

## CHB WORM GEAR UNITS

**ACCESSORIES FOR GEAR BOXES  
AND ELECTRIC MOTORS**

*CHB WORM GEARED MOTORS  
AND WORM GEAR UNITS*









## INDEX

Introduction	Page 1
CHB 03-04-05 Worm geared motors and worm gear units	Page 2
CHB – CHB..P 03-04-05 – designation and order example	Page 3
CHB 03-04-05 Mounting positions	Page 4
CHB 03 Performance and dimensions with 4-pole motors	Page 5
CHB 04 Performance and dimensions with 4-pole motors	Page 6
CHB 05 Performance and dimensions with 4-pole motors	Page 7
CHB 06 Gear motors and worm gears	Page 9
CHB 06 – designation and order example	Page 10
CHB 06 Mounting positions	Page 11
CHB 06 Performance and dimensions with 4-pole motors	Page 12
CHBR – CHBRE Dimensions	Page 13
CHTPC Worm gear with pre-stage modules	Page 14
CHTPC / CHB Performance with 4-pole motors	Page 15
CHB / CHB Combined worm gears	Page 16
CHB / CHB Execution	Page 17
CHB / CHB Performance and dimensions with 4-pole motors	Page 18
Torque arm kit – Single and double output shaft	Page 19
Cover	Page 20
Technical data for CHT electric motors	Page 21
Forced ventilation kit	Page 22
Use and maintenance instructions	Page 23
General sales conditions	Page 24

## INTRODUCTION

The new CHB worm gearboxes of Chiaravalli Trasmissioni SPA have been produced to satisfy the market that require a product in dimensions and construction without changing the existing drawings and to guarantee non stop of their spare parts. Chiaravalli designed this new product by improving and introducing better technical modifications to offer easier application of the groups to the different assembling configurations so that by offering a better service in flexibility and delivery time. Starting from these considerations, we have a gearbox with a motor mounting flange that is separable from the housing which incorporate the oil seal; in this way we avoid any risk of damaging the oil seal in case of replacement of the input flange and the O-Ring can be eliminated.

All the aside covers, swinging and with feet, have O-Rings instead of traditional flat gaskets. The sizes 03-04-05 allow the rotation of the feet without disassembling them; furthermore the versions with swinging aside covers allow the lateral flanges to be fitted on both sides with simple fixing screws.

The worm screw has a ZI involute profile: with this worm-wheel coupling we shall get a better performance with a temperature reduction. The gearboxes and motors are painted with RAL 9022 aluminium colour epoxy powder to protect the parts from oxidation and against micro—blowholes that can come during the pressure of die-castings.

The CHTPC pre-stage gears (already present in the catalogue of CHM) can also be mounted with this range, obtaining a gear ratio up to 1:300. For bigger reductions is possible to have two gears together using an appropriate kit.

## LUBRICATION

All of the groups are supplied with a synthetic lubricant and the maintenance is free and can be mounted in any position. The types of lubricants are described in the table here below.

Lubricant	Ambient	ISO	AGIP	SHELL	IP
°C Ambient	-25°C/+50°C	VG 320	Telium VSF 320	Tivela oil S 320	Telium VSF

## QUANTITY OF OIL IN LITRES

CHB	03	04	05	06
	0.035	0.055	0.090	0.38

## MOTOR MOUNTING FLANGES

Gears supplied with mounting flanges must be assembled with motors whose shaft and flange tolerances correspond to a "normal" class of quality in order to avoid vibration and forcing of the input bearing. Motors supplied by Chiaravalli guarantee this requirement fulfilled. For ease of consultation, the correspondence of the size of the B5 and B14 motor with the sizes of the shaft and the motor connection flange are shown in the following table.

Remember that, as the motor connection flanges are separate from the body it is also possible to have a shaft / flange combination that does not correspond to the table, e.g. 19/140, thereby offering adaptability for other non-unified models such as the brushless or direct current types.

MMF	056	063	071	080	090
B5	9/120	11/140	14/160	19/200	24/200
B14	9/80	11/90	14/105	19/120	24/140

## FEET ROTATION

Gears with feet can be rotated into the N and V positions by simply unscrewing the fixing screws. We recommend that some sealant is applied to the 4 screws close to the worm screw, as the holes are through holes.



# CHB 03-04-05 GEARED MOTORS AND WORM GEAR UNITS

CHB...



CHB...P



CHBE...



CHBE...P

CHBR...



CHBR...P



CHBRE...



CHBRE...P



**DESIGNATION CHB..P 03-04-05**

TYPE (1)	SIZE	VERSION	FLANGE POS. (2)	i	MMF	MOUNT. POS.
CHB	03	F	1	7	63B5	UNIVERSAL
CHB..P		N	2	10	63B14	
CHBR		V		15	56B5	
CHBR..P				20	56B14	
CHBE				30		
CHBE..P				40		
CHBRE				60		
CHBRE..P				70		

TYPE (1)	SIZE	VERSION	FLANGE POS. (2)	i	MMF	MOUNT. POS.
CHB	04	F	1	7	71B5	UNIVERSAL
CHB..P		FA	2	10	71B14	
CHBR		N		14	63B5	
CHBR..P		V		20	63B14	
CHBE				28		
CHBE..P				35		
CHBRE				46		
CHBRE..P				60		
				70		
				100		

TYPE (1)	SIZE	VERSION	FLANGE POS. (2)	i	MMF	MOUNT. POS.
CHB	05	F	1	7	80B5	UNIVERSAL
CHB..P		FA	2	10	80B14	
CHBR		N		14	71B5	
CHBR..P		V		18	71B14	
CHBE				24	63B5	
CHBE..P				28	63B14	
CHBRE				36		
CHBRE..P				45		
				60		
				70		
				80		
				100		

**EXAMPLE ORDER**

CHB	04P	FA	2	35	63 B14
CHB	04			10	71 B5

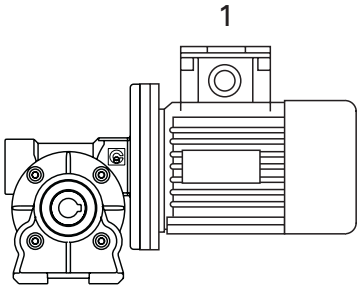
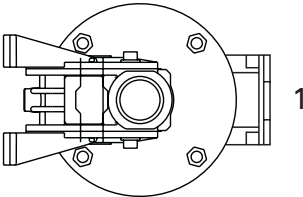
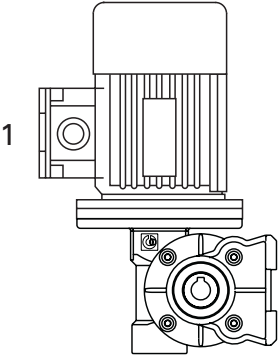
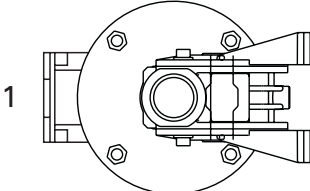
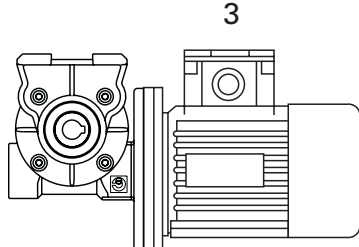
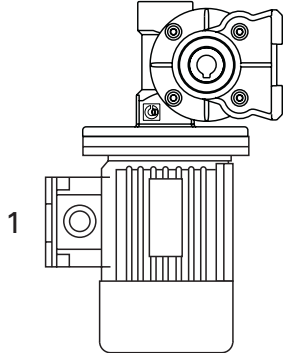
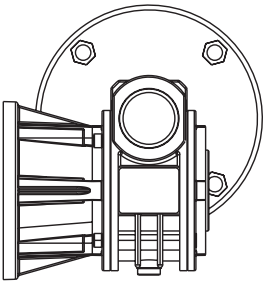
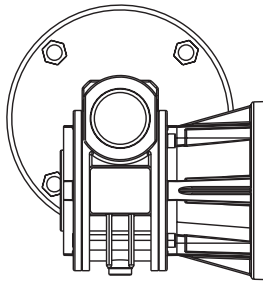
If the motor is also required, please specify:

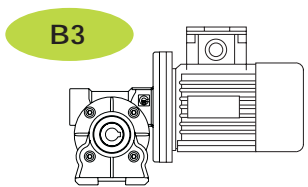
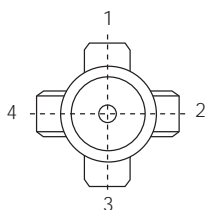
Size	es. 63 C4
Power	es. Kw 0.22
Poles	es. 4
Voltage	es. V230/400
Frequency	es. 50 Hz
Flange	es. B14

1) see page 2

2) see page 4

# CHB 03-04-05 MOUNTING POSITION

<p><b>B3</b></p> 	<p><b>B6</b></p> 	<p><b>V5</b></p> 
<p><b>B7</b></p> 	<p><b>B8</b></p> 	<p><b>V6</b></p> 
<p><b>F1</b></p> 		<p><b>F2</b></p> 



