

Electromechanical products

Poulibloc

General information



Poulibloc 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 gear box (n_s) in revolutions per minute (min^{-1}). The main characteristic of the speed reducers is the rated output torque (M_{nS}) expressed in Newton-metres (N.m) :

$$M_{nS} = \frac{P \times 9550}{n_s} \times \text{efficiency}^1$$

1. $\eta_{\text{gearbox}} \times \eta_{\text{belt-pulley}}$.

- A range of eight sizes for Pb 2000 series: 20, 21, 22, 23, 24, 25, 26, 27.
Rated output torque: from 100 N.m to 13 000 N.m.
Power rating: from 0.25 to 55 kW.
Reduction ratios: from 5.5 to 25.
From one to two reduction stages.
High efficiency: 96 % to 98 %.
Reversible.
- A range of three sizes for Pb 3000 series: 30, 31, 32, lubricated with grease.
Nominal output torque up to 820 N.m.
- A range of three sizes for Pbh 3000 series: 31, 32, 33, lubricated with oil.
Rated output torque up to 1100 N.m.
Power rating: from 0.37 to 11 kW.
Reduction ratios: 5 and 8.

Construction

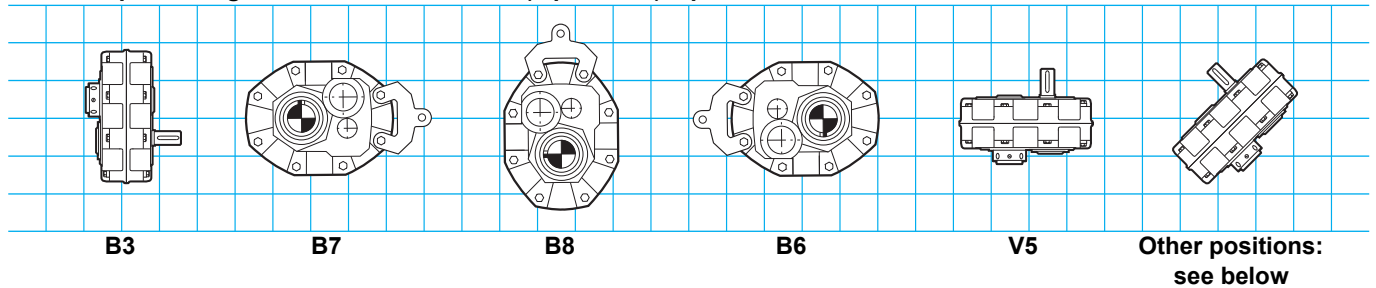
Description of Poulibloc (Pb) gearboxes

Component	Materials	Remarks
Housing	Cast iron	- use of FGL cast iron (flake graphite : tensile strength 150 MPa) single component perlite to ensure the complete sealing of the unit - monobloc with reinforced internal ribbing to absorb vibrations and noise and to increase rigidity - They are compact and meet industrial application-related requirements
Gears	Steel and C 45	- cut by gear hob, they are heat treated, then undergo a final machining. The quality and the precision of the gear cutting allow maximum torque with minimum noise level
Shaft	Steel	- grinding of the sealing surfaces - Pb 2000: taper bush and tightening key ; Pb 3000: hollow cylindrical - diameter tolerances in accordance with IEC 72-1 (DIN 748)
Seals	Acrylonitrile	- anti-dust lipseals according to DIN 3760 AS form
Torque bracket	Steel	- can be orientated in three positions when mounting the belt tension arm delivered with Poulibloc 2000
Lubrication	Oil	- in accordance with ISO 6743 / 6 - For Pb 2000: delivered without oil, fill in accordance with the operating position. It is fitted with drain, level and vent plugs - For Pbh 31 to Pbh 33: delivered without oil, fill in accordance with the operating position. It is fitted with drain, level and vent plugs
	Grease	- For Pb 30 to Pb 32: delivered lubricated for 10 000 operating hours
Mounting		AP: gearbox with input shaft
Finish	Paint	Shade: RAL 6000 (green), system I (1 polyurethane vinyl layer of 25/30 μm)

