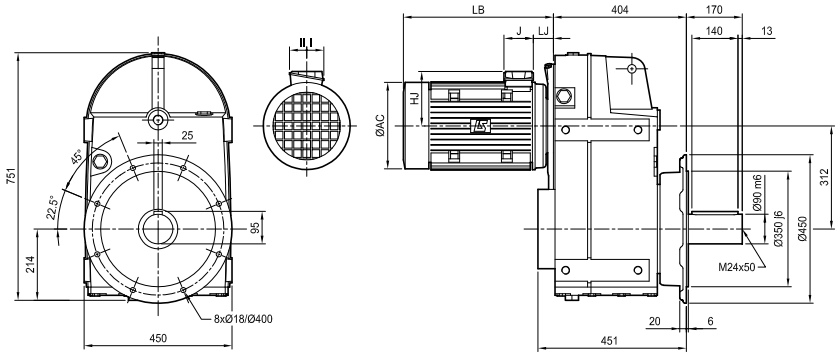
Mub: 294 kg + Motor

1. NUR right option: identical tapped holes



- BD flange form, S output shaft

Mub : 324 kg + Motor



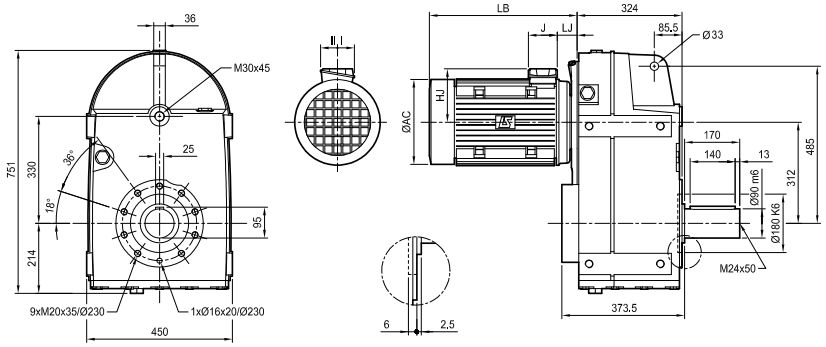
Dimensions

Dimensions of Manubloc (Mub) gearboxes, MI integral mounting, Mub 3732 and Mub 3733

Dimensions in millimetres

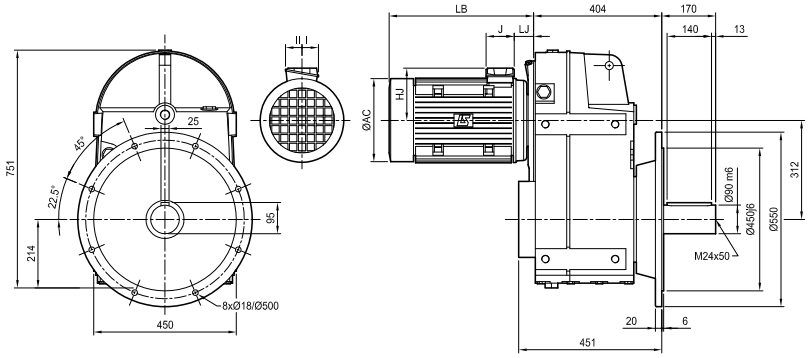
- BT flange form, S output shaft

Mub: 294 kg + Motor



- BS flange form, S output shaft

Mub: 330 kg + Motor



Type	4-pole motors																								
	LSES								LSES FCR								LSES FCPL								
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 90 L	190	135	86	272	53	43	43	15,2	190	156	160	331,5	48,5	55	55	24,2	-	-	-	-	-	-	-	-
LSES 100 LR	200	140	86	336,5	54	43	43	25,7	200	161	160	394,5	52	55	55	30	-	-	-	-	-	-	-	-
LSES 112 MU	235	149	86	353	55,5	43	43	35	235	169	160	421	51	55	55	44,5	-	-	-	-	-	-	-	-
LSES 132 MU	265	190	126	446	51	63	63	68	280	188	160	527	66,5	55	55	80	-	-	-	-	-	-	-	-
LSES 160 L	312	222	126	490	42,8	63	63	91	316	231	160	564	58	55	55	110	345	235	134	672	47,8	92	63	140
LSES 180 LR	312	248	186	515	49,8	112	98	115	-	-	-	-	-	-	-	-	345	235	134	678	39	92	63	150
LSES 200 LR	350	256	186	609	58,5	112	98	164	-	-	-	-	-	-	-	-	384	256	186	774	84,5	111	98	240
LSES 225 MR	390	310	231	674	59,5	119	142	235	-	-	-	-	-	-	-	-	410	276	186	837	82	111	98	320

Type	4-pole motors															
	LS FCR								LS FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 90 L	190	156	160	331.5	48.5	55	55	24.2	-	-	-	-	-	-	-	-
LS 100 L	200	161	160	382	52	55	55	30	-	-	-	-	-	-	-	-
LS 112 MG	235	169	160	421	51	55	55	44.5	-	-	-	-	-	-	-	-
LS 132 M	280	188	160	527	66.5	55	55	80	-	-	-	-	-	-	-	-
LS 160 L	316	231	160	564	58	55	55	110	345	235	134	672	47.8	92	63	140
LS 180 LR	-	-	-	-	-	-	-	-	345	235	134	678	39	92	63	150
LS 200 LT	-	-	-	-	-	-	-	-	384	256	186	774	84.5	111	98	240
LS 225 MR	-	-	-	-	-	-	-	-	410	276	186	837	82	111	98	320

