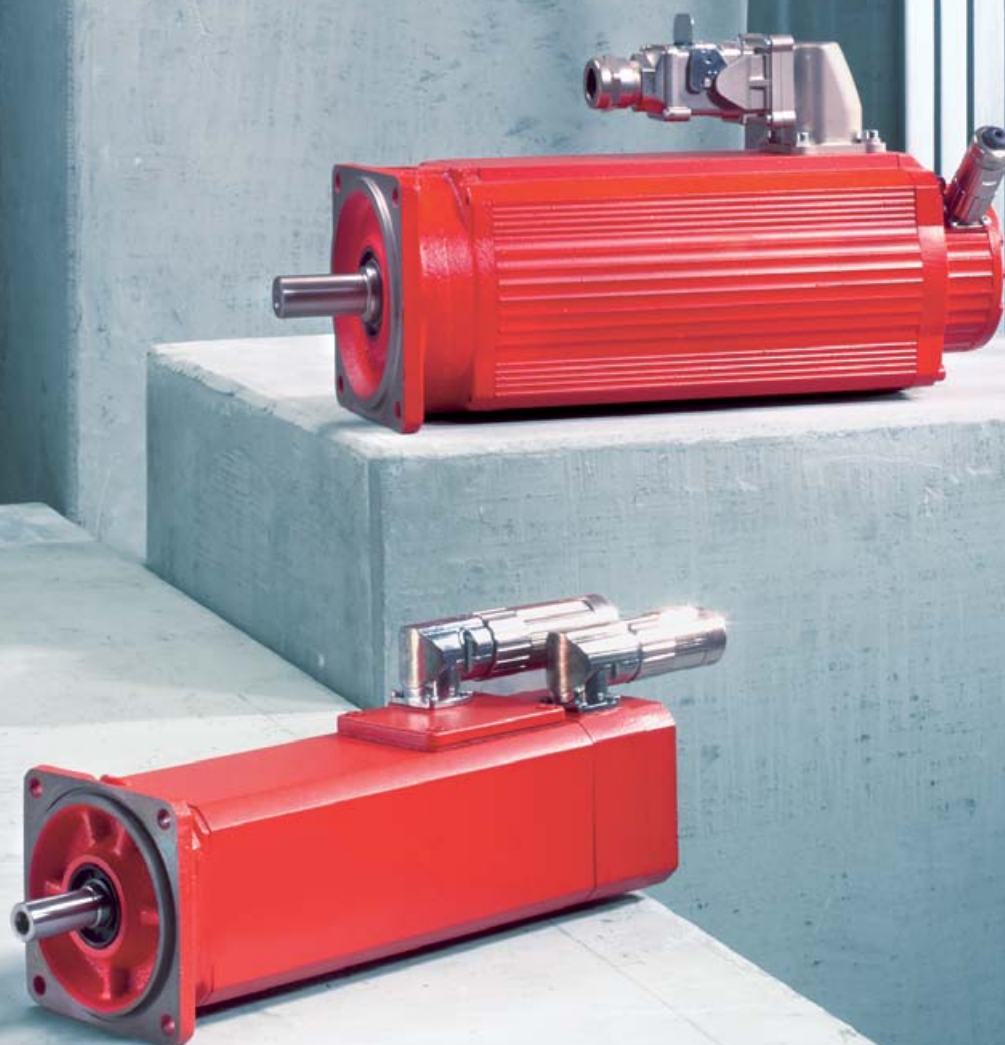


Adaptable, dynamic and powerful

DS/CM synchronous servomotors



Adaptability is key to economical servomotor performance

Dynamic performance, precision and adaptability make SEW-EURODRIVE synchronous servomotors an economical solution in a wide range of mechanical and plant engineering applications. The DS/CM series comes in a sturdy housing and with built-in convection cooling, assuring reliable performance and long service life. This new line of servomotors covers an extended range of standstill torques, from 1 Nm to 68 Nm, with peak performance ratings of up to 238 Nm. These versatile servomotors have a high overload capacity and provide solutions for almost every power requirement.



