



**Addendum to the “Geared Servomotors“
Catalog**

Edition

05/2002



Addendum to the Geared Servomotors Catalog



Changes and corrections have been made to the "Geared Servomotors" catalog, publication no. 10519718, as described in this addendum.

Please use the data specified here instead of the data in the catalog.

Correction on pages 45/46

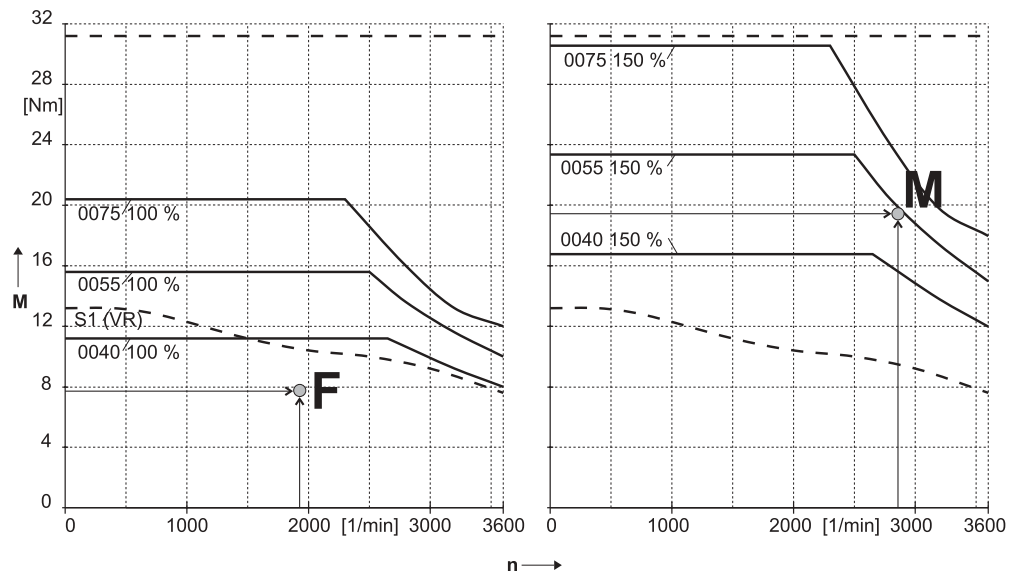
Motor selection

- Max. motor speed: 2862 min⁻¹ (input speed of gear unit already checked)
- Motor in speed class 3000 min⁻¹, max. required motor output torque = 18.2 Nm

A motor is selected and the requirements are checked based on the determined gear unit and the motor which can be mounted to it.

- Selected motor: CT90L4BMG, speed class 3000 min⁻¹
 - Check the inertia ratio for attainable control quality.
 $J_{Load} / J_{Mot} = 12.43$ OK
 - Check maximum required motor torque for increasing load inertia and motor inertia (here: extrapolated based on J_{Load} / J_{Mot})
- $M_{max} = 18.2$ (13.43/12.43) Nm with 2862 min⁻¹ OK
 - Entry **M** in speed/torque characteristics for 150 % inverter current
- $M_{eff} = 7.77$ Nm, mean speed = 1923 min⁻¹ OK
 - Entry **F** in speed/torque characteristics for 100 % inverter current
- Both entries must lie below the applicable torque characteristics for the selected inverter.

CT90L4 VR, Δ MD_60A, MC_4_A



002469EXX

Figure 1: Maximum and effective operating point

M = Maximum operating point; maximum occurring torque with corresponding speed and maximum required speed with corresponding torque (in this case, points are identical)



F = Effective operating point; effective torque at medium speed averaged by means of the operating cycle

- The **effective operating point** for the motor must be below the S1 characteristics. This means the thermal load on the motor is within the permitted range.
- The **maximum operating point** must be below the characteristic curve of the selected motor/inverter combination in the speed-torque diagram for 150 % inverter capacity utilization (possibly two different points for maximum speed and maximum torque).
- **The inverter current with the motor stopped must be less than 70 % of the rated inverter current.** The operating point must also be below the S1 characteristic curve of the motor. With **synchronous servomotors**, the inverter current must be less than 70 % of the rated inverter current with the motor stopped.

This means the required inverter has been determined:

- Selected motor: **CT90L4 VR** in speed class 3000 min^{-1} ; $M_{\text{rated}} = 10.1 \text{ Nm}$
- Selected drive inverter: **MDV60A-0055-5A3-4-00**; 5.5 kW

Information on project planning for hoists with MOVIDRIVE®

The entire rated current is not available from the inverter at all times at output frequencies less than 2 Hz (see the "Project Planning" chapter in the MOVIDRIVE® System Manual). As a general rule with servo applications and with electrically braking hoists in particular, this operating point has a decisive influence on the selection of the motor and the inverter.

Correction / addendum page 55

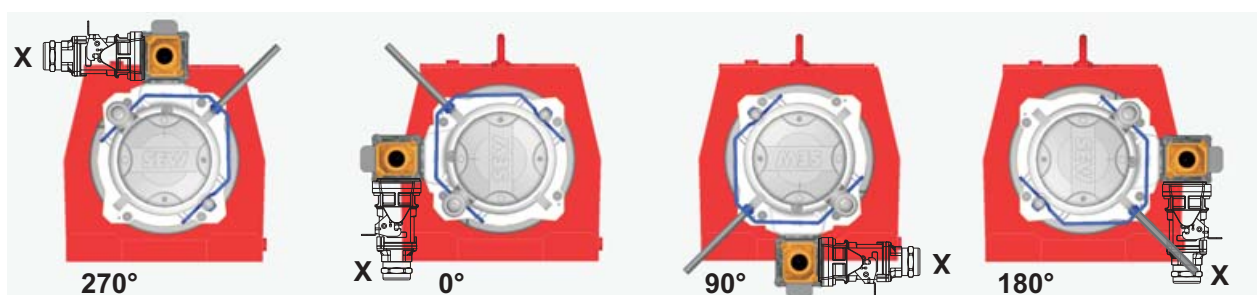
The information for the terminal box only applies to CT/CV motors.

The following applies to DS56 and CM motors:

- The terminal box cannot be rotated.
- The terminal box has cable entries with positions 2, 3 and X.

Addendum to page 56

Position of the power plug connector: cable entry position X is added in the illustration.