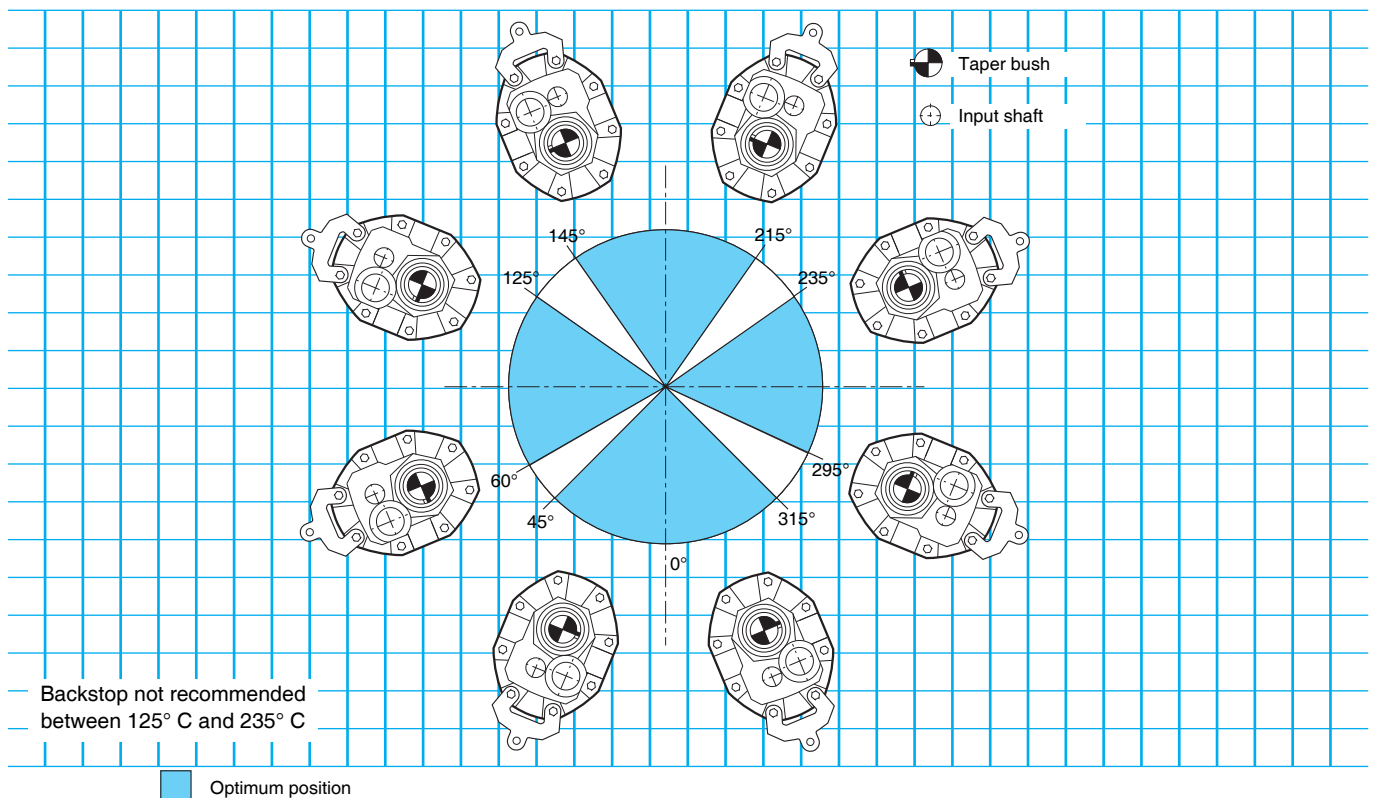
Electromechanical products Poulibloc 2000

Mounting positions

Standard position: gearbox seen from side F (taper bush) input shaft to the rear.

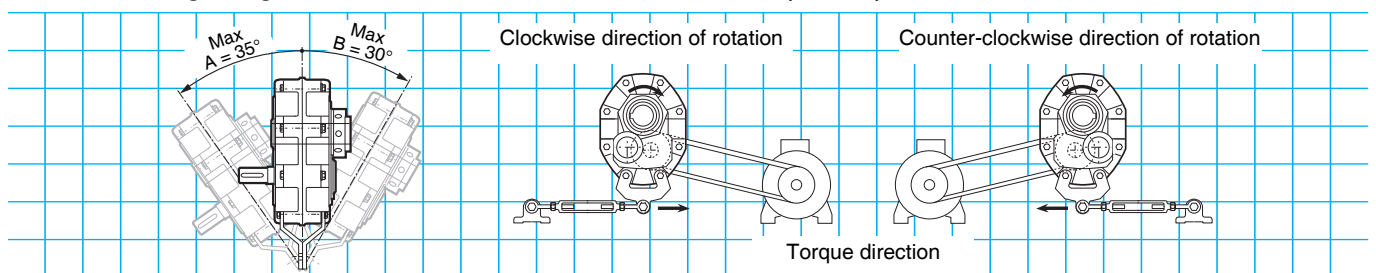


Other positions



Limits to mounting arrangements

R torque arm positions



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Adaptation possibilities

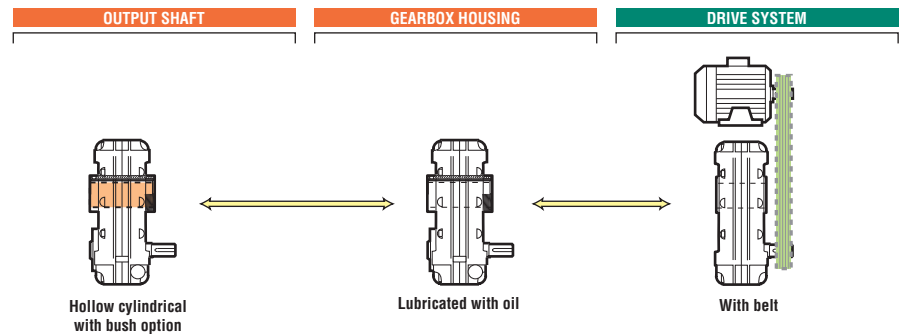
Leroy-Somer offers several drives for use with its gearboxes which meet a diverse range of needs. They are detailed in the catalogue, in the section relating to fixed speed motors, in the chapter A.

For other drives, consult Leroy-Somer technical specialists who will be pleased to assist you.

☞ *A backstop can be fitted on Poulibloc gearboxes series Pb 2000.*

The backstop is delivered separately in kit form for types Pb 20--, 21--, 2212, 2220, 23--, 2412, 2420, 27--.

It can be delivered ready fitted on types Pb 2205, 2405, 25--, 26--.