The modular design of SEW-EURODRIVE servomotors makes it easy to apply them in an almost unlimited number of combinations, so there's an SEW solution no matter how unique the requirements of your application. DS/CM servomotors can be mounted directly on a machine or integrated with the gear unit. Gear units in standard and reduced backlash designs can be installed, as well as planetary and angular servo gear units that can be mounted directly on the motor without using an adapter. You can also choose between 24V holding brakes for the DS series or powerful servo brakes for the CM series.

Feedback options include the standard 2-pole resolver or optional absolute single and multi-turn encoders with HIPERFACE® interface. The high torque of the optional working brake for the CM series provides an optimum solution for hoist applications.

Driving the world – with innovative drive solutions that deliver superior performance for a vast range of applications in every industry – from automotive production to building materials manufacturing, from food & beverage handling to metals processing. When you choose drive technology “made by SEW-EURODRIVE“ you are getting a return on your power transmission investment that is second to none.





DS/CM synchronous servomotors for highly dynamic applications

SEW designed these new synchronous servo motors specifically for highly dynamic applications like material handling, packaging, crane and hoist control. The CM motor series is available in three sizes, with three lengths for each size. They cover the torque range between 5 and 70 Nm static torque. They come equipped with high-energy NdFeB magnets that deliver a very high overload capacity of 400% standstill current as standard.

The modern technology of the magnetic circuit assures high rotational accuracy and low cogging.

For static torques of 1 to 4 Nm, the DS series provides the ideal low power solution and is also available in three lengths. The acceleration torques of these motors are three to four times the static torque for all sizes. All motors come equipped with standard thermal motor protection and resolver feedback for motor control.

An overview of the properties of the DS/CM series	An overview of the advantages of system solutions with DS/CM synchronous servomotors
<ul style="list-style-type: none"> – Very dynamic and powerful – Large torque range – Stepped speed classes – Direct drive technology or geared servomotors – Integral gearmotors with standard or servo gears – Servo brake with hoist capability – Resolver or high-resolution absolute encoder – High overload capacity throughout – High quality of concentric properties – High degree of protection – Plug solution or terminal box – Servo cable for fixed or flexible installation – Optional motor equipment: Terminal box, forced cooling fan, and motor brake – All motors with UL or CSA approval 	<ul style="list-style-type: none"> – Servomotors from 1 ... 68 Nm – Servo controllers by SEW-EURODRIVE – MOVITOOLS® operating software with startup functions – Calibration function for external mass moments of inertia – Technology functions – Engineering support – After sales support – CAD files for all motors – Technical documentation, available online



DS/CM synchronous servomotors series

Motor type	n_N [min ⁻¹]	M_0 [Nm]	I_0 [A]	M_{dyn} [Nm]
CFM71S	2,000	5	2.2	16.5
CFM71M		6.5	3	21.5
CFM71L		9.5	4.2	31.4
CFM90S		11	4.9	39.6
CFM90M		14.5	6.9	52.2
CFM90L		21	9.9	75.6
CFM112S		23.5	10	82.3
CFM112M		31	13.5	108.5
CFM112L		45	20	157.5
CFM112H		68	30.5	238
DFS56M		3,000	1	1.65
DFS56L	2		2.4	7.6
DFS56H	4		2.8	15.2
CFM71S	5		3.3	16.5
CFM71M	6.5		4.3	21.5
CFM71L	9.5		6.2	31.4
CFM90S	11		7.3	39.6
CFM90M	14.5		10.1	52.2
CFM90L	21		14.4	75.6
CFM112S	23.5		15	82.3
CFM112M	31		20.5	108.5
CFM112L	45		30	157.5
CFM112H	68		43	238
DFS56M	4,500		1	1.65
DFS56L		2	2.4	7.6
DFS56H		4	4	15.2
CFM71S		5	4.9	16.5
CFM71M		6.5	6.6	21.5
CFM71L		9.5	9.6	31.4
CFM90S		11	11.1	39.6
CFM90M		14.5	14.7	52.2
CFM90L		21	21.6	75.6
CFM112S		23.5	22.5	82.3
CFM112M		31	30	108.5
CFM112L		45	46	157.5
CFM112H		68	66	238
DFS56M		6,000	1	1.65
DFS56L	2		2.75	7.6
DFS56H	4		5.3	15.2
CFM71S	5		6.5	16.5
CFM71M	6.5		8.6	21.5
CFM71L	9.5		12.5	31.4
CFM90S	11		14.5	39.6
CFM90M	14.5		19.8	52.2
CFM90L	21		29.5	75.6

