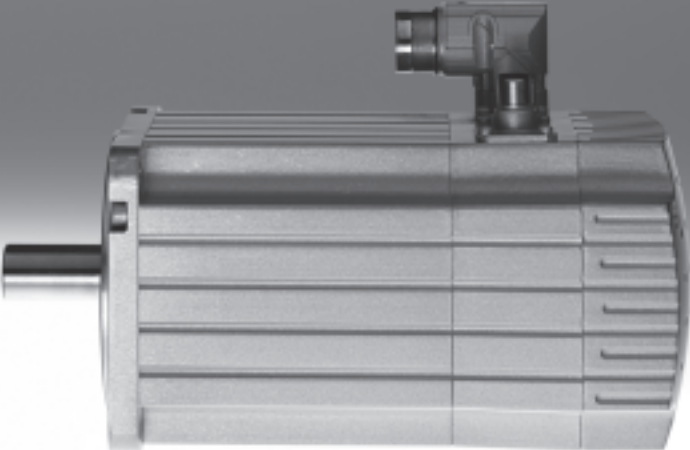


Servo motors EMMS-AS



# Servo motors EMMS-AS

Features

FESTO

## Everything from a single source

Motors EMMS-AS

→ 4



- Dynamic, brushless, permanently excited synchronous servo motors
- Choice of feedback systems:
  - Digital single-turn absolute displacement encoder
  - Digital multi-turn absolute displacement encoder
  - Resolver
- Optimised connection technology, depending on the version and flange size
- Winding variants
  - For single-phase motor controller
  - For three-phase motor controller
  - Torque-optimised
  - Speed-optimised
- Protection class: IP54 (motor shaft)
- Protection class: IP65 (motor housing with connection technology)
- Optional:
  - Holding brake
  - Feather key
  - Protection class IP65: with rotary shaft seal for motor shaft

## Gear unit EMGA-SAS

→ 37



- Low-backlash planetary gear unit
- Gear ratio  $i = 3$  and  $5$ , available ex-stock
- Life-time lubrication
- Protection class: IP54
- Other gear unit types, ratios, designs and versions on request

## Motor controller CMMP-AS / CMMS-AS

→ Internet: cmm



- Digital servo controller (0.5 kVA ... 12 kVA)
- Actuation of AC servo and linear motors
- Integrated EMC filters
- Integrated brake chopper
- Integrated safety functions
- Position controller with closed-loop position control (256 position sets)
- Speed controller
- Torque control via current controller
- Range of control functions
- Interfaces:
  - I/O interface
  - CANopen, standard
  - PROFIBUS DP, optional module
  - DeviceNet, optional module
  - PROFINET RT, optional module
  - EtherCAT, optional module
  - EtherNet/IP, optional module

## Motor and encoder cables NEBM → 40



- Suitable for use with energy chains
- Connection technology and motor with IP65 protection
- Can be used in a wide temperature range

## Axial and parallel kits EAMM

→ Internet: eamm



- Defined kits for all electromechanical axes from Festo
- Each kit includes the relevant necessary coupling housing, couplings and motor flange as well as all screws
- Optionally with protection to IP65

PROFIBUS®, PROFINET®, DeviceNet®, CANopen®, EtherCAT®, EtherNet/IP® is a registered trademark of its respective trademark holder in certain countries.

# Servo motors EMMS-AS

Type codes

EMMS – AS – 70 – S – – LS – RMB –

**Type**

EMMS	Motor
------	-------

**Motor type**

AS	Servo motor
----	-------------

**Motor flange size**

40	40 mm
55	55 mm
70	70 mm
100	100 mm
140	140 mm
190	190 mm

**Length**

S	Short
M	Medium
L	Long

**Output shaft**

–	Smooth shaft
K	Shaft to DIN 6885 (with feather key)

**Winding**

LS	Low-voltage, standard
LV	Low-voltage, speed-optimised
HS	High-voltage, standard
HV	High-voltage, speed-optimised

**Electrical connection**

A	Angled plug
R	Angled plug, rotatable
S	Straight plug
T	Terminal box

**Measuring unit**

S	Absolute encoder, single-turn
M	Absolute encoder, multi-turn
R	Resolver

**Brake**

–	None
B	With brake

**Protection class**

–	Standard
S1	IP65 (with rotary shaft seal)

# Servo motors EMMS-AS

Technical data

FESTO



**Note**  
Motors and motor controllers from Festo are specially matched to each other. Fault-free operation cannot be guaranteed in combination with third-party controllers.



Technical data			
Flange size		40	
Length		S	M
Winding		LS	LS
<b>Motor</b>			
Nominal voltage	[V DC]	360	360
Nominal current	[A]	0.83	0.63
Peak current	[A]	3.3	3.3
Rated output	[W]	135	232
Nominal torque	[Nm]	0.14	0.22
Peak torque	[Nm]	0.5	1
Torque at standstill	[Nm]	0.16	0.26
Nominal speed	[rpm]	9,000	10,300
Max. speed	[rpm]	23,040	11,520
Motor constant	[Nm/A]	0.172	0.344
Winding resistance	[Ω]	20.5	31.0
Winding inductance	[mH]	5.18	10.40
Total moment of inertia of drive output			
Encoder			
Without brake	[kgcm <sup>2</sup> ]	0.023	0.045
With brake	[kgcm <sup>2</sup> ]	0.033	0.055
Resolver			
Without brake	[kgcm <sup>2</sup> ]	0.027	0.049
With brake	[kgcm <sup>2</sup> ]	0.037	0.059
Shaft load			
Radial	[N]	78	82
Axial	[N]	12	12
<b>Brake</b>			
Operating voltage	[V DC]	24 +6 ... -10%	
Output	[W]	6	
Holding torque	[Nm]	0.4	
Mass moment of inertia			
Encoder	[kgcm <sup>2</sup> ]	0.01	
Resolver	[kgcm <sup>2</sup> ]	0.01	

# Servo motors EMMS-AS

Technical data

Technical data					
Flange size		55			
Length		S	S	M	M
Winding		LS	HS	LS	HS
<b>Motor</b>					
Nominal voltage	[V DC]	360	565	360	565
Nominal current	[A]	0.83	0.49	1.19	0.80
Peak current	[A]	4.30	2.70	5	4.90
Rated output	[W]	261	246	461	470
Nominal torque	[Nm]	0.34	0.31	0.67	0.68
Peak torque	[Nm]	1.65	1.62	2.7	3.80
Torque at standstill	[Nm]	0.49	0.46	0.97	0.99
Nominal speed	[rpm]	7,400	7,600	6,600	6,600
Max. speed	[rpm]	9,800	9,840	7,330	7,750
Motor constant	[Nm/A]	0.406	0.635	0.558	0.829
Winding resistance	[Ω]	20.90	56.90	14.70	31.30
Winding inductance	[mH]	15.60	38.10	13.80	29.30
<b>Total moment of inertia of drive output</b>					
<b>Encoder</b>					
Without brake	[kgcm <sup>2</sup> ]	0.11	0.11	0.223	0.223
With brake	[kgcm <sup>2</sup> ]	0.13	0.13	0.245	0.245
<b>Resolver</b>					
Without brake	[kgcm <sup>2</sup> ]	0.13	0.13	0.22	0.22
With brake	[kgcm <sup>2</sup> ]	0.15	0.15	0.240	0.240
<b>Shaft load</b>					
Radial	[N]	140		150	
Axial	[N]	75			
<b>Brake</b>					
Operating voltage	[V DC]	24 +6 ... -10%			
Output	[W]	10			
Holding torque	[Nm]	0.8			
<b>Mass moment of inertia</b>					
Encoder	[kgcm <sup>2</sup> ]	0.02			
Resolver	[kgcm <sup>2</sup> ]	0.02			

# Servo motors EMMS-AS

Technical data

Technical data					
Flange size		70			
Length		S			
Winding		LS	LV	HS	HV
Motor					
Nominal voltage	[V DC]	360	360	565	565
Nominal current	[A]	2.20	2.64	1.29	1.60
Peak current	[A]	5	11	5.90	7.50
Rated output	[W]	866	945	794	992
Nominal torque	[Nm]	1.43	1.37	1.31	1.28
Peak torque	[Nm]	3.10	5	5.17	5.17
Torque at standstill	[Nm]	1.64	1.64	1.50	1.62
Nominal speed	[rpm]	5,300	6,600	5,800	7,400
Max. speed	[rpm]	6,450	8,070	6,460	8,200
Motor constant	[Nm/A]	0.647	0.518	1.016	0.798
Winding resistance	[Ω]	7.66	4.90	22.442	11.935
Winding inductance	[mH]	14.50	8.45	31.785	19.741
Total moment of inertia of drive output					
Encoder					
Without brake	[kgcm <sup>2</sup> ]	0.379			
With brake	[kgcm <sup>2</sup> ]	0.449			
Resolver					
Without brake	[kgcm <sup>2</sup> ]	0.390			
With brake	[kgcm <sup>2</sup> ]	0.460			
Shaft load					
Radial	[N]	150			
Axial	[N]	75			
Brake					
Operating voltage	[V DC]	24 +6 ... -10%			
Output	[W]	11			
Holding torque	[Nm]	2			
Mass moment of inertia					
Encoder	[kgcm <sup>2</sup> ]	0.07			
Resolver	[kgcm <sup>2</sup> ]	0.07			

# Servo motors EMMS-AS

Technical data

Technical data					
Flange size		70			
Length		M			
Winding		LS	LV	HS	HV
Motor					
Nominal voltage	[V DC]	360	360	565	565
Nominal current	[A]	2.60	3.02	1.70	1.84
Peak current	[A]	10	12.50	7.40	8.30
Rated output	[W]	1,061	1,100	1,044	1,146
Nominal torque	[Nm]	2.29	2.28	2.26	2.19
Peak torque	[Nm]	7.75	8.30	8.55	8.55
Torque at standstill	[Nm]	2.56	2.57	2.53	2.52
Nominal speed	[rpm]	4,100	4,600	4,400	5,000
Max. speed	[rpm]	4,880	5,570	4,960	5,560
Motor constant	[Nm/A]	0.864	0.757	1.333	1.189
Winding resistance	[Ω]	6.71	5.08	16.294	13.007
Winding inductance	[mH]	13.44	10.10	30.834	24.523
Total moment of inertia of drive output					
Encoder					
		[kgcm <sup>2</sup> ]	0.611		
		[kgcm <sup>2</sup> ]	0.680		
Resolver					
		[kgcm <sup>2</sup> ]	0.620		
		[kgcm <sup>2</sup> ]	0.690		
Shaft load					
		[N]	200		
		[N]	75		
Brake					
Operating voltage	[V DC]	24 +6 ... -10%			
Output	[W]	11			
Holding torque	[Nm]	2			
Mass moment of inertia					
		[kgcm <sup>2</sup> ]	0.07		
		[kgcm <sup>2</sup> ]	0.07		

# Servo motors EMMS-AS

Technical data

Technical data					
Flange size		100			
Length		S	M	L	L
Winding		HS	HS	HS	HV
<b>Motor</b>					
Nominal voltage	[V DC]	565	565	565	565
Nominal current	[A]	3.30	3.40	3.80	3.79
Peak current	[A]	15	15	24.80	24.80
Rated output	[W]	1,560	2,000	2,360	2,240
Nominal torque	[Nm]	3.24	5.63	7.51	6.29
Peak torque	[Nm]	12.50	22.10	39.80	35.40
Torque at standstill	[Nm]	4.71	8.01	10.94	10.93
Nominal speed	[rpm]	4,600	3,400	3,000	3,400
Max. speed	[rpm]	6,680	4,030	3,360	4,040
Motor constant	[Nm/A]	0.984	1.652	1.993	1.66
Winding resistance	[Ω]	2.92	3.25	2.84	1.98
Winding inductance	[mH]	8.85	12.3	10.50	7.76
Total moment of inertia of drive output					
Encoder					
Without brake	[kgcm <sup>2</sup> ]	2.529	4.729	6.60	6.60
With brake	[kgcm <sup>2</sup> ]	3.085	5.285	7.21	7.21
Resolver					
Without brake	[kgcm <sup>2</sup> ]	2.60	4.70	6.80	6.80
With brake	[kgcm <sup>2</sup> ]	3.14	5.24	7.34	7.34
Shaft load					
Radial	[N]	300	570	650	650
Axial	[N]	150	150	150	150
<b>Brake</b>					
Operating voltage	[V DC]	24 +6 ... -10%			
Output	[W]	18			
Holding torque	[Nm]	9			
Mass moment of inertia					
Encoder	[kgcm <sup>2</sup> ]	0.61			
Resolver	[kgcm <sup>2</sup> ]	0.54			