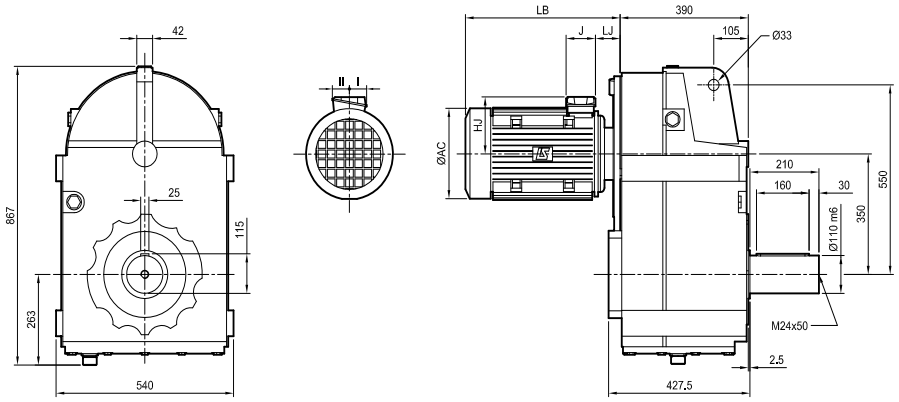
Dimensions

Dimensions of Manubloc (Mub) gearboxes, MI integral mounting, Mub 3832 and Mub 3833