Designation / Coding

Pb	2512	12.44	TB 80	AD
Type	Size	Exact reduction	Diameter of the taper bush	Backstop

☞ *Codification example :*

Poulibloc 2512, 22 kW, 112 min⁻¹, class II, taper bush.

Designation
Pb 2512 TB Ø 80 AD

Code
PMA 07 A10

All the products in this catalogue have a code.

The coding table is incorporated in the price list with the list of designations.

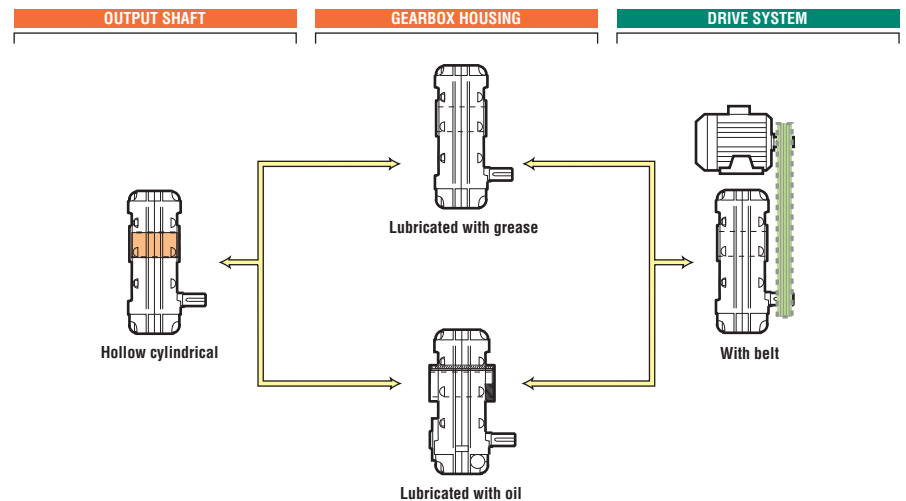
Each electromechanical product is classified first in order of power and then in order of speed.

Electromechanical products Poulibloc 3000

Adaptation possibilities

Leroy-Somer offers several drives for its gearboxes which meet a very wide-range of needs. They are offered in this catalogue, in the section relating to fixed speed motors, in the chapter A.

For other drives, consult Leroy-Somer technical specialists who will be pleased to assist you.



Designation

Pb	3108	8	H 35
Type	Size	Exact reduction	Diameter of the hollow output shaft

Codification example :

Poulibloc 3108, 3 kW, 200 min⁻¹, class II, hollow shaft \varnothing 35.

Designation
Pb 3108 \varnothing 35

Code
-

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 Poulibloc

Selection

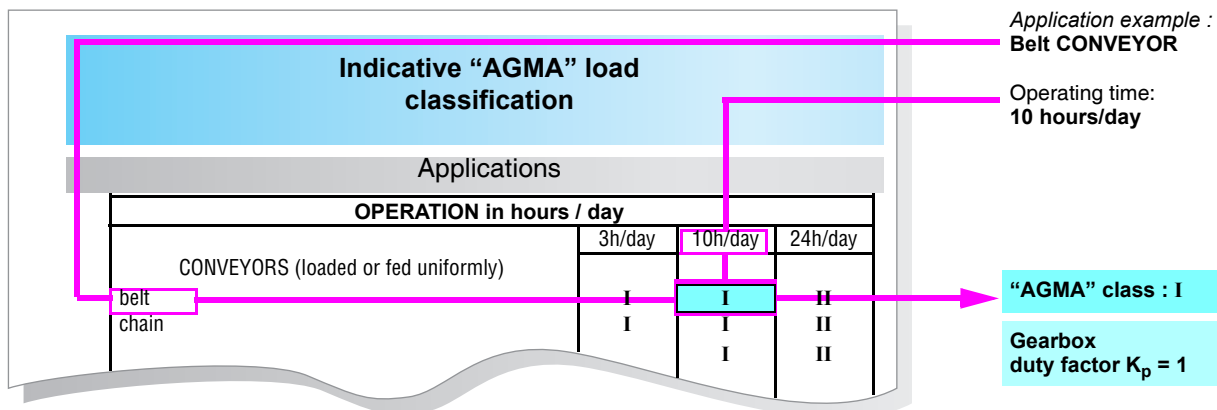
The selection of a gearbox or of a geared motor should take account of the application. Some of these applications are listed in the indicative "AGMA" load classification, page D0.10.

The opposite table summarises the relationship between the "AGMA" class and the gearbox duty factor K_p .

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

1st case. – Your application is listed

Follow the indicative "AGMA" load classification table, page D0.10 of this catalogue. ▼



2nd case. – Your application is not listed

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

Type of application	Daily operating time	"AGMA" class
Shock-free, few starts	10 hours / day	I
Damped shocks	10 hours / day	II
Shock-free, few starts	24 hours / day	III
Violent shocks, many starts	10 hours / day	III
Damped shocks	24 hours / day	III

Electromechanical products Poulibloc

Selection

Mechanical forms : Poulibloc 2000

i	Maximum quantity by order							
	Pb 20	Pb 21	Pb 22	Pb 23	Pb 24	Pb 25	Pb 26	Pb 27
5								-
12	2 5	2 5	2 5	2 5	2 5	2 5	2 5	1
15								-
20	2 5	2 5	2 5	2 5	2 5	2 5	2 5	1
25								-
NU								
bush Ø 20								
bush Ø 25								
bush Ø 30								
bush Ø 35								
bush Ø 40								
bush Ø 45								
bush Ø 50								
bush Ø 55								
bush Ø 60								
bush Ø 65								
bush Ø 70								
bush Ø 75								
bush Ø 80								
bush Ø 85								
bush Ø 90								
bush Ø 95								
bush Ø 100								
bush Ø 110								
bush Ø 120								
torque arm								
backstop								
Page(s) of dimensions								
Pb 20 to 27	D2.14	D2.14	D2.14	D2.14	D2.14	D2.14	D2.14	D2.15
Driven shaft	D2.16							

