RS

DC SERVOMOTORS

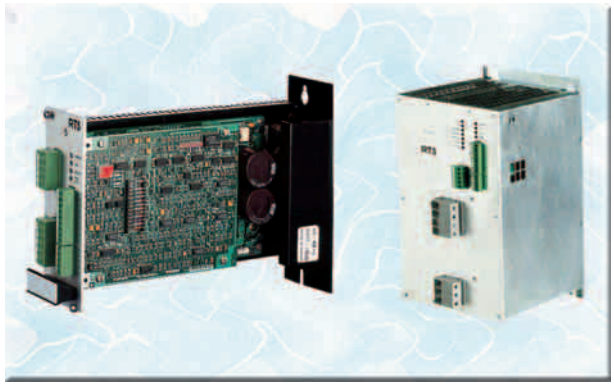
HIGH DYNAMIC

0.05 to 13 Nm



PARVEX





PARVEX company is a leader in the motion control industry-particulary with quality and innovation. One of the many products from PARVEX is the modern range of DC Servomotors.

FEATURES

- Increased power/weigh ratio compared to RX range
- Low time constant and very high performance.
- Smaller size to meet your exact requirements
- Complete motor range from 0.055 to 13 Nm. (0,50 lb-in to 115 lb-in)
- Strict quality control at all stages of manufacture.
- Ball-bearings lubricated for life
- Excellent slow and smooth running characteristics.
- Designed for advanced servomechanisms and robotics.
- The most competitive performance/price ratio.

CONSTRUCTION

- 4 poles servomotor with rare earth magnets.
- Protection
  - IP 40 (RS1 to RS4). IP44 as option
  - IP 54 (RS5 and RS6). IP55 as option
- Insulation : F class
- Cable length 1 meter

COMPLIANCE WITH " CE "STANDARDS

RS (except RS6) servomotors meet directive 73/23/ECC dated 19th February 1973 (amended by directive 93/68/EEC dated 22 July 1993) and comply with standards EN 60034-1 and IEC 34-1/ 1994.

Compliance with these standards requires installation in accordance with our recommendations. In addition, installation must be on a mechanical support providing good thermal conduction and not exceeding 40° C in the vicinity of the motor flange.

Applications : high-dynamic servomechanisms, spark erosion machine, pick and place, small robotics applications, gantry cranes, office technology

PRECISION TACHOMETER

The PARVEX tachometers, designed for high precision, are built on a hollow shaft in order to increase the stiffness

Motor	Tacho	Voltage gradient	Resistance at 25°C	Inertia	Weight
		Volt/1000 rpm	ohm	$Kgm^2.10^{-5}$	kg
RS1	TBN 103	3	60	0.1	0.1
RS2...RS4	TBN 206	6	47	0.5	0.2
RS5 + RS6	TBN 306	6	14.6	2.5	0.3

RESOLVER

RS servomotors (except RS1) may be fitted with a resolver. The signals emitted by the resolver generate a speed information (role usually fulfilled by a tachometric dynamo) and may also be used for elaborating information simulating an optical encoder (1024 lines per revolution).

HOLDING BRAKE

The brake is primarily a holding brake. Do not use for dynamic braking. Brake applied on de-energization.

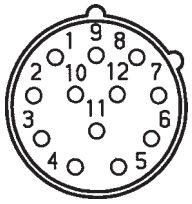
Motor	Holding torque		Voltage (±10%)	Rated current	Inertia	Weight
	at 20°C	at 100°C				
	Nm	Nm	V=	A	$Kgm^2.10^{-5}$	kg
RS2	0.6	0.55	24	0.34	0.2	0.2
RS3 + RS4	1.5	1.4	24	0.46	0.6	0.18
RS5	6	5.5	24	0.54	5.3	0.45
RS6	12	11.5	24	0.88	15.7	0.9

INCREMENTAL ENCODER

All models provide complementary outputs, marker and line drivers, 5 V supply.

The space saving K9 encoder is directly mounted on the motor shaft, therefore avoiding axial loading.
The C4 encoder has a hollow shaft and flexible mounting arrangement which allows a very compact design.
The C6B is fully protected (IP 65) by a cast alumuminium cover.

Coonection	K9	C4	C6 B
A	White	Braun	5
$\overline{A}$	White/Black	Green	6
B	Blue	Grey	8
$\overline{B}$	Blue/White	Rosa	1
$\underline{\text{mark0}}$	Green	Red	3
mark0	Green/White	Black	4
+5 V Supply	Red	Braun/Green	12
+5 V feedback	-	Blue	2
0 V Supply	Black	White/Green	10
0 V feedback	-	White	11



C6 B

Motor	Encodeur	Connection	Resolution		Inertia	Weight
			Standard	Option	$Kgm^2.10^{-5}$	kg
RS1...RS4	K9	Cable 1m	500	250	0.03	0.07
RS1...RS4	C4	Cable 1m	500	1000-2000	0.23	0.20
RS5 + RS6	C6 B	Connector	500-1000	2500-5000	0.3	0.45

PPR can be multiplied by 4 by the CNC.