I_{\max} [A]	J_{mot}	J_{bmot}	m_{mot}	m_{bmot}
	[10 ⁻⁴ kg m ²]		[kg]	
8.8	4.89	6.65	9.5	11.8
12	6.27	8.03	10.8	13
16.8	9.02	10.8	13	15.3
19.6	17.4	21.2	15.7	19.6
28	22.3	26.1	17.8	21.6
40	32.1	35.9	21.9	26.5
40	68.4	84	26.2	31.8
54	88.2	104	30.5	36
80	128	143	39.3	44.9
122	190	209	54.2	59.8
6.6	0.48	0.83	2.8	2.9
9.6	0.83	1.18	3.5	3.6
11.2	1.53	1.88	4.8	5.3
13.2	4.89	6.65	9.5	11.8
17.2	6.27	8.03	10.8	13
25	9.02	10.8	13	15.3
29	17.4	21.2	15.7	19.6
40	22.3	26.1	17.8	21.6
58	32.1	35.9	21.9	26.5
60	68.4	84	26.2	31.8
82	88.2	104	30.5	36
120	128	143	39.3	44.9
172	190	209	54.2	59.8
6.6	0.48	0.83	2.8	2.9
9.6	0.83	1.18	3.5	3.6
16	1.53	1.88	4.8	5.3
19.6	4.89	6.65	9.5	11.8
26	6.27	8.03	10.8	13
38	9.02	10.8	13	15.3
44	17.4	21.2	15.7	19.6
59	22.3	26.1	17.8	21.6
86	32.1	35.9	21.9	26.5
90	68.4	84	26.2	31.8
120	88.2	104	30.5	36
184	128	143	39.3	44.9
264	190	209	54.2	59.8
6.6	0.48	0.83	2.8	2.9
11	0.83	1.18	3.5	3.6
21	1.53	1.88	4.8	5.3
26	4.89	6.65	9.5	–
34	6.27	8.03	10.8	–
50	9.02	10.8	13	–
58	17.4	21.2	15.7	–
79	22.3	26.1	17.8	–
118	32.1	35.9	21.9	–

 n_N : Rated speed M_0 : Static torque I_0 : Standstill current M_{dyn} : Dynamic limit torque of the servomotor I_{\max} : Max. permitted motor current J_{mot} : Mass moment of inertia of the motor J_{bmot} : Mass moment of inertia of the brake motor m_{mot} : Weight of the motor m_{bmot} : Weight of the brake motor

Operating conditions

Ambient temperature	-20°C up to 40°C, max. up to 60°C with derating
Installation altitude	up to 1,000 m above sea level
Thermal classification	F

Standard type

Feedback system	2-pole resolver
Enclosure	IP65
Connection	Power and feedback connectors
Coating	Surface coating RAL 9005, black



Options for DS/CM servomotors

UL / CSA certification NEMA	<ul style="list-style-type: none"> – There is a UL or CSA certificate for DS/CM motors – All servomotors are available in NEMA design
Brake	<ul style="list-style-type: none"> – 24V holding brake for DS servomotors – 24V, 110V, 230V, 400V, 460V brakes with high braking power for CM servomotors; excellent emergency stop properties – Manual brake release for CM motor brake
Feedback systems	<ul style="list-style-type: none"> – Single-turn and multi-turn absolute encoders with HIPERFACE® interface – SSI multi-turn absolute encoder – Resolvers with more poles
Connection	Terminal box
Forced cooling fan	With an increase of the static torque up to factor 1.45 x M_0
Cables	Prefabricated power and feedback cables for fixed or flexible installation as well as extension cables (all cables with UL listing)
Gear unit	Servo and standard gear units as gearmotor or with installation via adapter



