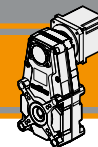


Brushless DC helical parallel gearmotors

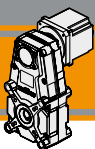




Indice	Index	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	D2
Designazione	<i>Classification</i>	D3
Simbologia	<i>Symbols</i>	D3
Lubrificazione e temperatura	<i>Lubrication and temperature</i>	D3
FT105 con motore brushless BLS022.240	<i>FT105 with BLS022.240 brushless motor</i>	D4
FT105 con motore brushless BLS043.240	<i>FT105 with BLS043.240 brushless motor</i>	D5
FT146 con motore brushless BLS043.240	<i>FT146 with BLS043.240 brushless motor</i>	D6
FT146 con motore brushless BL070.480	<i>FT146 with BL070.480 brushless motor</i>	D7
FT146 con motore brushless BL140.480	<i>FT146 with BL140.480 brushless motor</i>	D8
FT196 con motore brushless BL210.480	<i>FT196 with BL210.480 brushless motor</i>	D9
Dati tecnici	<i>Technical data</i>	D10
Dimensioni FT con flange motore AS	<i>FT dimensions with motor flanges AS</i>	D11

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.intecno-srl.com**

*This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. **In this case the latest version is available on our web site www.intecno-srl.com***



Motoriduttori brushless CC pendolari Brushless DC helical parallel gearmotors

Caratteristiche tecniche

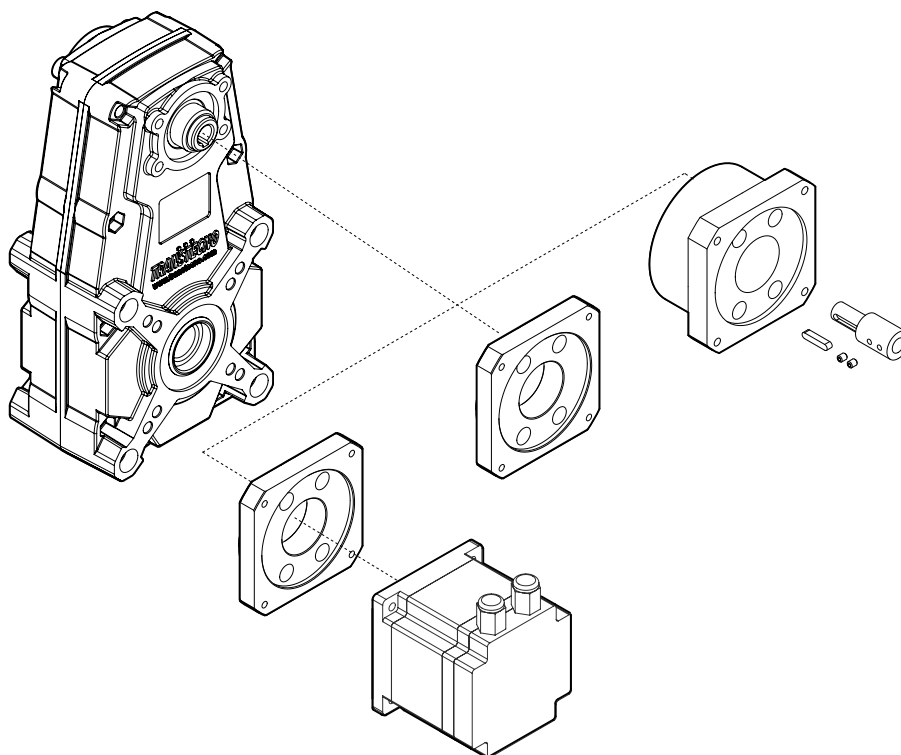
Technical features

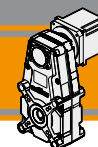
Le caratteristiche principali dei motoriduttori brushless CC pendolari della serie FT sono:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Protezione IP54
- Coppie motori disponibili da 0.22 Nm a 2.1 Nm
- Lubrificazione permanente con olio sintetico
- Carcassa in pressofusione di alluminio
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Disponibili anche nella versione con solo riduttore, sia con flangia di entrata standard che con flangia e manicotto dedicati

The main features of FT brushless DC helical parallel gearmotors range are:

- Low voltage power supply 24/36/48 Vdc
- Protection IP54
- Motor torque ratings available from 0.22 Nm up to 2.1 Nm
- Permanent synthetic oil long life lubrication
- Die-cast aluminium housing
- Ground-hardened helical gears
- Gearbox only version also available, with either standard input flange or customized flange and coupling





Designazione

Classification

RIDUTTORE / GEARBOX					MOTORE / MOTOR	
FT	146	U	46	020	BL070.480	48V
Tipo Type	Grandezza Size	Versione riduttore Gearbox version	Rapporto Ratio	Albero di uscita Output shaft	Tipo Type	Tensione Voltage
FT	105 146 196	U	Vedere tabelle See tables	Vedere tabelle See tables	BLS022.240 BLS043.240 BL070.480 BL140.480 BL210.480	24V - 36V 24V - 36V 48V 48V 48V

Simbologia

Symbols

Ns	n° stadi / No. stages	Mn ₂	[Nm]	Coppia nominale in uscita in funzione di Pn1 Nominal output torque referred to Pn1
ir	rapporto reale / real ratio	n _{1MAX}	[Rpm]	Velocità max entrata / Max input speed
M ₂	[Nm] coppia in uscita output torque	V	[V]	Tensione / Voltage
A ₂	[N] Carico assiale ammissibile in uscita Permitted output axial load	n ₂	[Rpm]	Velocità in uscita / Output Speed
R ₂	[N] Carico radiale ammissibile in uscita Permitted output radial load	IP		Grado di protezione / Enclosure protection
Pn ₁	[kW] Potenza nominale in entrata Nominal input power	Kg		Peso / Weight
		sf		Fattore di servizio / Service Factor

Lubrificazione e temperatura

Lubrication and temperature

I motoriduttori FT sono forniti completi di lubrificante sintetico (viscosità 320) e non necessitano di manutenzione.