Dimensions in millimetres

- R form, S output shaft

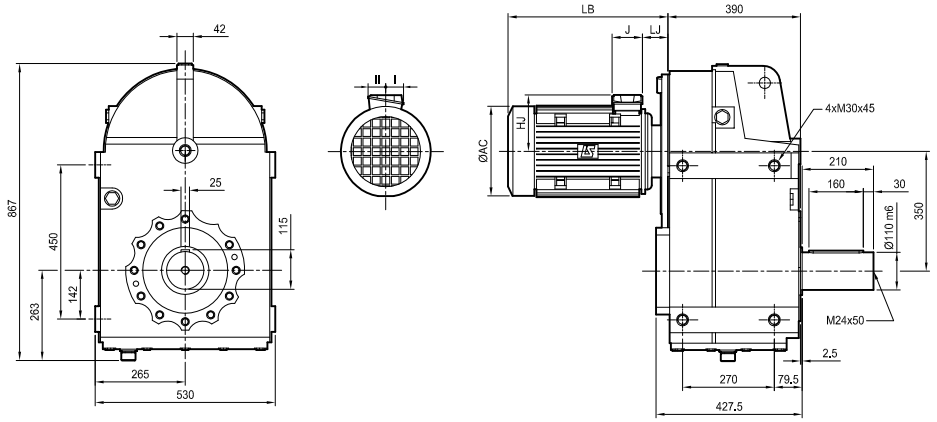
Mub: 352 kg + Motor



- NUL[1] tapped holes form, S output shaft

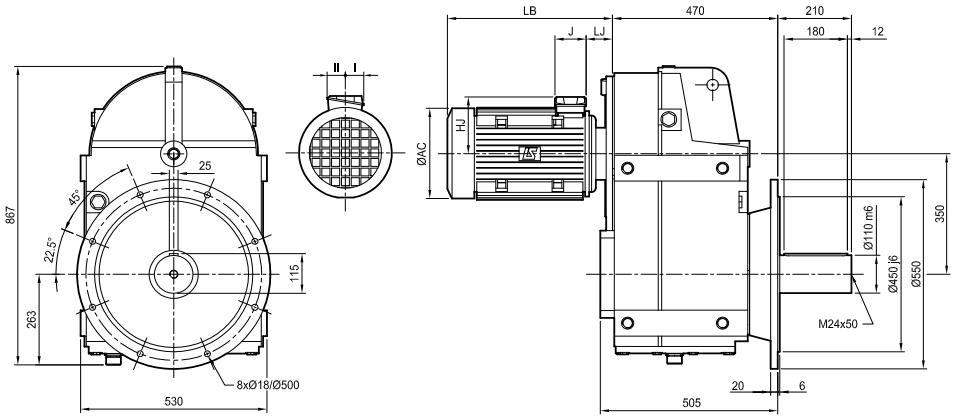
Mub: 348 kg + Motor

1. NUR right option: identical tapped holes



- BD flange form, S output shaft

Mub: 384 kg + Motor



Electromechanical products
Manubloc 3000

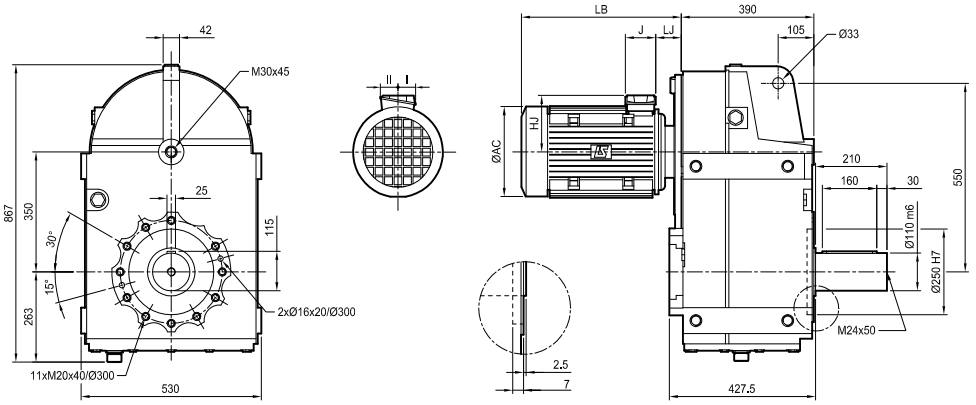
Dimensions

**Dimensions of Manubloc (Mub) gearboxes, MI integral mounting,
Mub 3832 and Mub 3833**

Dimensions in millimetres

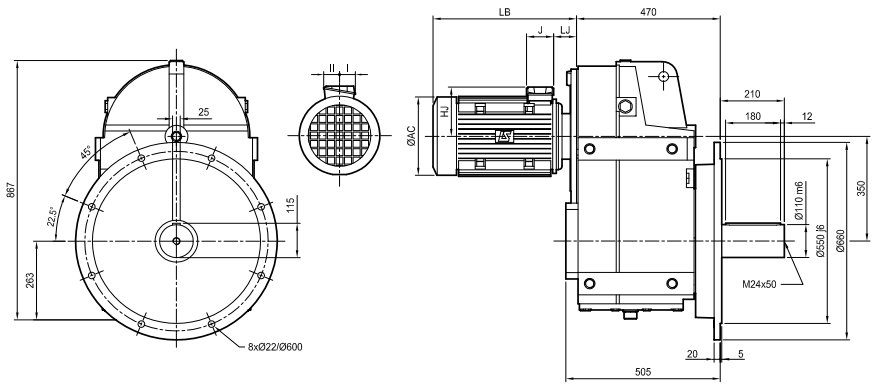
- BT flange form, S output shaft

Mub: 348 kg + Motor



- BS flange form, S output shaft

Mub: 410 kg + Motor



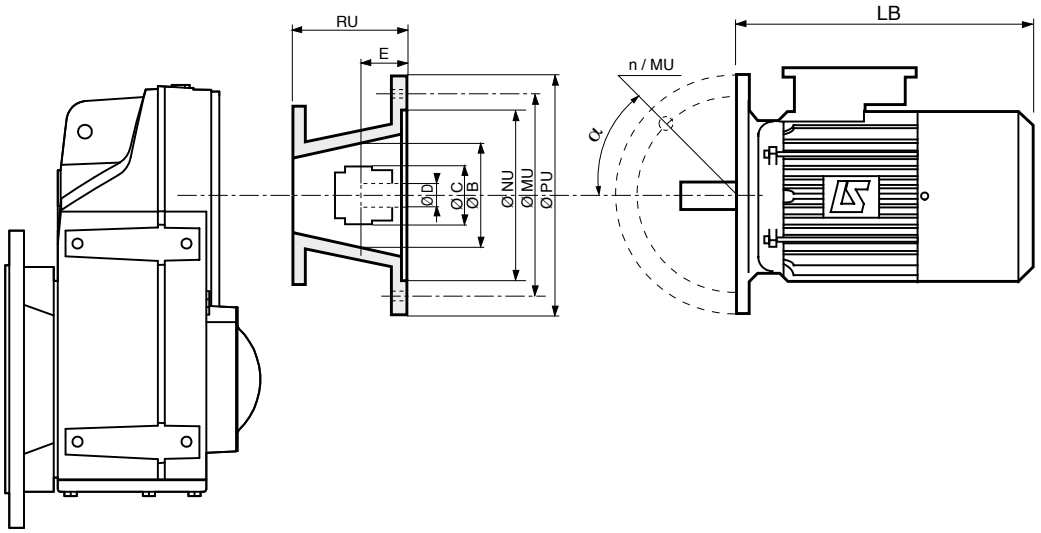
Type	4-pole motors																								
	LSES								LSES FCR								LSES FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LSES 132 MU	265	190	126	433	38	63	63	68	280	186	160	514	46	55	55	80	-	-	-	-	-	-	-	-
LSES 160 L	312	222	126	477	29,8	63	63	91	316	196	160	551	45	55	55	110	345	235	134	650	25,8	92	63	140
LSES 180 LR	312	248	186	502	36,8	112	98	115	-	-	-	-	-	-	-	-	345	249	186	665	36,8	111	98	150
LSES 200 LR	350	256	186	596	45,5	112	98	164	-	-	-	-	-	-	-	-	384	256	186	801	45,5	111	98	240
LSES 225 MR	390	310	231	661	46,5	119	142	235	-	-	-	-	-	-	-	-	410	276	186	865	69	111	98	320

Type	4-pole motors															
	LS FCR								LS FCPL							
	AC	HJ	J	LB	LJ	I	II	kg	AC	HJ	J	LB	LJ	I	II	kg
LS 132 M	280	186	160	514	46	55	55	80	-	-	-	-	-	-	-	-
LS 160 L	316	196	160	551	45	55	55	110	345	235	134	650	25.8	92	63	140
LS 180 LR	-	-	-	-	-	-	-	-	345	249	186	665	36.8	111	98	150
LS 200 LT	-	-	-	-	-	-	-	-	384	256	186	801	45.5	111	98	240
LS 225 MR	-	-	-	-	-	-	-	-	410	276	186	865	69	111	98	320

Dimensions

Dimensions of Manubloc (Mub) gearboxes, MU universal mounting

Dimensions in millimetres



	LS IM 3001 (IM B5) CEI									U-mounts Mub 31		Mub 32		Mub 33		Mub 34		Mub 35		Mub 36		Mub 37		Mub 38	
Type	ØD	E	LB	LB FCR/FCPL	ØMU	ØNU	ØPU	n	α°	ØC	RU	ØC	RU	ØC	RU	ØC	RU	ØC	RU	ØC	RU	ØC	RU	ØC	RU
LS 71 L	14j6	30	183	271/-	FF130	110	160	4	45	65	122	65	122	65	118	65	122	-	-	-	-	-	-	-	-
LSES 80 LG	19j6	40	247	292/-	FF165	130	200	4	45	65	130	65	130	65	126	65	130	65	121	-	-	-	-	-	-
LSES 90 L	24j6	50	265	324/-	FF165	130	200	4	45	65	130	65	130	65	126	65	130	65	121	-	-	-	-	-	-
LSES 100 LR	28j6	60	309	388/-	FF215	180	250	4	45	65	144	65	144	65	140	65	144	65	135	65	148	65	148	65	136
LSES 112 MU	28j6	60	333	425/-	FF215	180	250	4	45	65	144	65	144	65	140	65	144	65	135	65	148	65	148	65	136
LSES 132 MU	38k6	80	412	532/-	FF265	230	300	4	45	-	-	-	-	65	162	65	169	65	157.5	65	167	65	167	65	156
LSES 160 L	42k6	110	495	567/668	FF300	250	350	4	45	-	-	-	-	-	-	95	194	95	183	95	199	95	199	95	187
LSES 180 LR	48k6	110	520	-/683	FF300	250	350	4	45	-	-	-	-	-	-	95	194	95	183	95	199	95	199	95	187
LSES 200 LR	55m6	110	620	-/828	FF350	300	400	4	45	-	-	-	-	-	-	95	194	95	183	95	199	95	199	95	187
LSES 225[1] MR	60m6	140	676	-/953	FF400	350	450	8	22.5	-	-	-	-	-	-	-	-	-	-	120	311	120	311	120	233
LSES 250[1] ME	65m6	140	810	-/1180	FF500	450	550	8	22.5	-	-	-	-	-	-	-	-	-	-	120	328	120	328	160	316
LSES 280[1] MD	75m6	140	870	-/1246	FF500	450	550	8	22.5	-	-	-	-	-	-	-	-	-	-	120	328	120	328	160	316
LSES 315[1] SP	80m6	170	947	-/NC[2]	FF600	550	660	8	22.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	366