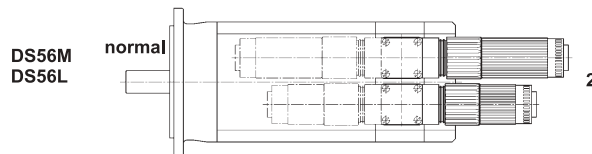




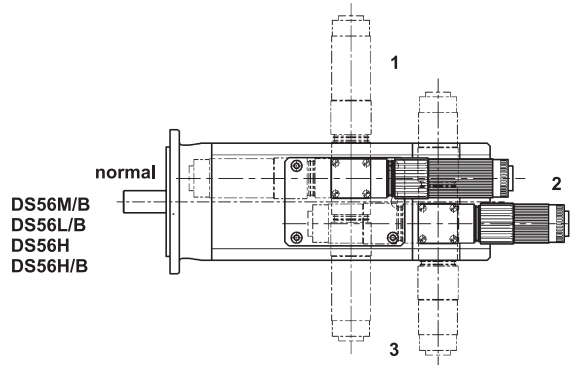
Correction on page 56

Position of cable entries for DS56 motors:

With brake motors and with DS56H: positions "1", "2", "3" and "normal" are possible.



With DS56M and DS56L: only positions "2" and "normal" are possible.



Addendum to page 304

Type designation

- 1st position S Connected using plug connection
- 2nd position M Motor
- 3rd position 1 Connector size
- 4th position 0 Mating connectors not included
 - 1: 4x1.5 mm² (without brake)
 - 1: 4x1.5 mm² + 2x0.75 mm² (with brake)

Example

S M 1 1

- └─ 1: with mating connector, 4x1.5 mm² (2x0.75 mm²)
- └─ 1: Identification of connector size
- └─ M: Motor
- └─ S: Plug connector

Correction on page 304

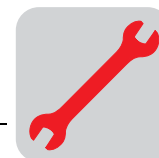
Plug connector types and socket contacts

Motor type		Motor		Resolver and thermal motor protection	
		Plug connector	Socket contacts	Plug connector	Socket contacts
DFS56 ¹⁾	SM10	without mating connector			
DFS56.. ¹⁾	SM11	LPNA08BNNNN170	4 x 1.5 mm ²	SPNA12FFSAN169	8 x 0.14 ... 0.60 mm ²
DFS56..B ¹⁾	SM11		4 x 1.5 mm ² + 2 x 0.75 mm ²		

1) Manufacturer of plug connectors: Intercontec

Correction on pages 305 / 306

Core assignment for resolver DS56 / MOVIDYN[®] and resolver DS56 / MOVIDRIVE[®]:
cos+ = RD / cos- = BU.



Addendum to page 307

Resolver DS56 /
MOVIDRIVE®

Part number	198 829 8	198 828 X
Routing	Fixed routing	Cat track routing
For plug connector at	DS56	
Line cross section	4 x 2 x 0.25 mm ²	
Conductor assignment	TF: WH TF: BN sin +: YE sin -: GN ref +: PK ref -: GY cos +: RD cos -: BU	
Manufacturer and type Lapp Helukabel	Unitronic Li2YCY (TP) Paar-Tronic-CY	Unitronic FD CP (TP) Super-Paar-Tronic-C-PUR
For inverter	MOVIDRIVE® MDS60A / MCS..A	
Connection to motor inverter	with 12-pole green terminal strip (Phoenix) Sub D plug 9-pole	

Correction on page 308

Encoder system resolver / Hiperface multi-turn / required tools, disassembly / disassembly tool/ Brake contact 1 mm Ø. The **disassembly tool 019 246 5 is not required.**

Encoder system resolver, Hiperface multi-turn / required tools, disassembly / part number for insulating body in the illustration is incorrect. The correct tool is the assembly tool **019 248 1**. The disassembly tool is required for **disassembly on the motor side only.**

Correction on page 313

Designation of the plug connector Phoenix Contact in the illustration and the table Contact assignment of brake motor: **GMVSTBW 2.5/3ST**

Correction on page 319

Part number for the spare plug connector CM71, 90, 112: **198 673 2**

Correction on page 321

Motor cable / type of routing: cat track / diameter D for 4x6 mm²: **15.3 ± 0.4 [mm]**

Correction on page 322

Brake motor cable / type of routing: cat track / diameter D for 4x10 mm² + 3x1.5 mm²: **20.5 ± 0.5 [mm]**









Correction on page 324

Crimping tools

For motors with plug connectors, it is possible to use the pre-fabricated cables from SEW as well as to independently purchase the required plug connectors.

The customer is then required to perform the wiring of the plug connectors. SEW offers suitable crimping tools for this purpose to ensure a proper connection of cable cores and contacts. Please provide the respective part number when placing the order.

Motor power and brake

Required tools, assembly			
Type	For	SEW part number	Illustration
Crimping tool for brake contacts / power contacts	Contact 1.6 mm Ø Contact 3.6 mm Ø	019 070 5	
Crimping jaws for brake contacts / power contacts	Contact 1.6 mm Ø Core cross sections 0.5 ... 1.5 mm ² Contact 3.6 mm Ø 1.5 ... 2.5 mm ² 4.0 ... 6.0 mm ²	019 086 1 019 012 8 019 013 6	
Contact facing for brake contacts / power contacts	Contact 1.6 mm Ø Core cross sections 0.5 ... 1.5 mm ² Contact 3.6 mm Ø 1.5 ... 2.5 mm ² 4.0 ... 6.0 mm ²	019 987 X 019 014 4 019 015 2	
Crimping tools for power contacts	Contact 3.6 mm Ø Core cross sections 1.5 ... 10 mm ²	019 069 1	
Contact facing for power contacts	Contact 3.6 mm Ø Core cross sections 1.5 ... 10 mm ²	019 971 3	
Test probe set for power contacts	Contact 3.6 mm Ø Core cross sections 1.5 ... 10 mm ²	019 085 3	
Required tools, disassembly			
No special tools for disassembly			



Correction on page 325

Encoder system resolver, Hiperface single-turn and multi-turn / required tools, disassembly / disassembly tool / contact 1 mm Ø, core cross section 0.06 ... 1 mm². The **disassembly tool 019 246 5 is not required.**

Encoder system resolver, Hiperface single-turn and multi-turn / required tools, disassembly / disassembly tool / insulating body. The disassembly tool 019 248 1 is required for **disassembly on the motor side only.**

Correction on page 326

The reference to page 35 is incorrect. The general references to overhung loads can be found on page 49.