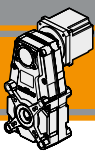
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).

Per temperature diverse, contattare nostro UT.

Permanent synthetic oil long life lubrication (viscosity grade 320) on FT gearmotors.

Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).

For temperature outside this range please contact our technical dept.



Motoriduttori brushless CC pendolari Brushless DC helical parallel gearmotors

FT105 con motore brushless CC

FT105 with brushless DC motor

FT105		BLS022.240													
		24V							36V						
		n _{2MIN} [rpm]			n _{2MAX} [rpm]				n _{1MAX} [rpm]	n _{2MIN} [rpm]			n _{2MAX} [rpm]		
ir	Ns	M ₂ [Nm]	sf	M ₂ [Nm]	sf	M ₂ [Nm]	sf	M ₂ [Nm]		sf	M ₂ [Nm]	sf	M ₂ [Nm]	sf	
20.6	3	14.6	4.3	10.8	146	4.3	7.3	3000	19.4	4.3	10.8	194	4.3	6.5	4000
33.3		9.0	6.9	8.3	90	6.9	5.7		12.0	6.9	8.3	120	6.9	5.0	
44.4		6.8	9.2	8.1	68	9.2	5.5		9.0	9.2	8.1	90	9.2	4.9	
54.9		5.5	11	6.6	55	11	4.5		7.3	11	6.6	73	11	4.0	
71.8		4.2	15	5.0	42	15	3.4		5.6	15	5.0	56	15	3.0	
77.1		3.9	16	4.7	39	16	3.2		5.2	16	4.7	52	16	2.8	
88.9		3.4	18	4.1	34	18	2.8		4.5	18	4.1	45	18	2.4	
124.8		2.4	26	2.9	24	26	2.0		3.2	26	2.9	32	26	1.7	
181.4		1.7	38	2.0	17	38	1.4		2.2	38	2.0	22	38	1.2	
224.3		1.3	46	1.6	13	46	1.1		1.8	46	1.6	18	46	1.0	
315.1		1.0	65	1.1	10	65	0.8		1.3	65	1.1	13	64	0.7	
368.2		0.8	75	1.0	8.1	72	0.7		1.1	75	1.0	11	64	0.7	
535.0	0.6	105	0.7	5.6	72	0.7	0.7	105	0.7	7.5	64	0.7			
661.8	0.5	105	0.7	4.5	72	0.7	0.6	105	0.7	6.0	64	0.7			
929.4	0.3	105	0.7	3.2	72	0.7	0.4	105	0.7	4.3	64	0.7			

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BLS022.240	4	3	36	4000	0.22	92
			24	3000		70
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [A]	Resistenza Resistance [ohm]	Induttanza Inductance [mH]	Corrente massima Peak current [A]	Peso Weight [kg]
BLS022.240	0.44	3.7	0.64	3.1	7.4	0.72

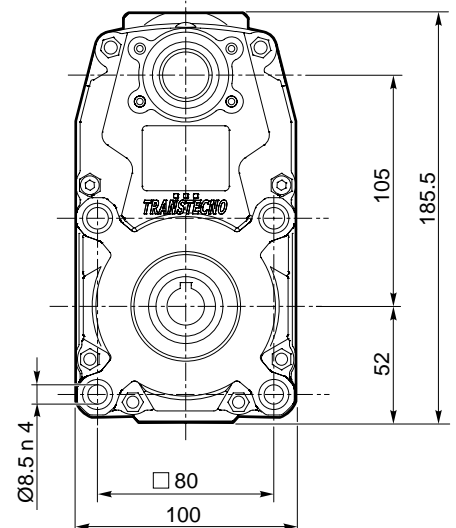
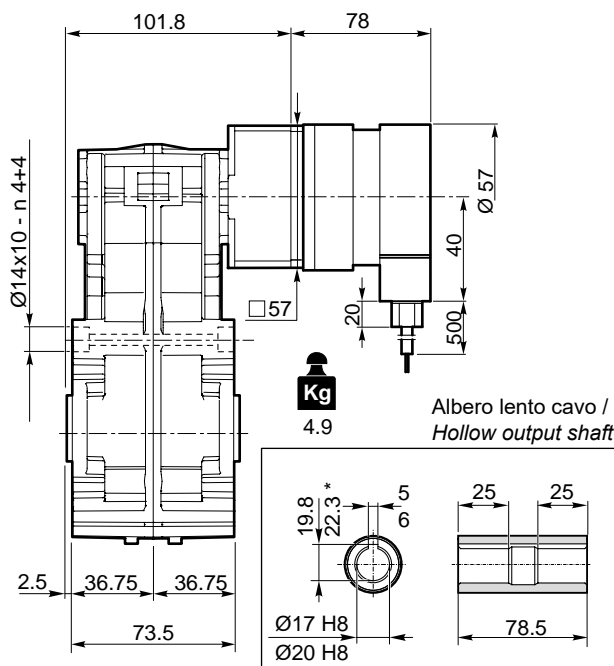
Azionamenti Drives

H1

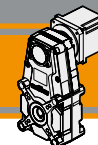
FT105U
+
BLS022.240

D11

FT105.. AS...



