



HIGH TORQUE SERIES DL4-LC

SERVO SYSTEMS - WITH AIR AND LIQUID VENTILATION

EN

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

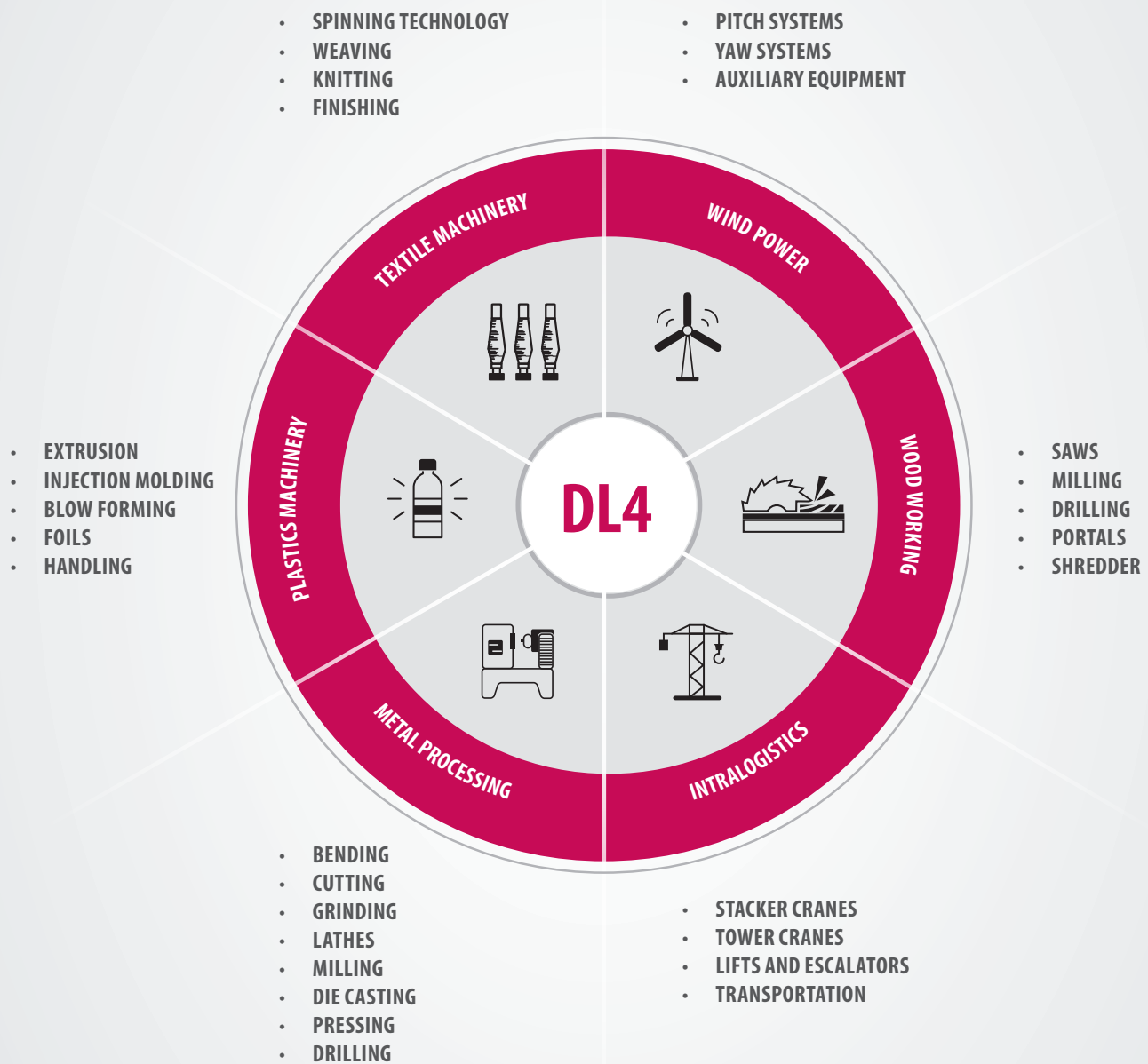
Foot/ Flange mounted version IM B3 / IM B35
IP 65 – exclude ventilation (with shaft seal ring D-side)
with keyway
Brake 24V DC

