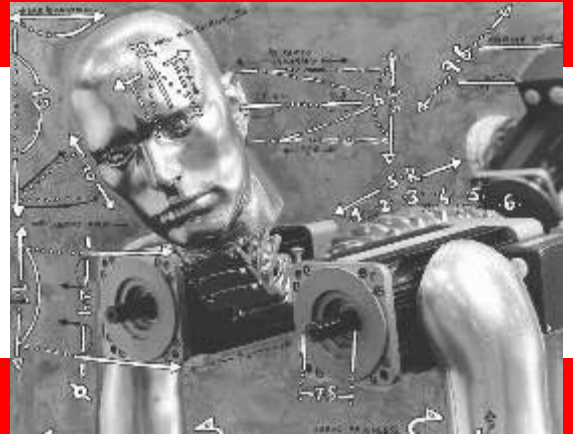
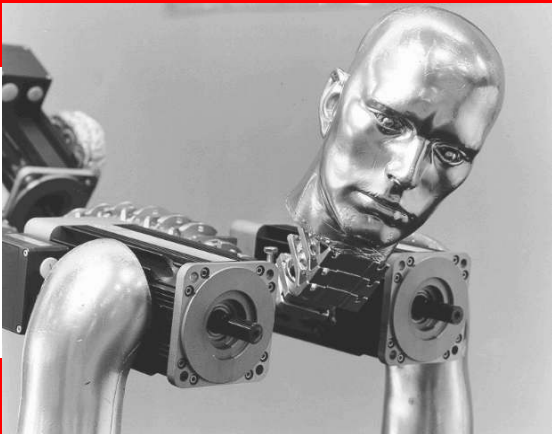




ESA

C.C. SERVOMOTOR



ESA

This series of permanent magnets servomotors ensures long-life, high reliability and dynamic performances. This series, that includes torque from 0,32 till 15 Nm, is the solution for any application where smooth running and overload capability is required.



<i>Servomotor</i>	<i>Continuous Stall Torque (Nm)</i>	<i>Motor Diameter (mm)</i>	<i>Brake Length (mm)</i>	<i>Motor Length (mm)</i>
ESA 2S	0.32	58	41.5	136
ESA 2L	0.47			183.5
ESA 3XS	0.6	83.5	44	177.5
ESA 3S	0.93			212.5
ESA 3SL	1.3			229
ESA 3M	1.6			267.5
ESA 3L	2.1			322.5
ESA 6S	2.65	116	*	268
ESA 6F	3.5		*	268
ESA 6M	5.5		*	340
ESA 6L	8		*	412
ESA 9S	6	153.5	*	298
ESA 9M	11		*	363
ESA 9L	15		*	424

* Included in motor's length

Il freno di emergenza incrementa la lunghezza del motore del valore relativo riportato in tabella alla voce "Lunghezza Freno"

Protection IP54

Commutator with high number of blades for a sound commutation

Four pole tacho generator with rare earth magnets combined in motor

Skewed armature for smooth running at low speed

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 2S

COPPIA - TORQUE

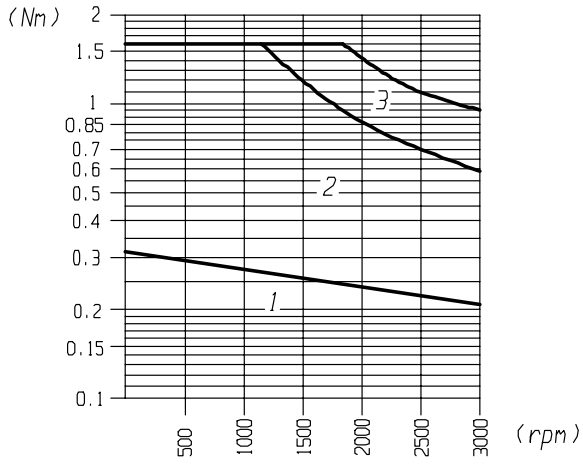
Nm 0.32

DATI MOTORE - MOTOR RATINGS

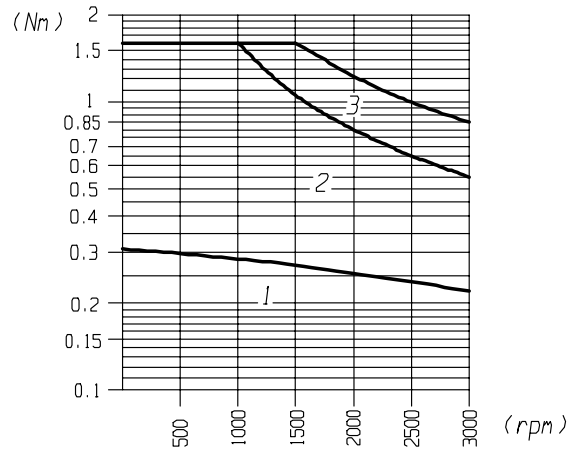
	SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding							
			1	2						
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - <i>Rated speed</i>	n	[rpm]	3000	3000					
	COPPIA ROTORE BLOCCATO - <i>Continuous stall torque</i>	Cn	[Nm]	0.32	0.32					
	POTENZA A VELOCITA' NOMINALE - <i>Power at rated speed</i>	Pn	[W]	70	70					
	CORRENTE A ROTORE BLOCCATO - <i>Stall current</i>	In	[A]	4.6	3.2					
	PICCO DI COPPIA ALLO SPUNTO - <i>Peak torque</i>	Cmax	[Nm]	1.6	1.6					
	CORRENTE AL PICCO DI COPPIA - <i>Peak current</i>	Imax	[A]	23	16					
	CORRENTE SMAGNETIZZANTE - <i>Demagnetise current</i>	lpeak	[A]	25.3	17.6					
	FCEM A VELOCITA' NOMINALE - <i>Bemf at rated speed</i>	E	[V]	21.9	31.2					
	MAX VELOCITA' - <i>Max speed</i>	Nmax	[rpm]	4000	4000					
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - <i>Moment of inertia</i>	Jm	Kg cm ²	0.324	0.324					
	MAX. ACC. TEORICA - <i>Max theoretical acceleration</i>	αmax	rad/s ²	33950	33950					
	COSTANTE DI TEMPO MECCANICA - <i>Mechanical time constant</i>	Tm	[ms]	6	6					
	COPPIA SMORZAMENTO A 1000 RPM - <i>Damping constant at 1000 rpm</i>	Td	[Nm]	0.015	0.015					
	COPPIA ATTRITO STATICO - <i>Static friction torque</i>	Tf	[Nm]	0.002	0.002					
	MAX CARICO RADIALE (A 3000 RPM) - <i>Max radial load (at 3000 rpm)</i>	Fr	[N]	196	196					
	MAX CARICO ASSIALE - <i>Max axial load</i>	Fa	[N]	58	58					
	PESO - <i>Weight</i>	M	[Kg]	1.3	1.3					
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - <i>Voltage constant ± 5%</i>	Ke	V/Krpm	7.3	10.4					
	COSTANTE DI COPPIA ± 5% - <i>Torque constant ± 5%</i>	Kt	[Nm/A]	0.07	0.1					
	COSTANTE DI TEMPO ELETTRICA - <i>Electrical time constant</i>	Te	[ms]	1.58	1.62					
	COSTANTE DI TEMPO TERMICA - <i>Thermal time constant</i>	Tt	[min]	15	15					
	RESIST. ARMATURA ± 10% A 25°C - <i>Armature resistance ± 10% at 25°C</i>	Ra	[Ohm]	0.82	1.82					
	RESIST. ARMATURA CON SPAZZOLE - <i>Terminal resistance</i>	Rt	[Ohm]	0.85	1.85					
	INDUTTANZA - <i>Inductance</i>	La	[mH]	1.34	3					
	GRADO DI PROTEZIONE - <i>Protection degree</i>		IP						54	
	CLASSE D' ISOLAMENTO - <i>Insulation class</i>								F	
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - <i>Voltage constant</i>	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - <i>Ripple</i>		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - <i>Linearity at 6000 rpm</i>		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - <i>Reversibility error</i>		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - <i>Temperature coefficient</i>		[%]	0.02						
	MOMENTO D' INERZIA - <i>Moment of inertia</i>	J	g cm ²	40						
	RESISTENZA - <i>Resistance</i>	Ra	[Ohm]	86						
	INDUTTANZA - <i>Inductance</i>	La	[mH]	13						
	CORRENTE - <i>Current</i>	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - <i>Number of poles</i>			4						
	VITA SPAZZOLE PREVISTA - <i>Life expectancy</i>			15000 A 3000 rpm						
FRENO Brake	TIPO - <i>Type</i>			STD						
	COPPIA STATICA - <i>Static torque</i>	C	[Nm]	0.5						
	TENSIONE DI ALIMENTAZIONE - <i>Power supply voltage</i>	E	[V]	24						
	CORRENTE NOMINALE - <i>Rated current</i>	I	[A]	0.42						
	POTENZA ASSORBITA - <i>Input power</i>	P	[W]	10						

CURVE OPERATIVE PERFORMANCE CURVES

ESA 2S1



ESA 2S2



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 2L

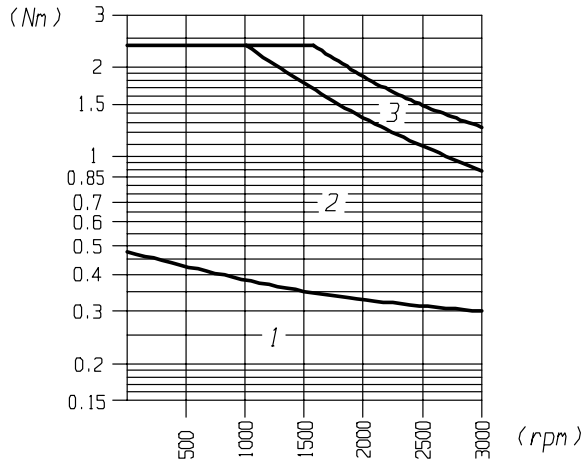
COPPIA - TORQUE

Nm 0.47

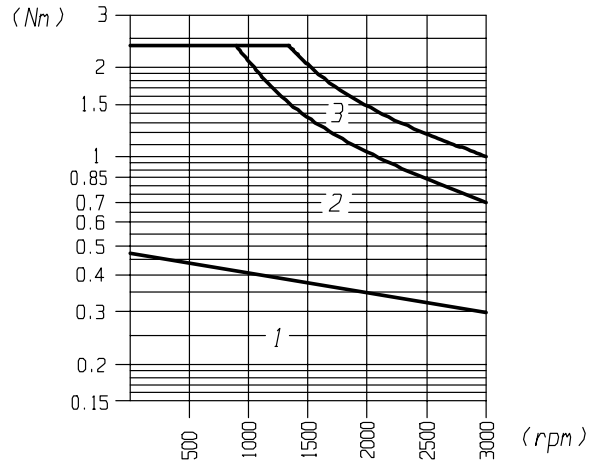
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2					
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - <i>Rated speed</i>	n	[rpm]	3000	3000					
	COPPIA ROTORE BLOCCATO - <i>Continuous stall torque</i>	Cn	[Nm]	0.47	0.47					
	POTENZA A VELOCITA' NOMINALE - <i>Power at rated speed</i>	Pn	[W]	95	95					
	CORRENTE A ROTORE BLOCCATO - <i>Stall current</i>	In	[A]	6.5	4.6					
	PICCO DI COPPIA ALLO SPUNTO - <i>Peak torque</i>	Cmax	[Nm]	2.35	2.35					
	CORRENTE AL PICCO DI COPPIA - <i>Peak current</i>	Imax	[A]	32.5	23					
	CORRENTE SMAGNETIZZANTE - <i>Demagnetise current</i>	lpeak	[A]	35.75	25.3					
	FCEM A VELOCITA' NOMINALE - <i>Bemf at rated speed</i>	E	[V]	22.5	32.1					
	MAX VELOCITA' - <i>Max speed</i>	Nmax	[rpm]	4000	4000					
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - <i>Moment of inertia</i>	Jm	Kg cm ²	0.607	0.607					
	MAX. ACC. TEORICA - <i>Max theoretical acceleration</i>	αmax	rad/s ²	24711	24711					
	COSTANTE DI TEMPO MECCANICA - <i>Mechanical time constant</i>	Tm	[ms]	6	7					
	COPPIA SMORZAMENTO A 1000 RPM - <i>Damping constant at 1000 rpm</i>	Td	[Nm]	0.018	0.018					
	COPPIA ATTRITO STATICO - <i>Static friction torque</i>	Tf	[Nm]	0.003	0.003					
	MAX CARICO RADIALE (A 3000 RPM) - <i>Max radial load (at 3000 rpm)</i>	Fr	[N]	196	196					
	MAX CARICO ASSIALE - <i>Max axial load</i>	Fa	[N]	58	58					
	PESO - <i>Weight</i>	M	[Kg]	1.85	1.85					
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - <i>Voltage constant ± 5%</i>	Ke	V/Krpm	7.5	10.7					
	COSTANTE DI COPPIA ± 5% - <i>Torque constant ± 5%</i>	Kt	[Nm/A]	0.072	0.103					
	COSTANTE DI TEMPO ELETTRICA - <i>Electrical time constant</i>	Te	[ms]	1.46	1.4					
	COSTANTE DI TEMPO TERMICA - <i>Thermal time constant</i>	Tt	[min]	25	25					
	RESIST. ARMATURA ± 10% A 25°C - <i>Armature resistance ± 10% at 25°C</i>	Ra	[Ohm]	0.45	1.16					
	RESIST. ARMATURA CON SPAZZOLE - <i>Terminal resistance</i>	Rt	[Ohm]	0.48	1.19					
	INDUTTANZA - <i>Inductance</i>	La	[mH]	0.7	1.65					
	GRADO DI PROTEZIONE - <i>Protection degree</i>		IP						54	
	CLASSE D' ISOLAMENTO - <i>Insulation class</i>								F	
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - <i>Voltage constant</i>	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - <i>Ripple</i>		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - <i>Linearity at 6000 rpm</i>		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - <i>Reversibility error</i>		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - <i>Temperature coefficient</i>		[%]	0.02						
	MOMENTO D' INERZIA - <i>Moment of inertia</i>	J	g cm ²	40						
	RESISTENZA - <i>Resistance</i>	Ra	[Ohm]	86						
	INDUTTANZA - <i>Inductance</i>	La	[mH]	13						
	CORRENTE - <i>Current</i>	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - <i>Number of poles</i>			4						
VITA SPAZZOLE PREVISTA - <i>Life expectancy</i>			15000 A 3000 rpm							
FRENO Brake	TIPO - <i>Type</i>			STD						
	COPPIA STATICA - <i>Static torque</i>	C	[Nm]	0.5						
	TENSIONE DI ALIMENTAZIONE - <i>Power supply voltage</i>	E	[V]	24						
	CORRENTE NOMINALE - <i>Rated current</i>	I	[A]	0.42						
	POTENZA ASSORBITA - <i>Input power</i>	P	[W]	10						