*Sede linguetta ribassata /
*Special keyway



FT105 con motore brushless CC

FT105 with brushless DC motor

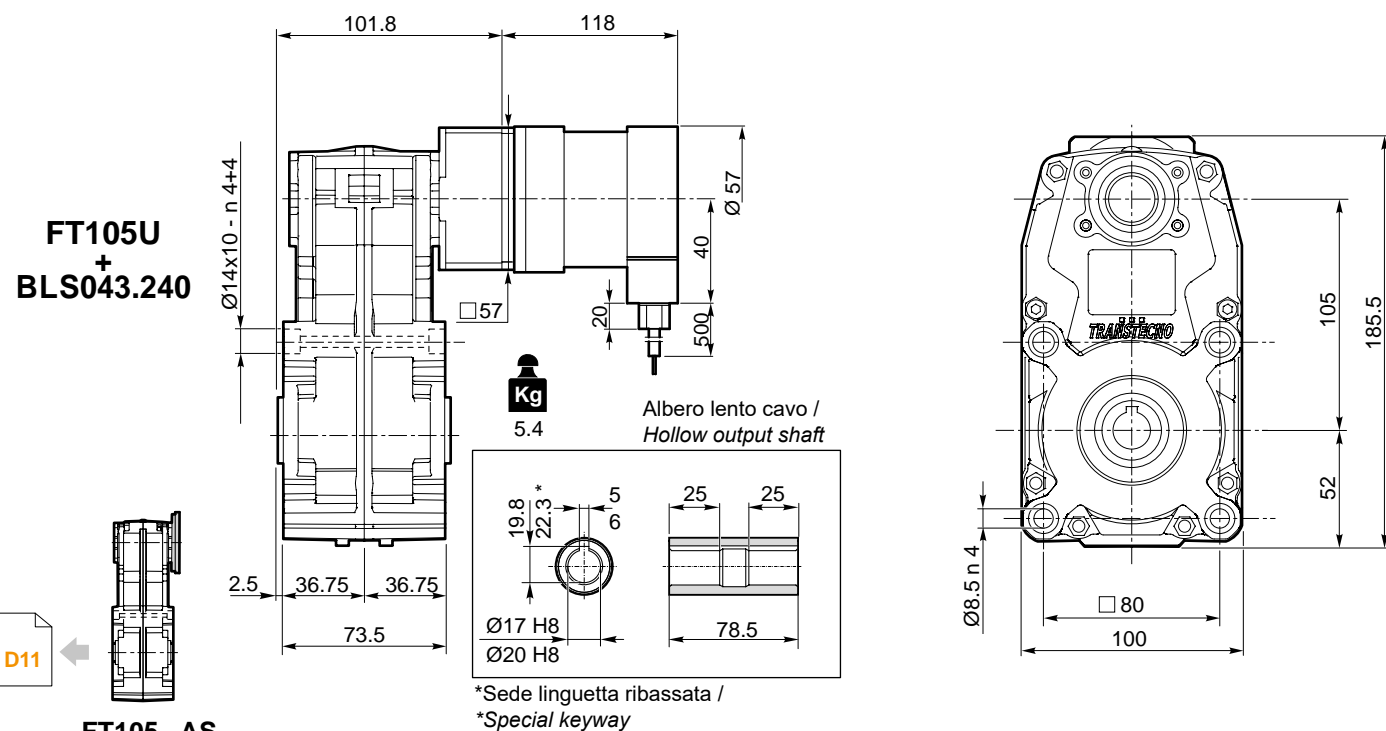
FT105		BLS043.240													
		24V							36V						
		ir	Ns	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]	n _{2MIN} [rpm]			n _{2MAX} [rpm]	
M ₂ [Nm]	sf				M ₂ [Nm]	sf		M ₂ [Nm]	sf			M ₂ [Nm]	sf		
20.6	3	14.6	8.3	5.5	146	8.3	3.8	3000	19.4	8.3	5.5	194	8.3	3.3	4000
33.3		9.0	13	4.3	90	13	2.9		12.0	13	4.3	120	13	2.6	
44.4		6.8	18	4.2	68	18	2.8		9.0	18	4.2	90	18	2.5	
54.9		5.5	22	3.4	55	22	2.3		7.3	22	3.4	73	22	2.0	
71.8		4.2	29	2.6	42	29	1.7		5.6	29	2.6	56	29	1.5	
77.1		3.9	31	2.4	39	31	1.6		5.2	31	2.4	52	31	1.4	
88.9		3.4	36	2.1	34	36	1.4		4.5	36	2.1	45	36	1.2	
124.8		2.4	50	1.5	24	50	1.0		3.2	50	1.5	32	50	0.9	
181.4		1.7	73	1.0	17	72	0.7		2.2	73	1.0	22	64	0.7	
224.3		1.3	91	0.8	13	72	0.7		1.8	91	0.8	18	64	0.7	
315.1		1.0	105	0.7	10	72	0.7		1.3	105	0.7	13	64	0.7	
368.2		0.8	105	0.7	8.1	72	0.7		1.1	105	0.7	11	64	0.7	
535.0		0.6	105	0.7	5.6	72	0.7		0.7	105	0.7	7.5	64	0.7	
661.8	0.5	105	0.7	4.5	72	0.7	0.6	105	0.7	6.0	64	0.7			
929.4	0.3	105	0.7	3.2	72	0.7	0.4	105	0.7	4.3	64	0.7			

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [A]	Resistenza Resistance [ohm]	Induttanza Inductance [mH]	Corrente massima Peak current [A]	Peso Weight [kg]
BLS043.240	0.86	6	0.35	1	12.0	1.25

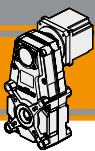
Azionamenti Drives

H1



D11

FT105.. AS...