# Servo motors EMMS-AS

Technical data

Technical data					
Flange size		140			
Length		S	S	L	L
Winding		HS	HV	HS	HV
<b>Motor</b>					
Nominal voltage	[V DC]	565	565	565	565
Nominal current	[A]	4.40	5.23	7.80	9.96
Peak current	[A]	15	24.40	20	51.50
Rated output	[W]	2,600	3,140	4,420	5,110
Nominal torque	[Nm]	9.55	7.70	21.12	17.41
Peak torque	[Nm]	25.60	27	48.80	67.50
Torque at standstill	[Nm]	11.20	11.08	25.60	25.50
Nominal speed	[rpm]	2,600	3,900	2,000	2,800
Max. speed	[rpm]	3,060	4,510	2,460	3,830
Motor constant	[Nm/A]	2.166	1.47	2.72	1.75
Winding resistance	[Ω]	3.39	1.60	1.41	0.586
Winding inductance	[mH]	20.50	9.01	13.44	4.65
Total moment of inertia of drive output					
Encoder					
Without brake	[kgcm <sup>2</sup> ]	8.189	8.189	19.027	19.027
With brake	[kgcm <sup>2</sup> ]	9.271	9.271	20.108	20.108
Resolver					
Without brake	[kgcm <sup>2</sup> ]	8	8	18.40	18.40
With brake	[kgcm <sup>2</sup> ]	9	9	19.40	19.40
Shaft load					
Radial	[N]	780	780	1,060	1,060
Axial	[N]	200	200	200	200
<b>Brake</b>					
Operating voltage	[V DC]	24 +6 ... -10%			
Output	[W]	15.6			
Holding torque	[Nm]	18			
Mass moment of inertia					
Encoder	[kgcm <sup>2</sup> ]	1.2			
Resolver	[kgcm <sup>2</sup> ]	1.0			

# Servo motors EMMS-AS

Technical data

Technical data			
Flange size		190	
Length		S	M
Winding		HS	HS
Motor			
Nominal voltage	[V DC]	565	565
Nominal current	[A]	14.43	14.24
Peak current	[A]	77.20	88.20
Rated output	[W]	5,490	6,880
Nominal torque	[Nm]	17.47	22.63
Peak torque	[Nm]	80	120
Torque at standstill	[Nm]	26.20	38.77
Nominal speed	[rpm]	3,000	2,900
Max. rotational speed	[rpm]	5,300	4,060
Motor constant	[Nm/A]	1,211	1,589
Winding resistance	[Ω]	0.283	0.265
Winding inductance	[mH]	3.07	3.38
Total moment of inertia of drive output			
Encoder			
Without brake	[kgcm <sup>2</sup> ]	51.90	76.80
With brake	[kgcm <sup>2</sup> ]	55.70	80.60
Resolver			
Without brake	[kgcm <sup>2</sup> ]	52.10	77.00
With brake	[kgcm <sup>2</sup> ]	55.70	80.60
Shaft load			
Radial	[N]	940	1,080
Axial	[N]	250	250
Brake			
Operating voltage	[V DC]	24 +6 ... -10%	
Output	[W]	17	
Holding torque	[Nm]	30	
Mass moment of inertia			
Encoder	[kgcm <sup>2</sup> ]	3.8	
Resolver	[kgcm <sup>2</sup> ]	3.6	

# Servo motors EMMS-AS

Technical data

Technical data – Encoder		
Measuring unit	Absolute, single-turn	Absolute, multi-turn
Operating voltage [V DC]	5	
Protocol	EnDat 2.1, only digital channel, max. stroke frequency (CLOCK) 2 MHz	
Position values per revolution	262,144	
Rotor position encoder resolution	18 bit	
Revolutions	–	4,096 revolutions, 12 bit

Technical data – Resolver		
Design	Transmitter	
Input voltage [V DC]	4	
Input current [mA]	50	
Number of poles	2	
Carrier frequency [kHz]	3.4 ... 8.0	

Weight [kg]						
Flange size	40		55		70	
Length	S	M	S	M	S	M
Encoder						
Without brake	0.87	1.00	1.30	1.60	2.10	2.70
With brake	0.92	1.05	1.42	1.70	2.30	2.90
Resolver						
Without brake	0.55	0.68	1.20	1.50	2.19	2.79
With brake	0.61	0.74	1.32	1.62	2.39	2.99

Flange size	100			140		190	
Length	S	M	L	S	L	S	M
Encoder							
Without brake	4.80	6.90	8.86	9.60	16.20	20.86	26.86
With brake	5.30	7.50	9.39	10.40	17.00	21.96	27.96
Resolver							
Without brake	5.04	7.14	9.10	9.84	16.44	21.10	27.10
With brake	5.54	7.74	9.63	10.64	17.24	22.20	28.20

# Servo motors EMMS-AS

Technical data

Operating and environmental conditions	
Standard	IEC60034
Protection class	
Motor shaft	IP54
Motor housing with connection technology	IP65
With rotary shaft seal	IP65
Ambient temperature	
Encoder [°C]	-10 ... +40 (up to 100 °C with derating)
Resolver [°C]	-40 ... +40 (up to 130 °C with derating)
Storage temperature [°C]	-20 ... +60
Temperature monitoring	PTC resistor; NRT 140 °C (Nominal Response Temperature)
Insulation protection class	F
Rated class to EN 60034-1	S1
Thermal class to EN 60034-1	F
Relative air humidity [%]	0 ... 90 (non-condensing)
Corrosion resistance class CRC <sup>1)</sup>	2
CE marking (see declaration of conformity)	To EU Low Voltage Directive To EU EMC Directive <sup>2)</sup>
Certification	cULus recognized (OL) C-Tick
Note on materials	RoHS-compliant

- 1) Corrosion resistance class 2 according to Festo standard 940 070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
- 2) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: [www.festo.com](http://www.festo.com) → Support → User documentation.  
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

# Servo motors EMMS-AS

Technical data

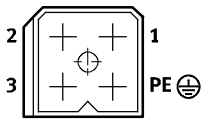
## Pin allocation – Motor side

Motor with encoder

Flange size 40, 55

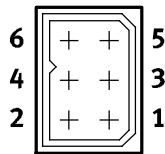
Motor

Black plug



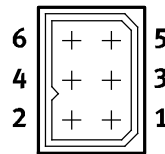
Encoder

Red plug



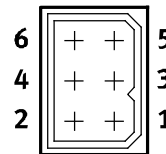
Encoder

Yellow plug



Temperature sensor and brake

Blue plug



Pin	Function
1	Phase V
2	Phase W
3	Phase U
PE	Protective earth (PE)

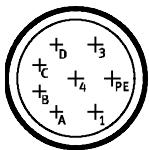
Pin	Function
1	DATA
2	DATA/
3	0 V
4	UP
5	CLOCK/
6	CLOCK

Pin	Function
1	-SENS
2	+SENS
3	n.c.
4	n.c.
5	n.c.
6	n.c.

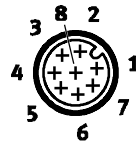
Pin	Function
1	Temperature sensor M <sub>T+</sub>
2	Temperature sensor M <sub>T-</sub>
3	Brake BR+
4	Brake BR-
5	n.c.
6	n.c.

Flange size 70, 100, 140

Motor (M23, pins)



Encoder (M12, pins)

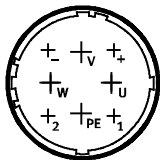


Pin	Function
1	Phase U
PE	Protective earth (PE)
3	Phase W
4	Phase V
A	Temperature sensor M <sub>T+</sub>
B	Temperature sensor M <sub>T-</sub>
C	Brake BR+
D	Brake BR-

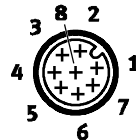
Pin	Function
1	-SENS
2	+SENS
3	DATA
4	DATA/
5	0 V
6	CLOCK/
7	CLOCK
8	UP

Flange size 190

Motor (M40, pins)



Encoder (M12, pins)



Pin	Function
U	Phase U
PE	Protective earth (PE)
W	Phase W
V	Phase V
1	Temperature sensor M <sub>T+</sub>
2	Temperature sensor M <sub>T-</sub>
+	Brake BR+
-	Brake BR-

Pin	Function
1	-SENS
2	+SENS
3	DATA
4	DATA/
5	0 V
6	CLOCK/
7	CLOCK
8	UP

# Servo motors EMMS-AS

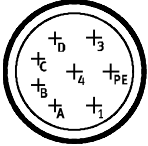
Technical data

## Pin allocation – Motor side

Motor with resolver

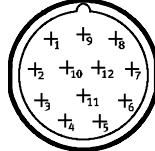
Flange size 40, 55, 70, 100, 140

Motor, temperature sensor and brake (M23, pins)



Pin	Function
1	Phase U
PE	Protective earth (PE)
3	Phase W
4	Phase V
A	Temperature sensor $M_{T+}$
B	Temperature sensor $M_{T-}$
C	Brake BR+
D	Brake BR-

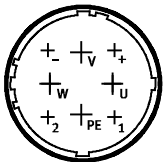
Resolver (M23, pins)



Pin	Function
1	R1 exciter signal +
2	R2 exciter signal -
3	S1 cosine signal +
4	S3 cosine signal -
5	S2 sine signal +
6	S4 sine signal -
7	n.c.
8	n.c.
9	n.c.
10	n.c.
11	n.c.
12	n.c.

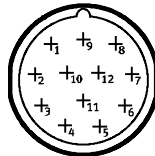
Flange size 190

Motor, temperature sensor and brake (M40, pins)



Pin	Function
U	Phase U
PE	Protective earth (PE)
W	Phase W
V	Phase V
1	Temperature sensor $M_{T+}$
2	Temperature sensor $M_{T-}$
+	Brake BR+
-	Brake BR-

Resolver (M23, pins)



Pin	Function
1	R1 exciter signal +
2	R2 exciter signal -
3	S1 cosine signal +
4	S3 cosine signal -
5	S2 sine signal +
6	S4 sine signal -
7	n.c.
8	n.c.
9	n.c.
10	n.c.
11	n.c.
12	n.c.

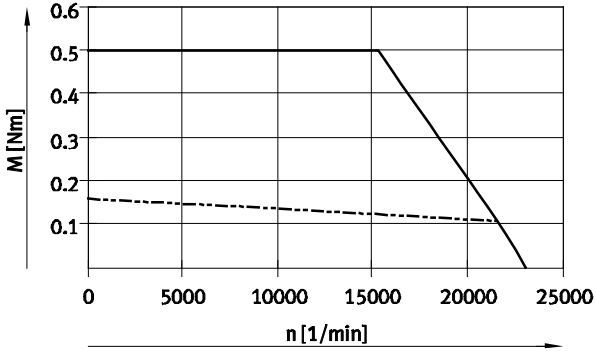
# Servo motors EMMS-AS

Technical data

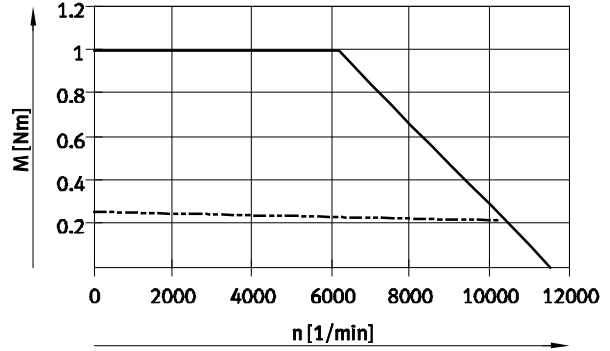
## Torque M as a function of rotational speed n