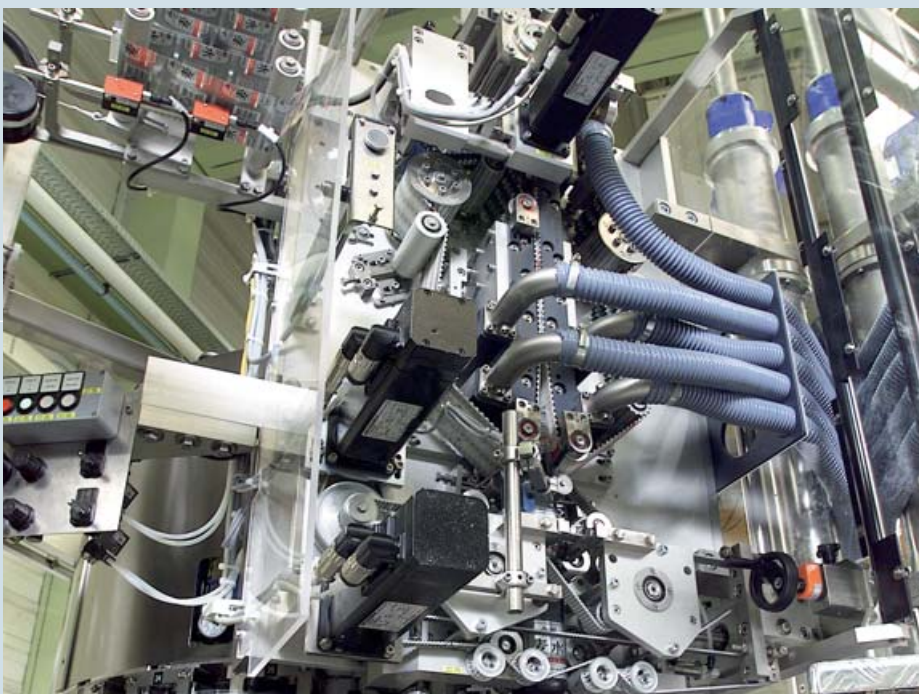
For a variety of combinations in different applications and economical performance



Precision, dynamics and optimum control are characteristic of SEW servomotors. More than 10,000 bottles per hour are turned and checked by planetary gearmotors in phase-synchronous operation and in coordination with MOVIDRIVE® drive inverters.