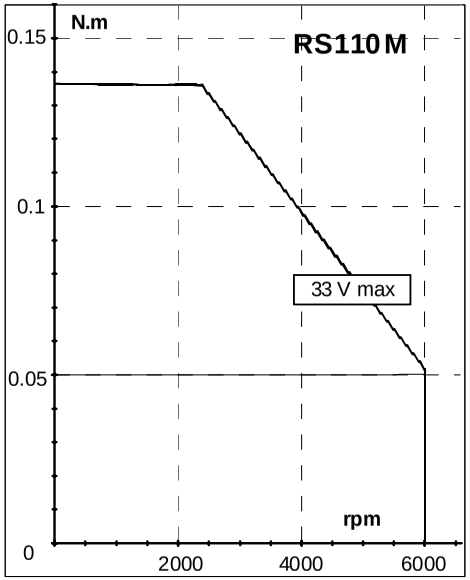
PERFORMANCE

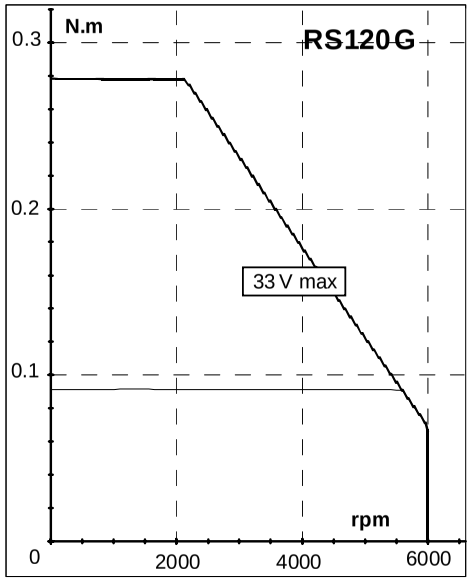
Data (40°C ambient) From factor ≤ 1.02	Mark	Continuous torque at low speed		Continuous current at low speed	Rated voltage	Rated speed	Peak current at low speed	E.M.F. at 1000 rpm (25°C)	Torque constant (25°C)		Armature resistance (25°C)	Armature inductance	Inertia		Thermal time constant	Thrust load		Radial load **		Weight	
Symbol		**Mo**		**Io**	**U**	**N**	**Imax**	**Ke**	**Kt**		**Rb**	**L**	**J**		**Tth**	**Fa ***		**Fr ***		**M**	
Units		Nm	lb.in	A	V	rpm	A	V	Nm/A	lb.in/A	Ω	mH	x 10^{-5}. kg.m^2	x 10^{-4}. lb.in.sec	min	daN	lbf	daN	lbf	kg	lbs
RS 110 M	CE	0,05	0,44	1,5	20,7	3000	4	3,85	0,037	0,327	4,5	1,6	0,24	0,2	4,2	3	6,74	6	13,2	0,27	1
RS 120 G	CE	0,092	0,81	2,3	21,2	3000	7	4,4	0,042	0,37	2,3	1,1	0,41	0	5,2	3	6,74	6	13,5	0,36	0,8
RS 130 E	CE	0,13	1,15	2,7	23,7	3000	9	5,3	0,051	0,451	1,93	1	0,58	0,5	6	3	6,74	6	13,2	0,45	1
RS 210 L	CE	0,11	0,97	2,5	24	3000	7	5	0,048	0,42	2,33	1,1	1,3	1	5	10	22,5	18	40,5	0,54	1,2
RS 220 F	CE	0,225	2	4,1	25,4	3000	12	6	0,057	0,504	1,12	0,65	1,95	1,7	6,9	10	22,5	18	39,7	0,7	2
RS 220 K	CE	0,232	2,05	2,8	38,6	3000	8	9,2	0,088	0,78	2,7	1,53	1,95	2	6,9	10	22,5	18	40,5	0,7	1,6
RS 230 C	CE	0,31	2,74	5,6	24	3000	18	6	0,057	0,504	0,67	0,42	2,6	2,3	7,5	10	22,5	18	39,7	0,86	2
RS 240 B	CE	0,39	3,45	6	27,6	3000	20	7,2	0,068	0,6	0,68	0,45	3,25	3	7,5	10	22,5	18	40,5	1	2,2
RS 310 N	CE	0,28	2,5	2,6	49	3000	7	12,3	0,117	1,04	3,64	4,4	5,4	4,8	9	15	33,7	28	61,7	0,9	2
RS 320 H	CE	0,54	4,8	4,5	49	3000	13	13,3	0,127	1,12	1,52	2,2	8,3	7	7	15	33,7	28	62,9	1,3	2,9
RS 330 E	CE	0,78	6,9	5,9	51	3000	18,5	14,3	0,137	1,21	1	1,65	11	9,7	6,2	15	33,7	28	61,7	1,6	4
RS 340 C	CE	0,98	8,7	6,9	53	3000	23	15,3	0,146	1,29	0,8	1,4	14	12	6	15	33,7	28	62,9	2	4,5
RS 410 R	CE	0,48	4,25	3,6	60	3000	10	15,6	0,15	1,33	2,47	4,2	13,7	12,1	14	20	45	40	88,2	1,2	3
RS 420 J	CE	0,93	8,2	6,2	60	3000	19	16,6	0,16	1,42	0,96	1,9	22,5	20	12,5	20	45	40	89,9	1,8	4
RS 430 F	CE	1,3	11,5	8,1	43	2000	28	17,5	0,167	1,48	0,59	1,33	31	27,4	11,5	20	45	40	88,2	2,4	5
RS 430 H	CE	1,36	12	6,6	78	3000	21	22,5	0,215	1,9	0,94	2,2	31	27	11,5	20	45	40	89,9	2,4	5,4
RS 440 G	CE	1,74	15,4	7	90	3000	24	27	0,256	2,27	0,9	2,2	40	35,4	10,5	20	45	40	88,2	3	7
RS 510 L	CE	1,9	16,8	7,9	82	2700	21	26,6	0,254	2,25	0,71	3,6	100	89	18	23	51,7	70	157	5,1	11,5
RS 520 G	CE	3,1	27,4	10,9	92	2700	32	31	0,296	2,62	0,4	2,34	135	119	17,8	23	51,7	70	154	6,3	14
RS 530 E	CE	4	35,4	13	97	2700	42	33	0,32	2,83	0,29	1,74	170	150	19	23	51,7	70	157	7,5	17
RS 540 C	CE	5	44,3	15	104	2700	50	36	0,344	3,04	0,225	1,5	205	181	20,6	23	51,7	70	154	8,7	19
RS 620 G	-	8	70,8	22,3	100	2400	82	38,5	0,37	3,27	0,155	1,78	530	469	26,7	26	58,5	80	180	11,5	26
RS 630 F	-	10,8	95,6	25	100	2000	90	46	0,44	3,89	0,134	1,62	680	602	31	26	58,5	80	176	14	31
RS 640 E	-	13	115	28	105	2000	90	49	0,47	4,16	0,12	1,38	830	735	32,7	26	58,5	80	180	16,3	36,6

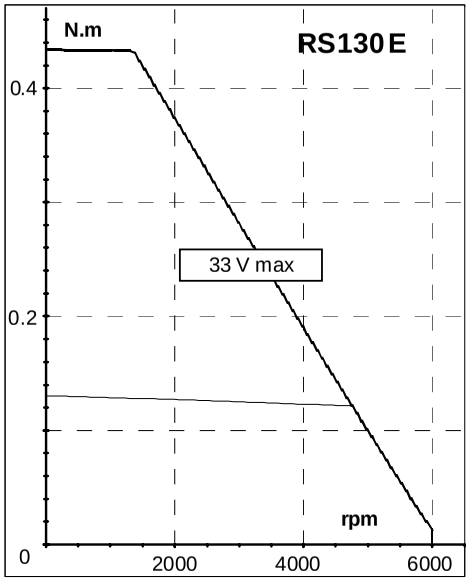
***** not cumulative ****** at half shaft length

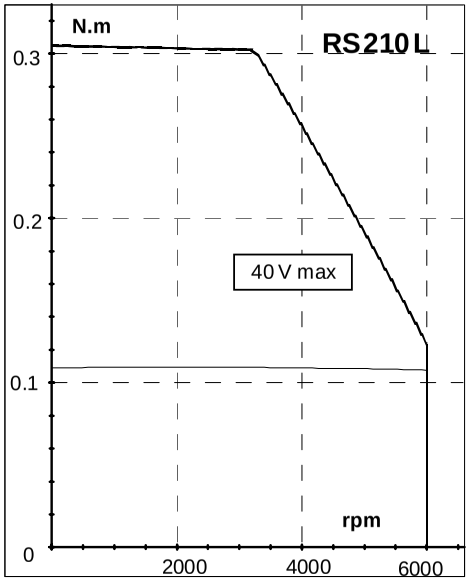
Performance curves

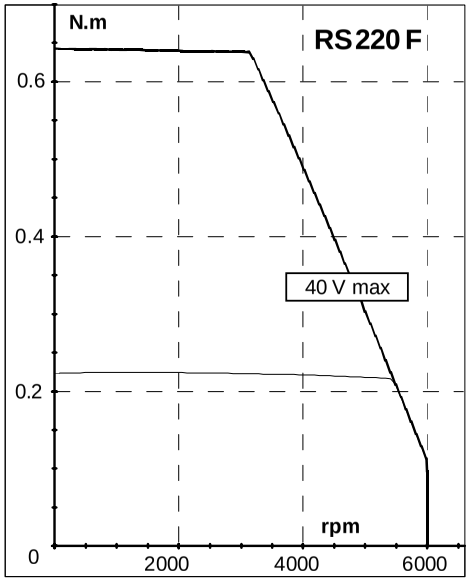
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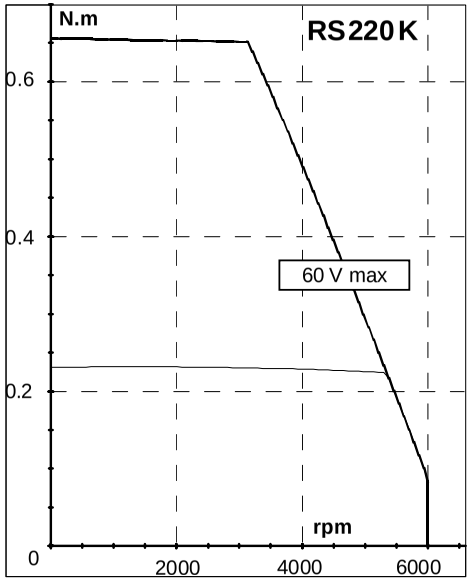


