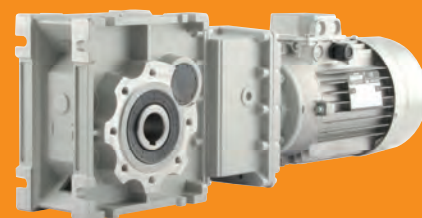
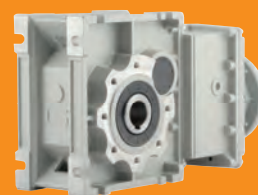


2009-2

  
**TRANSTECNO**<sup>TM</sup>  
THE MODULAR GEARMOTOR

**Riduttori ad assi  
ortogonali CMB**

Bevel helical gearboxes CMB





# **RIDUTTORI AD INGRANAGGI CILINDRICI CMB** **HELICAL GEARBOXES CMB**



<b>Indice</b>	<b>Index</b>	Pag. Page
Caratteristiche tecniche	<i>Technical characteristics</i>	<b>C2</b>
Designazione	<i>Designation</i>	<b>C2</b>
Simbologia	<i>Symbols</i>	<b>C2</b>
Lubrificazione	<i>Lubrication</i>	<b>C3</b>
Carichi radiali	<i>Radial loads</i>	<b>C3</b>
Dati tecnici	<i>Technical data</i>	<b>C3</b>
Motori applicabili	<i>IEC Motor adapters</i>	<b>C5</b>
Dimensioni	<i>Dimensions</i>	<b>C6</b>
Accessori	<i>Accessories</i>	<b>C8</b>
Opzioni	<i>Options</i>	<b>C8</b>

### Caratteristiche tecniche

### Technical characteristics

I riduttori ad ingranaggi ad assi ortogonali della serie CMB sono caratterizzati da un elevato grado di modularità: essi infatti sono stati realizzati con una carcassa completamente intercambiabile con quella dei riduttori a vite senza fine della serie CM.

Sono pertanto configurabili secondo le esigenze dell'applicazione con flangia di uscita, albero di uscita, braccio di reazione.

Caratteristiche comuni a tutta la serie:

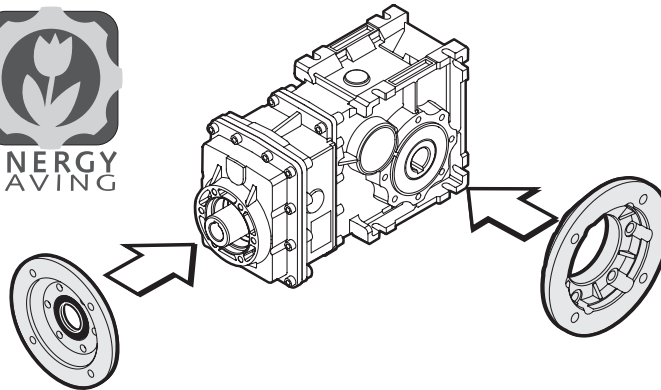
- Carcassa e flangia PAM in pressofusione di alluminio
- Ingranaggi sempre rettificati
- Lubrificazione permanente

The high degree of modularity of CMB bevel helical gearbox allows it to be completely interchangeable with CM wormgearboxes.

It is possible to set up the version required using output flanges, output shafts and optional torque arms.


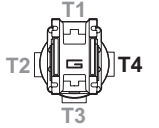
Common features of all CMB range are:


- Die-cast aluminum housing and input flanges
- Ground helical gears
- Permanent synthetic oil long-life lubrication



### Designazione

### Designation

RIDUTTORE / GEARBOX						MOTORE / MOTOR					
CMB	63 3	9.81	U	P71 B5	O25	71B4	B5	230/400	50	T4	
Tipo Type	Grandezza Size	Stadi Stages	Rapporto Ratio	Versione Version	IEC	Diam. albero cavo uscita Output hollow shaft diameter	Grandezza Size	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Pos. morsettiera Terminal board position
 CMB	63 90	3	vedi tabella see tables	U... FD... FS... FBD... FBS... FLD... FLS...	P63.. — P90.. B5 B14	vedi tabelle see tables	63.. — 112..	B5 B14	230/400	50	