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 ² 00S4619-00xx	(xx = 1 ... 50 m)
Connection: Speedtec plug M23 für SE/ ... /CS	

VERSION DL4-LC

Increased power density due to liquid cooling - available for size SG - SE/SF on request



TECHNICAL DATA DL 4

SIZE	LENGTH	COOLING	MOTOR							n _N [min ⁻¹]
			T _{d0} [Nm]	T _N [Nm]	P _N [kW]	T _{max} [Nm]	I _{d0} [A]	I _N [A]	I _{max} [A]	
SE	L2	CS	12	10.2/10/9.8	1.6/2.1/3.1	23.8/23.5/23.3	3.7/4.9/7.2	3.4/4.4/6.2	8.6/11/16	1500/2000/3000
		CF	15.4	14.6/14/12.6	2.3/2.9/4	28.5/28.2/28	5/6.5/9.4	4.9/6.1/8	10.3/13.2/19.2	
	L4	CS	22	20.5/20/16.5	3.2/4.2/5.2	44.3/45.9/45.9	6.6/9/13.4	6.4/8.5/10.3	14.9/21.1/30.9	
		CF	31	29/28/24	4.6/5.9/7.5	53.2/55/55	9.3/12.7/18.6	9/11.9/15	17.9/25.3/37.1	
	L6	CS	30	27.5/25.6/20	4.3/5.4/6.3	68.2/69.6/68.8	9.2/12.4/18.2	8.8/11/12.5	23.6/32.4/46.4	
		CF	42	39/37.5/33	6.1/7.9/10.4	81.9/83.5/82.6	12.9/17.4/25.3	12.5/16.1/20.6	28.3/38.8/55.7	
	L8	CS	39	33.5/30.4/22.2	5.3/6.4/7	91.7	12/15.9/23.5	10.8/12.9/13.9	32/42.2/61.8	
		CF	54	49/47/39	7.7/9.8/12.3	100.1	16.8/22.1/32.5	15.8/20/24.3	38.4/50.6/74.2	
SF	L2	CS	33	31.5/30.5/29.5	3.3/6.4/9.3	82.3/82/82.2	6.7/14.8/18.8	6.7/14.3/82.2	18.4/40.4/55.1	1000/2000/3000
		CF	45	42.7/42/43	4.5/8.8/13.5	93.5/93.1/93.4	9.3/20.5/13.5	9.1/19.7/43	21.9/48.1/65.6	
	L4	CS	60	56/51/44	5.9/10.7/13.8	154.3/154/154.6	13.6/25.6/30.9	13.1/22.4/154.6	37.9/71/114	
		CF	89	87/85/80	9.1/17.8/25.1	203.4/203.6/204.5	20.2/37.9/25.1	20.4/37.3/80	52.4/98.3/157	
	L6	CS	82	72/62/53	7.5/13/16.7	223.6/223.1/223.3	17/37.3/31	15.3/29/223.3	49.9/110/137	
		CF	130	124/118/111	13/24.7/34.9	280.1/280/280.4	26.9/59.1/34.9	26.4/55.2/111	65.6/144/180	
	L8	CS	102	90/76,3/65	9.4/16/20.4	271.5/270.7/271.1	21.7/43.5/38	19.7/33.5/271.1	62.4/125/166	
		CF	163	154/144/137	16.1/30.2/43	373.5/373.5/373.8	34.7/69.5/43	33.8/63.2/137	90.2/180/241	
SG	L2	CS ^(*)	100(153)	93/76/60	9.7/15.9/18.8	147.4	21.6/40.5/54	21.6/33.1/34.8	38.3/71.9/95.8	1000/2000/2800
		CF	145	143/125/117	15/54.4/34.3	267.1	31.3/58.7/78.3	33.2/54.4/67.9	69.5/130.3/173.7	
	L4	CS ^(*)	182(270)	150/113/45	15.7/23.7/14.1	258.8	36.8/73.7/98.2	32.7/49.2/26.1	63.1/126.2/168.3	
		CF	310	290/260/230	30.4/110.2/67.4	543.9/558.6/526.3	62.8/127.3/161.9	63.1/110.2/133.5	132.6/265.2/342.2	
	L6	CS ^(*)	270(400)	205/115/0	21.5/24.1/0	386/386/378.4	58.3/97.2/143	47.6/44.5/0	100.4/167.3/251	
		CF	440	395/350/300	41.4/135.5/88	736.8/736.8/657.9	95/158.3/237.5	91.7/135.5/174.2	191.6/319.4/427.8	
	L8	CS ^(*)	340(493)	270/130/0	28.3/27.2/0	464.9/464.9/455.8	68.8/137.7/183.5	58.8/56.6/0	113.4/226.7/302.3	
		CF	580	530/470/320	55.5/204.7/93.8	964.9/833.3/771.9	117.4/239.3/313.1	115.4/204.7/185.8	235.3/406.4/501.9	