Correction on page 331 (correct column heading)

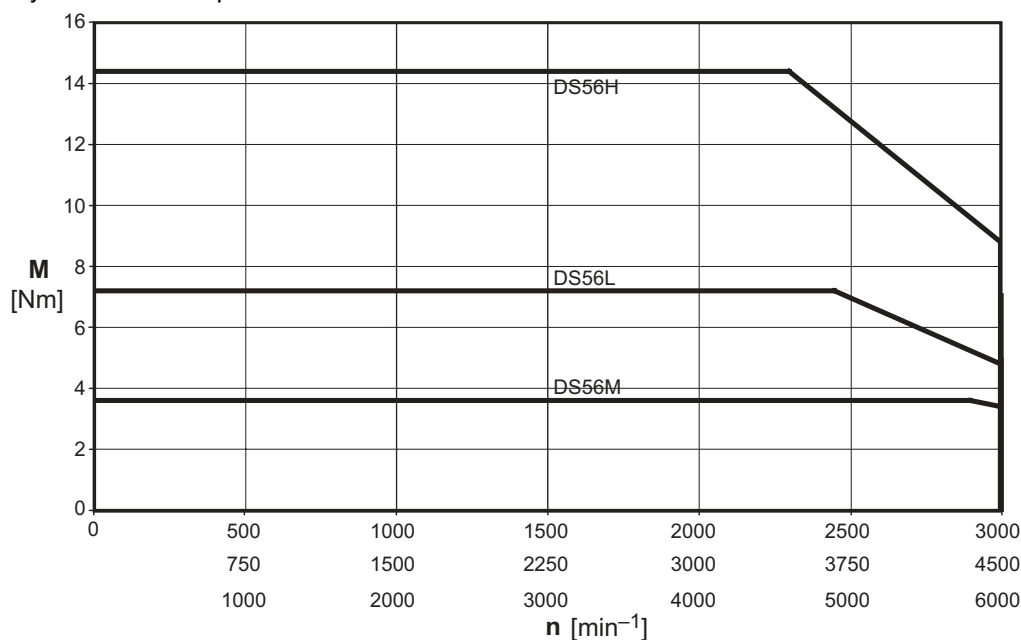
Combination overview of synchronous servomotors / servo controllers peak torque in Nm (system voltage 400 V)

n_N [min ⁻¹]	Motor	MOVIDRIVE® MDS / MCS / MCH														
		0015	0022	0030	0040	0055	0075	0110	0150	0220	0300	0370	0450	0550	0750	
		4.0 [A]	5.5 [A]	7.0 [A]	9.5 [A]	12.5 [A]	16.0 [A]	24.0 [A]	32.0 [A]	46.0 [A]	60.0 [A]	73.0 [A]	89.0 [A]	105 [A]	130 [A]	
2000	CFM71S	12.7	15.9	16.5												

Correction on page 332

DS56

Dynamic limit torque

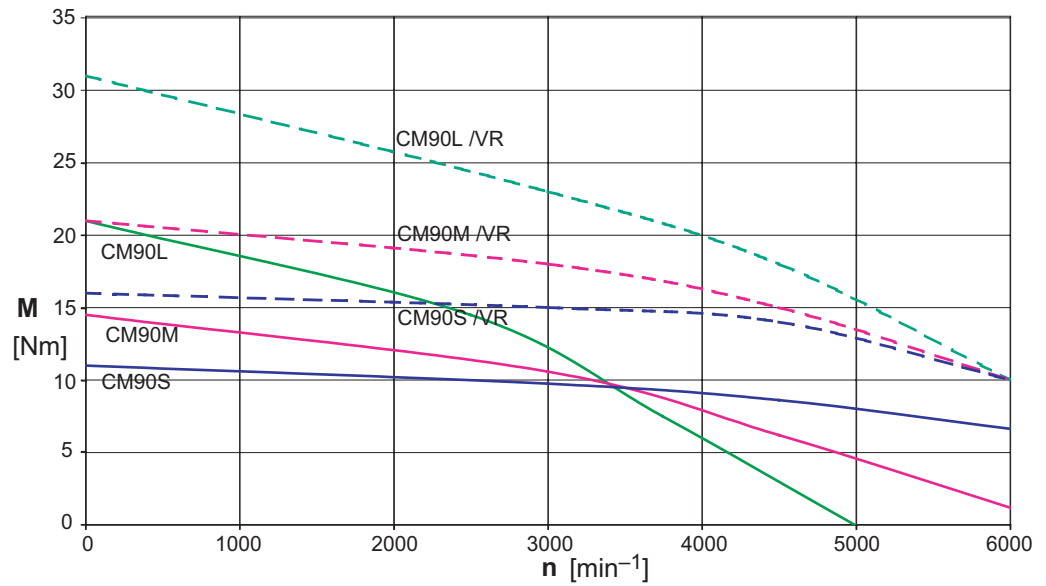




Correction on page 334

CM90

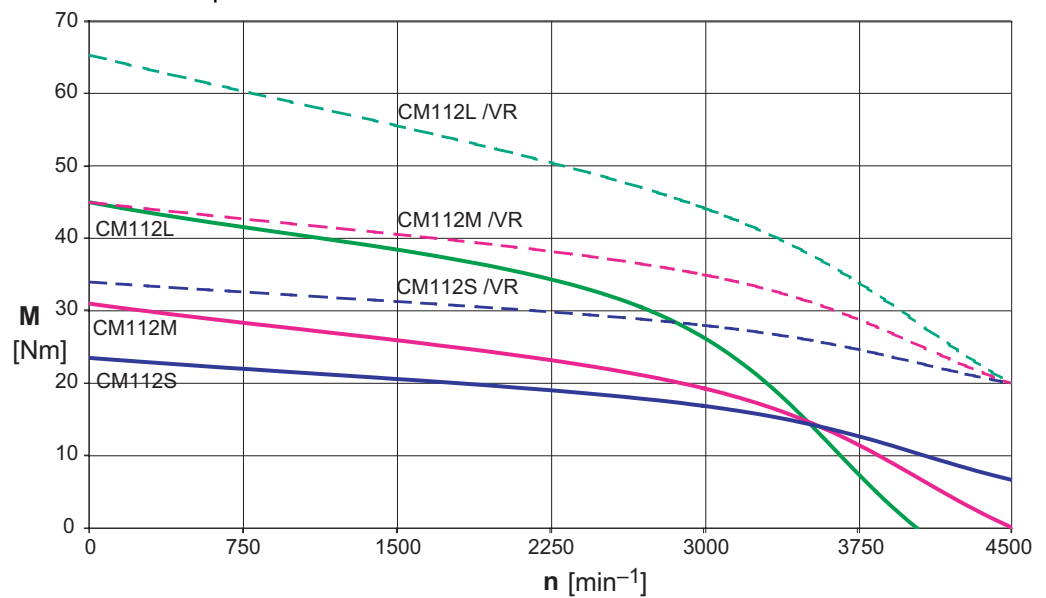
Thermal limit torque



Correction on page 335

CM112

Thermal limit torque



Addendum to page 336 (encoder table)

Absolute encoder AV1H/AV1Y can also be supplied as motor option. For technical data, please refer to the GSE catalog commencing on page 640 onwards.