Motoriduttori brushless CC pendolari Brushless DC helical parallel gearmotors

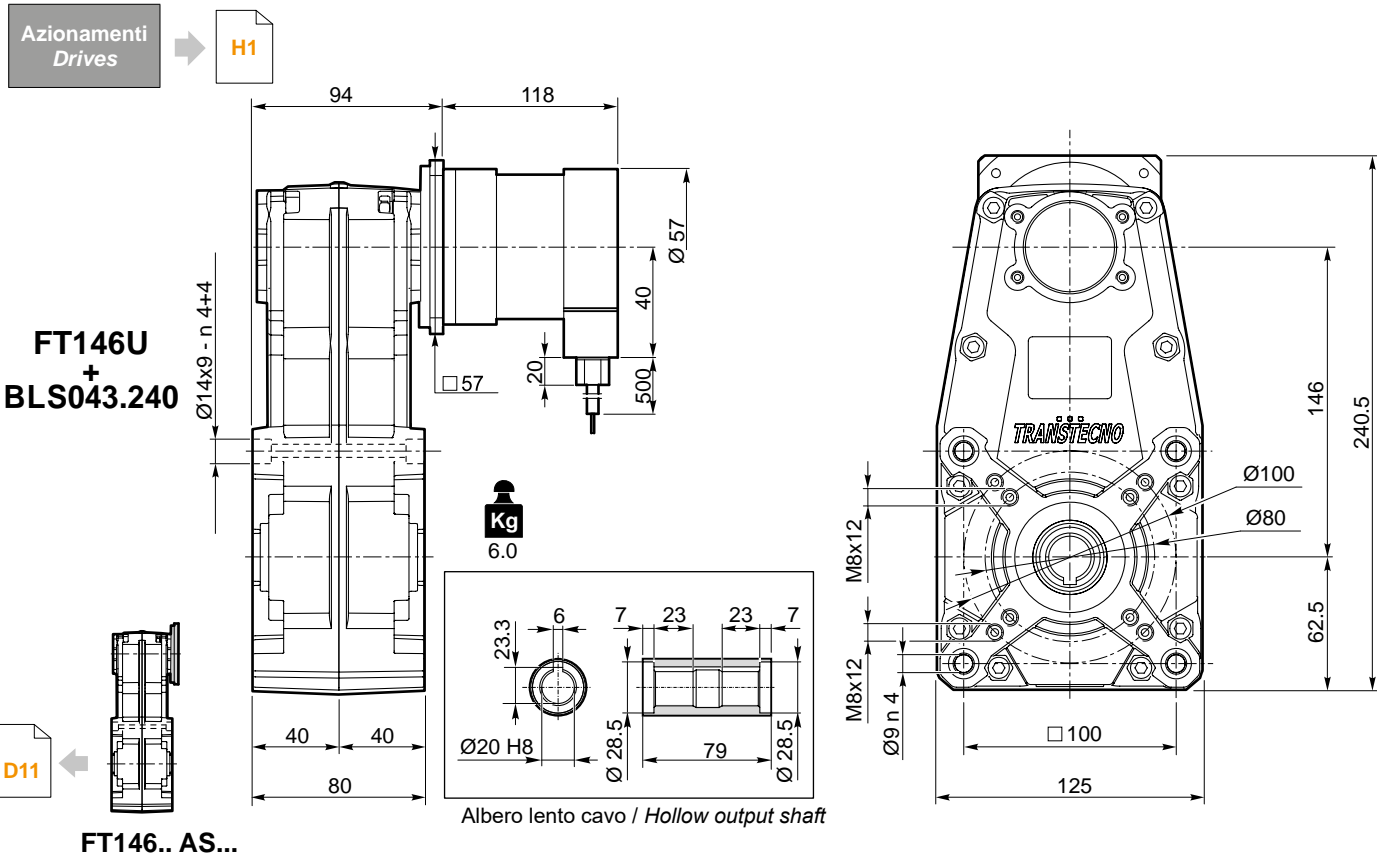
FT146 con motore brushless CC

FT146 with brushless DC motor

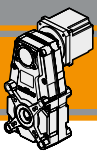
FT146	BLS043.240											
	24V						36V					
	n ₂ MIN [rpm]		n ₂ MAX [rpm]		n ₁ MAX [rpm]	n ₂ MIN [rpm]		n ₂ MAX [rpm]		n ₁ MAX [rpm]		
M ₂ [Nm]	sf	M ₂ [Nm]	sf	M ₂ [Nm]		sf	M ₂ [Nm]	sf				
18.8	16.0	7.6	12.1	160	7.6	8.2	21.3	7.6	12.1	213	7.6	7.3
26.2	11.5	11	8.7	115	11	5.9	15.3	11	8.7	153	11	5.2
28.3	10.6	11	8.1	106	11	5.5	14.2	11	8.1	142	11	4.8
35.1	8.6	14	8.1	86	14	5.5	11.4	14	8.1	114	14	4.9
39.4	7.6	16	7.1	76	16	4.8	10.1	16	7.1	101	16	4.2
46.4	6.5	19	6.1	65	19	4.2	8.6	19	6.1	86	19	3.7
52.9	5.7	21	5.4	57	21	3.7	7.6	21	5.4	76	21	3.2
60.6	4.9	25	5.2	49	25	3.5	6.6	25	5.2	66	25	3.1
70.0	4.3	28	4.5	43	28	3.0	5.7	28	4.5	57	28	2.7
84.6	3.5	34	3.7	35	34	2.5	4.7	34	3.7	47	34	2.2
95.6	3.1	39	3.3	31	39	2.2	4.2	39	3.3	42	39	2.0
113.4	2.6	46	2.8	26	46	1.9	3.5	46	2.8	35	46	1.7
133.4	2.2	54	2.3	22	54	1.6	3.0	54	2.3	30	54	1.4
150.2	2.0	61	2.1	20	61	1.4	2.7	61	2.1	27	61	1.3
160.4	1.9	65	2.1	19	65	1.4	2.5	65	2.1	25	65	1.3
178.8	1.7	72	1.9	17	72	1.3	2.2	72	1.9	22	72	1.1
223.9	1.3	91	1.5	13	91	1.0	1.8	91	1.5	18	91	0.9
236.8	1.3	96	1.4	13	96	1.0	1.7	96	1.4	17	96	0.9
300.1	1.0	121	1.1	10.0	121	0.8	1.3	121	1.1	13	118	0.7
397.4	0.8	161	0.9	7.5	134	0.7	1.0	161	0.9	10	118	0.7

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [A]	Resistenza Resistance [ohm]	Induttanza Inductance [mH]	Corrente massima Peak current [A]	Peso Weight [kg]
BLS043.240	0.86	6	0.35	1	12.0	1.25



FT146.. AS...