**CURVE OPERATIVE
PERFORMANCE CURVES**

ESA 2L1



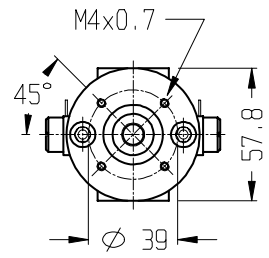
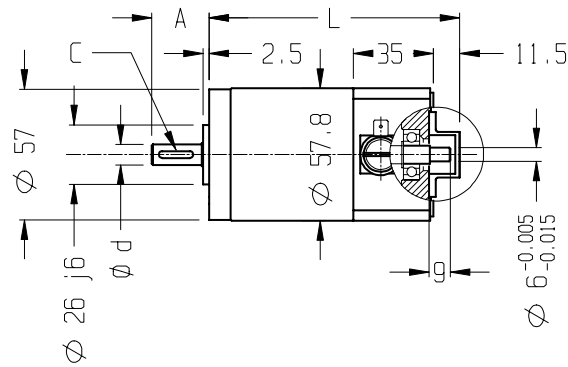
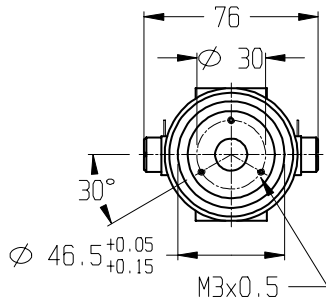
ESA 2L2



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

DIMENSIONI (mm) DIMENSIONS (mm)

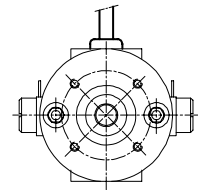
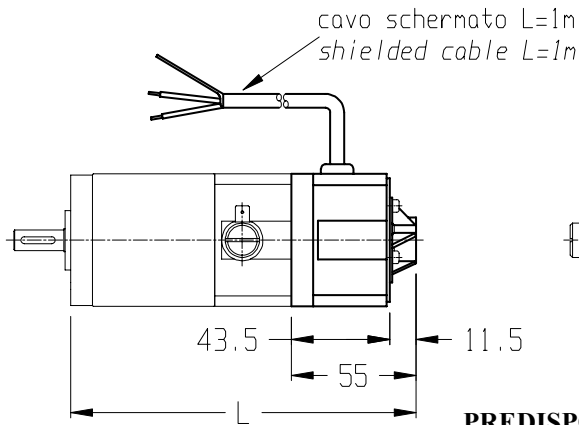
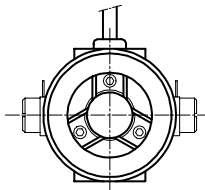


Type	S	L
A	20	25
L	136	183.5
d (j6)	7	9
C	-	3x3x15

PREDISPOSTO ENCODER STD
STD ENCODER PREARRANGEMENT

DINAMO TACHIMETRICA

TACHO GENERATOR

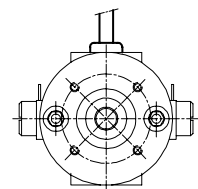
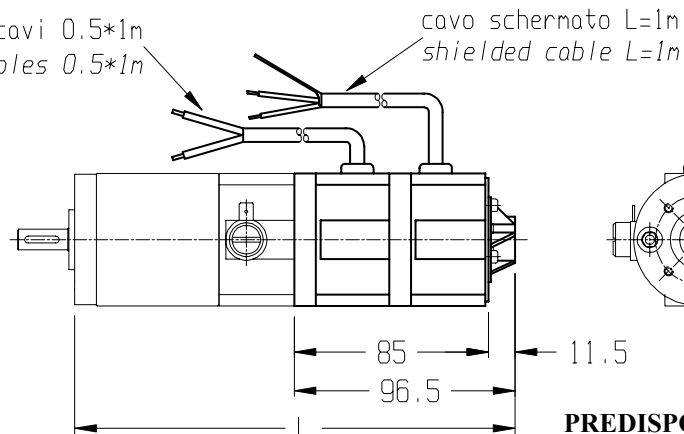
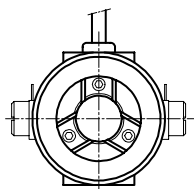


Type	S	L
L	177.5	225

PREDISPOSTO ENCODER STD
STD ENCODER PREARRANGEMENT

FRENO 0,5Nm + DINAMO TACHIMETRICA

TACHO GENERATOR + BRAKE 0,5Nm



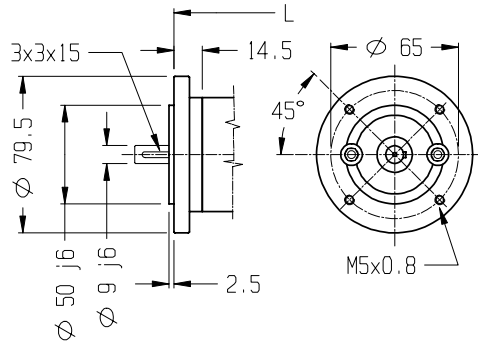
Type	S	L
L	219	266.5

PREDISPOSTO ENC. STD
STD ENC. PREARRANGEMENT

OPTIONALS

FLANGIA B14/56

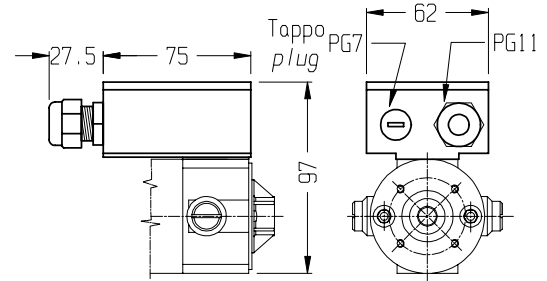
B14/56 FLANGE



Type	S	L
L	141	188.5

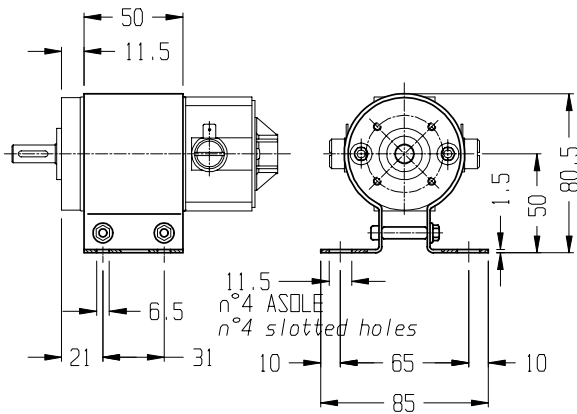
MORSETTIERA

TERMINAL BOX



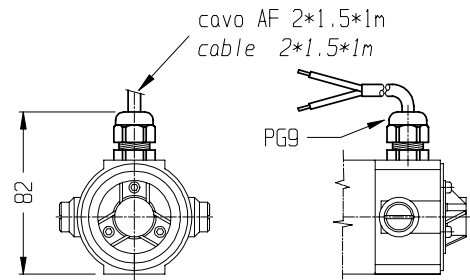
PIEDE A FASCIA

FOOT BAND TYPE



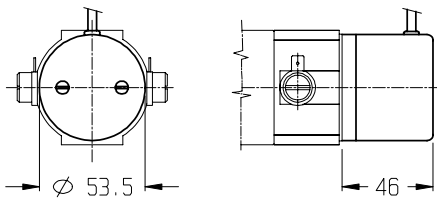
CAVO

FLYING LEADS



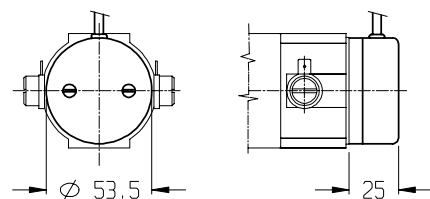
ENCODER EH53

ENCODER EH53



ENCODER EH38

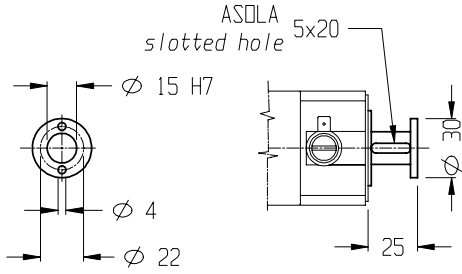
ENCODER EH38



OPTIONALS

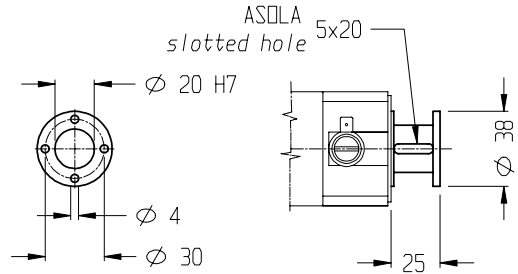
DISTANZ. ENC. N°1

ENCODER SPACER N°1



DISTANZ. ENC. N°2

ENCODER SPACER N°2



SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 3XS

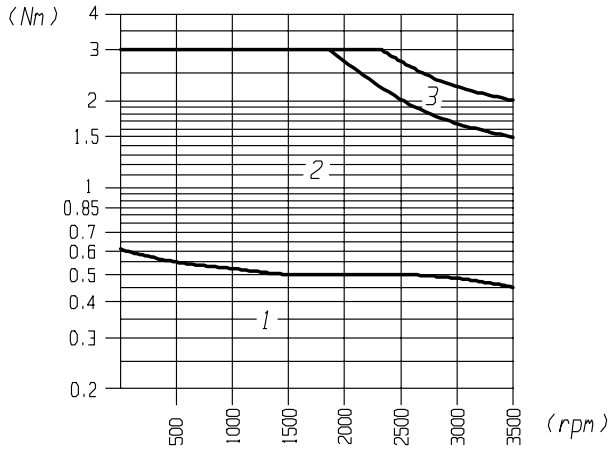
COPPIA - TORQUE

Nm 0.6

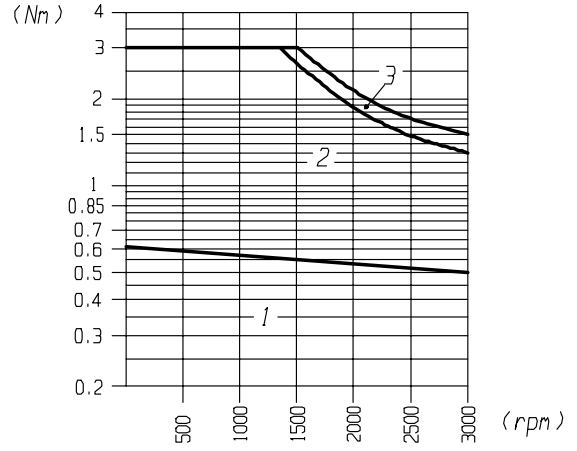
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2	3				
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	3500	3000	3000				
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	0.6	0.6	0.6				
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	140	150	150				
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	4.6	1.55	3				
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	3	3	3				
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	23	9.5	15				
	CORRENTE SMAGNETIZZANTE - Demagnetise current	Ipeak	[A]	25.3	8.525	16.5				
	FCEM A VELOCITA' NOMINALE - Bemf at rated speed	E	[V]	45.5	120	60				
	MAX VELOCITA' - Max speed	Nmax	[rpm]	4000	4000	4000				
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.0003	0.0003	0.0003				
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	10000	10000	10000				
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	17	15	21				
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.037	0.037	0.037				
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.027	0.027	0.027				
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	294	294	294				
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	88	88	88				
	PESO - Weight	M	[Kg]	3.5	3.5	3.5				
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	13	40	20				
	COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.13	0.386	0.2				
	COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	2.8	3.6	2.9				
	COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	20	20	20				
	RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	0.8	7.4	2.5				
	RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	0.9	7.5	2.6				
	INDUTTANZA - Inductance	La	[mH]	2.5	27	7.5				
	GRADO DI PROTEZIONE - Protection degree		IP			54				
	CLASSE D' ISOLAMENTO - Insulation class					F				
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02						
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40						
	RESISTENZA - Resistance	Ra	[Ohm]	86						
	INDUTTANZA - Inductance	La	[mH]	13						
	CORRENTE - Current	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - Number of poles			4						
	VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm						
FRENO Brake	TIPO - Type			STD						
	COPPIA STATICA - Static torque	C	[Nm]	3						
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24						
	CORRENTE NOMINALE - Rated current	I	[A]	0.42						
	POTENZA ASSORBITA - Input power	P	[W]	10						