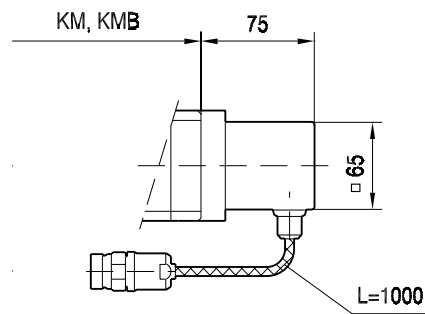
Addendum to page 346

DFS56../(B) synchronous servo(brake)motors with encoder

08 119 299

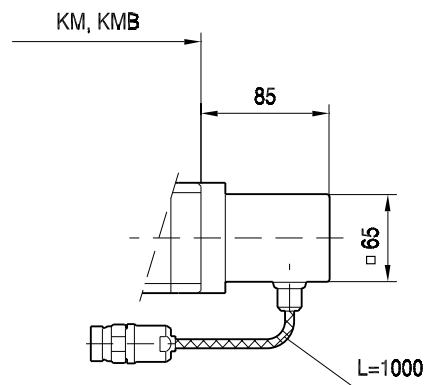
DFS56..

/ AV1Y



/ AV1H

/ EV1H



Correction on pages 348 / 350 / 352

The designation of the plug connectors for servo brake motors is SB and not SM as depicted both in the table and the illustration.

Correction on page 352

The length of the cover for AS1H / ES1H is 74 mm.

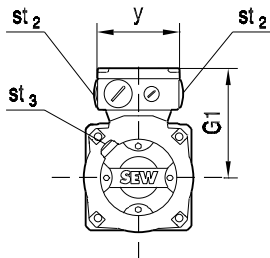


Correction on page 353

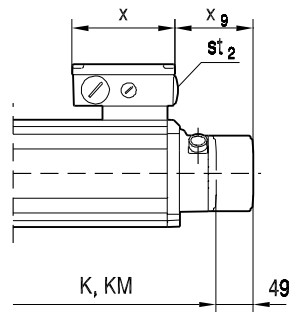
CFM../(BR) synchronous servo(brake)motors with terminal box and absolute encoder/resolver

08 178 101

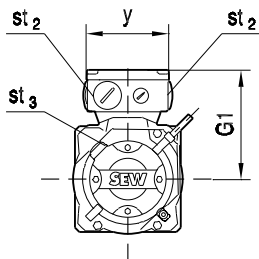
CFM../KK



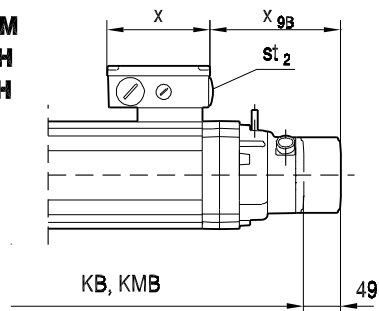
/ RH1M
/ AS1H
/ ES1H



CFM../BR/KK



/ RH1M
/ AS1H
/ ES1H



(→ 92)	CFM71S..	CFM71M..	CFM71L..	CFM90S..	CFM90M..	CFM90L..	CFM112S..	CFM112M..	CFM112L..
G1	125	125	125	139	139	139	161	190	190
st 2	1xM25x1.5 1xM16x1.5	1xM25x1.5 1xM16x1.5	1xM25x1.5 1xM16x1.5	1xM32x1.5 1xM16x1.5	1xM32x1.5 1xM16x1.5	1xM32x1.5 1xM16x1.5	1xM32x1.5 1xM16x1.5	1xM40x1.5 1xM16x1.5	1xM40x1.5 1xM16x1.5
st 3	1xM16x1.5	1xM16x1.5	1xM16x1.5	1xM16x1.5	1xM16x1.5	1xM16x1.5	1xM16x1.5	1xM16x1.5	1xM16x1.5
x	127	127	127	139	139	139	139	182	182
x₉	114	114	114	107	107	107	121	114	114
x_{9B}	170	170	170	176	176	176	185	178	178
y	97	97	97	109	109	109	109	152	152



Correction on pages 610 / 611

The inverter designation MDS / MCS / MCH in the table heading is incorrect. The correct designation is **MDV / MCV / MCH**.

Correction on page 642

Cable for absolute encoder for cat track routing. Part number 199 540 4 is incorrect. The correct part number is **199 320 8**.

Addendum to page 665

The additional lengths for brake motors with encoder mounting and forced cooling fan are the same as for motors without brake.

Addendum to page 670 (price catalog only)

Types of brake control	Abbrev..	Price in EURO for motor size		
		CM71	CM90	CM112
Switch cabinet				
Electronic brake control with brake heating 230V / 400V	BMH	56 €	56 €	56 €
Electronic brake control with separation on DC side 230V / 400V	BMP	46 €	46 €	46 €
Electronic brake control with separation on DC side 230V / 400V and 24 V _{DC} control input	BMK	61 €	61 €	61 €

Standard: BME or BSG.

Addendum to page 671 (price catalog only)

Prices for encoder cables, resolver ¹⁾				
Terminals	Fixed routing	4 x 2 x 0.25 mm ²	198 829 8	27 € / 4 €
	Cat track routing	4 x 2 x 0.25 mm ²	198 828 X	28 € / 7.5 €
Connectors	Fixed routing	4 x 2 x 0.25 mm ²	198 672 4	67 € / 4 €
	Cat track routing	4 x 2 x 0.25 mm ²	198 744 5	66 € / 7.5 €
Terminals	Fixed routing	4 x 2 x 0.25 mm ²	198 927 8	67 € / 4 €
	Cat track routing	4 x 2 x 0.25 mm ²	198 928 6	66 € / 7.5 €
Prices for encoder cables, absolute encoder ¹⁾				
Connectors	Fixed routing	3 x 2 x 0.25 mm ²	198 929 4	67 € / 4 €
	Cat track routing	3 x 2 x 0.25 mm ²	198 930 8	66 € / 7.5 €
Connectors	Fixed routing	3 x 2 x 0.25 mm ²	198 887 5	67 € / 4 €
	Cat track routing	3 x 2 x 0.25 mm ²	198 888 3	66 € / 7.5 €

1) Price: Base price (connector without cable) / Price per meter



Correction on page 672 (price catalog only)

The part number for the spare coupling / brake motor / SK56 is incorrect. The correct part number is **199 150 7**.

Correction on page 673 (price catalog only)

Required tools, disassembly / encoder system resolver, Hiperface single-turn and multi-turn / insulating body. The part number is **019 248 1**.