RIDUTTORE / GEARBOX						
CMBIS	63 3	9.81	U	I16	O25	
Tipo Type	Grandezza Size	Stadi Stages	Rapporto Ratio	Versione Version	Diam. Albero entrata Input shaft diam.	Diam. Albero cavo uscita Output hollow shaft diameter
 CMBIS	63 90	3	vedi tabelle see tables	U... FD... FS... FBD... FBS... FLD... FLS...	vedi tabelle see tables	vedi tabelle see tables

### Simbologia

### Symbols

$n_1$	[min <sup>-1</sup> ]	Velocità in ingresso / Input speed
$n_2$	[min <sup>-1</sup> ]	Velocità in uscita / Output speed
$i$		Rapporto di riduzione / Ratio
$P_1$	[kW]	Potenza in entrata / Input power
$M_n$	[Nm]	Coppia nominale in uscita / Nominal output torque
$sf$		Fattore di servizio / Service factor
$R_2$	[N]	Carico radiale ammissibile in uscita / Permitted output radial load
$A_2$	[N]	Carico assiale ammissibile in uscita / Permitted output axial load

# RIDUTTORI AD ASSI ORTOGONALI BEVEL HELICAL GEARBOXES

# CMB

## Lubrificazione

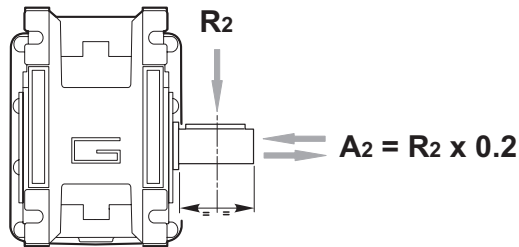
## Lubrication

Tutti i riduttori CMB sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

Permanent synthetic oil long-life lubrication ( viscosity grade 320 ) makes it possible to use CMB range in all mounting positions.

## Carichi radiali

## Radial loads

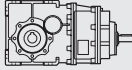
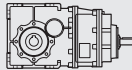


$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]	
	CMB 633	CMB 903
200	2742	3986
170	2894	4208
140	3088	4489
100	3454	5022
90	3578	5202
60	4095	5954
40	4688	6816
30	5160	7502
20	5907	8588
15	6500	9500

## Dati tecnici

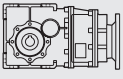

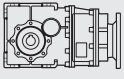

$n_1$  1400 min<sup>-1</sup>

## Technical data

	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	P1 [kW]	i		$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	P1 [kW]	i
<b>CMB 633</b>					<b>CMB 903</b>				
	213	150	3.6	6.58		211	300	7.0	6.65
	175	150	2.9	7.99		175	300	5.8	8.00
	143	150	2.4	9.81		144	300	4.8	9.74
	105	150	1.8	13.31		125	300	4.2	11.21
	88.6	200	2.0	15.81		99.3	400	4.4	14.09
	58.8	200	1.3	23.80		62.5	400	2.8	22.40
	45.5	200	1.0	30.80		43.3	400	1.9	32.36
	39.1	220	1.0	35.79		37.3	450	1.9	37.58
	36.0	250	1.0	38.88		35.7	500	2.0	39.26
	29.7	250	0.8	47.16		29.6	500	1.7	47.25
	24.2	250	0.7	57.93		24.3	500	1.4	57.52
	17.8	250	0.5	78.58		21.2	500	1.2	66.17
	15.0	250	0.4	93.33		16.8	500	0.9	83.20
	10.0	250	0.3	140.52		10.6	500	0.6	132.23
	7.7	250	0.2	181.81		7.3	500	0.4	191.06
	6.6	250	0.2	211.31		6.3	500	0.4	221.88