CURVE OPERATIVE PERFORMANCE CURVES

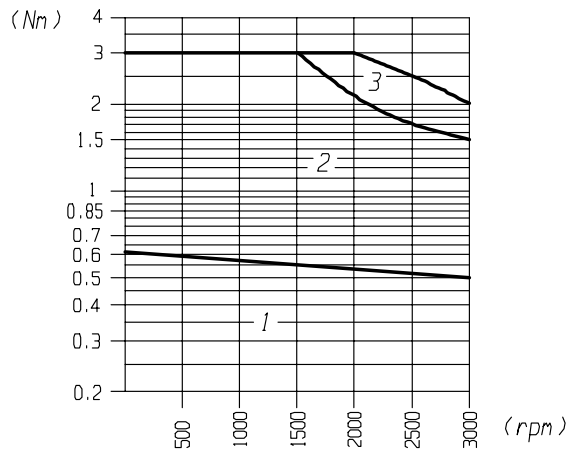
ESA 3XS1



ESA 3XS2



ESA 3XS3



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 3S

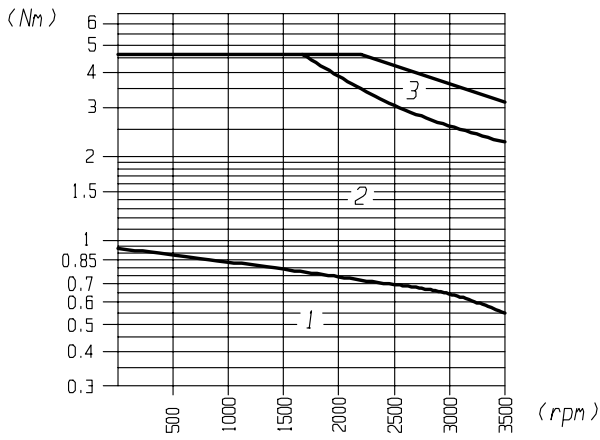
COPPIA - TORQUE

Nm 0.93

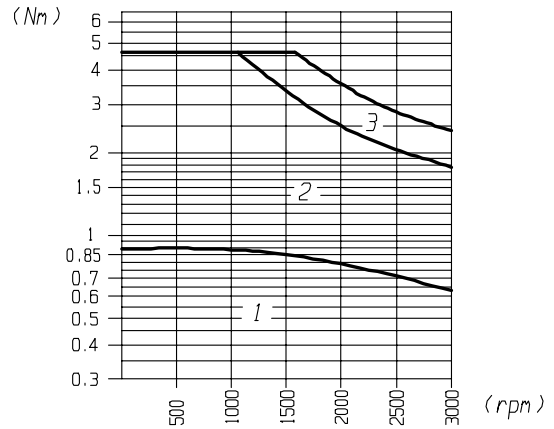
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2	3				
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - <i>Rated speed</i>	n	[rpm]	3500	3000	3000				
	COPPIA ROTORE BLOCCATO - <i>Continuous stall torque</i>	Cn	[Nm]	0.93	0.93	0.93				
	POTENZA A VELOCITA' NOMINALE - <i>Power at rated speed</i>	Pn	[W]	200	200	200				
	CORRENTE A ROTORE BLOCCATO - <i>Stall current</i>	In	[A]	7	2.4	4.8				
	PICCO DI COPPIA ALLO SPUNTO - <i>Peak torque</i>	Cmax	[Nm]	4.65	4.65	4.65				
	CORRENTE AL PICCO DI COPPIA - <i>Peak current</i>	Imax	[A]	35	12	24				
	CORRENTE SMAGNETIZZANTE - <i>Demagnetise current</i>	lpeak	[A]	38.5	13.2	26.4				
	FCEM A VELOCITA' NOMINALE - <i>Bemf at rated speed</i>	E	[V]	48.3	120	60				
	MAX VELOCITA' - <i>Max speed</i>	Nmax	[rpm]	4000	4000	4000				
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - <i>Moment of inertia</i>	Jm	Kg m ²	0.0006	0.0006	0.0006				
	MAX. ACC. TEORICA - <i>Max theoretical acceleration</i>	αmax	rad/s ²	7750	7750	7750				
	COSTANTE DI TEMPO MECCANICA - <i>Mechanical time constant</i>	Tm	[ms]	16	12	16				
	COPPIA SMORZAMENTO A 1000 RPM - <i>Damping constant at 1000 rpm</i>	Td	[Nm]	0.04	0.04	0.04				
	COPPIA ATTRITO STATICO - <i>Static friction torque</i>	Tf	[Nm]	0.03	0.03	0.03				
	MAX CARICO RADIALE (A 3000 RPM) - <i>Max radial load (at 3000 rpm)</i>	Fr	[N]	294	294	294				
	MAX CARICO ASSIALE - <i>Max axial load</i>	Fa	[N]	88	88	88				
	PESO - <i>Weight</i>	M	[Kg]	4.6	4.6	4.6				
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - <i>Voltage constant ± 5%</i>	Ke	V/Krpm	13.8	40	20				
	COSTANTE DI COPPIA ± 5% - <i>Torque constant ± 5%</i>	Kt	[Nm/A]	0.133	0.386	0.193				
	COSTANTE DI TEMPO ELETTRICA - <i>Electrical time constant</i>	Te	[ms]	2.36	3.7	2.8				
	COSTANTE DI TEMPO TERMICA - <i>Thermal time constant</i>	Tt	[min]	25	25	25				
	RESIST. ARMATURA ± 10% A 25°C - <i>Armature resistance ± 10% at 25°C</i>	Ra	[Ohm]	0.37	2.9	0.86				
	RESIST. ARMATURA CON SPAZZOLE - <i>Terminal resistance</i>	Rt	[Ohm]	0.47	3	0.96				
	INDUTTANZA - <i>Inductance</i>	La	[mH]	1.11	11	2.67				
	GRADO DI PROTEZIONE - <i>Protection degree</i>		IP						54	
	CLASSE D' ISOLAMENTO - <i>Insulation class</i>								F	
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - <i>Voltage constant</i>	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - <i>Ripple</i>		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - <i>Linearity at 6000 rpm</i>		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - <i>Reversibility error</i>		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - <i>Temperature coefficient</i>		[%]	0.02						
	MOMENTO D' INERZIA - <i>Moment of inertia</i>	J	g cm ²	40						
	RESISTENZA - <i>Resistance</i>	Ra	[Ohm]	86						
	INDUTTANZA - <i>Inductance</i>	La	[mH]	13						
	CORRENTE - <i>Current</i>	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - <i>Number of poles</i>			4						
VITA SPAZZOLE PREVISTA - <i>Life expectancy</i>			15000 A 3000 rpm							
FRENO Brake	TIPO - <i>Type</i>			STD						
	COPPIA STATICA - <i>Static torque</i>	C	[Nm]	3						
	TENSIONE DI ALIMENTAZIONE - <i>Power supply voltage</i>	E	[V]	24						
	CORRENTE NOMINALE - <i>Rated current</i>	I	[A]	0.42						
	POTENZA ASSORBITA - <i>Input power</i>	P	[W]	10						

CURVE OPERATIVE PERFORMANCE CURVES

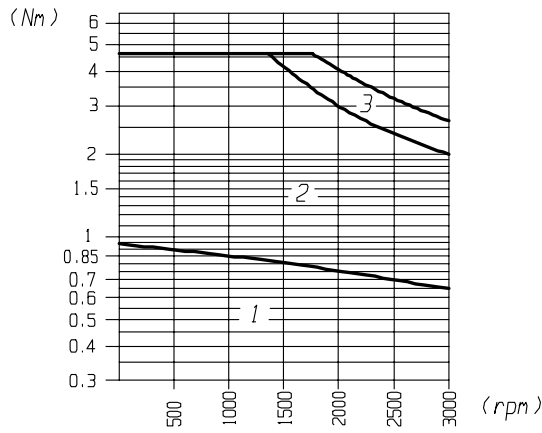
ESA 3S1



ESA 3S2



ESA 3S3



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 3SL

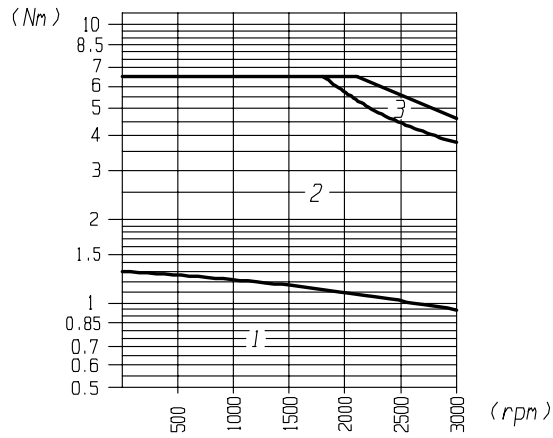
COPPIA - TORQUE

Nm 1.3

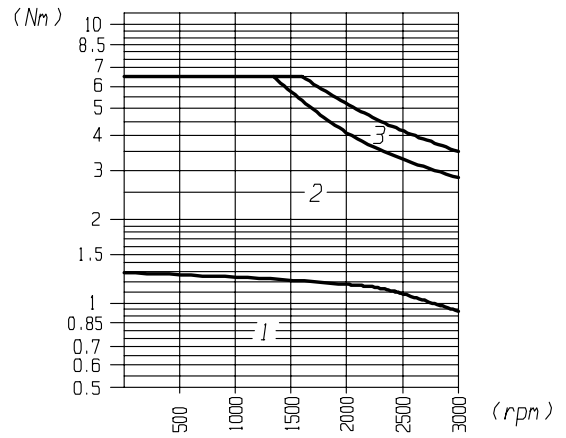
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2	3	4			
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	3000	3000	3000	3000			
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	1.3	1.3	1.3	1.3			
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	300	300	300	300			
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	8	2.25	3.46	7.1			
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	6.5	6.5	6.5	6.5			
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	40	11.25	17.3	35.5			
	CORRENTE SMAGNETIZZANTE - Demagnetise current	Ipeak	[A]	44	12.375	19.03	39.05			
	FCEM A VELOCITA' NOMINALE - BEMF at rated speed	E	[V]	49.5	160	120	57			
	MAX VELOCITA' - Max speed	Nmax	[rpm]	4000	3400	4000	4000			
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.0007	0.0007	0.0007	0.0007			
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	10714	10714	10714	10714			
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	14	12	12	14			
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.044	0.044	0.044	0.044			
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.032	0.032	0.032	0.032			
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	343	343	343	343			
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	103	103	103	103			
	PESO - Weight	M	[Kg]	5.3	5.3	5.3	5.3			
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	16.5	60	40	19			
COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.16	0.58	0.375	0.183				
COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	2.65	3.7	3.8	3				
COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	30	30	30	30				
RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	0.39	5.4	2.4	0.57				
RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	0.49	5.5	2.5	0.63				
INDUTTANZA - Inductance	La	[mH]	1.3	20.5	9.46	2				
GRADO DI PROTEZIONE - Protection degree		IP				54				
CLASSE D' ISOLAMENTO - Insulation class						F				
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02						
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40						
	RESISTENZA - Resistance	Ra	[Ohm]	86						
	INDUTTANZA - Inductance	La	[mH]	13						
	CORRENTE - Current	I	[mA]	2 (MAX 8 Ma)						
	NUMERO POLI - Number of poles			4						
VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm							
FRENO Brake	TIPO - Type			STD						
	COPPIA STATICA - Static torque	C	[Nm]	3						
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24						
	CORRENTE NOMINALE - Rated current	I	[A]	0.42						
	POTENZA ASSORBITA - Input power	P	[W]	10						

CURVE OPERATIVE PERFORMANCE CURVES

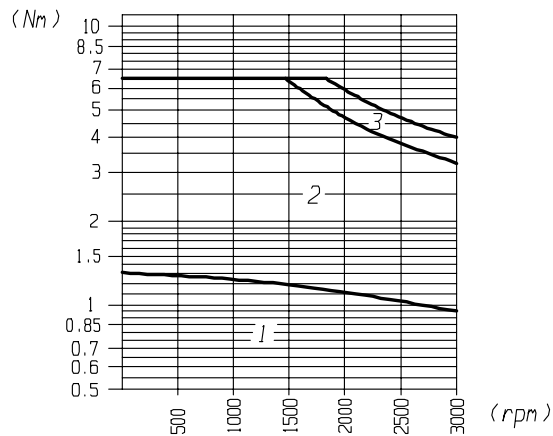
ESA SL1



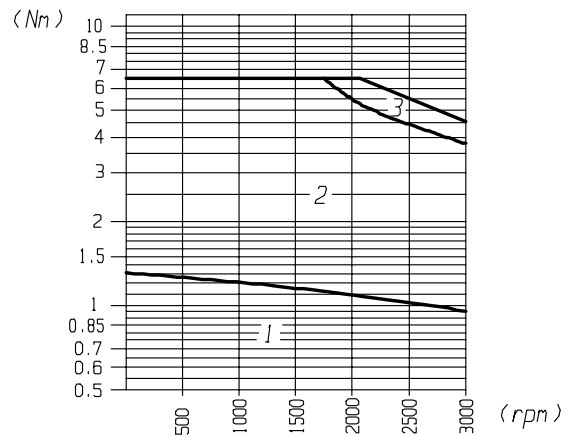
ESA 3SL2



ESA 3SL3



ESA 3SL4



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 3M

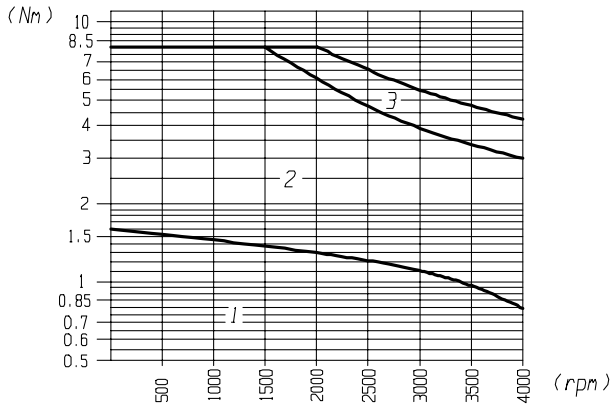
COPPIA - TORQUE

Nm 1.6

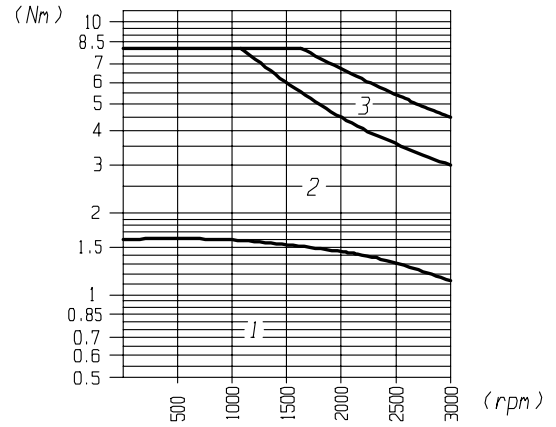
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding					
				2	3	5	8		
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	4000	3000	3000	3000		
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	1.6	1.6	1.6	1.6		
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	335	360	360	360		
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	6.2	3	4.15	10		
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	8	8	8	8		
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	31	15	20.75	50		
	CORRENTE SMAGNETIZZANTE - Demagnetise current	lpeak	[A]	34.1	16.5	22.825	55		
	FCEM A VELOCITA' NOMINALE - Bemf at rated speed	E	[V]	108	157.5	120	49.5		
	MAX VELOCITA' - Max speed	Nmax	[rpm]	4500	3400	4000	4000		
	DATI MECCANICI - MECHANICAL DATA								
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.0008	0.0008	0.0008	0.0008		
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	10000	10000	10000	10000		
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	12	10	10	13		
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.048	0.048	0.048	0.048		
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.04	0.04	0.04	0.04		
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	343	343	343	343		
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	103	103	103	103		
	PESO - Weight	M	[Kg]	6.4	6.4	6.4	6.4		
	DATI ELETTRICI - WINDING DATA								
	COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	27	52.5	40	16.5		
COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.26	0.5	0.385	0.16			
COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	3	3.3	3.7	2.75			
COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	40	40	40	40			
RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	0.8	2.96	1.74	0.3			
RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	0.9	3.06	1.84	0.4			
INDUTTANZA - Inductance	La	[mH]	3	10.2	6.8	1.1			
GRADO DI PROTEZIONE - Protection degree		IP				54			
CLASSE D' ISOLAMENTO - Insulation class						F			
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)					
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm					
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1					
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12					
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02					
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40					
	RESISTENZA - Resistance	Ra	[Ohm]	86					
	INDUTTANZA - Inductance	La	[mH]	13					
	CORRENTE - Current	I	[mA]	2 (MAX 8 Ma)					
	NUMERO POLI - Number of poles			4					
VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm						
FRENO Brake	TIPO - Type			STD					
	COPPIA STATICA - Static torque	C	[Nm]	3					
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24					
	CORRENTE NOMINALE - Rated current	I	[A]	0.42					
	POTENZA ASSORBITA - Input power	P	[W]	10					