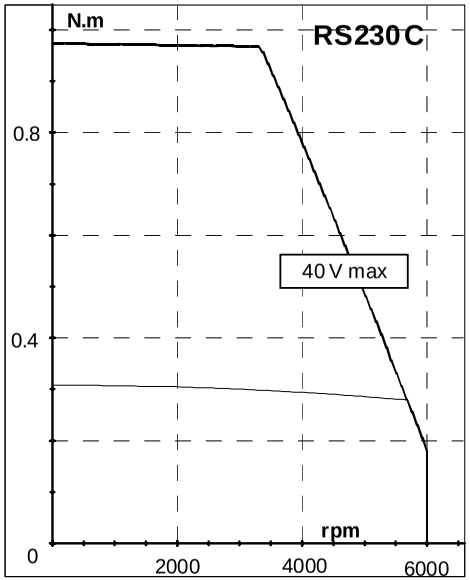


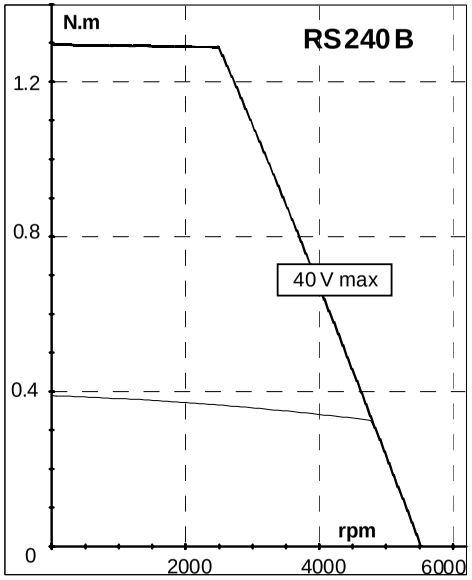






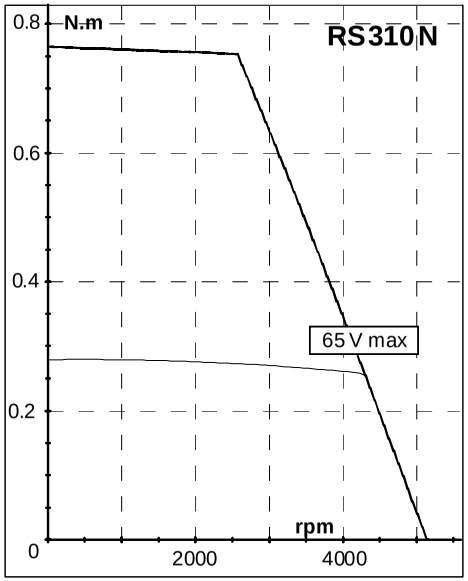


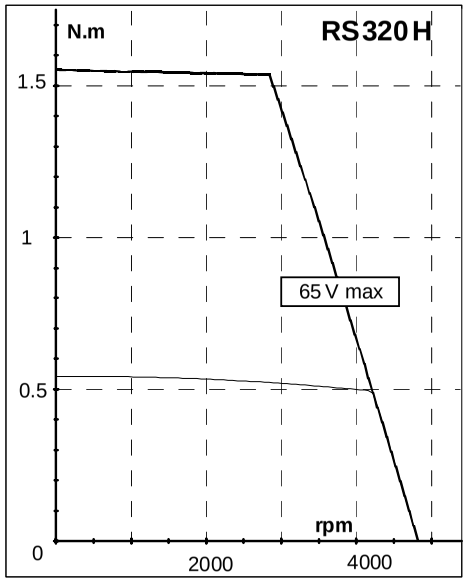


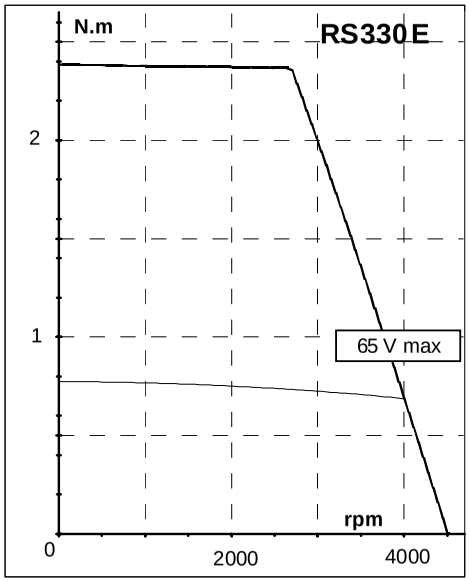


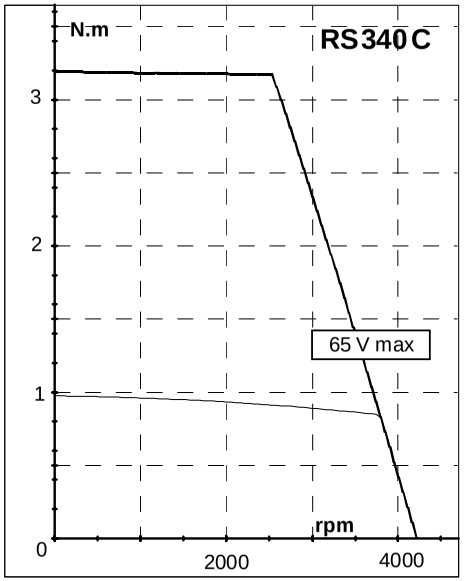
Performance curves

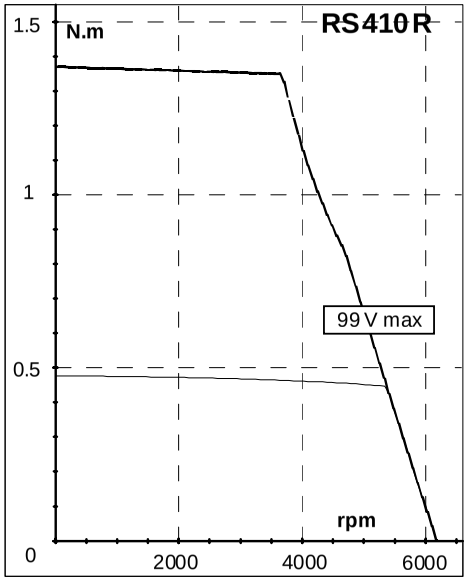
thermal continuous duty — intermitent duty