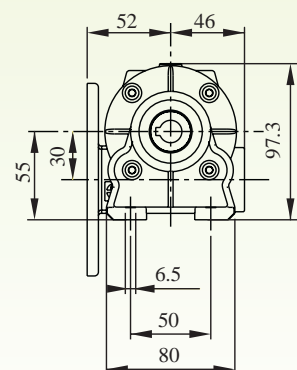
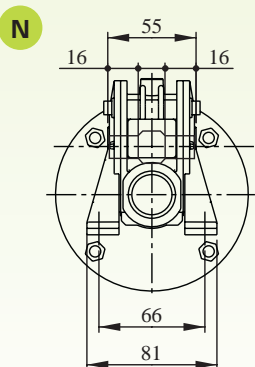
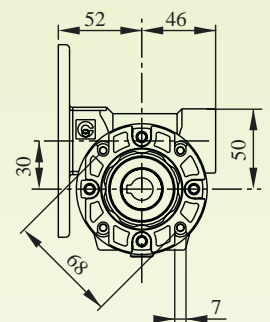
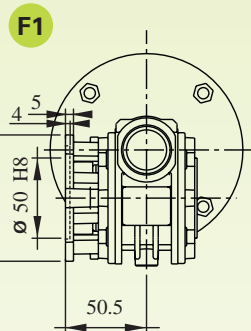
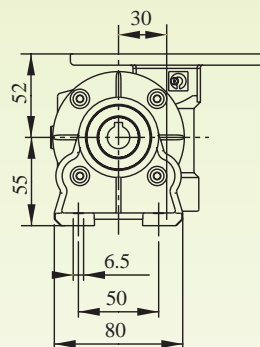
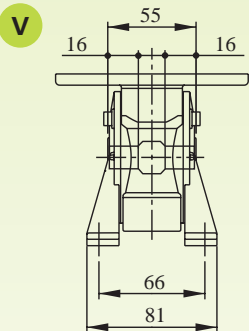
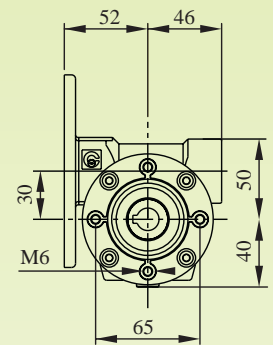
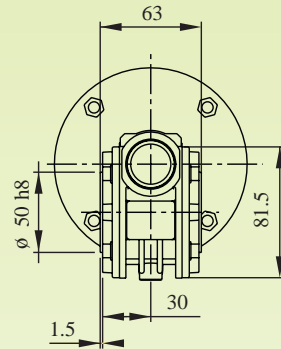
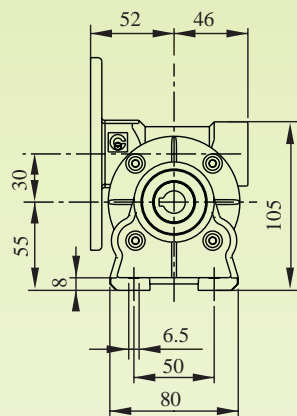
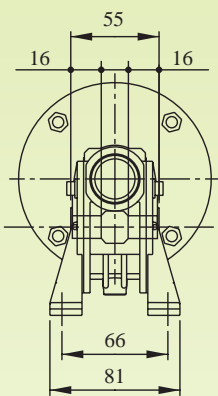
**POSITION OF TERMINAL BOX**

N.B. The position of the terminal box always refers to the B3 position.

# CHB 03 PERFORMANCE WITH 4-POLE MOTORS – 1400 REVS. INPUT

TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2	f.s.	Possible types of motor connections	
CHB 03	7	200	0.22	8	1.8	63/56	B5/B14
	10	140	0.22	11	1.4	63/56	B5/B14
	15	93	0.22	16	1.0	63/56	B5/B14
	20	70	0.22	20	0.9	63/56	B5/B14
	30	47	0.18	22	0.8	63/56	B5/B14
	40	35	0.12	18	1.0	63/56	B5/B14
	60	23	0.09	18	1.0	63/56	B5/B14
	70	20	0.09	15	0.9	56	B5/B14

## CHB 03 DIMENSIONS



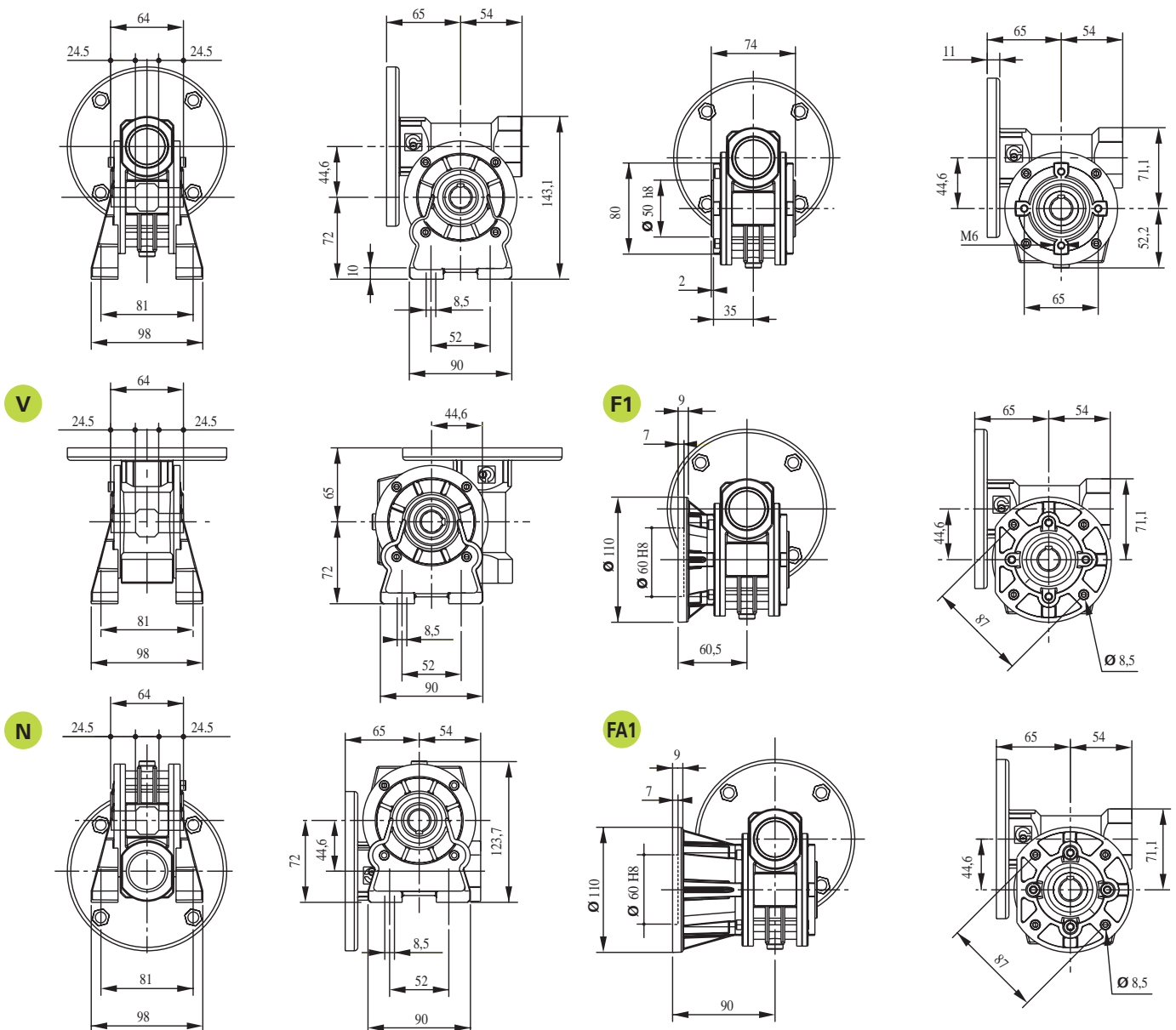


# CHB 04 PERFORMANCE WITH 4-POLE MOTORS – 1400 REVS. INPUT

TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2	f.s.	Possible types of motor connections	
CHB 04	7	200	0.55*	22	1.4	71/63	B5/B14
	10	140	0.55*	30	1.0	71/63	B5/B14
	14	100	0.37	29	1.0	71/63	B5/B14
	20	70	0.37	38	1.0	71/63	B5/B14
	28	50	0.37	40	0.9	71/63	B5/B14
	35	40	0.25	41	0.9	71/63	B5/B14
	46	30	0.18	37	1.0	63	B5/B14
	60	23	0.18	44	0.9	63	B5/B14
	70	20	0.12	33	0.9	63	B5/B14
	100	14	0.12	30	0.9	63	B5/B14

\* motors 71 gr.