CURVE OPERATIVE PERFORMANCE CURVES

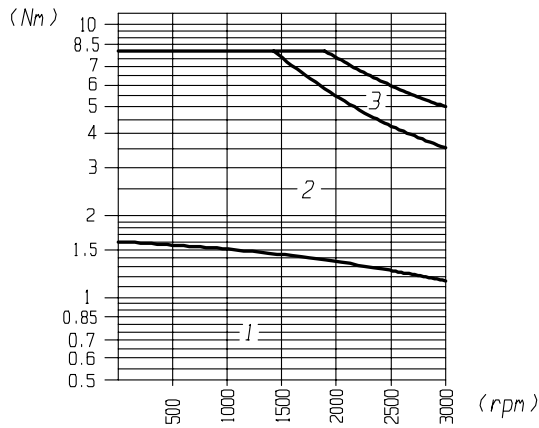
ESA 3M2



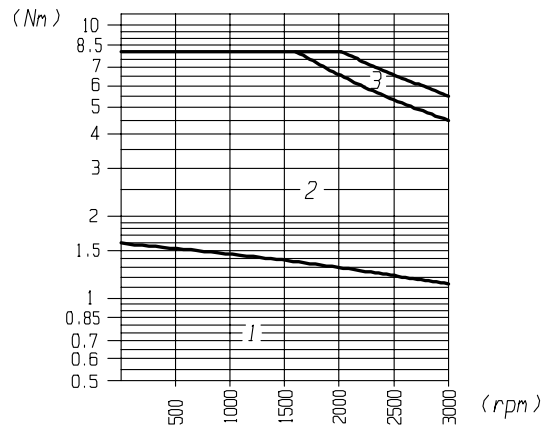
ESA 3M3



ESA 3M5



ESA 3M8



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 3L

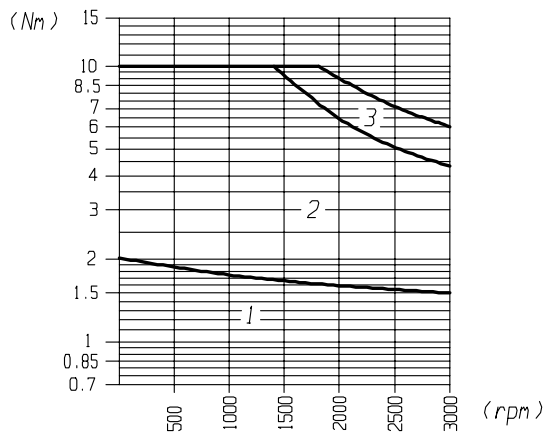
COPPIA - TORQUE

Nm 2.1

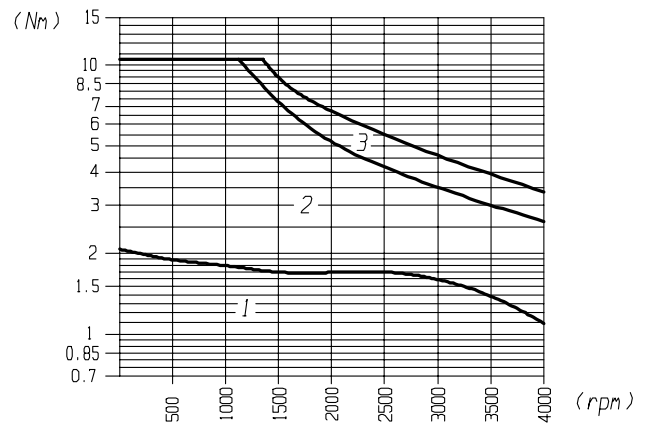
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding					
				1	3	4	6	7	
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	3000	4000	3000	3000	3000	
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	2	2.1	2.1	2	2.1	
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	500	460	500	500	500	
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	10.5	6.65	5.4	12.5	3.8	
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	10	10.5	10.5	10	10.5	
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	52.5	33.25	27	62.5	19	
	CORRENTE SMAGNETIZZANTE - Demagnetise current	Ipeak	[A]	57.75	36.575	29.7	68.75	20.9	
	FCEM A VELOCITA' NOMINALE - Bemf at rated speed	E	[V]	59.7	128.8	120	49.5	171	
	MAX VELOCITA' - Max speed	Nmax	[rpm]	4000	4000	4000	4000	3200	
	DATI MECCANICI - MECHANICAL DATA								
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.001	0.001	0.001	0.001	0.001	
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	10000	10500	10500	10000	10500	
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	11	9	7	12	8	
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.055	0.055	0.055	0.055	0.055	
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.05	0.05	0.05	0.05	0.05	
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	343	343	343	343	343	
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	103	103	103	103	103	
	PESO - Weight	M	[Kg]	8	8	8	8	8	
	DATI ELETTRICI - WINDING DATA								
	COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	19.9	32.8	40	16.5	57	
COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.191	0.316	0.39	0.16	0.55		
COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	2.9	3.3	3.9	2.4	4.1		
COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	50	50	50	50	50		
RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	0.32	0.82	1	0.19	2.52		
RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	0.42	0.92	1.1	0.29	2.62		
INDUTTANZA - Inductance	La	[mH]	1.23	3.04	4.3	0.69	10.8		
GRADO DI PROTEZIONE - Protection degree		IP				54			
CLASSE D' ISOLAMENTO - Insulation class						F			
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)					
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm					
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1					
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12					
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02					
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40					
	RESISTENZA - Resistance	Ra	[Ohm]	86					
	INDUTTANZA - Inductance	La	[mH]	13					
	CORRENTE - Current	I	[mA]	2 (MAX 8 mA)					
	NUMERO POLI - Number of poles			4					
VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm						
FRENO Brake	TIPO - Type			STD					
	COPPIA STATICA - Static torque	C	[Nm]	3					
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24					
	CORRENTE NOMINALE - Rated current	I	[A]	0.42					
	POTENZA ASSORBITA - Input power	P	[W]	10					

CURVE OPERATIVE PERFORMANCE CURVES

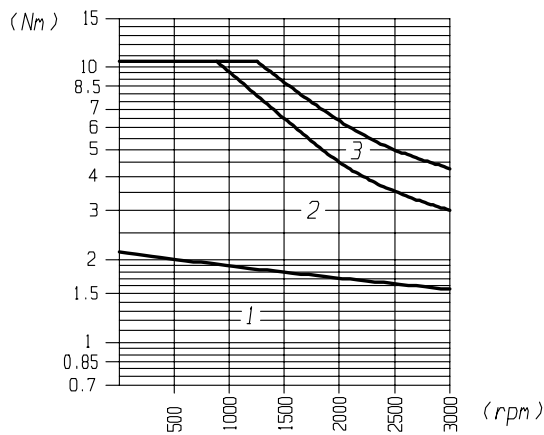
ESA 3L1



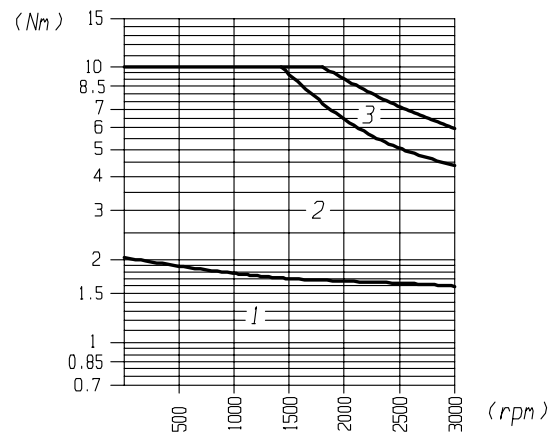
ESA 3L3



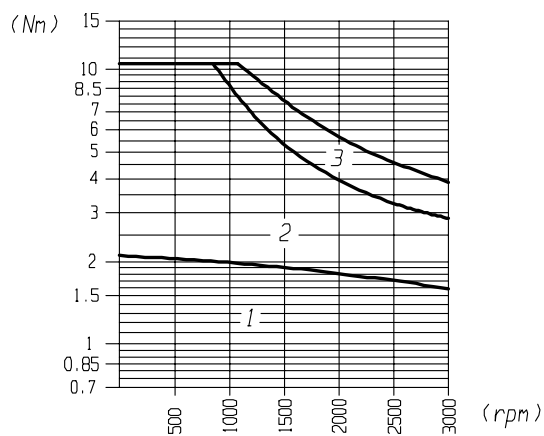
ESA 3L4



ESA 3L6



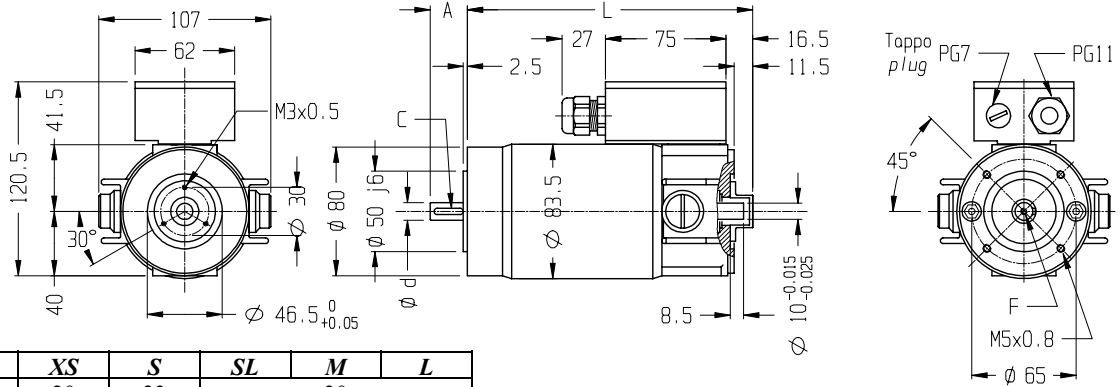
ESA 3L7



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

DIMENSIONI (mm) DIMENSIONS (mm)

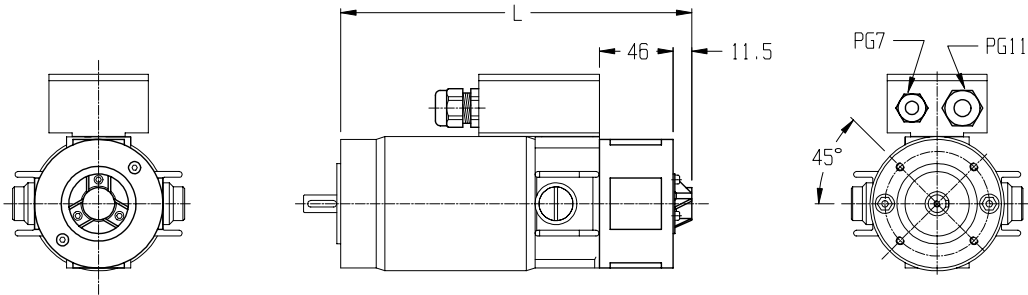


Type	XS	S	SL	M	L
A	20	23		30	
F	-	M4		M5	
L	177.5	212.5	229	267.5	322.5
d (j6)	9	11		14	
C	3x3x15	4x4x18		5x5x25	

**PREDISPOSTO ENCODER STD
STD ENCODER**

DINAMO TACHIMETRICA

TACHO GENERATOR

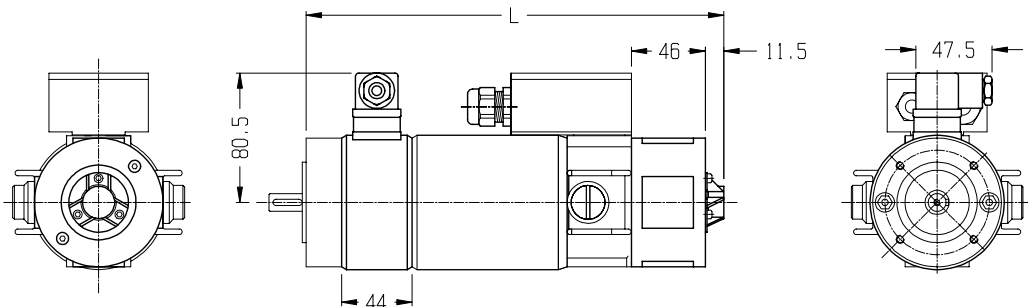


Type	XS	S	SL	M	L
L	218.5	253.5	270	308.5	363.5

**PREDISPOSTO ENCODER STD
STD ENCODER**

FRENO + DINAMO TACHIMETRICA

TACHO GENERATOR + BRAKE



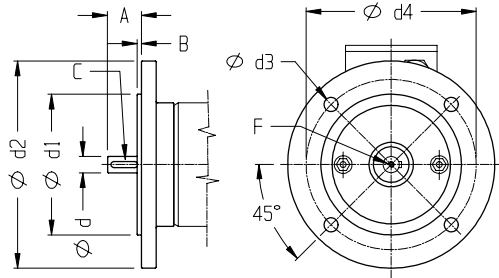
Type	XS	S	SL	M	L
L	262.5	297.5	314	352.5	407.5

**PREDISPOSTO ENCODER STD
STD ENCODER**

OPTIONALS

FLANGIA B5

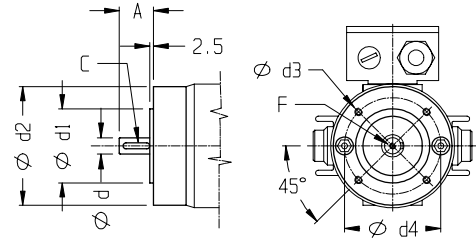
B5 FLANGE



Size	A	B	d(i6)	d1(i6)	d2	d3	d4	F	C
56	20	3	9	80	120	8.5	100	-	3*3*15
63	23	3	11	95	140	9.5	115	M4	4*4*18
71	30	3.5	14	110	160	9.5	130	M5	5*5*25

FLANGIA B14

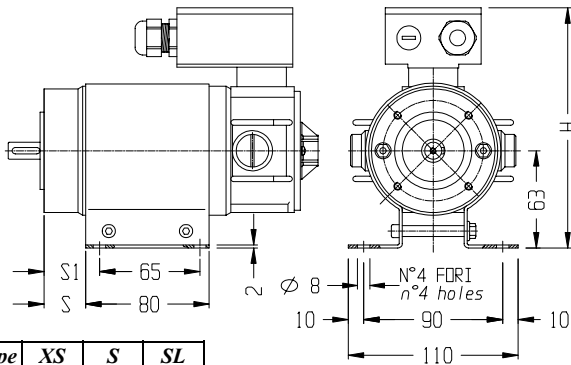
B14 FLANGE



Size	A	d(i6)	d1(i6)	d2	d3	d4	F	C
63	23	11	60	90	M5	75	M4	4*4*18
71	30	14	70	105	M6	85	M5	5*5*25