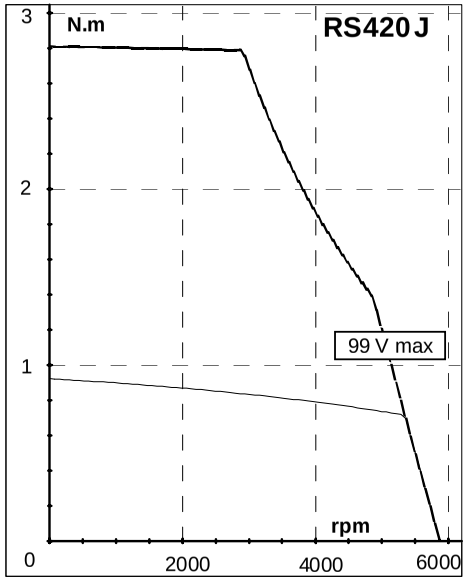


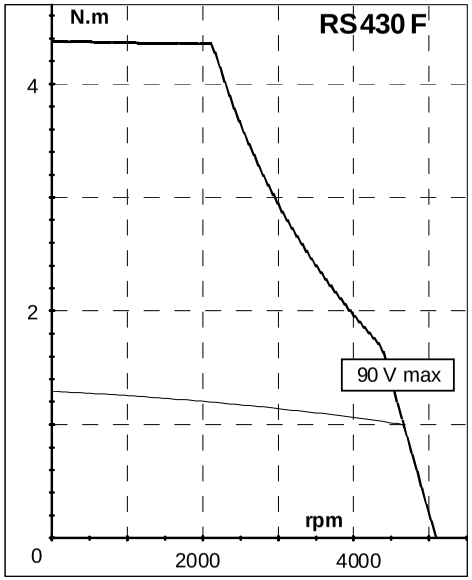


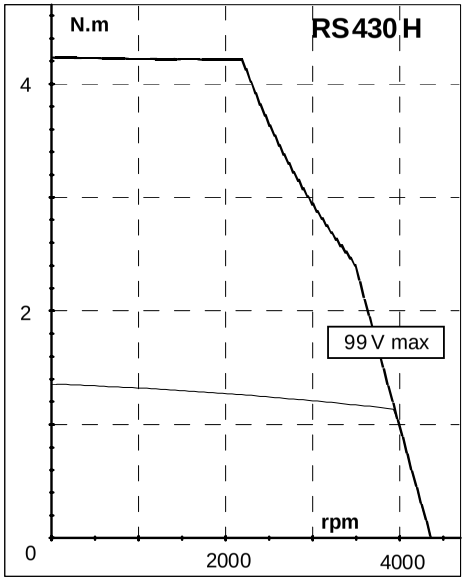






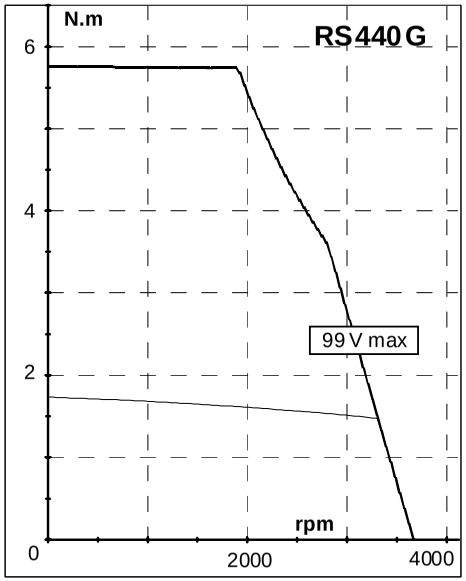


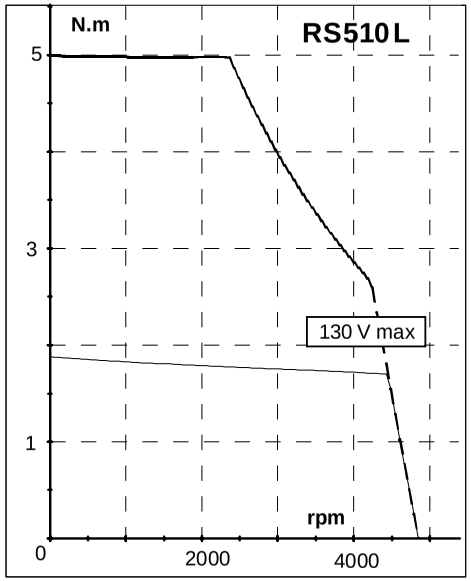


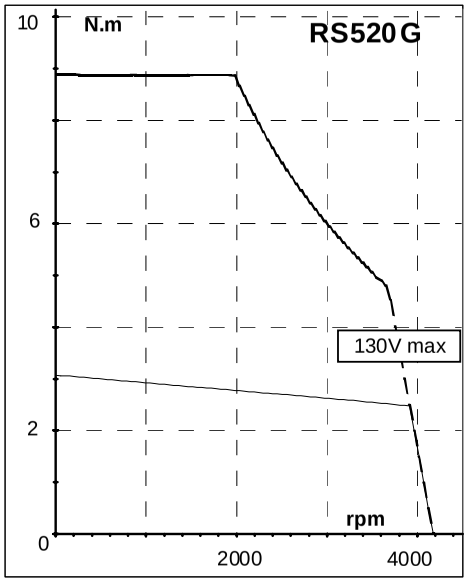


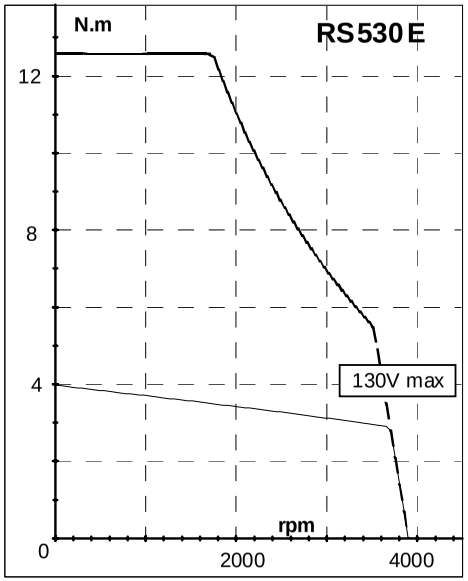
Performance curves

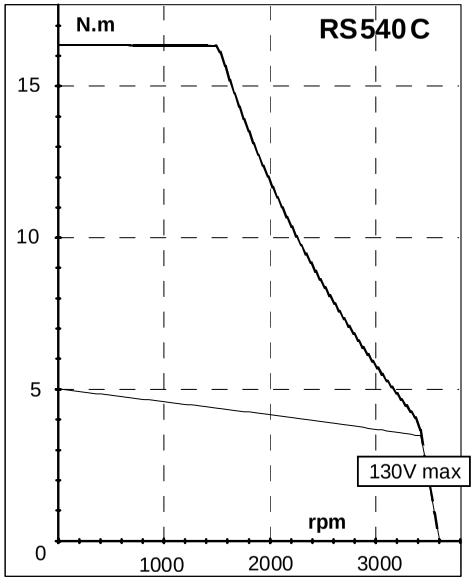
— thermal continuous duty — intermitent duty