Mechanical forms : Poulibloc 3000

i	Maximum quantity by order					
	Pb 30	Pb 31	Pbh 31	Pb 32	Pbh 32	Pbh 33
5						-
8	-					
NU Ø 25						
NU Ø 30						
NU Ø 35						
NU Ø 40						
NU Ø 45						
NU Ø 50						
NU Ø 55						
NU Ø 60						
Page(s) of dimensions						
Pb 30 to 32	D2.17					
Pb h 31 to 33	D2.18					

Electromechanical products

Poulibloc

Selection

Exact reductions

VERSION WITHOUT OIL				GREASE VERSION				VERSION WITHOUT OIL			
Type	Reductions	Designation	Exact reduction	Type	Reductions	Designation	Exact reduction	Type	Reductions	Designation	Exact reduction
Pb 20--	05	Pb 2005	5.50	Pb 30--	05	Pb 3005	5	Pb 31--	05	Pb 3105	5.08
	12	Pb 2012	12.92	Pb 31--	08	Pb 3108	8				
	15	Pb 2015	15.54		Pb 32--	05	Pb 3205		5.07		
	20	Pb 2020	20.57	08		Pb 3208	7.85				
	25	Pb 2025	24.75								
Pb 21--	05	Pb 2105	5.62	Pbh 31--	-	-	-				
	12	Pb 2112	11.47		-	-	-				
	15	Pb 2115	14.55		05	Pbh 3105	5.08				
	20	Pb 2120	20.56		08	Pbh 3108	8				
	25	Pb 2125	26.07		Pbh 32--	05	Pbh 3205	5.07			
Pb 22--	05	Pb 2205	5.54	08		Pbh 3208	7.85				
	12	Pb 2212	11.58		Pbh 33--	08	Pbh 3308	7.85			
	15	Pb 2215	14.54								
	20	Pb 2220	19.51								
	25	Pb 2225	24.49								
Pb 23--	05	Pb 2305	5.62								
	12	Pb 2312	12.21								
	15	Pb 2315	15.24								
	20	Pb 2320	20.57								
	25	Pb 2325	25.67								
Pb 24--	05	Pb 2405	5.50								
	12	Pb 2412	12.28								
	15	Pb 2415	14.41								
	20	Pb 2420	20.76								
	25	Pb 2425	24.35								
Pb 25--	05	Pb 2505	5.69								
	12	Pb 2512	12.44								
	15	Pb 2515	14.75								
	20	Pb 2520	20.48								
	25	Pb 2525	24.29								
Pb 26--	05	Pb 2605	5.50								
	12	Pb 2612	12.5								
	15	Pb 2615	14.66								
	20	Pb 2620	21.09								
	25	Pb 2625	24.75								
Pb 27--	12	Pb 2712	12.34								
	20	Pb 2720	20.86								



Electromechanical products Poulibloc 2000

Selection

Class I
(Kp=1)

Poulibloc (Pb) gearbox: NU form, with TB taper bush (Pb 2005 to Pb 2720)

Input shaft mounting **AP**

Pb 2000

Output speed
min⁻¹

LS motors, power kW

0.37	0.55	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	37	45	55
------	------	------	-----	-----	-----	-----	-----	---	---	-----	-----	---	----	----	------	----	----	----	----	----

2 stages, reductions : 12,15,20 and 25¹

10			2125																		
11.2																					
12.5																					
14		2025																			
16																					
18																					
20																					
22.5																					
25																					
28																					
31.5																					
35.5																					
40																					
45																					
50																					
56																					
63																					
71																					
80																					
90																					
100																					
112																					
125																					
140																					

1 stage, reduction : 5¹

50																					
56																					
63																					
71																					
80																					
90																					
100																					
112																					
125																					
140																					
160																					
180																					
200																					
225																					
250																					
280																					
315																					
355																					

1. : i Poulibloc selected depending on the pulley ϕ ratio of 1/1, 1/2 or 1/3

◆ : S1, consult Leroy-Somer

Selection example :

Required power :	4 kW
Required speed :	60 min ⁻¹
Duty factor necessary for the application :	K = 1
Diameter of driven shaft :	45
Mounting :	taper bush

Designation : Pb 2112 TB ϕ 45 (motor : 4P LS 112, 4 kW, pulley ratio 1/2) or
Pb 2120 TB ϕ 45 (motor : 4P LS 112, 4 kW, pulley ratio 1/1.2)

Electromechanical products Poulibloc 2000

Selection

Class II
(Kp=1.4)

Poulibloc (Pb) gearbox : NU form, with TB taper bush (Pb 2005 to Pb 2720)

Input shaft mounting **AP**

Pb 2000

Output speed
min⁻¹

LS motors, power kW

0.37	0.55	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	37	45	55
------	------	------	-----	-----	-----	-----	-----	---	---	-----	-----	---	----	----	------	----	----	----	----	----