Addendum to page 674 (price catalog only)

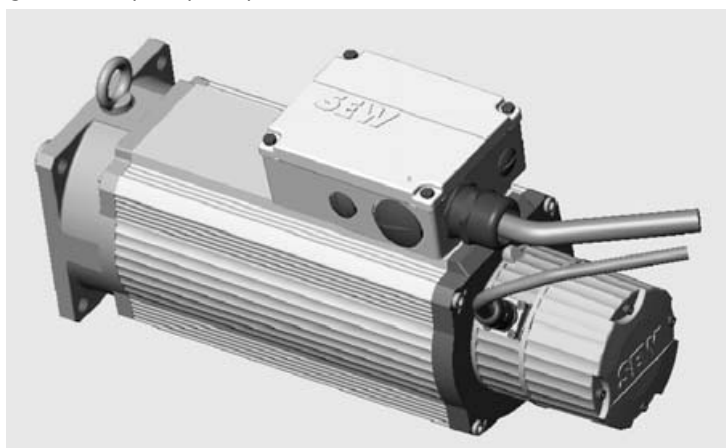
Asynchronous servomotors Type ¹⁾		Abbrev.	Price in EURO for motor size						
			71	80	90	100	112	132S	132M
Mounted									
Encoder	Absolute encoder + sine	AV1Y	501 €	501 €	516 €	516 €	504 €	504 €	133 €
	Absolute encoder + Hiperface	AV1H	500 €	500 €	510 €	510 €	520 €	520 €	260 €
	Encoder + Hiperface	EV1H	400 €	400 €	410 €	410 €	420 €	420 €	160 €
Plug connector		IS	49 €	49 €	49 €	54 €	54 €	54 €	–

1) Price extras compared to basic version



Addendum to CM112H

CFM112H / TF / BR / KK

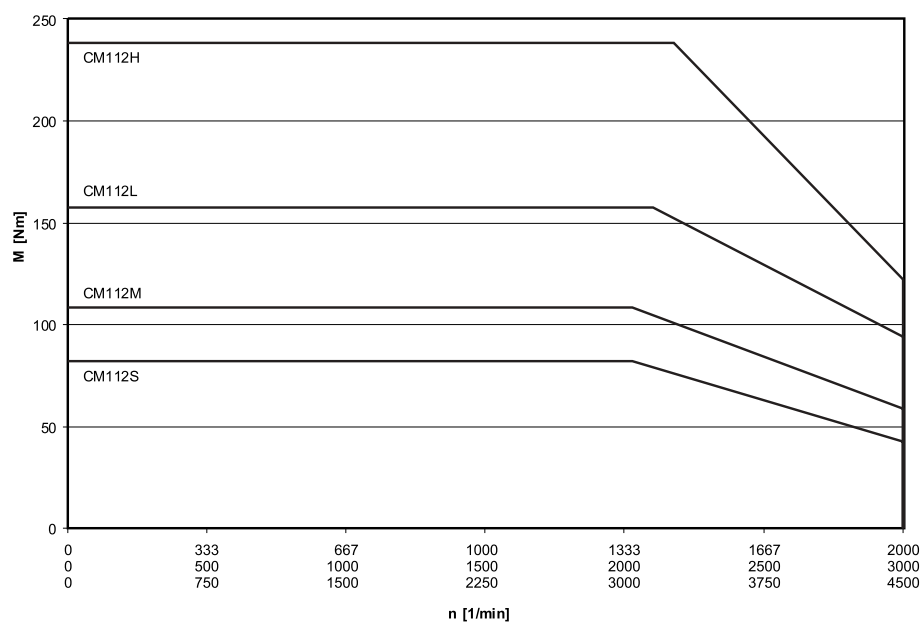


Speed classes / torques / technical data

n	M ₀	I ₀	I _{max}	M _{0VR}	I _{0VR}	J _{mot} ¹⁾	J _{bmot} ²⁾	M _{B1} ³⁾	M _{B2} ⁴⁾	W _{1max}	W _{2max}	R ₁	L ₁	U _{p0} ⁵⁾
[1/min]	[Nm]	[A]	[A]	[Nm]	[A]	[10 ⁻⁴ kgm ²]	[Nm]	[Nm]	[Nm]	[kJ]	[kJ]	[mΩ]	[mH]	[V/1000 min ⁻¹]
2000	68	30.5	122	95	42.5	189	209	90	55	18	32	115	2.6	147
3000	68	43	172	95	60	189	209	90	55	7	18	57	1.3	104
4500	68	66	264	95	92	189	209	90	55	4	11	24	0.5	67

- 1) Motor
- 2) Brake motor
- 3) Max. permitted braking work per braking operation when M_{B1}
- 4) Max. permitted braking work per braking operation when M_{B2}
- 5) Rotor voltage per 1000 revolutions

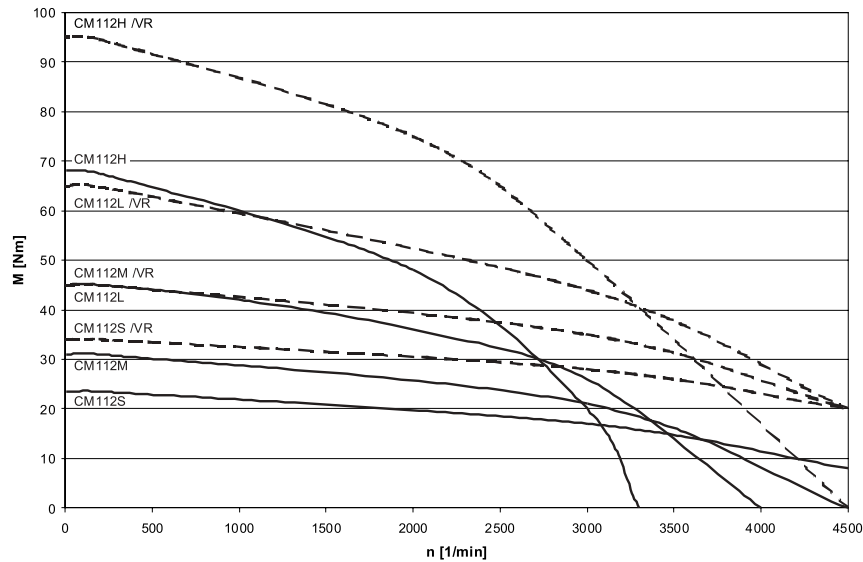
Dynamic limit characteristics CM112





Derating $M = f(n)$ for CM 112

Derating $M=f(n)$ für CM112



Brakes

Brake **BR8** is intended for the CM 112 H motor.

Braking torques: 90 Nm or 55 Nm.

Brake voltages as described in the GSE 05/2002 in the Brake section.

Motor – inverter combinations for CM112H

Speed [1/min]		MOVIDRIVE® P [kW]							
		11	15	22	30	37	45	55	75
2000	I_{max} [% I_N]	0	150	150	150	150	137	0	
	M_{max} [Nm]			106.5	150.3	189.2	220.1	237.0	
3000	I_{max} [% I_N]		0	150	150	150	150	150	132
	M_{max} [Nm]			108.6	139.9	167.0	197.1	223.2	237.0
4500	I_{max} [% I_N]				0	150	150	150	150
	M_{max} [Nm]					112.1	135.5	157.7	189.4

Comment

Speed class 6000 1/min is not available for CM112H!

MOVIDRIVE® BG6 has not been released yet for CM112H

Operating software for MOVIDRIVE®

CM112H has been integrated since MOVITOOLS® V 3.0.

Operation with the MOVIDYN® servo controller is not intended.