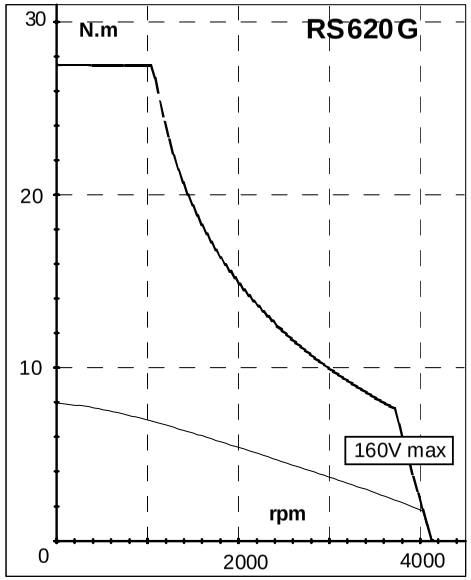


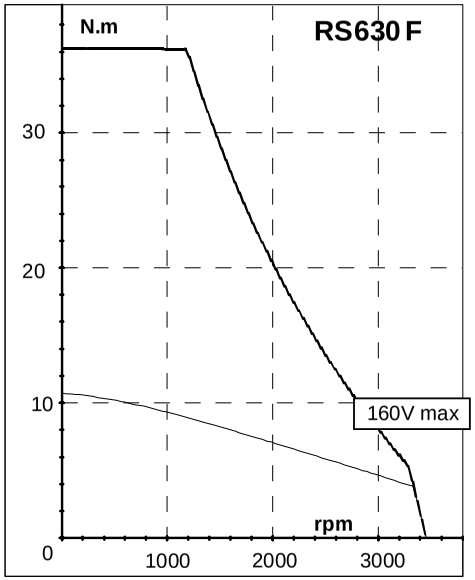


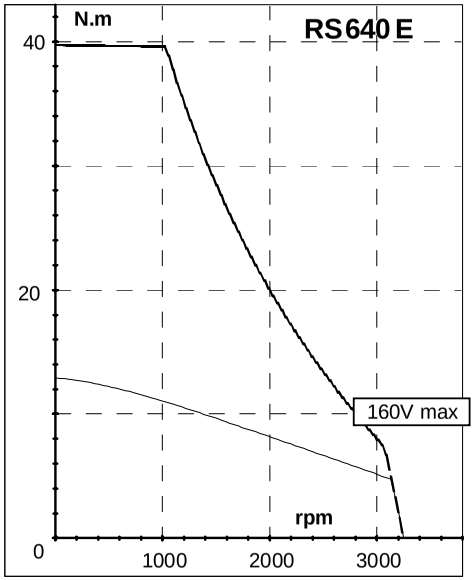




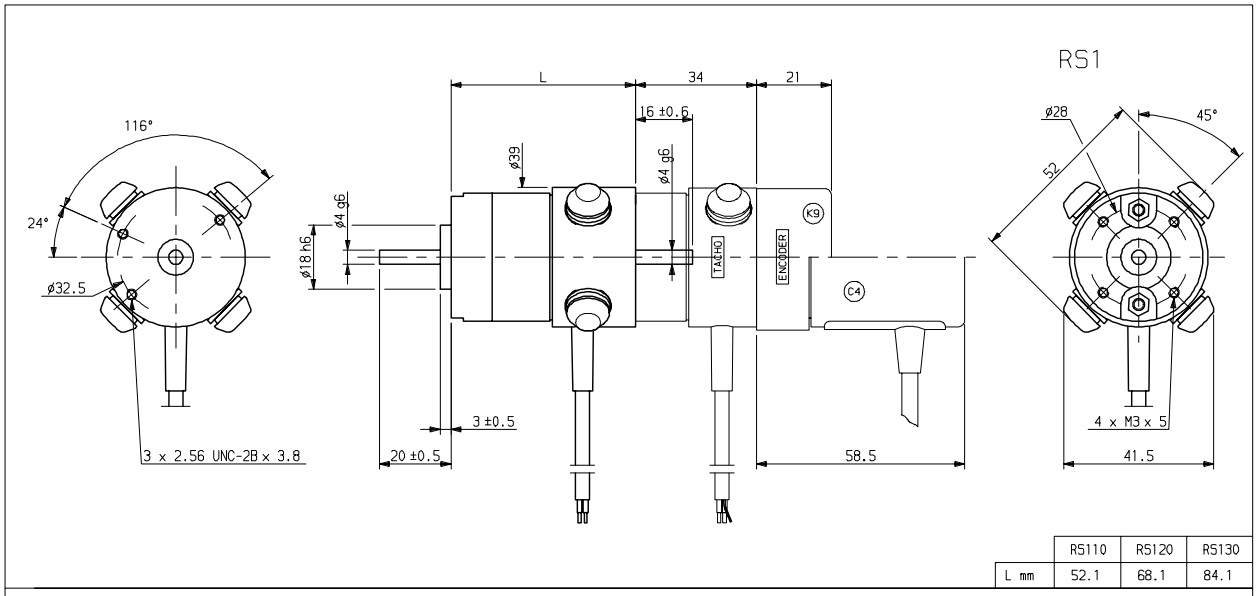




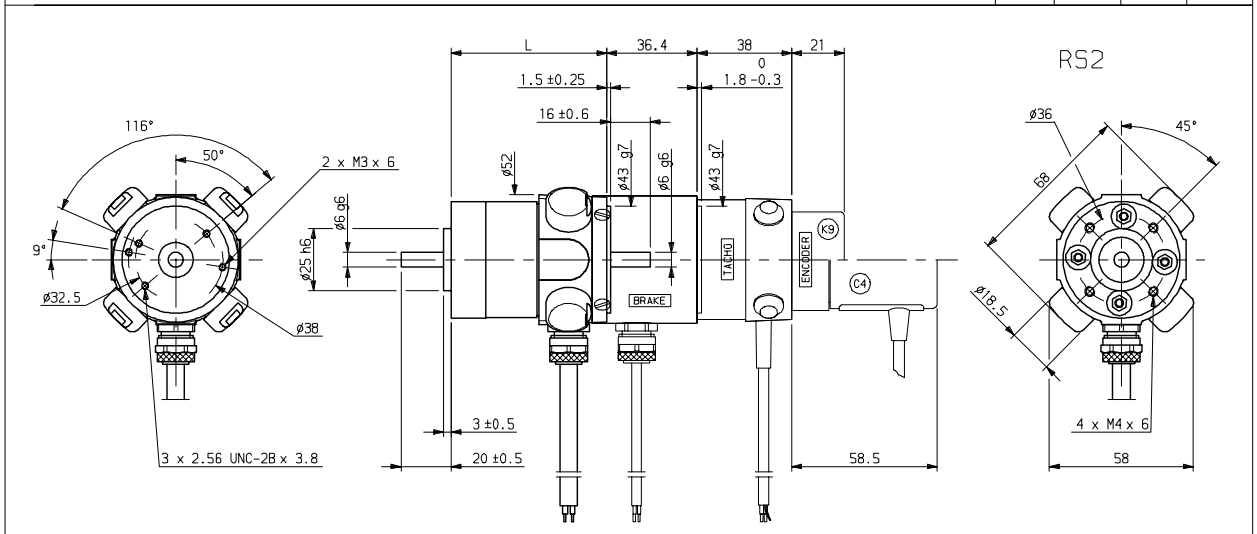




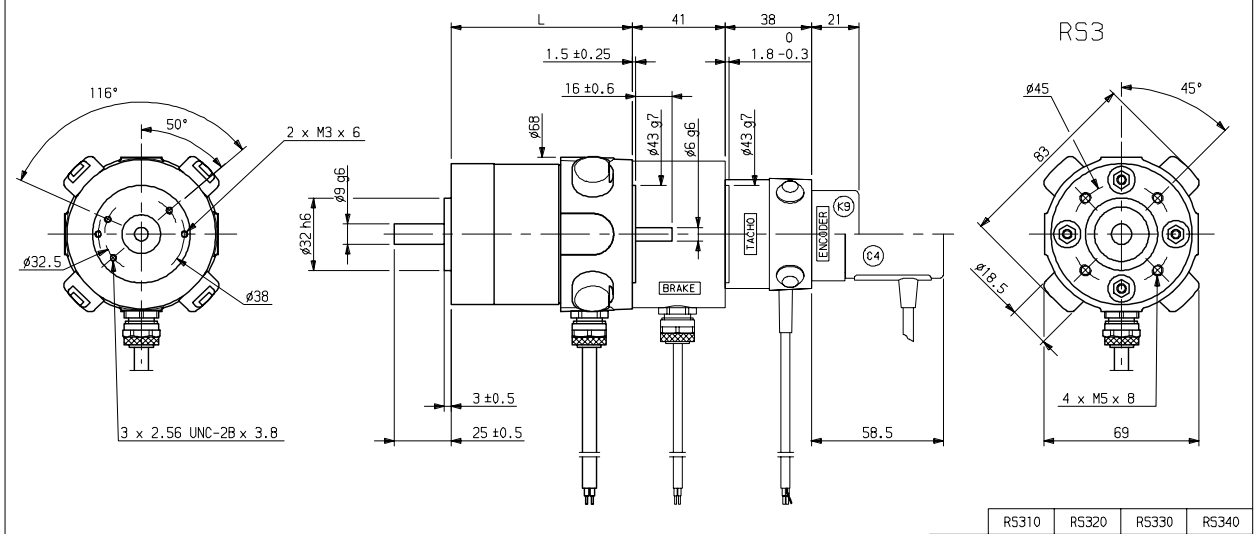
DIMENSIONS
MOTOR + BRAKE + TACHO + ENCODER