## CHB 04 DIMENSIONS

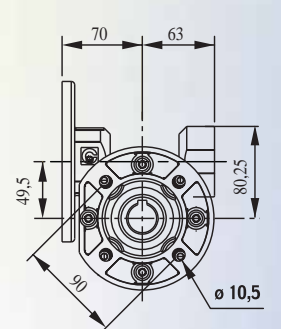
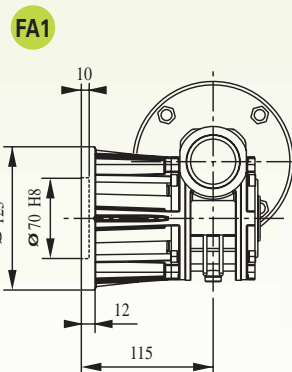
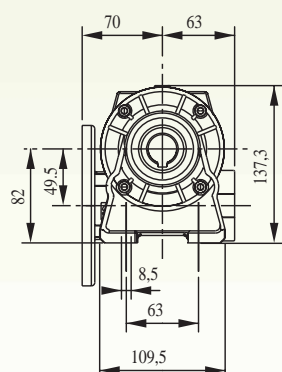
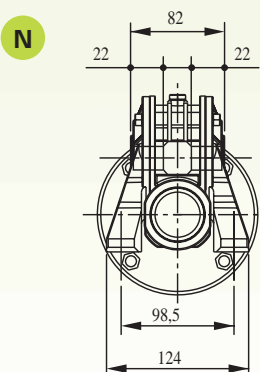
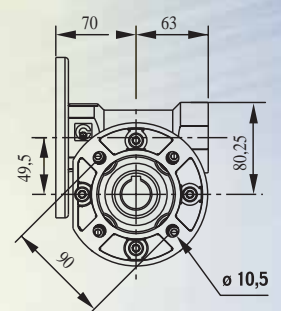
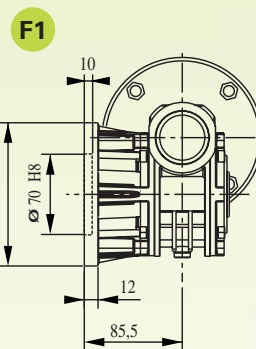
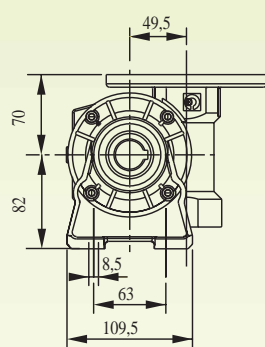
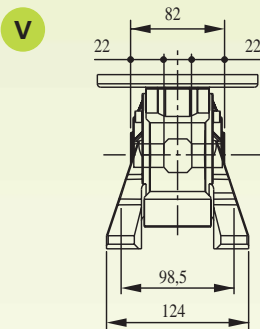
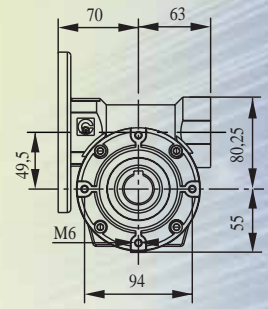
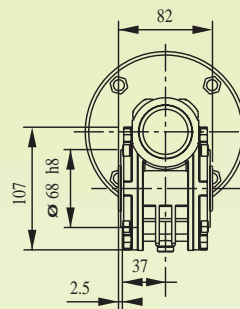
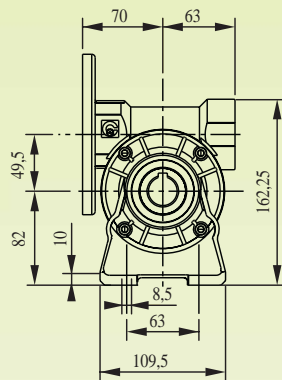
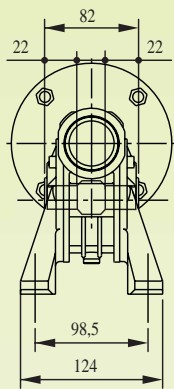


# CHB 05 PERFORMANCE WITH 4-POLE MOTORS – 1400 REVS. INPUT

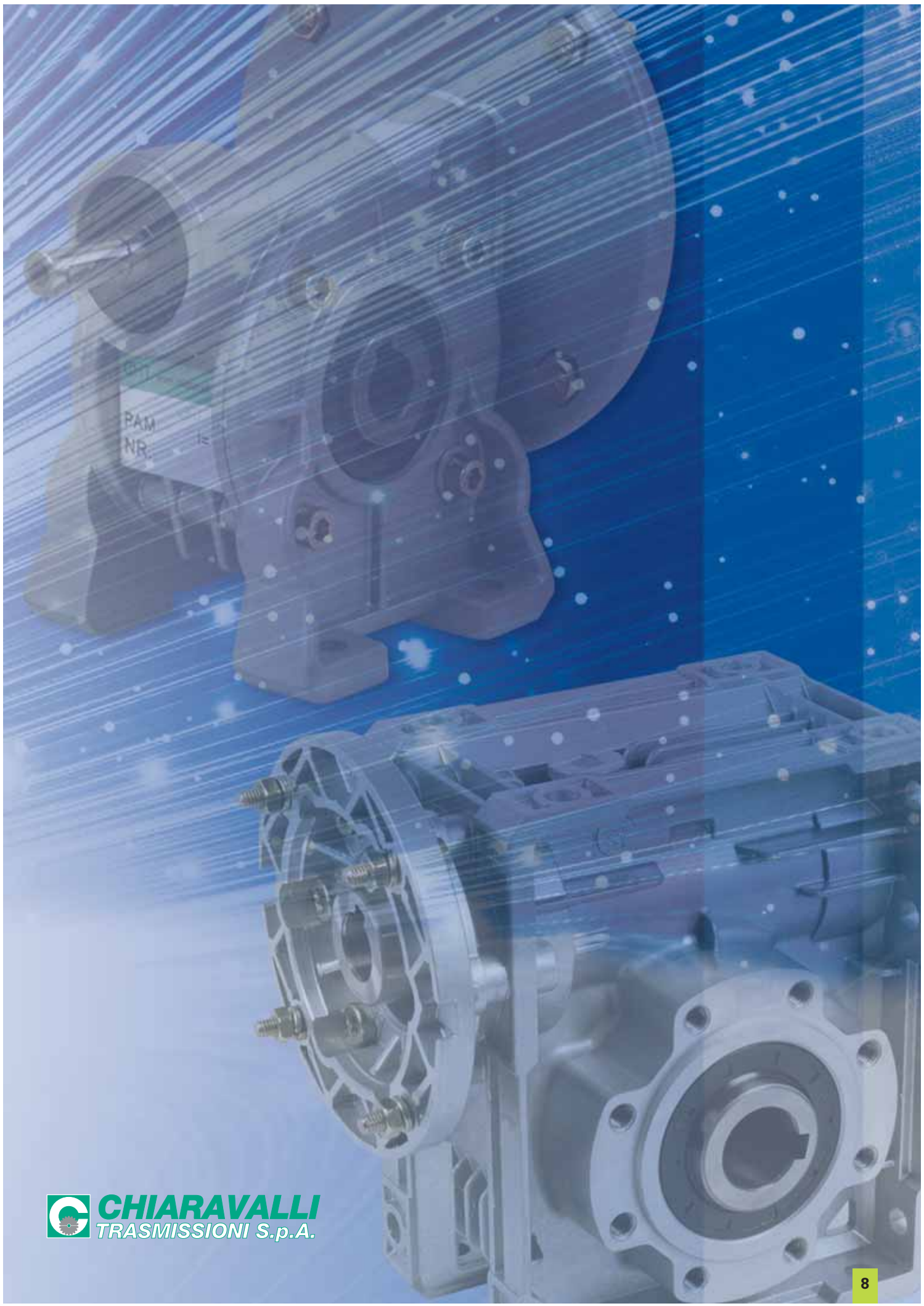
TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2	f.s.	Possible types of motor connections	
CHB 05	7	200	1.1*	40	1.4	80/71	B5/B14
	10	140	1.1*	49	1.2	80/71	B5/B14
	14	100	0.75	57	1.1	80/71	B5/B14
	18	78	0.55	52	1.1	80/71	B5/B14
	24	58	0.55	67	0.9	80/71	B5/B14
	28	50	0.55	73	1.0	80/71	B5/B14
	36	39	0.37	61	1.1	71	B5/B14
	45	31	0.37	65	0.9	71	B5/B14
	60	23	0.25	60	1.0	71/63	B5/B14
	70	20	0.22	55	0.9	63	B5/B14
	80	17	0.18	54	1.0	63	B5/B14
100	14	0.18	50	0.9	63	B5/B14	

\* Motors 80 gr.

## CHB 05 DIMENSIONS









## CHB 06 GEARED MOTORS AND WORM GEAR UNITS



CHB 06



CHBE 06



CHBR 06



CHBRE 06



## DESIGNATION CHB 06

TYPE (1)	SIZE	VERSION	FLANGE POS. (2)	i	MMF	MOUNT. POS.
CHB	06	FC	1	7	90B5	UNIVERSAL
CHBR		F	2	10	90B14	
CHBE		(3)		12	80B5	
CHBRE				15	80B14	
				19	71B5	
				24	71B14	
				30		
				38		
				45		
				64		
				80		
				100		