Motoriduttori brushless CC pendolari Brushless DC helical parallel gearmotors

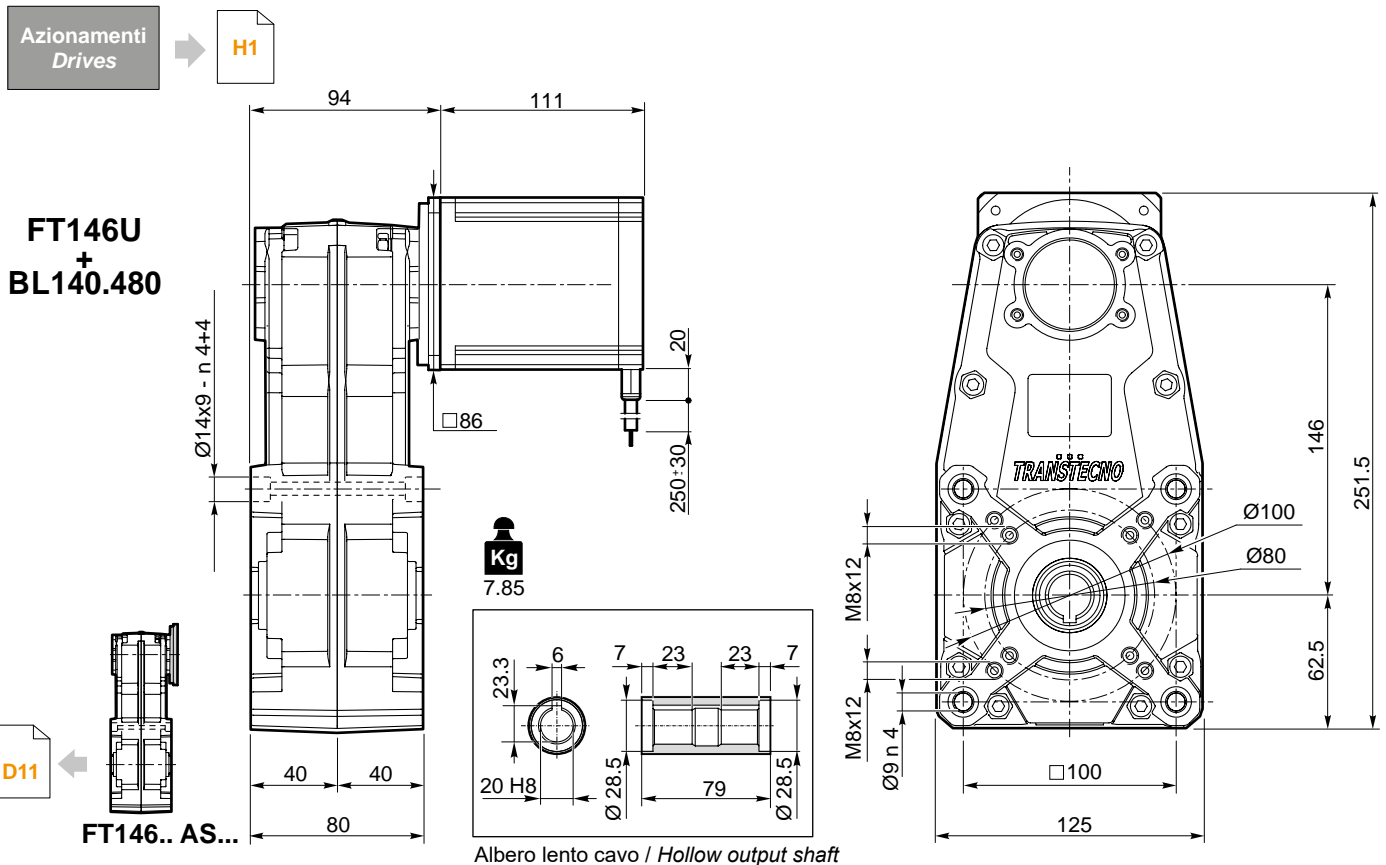
FT146 con motore brushless CC

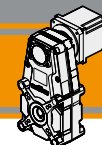
FT146 with brushless DC motor

FT146	BL140.480						n _{1MAX} [rpm]
	48V						
	ir	n _{2MIN} [rpm]			n _{2MAX} [rpm]		
M ₂ [Nm]		sf		M ₂ [Nm]	sf		
18.8	16.0	25	3.7	160	25	2.5	3000
26.2	11.5	34	2.7	115	34	1.8	
28.3	10.6	37	2.5	106	37	1.7	
35.1	8.6	46	2.5	86	46	1.7	
39.4	7.6	53	2.2	76	53	1.5	
46.4	6.5	61	1.9	65	61	1.3	
52.9	5.7	70	1.7	57	70	1.1	
60.6	4.9	80	1.6	49	80	1.1	
70.0	4.3	92	1.4	43	92	0.9	
84.6	3.5	111	1.1	35	111	0.8	
95.6	3.1	126	1.0	31	122	0.7	
113.4	2.6	149	0.8	26	122	0.7	
133.4	2.2	158	0.8	22	122	0.7	
150.2	2.0	158	0.8	20	122	0.7	
160.4	1.9	170	0.8	19	134	0.7	
178.8	1.7	170	0.8	17	134	0.7	
223.9	1.3	170	0.8	13	134	0.7	
236.8	1.3	170	0.8	13	134	0.7	
300.1	1.0	170	0.8	10	134	0.7	
397.4	0.8	170	0.8	7.5	134	0.7	

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL140.480	8	3	48	3000	1.4	440
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [A]	Resistenza Resistance [ohm]	Induttanza Inductance [mH]	Corrente massima Peak current [A]	Peso Weight [kg]
BL140.480	2.8	13.0	0.16	0.5	26	3.15