	RS110	RS120	RS130
L mm	52.1	68.1	84.1

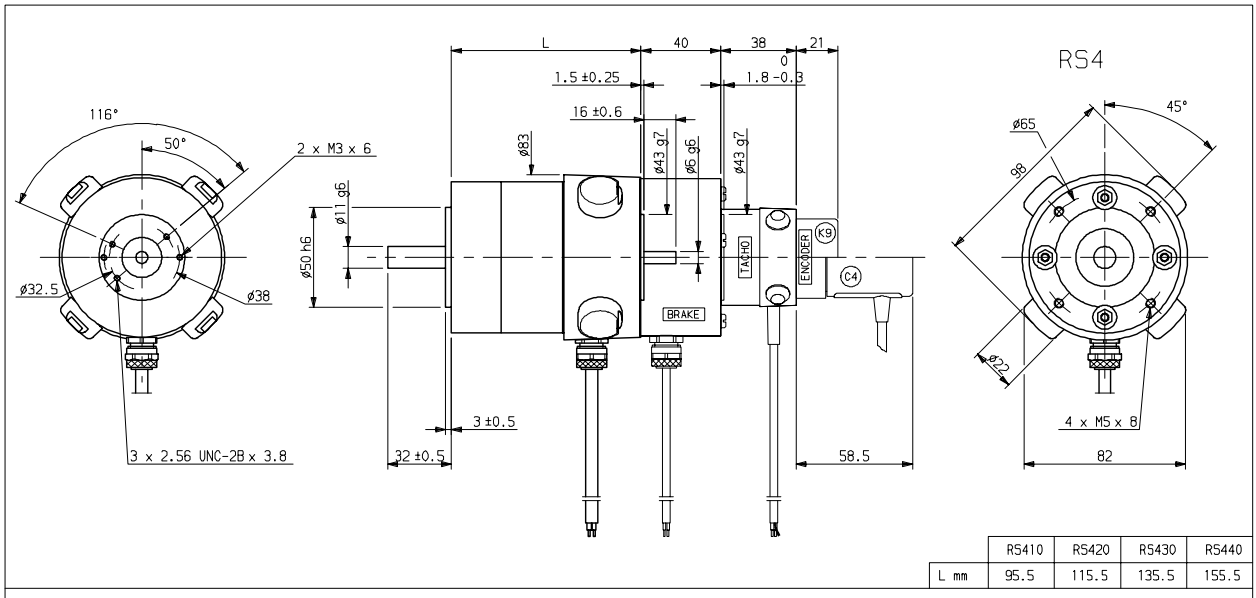


	RS210	RS220	RS230	RS240
L mm	63	79	95	111

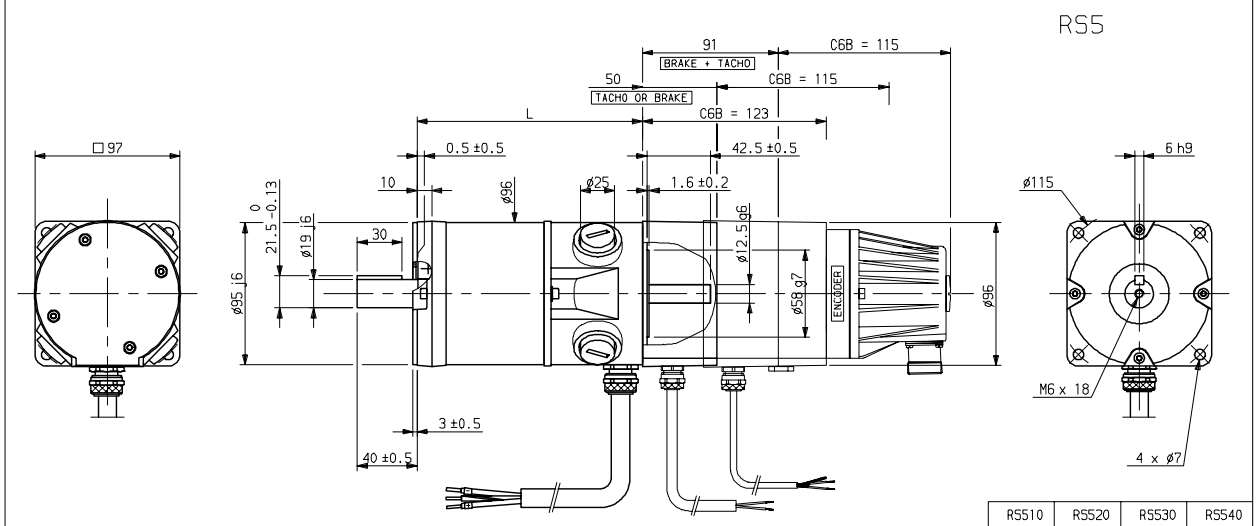


	RS310	RS320	RS330	RS340
L mm	80.5	100.5	120.5	140.5

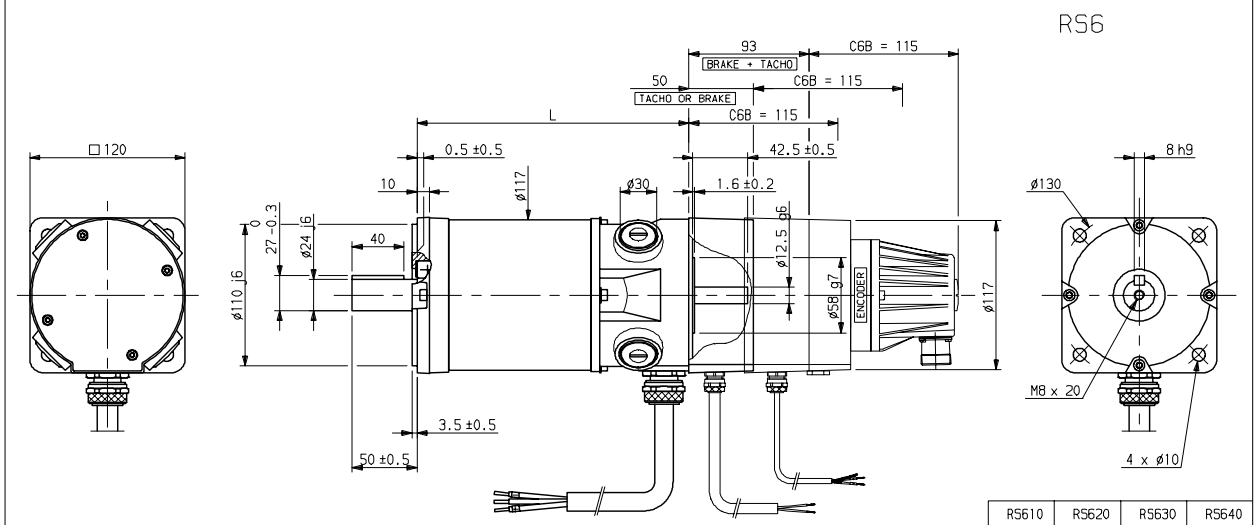
DIMENSIONS
MOTOR + BRAKE + TACHO + ENCODER