### Dati tecnici

### Technical data

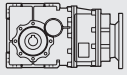

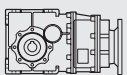

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i							
<b>0.12</b>																		
63A4 (1400 min <sup>-1</sup> )	213	5	29.6	6.58	<b>CMB633</b>	<b>B5</b>	71B4 (1400 min <sup>-1</sup> )	45.5	73	2.7	30.80	<b>CMB633</b>	<b>B5/B14</b>					
	175	6	24.4	7.99				39.1	85	2.6	35.79			<b>B5/B14</b>				
	143	8	19.9	9.81				36.0	92	2.7	38.88				<b>B5/B14</b>			
	105	10	14.6	13.31				29.7	112	2.2	47.16					<b>B5/B14</b>		
	88.6	12	16.4	15.81				17.8	186	1.3	78.58						<b>B5/B14</b>	
	58.8	18	10.9	23.80				15.0	221	1.1	93.33		<b>B5/B14</b>					
	45.5	24	8.4	30.80				<b>CMB903</b>	<b>B5</b>	16.8	197		2.5	83.20	<b>B5</b>			
	39.1	28	8.0	35.79						10.6	314		1.6	132.23				
	36.0	30	8.4	38.88						7.3	453		1.1	191.06				
	29.7	36	6.9	47.16						6.3	526		0.9	221.88				
	24.2	45	5.6	57.93														
	17.8	60	4.1	78.58														
	15.0	72	3.5	93.33														
	10.0	108	2.3	140.52														
	7.7	140	1.8	181.81														
	6.6	163	1.5	211.31														
<b>0.18</b>																		
63B4 (1400 min <sup>-1</sup> )	213	8	19.7	6.58	<b>CMB633</b>	<b>B5</b>	80A4 (1400 min <sup>-1</sup> )	213	23	6.5	6.58	<b>CMB633</b>	<b>B5/B14</b>					
	175	9	16.3	7.99				175	28	5.3	7.99			<b>B5/B14</b>				
	143	11	13.2	9.81				143	35	4.3	9.81				<b>B5/B14</b>			
	105	15	9.8	13.31				105	47	3.2	13.31					<b>B5/B14</b>		
	88.6	18	11.0	15.81				88.6	56	3.6	15.81						<b>B5/B14</b>	
	58.8	27	7.3	23.80				58.8	84	2.4	23.80		<b>B5/B14</b>					
	45.5	36	5.6	30.80				45.5	109	1.8	30.80		<b>CMB903</b>	<b>B5/B14</b>				
	39.1	41	5.3	35.79				39.1	126	1.7	35.79							
	36.0	45	5.6	38.88				36.0	137	1.8	38.88							
	29.7	54	4.6	47.16				29.7	166	1.5	47.16							
	24.2	67	3.7	57.93				24.2	204	1.2	57.93							
	17.8	91	2.8	78.58				17.8	277	0.9	78.58							
	15.0	108	2.3	93.33				21.2	233	2.1	66.17							
	10.0	162	1.5	140.52				16.8	293	1.7	83.20							
	7.7	210	1.2	181.81				10.6	466	1.1	132.23							
	6.6	244	1.0	211.31														
<b>0.25</b>																		
71A4 (1400 min <sup>-1</sup> )	213	11	14.2	6.58	<b>CMB633</b>	<b>B5/B14</b>	80B4 (1400 min <sup>-1</sup> )	213	32	4.7	6.58	<b>CMB633</b>	<b>B5/B14</b>					
	175	13	11.7	7.99				175	38	3.9	7.99			<b>B5/B14</b>				
	143	16	9.5	9.81				143	47	3.2	9.81				<b>B5/B14</b>			
	105	21	7.0	13.31				105	64	2.3	13.31					<b>B5/B14</b>		
	88.6	25	7.9	15.81				88.6	76	2.6	15.81						<b>B5/B14</b>	
	58.8	38	5.2	23.80				58.8	114	1.7	23.80		<b>B5/B14</b>					
	45.5	49	4.1	30.80				45.5	148	1.4	30.80		<b>CMB903</b>	<b>B5/B14</b>				
	39.1	57	3.8	35.79				39.1	172	1.3	35.79							
	36.0	62	4.0	38.88				36.0	187	1.3	38.88							
	29.7	76	3.3	47.16				29.7	227	1.1	47.16							
	24.2	93	2.7	57.93				24.2	279	0.9	57.93							
	17.8	126	2.0	78.58				29.6	227	2.2	47.25							
	15.0	150	1.7	93.33				24.3	277	1.8	57.52							
	10.0	225	1.1	140.52				21.2	318	1.6	66.17							
	7.7	291	0.9	181.81				16.8	400	1.2	83.20							
	10.6	212	2.4	132.23														
7.3	306	1.6	191.06															
6.3	356	1.4	221.88															
<b>0.37</b>																		
71B4 (1400 min <sup>-1</sup> )	213	16	9.6	6.58	<b>CMB633</b>	<b>B5/B14</b>	90S4 (1400 min <sup>-1</sup> )	213	46	3.2	6.58	<b>CMB633</b>	<b>B5/B14</b>					
	175	19	7.9	7.99				175	56	2.7	7.99			<b>B5/B14</b>				
	143	23	6.4	9.81				143	69	2.2	9.81				<b>B5/B14</b>			
	105	32	4.8	13.31				105	94	1.6	13.31					<b>B5/B14</b>		
	88.6	38	5.3	15.81				88.6	112	1.8	15.81						<b>B5/B14</b>	
	58.8	56	3.5	23.80				58.8	168	1.2	23.80		<b>B5/B14</b>					
	<b>CMB903</b>	<b>B5</b>	<b>B5</b>	<b>B5</b>				<b>B5</b>	<b>B5</b>	<b>B5</b>	<b>B5</b>		62.5	158	2.5	22.40	<b>CMB903</b>	<b>B5/B14</b>
													43.3	228	1.8	32.36		
													37.3	265	1.7	37.58		
													35.7	277	1.8	39.26		
													29.6	333	1.5	47.25		
													24.3	406	1.2	57.52		
													21.2	467	1.1	66.17		
													16.8	587	0.9	83.20		