FT196 con motore brushless CC

FT196 with brushless DC motor

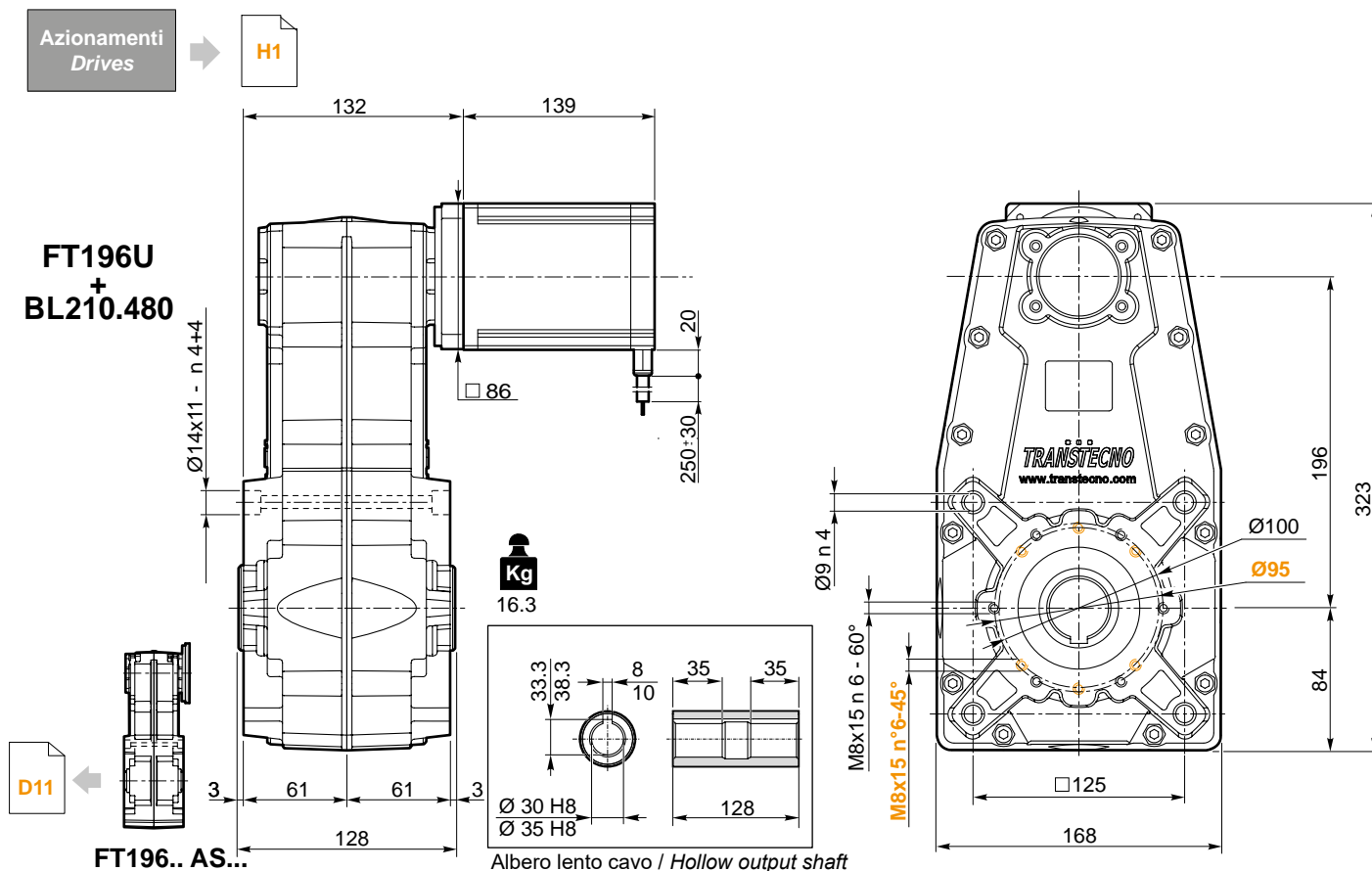
FT196	BL210.480						
	48V						
ir	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
	M ₂ [Nm]	sf		M ₂ [Nm]	sf		
20.4	14.7	40	10.0	147	40	6.8	3000
34.8	8.6	69	6.7	86	69	4.5	
42.6	7.0	84	6.2	70	84	4.2	
59.4	5.1	117	4.9	51	117	3.3	
72.7	4.1	143	4.4	41	143	3.0	
92.8	3.2	183	3.5	32	183	2.3	
123.7	2.4	244	2.6	24	244	1.8	
158.0	1.9	312	2.0	19	312	1.4	
201.8	1.5	398	1.6	15	398	1.1	
269.5	1.1	532	1.2	11	532	0.8	

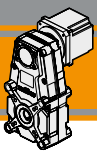
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL210.480	8	3	48	3000	2.1	660
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [A]	Resistenza Resistance [ohm]	Induttanza Inductance [mH]	Corrente massima Peak current [A]	Peso Weight [kg]
BL210.480	4.2	18.7	0.115	0.31	37	4.2

Brushless DC

FT







Motoriduttori brushless CC pendolari


Brushless DC helical parallel gearmotors


Dati tecnici


Technical data


	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
FT105				
n1 = 1400 rpm	68	40	0.30	20.57
	42	50	0.23	33.32
	32	65	0.23	44.36
	26		0.18	54.87
	20		0.14	71.84
	18		0.13	77.07
	16		0.11	88.87
	11		0.081	124.81
	7.7		0.056	181.35
	6.2		0.045	224.32
4.4	0.032	315.05		
FT105/4	3.8	65	0.028	368.19
	2.6		0.019	534.98
	2.1		0.015	661.76
	1.5		0.011	929.40

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
FT146				
n1 = 1400 rpm	75	80	0.65	18.75
	53		0.47	26.17
	50		0.43	28.26
	40	100	0.44	35.07
	35		0.39	39.44
	30		0.33	46.44
	26		0.29	52.86
	23	110	0.28	60.63
	20		0.24	70.00
	17		0.20	84.63
	15		0.18	95.61
	12		0.15	113.40
	10		0.13	133.45
	9.3	0.11	150.18	
	8.7	120	0.11	160.43
	7.8		0.10	178.83
	6.3		0.082	223.92
	5.9		0.077	236.83
	4.7		0.061	300.07
	3.5		0.046	397.38

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
FT196				
n1 = 1400 rpm	69	350	2.6	20.41
	40	400	1.8	34.81
	33	450	1.6	42.61
	24	500	1.3	59.36
	19	550	1.1	72.68
	15		0.92	92.82
	11		0.69	123.95
	8.9		0.51	158.02
	6.9		0.42	201.80
	5.2		0.32	269.47