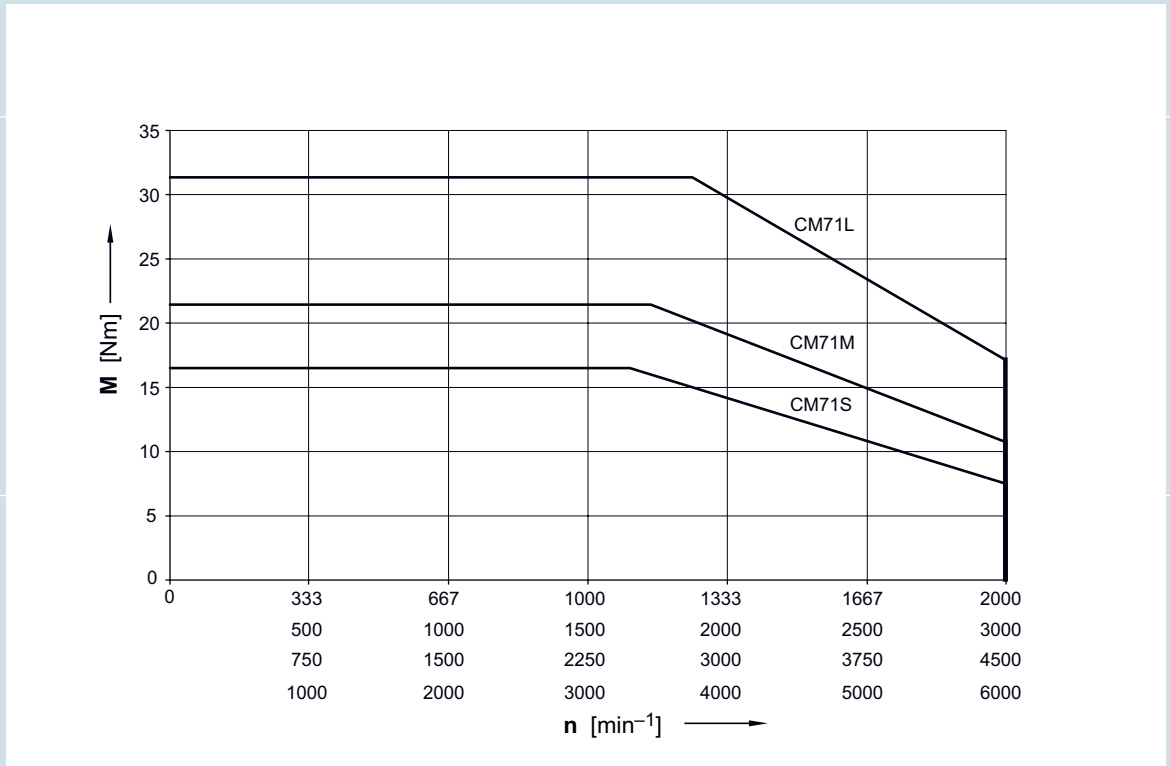
Servomotors from SEW-EURODRIVE are optimized for the demanding requirements of material handling and logistics applications. Whether it's a gantry robot or storage and retrieval system, weight distribution is not important. DS/CM servomotors can handle almost any mass moment of inertia with exact precision.



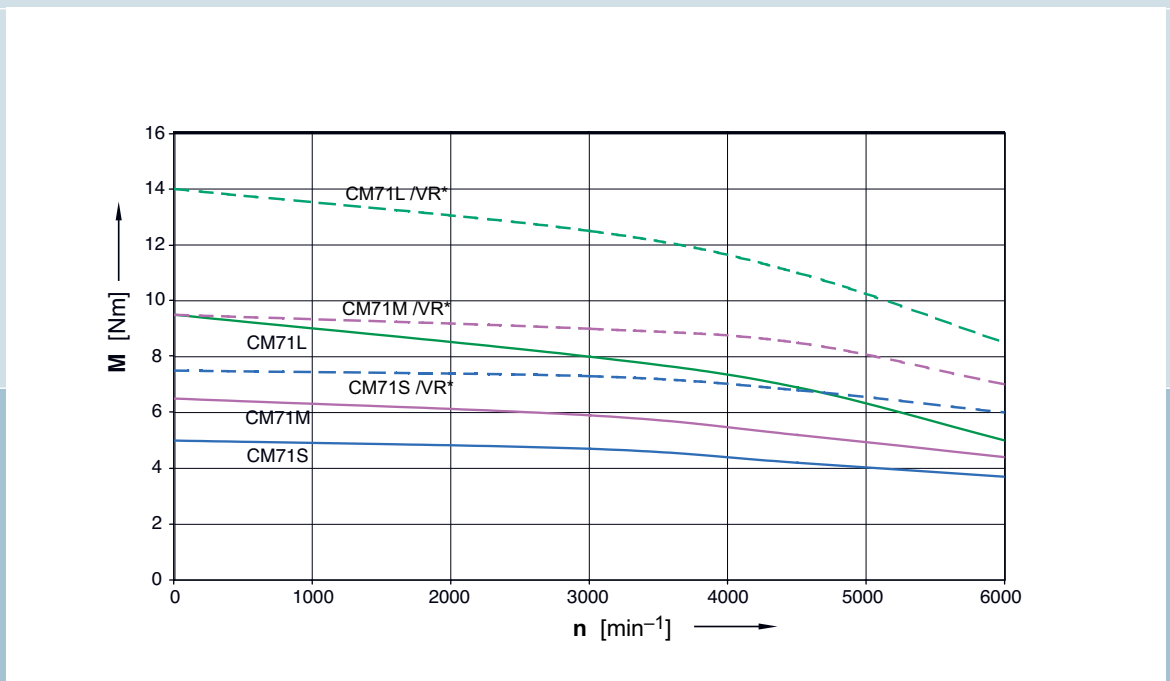
Food processing and secondary packaging are ideal applications for the precise, reliable performance of SEW servomotors. Here they make sure a labeling system performs with maximum output.