# RIDUTTORI AD ASSI ORTOGONALI BEVEL HELICAL GEARBOXES

# CMB

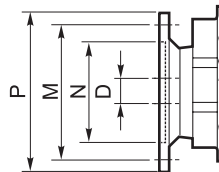
## Dati tecnici

## Technical data

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i													
<b>1.5</b>																								
90L4 (1400 min <sup>-1</sup> )	213	63	2.4	6.58	<b>CMB633</b>	<b>B5/B14</b>	100LA4 (1400 min <sup>-1</sup> )	211	94	3.2	6.65	<b>CMB903</b>	<b>B5/B14</b>											
	175	77	2.0	7.99				175	113	2.7	8.00													
	143	94	1.6	9.81				144	137	2.2	9.74													
	105	128	1.2	13.31				125	158	1.9	11.21													
	88.6	152	1.3	15.81				99.3	199	2.0	14.09													
	58.8	229	0.9	23.80	62.5	316		1.3	22.40															
	62.5	215	1.9	22.40	<b>CMB903</b>	<b>B5/B14</b>		43.3	457	0.9	32.36			<b>B5/B14</b>										
	43.3	311	1.3	32.36				<b>100LB4</b> (1400 min <sup>-1</sup> )	<b>B5/B14</b>	211	128				2.3	6.65	<b>CMB903</b>	<b>B5/B14</b>						
	37.3	361	1.2	37.58															175	154	1.9	8.00		
	35.7	378	1.3	39.26															144	187	1.6	9.74		
29.6	454	1.1	47.25	125			216					1.4	11.21											
24.3	553	0.9	57.52	99.3	271	1.5	14.09																	
<b>1.85</b>																								
90LB4 (1400 min <sup>-1</sup> )	213	78	1.9	6.58	<b>CMB633</b>	<b>B5/B14</b>	112M4 (1400 min <sup>-1</sup> )	211	171	1.8	6.65	<b>CMB903</b>	<b>B5/B14</b>											
	175	95	1.6	7.99				175	205	1.5	8.00													
	143	116	1.3	9.81				144	250	1.2	9.74													
	105	158	1.0	13.31				125	287	1.0	11.21													
	88.6	188	1.1	15.81				99.3	361	1.1	14.09													
	125	133	2.3	11.21	<b>CMB903</b>	<b>B5/B14</b>		<b>112MS4</b> (1400 min <sup>-1</sup> )	211	205	1.5			6.65	<b>CMB903</b>	<b>B5/B14</b>								
	99.3	167	2.4	14.09													175	246	1.2	8.00				
	62.5	266	1.5	22.40													144	300	1.0	9.74				
	43.3	384	1.0	32.36													<b>100LB4</b> (1400 min <sup>-1</sup> )	<b>B5/B14</b>	211	128	2.3	6.65	<b>CMB903</b>	<b>B5/B14</b>
	37.3	446	1.0	37.58																				
35.7	466	1.1	39.26	144	187	1.6	9.74																	
29.6	561	0.9	47.25	125	216	1.4	11.21																	
				99.3	271	1.5	14.09																	
<b>2.2</b>																								
<b>3.0</b>																								
<b>4.0</b>																								
<b>4.8</b>																								

