

# HIGH TORQUE SERIES DL4

SERVO SYSTEMS

EN

- SPINNING TECHNOLOGY
- WEAVING
- KNITTING
- FINISHING

- PITCH SYSTEMS
- YAW SYSTEMS
- AUXILIARY EQUIPMENT



- EXTRUSION
- INJECTION MOLDING
- BLOW FORMING
- FOILS
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- SAWS
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- DRILLING
- PORTALS
- SHREDDER

- BENDING
- CUTTING
- GRINDING
- LATHES
- MILLING
- DIE CASTING
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- STACKER CRANES
- TOWER CRANES
- LIFTS AND ESCALATORS
- TRANSPORTATION

## HIGH TORQUE SERIES DL4

DL4 servo motors stands for maximum dynamics and maximum flexibility in the connection to the machine design. The use of rare earth permanent magnet ensures a high energy density - the design of the magnetic circuit for sinusoidal voltages combines low ripple torque with high overload without danger of demagnetization.



### SERVO SYSTEMS

In combination with the servo inverters KEB COMBIVERT F6, as well as assembled encoder / motor cables, create powerful Drive systems that perfectly matched optimal properties of speed and torque characteristics, as well as provide high efficiency and easy startup.



### MOTOR FEATURES

Design	IM B5	
Protection	IP 54	
Shaft	without keyway	
Encoder systems	without encoder (SCL-operation)	
	Resolver	
	Hiperface SRS50 - 16 bit	
	Hiperface SRM50 - 16 bit / Multiturn - 12 bit	
Nominal voltage	400V	
Temperature sensor	PT 1000	
Thermal design	ISO Kl. F	
Winding	ISO Kl. F	
No. of poles	8	
Connection Motor	Speedtec plug M23	for SE../CS
	Terminal box	from SE../CF
Version forced ventilation	1 ph. 230V AC connection on clipboard in the terminal box	

### OPTIONS

Foot/ Flange mounted version IM B3 / IM B35
IP 65 – exclude ventilation (with shaft seal ring D-side)
with keyway
Brake 24V DC

### ACCESSORIES

Encoder cable Resolver 00S6L50-10xx	(xx = 1 ... 50 m)
Encoder cable Hiperface 00S6L55-10xx	(xx = 1 ... 50 m)
Connection: Speedtec plug M23	
Motor cable 2.5mm <sup>2</sup> 00S4619-00xx	(xx = 1 ... 50 m)
Connection: Speedtec plug M23 für SE/ ... /CS	

# TECHNICAL DATA DL 4

SIZE	LENGTH	COOLING	MOTOR								
			T <sub>do</sub> [Nm]	T <sub>dN</sub> [Nm]	P <sub>N</sub> [kW]	T <sub>max</sub> [Nm]	I <sub>do</sub> [A]	I <sub>N</sub> [A]	I <sub>max</sub> [A]	n <sub>N</sub> [min <sup>-1</sup> ]	
SE	L2	CS	11	10.1/10/9	1.6/2.1/2.8	26/26/25	3.5/4.6/6.7	3.4/4.4/5.7	8.6/11/16	1500/2000/3000	
		CF	15	14.1/14/12.6	2.2/2.9/3.9	26/26/25	5/6.5/9.4	4.7/6.1/8	8.6/11/16	1500/2000/3000	
	L4	CS	19.5	17.2/16.5/14.5	2.7/3.45/4.55	48/50/50	5.9/8/11.7	5.4/7/9	15/21/31	1500/2000/3000	
		CF	27	24.1/23.1/20.3	5.3/4.8/6.3	48/50/50	8.2/11.2/16.4	7.6/9.8/12.7	15/21/31	1500/2000/3000	
	L6	CS	26	21/19.5/16.5	3.3/4.1/5.2	74/76/75	8/10.8/15.6	6.7/8.4/10.3	24/32/46	1500/2000/3000	
		CF	36	29.4/27.3/23.1	4.6/5.7/7.2	74/76/75	11.2/15.1/21.9	9.4/11.8/14.4	24/32/46	1500/2000/3000	
	L8	CS	34	28.1/26/21	4.4/5.4/6.6	100	10.6/13.9/20.4	9.1/11.1/13.1	32/42/62	1500/2000/3000	
		CF	48	39.3/36.4/29.4	6.1/7.6/9.2	100	14.8/19.5/28.6	12.7/15.5/18.3	32/42/62	1500/2000/3000	
SF	L2	CS	32	30.5/28.5/27	3.2/5.97/8.48	88	6.6/14.6/19.8	6.5/13.3/17.2	18/40/55	1000/2000/3000	
		CF	44.5	43.7/42.7/41.5	4.57/8.94/13.04	100	9.2/20.2/27.6	9.3/20/26.5	22/48/66	1000/2000/3000	
	L4	CS	56	50/44/37	5.23/9.2/11.6	165	12.7/23.9/38.2	11.7/19.3/26	38/71/114	1000/2000/3000	
		CF	88	84/80/77	8.79/16.75/24.19	218	20/37.5/60	19.7/35.1/54	52/98/157	1000/2000/3000	
	L6	CS	83	73/59/48	7.64/12.35/15.08	239	17.2/37.7/47.2	15.5/27.6/28.1	50/110/137	1000/2000/3000	
		CF	132	127/118/114	13.3/24.71/35.81	300	27.3/60/75	27/55.2/66.7	66/144/180	1000/2000/3000	
	L8	CS	105	88/66/50	9.21/13.82/15.71	290	22.4/44.8/59.7	19.3/29/29.2	62/125/166	1000/2000/3000	
		CF	172	157/143/132	16.44/29.95/41.47	400	36.7/73.3/97.8	34.4/62.7/77.2	90/180/241	1000/2000/3000	
	SG	L2	CS <sup>(*)</sup>	98(151)	77/55(130)/30(93)	8/11.5(27)/9.4(29)	168	17.6/40(61)/53(82)	14.9/24(57)/17(54)	32/64/96	1000/2000/3000
			CF	145	130/115/104	13.6/24/32.6	247	26/52/78	25/45/60	47/94/141	1000/2000/3000
L4		CS <sup>(*)</sup>	175(270)	104/50(210)/(150)	10.9/10.5(44)/(47)	295	31.5/71(109)/94(146)	20.1/22(91)/(87)	56/126/168	1000/2000/3000	
		CF	310	250/220/150	26.2/46/47.1	520	56/126/167	48/96/87	99/222/297	1000/2000/3000	
L6		CS <sup>(*)</sup>	260(400)	120/(293)/(210)	12.5/(61)/(66)	440	46.8/94(144)/140(216)	23.2/(113)/(122)	84/167/251	1000/2000/3000	
		CF	440	350/300/180	36.6/62.8/56.5	750	79/158/238	68/116/105	143/285/428	1000/2000/3000	
L8		CS <sup>(*)</sup>	320(493)	125/(342)/(245)	13.1/(71.6)/(77)	530	64.8/130(200)/173(266)	27.2/(149)/(142)	113/227/302	1000/2000/3000	
		CF	520	465/400/200	48.69/83.77/62.8	880	105/211/281	101/174/116	188/376/502	1000/2000/3000	