Motor characteristics using the CMD71 series as an example

Dynamic torque characteristics for 460V systems

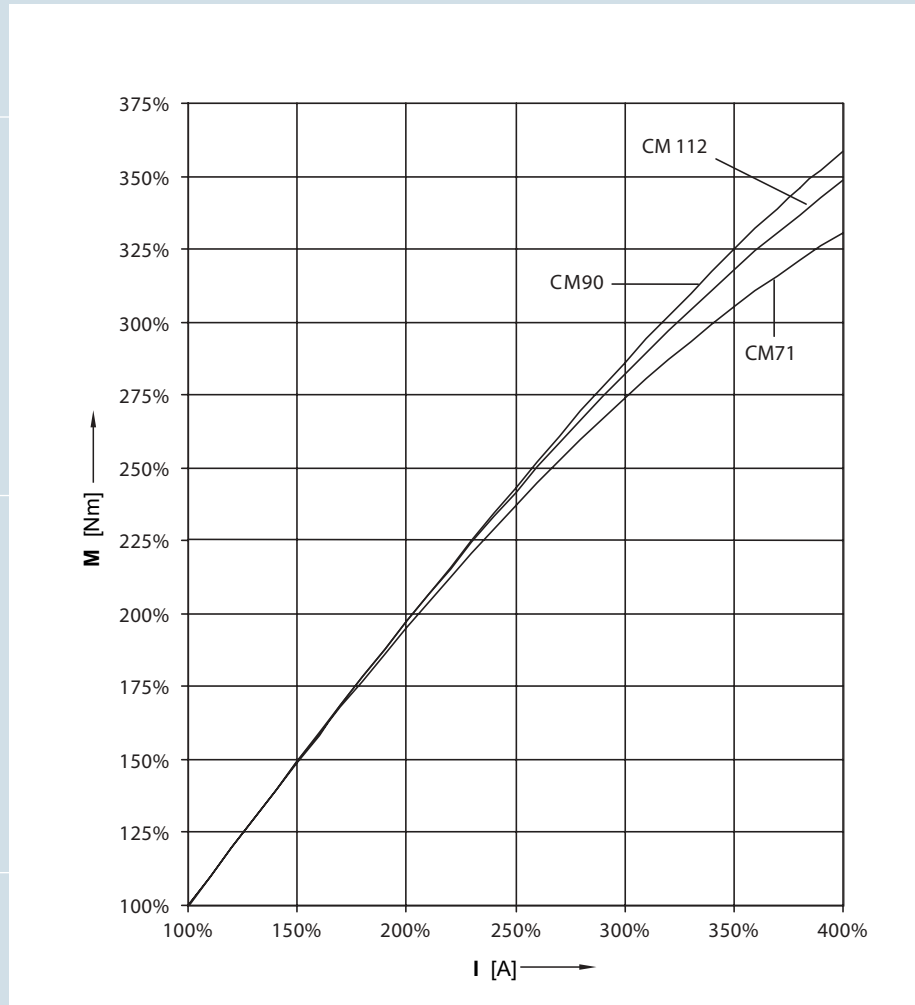


Thermal torque characteristics for 460V systems



*VR : Thermal characteristics with forced cooling fan

Torque - current characteristics



How we're driving the world

With uncompromising quality that reduces the cost and complexity of daily operations.

With drives and controls that automatically improve your productivity.

With comprehensive knowledge in virtually every branch of industry today.

With industry-leading training and 24-hour technical support, nationwide.



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Driving the world

With a global presence that offers responsive and reliable solutions. Anywhere.

With a worldwide service network that is always close at hand.

With innovative technology that solves tomorrow's problems today.

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