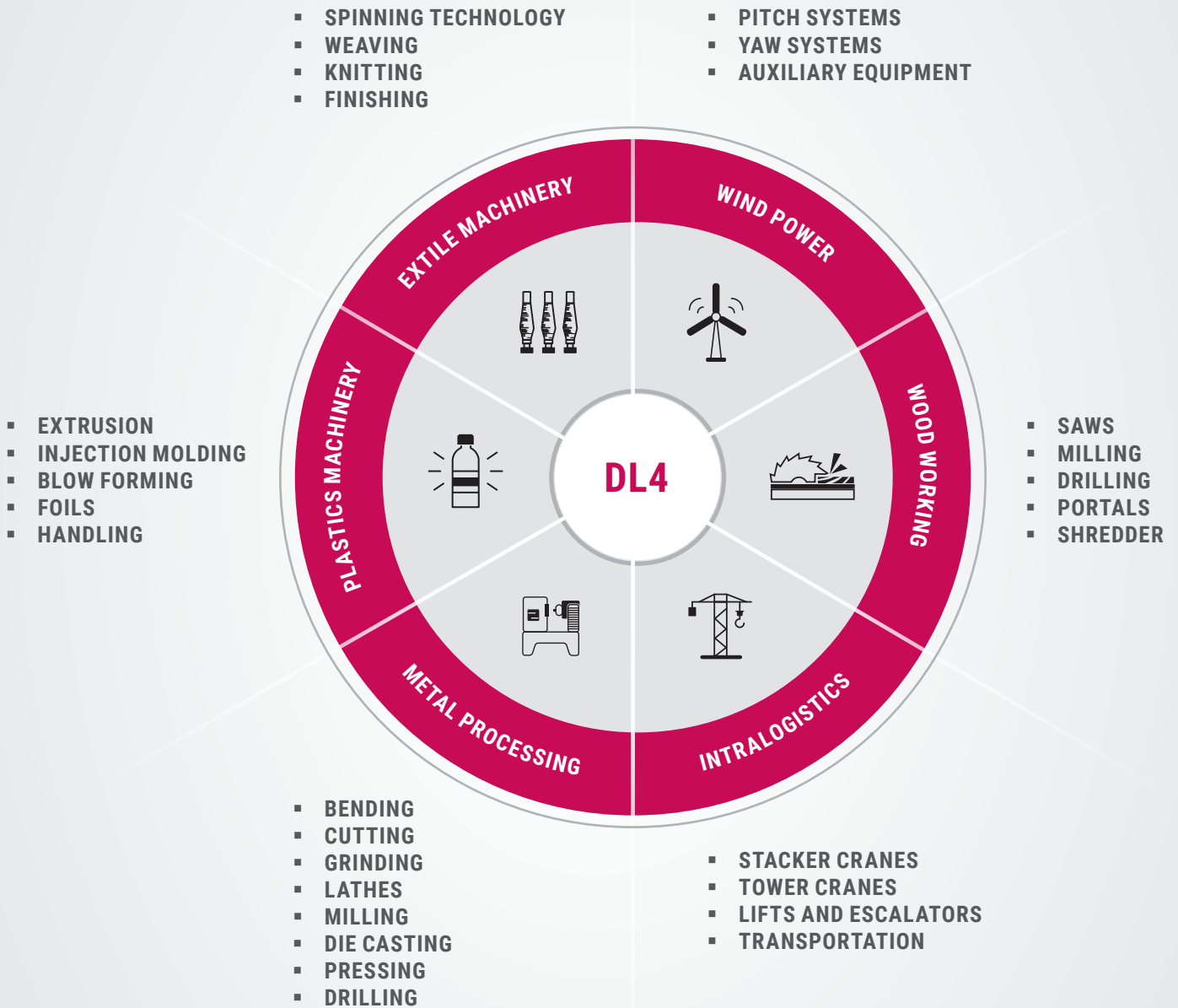




HIGH TORQUE SERIES DL4

SERVO SYSTEMS - WITH AIR AND LIQUID COOLING

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 M23for 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, special shaft
Brake 24V DC, additional inertia