2 stages, reductions : 12,15,20 and 25¹

10																					
11.2								2425													
12.5																	2720				
14	2025		2125		2225		2325		2425	2525		2625									
16																	2720				
18																					
20									2420												
22.5							2220														
25																					
28		2020				2120		2320		2420	2520		2620		2720						
31.5																					
35.5							2220														
40																					
45																					
50																					
56			2015					2115	2215		2315		2415	2515		2615				2712	
63																					
71																					
80									2212				2412								
90																					♦
100																					♦
112				2012				2112			2312		2412	2512		2612					♦
125										2212											♦
140																					♦

1 stage, reduction : 5¹

50								2105					2405								
56																					
63								2105			2305										
71																					
80																					♦
90									2105											2605	♦
100											2205			2405							♦
112				2005																	♦
125																					♦
140																					♦
160																	2505				♦
180											2105			2305							♦
200																					♦
225																					♦
250																			2405		♦
280																					♦
315																					♦
355																					♦

1. : i Poulibloc selected depending on the pulley ϕ ratio of 1/1, 1/2 or 1/3
♦ : S1, consult Leroy-Somer

Selection example :

Required power :	4 kW
Required speed :	60 min ⁻¹
Duty factor necessary for the application :	K = 1.4
Diameter of driven shaft :	45
Mounting :	taper bush

Designation : Pb 2112 TB Ø 45 (motor : 4P LS 112, 4 kW, pulley ratio 1/2) or
Pb 2120 TB Ø 45 (motor : 4P LS 112, 4 kW, pulley ratio 1/1.2)

Electromechanical products Poulibloc 2000

Selection

Class III
($K_p=2$)

Poulibloc (Pb) gearbox : NU form, with TB taper bush (Pb 2005 to Pb 2720)

Input shaft mounting **AP**

Pb 2000

Output speed min ⁻¹	LS motors, power kW																				
	0.37	0.55	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	37	45	55
	2 stages, reductions : 12,15,20 and 25 ¹																				
10																					
11.2		2125						2425				2720									
12.5																					
14	2025		2125	2225			2325			2525		2625	2720								
16								2425													
18																					
20										2420											
22.5																					
25																					
28		2020			2120		2220		2320			2520		2620		2720					
31.5										2420											
35.5							2220														
40																					
45																					
50																					
56		2015				2115		2215		2315	2415		2515		2615						
63												2415									
71																					
80																					
90																				2712	
100									2212			2412									
112				2012					2112			2312				2512		2612			
125										2212					2412					♦	2712
140																				♦	

1 stage, reduction : 5¹

50																					
56								2105													
63												2405									
71								2105													
80													2405								
90									2105			2305									
100																					2605
112																					
125				2005							2205						2505				
140										2105											
160																					
180																2405					
200																					
225																					
250											2105		2305								
280																					
315																					
355																					

1. : i Poulibloc selected depending on the pulley ϕ ratio 1/1, 1/2 or 1/3

♦ : S1, consult Leroy-Somer

Example of selection :

Required power :	4 kW
Required speed :	60 min ⁻¹
Duty factor necessary for the application :	K = 2
Diameter of driven shaft :	45
Mounting :	taper bush
Designation :	Pb 2315 TB ϕ 45 (motor : 4P LS 112, 4 kW, pulley ratio 1/1.6) or Pb 2320 TB ϕ 45 (motor : 4P LS 112, 4 kW, pulley ratio 1/1.2)

Electromechanical products

Poulibloc 3000

Selection

Poulibloc (Pb) gearbox : NU form, (Pb 3005 to Pbh 3308)

Input shaft mounting **AP**

Option : - Pb 31, Pb 32 Grease
- Pbh 31, Pbh 32 Oil

Restrictions : - Pb 30 Grease only
- Pbh 33 Oil only
- No reduction 8 on model Pb 30
- No reduction 5 on model Pbh 33

Class I
($K_p=1$)

Pb 3000 - Pbh 3000

Output speed min ⁻¹	LS motors, power kW													
	0.37	0.55	0.75	0.9	1.1	1.5	1.8	2.2	3	4	5.5	7.5	9	11
	1 stage, reductions : 5 and 8 ¹													
30														
35.5														
40														
45														
50														
60														
70														
80														
90														
100														
120														
135														
150														
180														
200														
250														
270														
300														
350														
375														
500														
600														
750														
1000														

1. : i Poulibloc selected depending on the pulley θ ratio

Example of selection :

Required power :	3 kW
Required speed :	200 min ⁻¹
Duty factor necessary for the application :	K = 1.4
Diameter of driven shaft :	35
Mounting :	hollow cylindrical shaft

Designation : Pb 3005 Ø 35

Electromechanical products Poulibloc 3000

Selection

Poulibloc (Pb) gearbox : NU form, (Pb 3005 to Pbh 3308)

Input shaft mounting **AP**

Option : - Pb 31, Pb 32 Grease
- Pbh 31, Pbh 32 Oil

Restrictions : - Pb 30 Grease only
- Pbh 33 Oil only
- No reduction 8 on model Pb 30
- No reduction 5 on model Pbh 33

Class II
($K_p=1.4$)

Pb 3000 - Pbh 3000

Output speed min ⁻¹	LS motors, power kW													
	0.37	0.55	0.75	0.9	1.1	1.5	1.8	2.2	3	4	5.5	7.5	9	11
	1 stage, reductions : 5 and 8 ¹													
30			3108				3208							
35.5														
40														
45														
50														
60														
70														
80														
90													3308	
100														
120														
135				3005				3105			3205			
150														
180														
200														
250														
270														
300														
350														
375														
500														
600														
750														
1000														