## EXAMPLE ORDER

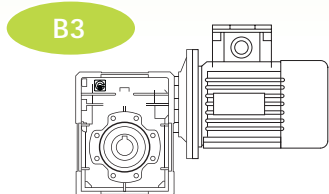
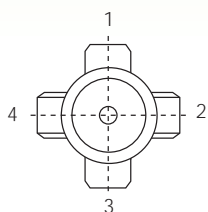
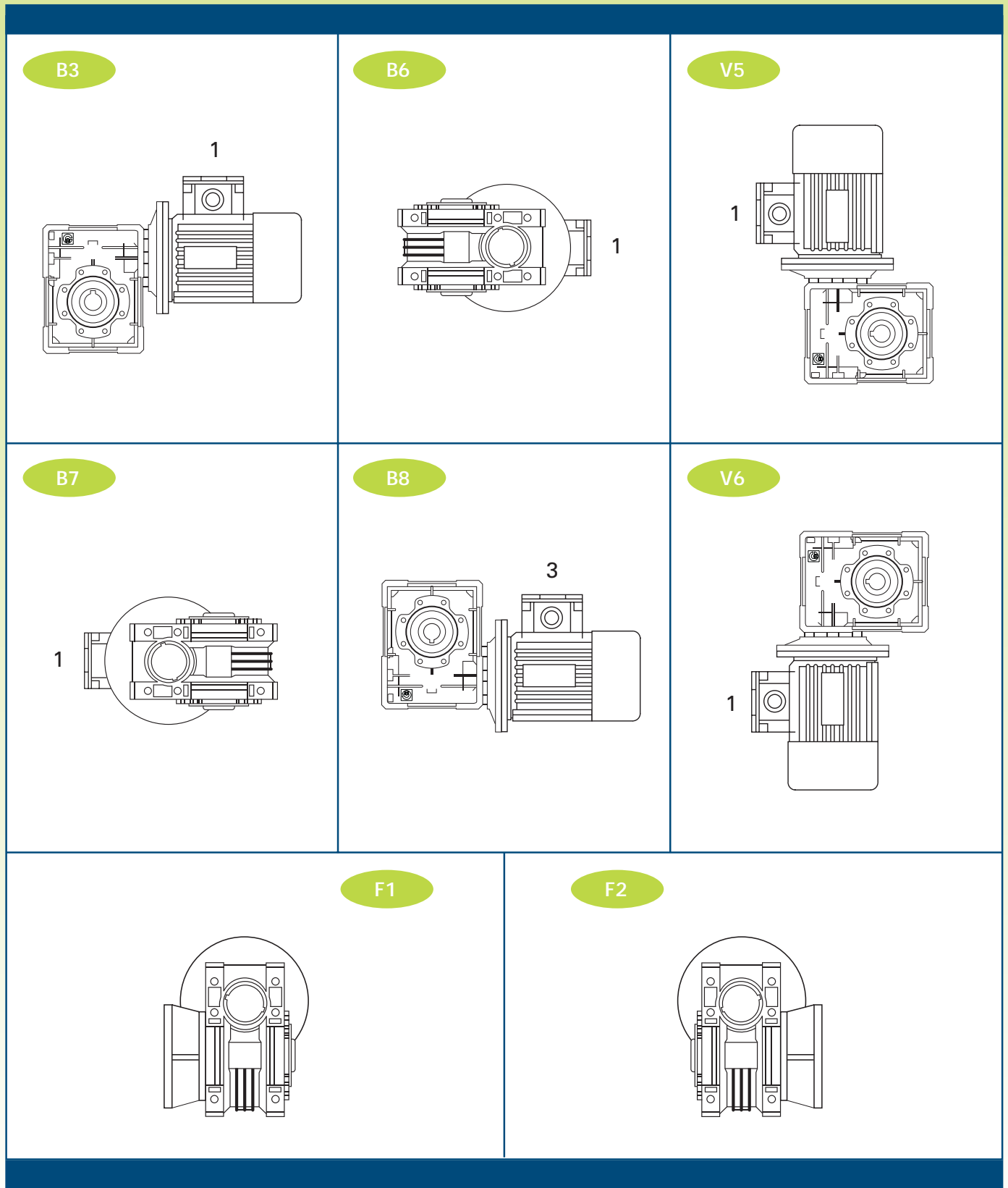
<b>CHB</b>	<b>06</b>	<b>FA</b>	<b>1</b>	<b>19</b>	<b>90 B5</b>
------------	-----------	-----------	----------	-----------	--------------

If the motor is also required, please specify:

Size es. 90 L4  
 Power es. Kw 1.5  
 Poles es. 4  
 Voltage es. V230/400  
 Frequency es. 50 Hz  
 Flange es. B5

1) see page 9  
 2) see page 11  
 3) lack of instructions indicates that the gear is not equipped with an output flange

# CHB 06 MOUNTING POSITION



**POSITION OF TERMINAL BOX**

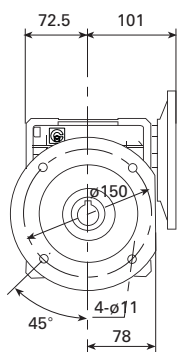
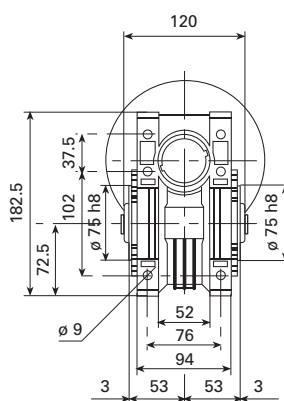
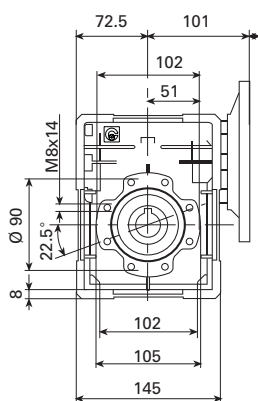
N.B. The position of the terminal box always refers to the B3 position.



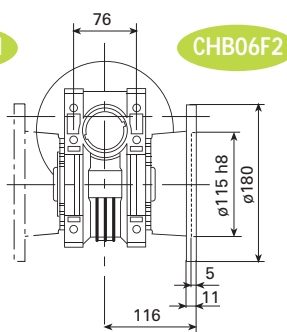
# CHB 06 PERFORMANCE WITH 4-POLE MOTORS – 1400 REVS. INPUT

TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2	f.s.	Possible types of motor connections	
CHB 06	7	200	1.85	75	1.5	90/80	B5/B14
	10	140	1.85	105	1.3	90/80	B5/B14
	12	117	1.85	129	1.1	90/80	B5/B14
	15	93	1.85	146	1.0	90/80	B5/B14
	19	74	1.50	150	1.0	90/80	B5/B14
	24	58	1.10	138	1.1	90/80	B5/B14
	30	47	1.10	155	1.0	90/80	B5/B14
	38	37	0.75	133	1.1	90/80	B5/B14
	45	31	0.75	152	0.9	80/71	B5/B14
	64	22	0.37	101	1.2	80/71	B5/B14
	80	17	0.37	112	1.0	71	B5/B14
	100	14	0.37	110	1.0	71	B5/B14