Flange size 40

Length S  
Winding LS

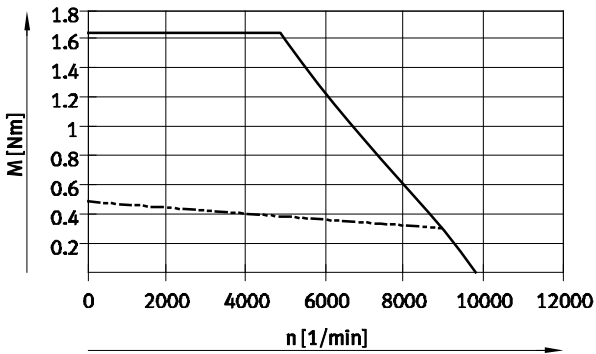


Length M  
Winding LS

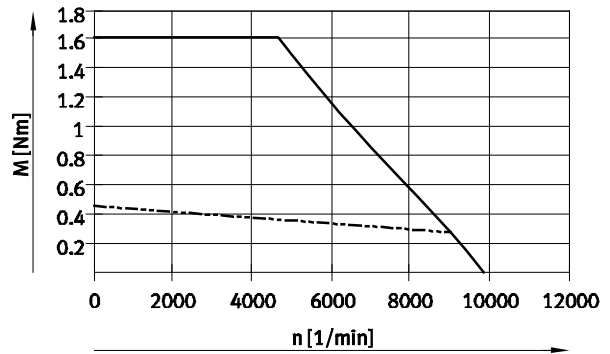


Flange size 55

Length S  
Winding LS

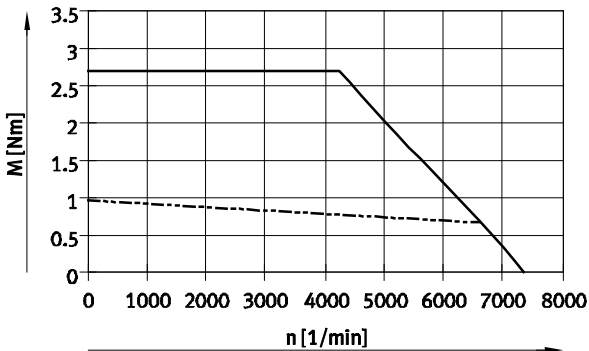


Length S  
Winding HS

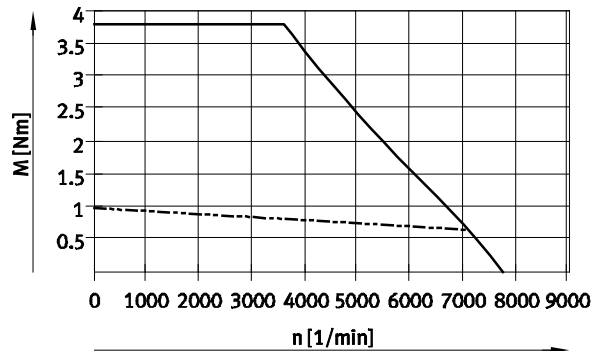


Flange size 55

Length M  
Winding LS



Length M  
Winding HS



— Peak torque  
- - - Nominal torque

Note  
Typical motor characteristic curve with nominal voltage and idealised controller.

# Servo motors EMMS-AS

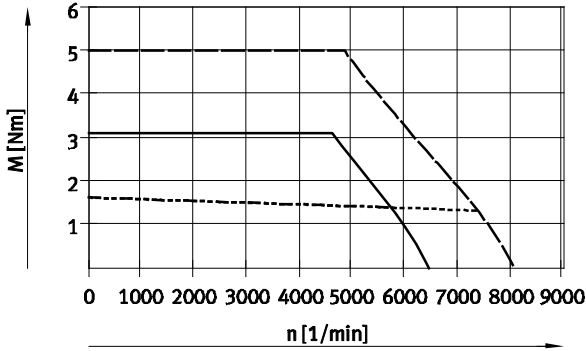
Technical data

FESTO

## Torque M as a function of rotational speed n

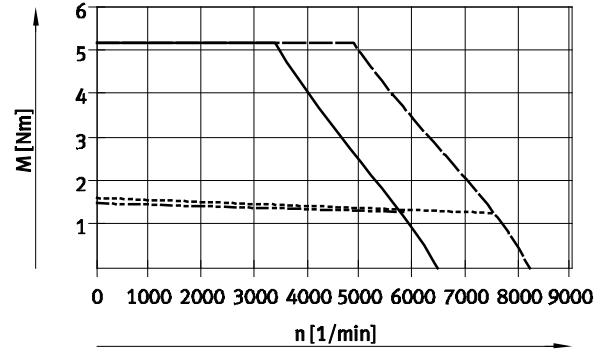
Flange size 70

Length S  
Winding LS, LV



- Peak torque EMMS-AS-...-LS
- - - - - Nominal torque EMMS-AS-...-LS
- - - - - Peak torque EMMS-AS-...-LV
- · · · · Nominal torque EMMS-AS-...-LV

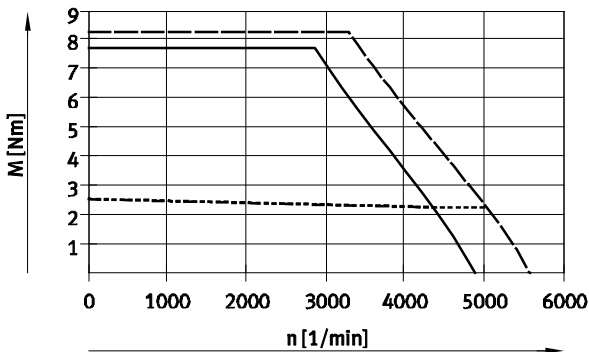
Length S  
Winding HS, HV



- Peak torque EMMS-AS-...-HS
- - - - - Nominal torque EMMS-AS-...-HS
- - - - - Peak torque EMMS-AS-...-HV
- · · · · Nominal torque EMMS-AS-...-HV

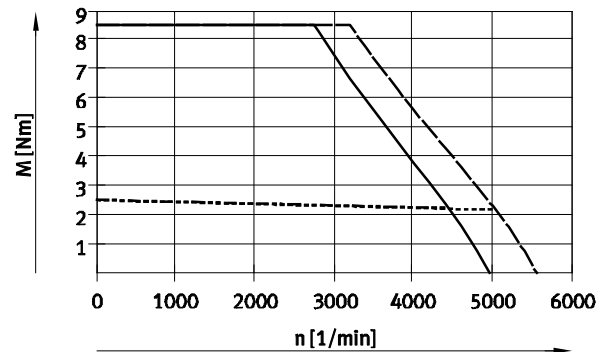
Flange size 70

Length M  
Winding LS, LV



- Peak torque EMMS-AS-...-LS
- - - - - Nominal torque EMMS-AS-...-LS
- - - - - Peak torque EMMS-AS-...-LV
- · · · · Nominal torque EMMS-AS-...-LV

Length M  
Winding HS, HV



- Peak torque EMMS-AS-...-HS
- - - - - Nominal torque EMMS-AS-...-HS
- - - - - Peak torque EMMS-AS-...-HV
- · · · · Nominal torque EMMS-AS-...-HV

Note

Typical motor characteristic curve with nominal voltage and idealised controller.



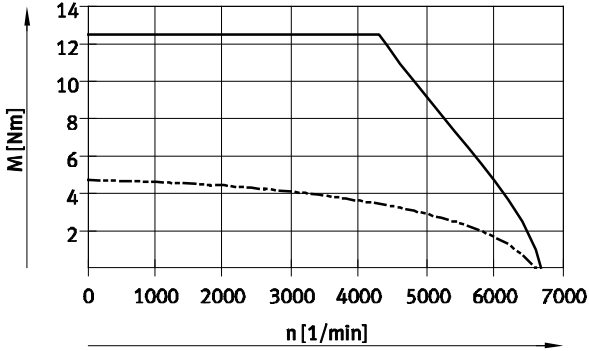
# Servo motors EMMS-AS

Technical data

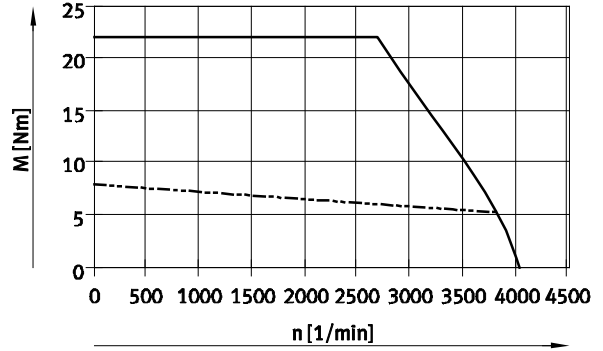
## Torque M as a function of rotational speed n

Flange size 100

Length S  
Winding HS

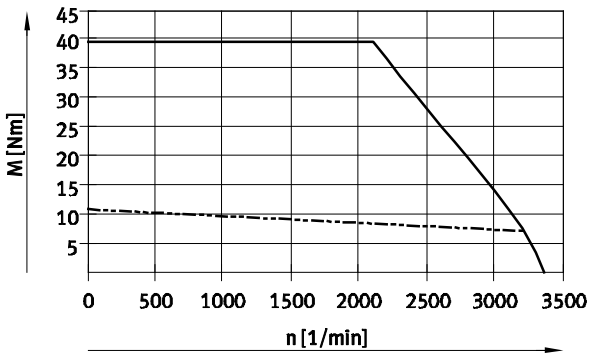


Length M  
Winding HS

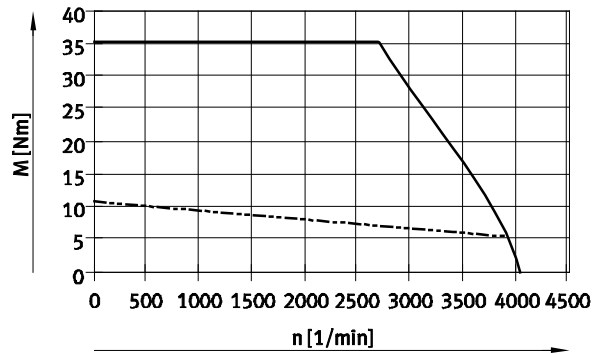


Flange size 100

Length L  
Winding HS

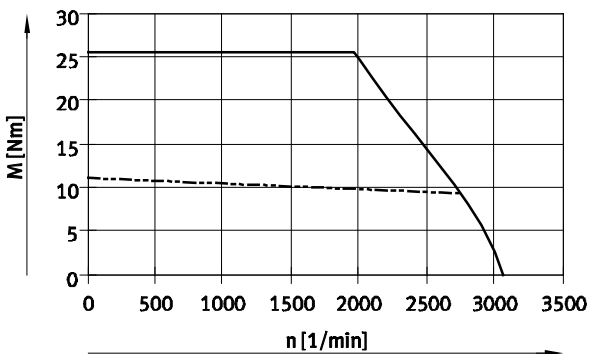


Length L  
Winding HV

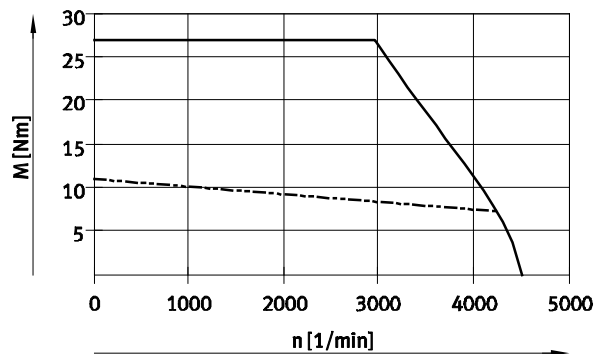


Flange size 140

Length S  
Winding HS



Length S  
Winding HV



- Peak torque
- - - Nominal torque

Note  
Typical motor characteristic curve with nominal voltage and idealised controller.