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
FT105				
n1 = 3000 rpm	146	31	0.51	20.57
	90	39	0.39	33.32
	68	51	0.38	44.36
	55		0.31	54.87
	42		0.24	71.84
	39		0.22	77.07
	34		0.19	88.87
	24		0.14	124.81
	17		0.09	181.35
	13		0.08	224.32
10	0.05	315.05		
FT105/4	8.1	51	0.05	368.19
	5.6		0.03	534.98
	4.5		0.03	661.76
	3.2		0.02	929.40

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
FT146				
n1 = 3000 rpm	160	62	1.11	18.75
	115		0.79	26.17
	106		0.73	28.26
	86	78	0.74	35.07
	76		0.66	39.40
	65		0.56	46.44
	57		0.49	52.86
	49	86	0.47	60.63
	43		0.41	70.00
	35		0.34	84.63
	31		0.30	95.61
	26		0.25	113.40
	22		0.21	133.45
	20	0.19	150.18	
	19	94	0.19	160.43
	17		0.17	178.83
	13		0.14	223.92
	13		0.13	236.83
	10		0.10	300.07
	7.5		0.08	397.38

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
FT196				
n1 = 3000 rpm	147	273	4.47	20.41
	86	312	3.37	34.81
	70	351	3.06	42.61
	51	390	2.42	59.36
	41	429	1.97	72.68
	32		1.54	92.82
	24		1.16	123.95
	19		0.91	158.02
	15		0.71	201.80
	11		0.53	269.47



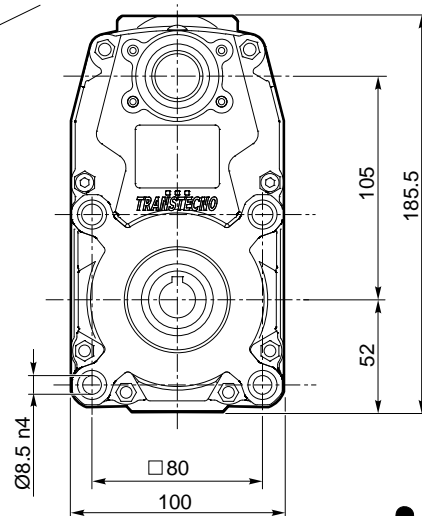
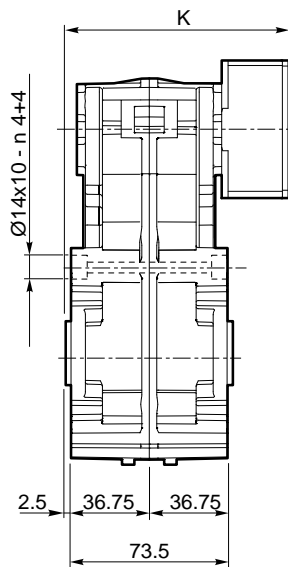
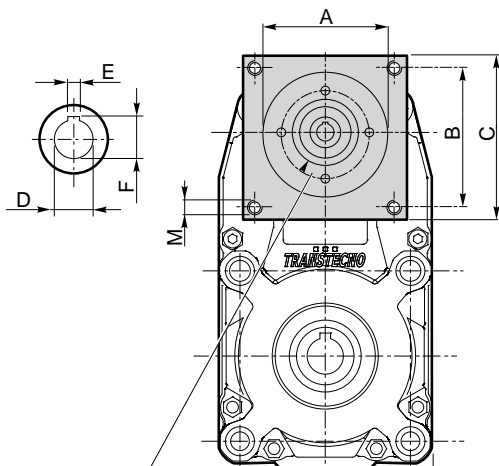
Dimensioni FT con flange motore AS

FT dimensions with motor flanges AS

FT105 - U - AS...

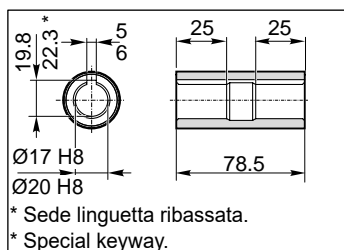
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's length.



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.



Albero lento cavo / Hollow output shaft

Kg
4.2

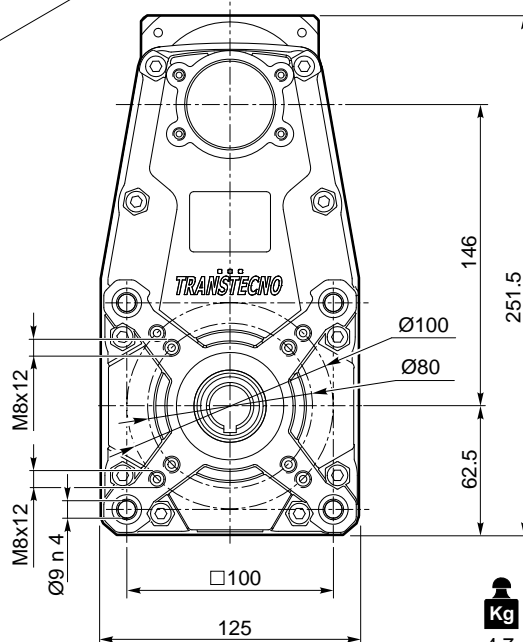
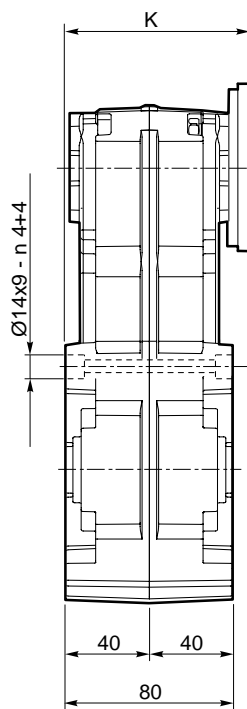
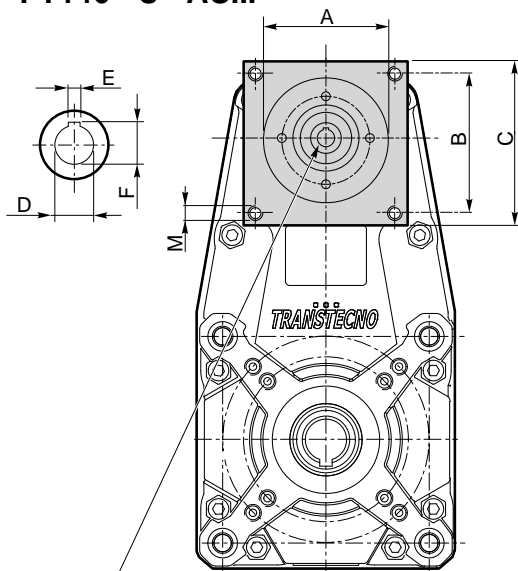
Dimensioni / Dimensions