	RS410	RS420	RS430	RS440
L mm	95.5	115.5	135.5	155.5



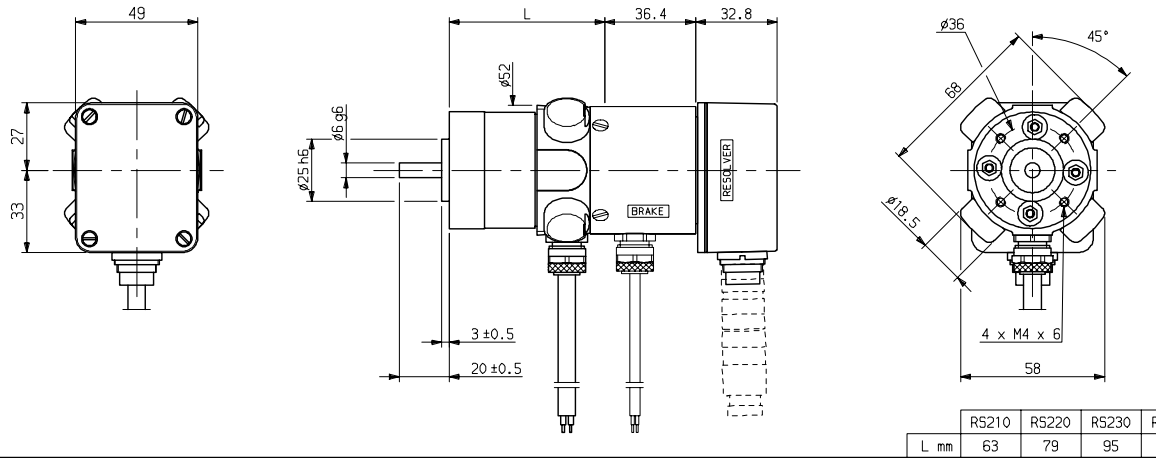
	RS510	RS520	RS530	RS540
L mm	151	180	209	238



	RS610	RS620	RS630	RS640
L mm	209	246	284	321

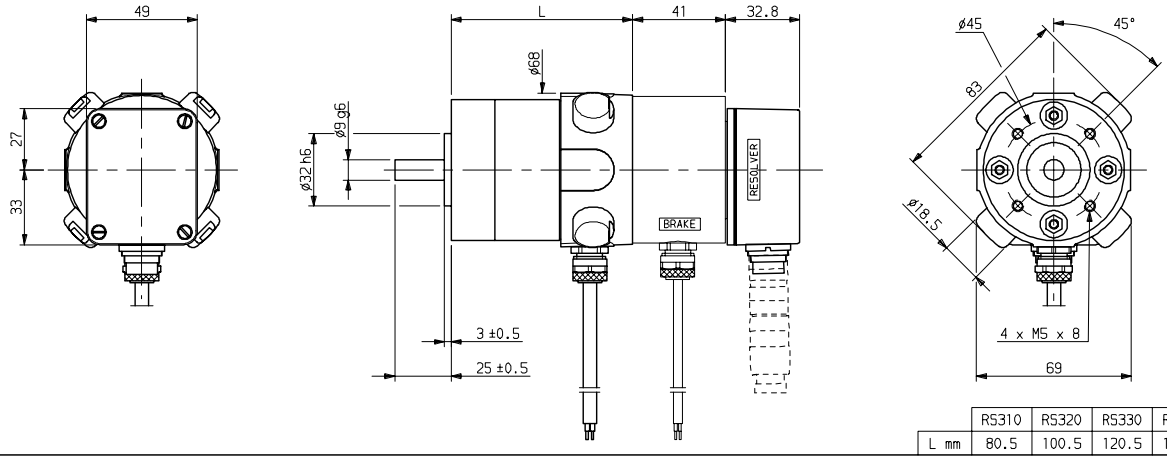
DIMENSIONS
MOTOR + BRAKE + RESOLVER

RS2



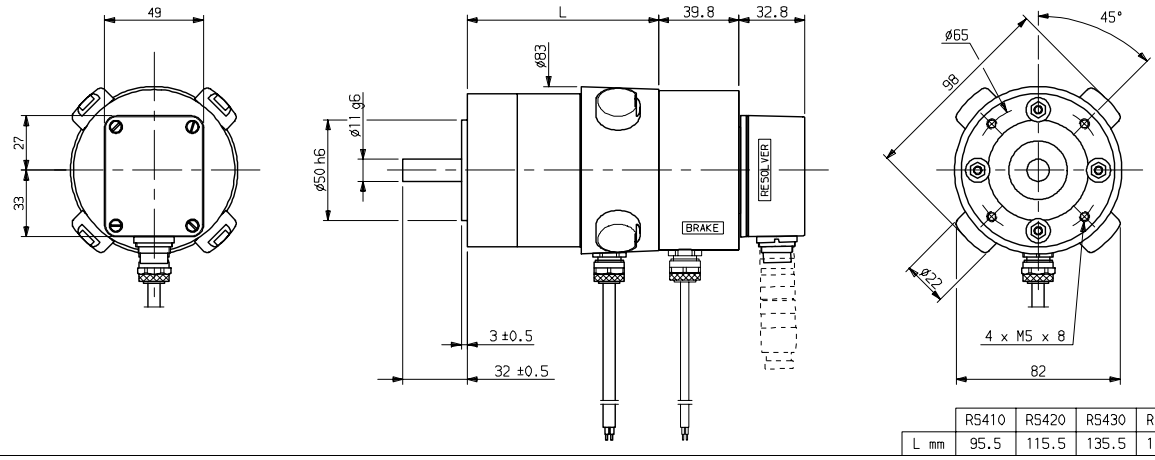
	RS210	RS220	RS230	RS240
L mm	63	79	95	111