## Motori applicabili

## IEC Motor adapters



	IEC	N	M	P	D	i (rapporto / ratio)															
						6.58	7.99	9.81	13.31	15.81	23.80	30.80	35.79	38.88	47.16	57.93	78.58	93.33	140.52	181.81	211.31
<b>CMB633</b>	<b>90 B5</b>	130	165	200	24																
	<b>90 B14</b>	95	115	140																	
	<b>80 B5</b>	130	165	200	19																
	<b>80 B14</b>	80	100	120																	
	<b>71 B5</b>	110	130	160	14	<b>B</b>															
	<b>71 B14</b>	70	85	105																	
<b>63 B5</b>	95	115	140	11	<b>BS</b>																
						6.65	8.00	9.74	11.21	14.09	22.40	32.36	37.58	39.26	47.25	57.52	66.17	83.20	132.23	191.06	221.88
<b>CMB903</b>	<b>100/112B5</b>	180	215	250	28																
	<b>100/112B14</b>	110	130	160																	
	<b>90 B5</b>	130	165	200	24																
	<b>90 B14</b>	95	115	140																	
	<b>80 B5</b>	130	165	200	19	<b>B</b>															
	<b>80 B14</b>	80	100	120																	
<b>71 B5</b>	110	130	160	14	<b>BS</b>																

N.B.

Le aree evidenziate in grigio indicano l'applicabilità della corrispondente grandezza motore.

**B/BS** = Boccola di riduzione in acciaio

N.B.

Grey areas indicate motor inputs available on each size of unit.

**B/BS** = Metal shaft sleeve

CMB CMBIS	A	C	E	G	H	K	KE	a <sub>2</sub>	L	M	N f7	N1	O	P	Q	R	S	U	V	Peso / Weight [kg]
<b>633</b>	100	144	174	241	72	85	M8x15	45°	106	95	80	104	8.5	110	80	102	8	233	50	9.5
<b>903</b>	140	206	238	287	103	100	M10x20	45°	134	130	110	130	13	160	102	135	11	279.5	70	18.4

CMB CMBIS	Albero entrata Input shaft					Albero uscita cavo Hollow output shaft				
	D <sub>1</sub> j6	E <sub>1</sub>	F <sub>1</sub>	G <sub>1</sub>	T <sub>1</sub>	D <sub>2</sub> H8	F <sub>2</sub>	G <sub>2</sub>	b	t
<b>633</b>	16	40	5	M6	18	25	35	112	8	28.3
<b>903</b>	19	40	6	M6	21.5	35	45	140	10	38.3

CMB CMBIS	Flange uscita / Output flanges																									
	F										FL							FB								
	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP
<b>633</b>	45°	82	10	6	150 - 160	115	11	180	142	45°	112	10	8	150 - 160	115	11	180	142	45°	98	11	5	165	130	11	200
<b>903</b>	45°	111	13	6	175 - 188	152	14	210	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