Standard types

The standard type for CM112H is the same as for CM112.

But due to technical reasons, only motors with terminal box can be connected.



All further options are the same as for CM112L; see GSE 05/2002 catalog.

For mounting to gear unit ... 7

Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
RX87	CM112H	1	1.93	355	4383	0.001535
RX87	CM112H	1	2.15	385	4506	0.001317
RX87	CM112H	1	2.48	405	4664	0.001093
RX87	CM112H	1	2.76	405	4780	0.000941

Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
RX97	CM112H	1	1.96	570	5742	0.004117
RX97	CM112H	1	2.24	595	5960	0.003361
RX97	CM112H	1	2.64	595	6235	0.002778
RX97	CM112H	1	2.92	595	6403	0.002428
RX97	CM112H	1	3.30	595	6602	0.002024
RX97	CM112H	1	3.64	595	6767	0.001763

Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
RX107	CM112H	1	1.95	765	6898	0.00699
RX107	CM112H	1	2.30	830	7234	0.005696
RX107	CM112H	1	2.64	830	7516	0.004731
RX107	CM112H	1	3.07	830	7838	0.003898
RX107	CM112H	1	3.38	830	8046	0.003416
RX107	CM112H	1	3.81	830	8304	0.002868
RX107	CM112H	1	4.20	830	8512	0.002501

Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
R87	CM112H	2	7.13	1070	10668	0.001627
R87	CM112H	2	8.22	1160	11084	0.001327
R87	CM112H	2	9.14	1210	11400	0.00113
R87	CM112H	2	9.90	1180	11341	0.002128
R87	CM112H	2	11.93	1230	11841	0.001675
R87	CM112H	2	13.33	1280	12130	0.001429
R87	CM112H	2	15.35	1340	12489	0.001178
R87	CM112H	2	17.08	1390	12748	0.00101

Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
R97	CM112H	2	6.21	1890	12564	0.005117
R97	CM112H	2	7.12	2000	13075	0.004124
R97	CM112H	2	8.39	2030	13718	0.003326
R97	CM112H	2	9.29	2030	14119	0.002876
R97	CM112H	2	10.83	2090	14473	0.004625
R97	CM112H	2	12.39	2190	14994	0.003749
R97	CM112H	2	14.62	2300	15635	0.003057
R97	CM112H	2	16.17	2400	16025	0.002656
R97	CM112H	2	18.24	2500	16488	0.002203
R97	CM112H	2	20.14	2610	16866	0.001909
R97	CM112H	3	27.58	2670	18015	0.002433
R97	CM112H	3	33.25	2890	18638	0.001885
R97	CM112H	3	37.13	3000	18977	0.001597
R97	CM112H	3	42.78	3000	19365	0.001305
R97	CM112H	3	47.58	3000	5386	0.001112

Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
R107	CM112H	2	6.66	2970	15937	0.008784
R107	CM112H	2	7.86	2970	16759	0.006987
R107	CM112H	2	8.56	4300	17050	0.012659
R107	CM112H	2	10.13	4300	17910	0.009591
R107	CM112H	2	11.59	4300	18619	0.007968
R107	CM112H	2	13.66	4300	19509	0.0064
R107	CM112H	2	15.65	4300	20260	0.005268
R107	CM112H	2	18.21	4300	21111	0.004295
R107	CM112H	2	20.07	4300	21665	0.003742
R107	CM112H	2	22.62	4300	22351	0.003125
R107	CM112H	2	24.90	4300	22904	0.002713
R107	CM112H	3	29.49	4300	23878	0.005983
R107	CM112H	3	35.26	4300	24896	0.004736
R107	CM112H	3	40.37	4300	25650	0.003833
R107	CM112H	3	47.63	4300	26545	0.003117
R107	CM112H	3	52.68	4300	27066	0.002705
R107	CM112H	3	59.41	4300	27654	0.002242
R107	CM112H	3	65.60	4300	28112	0.001941

Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
FA87	CM112H	2	4.12	1460	10733	0.011424
FA87	CM112H	2	4.92	1530	11231	0.008542
FA87	CM112H	2	5.63	1530	11608	0.006736
FA87	CM112H	2	6.65	1530	12065	0.005203
FA87	CM112H	2	7.35	1530	12338	0.00441
FA87	CM112H	2	8.29	1530	12657	0.003582
FA87	CM112H	2	9.58	2880	13290	0.006302
FA87	CM112H	2	11.46	3000	13768	0.004959
FA87	CM112H	2	13.12	3000	14106	0.004003
FA87	CM112H	2	15.48	3000	14481	0.00324
FA87	CM112H	2	17.12	3000	14683	0.002805
FA87	CM112H	2	19.31	3000	14893	0.00232
FA87	CM112H	2	21.32	3000	15035	0.002006
FA87	CM112H	3	29.20	2510	15245	0.002484
FA87	CM112H	3	35.19	2610	15143	0.00192
FA87	CM112H	3	39.30	2720	14977	0.001626
FA87	CM112H	3	45.28	2820	14629	0.001326

Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
FA97	CM112H	2	5.23	2150	17121	0.015271
FA97	CM112H	2	6.17	2250	17912	0.011654
FA97	CM112H	2	7.07	2360	18576	0.009271
FA97	CM112H	2	8.22	2360	19323	0.007252
FA97	CM112H	2	9.06	2360	19804	0.006177
FA97	CM112H	2	11.16	4100	21205	0.010266
FA97	CM112H	2	12.77	4300	21917	0.008484
FA97	CM112H	2	15.06	4300	22781	0.006771
FA97	CM112H	2	17.25	4300	23480	0.005551
FA97	CM112H	2	20.07	4300	24236	0.004503
FA97	CM112H	2	22.11	4300	24704	0.003914
FA97	CM112H	2	24.92	4300	25253	0.003261
FA97	CM112H	2	27.44	4300	25670	0.002825
FA97	CM112H	3	32.50	4300	26333	0.006063
FA97	CM112H	3	38.86	4300	26907	0.004792
FA97	CM112H	3	44.49	4300	27232	0.003876
FA97	CM112H	3	52.49	4300	27468	0.003148
FA97	CM112H	3	58.06	4300	27507	0.00273
FA97	CM112H	3	65.47	4300	27432	0.002261
FA97	CM112H	3	72.29	4300	17872	0.001957



Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]	Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
FA107	CM112H	2	6.22	4600	32959	0.030804	K87	CM112H	3	10.00	1500	17655	0.002625
FA107	CM112H	2	7.40	4600	34554	0.023481	K87	CM112H	3	11.17	1500	17983	0.002191
FA107	CM112H	2	8.37	4800	35712	0.019405	K87	CM112H	3	12.56	2000	18910	0.004194
FA107	CM112H	2	9.69	4910	37129	0.015386	K87	CM112H	3	14.45	2100	19352	0.003229
FA107	CM112H	2	9.96	6500	37584	0.027437	K87	CM112H	3	17.42	2200	19884	0.002433
FA107	CM112H	2	12.33	7000	39762	0.020611	K87	CM112H	3	19.45	2300	20159	0.002037
FA107	CM112H	2	14.67	7680	41587	0.016281	K87	CM112H	3	22.41	2300	20455	0.001636
FA107	CM112H	2	16.58	7840	42900	0.013773	K87	CM112H	3	24.92	2500	20631	0.00138
FA107	CM112H	2	19.20	7840	44491	0.011185	K87	CM112H	3	36.52	2500	20796	0.002003
FA107	CM112H	2	21.76	7840	45863	0.009271	K87	CM112H	3	44.02	2600	20519	0.001589
FA107	CM112H	2	25.14	7840	47456	0.007625	K87	CM112H	3	49.16	2700	20212	0.00136
FA107	CM112H	2	27.57	7840	48475	0.006662							
FA107	CM112H	2	33.79	7400	50716	0.0043							
FA107	CM112H	3	31.80	7680	50049	0.01227							
FA107	CM112H	3	37.61	7680	51881	0.009312							
FA107	CM112H	3	43.03	7680	53318	0.007756							
FA107	CM112H	3	50.73	7680	55018	0.006247							
FA107	CM112H	3	58.12	7680	56355	0.005151							
FA107	CM112H	3	67.62	7680	57179	0.004208							
FA107	CM112H	3	74.52	7680	56162	0.003671							
FA107	CM112H	3	83.99	7680	54705	0.00307							
FA107	CM112H	3	88.49	7680	53989	0.00564							
FA107	CM112H	3	92.47	7680	53343	0.002667							
FA107	CM112H	3	101.38	7680	51850	0.004688							
FA107	CM112H	3	117.94	7680	48901	0.003866							
FA107	CM112H	3	129.97	7680	46611	0.003389							
Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]	Gear unit	Motor	Stages	i	M _{max} [Nm]	F _{RA} [N]	M. inertia [J _{tot} * 10 ⁻⁴]
K97	CM112H	3	10.41	2870	24886	0.007137	K107	CM112H	3	9.94	4190	37050	0.013503
K97	CM112H	3	11.99	3890	26236	0.011511	K107	CM112H	3	11.73	4300	38628	0.010382
K97	CM112H	3	13.85	4300	27082	0.009116	K107	CM112H	3	13.43	4300	39952	0.008302
K97	CM112H	3	16.56	4300	28114	0.006927	K107	CM112H	3	14.64	6890	41287	0.016212
K97	CM112H	3	18.96	4300	28874	0.005505	K107	CM112H	3	16.75	7050	42690	0.013026
K97	CM112H	3	22.37	4300	29766	0.004319	K107	CM112H	3	19...74	7200	44423	0.010039
K97	CM112H	3	24.75	4300	30282	0.003687	K107	CM112H	3	22.62	7200	45862	0.00804
K97	CM112H	3	27.91	4300	30863	0.003014	K107	CM112H	3	26.32	7200	47466	0.006343
K97	CM112H	3	30.82	4300	31306	0.002574	K107	CM112H	3	29.00	7200	48487	0.005429
K97	CM112H	3	41.87	4300	32414	0.004247	K107	CM112H	3	31.28	6800	49283	0.011259
K97	CM112H	3	47.93	4300	32737	0.00346	K107	CM112H	3	32..69	7200	49737	0.004453
K97	CM112H	3	56.55	4300	32944	0.002849	K107	CM112H	3	37.00	7200	51010	0.00859
K97	CM112H	3	62.55	4300	32948	0.002486	K107	CM112H	3	42.33	7360	52350	0.007203
K97	CM112H	3	70.54	4300	32811	0.002069	K107	CM112H	3	49.90	7840	53916	0.00585
K97	CM112H	3	77.89	4300	32570	0.0018	K107	CM112H	3	57.17	8000	55124	0.004849
							K107	CM112H	3	66.52	8000	56354	0.003985
							K107	CM112H	3	73.30	8000	57062	0.003487
							K107	CM112H	3	82.61	8000	57814	0.002925
							K107	CM112H	3	90.96	8000	58331	0.002548

Stand-alone motors

For conditions for stand-alone motors (overhung loads, etc.), please refer to the tables in the GSE 05/2002 catalog for CM112 motors.

Mounting on low backlash planetary gear units

Motor type	IEC shaft [mm x mm]	Ratio					
		PSF701	PSF702	PSF801	PSF802	PSF901	PSF902
CM112H	60 x 32	4 ... 10	–	4 ... 10	16 ... 25	4 ... 10	16 ... 40

This combination is excluded because the service factor of PSF702 together with CM112H becomes less than 1. The old PSF series (x01 type) is mounted using an adapter. The new PSF series (x02 type) is mounted directly.

Overhung loads / axial loads

The information for overhung loads and axial loads applies as described in the GSE 05/2002 catalog on pages 326 / 327 for CFM112.

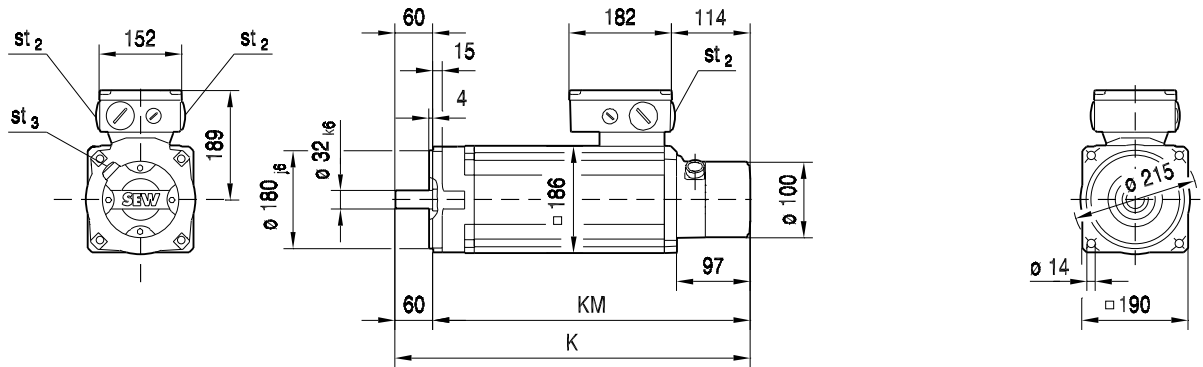


CFM112H.. synchronous servomotors with terminal box and absolute encoder/resolver