AS	A	B	C	M	K	D	E	F
AS416	38.1	47.1	56.6	M5	101.8	9	3	10.4
...

FT146 - U - AS...

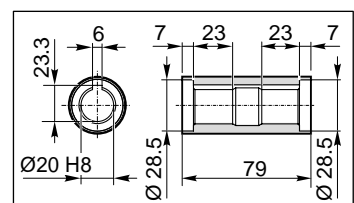
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's length.



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.

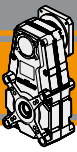


Albero lento cavo / Hollow output shaft

Kg
4.7

Dimensioni / Dimensions

AS	A	B	C	M	K	D	E	F
AS392	38.1	47.1	64	M5	94	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384	73	69.6	86	M5	94	9	3	10.5
						11	4	12.8
						14	5	16.3
...



FT

Riduttori pendolari
Helical parallel gearboxes

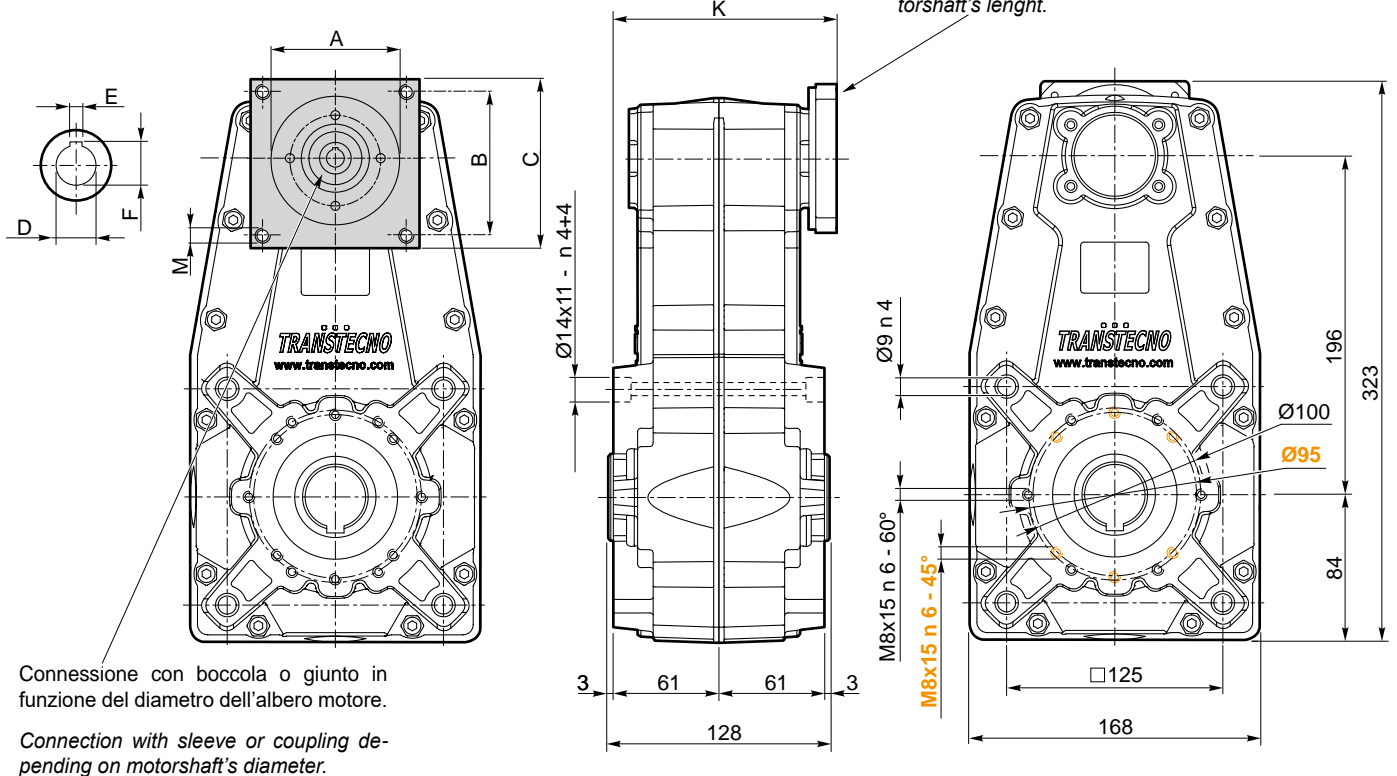
Dimensioni FT con flange motore AS

FT dimensions with motor flanges AS

FT196 - U - AS...

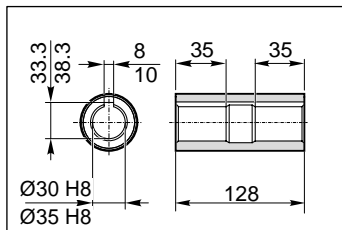
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.



Albero lento cavo / Hollow output shaft



12.1

Dimensioni / Dimensions								
AS	A	B	C	M	K	D	E	F
AS363	73	69.4	86	M5	132	14	5	16.3
						19	6	21.8
						24	8	27.3
...