PIEDE A FASCIA

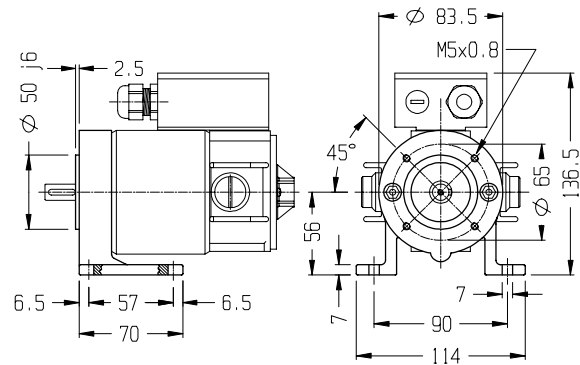
FOOT BAND TYPE



Type	XS	S	SL
H	155.5	143.5	143.5
S	27	27	27
SI	36	36	36

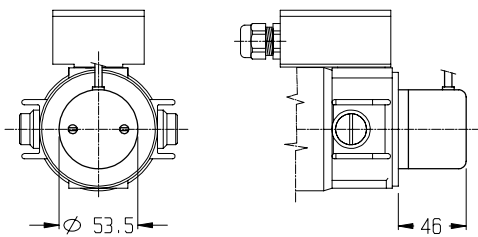
FLANGIA B3-B14/56

B3-B14/56 FLANGE



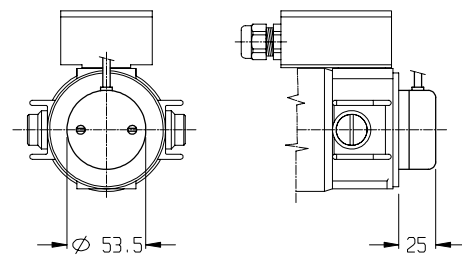
ENCODER EH53

ENCODER EH53



ENCODER EH38

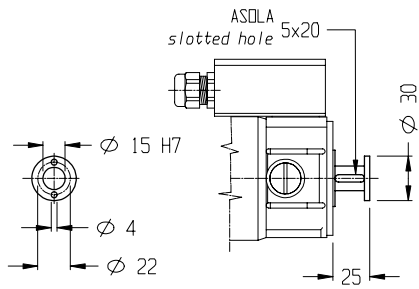
ENCODER EH38



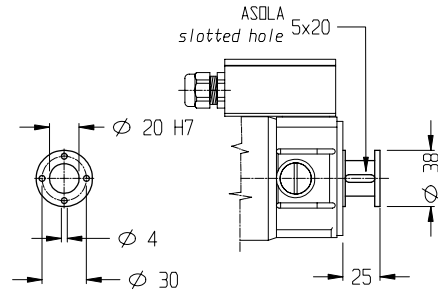
ESA 3

OPTIONALS

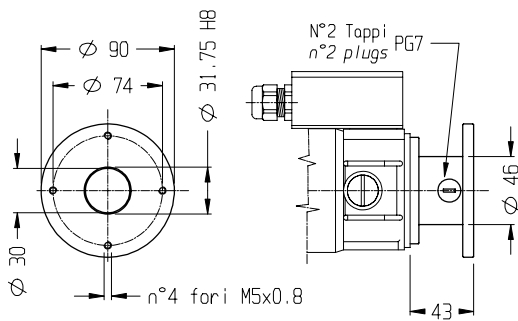
DISTANZ. ENC. N°1 *ENCODER SPACER N°1*



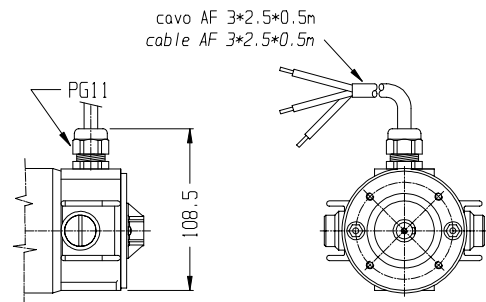
DISTANZ. ENC. N°2 *ENCODER SPACER N°2*



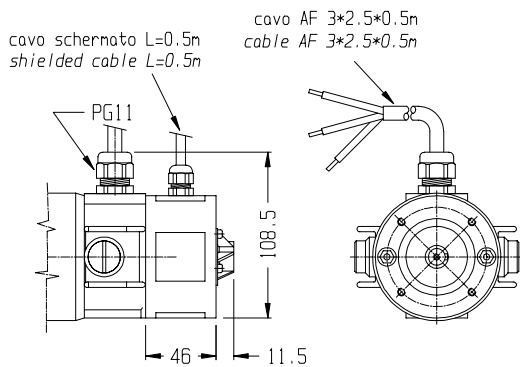
DISTANZ. ENC. N°3 *ENCODER SPACER N°3*



CAVO *FLYING LEADS*



CAVO + DINAMO *TACHO + FLYING LEADS*



SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 6S

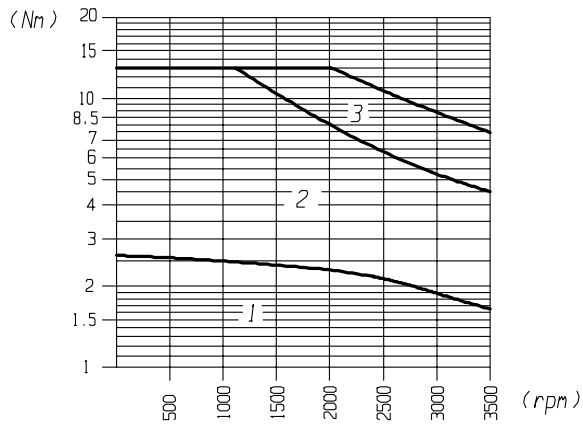
COPPIA - TORQUE

Nm 2.65

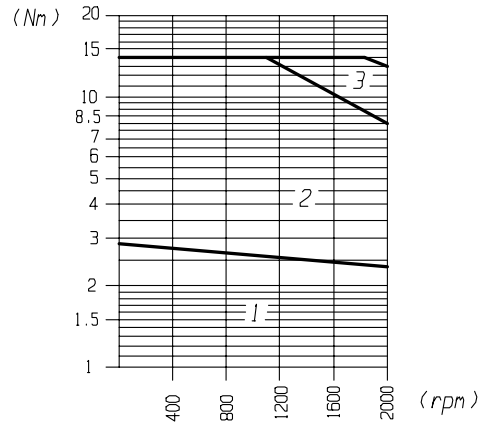
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2	5				
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	3500	2000	3000				
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	2.65	2.95	2.4				
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	590	500	500				
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	7.8	5.1	13.7				
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	13.25	14.25	12				
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	39	25.5	68.5				
	CORRENTE SMAGNETIZZANTE - Demagnetise current	Ipeak	[A]	42.9	28.05	75.35				
	FCEM A VELOCITA' NOMINALE - BEMF at rated speed	E	[V]	124.25	116	50.7				
	MAX VELOCITA' - Max speed	Nmax	[rpm]	4000	3000	4000				
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.0018	0.0018	0.0018				
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	7360	7916	6660				
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	17	14	23				
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.113	0.113	0.113				
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.068	0.068	0.068				
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	588	588	588				
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	176	176	176				
	PESO - Weight	M	[Kg]	9.4	9.4	9.4				
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	35.5	58	16.9				
COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.34	0.56	0.175					
COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	5.35	5.9	2.94					
COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	40	40	40					
RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	1	2.25	0.24					
RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	1.1	2.35	0.34					
INDUTTANZA - Inductance	La	[mH]	5.9	13.8	1					
GRADO DI PROTEZIONE - Protection degree		IP			54					
CLASSE D' ISOLAMENTO - Insulation class					F					
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02						
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40						
	RESISTENZA - Resistance	Ra	[Ohm]	86						
	INDUTTANZA - Inductance	La	[mH]	13						
	CORRENTE - Current	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - Number of poles			4						
VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm							
FRENO Brake	TIPO - Type			STD	SVS					
	COPPIA STATICA - Static torque	C	[Nm]	12	16					
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24	24					
	CORRENTE NOMINALE - Rated current	I	[A]	0.6	0.4					
	POTENZA ASSORBITA - Input power	P	[W]	14	9.5					

CURVE OPERATIVE PERFORMANCE CURVES

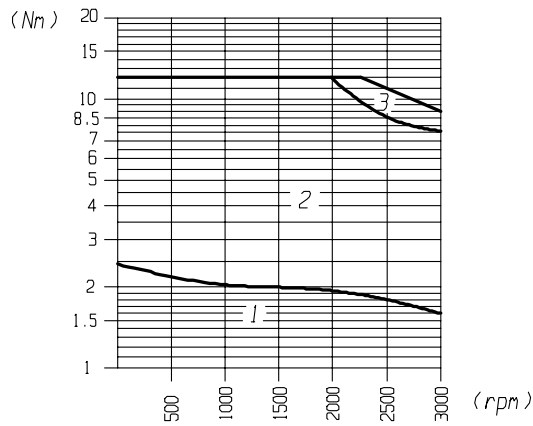
ESA 6S1



ESA 6S2



ESA 6S5



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 6F

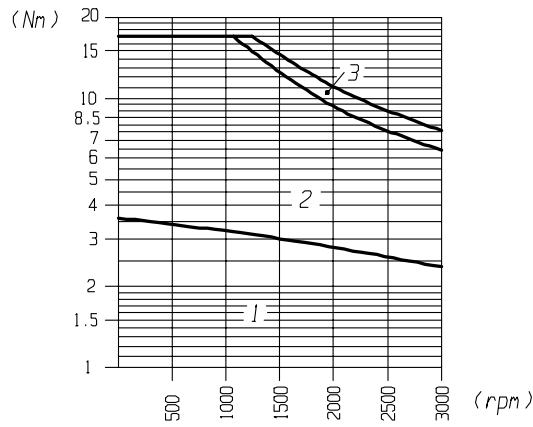
COPPIA - TORQUE

Nm 3.5

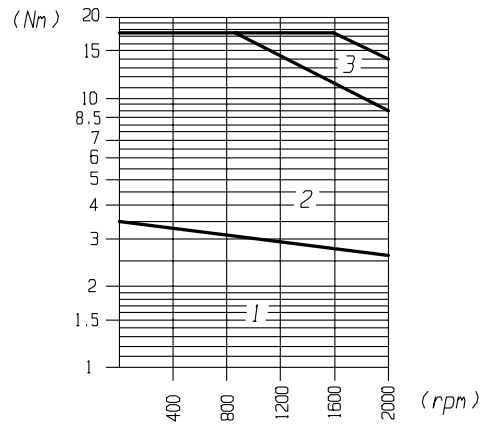
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding							
				2	3	4					
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	3000	2000	1200					
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	3.5	3.5	3.5					
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	720	580	380					
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	9	6	3.65					
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	17.5	17.5	17.5					
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	45	30	16.5					
	CORRENTE SMAGNETIZZANTE - Demagnetise current	Ipeak	[A]	49.5	33	20.075					
	FCEM A VELOCITA' NOMINALE - Bemf at rated speed	E	[V]	120	120	119					
	MAX VELOCITA' - Max speed	Nmax	[rpm]	4000	3000	1800					
	DATI MECCANICI - MECHANICAL DATA										
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.0018	0.0018	0.0018					
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	9720	9720	9720					
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	12	9	9					
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.138	0.138	0.138					
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.143	0.143	0.143					
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	588	588	588					
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	176	176	176					
	PESO - Weight	M	[Kg]	9.4	9.4	9.4					
	DATI ELETTRICI - WINDING DATA										
	COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	40	60	99					
COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.39	0.58	0.96						
COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	3.5	4	4.47						
COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	40	40	40						
RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	0.92	1.7	4.4						
RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	0.97	1.75	4.45						
INDUTTANZA - Inductance	La	[mH]	3.4	7.1	19.9						
GRADO DI PROTEZIONE - Protection degree		IP			54						
CLASSE D' ISOLAMENTO - Insulation class					F						
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)							
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm							
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1							
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12							
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02							
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40							
	RESISTENZA - Resistance	Ra	[Ohm]	86							
	INDUTTANZA - Inductance	La	[mH]	13							
	CORRENTE - Current	I	[mA]	2 (MAX 8 mA)							
	NUMERO POLI - Number of poles			4							
VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm								
FRENO Brake	TIPO - Type			STD	SVS						
	COPPIA STATICA - Static torque	C	[Nm]	12	16						
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24	24						
	CORRENTE NOMINALE - Rated current	I	[A]	0.6	0.4						
	POTENZA ASSORBITA - Input power	P	[W]	14	9.5						

CURVE OPERATIVE PERFORMANCE CURVES

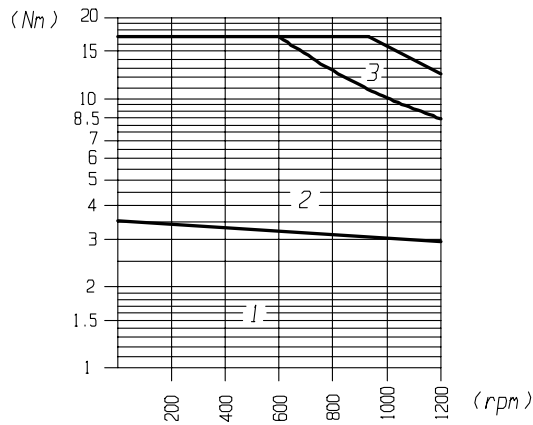
ESA 6F2



ESA 6F3



ESA 6F4



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 6M

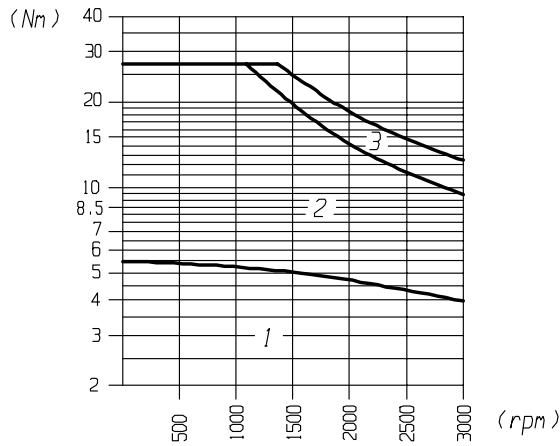
COPPIA - TORQUE

Nm 5.5

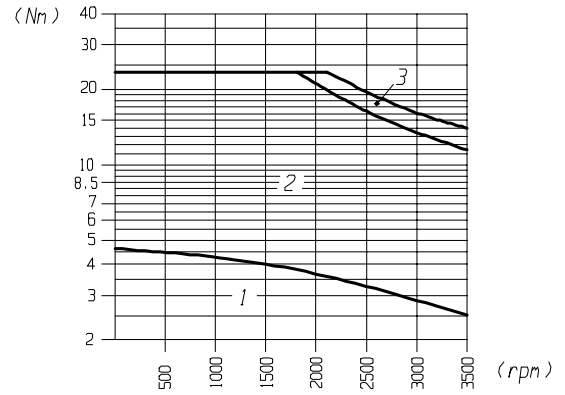
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding					
				1	2	3	4	7	
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	3000	3500	3000	3000	1200	
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	5.5	4.6	5.5	5.5	5.5	
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	1250	920	1100	1100	720	
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	9.8	14	14	12	5.5	
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	27.5	23	27.5	27.5	27.5	
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	49	70	70	60	27.5	
	CORRENTE SMAGNETIZZANTE - Demagnetise current	Ipeak	[A]	53.9	77	77	66	30.25	
	FCEM A VELOCITA' NOMINALE - Bemf at rated speed	E	[V]	173	119	120	141	126	
	MAX VELOCITA' - Max speed	Nmax	[rpm]	3500	4000	4000	3500	1800	
	DATI MECCANICI - MECHANICAL DATA								
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.0028	0.0028	0.0028	0.0028	0.0028	
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	9820	8214	9820	9820	9820	
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	8	9	9	8	6.5	
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.191	0.191	0.191	0.191	0.191	
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.162	0.162	0.162	0.162	0.162	
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	588	588	588	588	588	
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	176	176	176	176	176	
	PESO - Weight	M	[Kg]	13.6	13.6	13.6	13.6	13.6	
DATI ELETTRICI - WINDING DATA									
COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	57.7	34	40	47	105		
COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.56	0.33	0.39	0.453	1		
COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	3.7	3.2	3.67	3.6	4		
COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	50	50	50	50	50		
RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	0.8	0.29	0.4	0.53	2.3		
RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	0.85	0.34	0.45	0.58	2.35		
INDUTTANZA - Inductance	La	[mH]	3.15	1.1	1.65	2.1	9.4		
GRADO DI PROTEZIONE - Protection degree		IP				54			
CLASSE D' ISOLAMENTO - Insulation class						F			
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)					
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm					
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1					
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12					
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02					
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40					
	RESISTENZA - Resistance	Ra	[Ohm]	86					
	INDUTTANZA - Inductance	La	[mH]	13					
	CORRENTE - Current	I	[mA]	2 (MAX 8 mA)					
	NUMERO POLI - Number of poles			4					
VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm						
FRENO Brake	TIPO - Type			STD	SVS				
	COPPIA STATICA - Static torque	C	[Nm]	12	16				
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24	24				
	CORRENTE NOMINALE - Rated current	I	[A]	0.6	0.4				
	POTENZA ASSORBITA - Input power	P	[W]	14	9.5				