* 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		L2		CS surface		SP10 1000 rpm				FK keyway		BR brake		ENC00 no					OP00 no		OP04 SH		OP08 IM B35	
		SF		L4		CF forced		SP15 1500 rpm				FKN no keyway		BRN no brake		ENC01 Resolver					OP01 IP65		OP05 IP65 SH		OP09 IM B35	
		SG		L6				SP20 2000 rpm								ENC04 SR50					OP02 IM B35		OP06 IM B35 SH		OP10 IM B35	
				L8				SP30 3000 rpm								ENC05 SRM50					OP03 IP 65/IM B35		OP07 IP 65/IM B35 SH		OP11 IP 65/IM B35	

SH: special shaft; AI: Additional

			BRAKE			DIMENSIONS									
J _L	J _z	m	T _{NBr}	J _{br}	m _{Br}	A	B	C	D	E _{ohne Bremse}	E _{mit Bremse}	Ø d	L	Ø N	Ø P
[kgcm ²]	[kgcm ²]	[kg]	[Nm]	[kgcm ²]	[kg]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8.52	14**	11.9	32	5.56	1.6	194	142/158*	80	9	245	295	24 _{j6} /28 _{j6}	50	130 _{j6}	165
		14				224				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	130	53	5.4	272	200/224*	112	12/20***	259	379	38 _{k6} /42 _{k6}	82	180 _{j6}	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		75	225	64.8	24.8	361	264/292*	132/146*	18/14***	340	475	48 _{k6}	110	250 _{j6}	300
		89				389				470	605				
401		109				361				447	582				
		126				389				577	712				
577		143	450	129.6	298	361				554	689				
		164				389				684	819				
753		177				361				661	796				
		203				389				791	926				