1. Horizontally mounted foot and flange mounted motors (B35).
Provision of a motor support is recommended.

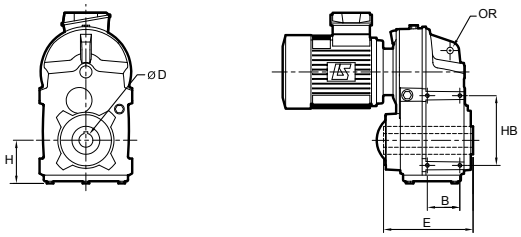
2. NC : consult Leroy-Somer

	Mub 3132	32--	33--	34--	35--	36--	37--	38--
Max. weight of MU (kg)	4	8	14	20	35	75	75	117
Max. weight of LS (kg)	65	70	120	150	205	350	350	350

Electromechanical products
Manubloc 3000

Dimensions : synthesis

Dimensions in millimetres

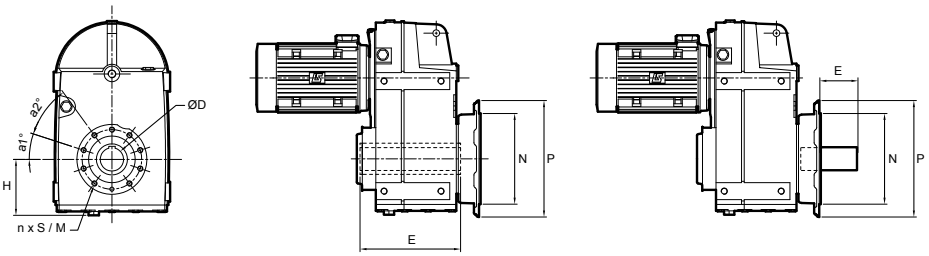


- R form

Manubloc	H hollow shaft ØD	H	OR	kg	S solid shaft OR	ØD	E	kg
Mub 38--	100H7	263	33	335	33	110m6	210	352
Mub 37--	90H7	214	33	283	33	90m6	170	297
Mub 36--	70H7	194	33	197	33	70m6	140	207
Mub 35--	60H7	171	24	116	-	-	-	-
Mub 34--	50H7	126	22	70	-	-	-	-
Mub 33--	40H7	127	14	43	-	-	-	-
Mub 32--	30H7	94.5	14	26	-	-	-	-
Mub 3132	30H7	95	14	15.5	-	-	-	-

- NU form - L (left), R (right), LR (left and right)

Manubloc	H hollow shaft ØD	H	B	HB	kg	S solid shaft ØD	E	kg
Mub 38--	100H7	263	270	450	332	110m6	210	348
Mub 37--	90H7	214	220	425	280	90m6	170	294
Mub 36--	70H7	194	165	315	195	70m6	140	205
Mub 35--	60H7	171	165	300	115	-	-	-
Mub 34--	50H7	126	100	240	69	-	-	-
Mub 33--	40H7	127	110	200	43	-	-	-
Mub 32--	30H7	94.5	70	150	26	-	-	-



- BT form

Manubloc	H hollow shaft ØD	H	a1°	a2°	a3°	a4°	a5°	a6°	a7°	a8°	a9°	a10°	a11°	nxS	ØM	kg
Mub 38--	100H7	263	30	30	30	60	30	30	30	30	30	30	30	11xM20x40	300	332
Mub 37--	90H7	214	18	36	36	36	36	36	36	72	36	-	-	9xM20x35	230	280
Mub 36--	70H7	194	15	40	70	40	35	70	70	-	-	-	-	6xM16x27	230	195
Mub 35--	60H7	171	60	-	-	-	-	-	-	-	-	-	-	6xM12x20	215	115
Mub 34--	50H7	126	60	-	-	-	-	-	-	-	-	-	-	6xM12x22	180	69
Mub 33--	40H7	127	60	-	-	-	-	-	-	-	-	-	-	6xM10x18	165	43
Mub 32--	30H7	94.5	45	-	-	-	-	-	-	-	-	-	-	4xM8x12	130	26
Mub 3132	30H7	95	45	-	-	-	-	-	-	-	-	-	-	4xM8x12	115	15.5

Manubloc	S solid shaft ØD	E	a1°	a2°	a3°	a4°	a5°	a6°	a7°	a8°	a9°	a10°	a11°	nxS	ØM	kg
Mub 38--	110m6	210	30	30	30	30	30	30	30	30	30	30	30	11xM20x40	300	348
Mub 37--	90m6	170	18	36	36	36	36	36	36	72	-	-	-	9xM20x35	230	294
Mub 36--	70m6	140	15	40	70	40	35	70	70	-	-	-	-	6xM16x27	230	205

- BS flange form

Manubloc	H hollow shaft ØD	E	nxS	ØM	a1°	a2°	ØNj6	ØP	kg
Mub 38--	100H7	428	8x17.5	600	22.5	45	550	660	390
Mub 37--	90H7	376	8x18	500	22.5	45	450	550	316
Mub 36--	70H7	326	8x18	500	22.5	45	450	550	229
Mub 35--	60H7	292	4x18	300	45	90	250	350	130
Mub 34--	50H7	260	4x14	265	45	90	230	300	79
Mub 33--	40H7	191.5	4x14	265	45	90	230	300	51
Mub 32--	30H7	190.5	4x14	215	45	90	180	250	31

S solid shaft ØD	E	a1°	a2°	kg
110m6	210	22.5	45	410
90m6	170	22.5	45	330
70m6	140	22.5	45	239