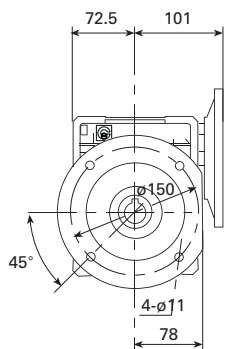
## CHB 06 DIMENSIONS



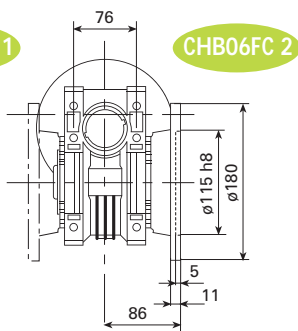
CHB06F1



CHB06F2



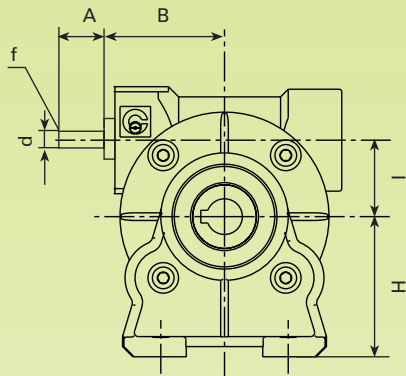
CHB06FC 1



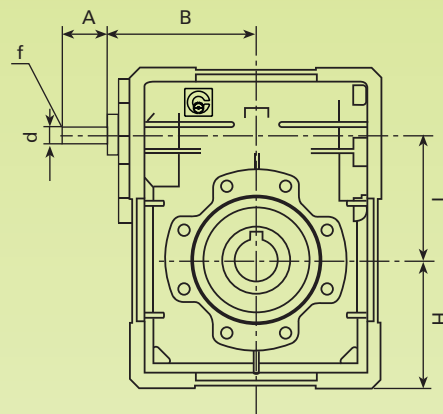
CHB06FC 2

# CHBR - CHBRE - DIMENSIONS

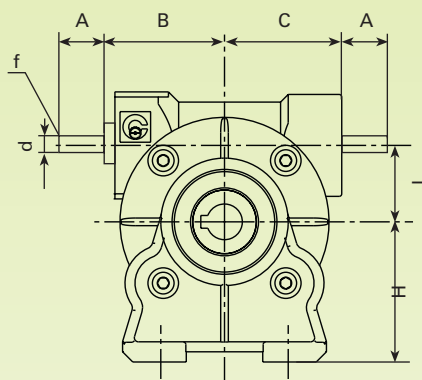
## CHBR 03 - 04 - 05



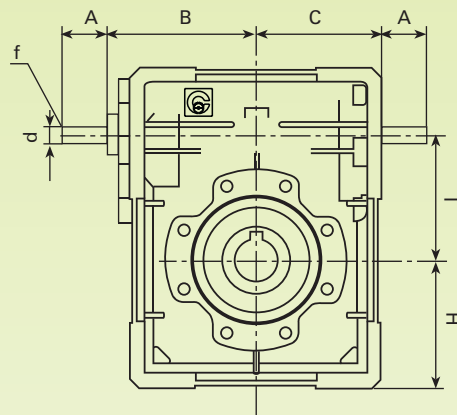
## CHBR 06



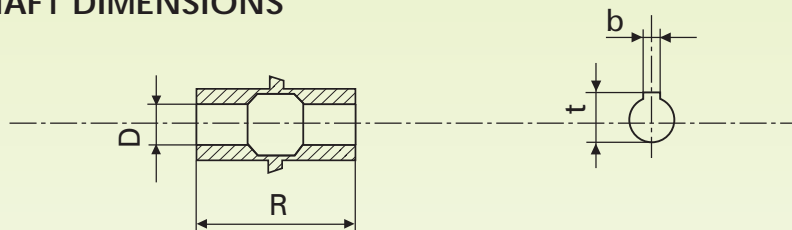
## CHBRE 03 - 04 - 05



## CHBRE 06



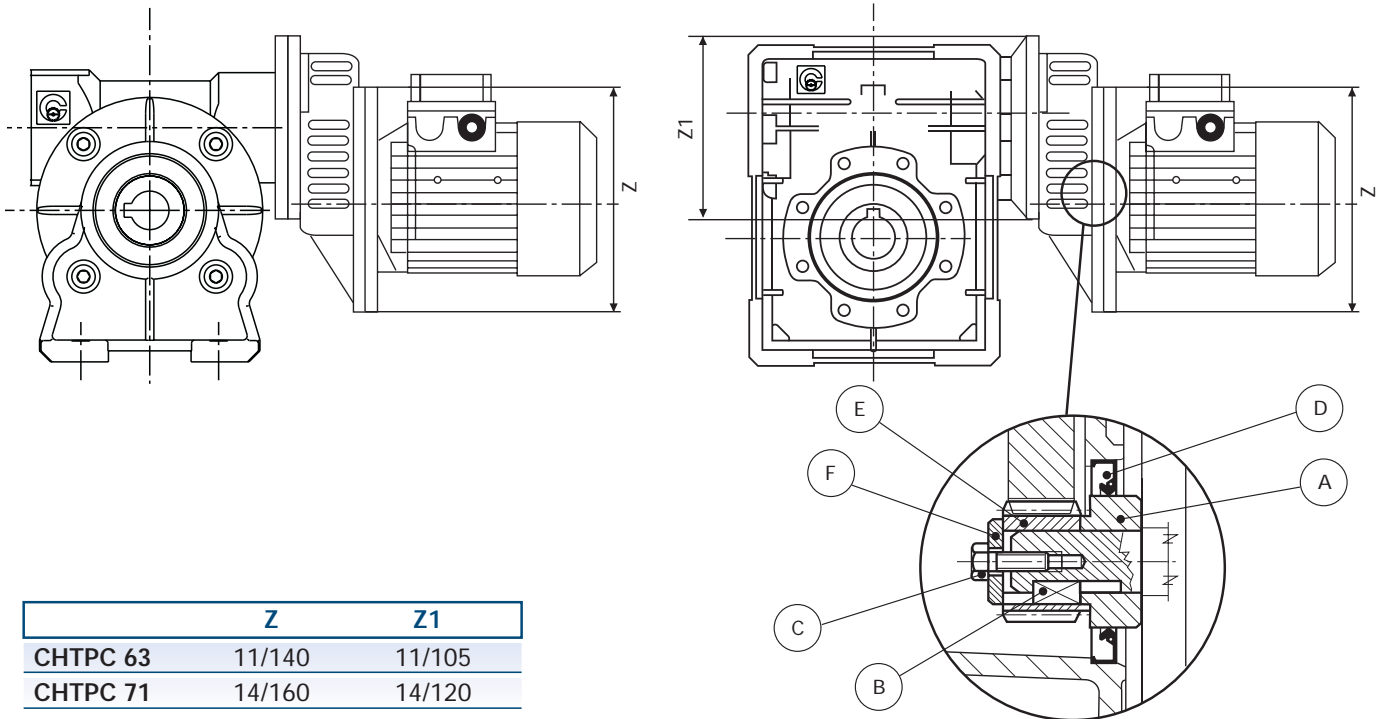
## OUTPUT SHAFT DIMENSIONS



TYPE	A	B	C	D(H7)	d(h6)	f	H	I	R	b	t
CHBR 03	20	50	/	14	9	/	55	30	55	5	16.3
CHBR 04	30	54	/	18	11	/	72	44.6	64	6	20.8
CHBR 05	40	65	/	25	16	M6	85	49.5	82	8	28.3
CHBR 06	40	110.5	/	25	18	M6	72.5	62.17	120	8	28.3
CHBRE 03	20	50	50	14	9	/	55	30	55	5	16.3
CHBRE 04	30	54	56	18	11	/	72	44.6	64	6	20.8
CHBRE 05	40	65	65	25	16	M6	82	49.5	82	8	28.3
CHBRE 06	40	110.5	74	25	18	M6	72.5	62.17	120	8	28.3



# CHTPC WORM GEAR WITH PRE-STAGE MODULE



	Z	Z1
CHTPC 63	11/140	11/105
CHTPC 71	14/160	14/120

## PINION ASSEMBLY INSTRUCTIONS

- 1) Assemble the spacer A (if necessary heat between 80° and 100° C) onto the driving shaft and block it with Loctite 638 for coaxial blockings
- 2) Insert the key B included in the kit
- 3) Assemble the pinion E (if necessary heat between 80° and 100° C) onto the driving shaft
- 4) Fix the washer F using the screw C
- 5) Assemble the oil seal D in the direction shown in the drawing
- 6) Insert the motor with the pinion, taking care not to damage the oil seal

Note: CHTPC pre-stage modul doesn't allow radial loads.

DESIGNATION	CHTPC / CHB - CHB..P	CHTPC / CHBE - CHB..P	
TYPE	SIZE	i =	MMF
CHTPC	63	3	63B5
	71	3	71B5

## EXAMPLE ORDER

CHTPC	71	CHB 05	i= 108(3x36) MMF 71
-------	----	--------	---------------------

If the motor is also required, please specify:

Size	es. 71 B4
Power	es. Kw 0.37
Poles	es. 4
Voltage	es. V230/400
Frequency	es. 50 Hz

## CHTPC / CHB PERFORMANCE WITH 4-POLE MOTORS – 1400 REVS. INPUT

TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2
CHTPC63 CHB 04	105	13.3	0.12	42
	138	10.1	0.12	42
	180	7.8	0.12	46
	210	6.7	0.12	40
	300	4.7	0.12	36

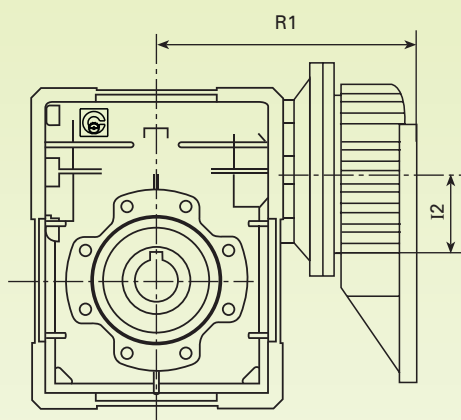
TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2
CHTPC63 CHB 05	108	12.9	0.18	72
	135	10.4	0.18	85
	180	10.4	0.18	85
	210	6.7	0.12	67
	240	5.8	0.12	58
	300	4.7	0.12	56

TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2
CHTPC71 CHB 05	84	16.7	0.25	8
	108	12.9	0.25	90
	135	10.4	0.25	90

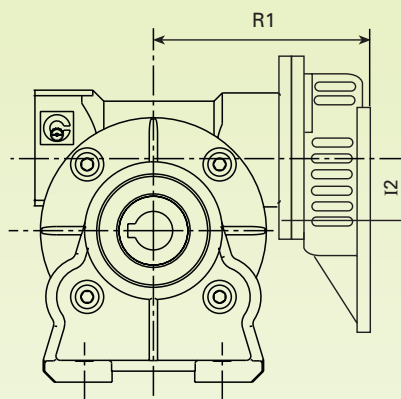
TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2
CHTPC71 CHB 06	114	12.3	0.37	170
	135	10.4	0.37	176
	192	7.3	0.25	149
	240	5.8	0.25	130
	300	4.7	0.25	120

## DIMENSIONS CHTPC/CHB

CHTPC.. / CHB 06



CHTPC.. / CHB 03 - 04 - 05



For other dimensions see pages 6 - 7 and 12 of the catalogue.

CHTPC - CHB	R1	I2
63 + 04	110	40
63 + 05	115	40
71 + 05	123	50
71 + 06	154	50

The choice of power installed is tied to the unification of the motors, therefore it is sometimes in exuberance compared to the gear; always verify the maximum torque indicated when making the selection and if in doubt please contact our technical office.

## CHB/CHB COMBINED WORM GEARS

### DESIGNATION CHB(R)/CHB – CHB(R)/CHB..P

TYPE	SIZE	VERSION	FLANGE POS. (1)	i	EXEC.	MMF
CHB/CHB	03/04	F	1	245	OAD	56B5
CHB/CHB..P		FA	2	350	OAS	56B14
CHBR/CHB		(2)		420	OBD	
CHBR/CHB..P				560	OBS	
				700	VAD	
				840	VAS	
				1120	VBD	
				1680	VBS	
				2100		

TYPE	SIZE	VERSION	FLANGE POS. (1)	i	EXEC.	MMF
CHB/CHB	03/05	F	1	240	OAD	63B5
CHB/CHB..P		FA	2	315	OAS	63B14
CHBR/CHB		(2)		420	OBD	56B5
CHBR/CHB..P				540	OBS	56B14
				720	VAD	
				900	VAS	
				1120	VBD	
				1440	VBS	
				2160		
				2700		

TYPE	SIZE	VERSION	FLANGE POS. (1)	i	EXEC.	MMF
CHB/CHB	03/06	FC	1	240	OAD	63B5
CHB/CHB..P		F	2	315	OAS	63B14
CHBR/CHB		(3)		450	OBD	56B5
CHBR/CHB..P				570	OBS	56B14
				720	VAD	
				900	VAS	
				1120	VBD	
				1440	VBS	
				2280		
				2700		

For the executions see the table with drawings on page 17, if not specified OBS would be supplied.

### EXAMPLE ORDER

<b>CHB / CHB</b>	<b>03/05P</b>	<b>FA</b>	<b>2</b>	<b>315</b>	<b>OBS</b>	<b>56B14</b>
------------------	---------------	-----------	----------	------------	------------	--------------

If the motor is also required, please specify:

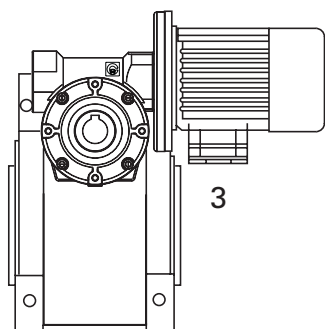
Size	es. 56 C4
Power	es. Kw 0.09
Poles	es. 4
Voltage	es. V230/400
Frequency	es. 50 Hz
Flange	es. B14

1. see page 4 and 11
2. lack of instructions indicates that the gear is not equipped with an output flange. In this case the group can be fixed on feet CHB/CHB or be swinging CHB/CHB..P
3. lack of instructions indicates that the gear is not equipped with an output flange.