**RIDUTTORI AD ASSI ORTOGONALI**  
**BEVEL HELICAL GEARBOXES**

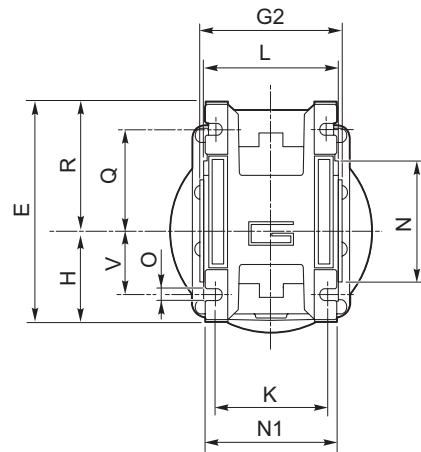
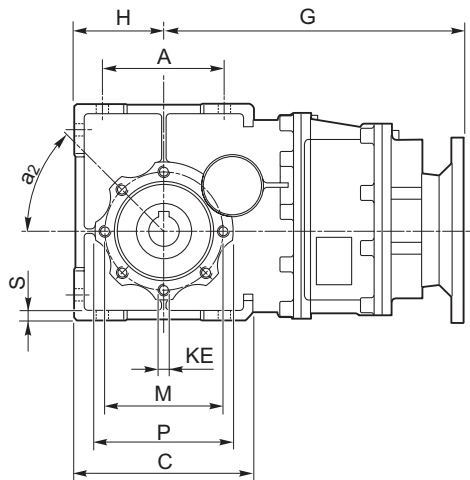
**CMB**

Dimensioni

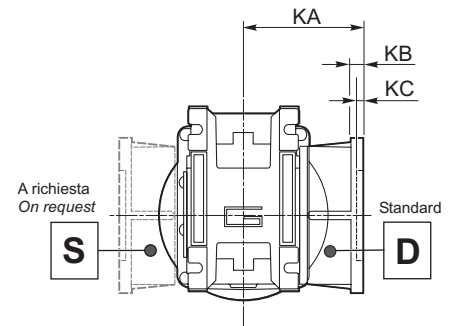
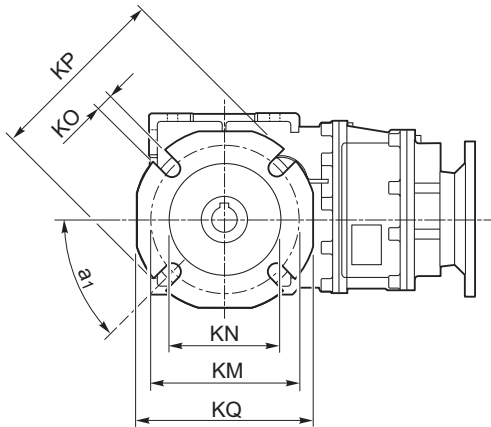
Dimensions

**CMB.. - CMBIS..**

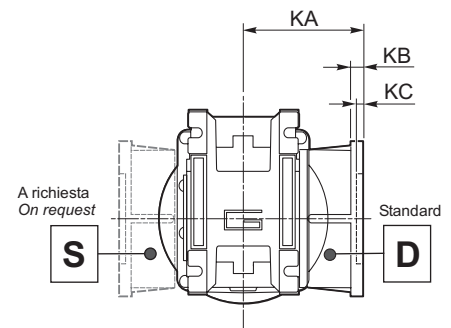
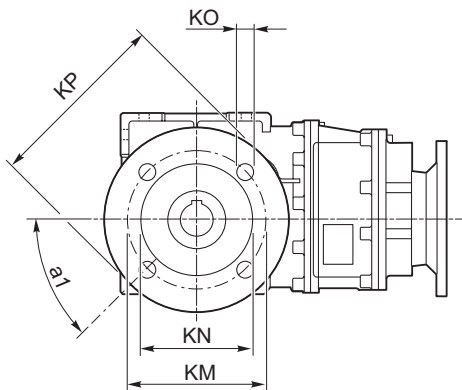
**CMB..U**



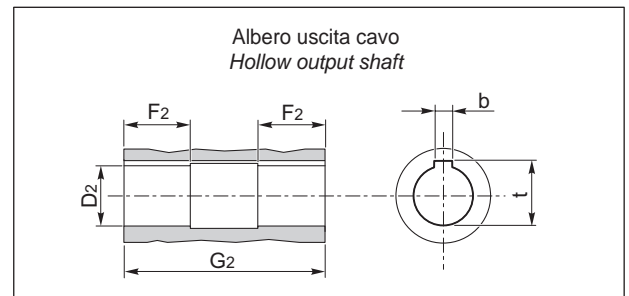
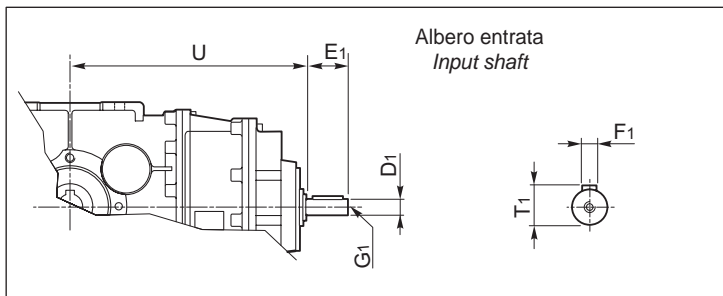
**CMB..F**  
**CMB..FL**