# Servo motors EMMS-AS

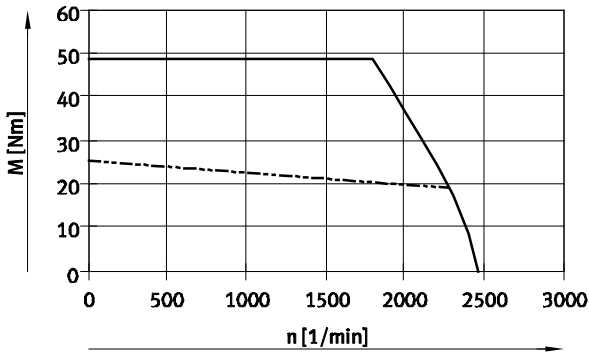
Technical data

FESTO

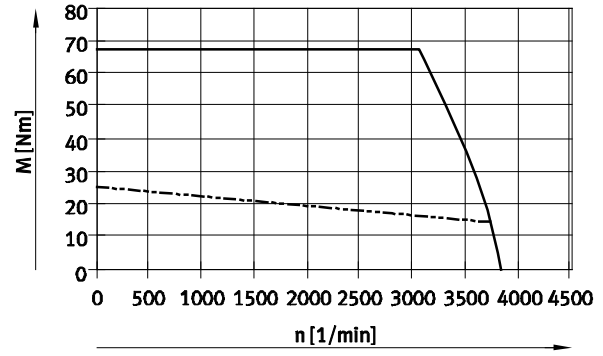
## Torque M as a function of rotational speed n

Flange size 140

Length L  
Winding HS

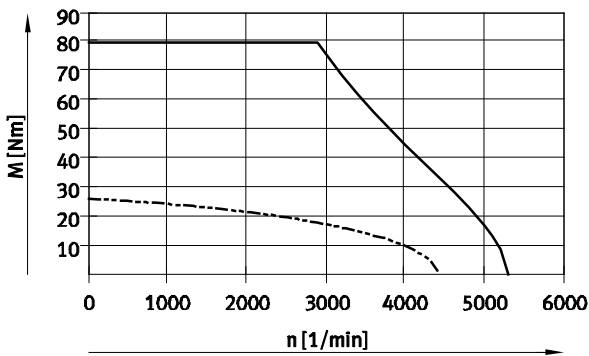


Length L  
Winding HV

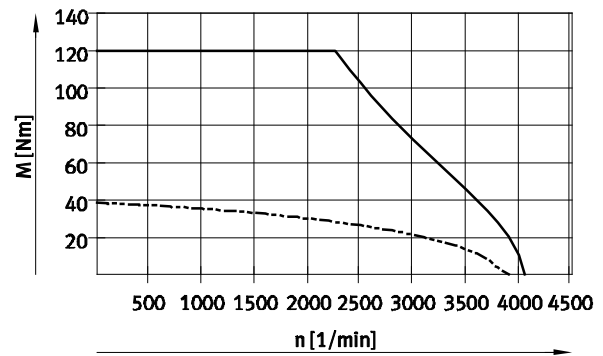


Flange size 190


Length S  
Winding HS



Length M  
Winding HS



— Peak torque  
- - - Nominal torque

-  Note

Typical motor characteristic curve with nominal voltage and idealised controller.

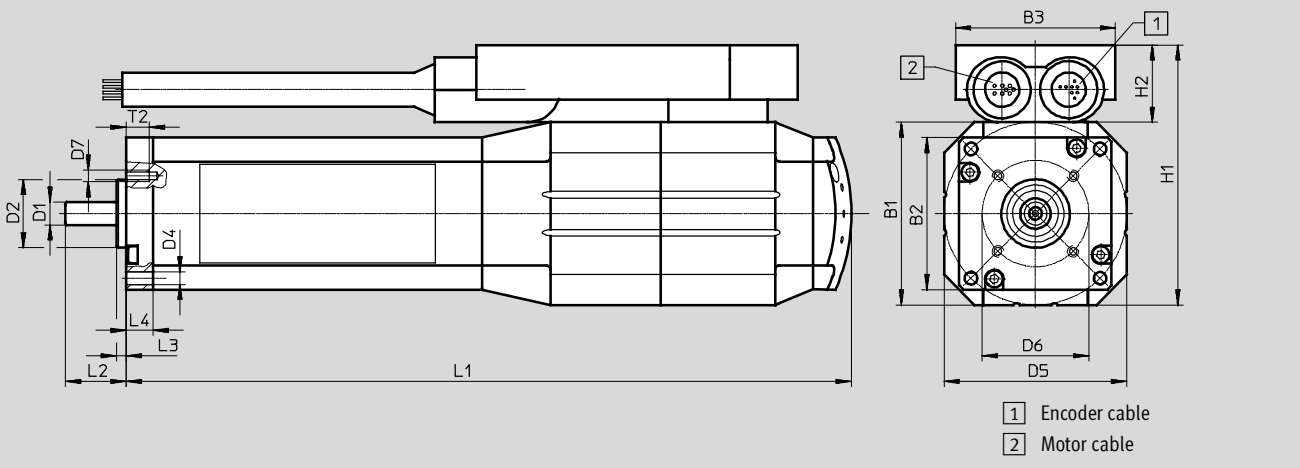
# Servo motors EMMS-AS

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

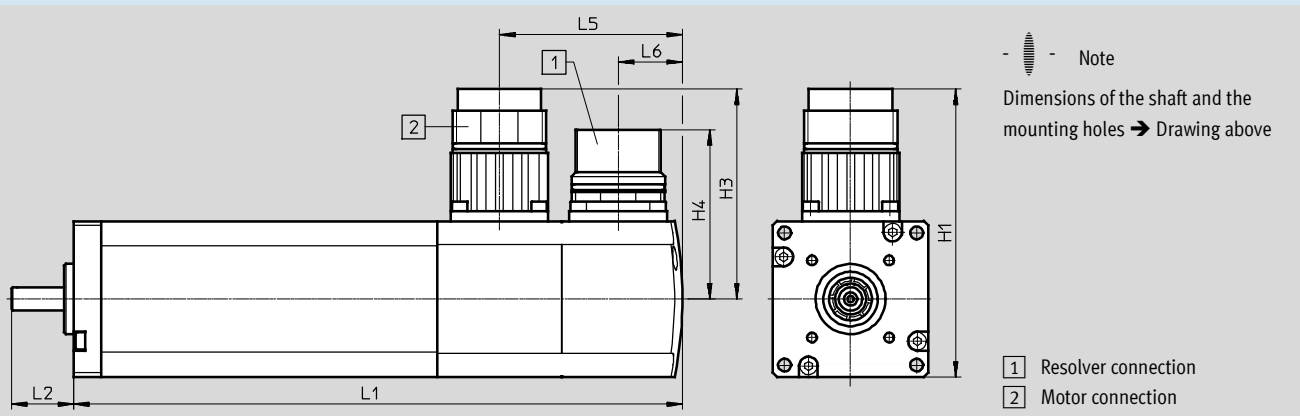
### Flange size 40 – With encoder



Length	B1	B2	B3	D1 ∅	D2 ∅	D4 ∅	D5 ∅	D6 ∅
S	48	40	42	+0.009/-0.001	+0.012/-0.006	3.3	48	28
M								

Length	D7	H1	H2	L1	L2	L3	L4	T2
S	M3	68.3	20.3	170.5	16	2.5	7	6
M				190.5				

### Flange size 40 – With resolver



Length	H1	H3	H4	L1		L2	L5		L6
					With brake			With brake	
S	74	54	44	134.9	136.4	16	46.5	48	17
M				154.9	156.4				

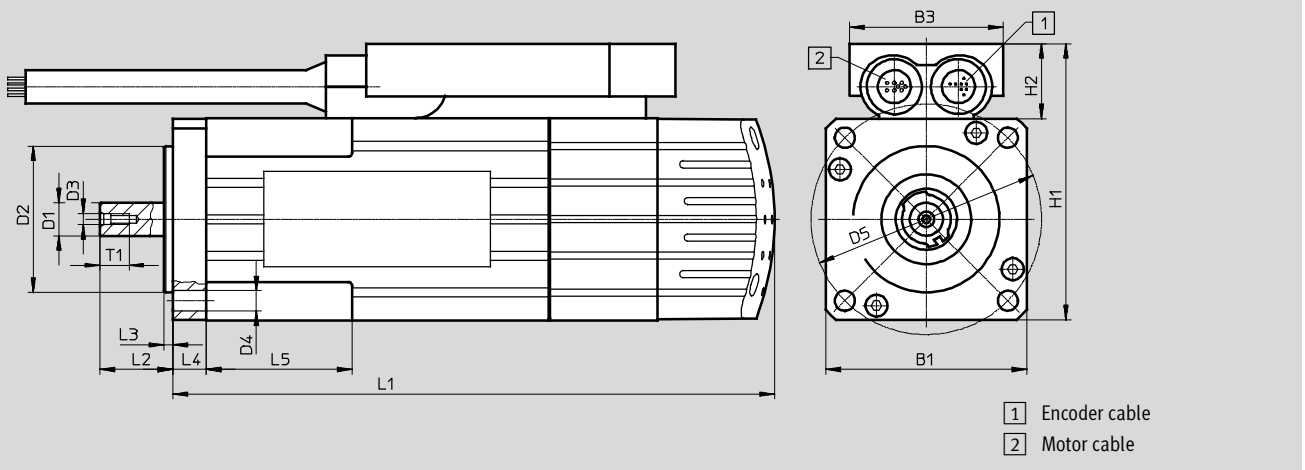
# Servo motors EMMS-AS

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

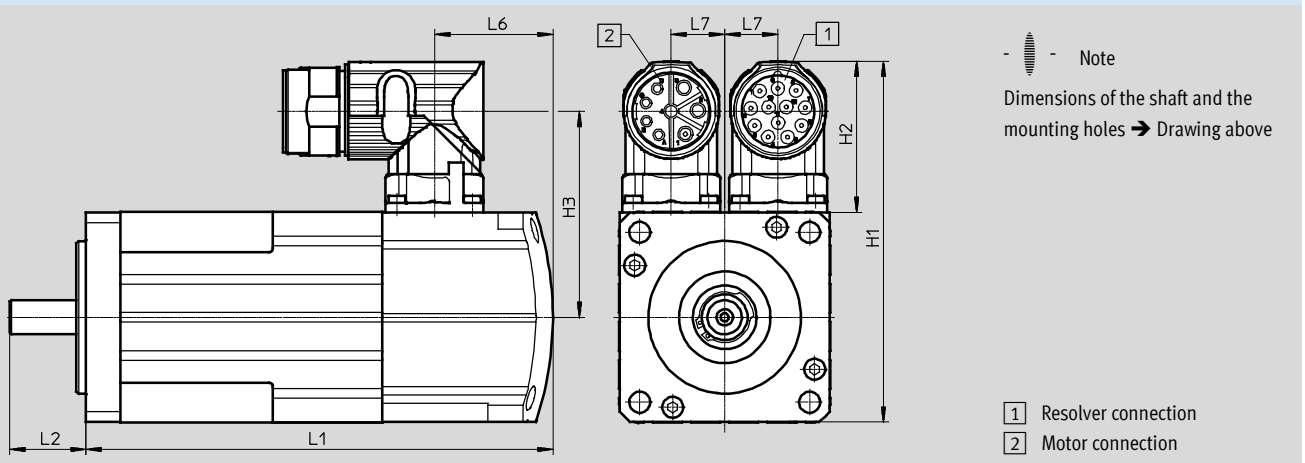
### Flange size 55 – With encoder



Length	B1	B3	D1 ∅ +0.01/-0.001	D2 ∅ +0.11/-0.005	D3	D4 ∅	D5 ∅
S	55	42	9	40	M2.5	5.5	63
M							

Length	H1	H2	L1	L2	L3 ±0.05	L4	L5	T1
S	76	20.5	139.4	20	2.5	9	40	8
M			164.4					

### Flange size 55 – With resolver



Length	H1	H2	H3	L1		L2	L6		L7
					With brake			With brake	
S				122.4	139.4				
M	94.7	39.7	54	147.4	164.4	20	31	48	14

# Servo motors EMMS-AS

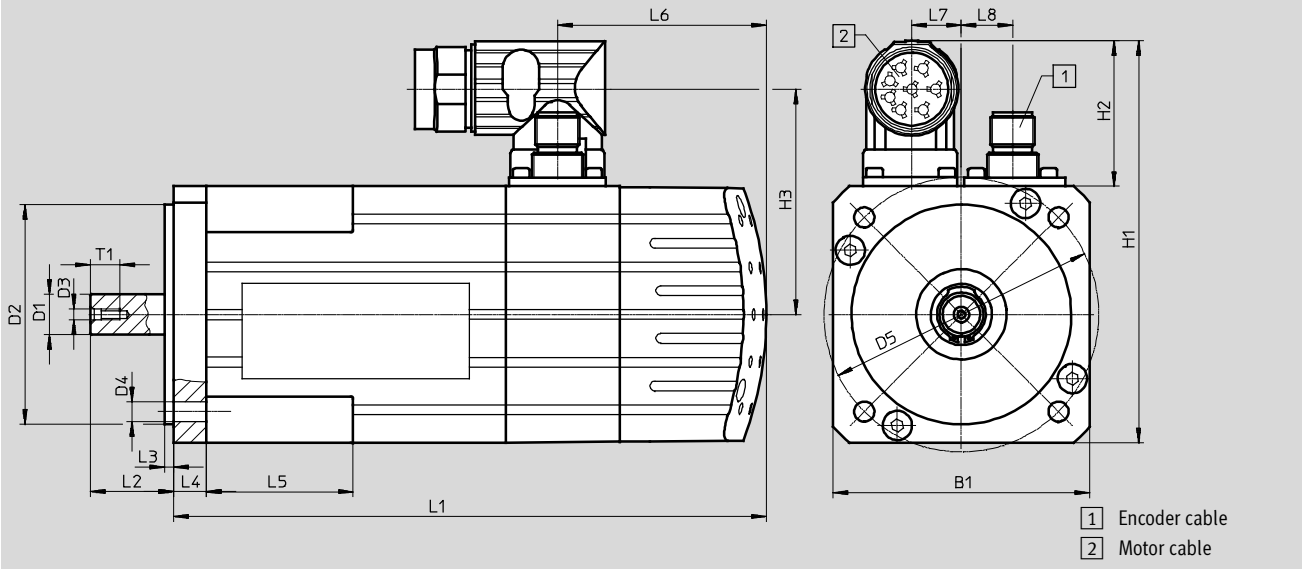
Technical data

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## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Flange size 70, 100, 140, 190 – With encoder