1. : i Poulibloc selected depending on the pulley ϕ ratio

Example of selection :

Required power :	3 kW
Required speed :	200 min ⁻¹
Duty factor necessary for the application :	K = 1.4
Diameter of driven shaft :	35
Mounting :	hollow cylindrical shaft
Designation :	Pb 3105 Ø 35 or Pb 3108 Ø 35

Electromechanical products

Poulibloc 3000

Selection

Poulibloc (Pb) gearbox : NU form, (Pb 3005 to Pbh 3308)

Input shaft mounting **AP**

Option : - Pb 31, Pb 32 Grease
- Pbh 31, Pbh 32 Oil

Restrictions : - Pb 30 Grease only
- Pbh 33 Oil only
- No reduction 8 on model Pb 30
- No reduction 5 on model Pbh 33

Class III
($K_p=2$)

Pb 3000 - Pbh 3000

Output speed min ⁻¹	LS motors, power kW													
	0.37	0.55	0.75	0.9	1.1	1.5	1.8	2.2	3	4	5.5	7.5	9	11
	1 stage, reductions : 5 and 8 ¹													
30			3108			3208								
35.5														
40														
45														
50														
60														
70														
80														
90														
100													3308	
120														
135								3105			3205			
150														
180														
200			3005											
250														
270														
300														
350														
375														
500														
600														
750														
1000														

1. : i Poulibloc selected depending on the pulley ϕ ratio

Example of selection :

Required power :	4 kW
Required speed :	200 min ⁻¹
Duty factor necessary for the application :	K = 2
Diameter of driven shaft :	40
Mounting :	hollow cylindrical shaft

Designation : Pb 3205 Ø 40 or Pb 3208 Ø 40

Electromechanical products

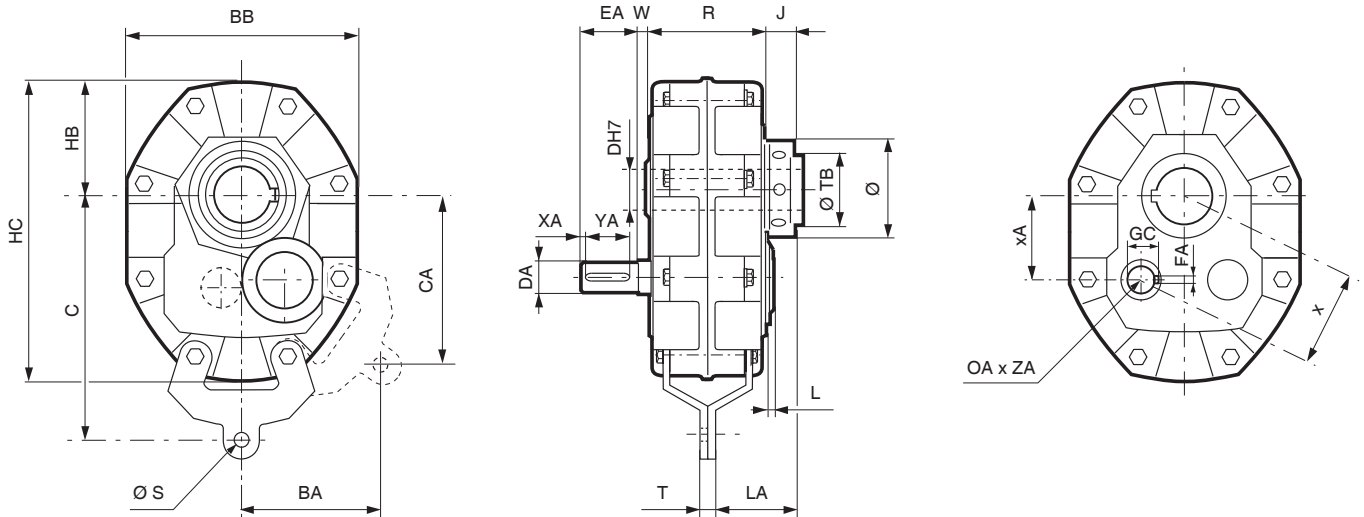
Poulibloc 2000

Dimensions

Dimensions of Poulibloc (Pb) gearboxes, Pb 2005 to Pb 2625

Dimensions in millimetres

- With mounting bracket and TB taper bush



Type	Gearbox																Weight kg	
	BA	BB	C	CA	D ¹	HB	HC	J	L	LA	R	S	T	x	xA	Ø		ØTB
Pb 26--	247	410	439	307	- ¹	191	522	61	23	157	238	17	20	192	172	165	135	158
Pb 25--	212	357	377	264	- ¹	165	452	50	24	135	210	17	16	164	148	135	108	106
Pb 24--	191	315	332	233	- ¹	146	395	38	26	123	170	16	10	145	132	121	97	68
Pb 23--	156	284	290	204	- ¹	133	361	36	21	106	147	16	10	126	112	106	80	52
Pb 22--	139	252	260	177	- ¹	118	320	36	25	99	131	16	10	107	96	96	68	32
Pb 21--	130	214	227	157	- ¹	100	269	36	17	91	120	16	10	92	84	86	64	24
Pb 20--	112	198	210	140	- ¹	90	245	30	12	84	109	16	10	85	77	75	52	19