- BD flange form

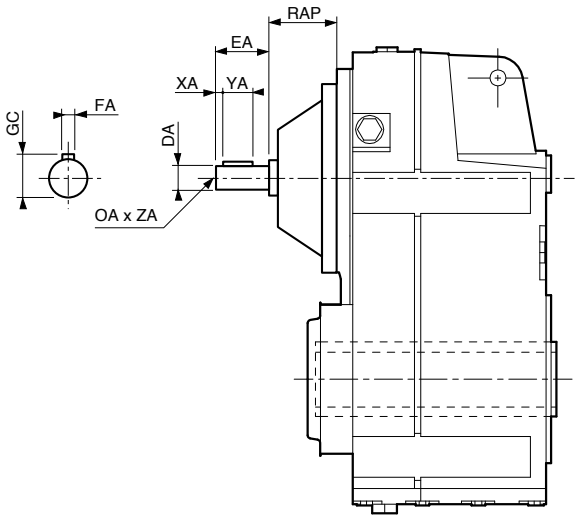
Manubloc	H hollow shaft ØD	E	nxS	ØM	a1°	a2°	ØNj6	ØP	kg
Mub 38--	100H7	428	8x17.5	500	22.5	45	450	550	367
Mub 37--	90H7	376	8x18	400	22.5	45	350	450	310
Mub 36--	70H7	326	8x18	400	22.5	45	350	450	223
Mub 35--	-	-	-	-	-	-	-	-	-
Mub 34--	50H7	260	4x14	215	45	90	180j6	250	78
Mub 33--	40H7	191.5	4x14	215	45	90	180j6	250	50
Mub 32--	30H7	190.5	4x12	165	45	90	130j6	200	30

S solid shaft ØD	E	a1°	a2°	kg
110m6	210	22.5	45	384
90m6	170	22.5	45	324
70m6	140	22.5	45	233

Electromechanical products
Manubloc 3000

Dimensions

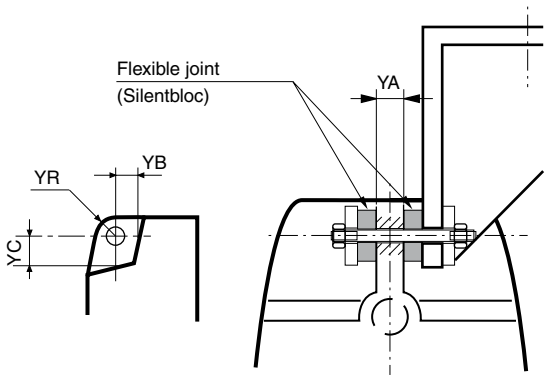
Dimensions of the AP input shaft



	AP								
Mub	Ø DA	EA	YA	XA	FA	GC	RAP	OAxZA	kg
Mub 38	55k6	110	90	10	16	59	48.5	M20x42	32
Mub 37	48k6	110	90	10	14	51.5	51	M16x36	27
Mub 36	48k6	110	90	10	14	51.5	51	M16x36	27
Mub 35	38j6	80	63	8	10	41	129.5	M12x28	14
Mub 34	28j6	60	50	5	8	31	138.5	M10x22	5
Mub 33	28j6	60	50	5	8	31	69	M10x22	5
Mub 32	24j6	50	40	4.5	8	27	73	M8x19	1.2
Mub 31	24j6	50	40	4.5	8	27	73	M8x19	1.5

FM flexible joint option

The reaction torque of the Manublocs must be absorbed by a suitable torque arm (not supplied).
End play that is too great risks to produce dangerous jolts when the running direction is reversed or the speed switched; the use of flexible joints is recommended: compressed rubber damping components (of the Silentbloc type) as shown in the diagram opposite.
The flat surface of the housing has a transverse hole in it that can be used for mounting such joints as shown in the sketch.
The other components are not supplied by Leroy-Somer.



Dimensions (mm)		Mub 31	Mub 32	Mub 33	Mub 34	Mub 35	Mub 36	Mub 37	Mub 38
YA		15	16	18	25	25	30	36	42
YB		26	37	37	55	44	70	65	75
YC		19	23	23	32	42	90	110	166
YR		25	19	19	35	20	33	33	33
Flexible joint (Silentbloc)	internal Ø	14	14	14	22	22	33	33	35
	external Ø	40	40	40	60	60	80	80	100
	Thickness	15	15	15	30	30	30	30	40

SDB shrink disc option

Description
Specially designed for assembling hollow shafts, it attaches the transmission device securely to the shaft. The torque (M), radial (FR) and axial (Fa) forces are transmitted integrally without play.
There is no need to use a key, and the absence of the keyway avoids incipient cracks.
Alternating movements are possible within the limits of the torque (M) indicated in the technical catalogue selection tables.
The absence of initial play is retained throughout the life of the gearbox.
The tightening torque (Ms) is maintained for operating temperatures from -50°C to + 250°C.

Surface roughness tolerance
The maximum permissible surface roughness is Rz max = 15 µm.
The maximum permissible tolerance on the shrink disc working reach diameter = h8.

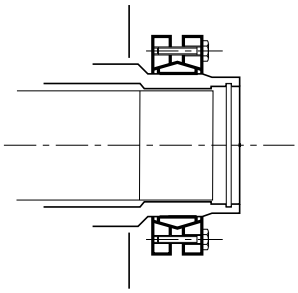
Secure positioning
While the screws are tightened, the hub does not move axially in relation to the shaft.

Characteristics of the shrink disc
The very high transmissible torque (shrink disc M) is given below. Take account of the torque that may be transmitted by the gearbox.
No axial movement between shaft/hub (shrink disc Fa).
Takes little time to assemble.
Quick to dismantle.

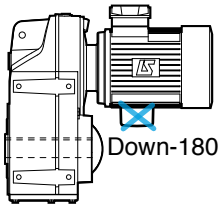
Definition

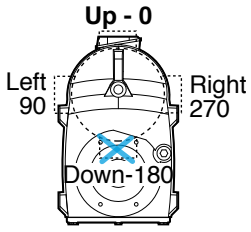
For gearboxes with hollow shaft, the form must be defined specifically:

- **NU SDB**: housing with tapped holes on side. L: on left, R: on right
- **BT SDB**: face-mounted housing
- **R SDB**: flexible mounting form



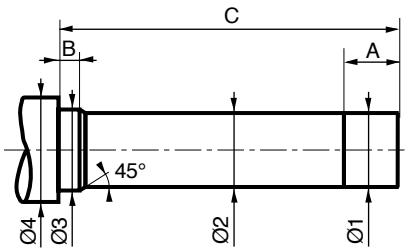
Gearbox type	Shrink disc torque M (N.m)	Tightening torque of shrink disc screws M (N.m)	Dimensions see pages
Mub 38--	26.500	100	34
Mub 37--	13.000	59	32
Mub 36--	7500	30	30
Mub 35--	6000	30	28
Mub 34--	3200	30	26
Mub 33--	2200	12	24
Mub 32--	1106	12	22
Mub 3132	570	12	20





Restriction: in the majority of cases, motors cannot be supplied with the terminal box in position Down-180.