Length	B1	D1 ∅	D2 ∅	D3	D4 ∅	D5 ∅	H1	H2	H3
Flange size 70									
S	70	11+0.012/+0.001	60+0.012/-0.007	M2.5	5.5	75	109.7	39.7	61.5
M									
Flange size 100									
S	100.5	19+0.015/+0.002	95+0.013/-0.009	M4	9.2	115	140	39.7	77
M									
L									
Flange size 140									
S	140.5	24+0.015/-0.002	130+0.018/-0.007	M4	11.3	165	181	39.7	97.7
L									
Flange size 190									
S	190	32+0.018/+0.002	180+0.14/-0.011	M4	13.7	215	251	61	136
M									

Length	L1	L2	L3	L4	L5	L6	L7	L8	T1
Flange size 70									
S	161.8	22.7	2.5 <sub>-0.1</sub>	9	40	57	14	14	8
M	187.3								
Flange size 100									
S	192.3	40	3	9.8	-	58.9	19	19	16
M	243.3								
L	294.3								
Flange size 140									
S	209	50	3.5	12.2	-	58.6	33.5	33.5	16
L	285.5								
Flange size 190									
S	262	60	4 <sub>-0.1</sub>	11	-	81	25	33	16
M	300								

# Servo motors EMMS-AS

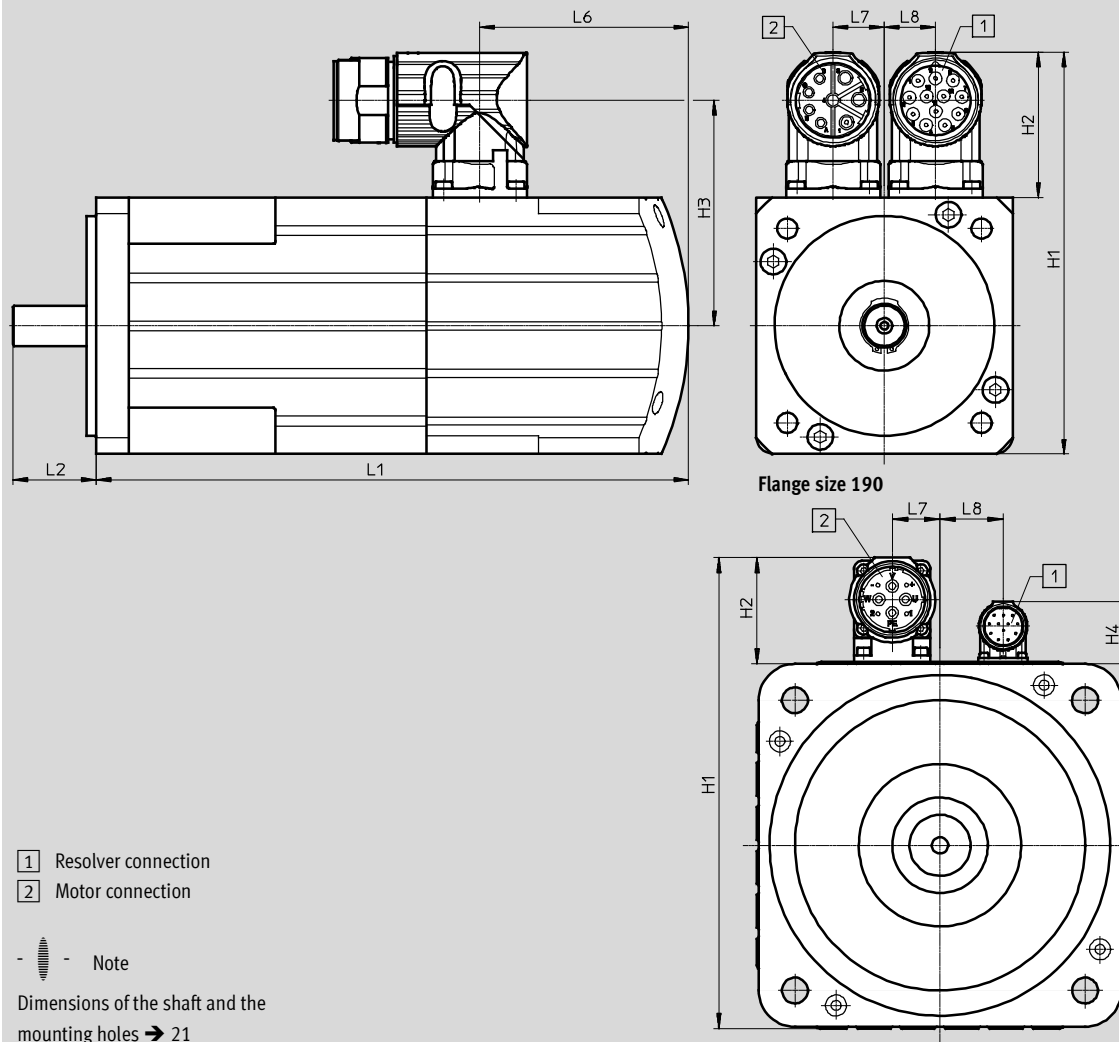
Technical data

FESTO

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Flange size 70, 100, 140, 190 – With resolver



- 1 Resolver connection
- 2 Motor connection

- - Note

Dimensions of the shaft and the mounting holes → 21

Length	H1	H2	H3	H4	L1		L2	L6		L7	L8
						With brake			With brake		
<b>Flange size 70</b>											
S	109.7	39.7	61.5	-	139.8	161.8	22.7	35	57	14	14
M					165.3	187.3					
<b>Flange size 100</b>											
S	140.2	39.7	76.8	-	171.1	192.1	40	37.8	58.9	19	19
M					222.1	243.1					
L					273.1	294.1					
<b>Flange size 140</b>											
S	180.2	39.7	96.8	-	194.6	209	50	44.2	58.6	33.5	33.5
L					271.1	285.5					
<b>Flange size 190</b>											
S	244	54	128.8	33	225	262	60	44	81	25	33
M					263	300					

- - Note

Only motors without feather key should be used in combination with parallel and axial kits (EAMM-U/EAMM-A).

# Servo motors EMMS-AS

Technical data

Ordering data – Without feather key													Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)			
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver					
Flange size 40														
■			■				■						1578600	EMMS-AS-40-S-LS-TS
■			■				■			■			1578603	EMMS-AS-40-S-LS-TSB
■			■					■					1578602	EMMS-AS-40-S-LS-TM
■			■					■		■			1578604	EMMS-AS-40-S-LS-TMB
■			■						■				1578605	EMMS-AS-40-S-LS-SR
■			■						■	■			1578606	EMMS-AS-40-S-LS-SRB
	■		■				■						550106	EMMS-AS-40-M-LS-TS
	■		■				■			■			550108	EMMS-AS-40-M-LS-TSB
	■		■					■					550107	EMMS-AS-40-M-LS-TM
	■		■					■		■			550109	EMMS-AS-40-M-LS-TMB
	■		■						■				1578617	EMMS-AS-40-M-LS-SR
	■		■						■	■			1578618	EMMS-AS-40-M-LS-SRB
Flange size 55														
■			■				■						1569736	EMMS-AS-55-S-LS-TS
■			■				■			■			1569738	EMMS-AS-55-S-LS-TSB
■			■					■					1569737	EMMS-AS-55-S-LS-TM
■			■					■		■			1569739	EMMS-AS-55-S-LS-TMB
■			■						■				1569740	EMMS-AS-55-S-LS-RR
■			■						■	■			1569741	EMMS-AS-55-S-LS-RRB
■			■				■				■		1569748	EMMS-AS-55-S-LS-TS-S1
■			■				■			■	■		1569750	EMMS-AS-55-S-LS-TSB-S1
■			■					■			■		1569749	EMMS-AS-55-S-LS-TM-S1
■			■					■		■	■		1569751	EMMS-AS-55-S-LS-TMB-S1
■			■						■		■		1569752	EMMS-AS-55-S-LS-RR-S1
■			■						■	■	■		1569753	EMMS-AS-55-S-LS-RRB-S1
■					■		■						1569760	EMMS-AS-55-S-HS-TS
■					■		■			■			1569762	EMMS-AS-55-S-HS-TSB
■					■			■					1569761	EMMS-AS-55-S-HS-TM
■					■			■		■			1569763	EMMS-AS-55-S-HS-TMB
■					■				■				1569764	EMMS-AS-55-S-HS-RR
■					■				■	■			1569765	EMMS-AS-55-S-HS-RRB
■					■		■				■		1569772	EMMS-AS-55-S-HS-TS-S1
■					■		■			■	■		1569774	EMMS-AS-55-S-HS-TSB-S1
■					■			■			■		1569773	EMMS-AS-55-S-HS-TM-S1
■					■			■		■	■		1569775	EMMS-AS-55-S-HS-TMB-S1
■					■				■		■		1569776	EMMS-AS-55-S-HS-RR-S1
■					■				■	■	■		1569777	EMMS-AS-55-S-HS-RRB-S1

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – Without feather key												Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)		
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver				
Flange size 55													
	■		■				■					550110	EMMS-AS-55-M-LS-TS
	■		■				■			■		550112	EMMS-AS-55-M-LS-TSB
	■		■					■				550111	EMMS-AS-55-M-LS-TM
	■		■					■		■		550113	EMMS-AS-55-M-LS-TMB
	■		■						■			1569788	EMMS-AS-55-M-LS-RR
	■		■						■	■		1569789	EMMS-AS-55-M-LS-RRB
	■		■				■				■	1569796	EMMS-AS-55-M-LS-TS-S1
	■		■				■			■	■	1569798	EMMS-AS-55-M-LS-TSB-S1
	■		■					■			■	1569797	EMMS-AS-55-M-LS-TM-S1
	■		■					■		■	■	1569799	EMMS-AS-55-M-LS-TMB-S1
	■		■						■		■	1569800	EMMS-AS-55-M-LS-RR-S1
	■		■						■	■	■	1569801	EMMS-AS-55-M-LS-RRB-S1
	■				■		■					1569809	EMMS-AS-55-M-HS-TS
	■				■		■			■		1569811	EMMS-AS-55-M-HS-TSB
	■				■			■				1569810	EMMS-AS-55-M-HS-TM
	■				■			■		■		1569812	EMMS-AS-55-M-HS-TMB
	■				■				■			1569813	EMMS-AS-55-M-HS-RR
	■				■				■	■		1569814	EMMS-AS-55-M-HS-RRB
	■				■		■				■	1569821	EMMS-AS-55-M-HS-TS-S1
	■				■		■			■	■	1569823	EMMS-AS-55-M-HS-TSB-S1
	■				■			■			■	1569822	EMMS-AS-55-M-HS-TM-S1
	■				■			■		■	■	1569824	EMMS-AS-55-M-HS-TMB-S1
	■				■				■		■	1569825	EMMS-AS-55-M-HS-RR-S1
	■				■				■	■	■	1569826	EMMS-AS-55-M-HS-RRB-S1
Flange size 70													
■			■				■					550114	EMMS-AS-70-S-LS-RS
■			■				■			■		550116	EMMS-AS-70-S-LS-RSB
■			■					■				550115	EMMS-AS-70-S-LS-RM
■			■					■		■		550117	EMMS-AS-70-S-LS-RMB
■			■						■	■		1550884	EMMS-AS-70-S-LS-RR
■			■						■	■		1550885	EMMS-AS-70-S-LS-RRB
■			■				■				■	1550892	EMMS-AS-70-S-LS-RS-S1
■			■				■			■	■	1550894	EMMS-AS-70-S-LS-RSB-S1
■			■					■			■	1550893	EMMS-AS-70-S-LS-RM-S1
■			■					■		■	■	1550895	EMMS-AS-70-S-LS-RMB-S1
■			■						■		■	1550896	EMMS-AS-70-S-LS-RR-S1
■			■						■	■	■	1550897	EMMS-AS-70-S-LS-RRB-S1
■				■			■					1704731	EMMS-AS-70-S-LV-RS
■				■			■			■		1704733	EMMS-AS-70-S-LV-RSB
■				■				■				1704732	EMMS-AS-70-S-LV-RM
■				■				■		■		1704734	EMMS-AS-70-S-LV-RMB
■				■					■			1704735	EMMS-AS-70-S-LV-RR
■				■					■	■		1704736	EMMS-AS-70-S-LV-RRB