1. DH7 : see page D2.16

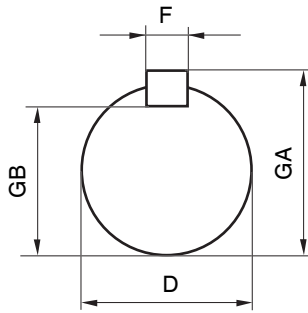
Type	Input shaft								
	DA	EA	FA	GC	XA	YA	OA	ZA	W
Pb 2612 to 2625	55	120	16	59	5	105	M16	36	6
Pb 2605	48	120	14	51.5	3	112	M16	36	6
Pb 2512 to 2525	50	110	14	53.5	5	100	M16	36	13
Pb 2505	38	80	10	41	5	70	M12	26	13
Pb 24--	50	110	14	53.5	5	100	M16	36	8.5
Pb 23--	35	80	10	38	3	72	M12	26	4
Pb 22--	32	80	10	35	4	72	M10	22	9
Pb 21--	28	60	8	31	6	48	M10	22	3
Pb 20--	24	60	8	27.5	6	48	M8	19	4

Electromechanical products Poulibloc 2000

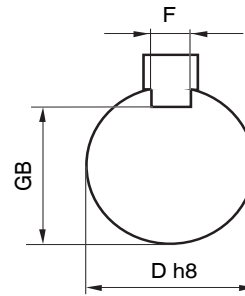
Dimensions

Dimensions of driven shaft for Poulibloc (Pb) gearboxes, Pb 2005 to Pb 2720,
with taper bushes and torque arm

Dimensions in millimetres



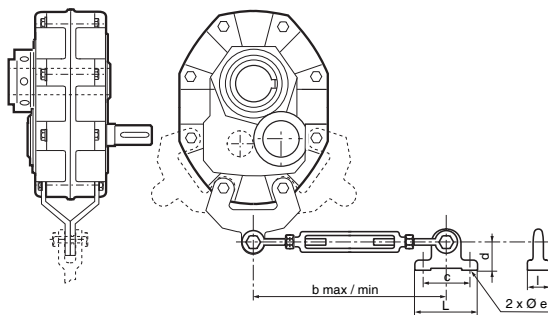
Small-bore client shaft



Large-bore client shaft

Standard bores				Taper bushes							
DH7	F	GB	GA	20	21	22	23	24	25	26	27
20	6	16.5	22.5	•							
25	8	21	28	•	•						
30	8	26	33	•	•	•					
35	10	30	38	••	•	•	•				
40	12	35	43	••	•	•	•				
45	14	39.5	48.5		••	•	•	•			
50	14	44.5	53.5		••	••	•	•			
55	16	49	59			••	•	•			
60	18	53	64				••	•	•		
65	18	58	69					•	•		
70	20	62.5	74.5					••	•	•	
75	20	67.5	79.5					••	•	•	
80	22	71	85						••	•	
85	22	76	90						••	•	
90	25	81	95							•	
95	25	86	100							••	
100	28	90	106							••	•
110	28	100	116								•
120	32	109	127								•
Minimum length of client shaft											
				80	82	105	116	134	153	194	260

- Client key with small bores, dimensions GA shown.
- Key supplied, dimensions GA not shown.



Type	Torque arm						
	b max	b min	c	d	e	l	L
Pb 27--	840	670	210	80	32	80	280
Pb 26--	540	440	105	45	17	50	144
Pb 25--	540	440	105	45	17	50	144
Pb 24--	450	365	95	38	15	53	150
Pb 23--	450	365	95	38	15	53	150
Pb 22--	450	365	95	38	15	53	150
Pb 21--	450	365	95	38	15	53	150
Pb 20--	450	365	95	38	15	53	150

The torque arm should be positioned in line with the mounting bracket.
3 positions are possible.
The torque arm should always operate under traction.