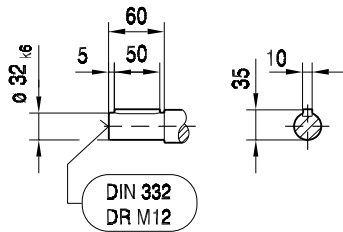
08 220 002

CFM112H

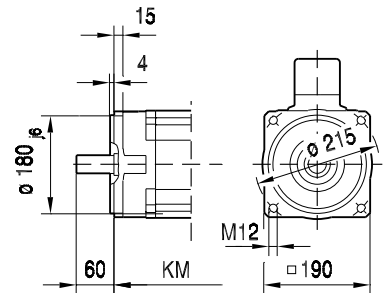
**/ RH1M
/ AS1H
/ ES1H**



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/ B14



	CFM112H/KK..
K	590
KM	530
st₂	1x M50x1.5 1x M16x1.5
st₃	1x M16x1.5

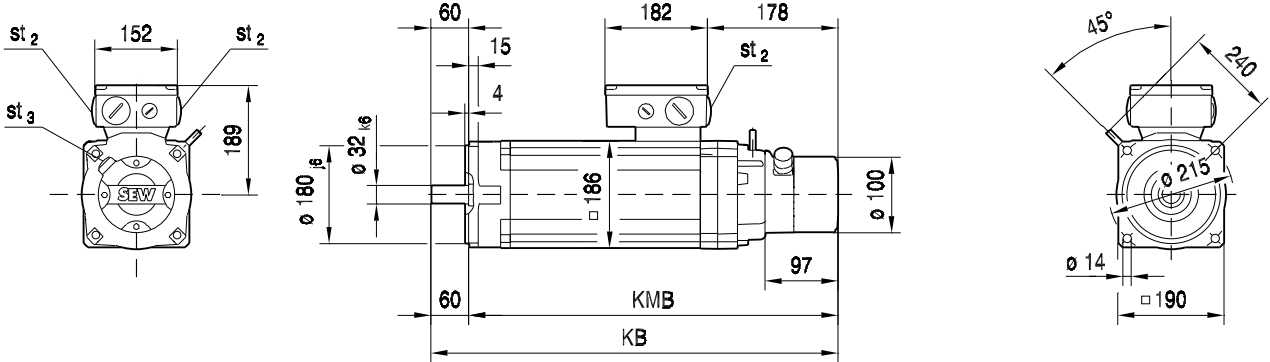


CFM112H/BR.. synchronous servo brake motors with terminal box and absolute encoder/resolver

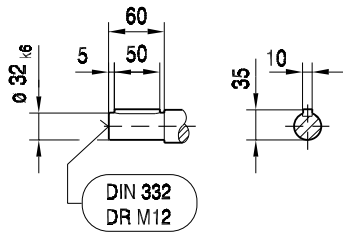
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CFM112H/BR

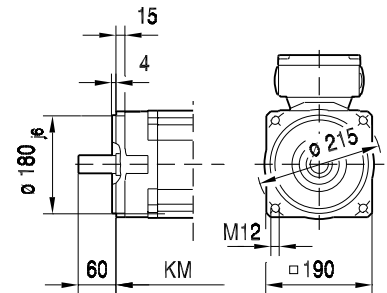
**/ RH1M
/ AS1H
/ ES1H**



DIN 748 / 3



/ B14

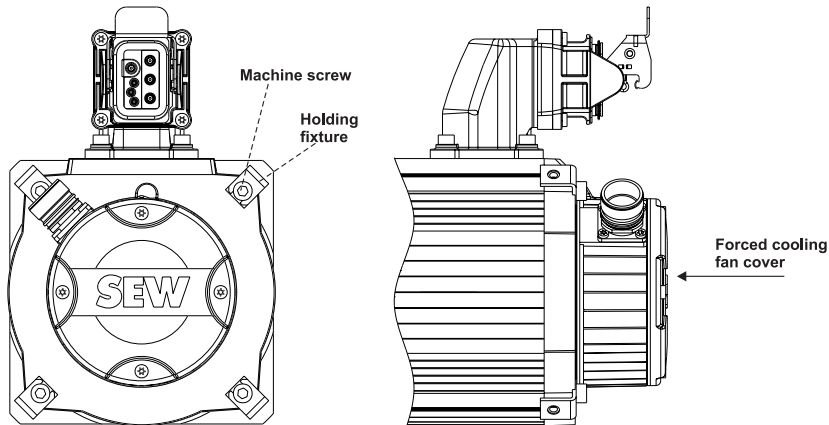


	CFM112H/BR/KK..
KB	655
KMB	595
st₂	1x M50x1.5 1x M16x1.5
st₃	1x M16x1.5

For additional length for CM 112 H with **forced cooling fan**, please refer to the GSE 05/2002 catalog.



Retrofitting forced cooling fan VR for synchronous motors

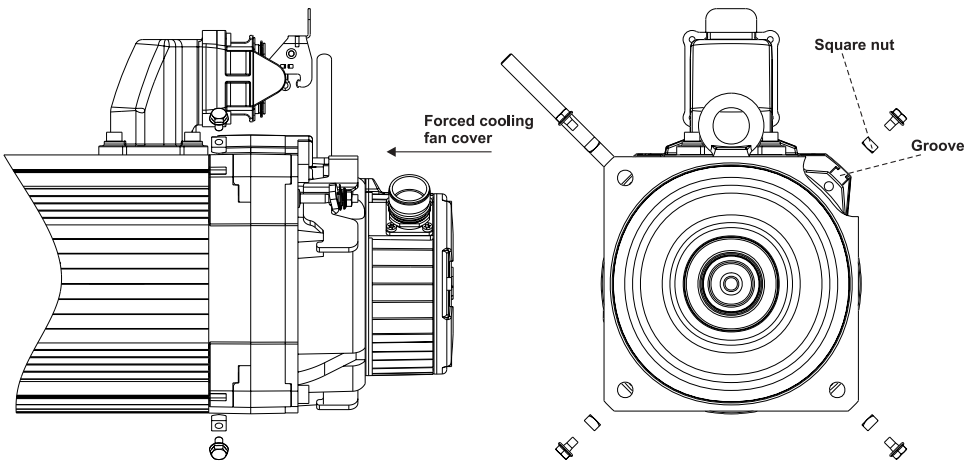


- Unscrew the machine screw by 2 to 3 turns.
- Position the holding fixture in the recesses of the non drive-end bearing shield.
- Tighten machine screw. The tightening torque depends on the motor size:
 - CM71: 7 Nm (M5)
 - CM90: 13 Nm (M6)
 - CM112: 28 Nm (M8)
- Repeat the procedure with the remaining 3 holding fixtures.



Always unscrew only one screw at a time. Else the settings of the encoder system for motor commutation might change!

Retrofitting forced cooling fan VR for synchronous brake motors



SEW-EURODRIVE GmbH & Co KG · P.O. Box 3023 · D-76642 Bruchsal/Germany
Phone 49 7251 75-0 · Fax 49 7251 75-1970
<http://www.sew-eurodrive.com> · sew@sew-eurodrive.com