\* Data for S3-operation 40%- 1min.

## PART NUMBER SERVO MOTORS

### 00SM000-CMAT - EXECUTION-CODE DL4

Voltage	Size	Lengths	Cooling	Speed	Shaft	Brake	Encoder	Options brakes 24V D
V 4	S F	L 4	C F	S P 2 0	F K	B R	E N C 0 1	O P 0 0
V4 400V	SE SF SG	L2 L4 L6 L8	CS surface CF forced	SP10 1000 rpm SP15 1500 rpm SP20 2000 rpm SP30 3000 rpm	FK keyway FKN no keyway	BR brake BRN no brake	ENC00 no ENC01 Resolver ENC04 SR50 ENC05 SRM50	OP00 no OP01 IP65 OP02 IM B35 OP03 IP 65/IM B35 OP04 SH OP05 IP65 SH OP06 IM B35 SH OP07 IP 65/IM B35 SH OP08 IP 65/IM

SH: special shaft; AI: Additional

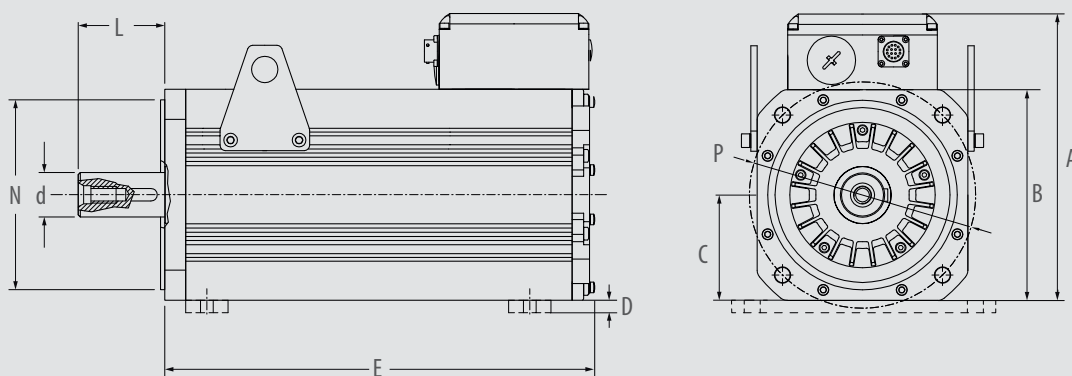
			BRAKE			DIMENSIONS									
$J_L$	$J_z$	$m$	$T_{NB_r}$	$J_{br}$	$m_{Br}$	A	B	C	D	$E_{without\ brake}$	$E_{with\ brake}$	$\varnothing d$	L	$\varnothing N$	$\varnothing P$
[kgcm <sup>2</sup> ]	[kgcm <sup>2</sup> ]	[kg]	[Nm]	[kgcm <sup>2</sup> ]	[kg]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8.52	14**	11.9	32	0.35	3	194	142/158*	80	9	245	295	24 <sub>j6</sub> /28 <sub>j6</sub>	50	130 <sub>j6</sub>	165
		14				340				390					
15.1		16.6				194				300	350				
		19.1				224				395	445				
21.7		21.3				194				355	405				
		24.3				224				450	500				
28.27		26				194				410	460				
		29.5				224				505	555				
49	50**	30	160	4.48	17	272	200/224*	112	12/20***	259	379	42 <sub>k6</sub>	82	180 <sub>j6</sub>	215
		37				296				353	473				
89		43				272				333	453				
		49				296				428	548				
128		54				272				408	528				
		64				296				502	622				
167		68				272				483	703				
		78				296				577	697				
224	225	75	225	8.1	36	361	264/292*	132/146*	18/14***	340	475	48 <sub>k6</sub>	110	250 <sub>j6</sub>	300
		89				389				470	605				
401		109				361				447	582				
		126				389				577	712				
577	450	143	450	13	42	361	264/292*	132/146*	18/14***	554	689	48 <sub>k6</sub>	110	250 <sub>j6</sub>	300
		164				389				684	819				
753		177				361				661	796				
		203				389				791	926				