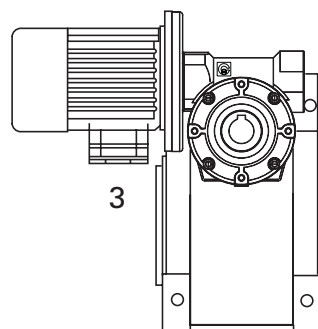


## EXECUTION

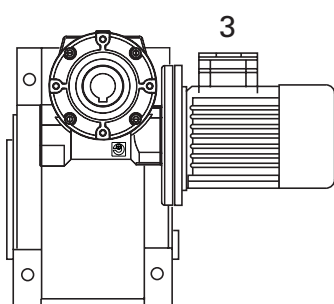
OAD



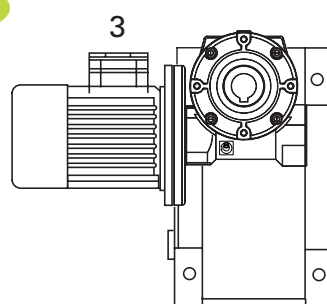
OAS



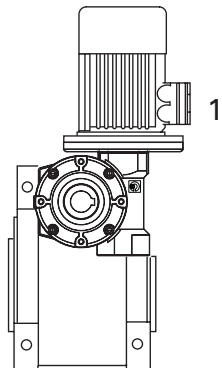
OBD



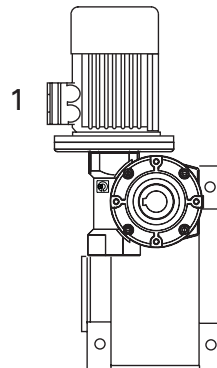
OBS



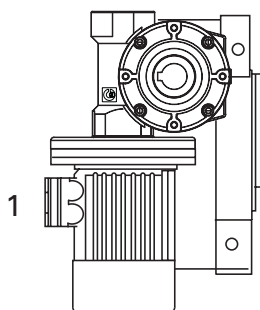
VAD



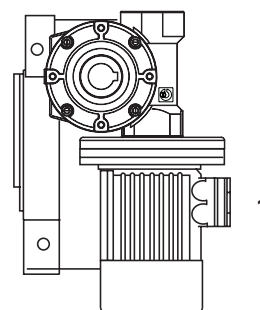
VAS



VBS



VBD



The execution determines the mounting position of the first gear in relation to the second gear. If not otherwise specified at the time of order, the group will be supplied in the OBS execution. The placing position refers to the second gear.

## CHB / CHB PERFORMANCE WITH 4-POLE MOTORS – 1400 REVS. INPUT

TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2
CHB 03/04	245	5.7	0.09	58
	350	4.0	0.09*	58
	420	3.3	0.09*	58
	560	2.5	0.09*	58
	700	2.0	0.09*	58
	840	1.7	0.09*	58
	1120	1.3	0.09*	58
	1680	0.8	0.09*	58
	2100	0.7	0.09*	58

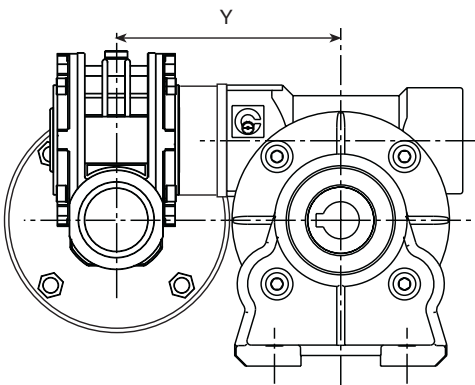
TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2
CHB 03/05	240	5.8	0.12	77
	315	4.4	0.12	90
	420	3.3	0.09	90
	540	2.6	0.09	90
	720	1.9	0.09*	90
	900	1.6	0.09*	90
	1120	1.3	0.09*	90
	1440	0.9	0.09*	90
	2160	0.6	0.09*	90
	2700	0.5	0.09*	90

TYPE	i=ratio	n2 r/min	Kw=P1	Nm=T2
CHB 03/06	240	5.8	0.22	160
	315	4.4	0.22	180
	450	3.1	0.18	200
	570	2.5	0.12	180
	720	1.9	0.12	200
	900	1.6	0.12	200
	1200	1.2	0.12	200
	1520	0.9	0.09*	200
	2280	0.6	0.09*	200
	2700	0.5	0.09*	200

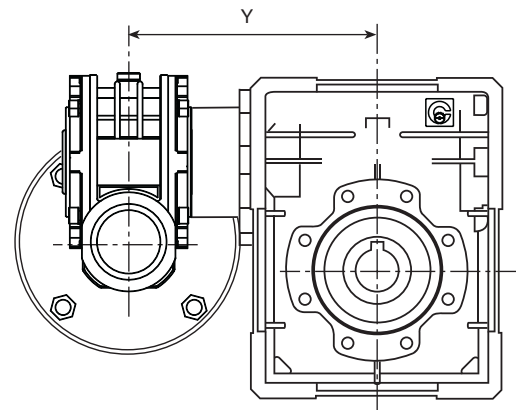
\* The powers marked with an asterisk are higher than those that the gear allows, therefore the applicative choice must be made in accordance with the torque and not with the power.

## DIMENSIONS OF CHB/CHB COMBINED GEARS

CHB 03 / CHB 04 - 05



CHB 03 / CHB 06



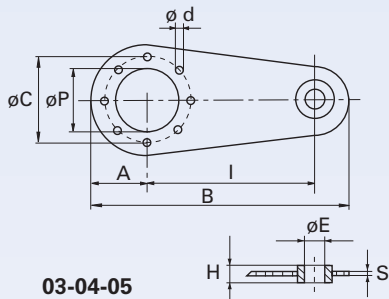
	Y
CHB 03 / 04	120.5
CHB 03 / 04	120.5
CHB 03 / 05	125.5
CHB 03 / 05	125.5
CHB 03 / 06	165

For other dimensions see pages 5-6-7 and 12 of the catalogue.

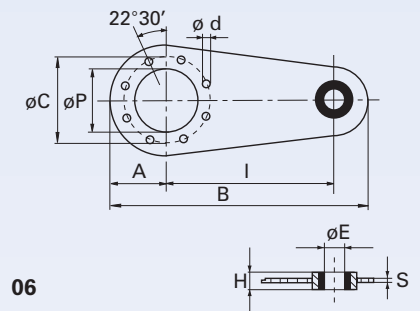
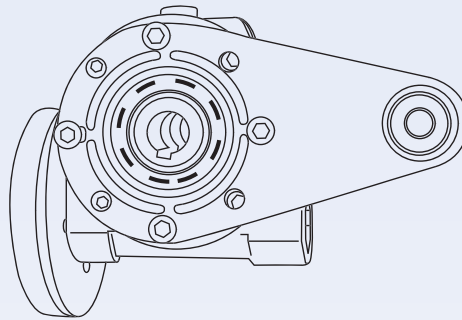
The gear ratios are those most frequently requested. It is possible to obtain multiple combinations using the various ratios of the two single gears.

## TORQUE ARM

TIPO	I	A	B	Ø P	Ø P	Ø d	H	øE	S
CHB 03	100	40	157.5	50	65	7	14	8	4
CHB 04	100	40	157.5	50	65	7	14	8	4
CHB 05	100	55	172.5	68	94	7	14	8	4
CHB 06	150	52.5	232.5	75	90	9	20	10	6



03-04-05



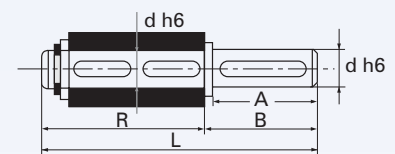
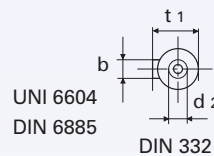
06

\* Without anti vibrationbush

The anchoring point of the torque arm is equipped with a vibration resistant bushing.