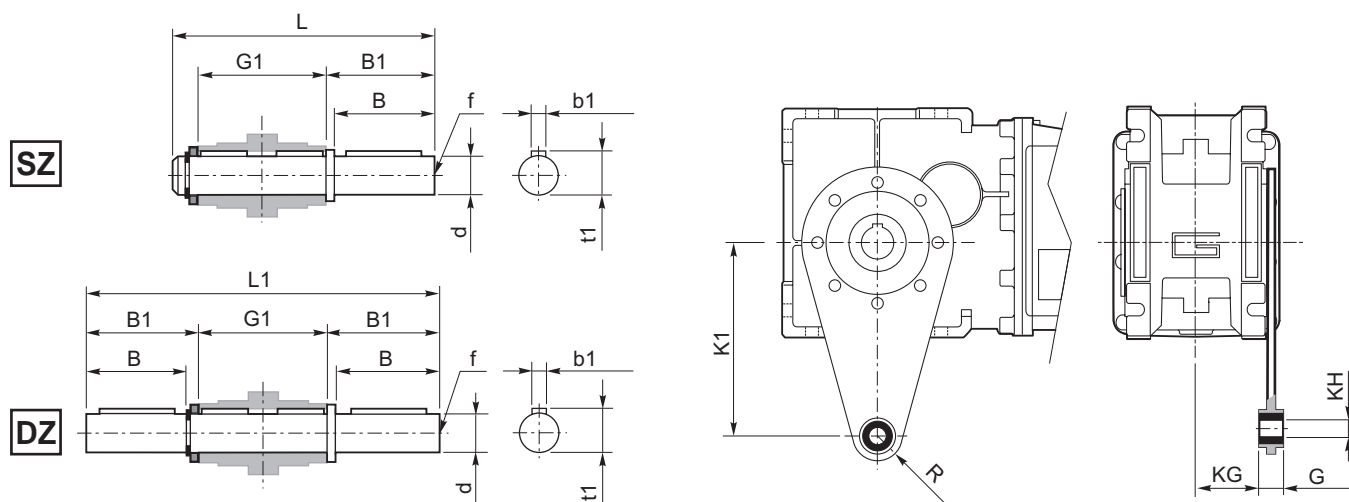


**CMB..FB**



**CMBIS..**





Albero lento / Output shaft

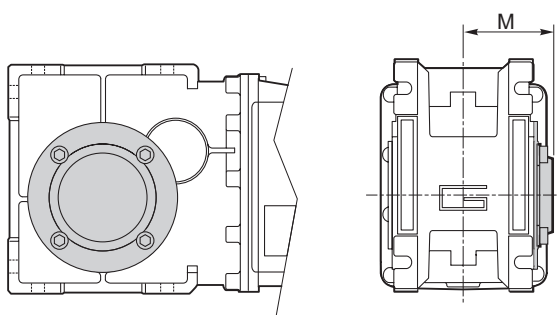
CMB CMBIS	d h6	B	B1	G1	L	L1	f	b1	t1
<b>633</b>	25	50	53.5	112	173	219	M10	8	28
<b>903</b>	35	80	84.5	140	234	309	M12	10	38

Braccio di reazione / Torque arm

CMB CMBIS	K1	G	KG	KH	R
<b>633</b>	150	14	47.5	10	18
<b>903</b>	200	25	56.5	20	30

### Opzioni

### Options



**PC** - Coperchio di protezione / Plastic cover

CMB CMBIS	M
<b>633</b>	73
<b>903</b>	94



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