\*\* Option Additional Inertia

\*\*\* Motor frame version .././CF

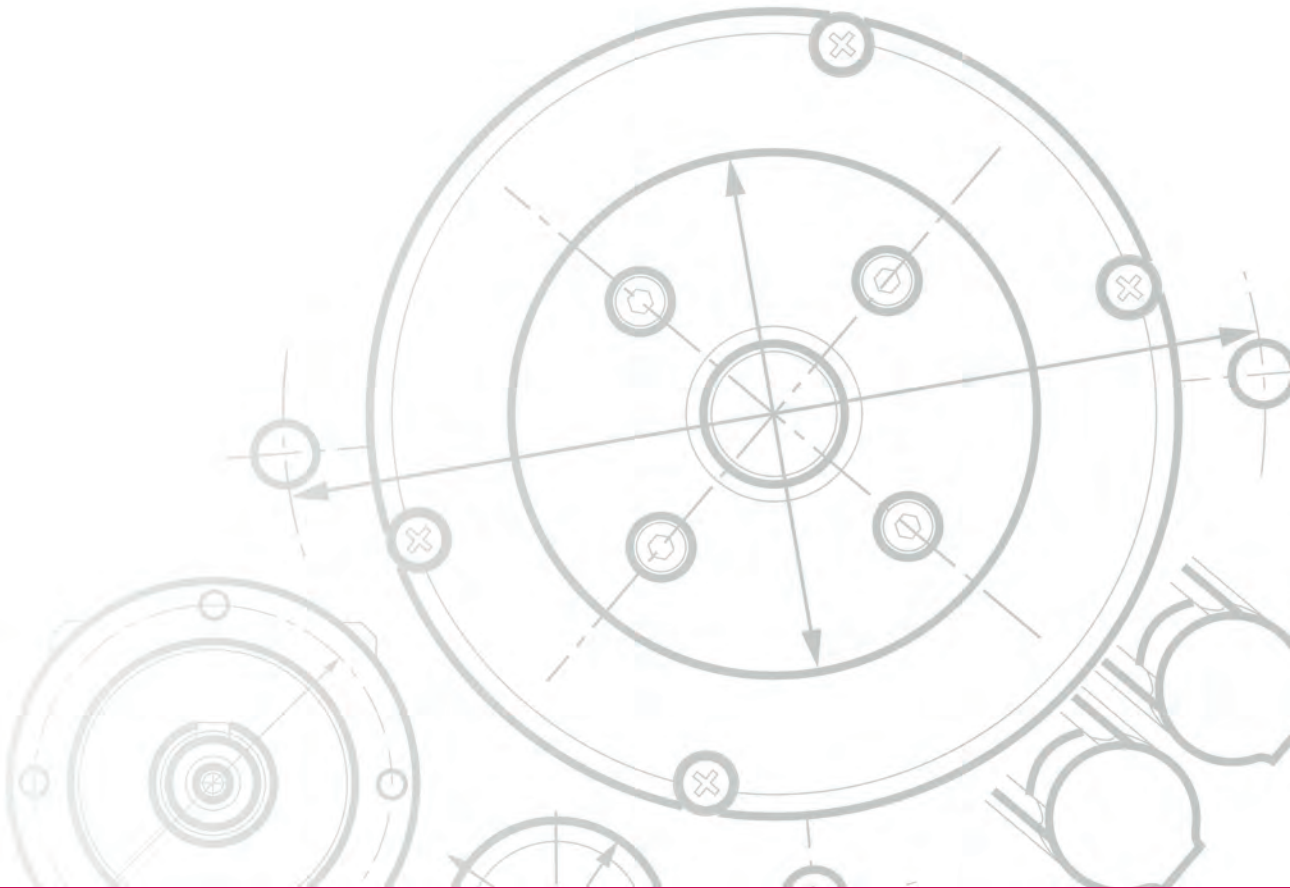
OC

8	AI	OP12	SH/AI
9	P65 AI	OP13	IP65 SH/AI
0	B35 AI	OP14	IM B35 SH/AI
1	B35 AI	OP15	IP 65/IM B35 SH/AI



Inertia





**Automation with Drive**

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