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						
			T _{do} [Nm]	T _N [Nm]	P _N [kW]	T _{max} [Nm]	I _{do} [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
		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 / 20.2	6.7 / 14.3 / 18.8	18.4 / 40.4 / 55.1
		CF	45	42.7 / 42 / 43	4.5 / 8.8 / 13.5	93.5 / 93.1 / 93.4	9.3 / 20.5 / 27.9	9.1 / 19.7 / 27.4	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 / 40.9	13.1 / 22.4 / 30.9	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 / 60.7	20.4 / 37.3 / 56.1	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 / 46.6	15.3 / 29 / 31	49.9 / 110 / 137
		CF	130	124 / 118 / 111	13 / 24.7 / 34.9	280.1 / 280 / 280.4	26.9 / 59.1 / 73.9	26.4 / 55.2 / 64.9	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 / 58	19.7 / 33.5 / 38	62.4 / 125 / 166	
	CF	163	154 / 144 / 137	16.1 / 30.2 / 43	373.5 / 373.5 / 373.8	34.7 / 69.5 / 92.7	33.8 / 63.2 / 80.1	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
		CF	145	143 / 125 / 117	15 / 26.2 / 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 / 54.5 / 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 / 73.3 / 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 / 98.4 / 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 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 SRS50 ENC05 SRM50	OP00 no OP01 IP65 OP02 IM B35 OP03 IP 65/IM B35 OP04 SW OP05 IP65 SW OP06 IM B35 SW OP07 IP 65/IM B35 SW OP08 IP6 OP09 IP6 OP10 IM B3 OP11 IP 65/IM B3

SW: special shaft; ZM: Additional Inertia

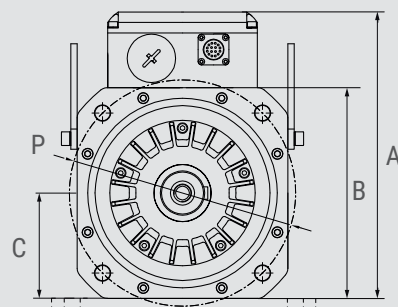
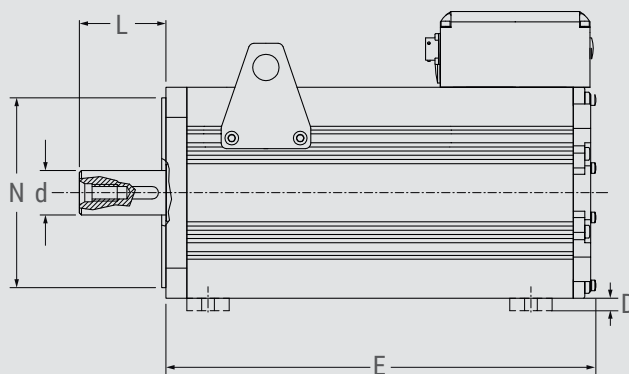
n_N [min ⁻¹]	J_L [kgcm ²]	J_Z [kgcm ²]	m [kg]	BRAKE			DIMENSIONS									
				T_{NBr} [Nm]	J_{br} [kgcm ²]	m_{Br} [kg]	A [mm]	B [mm]	C [mm]	D [mm]	$E_{without\ brake}$ [mm]	$E_{with\ brake}$ [mm]	$\varnothing d$ [mm]	L [mm]	$\varnothing N$ [mm]	$\varnothing P$ [mm]
2000 / 3000	8.52	14**	11.9	32	5.9	2.7(CS) 3.2(CF)	194	142/158*	80	9	245	295	24 _{j6} SW: 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				
2000 / 3000	49	50**	30	130	60	11(CS) 13(CF)	272	200/224*	112	12/20*	259	379	42 _{k6} SW: 38 _{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				
2000 / 2800	224		75	225	84	33(CS) 37(CF)	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	361	554	689										
			164	389	684	819										
	753		177	361	661	796										
			203	389	791	926										