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock



# Servo motors EMMS-AS

Technical data

Ordering data – Without feather key													
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)	Part No.	Type
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder single-turn	Encoder, multi-turn	Resolver				
Flange size 70													
■				■			■				■	1704743	EMMS-AS-70-S-LV-RS-S1
■				■			■			■	■	1704745	EMMS-AS-70-S-LV-RSB-S1
■				■				■			■	1704744	EMMS-AS-70-S-LV-RM-S1
■				■				■		■	■	1704746	EMMS-AS-70-S-LV-RMB-S1
■				■					■		■	1704747	EMMS-AS-70-S-LV-RR-S1
■				■					■	■	■	1704748	EMMS-AS-70-S-LV-RRB-S1
■						■		■				1550904	EMMS-AS-70-S-HS-RS
■						■		■		■		1550906	EMMS-AS-70-S-HS-RSB
■						■			■			1550905	EMMS-AS-70-S-HS-RM
■						■			■	■		1550907	EMMS-AS-70-S-HS-RMB
■						■				■		1550908	EMMS-AS-70-S-HS-RR
■						■			■	■		1550909	EMMS-AS-70-S-HS-RRB
■						■		■			■	1550916	EMMS-AS-70-S-HS-RS-S1
■						■		■		■	■	1550918	EMMS-AS-70-S-HS-RM-S1
■						■			■	■	■	1550919	EMMS-AS-70-S-HS-RMB-S1
■						■			■		■	1550920	EMMS-AS-70-S-HS-RR-S1
■						■			■	■	■	1550921	EMMS-AS-70-S-HS-RRB-S1
■							■	■				1704773	EMMS-AS-70-S-HV-RS
■							■	■		■		1704775	EMMS-AS-70-S-HV-RSB
■							■		■			1704774	EMMS-AS-70-S-HV-RM
■							■		■	■		1704776	EMMS-AS-70-S-HV-RMB
■							■			■		1704777	EMMS-AS-70-S-HV-RR
■							■		■	■		1704778	EMMS-AS-70-S-HV-RRB
■							■	■			■	1704785	EMMS-AS-70-S-HV-RS-S1
■							■	■		■	■	1704787	EMMS-AS-70-S-HV-RSB-S1
■							■		■		■	1704786	EMMS-AS-70-S-HV-RM-S1
■							■		■	■	■	1704788	EMMS-AS-70-S-HV-RMB-S1
■							■			■	■	1704789	EMMS-AS-70-S-HV-RR-S1
■							■		■	■	■	1704790	EMMS-AS-70-S-HV-RRB-S1
	■		■				■					550118	EMMS-AS-70-M-LS-RS
	■		■				■			■		550120	EMMS-AS-70-M-LS-RSB
	■		■					■				550119	EMMS-AS-70-M-LS-RM
	■		■						■	■		550121	EMMS-AS-70-M-LS-RMB
	■		■							■		1550932	EMMS-AS-70-M-LS-RR
	■		■						■	■		1550933	EMMS-AS-70-M-LS-RRB
	■		■				■				■	1550940	EMMS-AS-70-M-LS-RS-S1
	■		■				■			■	■	1550942	EMMS-AS-70-M-LS-RSB-S1
	■		■					■			■	1550941	EMMS-AS-70-M-LS-RM-S1
	■		■						■	■	■	1550943	EMMS-AS-70-M-LS-RMB-S1
	■		■						■		■	1550944	EMMS-AS-70-M-LS-RR-S1
	■		■						■	■	■	1550945	EMMS-AS-70-M-LS-RRB-S1

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – Without feather key												Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)		
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver				
Flange size 70													
	■			■			■					1550952	EMMS-AS-70-M-LV-RS
	■			■			■			■		1550954	EMMS-AS-70-M-LV-RSB
	■			■				■				1550953	EMMS-AS-70-M-LV-RM
	■			■				■		■		1550955	EMMS-AS-70-M-LV-RMB
	■			■					■			1550956	EMMS-AS-70-M-LV-RR
	■			■					■	■		1550957	EMMS-AS-70-M-LV-RRB
	■			■			■				■	1550964	EMMS-AS-70-M-LV-RS-S1
	■			■			■			■	■	1550966	EMMS-AS-70-M-LV-RSB-S1
	■			■				■			■	1550965	EMMS-AS-70-M-LV-RM-S1
	■			■				■		■	■	1550967	EMMS-AS-70-M-LV-RMB-S1
	■			■					■		■	1550968	EMMS-AS-70-M-LV-RR-S1
	■			■					■	■	■	1550969	EMMS-AS-70-M-LV-RRB-S1
	■				■		■					1550976	EMMS-AS-70-M-HS-RS
	■				■		■			■		1550978	EMMS-AS-70-M-HS-RSB
	■				■			■				1550977	EMMS-AS-70-M-HS-RM
	■				■			■		■		1550979	EMMS-AS-70-M-HS-RMB
	■				■				■			1550980	EMMS-AS-70-M-HS-RR
	■				■				■	■		1550981	EMMS-AS-70-M-HS-RRB
	■				■		■				■	1550988	EMMS-AS-70-M-HS-RS-S1
	■				■		■			■	■	1550990	EMMS-AS-70-M-HS-RSB-S1
	■				■			■			■	1550989	EMMS-AS-70-M-HS-RM-S1
	■				■			■		■	■	1550991	EMMS-AS-70-M-HS-RMB-S1
	■				■				■		■	1550992	EMMS-AS-70-M-HS-RR-S1
	■				■				■	■	■	1550993	EMMS-AS-70-M-HS-RRB-S1
	■					■	■					1704807	EMMS-AS-70-M-HV-RS
	■					■	■			■		1704809	EMMS-AS-70-M-HV-RSB
	■					■		■				1704808	EMMS-AS-70-M-HV-RM
	■					■		■		■		1704810	EMMS-AS-70-M-HV-RMB
	■					■			■			1704811	EMMS-AS-70-M-HV-RR
	■					■			■	■		1704812	EMMS-AS-70-M-HV-RRB
	■					■	■				■	1704819	EMMS-AS-70-M-HV-RS-S1
	■					■	■			■	■	1704821	EMMS-AS-70-M-HV-RSB-S1
	■					■		■		■	■	1704820	EMMS-AS-70-M-HV-RM-S1
	■					■		■		■	■	1704822	EMMS-AS-70-M-HV-RMB-S1
	■					■			■		■	1704823	EMMS-AS-70-M-HV-RR-S1
	■					■			■	■	■	1704824	EMMS-AS-70-M-HV-RRB-S1
Flange size 100													
■					■		■					550122	EMMS-AS-100-S-HS-RS
■					■		■			■		550124	EMMS-AS-100-S-HS-RSB
■					■			■				550123	EMMS-AS-100-S-HS-RM
■					■			■		■		550125	EMMS-AS-100-S-HS-RMB
■					■				■			1562913	EMMS-AS-100-S-HS-RR
■					■				■	■		1562914	EMMS-AS-100-S-HS-RRB

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

FESTO

Ordering data – Without feather key													
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)	Part No.	Type
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver				
Flange size 100													
■					■		■				■	1562921	EMMS-AS-100-S-HS-RS-S1
■					■		■			■	■	1562923	EMMS-AS-100-S-HS-RSB-S1
■					■			■			■	1562922	EMMS-AS-100-S-HS-RM-S1
■					■			■		■	■	1562924	EMMS-AS-100-S-HS-RMB-S1
■					■				■		■	1562925	EMMS-AS-100-S-HS-RR-S1
■					■				■	■	■	1562926	EMMS-AS-100-S-HS-RRB-S1
	■				■		■					550127	EMMS-AS-100-M-HS-RS
	■				■		■			■		550129	EMMS-AS-100-M-HS-RSB
	■				■			■				550128	EMMS-AS-100-M-HS-RM
	■				■			■		■		550130	EMMS-AS-100-M-HS-RMB
	■				■				■			1562937	EMMS-AS-100-M-HS-RR
	■				■				■	■		1562938	EMMS-AS-100-M-HS-RRB
	■				■		■				■	1562945	EMMS-AS-100-M-HS-RS-S1
	■				■		■			■	■	1562948	EMMS-AS-100-M-HS-RSB-S1
	■				■			■			■	1562947	EMMS-AS-100-M-HS-RM-S1
	■				■			■		■	■	1562949	EMMS-AS-100-M-HS-RMB-S1
	■				■				■		■	1562950	EMMS-AS-100-M-HS-RR-S1
	■				■				■	■	■	1562951	EMMS-AS-100-M-HS-RRB-S1
		■			■		■					1562958	EMMS-AS-100-L-HS-RS
		■			■		■			■		1562960	EMMS-AS-100-L-HS-RSB
		■			■			■				1562959	EMMS-AS-100-L-HS-RM
		■			■			■		■		1562961	EMMS-AS-100-L-HS-RMB
		■			■				■			1562962	EMMS-AS-100-L-HS-RR
		■			■				■	■		1562963	EMMS-AS-100-L-HS-RRB
		■			■		■				■	1562970	EMMS-AS-100-L-HS-RS-S1
		■			■		■			■	■	1562972	EMMS-AS-100-L-HS-RSB-S1
		■			■			■			■	1562971	EMMS-AS-100-L-HS-RM-S1
		■			■			■		■	■	1562973	EMMS-AS-100-L-HS-RMB-S1
		■			■				■		■	1562974	EMMS-AS-100-L-HS-RR-S1
		■			■				■	■	■	1562975	EMMS-AS-100-L-HS-RRB-S1
		■				■	■					1562982	EMMS-AS-100-L-HV-RS
		■				■	■			■		1562984	EMMS-AS-100-L-HV-RSB
		■				■		■				1562983	EMMS-AS-100-L-HV-RM
		■				■		■		■		1562985	EMMS-AS-100-L-HV-RMB
		■				■			■			1562986	EMMS-AS-100-L-HV-RR
		■				■			■	■		1562987	EMMS-AS-100-L-HV-RRB
		■				■	■				■	1562994	EMMS-AS-100-L-HV-RS-S1
		■				■	■			■	■	1562996	EMMS-AS-100-L-HV-RSB-S1
		■				■		■			■	1562995	EMMS-AS-100-L-HV-RM-S1
		■				■		■		■	■	1562997	EMMS-AS-100-L-HV-RMB-S1
		■				■			■		■	1562998	EMMS-AS-100-L-HV-RR-S1
		■				■			■	■	■	1562999	EMMS-AS-100-L-HV-RRB-S1