Client shaft for shrink disc



Type	Client shaft for shrink disc						
	A min.	B max.	C	Ø1 h6	Ø2	Ø3 h6	Ø4
Mub 38	85	90	525	105	104	105	140
Mub 37	64	30	445	95	94.5	95	115
Mub 36	52	30	356	75	74	75	95
Mub 35	37	25	325	70	69.5	71	95
Mub 34	40	12	310	60	59.5	61	80
Mub 33	37	10	232	50	49.5	51	65
Mub 32	30	8	225	40	39.5	42	55
Mub 31	25	30	172	30	29.5	30	45

These values are given for information only

I - SCOPE OF APPLICATION
These General Conditions of Sale («GCS») shall apply to the sale of all products, components, software and services (referred to as «Products») proposed or sold by the Seller to the Client. Said GCS shall also apply to all quotation or offers made by the Seller, and are an integral part of all orders. «Seller» is understood to mean all companies directly or indirectly controlled by LEROY-SOMER. As a complementary measure, orders are also subject to the latest version in force of the Inter-Union General Conditions of Sale for France of the F.I.E.E.C. (*Fédération des Industries Electriques, Electroniques et de Communication* [Federation of Electrical, Electronic and Communication Industries]), inasmuch as they are not contrary to the GCS.
The acceptance of the Seller's offers or quotations, or any order, entails the acceptance without reservation of these GCS and rules out all contrary provisions shown on all other documents and, in particular, on the Client's order forms and the Client's General Conditions of Purchase.
If the sale concerns castings, by way of derogation to Paragraph 1 above, said castings shall be subject to the latest version in force of the *Conditions Générales Contractuelles des Fonderies Européennes* [General Contractual Conditions of European Foundries].
The Products and services sold pursuant to these GCS may under no circumstances be used for applications in the nuclear field, as such sales expressly fall under technical specifications and specific contracts that the Seller reserves the right to refuse.

II - ORDERS
All orders, even those taken by the Seller's agents and representatives, and regardless of the transmission method, shall only bind the Seller after written acceptance thereby of the order.
The Seller reserves the option of modifying the characteristics of its Products without notice. However, the Client shall retain the possibility of specifying the characteristics on which its commitment is contingent. In the absence of any such express stipulation, the Client may not refuse delivery of new, modified Products.
The Seller may not be held liable for an unsatisfactory selection of Products if said selection results from conditions of use that are incomplete and/or mistaken, or not disclosed to the Seller by the Client.
Except in the event of a stipulation to the contrary, the offers and quotations remitted by the Seller shall only be valid for thirty days as from the date on which they are drawn up.
Where the Products must comply with standards, specific regulations and/or be received by control and inspection agencies, the price request must be accompanied by the technical specification, all terms and conditions the Seller must comply with. Reference shall be made thereto on the quotation or offer. Approval and attendance costs shall always be borne by the Client.

III - PRICES
Tariffs are expressed exclusive of tax and may be revised without notice.
Prices are either deemed to be firm for the period of validity specified on the quotation, or subject to a revision formula attached to the offer and which specifies, according to the regulations, parameters pertaining to the materials, products, various services and salaries for which the indices are published in the B.O.C.C.R.F. (*Bulletin Officiel de la Concurrence, de la Consommation et de la Répression des Fraudes* [French Official Journal of Competition and Consumer Matters, and Anti-Fraud Measures]).
All additional costs, in particular approval costs, specific checks, etc., shall be invoiced in addition.

IV - DELIVERY
Sales are governed by the latest edition in force of the INCOTERMS published by the Internal Chamber of Commerce («I.C.C. INCOTERMS»).
The Products shall be dispatched according to the conditions stated on the order acknowledgement issued by the Seller for all orders of Products.
Except in the event of specific provisions, the prices correspond to Products that are made available in the Seller's factories, including basic packaging.
Except in the event of a provision to the contrary, the Products shall always be transported at the risk of the addressee. In all cases, it shall be the responsibility of the addressee to make any claims to the carrier, within the delivery time and in the forms specified by law, concerning the state or number of parcels received, and to concomitantly provide the Seller with a copy of such declaration. Failure to comply with said procedure shall exempt the Seller from any liability. In any event, the Seller's liability may not exceed the amount of the indemnities received from its insurers.
If the provisions concerning transportation are amended by the Client subsequent to the acceptance of the order, the Seller reserves the right to invoice any supplemental costs that may result therefrom.
Except in the event of a contractual or statutory obligation to the contrary, packaging shall not be returnable.
In the event that a delivery of Products is delayed for a reason not attributable to the Seller, the Products stored on the Seller's premises shall be insured at the exclusive risk of the Client. Consideration for storage, costs will be invoiced at a rate of 1% (*one per cent*) of the total amount of the order, per week or partial week of storage, with no deductible or *de minimis* amount, as from the date of Products availability provided for in the contract. Upon expiration of a period of thirty days as from said date, the Seller may, at its discretion, either freely dispose of the Products and/or agree with the Client on a new delivery date for said Products, or invoice the Client in full for payment, according to the timeframes and amount provided for contractually. In any event, down payments shall inure to the Seller as indemnities, without prejudice to any other action the Seller may take.

V - DELIVERY TIME
The Seller shall only be bound by the delivery time mentioned on its order acknowledgement. Said delivery time shall only start to run as from the date of issuance of the order acknowledgement by the Seller, and subject to the fulfilment of the conditions provided for on the confirmation receipt, in particular receipt of the down payment for the order, notification of the opening of an operative irrevocable and confirmed documentary credit that complies in all respects to the Seller's request (*in particular regarding the amount , currency, validity and licence*), acceptance of the payment conditions accompanied by the implementation of any guarantees requested, etc.
Exceeding delivery time shall not grant the Client entitlement to damages and/or penalties.
Except in the event of a specific condition to the contrary, the Seller reserves the right to make partial deliveries.
Delivery times shall be interrupted by right and without the need for any judicial formalities, by any failure to pay or late payment by the Client.