CURVE OPERATIVE PERFORMANCE CURVES

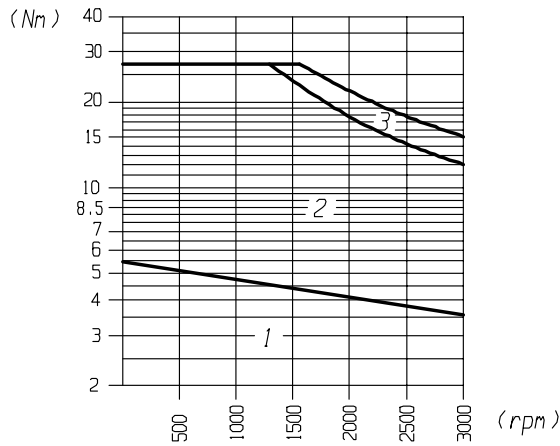
ESA 6M1



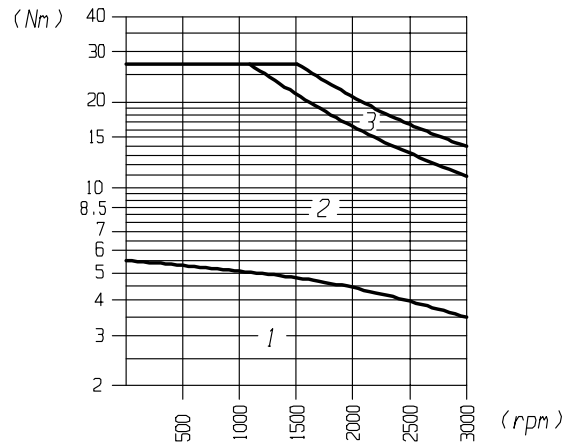
ESA 6M2



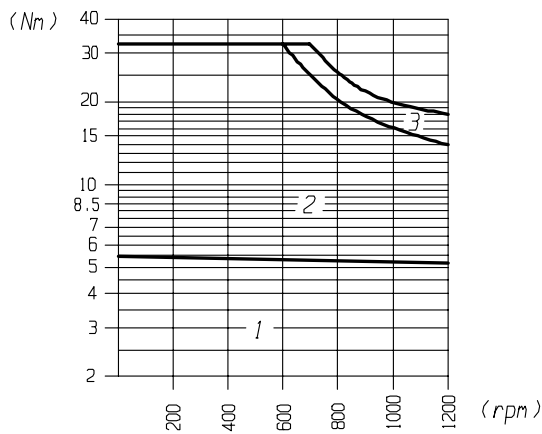
ESA 6M3



ESA 6M4



ESA 6M7



1 = Area di ciclo continuo
 2 = Area di ciclo intermittente
 3 = Area di accel. decel.

1 = Continuous duty area
 2 = Intermittent duty area
 3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 6L

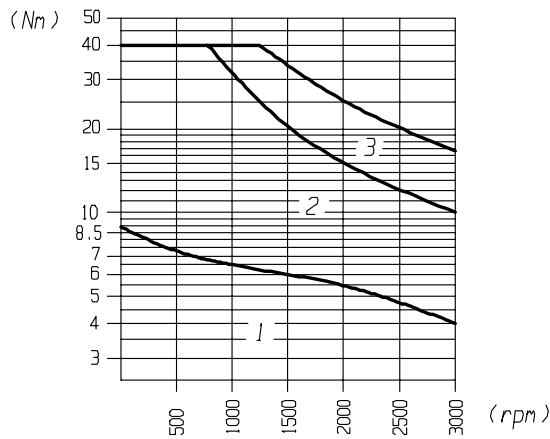
COPPIA - TORQUE

Nm 8

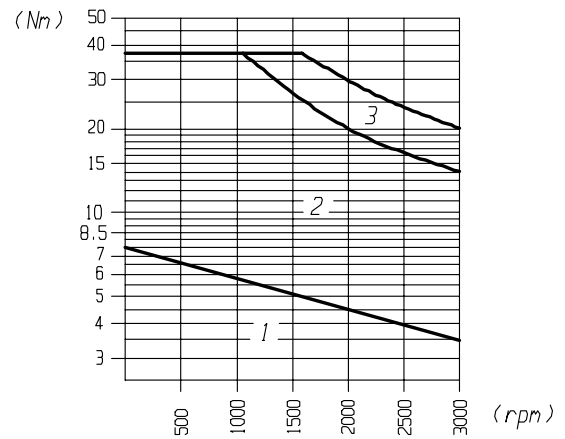
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2	3	5	7	8	
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	3000	3000	3000	2000	1500	1200	
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	8	7.5	8	8	8	8	
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	1260	1100	1260	1320	1100	920	
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	14.5	21	15.5	13.8	9.9	8	
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	40	37.5	40	40	40	40	
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	72.5	105	77.5	69	49.5	40	
	CORRENTE SMAGNETIZZANTE - Demagnetise current	Ipeak	[A]	79.75	115.5	82.25	75.9	54.45	44	
	FCEM A VELOCITA' NOMINALE - BEMF at rated speed	E	[V]	171	114	160.5	120	128	128	
	MAX VELOCITA' - Max speed	Nmax	[rpm]	3500	4000	3500	3000	2500	1800	
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.0051	0.0051	0.0051	0.0051	0.0051	0.0051	
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	7840	7350	7840	7840	7840	7840	
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	7	12	7	8	8	7	
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.21	0.21	0.21	0.21	0.21	0.21	
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.21	0.21	0.21	0.21	0.21	0.21	
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	588	588	588	588	588	588	
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	176	176	176	176	176	176	
	PESO - Weight	M	[Kg]	17	17	17	17	17	17	
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	57	37.5	53.5	60	84	105	
COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.55	0.36	0.514	0.57	0.808	1		
COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	4.1	2.7	4.1	3.8	4.15	4.5		
COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	60	60	60	60	60	60		
RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	0.37	0.26	0.35	0.45	1	1.26		
RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	0.42	0.31	0.4	0.5	1.05	1.31		
INDUTTANZA - Inductance	La	[mH]	1.72	0.85	1.65	1.9	4.2	5.9		
GRADO DI PROTEZIONE - Protection degree		IP	54							
CLASSE D' ISOLAMENTO - Insulation class			F							
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02						
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40						
	RESISTENZA - Resistance	Ra	[Ohm]	86						
	INDUTTANZA - Inductance	La	[mH]	13						
	CORRENTE - Current	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - Number of poles			4						
VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm							
FRENO Brake	TIPO - Type			STD	SVS					
	COPPIA STATICA - Static torque	C	[Nm]	12	16					
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24	24					
	CORRENTE NOMINALE - Rated current	I	[A]	0.6	0.4					
	POTENZA ASSORBITA - Input power	P	[W]	14	9.5					

CURVE OPERATIVE PERFORMANCE CURVES

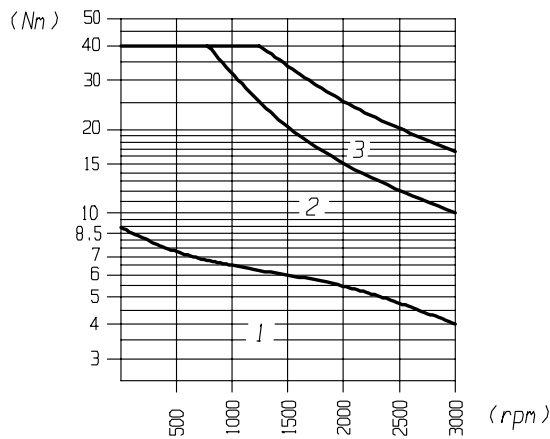
ESA 6L1



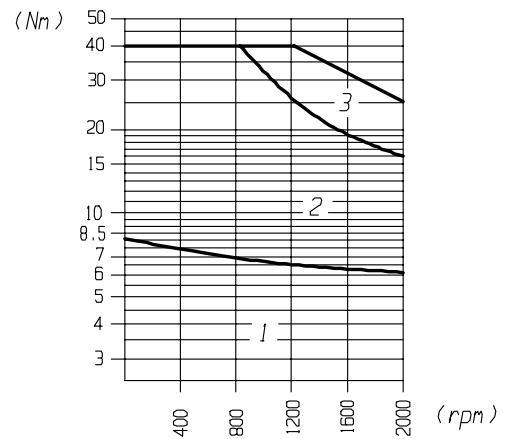
ESA 6L2



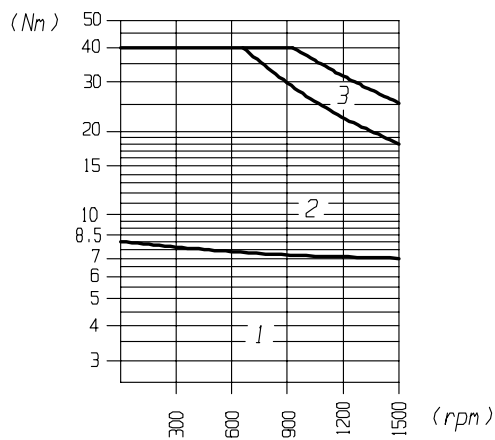
ESA 6L3



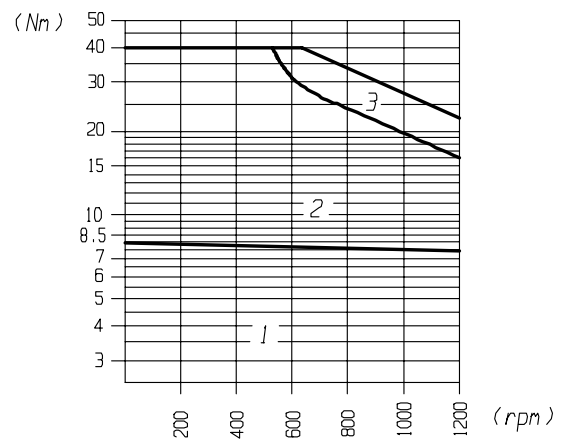
ESA 6L5



ESA 6L7



ESA 6L8

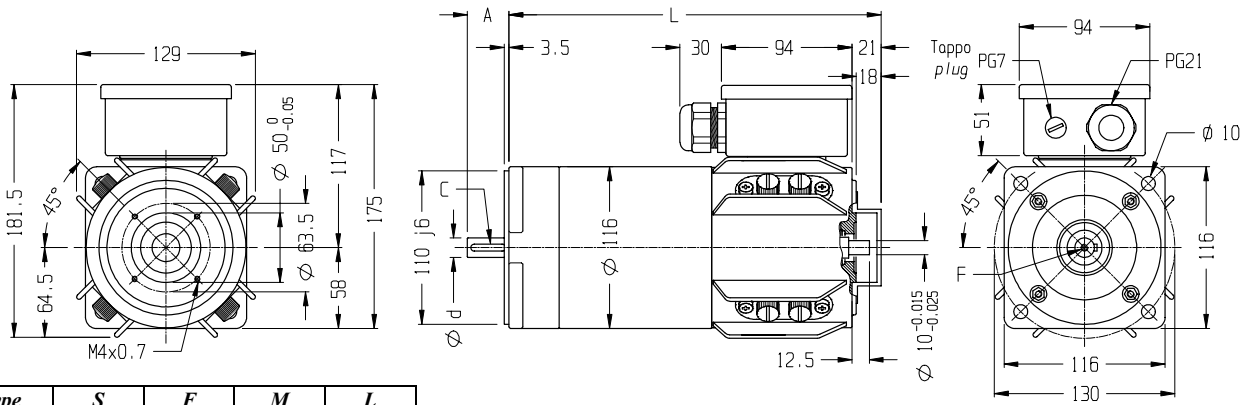


1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

ESA 6

DIMENSIONI (mm) DIMENSIONS (mm)

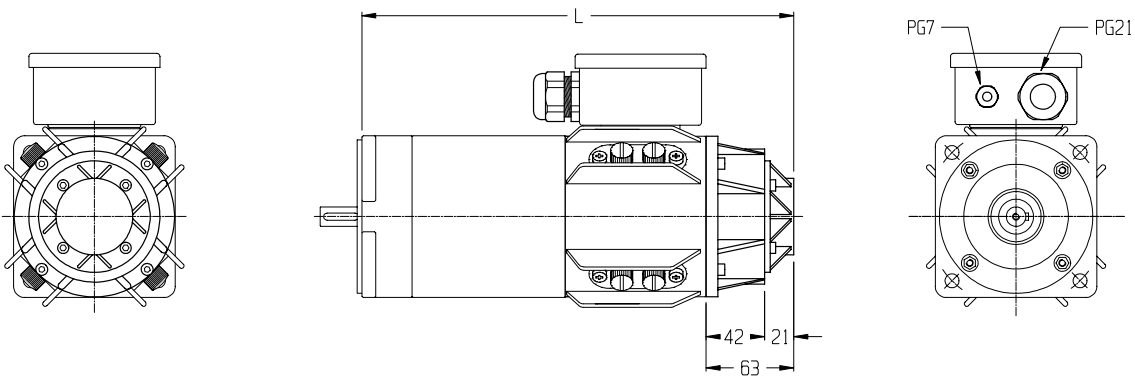


Type	S	F	M	L
A	30		40	
F	M5		M6	
L		268	340	412
d (j6)	14		19	
C	5x5x25		6x6x30	

PREDISPOSTO ENCODER STD
STD ENCODER PREARRANGEMENT

DINAMO TACHIMETRICA

TACHO GENERATOR

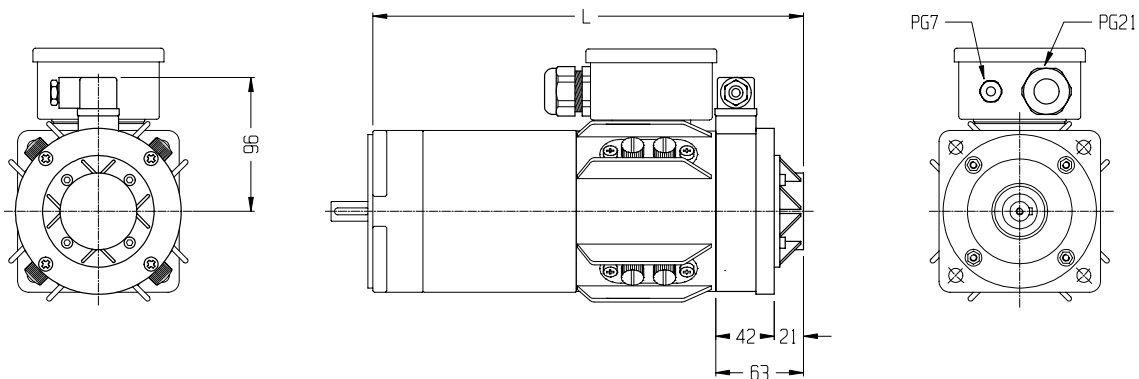


Type	S	F	M	L
L	309		381	453

PREDISPOSTO ENCODER STD
STD ENCODER PREARRANGEMENT

FRENO + DINAMO TACHIMETRICA

TACHO GENERATOR + BRAKE



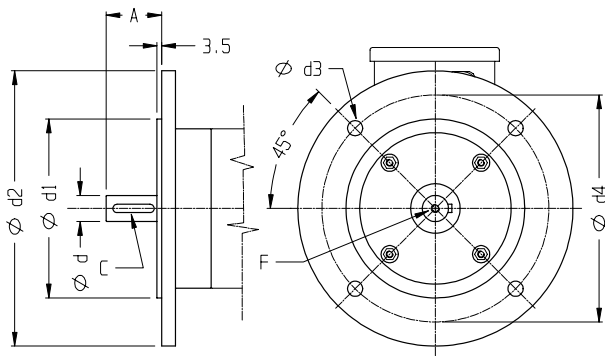
Type	S	F	M	L
L	309		381	453

PREDISPOSTO ENCODER STD
STD ENCODER PREARRANGEMENT

OPTIONALS

FLANGIA B5

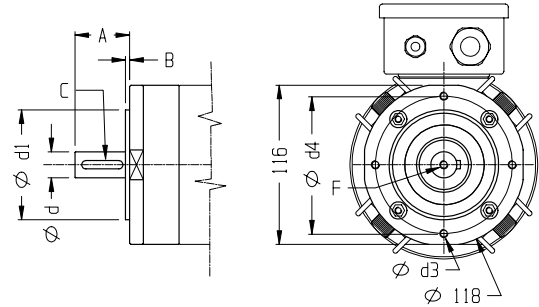
B5 FLANGE



Size	A	C	d(h7)	d1(h7)	d2	d3	d4	F
71	30	5x5x25	14	110	160	9.5	130	M5
80	40	6x6x30	19	130	200	11	165	M6