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – Without feather key												Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)		
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver				
Flange size 140													
■					■		■					550131	EMMS-AS-140-S-HS-RS
■					■		■			■		550133	EMMS-AS-140-S-HS-RSB
■					■			■				550132	EMMS-AS-140-S-HS-RM
■					■			■		■		550134	EMMS-AS-140-S-HS-RMB
■					■				■			1574608	EMMS-AS-140-S-HS-RR
■					■				■	■		1574609	EMMS-AS-140-S-HS-RRB
■					■		■				■	1574616	EMMS-AS-140-S-HS-RS-S1
■					■		■			■	■	1574618	EMMS-AS-140-S-HS-RSB-S1
■					■			■			■	1574617	EMMS-AS-140-S-HS-RM-S1
■					■			■		■	■	1574619	EMMS-AS-140-S-HS-RMB-S1
■					■				■		■	1574620	EMMS-AS-140-S-HS-RR-S1
■					■				■	■	■	1574621	EMMS-AS-140-S-HS-RRB-S1
■						■	■					1574628	EMMS-AS-140-S-HV-RS
■						■	■			■		1574630	EMMS-AS-140-S-HV-RSB
■						■		■				1574629	EMMS-AS-140-S-HV-RM
■						■		■		■		1574631	EMMS-AS-140-S-HV-RMB
■						■			■			1574632	EMMS-AS-140-S-HV-RR
■						■			■	■		1574633	EMMS-AS-140-S-HV-RRB
■						■	■				■	1574640	EMMS-AS-140-S-HV-RS-S1
■						■	■			■	■	1574642	EMMS-AS-140-S-HV-RSB-S1
■						■		■			■	1574641	EMMS-AS-140-S-HV-RM-S1
■						■		■		■	■	1574643	EMMS-AS-140-S-HV-RMB-S1
■						■			■		■	1574644	EMMS-AS-140-S-HV-RR-S1
■						■			■	■	■	1574645	EMMS-AS-140-S-HV-RRB-S1
		■			■		■					550135	EMMS-AS-140-L-HS-RS
		■			■		■			■		550137	EMMS-AS-140-L-HS-RSB
		■			■			■				550136	EMMS-AS-140-L-HS-RM
		■			■			■		■		550138	EMMS-AS-140-L-HS-RMB
		■			■				■			1574656	EMMS-AS-140-L-HS-RR
		■			■				■	■		1574657	EMMS-AS-140-L-HS-RRB
		■			■		■				■	1574664	EMMS-AS-140-L-HS-RS-S1
		■			■		■			■	■	1574666	EMMS-AS-140-L-HS-RSB-S1
		■			■			■			■	1574665	EMMS-AS-140-L-HS-RM-S1
		■			■			■		■	■	1574667	EMMS-AS-140-L-HS-RMB-S1
		■			■				■		■	1574668	EMMS-AS-140-L-HS-RR-S1
		■			■				■	■	■	1574669	EMMS-AS-140-L-HS-RRB-S1
		■				■	■					1574676	EMMS-AS-140-L-HV-RS
		■				■	■			■		1574678	EMMS-AS-140-L-HV-RSB
		■				■		■				1574677	EMMS-AS-140-L-HV-RM
		■				■		■		■		1574679	EMMS-AS-140-L-HV-RMB
		■				■			■			1574680	EMMS-AS-140-L-HV-RR
		■				■			■	■		1574681	EMMS-AS-140-L-HV-RRB

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – Without feather key													
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)	Part No.	Type
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver				
Flange size 140													
		■				■	■				■	1574688	EMMS-AS-140-L-HV-RS-S1
		■				■	■			■	■	1574690	EMMS-AS-140-L-HV-RSB-S1
		■				■		■			■	1574689	EMMS-AS-140-L-HV-RM-S1
		■				■		■		■	■	1574691	EMMS-AS-140-L-HV-RMB-S1
		■				■			■		■	1574692	EMMS-AS-140-L-HV-RR-S1
		■				■			■	■	■	1574693	EMMS-AS-140-L-HV-RRB-S1
Flange size 190													
■					■		■					1584908	EMMS-AS-190-S-HS-AS
■					■		■			■		1584911	EMMS-AS-190-S-HS-ASB
■					■			■				1584910	EMMS-AS-190-S-HS-AM
■					■			■		■		1584912	EMMS-AS-190-S-HS-AMB
■					■				■			1584913	EMMS-AS-190-S-HS-AR
■					■				■	■		1584914	EMMS-AS-190-S-HS-ARB
■					■		■				■	1584922	EMMS-AS-190-S-HS-AS-S1
■					■					■	■	1584924	EMMS-AS-190-S-HS-ASB-S1
■					■			■			■	1584923	EMMS-AS-190-S-HS-AM-S1
■					■			■		■	■	1584925	EMMS-AS-190-S-HS-AMB-S1
■					■				■		■	1584926	EMMS-AS-190-S-HS-AR-S1
■					■				■	■	■	1584927	EMMS-AS-190-S-HS-ARB-S1
	■				■		■					1584934	EMMS-AS-190-M-HS-AS
	■				■		■			■		1584936	EMMS-AS-190-M-HS-ASB
	■				■			■				1584935	EMMS-AS-190-M-HS-AM
	■				■			■		■		1584937	EMMS-AS-190-M-HS-AMB
	■				■				■			1584938	EMMS-AS-190-M-HS-AR
	■				■				■	■		1584939	EMMS-AS-190-M-HS-ARB
	■				■		■				■	1584946	EMMS-AS-190-M-HS-AS-S1
	■				■		■			■	■	1584948	EMMS-AS-190-M-HS-ASB-S1
	■				■			■			■	1584947	EMMS-AS-190-M-HS-AM-S1
	■				■			■		■	■	1584949	EMMS-AS-190-M-HS-AMB-S1
	■				■				■		■	1584950	EMMS-AS-190-M-HS-AR-S1
	■				■				■	■	■	1584951	EMMS-AS-190-M-HS-ARB-S1

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – With feather key													Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)			
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver					
Flange size 40														
■			■				■						1578607	EMMS-AS-40-SK-LS-TS
■			■				■			■			1578609	EMMS-AS-40-SK-LS-TSB
■			■					■					1578608	EMMS-AS-40-SK-LS-TM
■			■					■		■			1578610	EMMS-AS-40-SK-LS-TMB
■			■						■				1578611	EMMS-AS-40-SK-LS-SR
■			■						■	■			1578612	EMMS-AS-40-SK-LS-SRB
	■		■				■						560875	EMMS-AS-40-MK-LS-TS
	■		■				■			■			560877	EMMS-AS-40-MK-LS-TSB
	■		■					■					560876	EMMS-AS-40-MK-LS-TM
	■		■					■		■			560878	EMMS-AS-40-MK-LS-TMB
	■		■						■				1578623	EMMS-AS-40-MK-LS-SR
	■		■						■	■			1578624	EMMS-AS-40-MK-LS-SRB
Flange size 55														
■			■				■						1569742	EMMS-AS-55-SK-LS-TS
■			■				■			■			1569744	EMMS-AS-55-SK-LS-TSB
■			■					■					1569743	EMMS-AS-55-SK-LS-TM
■			■					■		■			1569745	EMMS-AS-55-SK-LS-TMB
■			■						■				1569746	EMMS-AS-55-SK-LS-RR
■			■						■	■			1569747	EMMS-AS-55-SK-LS-RRB
■			■				■				■		1569754	EMMS-AS-55-SK-LS-TS-S1
■			■				■			■	■		1569756	EMMS-AS-55-SK-LS-TSB-S1
■			■					■			■		1569755	EMMS-AS-55-SK-LS-TM-S1
■			■					■		■	■		1569757	EMMS-AS-55-SK-LS-TMB-S1
■			■						■		■		1569758	EMMS-AS-55-SK-LS-RR-S1
■			■						■	■	■		1569759	EMMS-AS-55-SK-LS-RRB-S1
■					■		■						1569766	EMMS-AS-55-SK-HS-TS
■					■		■			■			1569768	EMMS-AS-55-SK-HS-TSB
■					■			■					1569767	EMMS-AS-55-SK-HS-TM
■					■			■		■			1569769	EMMS-AS-55-SK-HS-TMB
■					■				■				1569770	EMMS-AS-55-SK-HS-RR
■					■				■	■			1569771	EMMS-AS-55-SK-HS-RRB
■					■		■				■		1569778	EMMS-AS-55-SK-HS-TS-S1
■					■		■			■	■		1569780	EMMS-AS-55-SK-HS-TSB-S1
■					■			■			■		1569779	EMMS-AS-55-SK-HS-TM-S1
■					■			■		■	■		1569781	EMMS-AS-55-SK-HS-TMB-S1
■					■				■		■		1569782	EMMS-AS-55-SK-HS-RR-S1
■					■				■	■	■		1569783	EMMS-AS-55-SK-HS-RRB-S1
	■		■				■						560879	EMMS-AS-55-MK-LS-TS
	■		■				■			■			560881	EMMS-AS-55-MK-LS-TSB
	■		■					■					560880	EMMS-AS-55-MK-LS-TM
	■		■					■		■			560882	EMMS-AS-55-MK-LS-TMB
	■		■						■				1569794	EMMS-AS-55-MK-LS-RR
	■		■						■	■			1569795	EMMS-AS-55-MK-LS-RRB

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – With feather key													Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)			
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver					
Flange size 55														
	■		■				■				■		1569803	EMMS-AS-55-MK-LS-TS-S1
	■		■				■			■	■		1569805	EMMS-AS-55-MK-LS-TSB-S1
	■		■					■			■		1569804	EMMS-AS-55-MK-LS-TM-S1
	■		■					■		■	■		1569806	EMMS-AS-55-MK-LS-TMB-S1
	■		■						■		■		1569807	EMMS-AS-55-MK-LS-RR-S1
	■		■						■	■	■		1569808	EMMS-AS-55-MK-LS-RRB-S1
	■				■		■						1569815	EMMS-AS-55-MK-HS-TS
	■				■		■			■			1569817	EMMS-AS-55-MK-HS-TSB
	■				■			■					1569816	EMMS-AS-55-MK-HS-TM
	■				■			■		■			1569818	EMMS-AS-55-MK-HS-TMB
	■				■				■				1569819	EMMS-AS-55-MK-HS-RR
	■				■				■	■			1569820	EMMS-AS-55-MK-HS-RRB
	■				■		■				■		1569827	EMMS-AS-55-MK-HS-TS-S1
	■				■		■			■	■		1569829	EMMS-AS-55-MK-HS-TSB-S1
	■				■			■			■		1569828	EMMS-AS-55-MK-HS-TM-S1
	■				■			■		■	■		1569830	EMMS-AS-55-MK-HS-TMB-S1
	■				■				■		■		1569831	EMMS-AS-55-MK-HS-RR-S1
	■				■				■	■	■		1569832	EMMS-AS-55-MK-HS-RRB-S1
Flange size 70														
■			■				■						560883	EMMS-AS-70-SK-LS-RS
■			■				■			■			560885	EMMS-AS-70-SK-LS-RSB
■			■					■					560884	EMMS-AS-70-SK-LS-RM
■			■					■		■			560886	EMMS-AS-70-SK-LS-RMB
■			■						■				1550890	EMMS-AS-70-SK-LS-RR
■			■						■	■			1550891	EMMS-AS-70-SK-LS-RRB
■			■				■				■		1550898	EMMS-AS-70-SK-LS-RS-S1
■			■				■			■	■		1550900	EMMS-AS-70-SK-LS-RSB-S1
■			■					■			■		1550899	EMMS-AS-70-SK-LS-RM-S1
■			■					■		■	■		1550901	EMMS-AS-70-SK-LS-RMB-S1
■			■						■		■		1550902	EMMS-AS-70-SK-LS-RR-S1
■			■						■	■	■		1550903	EMMS-AS-70-SK-LS-RRB-S1
■				■			■						1704737	EMMS-AS-70-SK-LV-RS
■				■			■			■			1704739	EMMS-AS-70-SK-LV-RSB
■				■				■					1704738	EMMS-AS-70-SK-LV-RM
■				■				■		■			1704740	EMMS-AS-70-SK-LV-RMB
■				■					■				1704741	EMMS-AS-70-SK-LV-RR
■				■					■	■			1704742	EMMS-AS-70-SK-LV-RRB
■				■			■				■		1704749	EMMS-AS-70-SK-LV-RS-S1
■				■			■			■	■		1704751	EMMS-AS-70-SK-LV-RSB-S1
■				■				■			■		1704750	EMMS-AS-70-SK-LV-RM-S1
■				■				■		■	■		1704752	EMMS-AS-70-SK-LV-RMB-S1
■				■					■		■		1704753	EMMS-AS-70-SK-LV-RR-S1
■				■					■	■	■		1704754	EMMS-AS-70-SK-LV-RRB-S1