VI - TESTS - QUALIFICATION
The Products manufactured by the Seller are checked and tested before leaving its factories. Clients may be present at said tests if specified on the order.
Specific tests and/or trials, as well as approval of Products, requested by the Client, whether carried out on the Client's premises or in the Seller's factories, on site, or by control and inspection agencies, must be specified on the order and are always at Client's expense.
Prototypes for Products specially developed or adapted for a Client must be qualified by the Client before serial production in order to ensure that it is compatible with the other components that make up its equipment, and that it is adapted to the intended use. Said qualification will also enable the Client to ensure that the Products comply with the technical specification. In this respect, the Client and Seller shall sign a Product Approval Form in two original, one of which shall be retained by the Client and one by the Seller.
In the event that the Client requires delivery without having firstly qualified the Products, said Products shall be delivered as they stand and shall always be deemed to be prototypes ; the Client shall then be solely liable for using the Products or delivering them to its own clients. However, the Seller may also decide not to deliver the Products that have not received the Client's prior approval.

VII - PAYMENT CONDITIONS
All sales shall be deemed to be completed and payable at the Seller's registered office, without any possible derogation, regardless of the payment method, where the contract was concluded and where delivery was made.
Where the Client is located out of French territory, invoices shall be payable in cash upon receipt, or by a bank draft or a bill of exchange, within 30 (thirty) days net.
All early payment compared to the deadline fixed shall give right to a discount of 0.2% (*nought point two* per cent) per month, of the amount concerned of the invoice.
Except in the event of provisions to the contrary, where the Client is located outside of French Territory, invoices shall be payable in cash against remittance of shipping documents, or by irrevocable documentary credit confirmed by a first rate French bank, at Client's expense.
Payment shall be understood to mean the funds being made available on the Seller's bank account and must imperatively be made in the invoicing currency.
Pursuant to French Law no. 2008-776 of 4 August 2008, failure to pay an invoice when due shall trigger, after service of formal notice that has remained without effect, payment to the Seller of a flat-rate penalty on the due date of the receivable, which shall be applied to amount inclusive of tax of monies owed if the invoice is liable to VAT (*Value Added Tax*), and the suspension of pending orders. Said penalty is equal to the European Central Bank interest rate on the main refinancing operations + 10 basis points.
The collection of said monies via litigation shall trigger an increase of 15% (*fifteen per cent*) of the amount claimed, with a minimum of Euros 500 exclusive of tax (*five hundred euros exclusive of tax*), with tax in addition if due.
Moreover, subject to compliance with the statutory provisions in force, in the event of total or partial failure to pay any invoice or instalment whatsoever, regardless of the payment method used, all amounts that remain owed to the Seller (*including its subsidiaries, affiliated or allied companies, whether French or foreign*) for all deliveries and services, regardless of the due date originally provided for, shall immediately become due.
Notwithstanding any specific payment conditions provided for between the parties, the Seller reserves the right to require, in the event of a decline in the Client's credit rating, a payment incident or bankruptcy of the Client :
- the payment in cash, before the Products leave the factory, for all orders currently being fulfilled,
- down payments to be made on all orders,
- alternative or different payment guarantees.

VIII - PAYABLE AND RECEIVABLE BALANCE
Except where prohibited by law, the Seller and the Client expressly agree to balance their payables and receivables arising from their trade relations, even if all conditions defined by law for legal balancing are not met.
For the application of said clause, the Seller shall mean any company of the LEROY-SOMER Group.

IX - TRANSFER OF RISK / RESERVE OF TITLE
Risk shall be transferred as soon as the Products are made available, according to the delivery conditions stipulated on the order acknowledgement.
The transfer to the Client of title shall take place after payment in full. In the event that the restitution of the Products delivered is claimed by the Seller, the Seller is entitled to retain any down payment as compensation.
Remittance of a bill that creates an obligation to pay (*bill of exchange or other*) shall not constitute payment and discharge.
For as long as the price has not been paid in full, the Client is required to inform the Seller, within twenty-four hours, of the sequestration, requisition or confiscation of the Products for the benefit of a third party, and to take all protective measures to make known the Seller's property right in the event of action by creditors, and to cause such right to be respected.

X - CONFIDENTIALITY
Each of the parties undertakes to maintain the confidentiality of all technical, trade, financial or other information received from the other party, whether orally, in writing or by any other means of communication, when any order is negotiated and/or fulfilled.
This confidentiality obligation shall apply throughout the period during which the order is fulfilled and for 5 (five) years subsequent to completion or cancellation thereof, regardless of the reasons therefor.

XI - INDUSTRIAL AND INTELLECTUAL PROPERTY
Data, studies, results, information or software, whether patentable or not obtained by the Seller when any order is fulfilled shall remain the exclusive property of the Seller.
With the exception of instruction and maintenance manuals, documents of any nature remitted to the Client shall remain the exclusive property of the Seller and must be returned to it upon request, even if the Client was invoiced for part of the cost of the study, and said documents may not be disclosed to third parties or used without the Seller's prior written agreement.

XII - CANCELLATION / TERMINATION
The Seller reserves the right to cancel or terminate immediately, at the Seller's discretion, by right and without the need for any judicial formalities, the contract in the event of failure to pay any portion whatsoever of the price, when due, or in the event of any breach of any of the Client's contractual obligations. Down payments and any amount already paid shall remain in Seller's hands in the form of indemnities, without prejudice to the Seller's right to claim damages. In the event that the contract is cancelled, the Products must be returned to the Seller immediately, regardless of where the Products are located, at Client's expense and risk, under penalty of 10% (*ten per cent*) of the value thereof, per week's delay.

XIII - WARRANTY
The Seller warrants the Products against all operating defects caused by a material or manufacturing fault, for a period of twelve months as from the date on which the Products are made available, unless a different statutory provision subsequently applies, under the conditions defined below.
The warranty may only be triggered insofar as the Products have been stored, used and maintained in accordance with the Seller's instructions and manuals. The warranty does not apply where the defect results, in particular, from :
- inadequate monitoring, maintenance or storage,
- normal wear and tear on the Products,
- servicing or modification of the Products without the Seller's prior written authorisation,
- abnormal use of the Products or use of the Products for a purpose other than that intended,
- faulty installation of the Products on the premises of the Client and/or the end user,
- failure by the Client to disclose the purpose or conditions of use of the Products,
- failure to use genuine spare parts,
- force majeure or any event that is beyond the control of the Seller.