FLANGIA B14

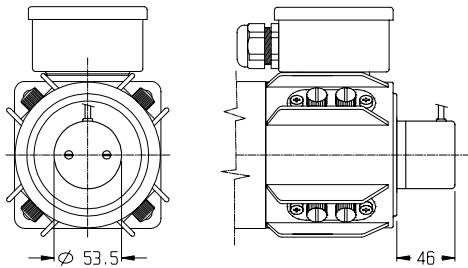
B14 FLANGE



Size	A	B	C	d(h7)	d1(h7)	d3	d4	F
71	30	2.5	5x5x25	14	70	M6	85	M5
80	40	3	6x6x30	19	80	M6	100	M6

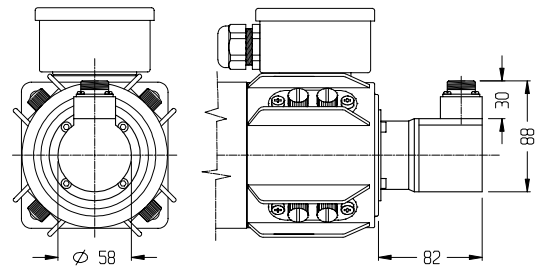
ENCODER EH53

ENCODER EH53



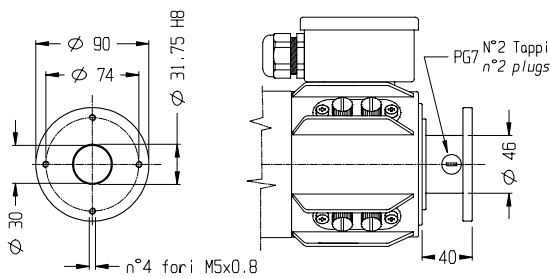
ENCODER EL72

ENCODER EL72



DISTANZ. ENC N°1

ENCODER SPACER N°1



SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 9S

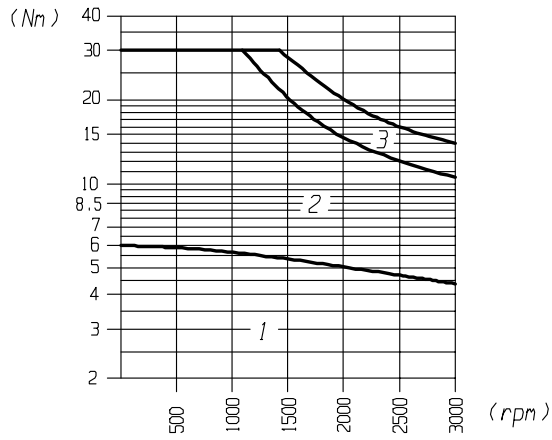
COPPIA - TORQUE

Nm 6

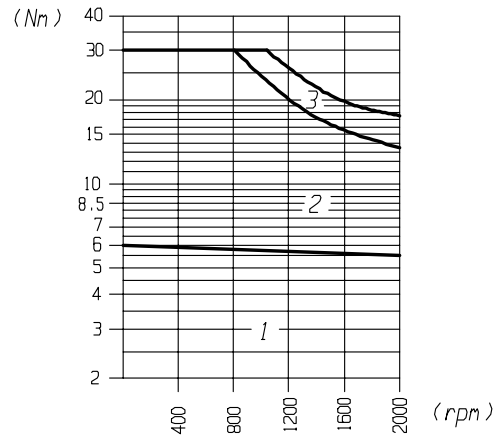
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2					
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - <i>Rated speed</i>	n	[rpm]	3000	2000					
	COPPIA ROTORE BLOCCATO - <i>Continuous stall torque</i>	Cn	[Nm]	6	6					
	POTENZA A VELOCITA' NOMINALE - <i>Power at rated speed</i>	Pn	[W]	1380	1150					
	CORRENTE A ROTORE BLOCCATO - <i>Stall current</i>	In	[A]	11	7.8					
	PICCO DI COPPIA ALLO SPUNTO - <i>Peak torque</i>	Cmax	[Nm]	27	27					
	CORRENTE AL PICCO DI COPPIA - <i>Peak current</i>	Imax	[A]	49.5	35					
	CORRENTE SMAGNETIZZANTE - <i>Demagnetise current</i>	Ipeak	[A]	60.5	42.9					
	FCEM A VELOCITA' NOMINALE - <i>Bemf at rated speed</i>	E	[V]	171	160					
	MAX VELOCITA' - <i>Max speed</i>	Nmax	[rpm]	3500	2500					
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - <i>Moment of inertia</i>	Jm	Kg m ²	0.006	0.006					
	MAX. ACC. TEORICA - <i>Max theoretical acceleration</i>	αmax	rad/s ²	4500	4500					
	COSTANTE DI TEMPO MECCANICA - <i>Mechanical time constant</i>	Tm	[ms]	17	17					
	COPPIA SMORZAMENTO A 1000 RPM - <i>Damping constant at 1000 rpm</i>	Td	[Nm]	0.25	0.25					
	COPPIA ATTRITO STATICO - <i>Static friction torque</i>	Tf	[Nm]	0.17	0.17					
	MAX CARICO RADIALE (A 3000 RPM) - <i>Max radial load (at 3000 rpm)</i>	Fr	[N]	784	784					
	MAX CARICO ASSIALE - <i>Max axial load</i>	Fa	[N]	235	235					
	PESO - <i>Weight</i>	M	[Kg]	14	14					
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - <i>Voltage constant ± 5%</i>	Ke	V/Krpm	57	80					
	COSTANTE DI COPPIA ± 5% - <i>Torque constant ± 5%</i>	Kt	[Nm/A]	0.55	0.77					
	COSTANTE DI TEMPO ELETTRICA - <i>Electrical time constant</i>	Te	[ms]	6.5	7					
	COSTANTE DI TEMPO TERMICA - <i>Thermal time constant</i>	Tt	[min]	70	70					
	RESIST. ARMATURA ± 10% A 25°C - <i>Armature resistance ± 10% at 25°C</i>	Ra	[Ohm]	0.8	1.6					
	RESIST. ARMATURA CON SPAZZOLE - <i>Terminal resistance</i>	Rt	[Ohm]	0.85	1.65					
	INDUTTANZA - <i>Inductance</i>	La	[mH]	5.5	11.55					
	GRADO DI PROTEZIONE - <i>Protection degree</i>		IP					54		
	CLASSE D' ISOLAMENTO - <i>Insulation class</i>							F		
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - <i>Voltage constant</i>	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - <i>Ripple</i>		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - <i>Linearity at 6000 rpm</i>		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - <i>Reversibility error</i>		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - <i>Temperature coefficient</i>		[%]	0.02						
	MOMENTO D' INERZIA - <i>Moment of inertia</i>	J	g cm ²	40						
	RESISTENZA - <i>Resistance</i>	Ra	[Ohm]	86						
	INDUTTANZA - <i>Inductance</i>	La	[mH]	13						
	CORRENTE - <i>Current</i>	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - <i>Number of poles</i>			4						
VITA SPAZZOLE PREVISTA - <i>Life expectancy</i>			15000 A 3000 rpm							
FRENO Brake	TIPO - <i>Type</i>			STD						
	COPPIA STATICA - <i>Static torque</i>	C	[Nm]	16						
	TENSIONE DI ALIMENTAZIONE - <i>Power supply voltage</i>	E	[V]	24						
	CORRENTE NOMINALE - <i>Rated current</i>	I	[A]	2.3						
	POTENZA ASSORBITA - <i>Input power</i>	P	[W]	9.5						

CURVE OPERATIVE PERFORMANCE CURVES

ESA 9S1



ESA 9S2



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 9M

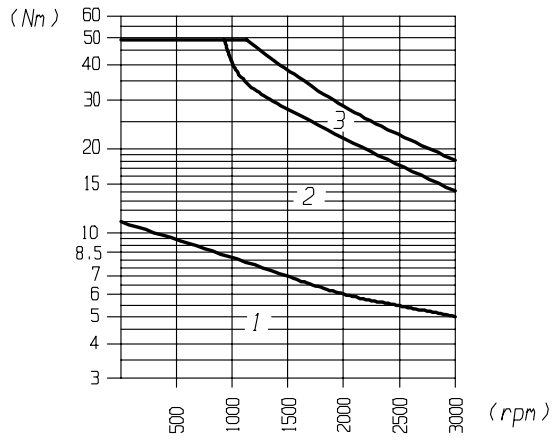
COPPIA - TORQUE

Nm 11

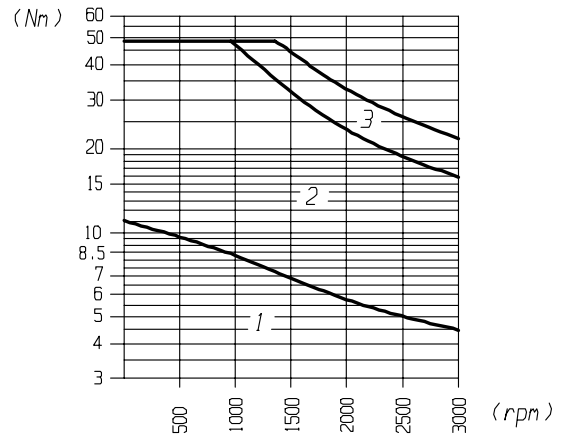
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2	3				
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - <i>Rated speed</i>	n	[rpm]	3000	3000	2000				
	COPPIA ROTORE BLOCCATO - <i>Continuous stall torque</i>	Cn	[Nm]	11	11	11				
	POTENZA A VELOCITA' NOMINALE - <i>Power at rated speed</i>	Pn	[W]	1570	1400	1500				
	CORRENTE A ROTORE BLOCCATO - <i>Stall current</i>	In	[A]	20	25	13.4				
	PICCO DI COPPIA ALLO SPUNTO - <i>Peak torque</i>	Cmax	[Nm]	49.5	49.5	49.5				
	CORRENTE AL PICCO DI COPPIA - <i>Peak current</i>	Imax	[A]	90	112.5	60				
	CORRENTE SMAGNETIZZANTE - <i>Demagnetise current</i>	lpeak	[A]	110	137.5	73.7				
	FCEM A VELOCITA' NOMINALE - <i>Bemf at rated speed</i>	E	[V]	171	138	170				
	MAX VELOCITA' - <i>Max speed</i>	Nmax	[rpm]	3500	3500	2500				
	DATI MECCANICI - <i>MECHANICAL DATA</i>									
	MOMENTO D'INERZIA - <i>Moment of inertia</i>	Jm	Kg m ²	0.01	0.01	0.01				
	MAX. ACC. TEORICA - <i>Max theoretical acceleration</i>	αmax	rad/s ²	4950	4950	4950				
	COSTANTE DI TEMPO MECCANICA - <i>Mechanical time constant</i>	Tm	[ms]	12	13	10				
	COPPIA SMORZAMENTO A 1000 RPM - <i>Damping constant at 1000 rpm</i>	Td	[Nm]	0.35	0.35	0.35				
	COPPIA ATTRITO STATICO - <i>Static friction torque</i>	Tf	[Nm]	0.22	0.22	0.22				
	MAX CARICO RADIALE (A 3000 RPM) - <i>Max radial load (at 3000 rpm)</i>	Fr	[N]	784	784	784				
	MAX CARICO ASSIALE - <i>Max axial load</i>	Fa	[N]	235	235	235				
	PESO - <i>Weight</i>	M	[Kg]	22	22	22				
	DATI ELETTRICI - <i>WINDING DATA</i>									
	COSTANTE DI TENSIONE ± 5% - <i>Voltage constant ± 5%</i>	Ke	V/Krpm	57	46	85				
	COSTANTE DI COPPIA ± 5% - <i>Torque constant ± 5%</i>	Kt	[Nm/A]	0.55	0.44	0.82				
	COSTANTE DI TEMPO ELETTRICA - <i>Electrical time constant</i>	Te	[ms]	6.4	6	6.6				
	COSTANTE DI TEMPO TERMICA - <i>Thermal time constant</i>	Tt	[min]	80	80	80				
	RESIST. ARMATURA ± 10% A 25°C - <i>Armature resistance ± 10% at 25°C</i>	Ra	[Ohm]	0.31	0.2	0.61				
	RESIST. ARMATURA CON SPAZZOLE - <i>Terminal resistance</i>	Rt	[Ohm]	0.36	0.25	0.66				
	INDUTTANZA - <i>Inductance</i>	La	[mH]	2.3	1.5	4.35				
	GRADO DI PROTEZIONE - <i>Protection degree</i>		IP			54				
	CLASSE D' ISOLAMENTO - <i>Insulation class</i>					F				
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - <i>Voltage constant</i>	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - <i>Ripple</i>		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - <i>Linearity at 6000 rpm</i>		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - <i>Reversibility error</i>		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - <i>Temperature coefficient</i>		[%]	0.02						
	MOMENTO D' INERZIA - <i>Moment of inertia</i>	J	g cm ²	40						
	RESISTENZA - <i>Resistance</i>	Ra	[Ohm]	86						
	INDUTTANZA - <i>Inductance</i>	La	[mH]	13						
	CORRENTE - <i>Current</i>	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - <i>Number of poles</i>			4						
VITA SPAZZOLE PREVISTA - <i>Life expectancy</i>			15000 A 3000 rpm							
FRENO Brake	TIPO - <i>Type</i>			STD						
	COPPIA STATICA - <i>Static torque</i>	C	[Nm]	16						
	TENSIONE DI ALIMENTAZIONE - <i>Power supply voltage</i>	E	[V]	24						
	CORRENTE NOMINALE - <i>Rated current</i>	I	[A]	2.3						
	POTENZA ASSORBITA - <i>Input power</i>	P	[W]	9.5						