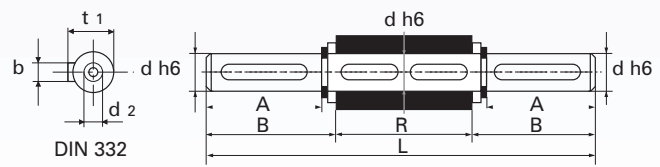
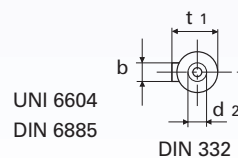
## SINGLE OUTPUT SHAFT KIT

TYPE	A	Ø d	B	b	t1	R	L	d2	ød1
CHB 03	30	14	35	5	16	61	96	M5x13	14
CHB 04	40	18	45	6	20.5	70	115	M6x16	18
CHB 05	60	25	65	8	28	89	154	M8x20	25
CHB 06	60	25	65	8	28	127	192	M8x20	25



## DOUBLE OUTPUT SHAFT KIT

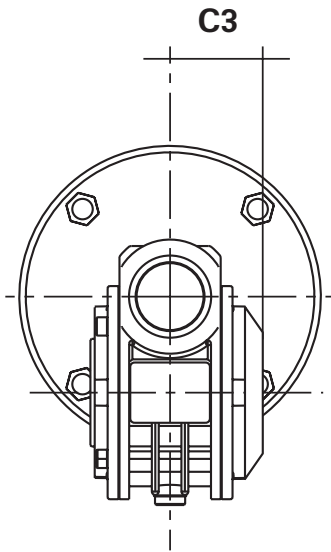
TYPE	A	Ø d	B	R	b	t1	L	d2	ød1
CHB 03	30	14	32.5	55	5	16	120	M5x13	14
CHB 04	40	18	42.7	64	6	20.5	149.4	M6x16	18
CHB 05	60	25	63.2	82	8	28	208.4	M8x20	25
CHB 06	60	25	63.2	120	8	28	246.4	M8x20	25



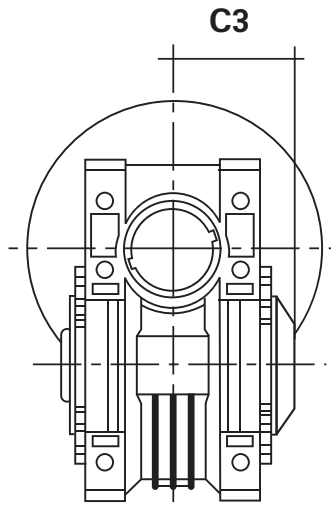


# COVER

CHB 03 - 04 - 05



CHB 06



TYPE	C3
03	37
04	42
05	55
06	70

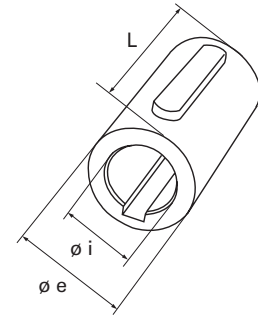
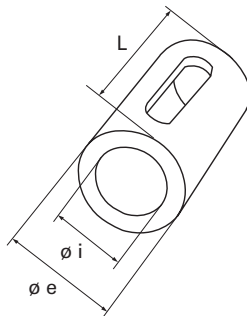
## REDUCTION BUSHINGS KIT

SINGLE					
TYPE	$\phi i/\phi e$	L	tongues	Weight per kit kg	
CHT BRM-S	9/11	20	4/3 x 4 x 11 RB*	0.006	
CHT BRM-S	11/14	30	5/4 x 6 x 10 RB*	0.015	
CHT BRM-S	14/19	40	6 x 5 x 30 *	0.045	
CHT BRM-S	19/24	50	6 x 5.5 x 20 * 8 x 5.5 x 40 *	0.07	
CHT BRM-S	24/28	60	8 x 9 x 40 *	0.08	
CHT BRM-S	28/38	80	10 x 7 x 60 *	0.33	
CHT BRM-S	38/42	110	12/10 x 10 x 48 RB*	0.22	

DOUBLE					
TYPE	$\phi i/\phi e$	L	tongues	Weight per kit kg	
CHT BRM-D	11/19	40	6 x 6 x 30 *	0.06	
CHT BRM-D	14/24	50	8 x 7 x 40 A	0.12	
CHT BRM-D	19/28	60	8 x 7 x 50 A	0.16	
CHT BRM-D	24/38	80	10 x 8 x 60 A	0.44	

\* to drawing

Tongue acc. to UNI 6604 – DIN 6885  
Quenched

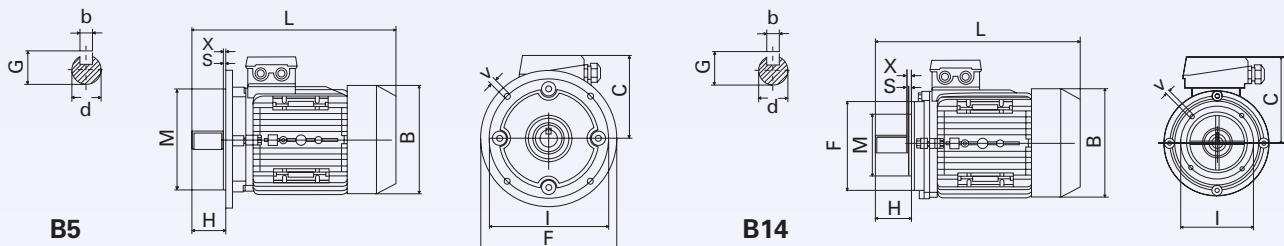


# THREE-PHASE ELECTRIC MOTORS

## TECHNICAL DATA FOR 4-POLE MOTORS

(1400 RPM)

TYPE	POWER kW	VOLTAGE V	CURRENT 400 V	TORQUE N/m	EFFICIENCY %	FACTOR COS. Ø	WEIGHT Kg.
CHT 56 B4	0.09	230/400	0.43	0.64	50	0.61	3.2
CHT 63 A4	0.12	230/400	0.47	0.86	57	0.64	3.9
CHT 63 B4	0.18	230/400	0.70	1.27	57	0.65	4.5
CHT 63 C4	0.22	230/400	0.92	1.77	59	0.67	4.8
CHT 71 A4	0.25	230/400	0.84	1.77	60	0.72	5.6
CHT 71 B4	0.37	230/400	1.12	2.58	65	0.74	6.2
CHT 71 C4	0.55	230/400	1.61	3.81	66	0.75	7.0
CHT 80 A4	0.55	230/400	1.59	3.81	67	0.75	8.9
CHT 80 B4	0.75	230/400	1.94	5.20	72	0.78	10.0
CHT 80 D4	1.10	230/400	2.67	7.60	76.2	0.78	11.0
CHT 90 S4	1.10	230/400	2.64	7.50	76.2	0.79	12.1
CHT 90 L4	1.50	230/400	3.46	10.20	78.5	0.80	14.3
CHT 90 LL4	1.85	230/400	4.30	9.24	79	0.78	16.0
CHT 100 L A4	2.20	230/400	4.86	14.80	79.6	0.80	21.0
CHT 100 L B4	3.00	230/400	6.50	20.20	80.5	0.81	24.7
CHT 112 M4	4.00	230/400	8.26	26.70	83.6	0.84	30.1
CHT 132 S4	5.50	230/400	11.00	36.22	87	0.85	44.0
CHT 132 M4	7.50	230/400	14.64	49.40	88	0.86	52.0



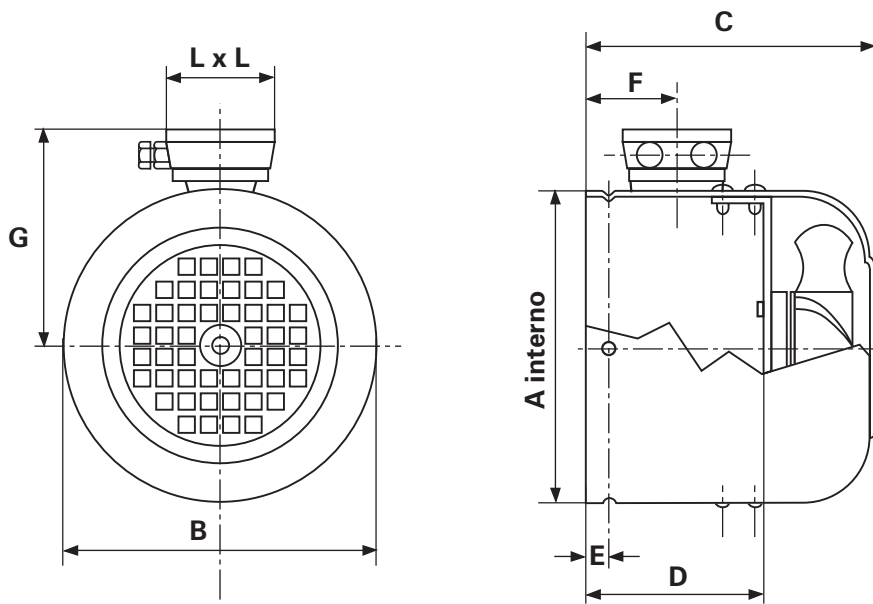
## SIZES AND DIMENSIONS

Type	Mounting dimensions (mm)										Dimensions								
	B5					B14					B	C	L						
d	H	b	G	I	M	F	X	V	S	I				M	F	X	V	S	
56	9	20	3	10.2	98	80	120	0	7	3.0	65	50	80	0	M5	2.5	120	100	195
63	11	23	4	12.5	115	95	140	0	10	3.0	75	60	90	0	M5	2.5	130	110	215
71	14	30	5	16	130	110	160	0	10	3.5	85	70	105	0	M6	2.5	145	117	255
80	19	40	6	21.5	165	130	200	0	12	3.5	100	80	120	0	M6	3.0	165	137	290
90S	24	50	8	27	165	130	200	0	12	3.5	115	95	140	0	M8	3.0	185	145	310
90L/90LL	24	50	8	27	165	130	200	0	12	3.5	115	95	140	0	M8	3.0	185	145	335
100L	28	60	8	31	215	180	250	0	15	4.0	130	110	160	0	M8	3.5	205	152	386
112M	28	60	8	31	215	150	250	0	15	4.0	130	110	160	0	M8	3.5	230	180	395
132S	38	80	10	41	265	230	300	0	15	4.0	165	130	200	0	M10	4.0	270	195	436
132M	38	80	10	41	265	230	300	0	15	4.0	165	130	200	0	M10	4.0	270	195	475

- Motors with cage rotor, closed with external surface ventilation.
- Design, construction and testing in conformity with the standards IEC 2-3, international standards IEC 34-1 and the main foreign standards.
- Power-sizes in accordance with the standards IEC 72, national standards UNEL-MEC.
- Insulation class F
- Protection IP55
- S1 Continuous service

- Efficiency class EFF2
- European Directive ROHS 2002/95/CE
- NSK or SKF Bearings
- Phase separators
- 2-pole and 6-pole motors available
- Kit of feet available
- Forced ventilation kit available for single-phase and three-phase models