Electromechanical products

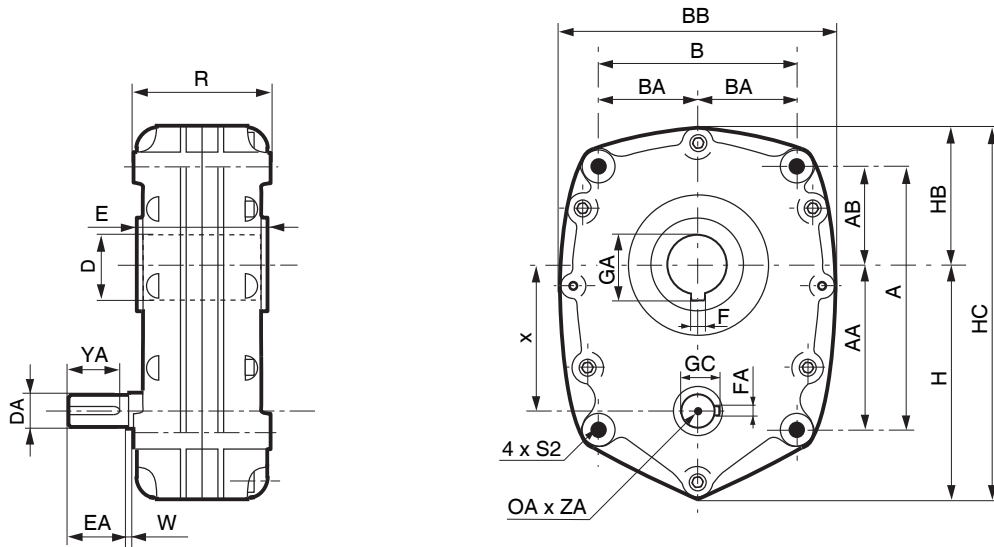
Poulibloc 3000

Dimensions

Dimensions of Poulibloc (Pb) gearboxes, Pb 3005 to Pb 3208

Dimensions in millimetres

- With hollow cylindrical shaft



Type	Gearbox											Weight	
	A	AA	AB	B	BA	BB	H	HB	HC	R	S2	x	kg
Pb 32--	255	145	110	200	100	300	200	150	350	125	M14	134	32
Pb 31--	200	115	85	170	85	240	172	123	295	106	M12	105	20
Pb 30--	160	95	65	130	65	185	136	93	229	80	M10	82	12

Type	Input shaft							
	DA	EA	FA	GC	YA	OA	ZA	W
Pb 3208	28j6	65	8	31	55	M8	19	2.5
Pb 3205	32j6	65	10	35	55	M8	19	2.5
Pb 3108	24j6	50	8	27	45	M8	19	2
Pb 3105	28j6	60	8	31	55	M8	19	2
Pb 3005	24j6	50	8	27	45	M8	19	2

Type	Hollow output shaft			
	D	E	F	GA
Pb 32--	40	117	12	43.3
Pb 32--	45	117	14	48.8
Pb 32--	50	117	14	53.8
Pb 31--	30	99	8	33.3
Pb 31--	35	99	10	38.3
Pb 31--	40	99	12	43.3
Pb 30--	25	74	8	28.3
Pb 30--	30	74	8	33.3
Pb 30--	35	74	10	38.3

Electromechanical products

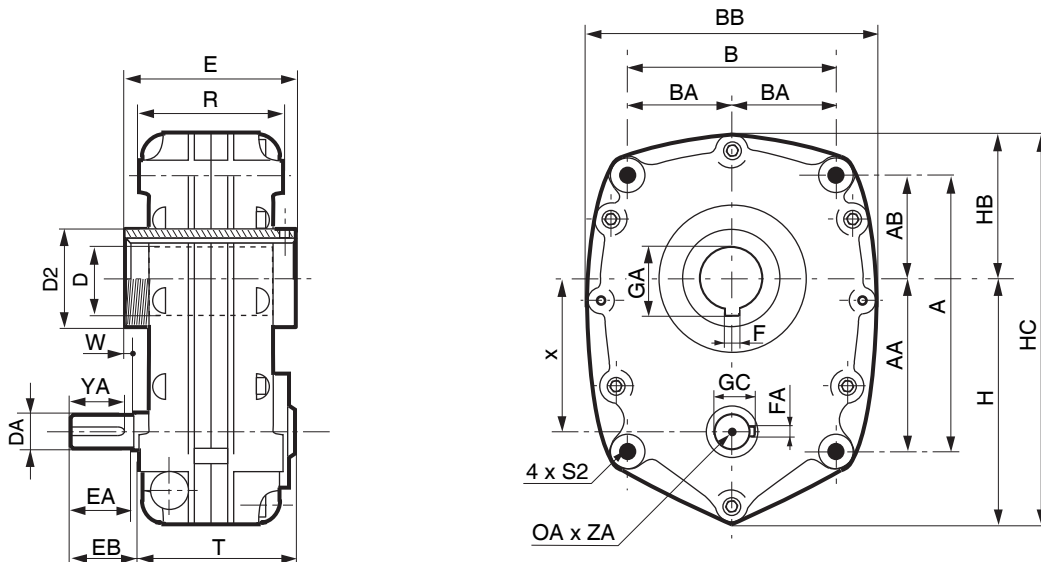
Poulibloc 3000

Dimensions

Dimensions of Poulibloc (Pbh) gearboxes, Pbh 3104 to Pbh 3308

Dimensions in millimetres

- With hollow cylindrical shaft



Type	Gearbox													Weight kg
	A	AA	AB	B	BA	BB	H	HB	HC	R	S2	T	x	
Pbh 33--	291	167.6	123.4	194.2	97.1	312	220	157	377	138	M16	150	148.8	40
Pbh 32--	255	145	110	200	100	300	200	150	350	125	M14	138	134	32
Pbh 31--	200	115	85	170	85	240	172	123	295	106	M12	113	105	20

Type	Input shaft								
	DA	EA	EB	FA	GC	YA	OA	ZA	W
Pbh 3308	30j6	68	71.3	8	33.3	60	M8	19	-9.2
Pbh 3208	28j6	65	67.5	8	31.3	55	M8	19	-4.5
Pbh 3205	32j6	65	67.5	10	35.3	55	M8	19	-4.5
Pbh 3108	24j6	50	52	8	27.3	45	M8	19	-5
Pbh 3105	28j6	60	62	8	31.3	55	M8	19	-5

Type	Hollow output shaft				
	D	D2	E	F	GA
Pbh 3308	50	80	166.5	14	53.8
Pbh 3308	55	80	166.5	16	59.3
Pbh 3308	60	80	166.5	18	64.4
Pbh 32--	40	65	144	12	43.3
Pbh 32--	45	65	144	14	48.8
Pbh 32--	50	65	144	14	53.8
Pbh 31--	30	55	126	8	33.3
Pbh 31--	35	55	126	10	38.3
Pbh 31--	40	55	126	12	43.3