RS3



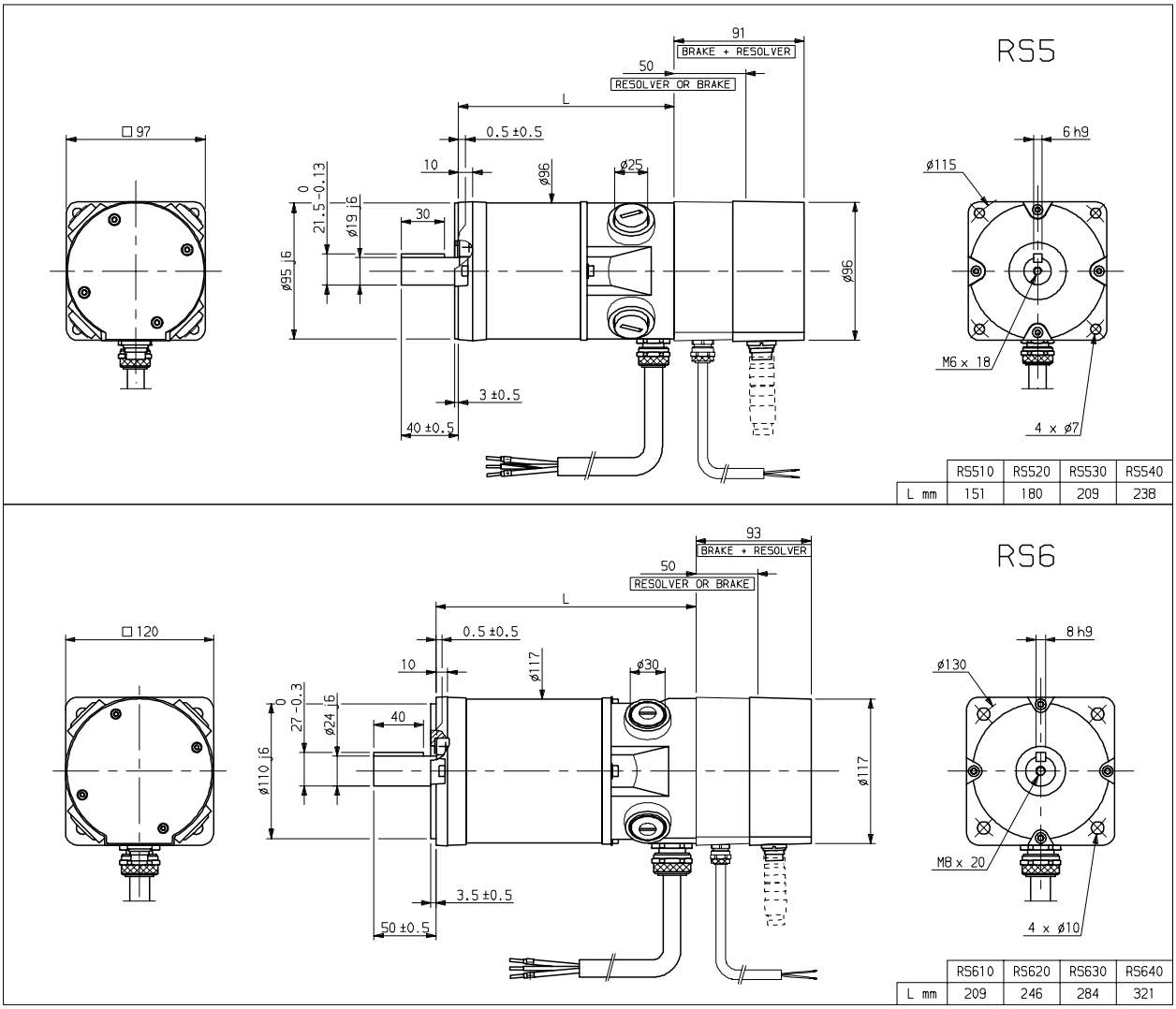
	RS310	RS320	RS330	RS340
L mm	80.5	100.5	120.5	140.5

RS4



	RS410	RS420	RS430	RS440
L mm	95.5	115.5	135.5	155.5

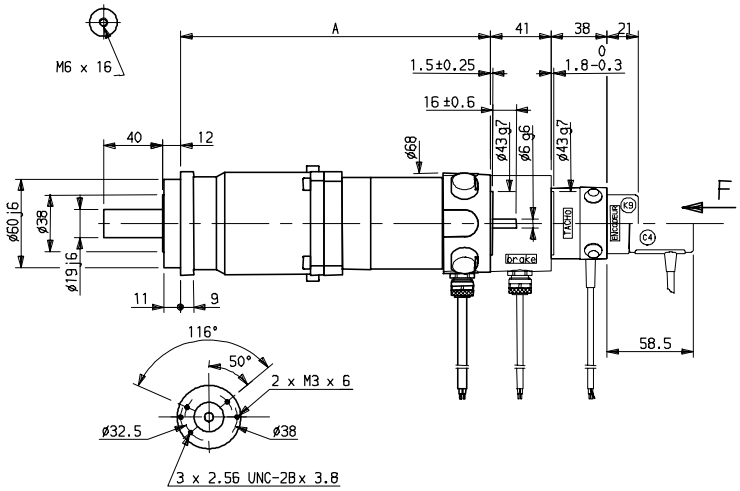
DIMENSIONS
MOTOR + BRAKE + RESOLVER



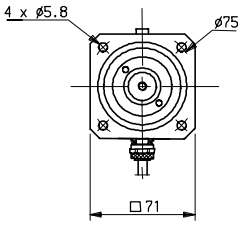
	RS510	RS520	RS530	RS540
L mm	151	180	209	238

	RS610	RS620	RS630	RS640
L mm	209	246	284	321

AXL (slow axis)
The entire RS servomotor range (except RS1 and RS2) may be fitted with " GB planetary reducers, ratio 1/5 or 1/25 in order to provide a very compact, high torque slow axis.



ASSOCIATION EXAMPLE



Type	RS320	RS330	RS340
A	210	230	250

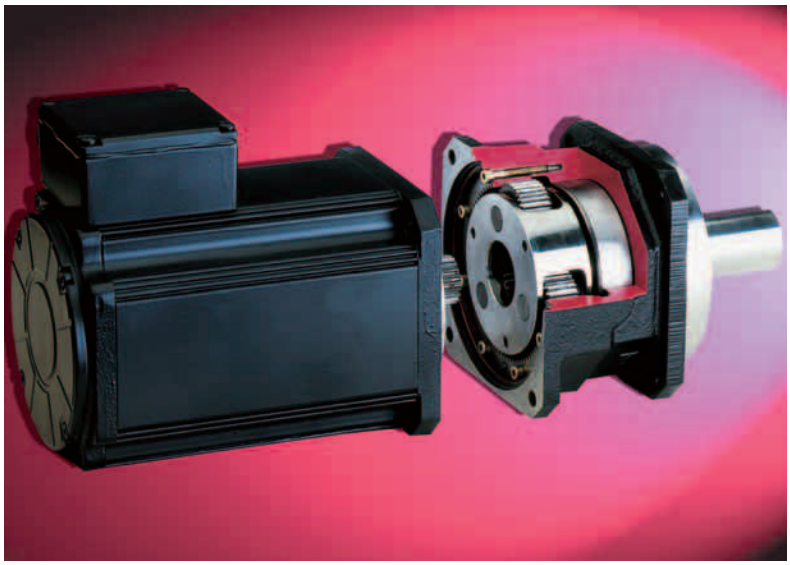
Separate sheets describing motor + Gear box + Amplifier associations are available on request.
Please consult us.

OTHER PRODUCTS IN THE PARVEX RANGE

- AXEM, RS, DC servomotors combined with RTS servoamplifiers.
- «EEx» brushless servomotors for explosive atmospheres (XD series + DIGIVEX).
- «NX», «H» and «L» brushless servomotors.
- HV, HW spindle servomotors.
- DIGITAL VARIABLE SPEED DRIVE
  - ✔ SINGLE-AXIS DSD
  - ✔ COMPACT SINGLE-AXIS DLD
  - ✔ POWER SINGLE-AXIS DPD
  - ✔ MULTIPLE-AXIS DMD
- VARIABLE SPEED DRIVE - POSITIONER
  - ✔ SINGLE-AXIS DSM
  - ✔ POWER SINGLE-AXIS DPM
  - ✔ MULTIPLE-AXIS DMM
- CYBER 2000 and 4000 numerical controllers (1 - 4 axes).
- «AXL» gear motors : range of planetary gears integrated into servomotors to form a compact unit.

AXL range comprises :

- " H " series servomotors
- 1/5 or 1/25 GB gears.



PARVEX

PARVEX SAS
8 avenue du Lac - B.P. 249
F-21007 Dijon Cedex
Telephone + 33 (0)3 80 42 41 40 - Fax + 33 (0)3 80 42 41 23
www.parvex.com

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