## FORCED VENTILATION KIT \* SINGLE-PHASE MODELS



SINGLE-PHASE DIMENSIONS WITH IP55 TERMINAL BOX

SIZE	VOLTAGE	HZ	NOM. SPEED MIN/1	ABSORB. WATT	CURRENT M.A.	AIR FLOW M <sup>3</sup> /H
GR.63	230	50 / 60	2750	15 / 14	120 / 100	180
GR.71	230	50 / 60	2750	15 / 14	120 / 100	180
GR.80	230	50 / 60	2750	15 / 14	120 / 100	180
GR.90	230	50 / 60	2900	42 / 36	190 / 180	340
GR.100	230	50 / 60	2900	42 / 36	190 / 180	340
GR.112	230	50 / 60	2900	42 / 36	190 / 180	340
GR.132	230	50 / 60	2900	42 / 36	190 / 180	340

SIZE	COD. IP55	A	B	C	D	E	F	G	L x L
GR.63	AS063230	121	123	102	58	6	50	104	75
GR.71	AS071230	136	138	120	70	6	50	111	75
GR.80	AS080230	153	155	130	80	6	55	125	100
GR.90	AS090230	172	176	145	75	6	60	135	100
GR.100	AS100230	195	197	150	85	8	60	150	100
GR.112	AS112230	218	220	160	100	10	60	160	100
GR.132	AS132230	255	257	180	120	10	65	175	100

\* FORCED VENTILATION KIT THREE-PHASE MODELS AVAILABLE ON REQUEST



## Use and maintenance instructions

### INSTALLATION

- The data shown on the identification name plate must correspond to the gear ordered
- All the gears are supplied complete with permanent synthetic oil in a quantity that is sufficient for any assembly position
- The gear must be fixed on a flat surface that is sufficiently rigid in order to avoid any vibration
- The gear and the axis of the machine to be driven must be perfectly aligned
- In the event that knocks, overloading or blockage of the machine are foreseen, the client must install a limiting device, joints, overload cut-out etc.
- Coupling with pinions, joints, pulleys and other parts must be done after the parts have been cleaned and knocks should be avoided whilst assembling as they could damage the bearings and other internal parts
- In the event that the motor is supplied by the client, he must check that the flange and shaft tolerances correspond to a "normal" class; our motors satisfy this requirement
- Check that the fixing screws for the gear and the related accessories are correctly tightened
- Take suitable measures to protect the groups from any aggressive atmospheric agents
- Where foreseen, protect rotating parts from any possible contact with the operators
- If the gears are painted, protect the oil seals and the machined surfaces
- All of the gears are painted RAL 9022 grey

### OPERATION AND RUNNING-IN

- To obtain the best performance the gears must first be run-in by gradually increasing the power in the first few hours of operation, in this phase an increase in temperature is considered normal
- In the event of defective operation, noise, oil leakage, etc. stop the gear immediately and, when possible, remove the cause. Alternatively, send the piece to our factory to be controlled.

### MAINTENANCE

- The worm gears from size 03 to size 06 and the pre-stage modules are lubricated with permanent synthetic oil and therefore do not require any maintenance

### WAREHOUSE STORAGE

- If the warehouse storage will be for a long time, more than 3 months, the shafts and machined surfaces should be protected using antioxidants and the oil seals should be greased

### HANDLING

- Care must be taken not to damage the oil seals and the machined surfaces when handling the groups

### DISPOSAL OF PACKAGING

- The packaging in which our gears are delivered should be sent to specialised companies for recycling if possible.

## GENERAL SALES CONDITIONS

1) **ORDERS** – Orders for special and standard material must always refer to offers made by CHIARAVALLI Trasmissioni SpA.

The orders are binding for the client. Once work has commenced no cancellations or order reductions will be accepted unless the client reimburses the costs of the material and the work carried out up to the moment in which the order was suspended. The quantity despatched can vary by  $\pm 5\%$  compared to the quantity ordered.

2) **PRICES** – The prices are those in force at the date of order. All prices are for goods delivered ex-works Premezzo, packing excluded. If there should be any increase in production and material costs over the duration of the supply, CHIARAVALLI Trasmissioni SpA reserves the right to adapt the prices accordingly, even for orders in course.

3) **TERMS OF DELIVERY** – Only the terms of delivery indicated by CHIARAVALLI Trasmissioni SpA are to be considered valid. However, they must only be considered as indicative. In the event of difficulty in the procurement of materials, strikes or in any event in all cases of force majeure, the terms of delivery will be automatically extended without CHIARAVALLI Trasmissioni SpA having to pay any reimbursement for damages. The client is obligated to collect special material ordered when ready.

4) **DELIVERIES** – Deliveries are the responsibility of the purchaser and are carried out at his own risk and peril. Any claims for shortages must be presented within 8 days of receipt of the goods. If it is agreed that the cost of transport is to be paid, even if only in part, by CHIARAVALLI Trasmissioni SpA, the latter reserves the right to choose the most economical means of transport.

5) **PACKING** – Packing will be invoiced at cost.

6) **RETURNS** – No returns for any reason will be accepted unless previously authorised and with packing, any customs clearance and the return paid for by the purchaser. To cover warehouse and administrative expenses a debit note will be issued for approx. 15% of the value of the goods returned.

7) **WARRANTY** – CHIARAVALLI Trasmissioni SpA promises to repair or substitute free of charge any parts that they recognise as being defective. The questioned goods must be returned to the factory of CHIARAVALLI Trasmissioni SpA, free of all expenses. The warranty will be considered cancelled in the event that the parts returned as defective have been repaired or tampered with. The repair of defective parts carried out by the purchaser will only be accepted after authorisation from CHIARAVALLI Trasmissioni SpA and after their approval of the cost estimate. CHIARAVALLI Trasmissioni SpA does not accept responsibility or pay any reimbursement for damages that occur during the use of their products, even if defective.

8) **RESPONSIBILITY** – CHIARAVALLI Trasmissioni SpA does not accept responsibility or pay any reimbursement for damages that occur during the use of their products, even if defective. CHIARAVALLI Trasmissioni SpA declines all responsibility in the execution of parts to a client's design under any patents.

9) **PAYMENTS** – Only payments carried out in the manner and terms agreed will be considered valid. Once the due date of payment has passed, CHIARAVALLI Trasmissioni SpA will calculate the interest on delayed payment at a rate that is 3% higher than the legal one, retaining the right to demand payment. In the event of delayed or missing payment by the purchaser, the company CHIARAVALLI Trasmissioni SpA reserves the right to suspend deliveries of the orders in course or to demand advance payment without having to pay any reimbursement or compensation to the purchaser. Any dispute regarding materials in manufacture or already possessed by the purchaser does not free the latter from the commitment of making the payment by the agreed date and for the whole amount of the invoice without making any deductions.

10) **OWNERSHIP** – All of the goods despatched remain the property of CHIARAVALLI Trasmissioni SpA until the invoice is fully paid.

11) **COMPETENT COURT** – Any controversy concerning business relations with CHIARAVALLI Trasmissioni SpA will be dealt with under the jurisdiction of the Court of Busto Arsizio.





## FILIALI ITALIANE - DEPOSITI

via per Cedrate s/n  
21044 Cavarina con Premezzo - VARESE  
Tel. 0331 214511 - Fax 0331 215916

via 1° Maggio, 10  
40011 BOLOGNA / Anzola dell'Emilia  
Tel. 051 735290 - Fax 051 735366

via E. Cantoni, 3 - 20156 MILANO  
Tel. 02 33400947 - Fax 02 33400949

via Portogallo, 11 int. 51 - 35127 PADOVA  
Tel. 049 8705205 - Fax 049 8705237

via G. B. Lulli, 61 H - 10148 TORINO  
Tel. 011 2267146 - Fax 011 2266925



Via T. Minniti, 560  
21044 Cavarina con Premezzo (VA) - Italy  
Tel. +39.0331.214.511  
Fax +39.0331.219.430 735.067 - 735.090  
[www.chiaravalli.com](http://www.chiaravalli.com)  
e-mail: [chiaravalli@chiaravalli.it](mailto:chiaravalli@chiaravalli.it)



## FILIALI ESTERE

**CHIARAVALLI FRANCE SARL**  
2, bis rue de Paris - F-77230 Villeneuve S/Dammar tin FRANCE  
Ph. 0033 1 60946666 - Fax 0033 1 60946660  
[www.chiaravalli.fr](http://www.chiaravalli.fr) - e-mail: [info@chiaravalli.fr](mailto:info@chiaravalli.fr)

**CHIARAVALLI ESPAÑA SL**  
C/. Industria S/N - E - 08592 Sant Martí de Centelles Barcelona ESPAÑA  
Ph. 0034 93 8440099 - Fax 0034 93 8442193  
e-mail: [chiaravalli@grupobbva.net](mailto:chiaravalli@grupobbva.net)

**CHIARAVALLI CZ s.r.o.**  
Brněnská, 43 - 59101 Žďar nad Sázavou CZECH REPUBLIC  
Ph. 00420 566 686161 - Fax 00420 566 686171  
[www.chiaravalli.cz](http://www.chiaravalli.cz) - e-mail: [info@chiaravalli.cz](mailto:info@chiaravalli.cz)

**CHIARAVALLI POLSKA Sp. z o.o.**  
Ul. Polna, 133 - 87-100 Toruń  
Ph. 0048 56 6233000 - Fax 0048 56 6238246  
[www.chiaravalli.pl](http://www.chiaravalli.pl) - e-mail: [info@chiaravalli.pl](mailto:info@chiaravalli.pl)