CURVE OPERATIVE PERFORMANCE CURVES

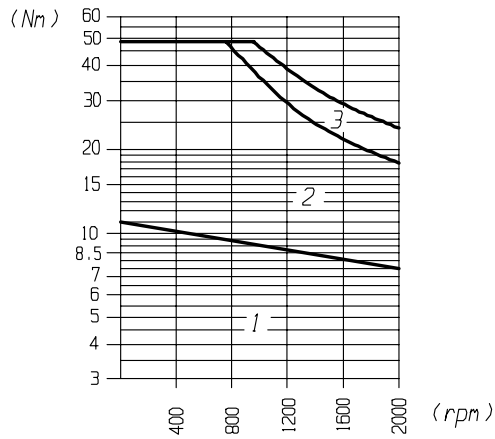
ESA 9M1



ESA 9M2



ESA 9M3



1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

SERVOMOTORI C.C. D.C. SERVOMOTORS

SERIE
Series

ESA 9L

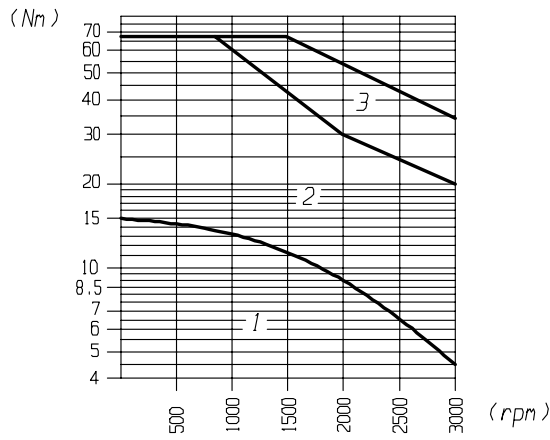
COPPIA - TORQUE

Nm 15

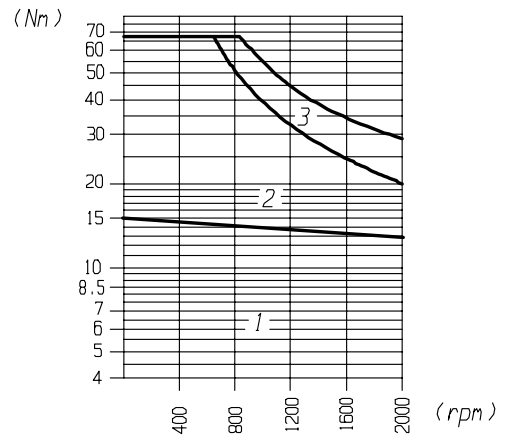
DATI MOTORE - MOTOR RATINGS		SIMBOLI Symbols	UNITA' Units	TIPO DI AVVOLGIMENTO Type of winding						
				1	2	3				
SERVOMOTORE - Servomotor	VELOCITA' NOMINALE - Rated speed	n	[rpm]	3000	2000	1500				
	COPPIA ROTORE BLOCCATO - Continuous stall torque	Cn	[Nm]	15	15	15				
	POTENZA A VELOCITA' NOMINALE - Power at rated speed	Pn	[W]	1400	2680	2040				
	CORRENTE A ROTORE BLOCCATO - Stall current	In	[A]	27.5	18.3	14.2				
	PICCO DI COPPIA ALLO SPUNTO - Peak torque	Cmax	[Nm]	67.5	67.5	67.5				
	CORRENTE AL PICCO DI COPPIA - Peak current	Imax	[A]	124	82	64				
	CORRENTE SMAGNETIZZANTE - Demagnetise current	lpeak	[A]	151.25	100.65	78.1				
	FCEM A VELOCITA' NOMINALE - Bemf at rated speed	E	[V]	171	170	165				
	MAX VELOCITA' - Max speed	Nmax	[rpm]	3500	2400	1800				
	DATI MECCANICI - MECHANICAL DATA									
	MOMENTO D'INERZIA - Moment of inertia	Jm	Kg m ²	0.014	0.014	0.014				
	MAX. ACC. TEORICA - Max theoretical acceleration	αmax	rad/s ²	4820	4820	4820				
	COSTANTE DI TEMPO MECCANICA - Mechanical time constant	Tm	[ms]	13	12	12				
	COPPIA SMORZAMENTO A 1000 RPM - Damping constant at 1000 rpm	Td	[Nm]	0.45	0.45	0.45				
	COPPIA ATTRITO STATICO - Static friction torque	Tf	[Nm]	0.3	0.3	0.3				
	MAX CARICO RADIALE (A 3000 RPM) - Max radial load (at 3000 rpm)	Fr	[N]	784	784	784				
	MAX CARICO ASSIALE - Max axial load	Fa	[N]	235	235	235				
	PESO - Weight	M	[Kg]	30	30	30				
	DATI ELETTRICI - WINDING DATA									
	COSTANTE DI TENSIONE ± 5% - Voltage constant ± 5%	Ke	V/Krpm	57	85	110				
	COSTANTE DI COPPIA ± 5% - Torque constant ± 5%	Kt	[Nm/A]	0.55	0.82	1.06				
	COSTANTE DI TEMPO ELETTRICA - Electrical time constant	Te	[ms]	4.95	5.2	5.4				
	COSTANTE DI TEMPO TERMICA - Thermal time constant	Tt	[min]	90	90	90				
	RESIST. ARMATURA ± 10% A 25°C - Armature resistance ± 10% at 25°C	Ra	[Ohm]	0.23	0.52	0.88				
	RESIST. ARMATURA CON SPAZZOLE - Terminal resistance	Rt	[Ohm]	0.28	0.57	0.93				
	INDUTTANZA - Inductance	La	[mH]	1.39	2.95	5				
GRADO DI PROTEZIONE - Protection degree		IP			54					
CLASSE D' ISOLAMENTO - Insulation class					F					
DINAMO T. Tacho generator	COSTANTE DI TENSIONE - Voltage constant	Ke	V/Krpm	10 +/- 5% (MAX 9000 rpm)						
	ONDULAZIONE PICCO/PICCO - Ripple		[%]	< 1.5 A 1000 rpm						
	LINEARITA' A 6000 RPM - Linearity at 6000 rpm		[%]	< 0.1						
	ERRORE DI REVERSIBILITA' - Reversibility error		[%]	< 0.12						
	COEFFICIENTE DI TEMPERATURA - Temperature coefficient		[%]	0.02						
	MOMENTO D' INERZIA - Moment of inertia	J	g cm ²	40						
	RESISTENZA - Resistance	Ra	[Ohm]	86						
	INDUTTANZA - Inductance	La	[mH]	13						
	CORRENTE - Current	I	[mA]	2 (MAX 8 mA)						
	NUMERO POLI - Number of poles			4						
VITA SPAZZOLE PREVISTA - Life expectancy			15000 A 3000 rpm							
FRENO Brake	TIPO - Type			STD						
	COPPIA STATICA - Static torque	C	[Nm]	16						
	TENSIONE DI ALIMENTAZIONE - Power supply voltage	E	[V]	24						
	CORRENTE NOMINALE - Rated current	I	[A]	2.3						
	POTENZA ASSORBITA - Input power	P	[W]	9.5						

CURVE OPERATIVE PERFORMANCE CURVES

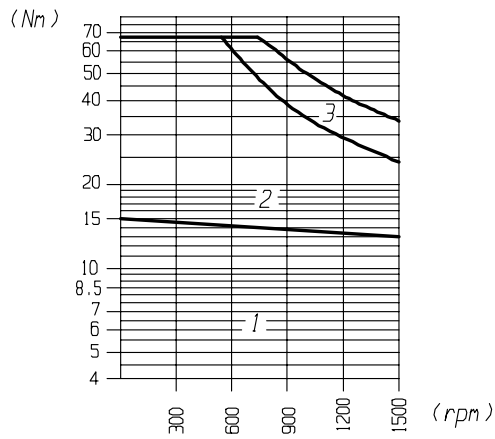
ESA 9L1



ESA 9L2



ESA 9L3

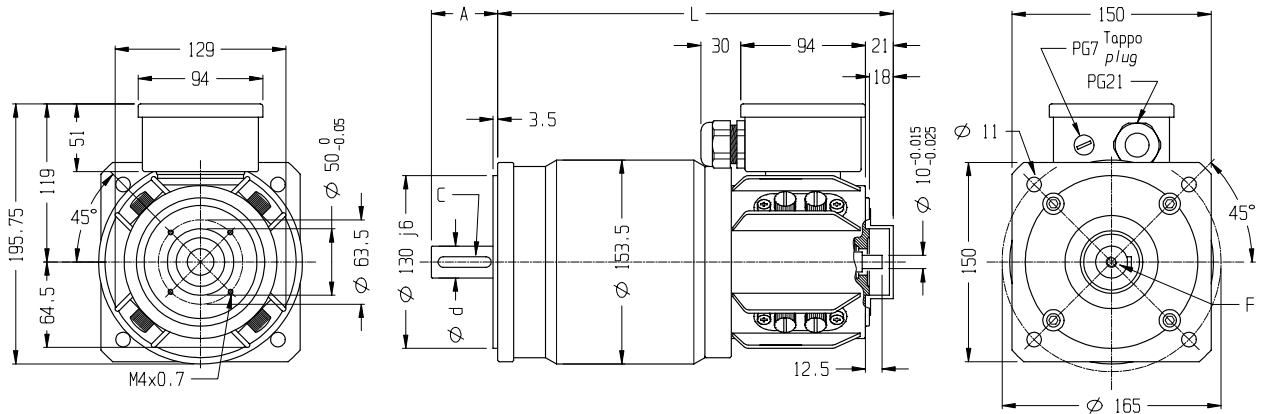


1 = Area di ciclo continuo
2 = Area di ciclo intermittente
3 = Area di accel. decel.

1 = Continuous duty area
2 = Intermittent duty area
3 = Accel. decel. duty area

ESA 9

DIMENSIONI (mm) DIMENSIONS (mm)



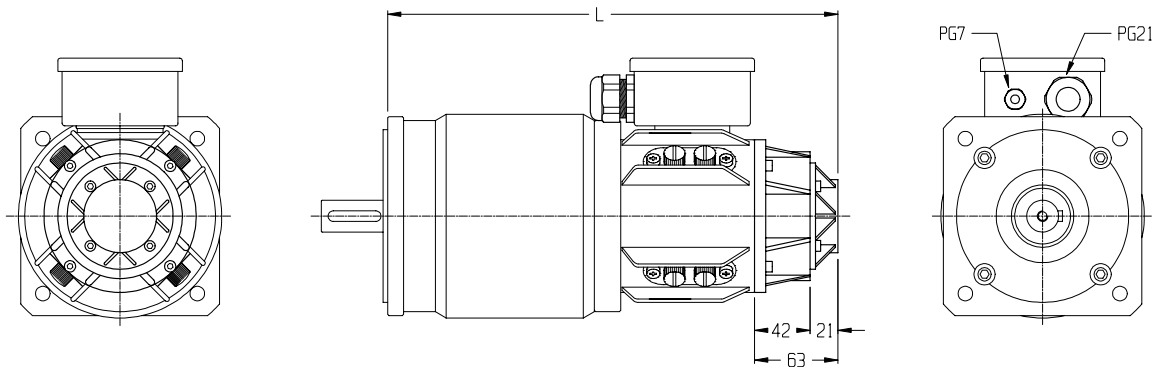
Type	S	M	L
A		50	
F		M8	
d(i6)		24	

Type	S	M	L
L	298	363	424
C		8*7*40	

PREDISPOSTO ENCODER STD
STD ENCODER PREARRANGEMENT

DINAMO TACHIMETRICA

TACHO GENERATOR

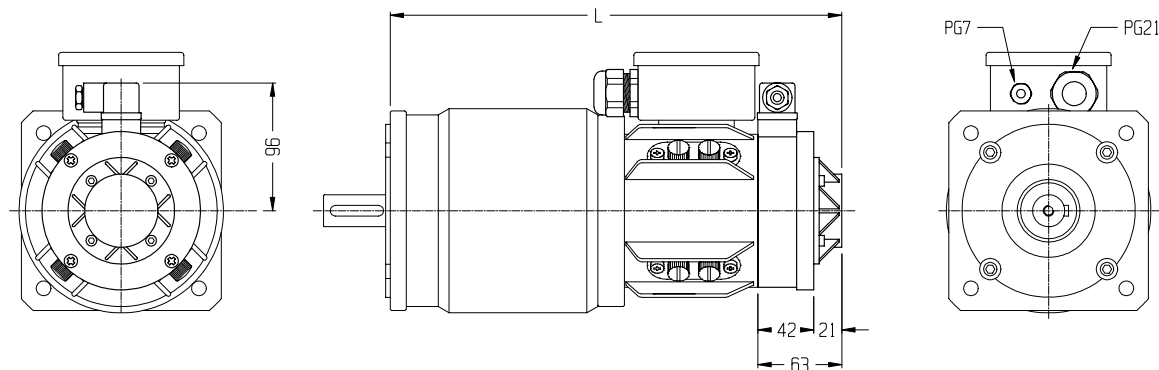


Type	S	M	L
L	339	404	465

PREDISPOSTO ENCODER STD
STD ENCODER PREARRANGEMENT

FRENO + DINAMO TACHIMETRICA

TACHO GENERATOR + BRAKE



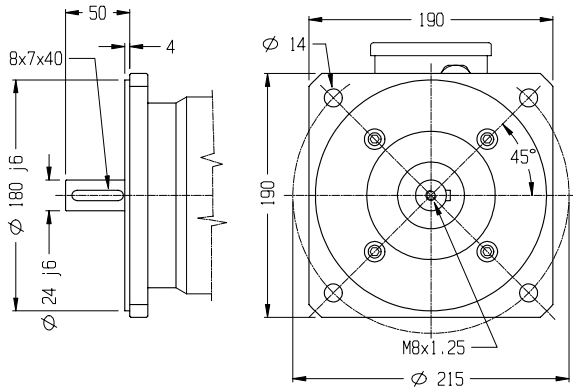
Type	S	M	L
L	339	404	465

PREDISPOSTO ENCODER STD
STD ENCODER PREARRANGEMENT

OPTIONALS

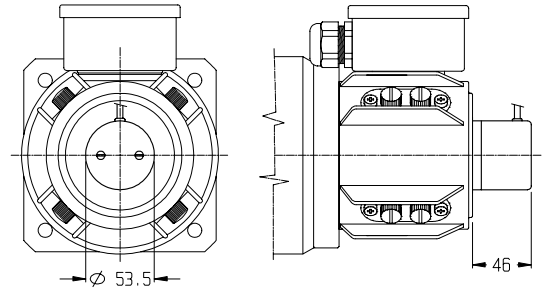
FLANGIA B5/100

B5/100 FLANGE



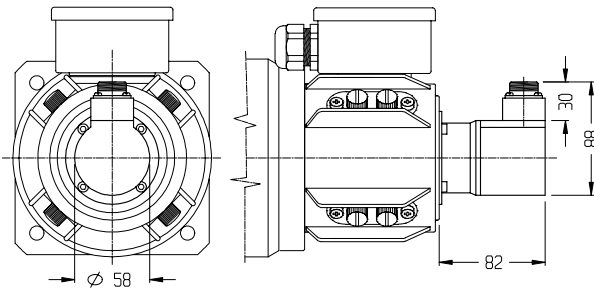
ENCODER EH53

ENCODER EH53



ENCODER EL72

ENCODER EL72



DISTANZ. ENC. N°1

ENCODER SPACER N°1