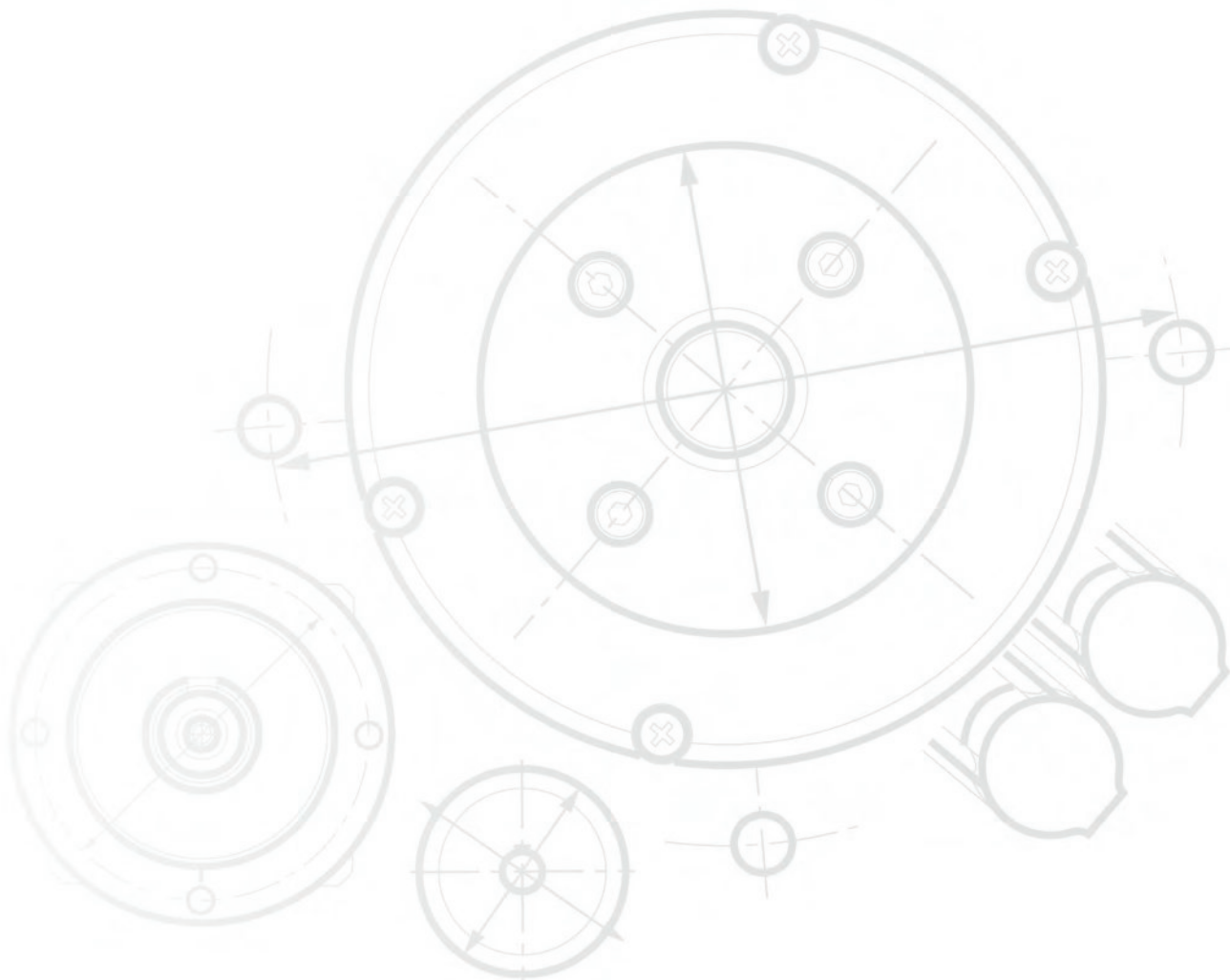
** Option ZM: Additional Inertia

* Motor frame version ..././CF

OC

ZM	OP12 SW/ZM
5 ZM	OP13 IP65 SW/ZM
5 ZM	OP14 IM B35 SW/ZM
5 ZM	OP15 IP 65/IM B35 SW/ZM





Automation with Drive

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