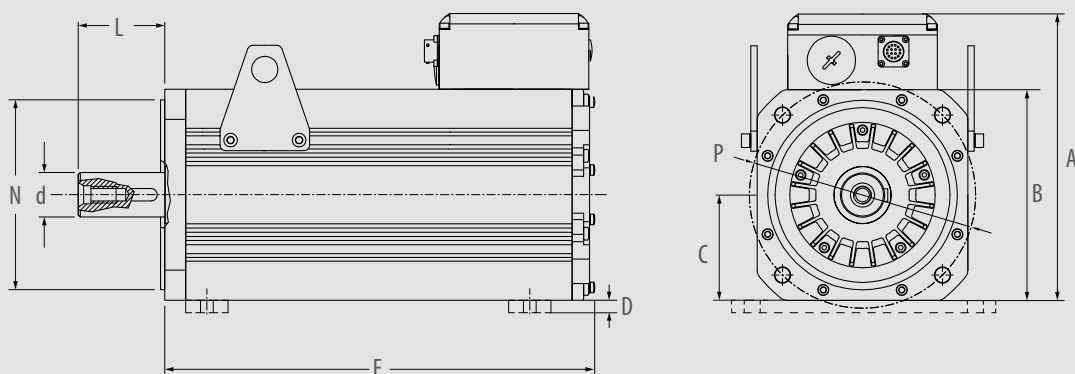
** Option Additional Inertia

*** 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

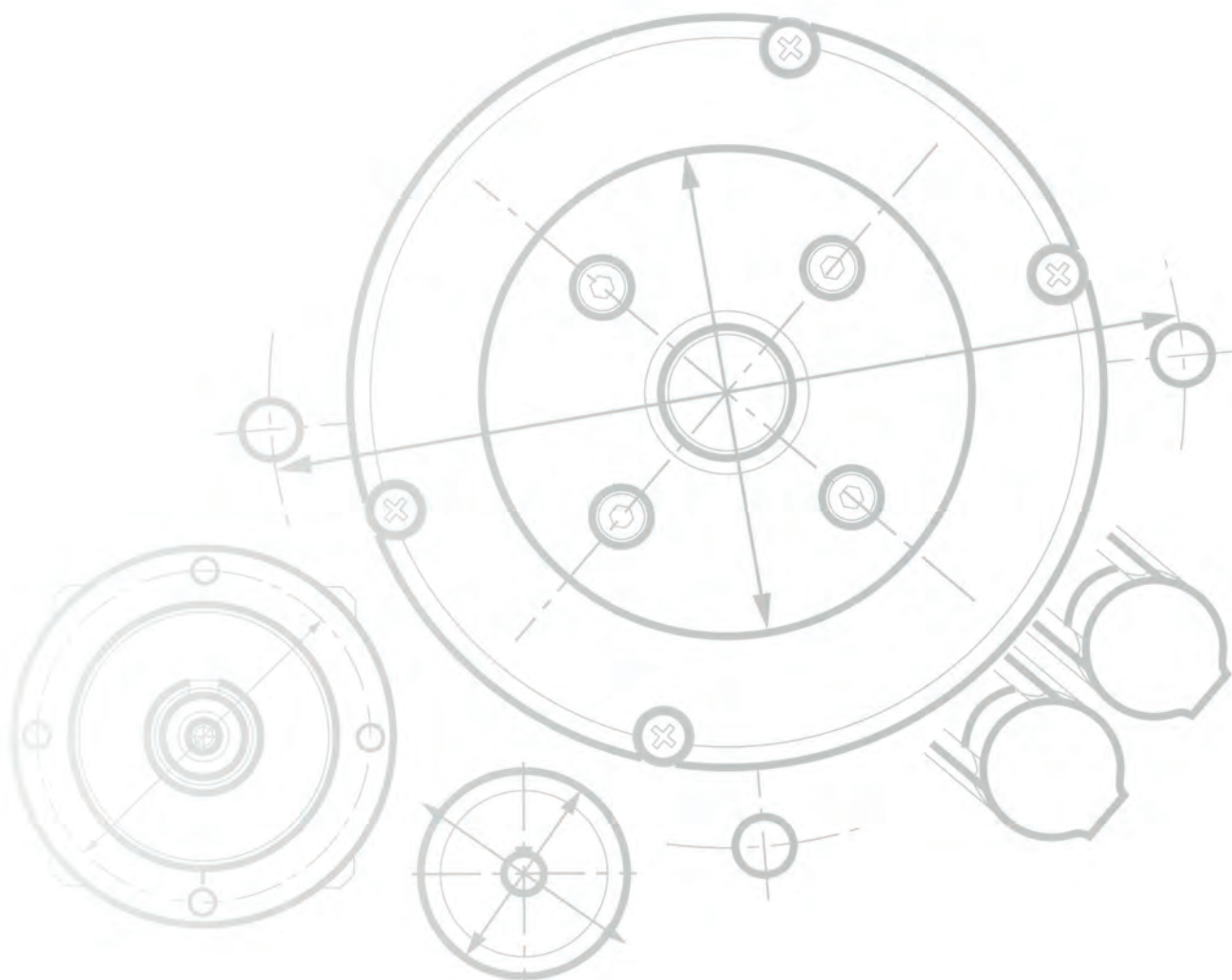




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