In any case, the warranty is limited to the replacement or repair of the parts or Products deemed faulty by the Seller's technical departments. If the repair is entrusted to a third party, the repair shall only be carried out once the Seller has agreed to the quotation for the repair.
All Products returns must have been given the Seller's prior, written authorisation.
The Products to be repaired must be dispatched carriage paid, to the address given by the Seller. If the Products are not accepted under warranty, their return to the Client shall be invoiced to the Client or the end user.
This warranty shall apply to the Seller's Products that are made readily available and therefore does not cover the de-installation and re-installation of said Products in the equipment into which it is mounted.
Repair, modification or replacement of any part or Product during the warranty period may not result in the warranty period being extended.
The provisions of this article constitute the Seller's sole obligation concerning the warranty of the Products delivered.

XIV - LIABILITY
The Seller's liability is strictly limited to the obligations stipulated in these GCS and those expressly accepted by the Seller. All penalties and indemnities provided for therein constitute lump sum damages that include discharge for the Seller and are exclusive of any other penalty or indemnification.
With the exception of the Seller's gross negligence and the compensation of bodily injury, the Seller's liability shall be limited, in total, to the contractual amount, exclusive of tax, of the Product(s) that give(s) right to compensation.
The Seller may under no circumstances be required to indemnify consequential, indirect and / or punitive damages that the Client may use as the basis for a claim; as a result, the Seller may not be required to indemnify, in particular, production losses, operating losses or lost profit or, in general, any damage eligible for indemnification other than bodily injury or damage to property.
The Client undertakes to hold harmless the Seller and / or its insurers from any and all claims made by its insurers and/or any third party in a contractual relation with the Client, in excess of the limit and for the exclusions listed above.

XV - SPARE PARTS AND ACCESSORIES
Spare parts and accessories shall be supplied upon request, to the extent of their availability. Associated costs shall be invoiced in addition.
The Seller reserves the right to require a minimum quantity or invoicing amount per order.

XVI - WASTE MANAGEMENT
The Products that form the purpose of the sale does not fall within the scope of the European Directive 2002/96/EC (WEEE) dated January 27th, 2003, and all related legislation of Member States of the European Union that result therefrom, on the composition of electrical and electronic equipment and the disposal of waste from such equipment.
In accordance with Article L 541-2 of the French Environment Code, it is the responsibility of the waste holder to ensure the disposal thereof or to cause the disposal thereof at its own expense.

XVII - FORCE MAJEURE
With the exception of the Client's obligation to pay the monies owed to the Seller in respect of an order, the Client and Seller may not be held liable for the total or partial failure to perform their contractual obligations if such failure results from the occurrence of a force majeure. Delays or disturbances in production that totally or partially result from war (whether declared or not), terrorist act, strikes, riots, accidents, fires, floods, natural disasters, transportation delays, shortage of components or materials, governmental decision or action (including prohibition on import/export or the withdrawal of an import/export licence) shall, in particular, be deemed a force majeure.
If one of the parties is delayed or prevented from performing its obligations by reason of this Article for a period in excess of 180 consecutive days, each party may then terminate, by right and without any need for judicial formalities, the unperformed part of the order, by written notice to the other party, without liability. However, the Client shall be required to pay the price agreed pertaining to the Products already delivered on the date of termination.

XVIII - PROHIBITION ON UNLAWFUL PAYMENTS
The Client shall refrain from being engaged in any activity that would expose the Seller or any of its affiliates to a risk of penalties under laws and regulations of any relevant jurisdiction prohibiting improper payments, including but not limited to bribes or gifts of an obviously unreasonable amount, to any government or agency officials, to political parties or their officials or candidates for public office, or to any employee of any customer or supplier.

XIX - TRADE COMPLIANCE LAWS
The Client agrees that all applicable import, export control and sanctions laws, regulations, orders and requirements, as they may be amended from time to time, including without limitation those of the European Union, the United States of America, and the jurisdictions in which the Seller and the Client are established or from which Products may be supplied, and the requirements of any licences, authorisations, general licences or licence exceptions relating thereto ("Trade Compliance Laws") will apply to its receipt and use of Products, as well as related services and technology. In no event shall the Client use, transfer, release, export or re-export the Products, related services or technology in violation of Trade Compliance Laws.
Seller shall have no obligation to supply any Products, or services unless and until it has received any necessary licences or authorisations or has qualified for general licences or licence exceptions under Trade Compliance Laws.
If for any reason any such licences, authorisations or approvals are denied or revoked, or if there is a change in any Trade Compliance Laws that would prohibit Seller from fulfilling the contract, or would in the reasonable judgement of Seller otherwise expose Seller and/or Seller's Affiliate(s) to a risk of liability under Trade Compliance Laws, Seller shall be relieved without liability of all obligations under the contract.

XX - SEVERABILITY
All clauses and/or provisions of these General Conditions that are deemed or become null or void shall not cause the nullity or voidance of the contract, but solely the clause and/or provision concerned.

XXI - DISPUTES
THIS CONTRACT SHALL BE GOVERNED BY AND INTERPRETED IN ACCORDANCE WITH THE LAWS OF FRANCE.
ANY DISPUTE IN RELATION TO THE INTERPRETATION OR THE EXECUTION OF THIS CONTRACT NOT AMICABLY SETTLED BETWEEN THE PARTIES WITHIN A 30 DAY PERIOD, SHALL BE SETTLED BY THE COMPETENT COURT OF ANGOULÊME (FRANCE), EVEN IN THE CASE OF INTRODUCTION OF THIRD PARTIES OR THE ENVOLVEMENT OF SEVERAL DEFENDANTS. HOWEVER, THE SUPPLIER RESERVES THE EXCLUSIVE RIGHT TO BRING THE DISPUTE TO THE COMPETENT COURTS OF THE SELLER OR THE CLIENT.

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