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – With feather key													Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)			
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver					
Flange size 70														
■					■		■						1550910	EMMS-AS-70-SK-HS-RS
■					■		■				■		1550912	EMMS-AS-70-SK-HS-RSB
■					■			■					1550911	EMMS-AS-70-SK-HS-RM
■					■			■			■		1550913	EMMS-AS-70-SK-HS-RMB
■					■				■				1550914	EMMS-AS-70-SK-HS-RR
■					■				■	■			1550915	EMMS-AS-70-SK-HS-RRB
■					■		■					■	1550922	EMMS-AS-70-SK-HS-RS-S1
■					■		■				■	■	1550924	EMMS-AS-70-SK-HS-RSB-S1
■					■			■				■	1550923	EMMS-AS-70-SK-HS-RM-S1
■					■			■			■	■	1550925	EMMS-AS-70-SK-HS-RMB-S1
■					■				■			■	1550926	EMMS-AS-70-SK-HS-RR-S1
■					■				■	■	■	■	1550927	EMMS-AS-70-SK-HS-RRB-S1
■						■	■						1704779	EMMS-AS-70-SK-HV-RS
■						■	■				■		1704781	EMMS-AS-70-SK-HV-RSB
■						■		■					1704780	EMMS-AS-70-SK-HV-RM
■						■		■			■		1704782	EMMS-AS-70-SK-HV-RMB
■						■			■				1704783	EMMS-AS-70-SK-HV-RR
■						■			■	■			1704784	EMMS-AS-70-SK-HV-RRB
■						■	■					■	1704791	EMMS-AS-70-SK-HV-RS-S1
■						■	■				■	■	1704793	EMMS-AS-70-SK-HV-RSB-S1
■						■		■				■	1704792	EMMS-AS-70-SK-HV-RM-S1
■						■		■			■	■	1704794	EMMS-AS-70-SK-HV-RMB-S1
■						■			■			■	1704795	EMMS-AS-70-SK-HV-RR-S1
■						■			■	■	■	■	1704796	EMMS-AS-70-SK-HV-RRB-S1
	■		■				■						560887	EMMS-AS-70-MK-LS-RS
	■		■				■				■		560889	EMMS-AS-70-MK-LS-RSB
	■		■					■					560888	EMMS-AS-70-MK-LS-RM
	■		■					■			■		560890	EMMS-AS-70-MK-LS-RMB
	■		■						■				1550938	EMMS-AS-70-MK-LS-RR
	■		■						■	■			1550939	EMMS-AS-70-MK-LS-RRB
	■		■				■					■	1550946	EMMS-AS-70-MK-LS-RS-S1
	■		■				■				■	■	1550948	EMMS-AS-70-MK-LS-RSB-S1
	■		■					■				■	1550947	EMMS-AS-70-MK-LS-RM-S1
	■		■					■			■	■	1550949	EMMS-AS-70-MK-LS-RMB-S1
	■		■						■			■	1550950	EMMS-AS-70-MK-LS-RR-S1
	■		■						■	■	■	■	1550951	EMMS-AS-70-MK-LS-RRB-S1
	■			■			■						1550958	EMMS-AS-70-MK-LV-RS
	■			■			■				■		1550960	EMMS-AS-70-MK-LV-RSB
	■			■				■					1550959	EMMS-AS-70-MK-LV-RM
	■			■				■			■		1550961	EMMS-AS-70-MK-LV-RMB
	■			■					■				1550962	EMMS-AS-70-MK-LV-RR
	■			■					■	■			1550963	EMMS-AS-70-MK-LV-RRB

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock



# Servo motors EMMS-AS

Technical data

Ordering data – With feather key													
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)	Part No.	Type
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver				
Flange size 70													
	■			■			■				■	1550970	EMMS-AS-70-MK-LV-RS-S1
	■			■			■			■	■	1550972	EMMS-AS-70-MK-LV-RSB-S1
	■			■				■			■	1550971	EMMS-AS-70-MK-LV-RM-S1
	■			■				■		■	■	1550973	EMMS-AS-70-MK-LV-RMB-S1
	■			■					■		■	1550974	EMMS-AS-70-MK-LV-RR-S1
	■			■					■	■	■	1550975	EMMS-AS-70-MK-LV-RRB-S1
	■					■		■				1550982	EMMS-AS-70-MK-HS-RS
	■					■		■		■		1550984	EMMS-AS-70-MK-HS-RSB
	■					■			■			1550983	EMMS-AS-70-MK-HS-RM
	■					■			■	■		1550985	EMMS-AS-70-MK-HS-RMB
	■					■				■		1550986	EMMS-AS-70-MK-HS-RR
	■					■			■	■		1550987	EMMS-AS-70-MK-HS-RRB
	■					■		■			■	1550994	EMMS-AS-70-MK-HS-RS-S1
	■					■		■		■	■	1550996	EMMS-AS-70-MK-HS-RSB-S1
	■					■			■		■	1550995	EMMS-AS-70-MK-HS-RM-S1
	■					■			■	■	■	1550997	EMMS-AS-70-MK-HS-RMB-S1
	■					■				■	■	1550998	EMMS-AS-70-MK-HS-RR-S1
	■					■			■	■	■	1550999	EMMS-AS-70-MK-HS-RRB-S1
	■						■	■				1704813	EMMS-AS-70-MK-HV-RS
	■						■	■		■		1704815	EMMS-AS-70-MK-HV-RSB
	■						■		■			1704814	EMMS-AS-70-MK-HV-RM
	■						■		■	■		1704816	EMMS-AS-70-MK-HV-RMB
	■						■			■		1704817	EMMS-AS-70-MK-HV-RR
	■						■		■	■		1704818	EMMS-AS-70-MK-HV-RRB
	■						■	■			■	1704825	EMMS-AS-70-MK-HV-RS-S1
	■						■	■		■	■	1704827	EMMS-AS-70-MK-HV-RSB-S1
	■						■		■		■	1704826	EMMS-AS-70-MK-HV-RM-S1
	■						■		■	■	■	1704828	EMMS-AS-70-MK-HV-RMB-S1
	■						■			■	■	1704829	EMMS-AS-70-MK-HV-RR-S1
	■						■		■	■	■	1704830	EMMS-AS-70-MK-HV-RRB-S1
Flange size 100													
■						■		■				560891	EMMS-AS-100-SK-HS-RS
■						■		■		■		560893	EMMS-AS-100-SK-HS-RSB
■						■			■			560892	EMMS-AS-100-SK-HS-RM
■						■			■	■		560894	EMMS-AS-100-SK-HS-RMB
■						■				■		1562919	EMMS-AS-100-SK-HS-RR
■						■				■	■	1562920	EMMS-AS-100-SK-HS-RRB
■						■		■			■	1562927	EMMS-AS-100-SK-HS-RS-S1
■						■		■		■	■	1562929	EMMS-AS-100-SK-HS-RSB-S1
■						■			■		■	1562928	EMMS-AS-100-SK-HS-RM-S1
■						■			■	■	■	1562930	EMMS-AS-100-SK-HS-RMB-S1
■						■				■	■	1562931	EMMS-AS-100-SK-HS-RR-S1
■						■			■	■	■	1562932	EMMS-AS-100-SK-HS-RRB-S1

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – With feather key													Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)			
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver					
Flange size 100														
	■				■		■						560895	EMMS-AS-100-MK-HS-RS
	■				■		■			■			560897	EMMS-AS-100-MK-HS-RSB
	■				■			■					560896	EMMS-AS-100-MK-HS-RM
	■				■			■		■			560898	EMMS-AS-100-MK-HS-RMB
	■				■				■				1562943	EMMS-AS-100-MK-HS-RR
	■				■				■	■			1562944	EMMS-AS-100-MK-HS-RRB
	■				■		■				■		1562952	EMMS-AS-100-MK-HS-RS-S1
	■				■		■			■	■		1562954	EMMS-AS-100-MK-HS-RSB-S1
	■				■			■			■		1562953	EMMS-AS-100-MK-HS-RM-S1
	■				■			■		■	■		1562955	EMMS-AS-100-MK-HS-RMB-S1
	■				■				■		■		1562956	EMMS-AS-100-MK-HS-RR-S1
	■				■				■	■	■		1562957	EMMS-AS-100-MK-HS-RRB-S1
		■			■		■				■		1562964	EMMS-AS-100-LK-HS-RS
		■			■		■				■		1562966	EMMS-AS-100-LK-HS-RSB
		■			■			■			■		1562965	EMMS-AS-100-LK-HS-RM
		■			■				■		■		1562967	EMMS-AS-100-LK-HS-RMB
		■			■				■		■		1562968	EMMS-AS-100-LK-HS-RR
		■			■				■	■			1562969	EMMS-AS-100-LK-HS-RRB
		■			■		■				■		1562976	EMMS-AS-100-LK-HV-RS-S1
		■			■		■			■	■		1562978	EMMS-AS-100-LK-HS-RSB-S1
		■			■			■			■		1562977	EMMS-AS-100-LK-HS-RM-S1
		■			■			■		■	■		1562979	EMMS-AS-100-LK-HS-RMB-S1
		■			■				■		■		1562980	EMMS-AS-100-LK-HS-RR-S1
		■			■				■	■	■		1562981	EMMS-AS-100-LK-HS-RRB-S1
		■				■	■						1562988	EMMS-AS-100-LK-HV-RS
		■				■	■			■			1562990	EMMS-AS-100-LK-HV-RSB
		■				■		■					1562989	EMMS-AS-100-LK-HV-RM
		■				■		■		■			1562991	EMMS-AS-100-LK-HV-RMB
		■				■			■				1562992	EMMS-AS-100-LK-HV-RR
		■				■			■	■			1562993	EMMS-AS-100-LK-HV-RRB
		■				■	■				■		1563000	EMMS-AS-100-LK-HV-RS-S1
		■				■	■			■	■		1563002	EMMS-AS-100-LK-HV-RSB-S1
		■				■		■		■	■		1563001	EMMS-AS-100-LK-HV-RM-S1
		■				■		■		■	■		1563003	EMMS-AS-100-LK-HV-RMB-S1
		■				■			■		■		1563004	EMMS-AS-100-LK-HV-RR-S1
		■				■			■	■	■		1563005	EMMS-AS-100-LK-HV-RRB-S1
Flange size 140														
■					■		■						560899	EMMS-AS-140-SK-HS-RS
■					■		■			■			560901	EMMS-AS-140-SK-HS-RSB
■					■			■					560900	EMMS-AS-140-SK-HS-RM
■					■			■		■			560902	EMMS-AS-140-SK-HS-RMB
■					■				■				1574614	EMMS-AS-140-SK-HS-RR
■					■				■	■			1574615	EMMS-AS-140-SK-HS-RRB

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – With feather key													
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)	Part No.	Type
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver				
Flange size 140													
■					■		■				■	1574622	EMMS-AS-140-SK-HS-RS-S1
■					■		■			■	■	1574624	EMMS-AS-140-SK-HS-RSB-S1
■					■			■			■	1574623	EMMS-AS-140-SK-HS-RM-S1
■					■			■		■	■	1574625	EMMS-AS-140-SK-HS-RMB-S1
■					■				■		■	1574626	EMMS-AS-140-SK-HS-RR-S1
■					■				■	■	■	1574627	EMMS-AS-140-SK-HS-RRB-S1
■						■	■					1574634	EMMS-AS-140-SK-HV-RS
■						■	■			■		1574636	EMMS-AS-140-SK-HV-RSB
■						■		■				1574635	EMMS-AS-140-SK-HV-RM
■						■		■		■		1574637	EMMS-AS-140-SK-HV-RMB
■						■			■			1574638	EMMS-AS-140-SK-HV-RR
■						■			■	■		1574639	EMMS-AS-140-SK-HV-RRB
■						■	■				■	1574646	EMMS-AS-140-SK-HV-RS-S1
■						■	■			■	■	1574648	EMMS-AS-140-SK-HV-RSB-S1
■						■		■		■	■	1574647	EMMS-AS-140-SK-HV-RM-S1
■						■		■		■	■	1574649	EMMS-AS-140-SK-HV-RMB-S1
■						■			■		■	1574650	EMMS-AS-140-SK-HV-RR-S1
■						■			■	■	■	1574651	EMMS-AS-140-SK-HV-RRB-S1
		■			■		■					560903	EMMS-AS-140-LK-HS-RS
		■			■		■			■		560905	EMMS-AS-140-LK-HS-RSB
		■			■			■				560904	EMMS-AS-140-LK-HS-RM
		■			■			■		■		560906	EMMS-AS-140-LK-HS-RMB
		■			■				■			1574662	EMMS-AS-140-LK-HS-RR
		■			■				■	■		1574663	EMMS-AS-140-LK-HS-RRB
		■			■		■				■	1574670	EMMS-AS-140-LK-HS-RS-S1
		■			■		■			■	■	1574672	EMMS-AS-140-LK-HS-RSB-S1
		■			■			■			■	1574671	EMMS-AS-140-LK-HS-RM-S1
		■			■			■		■	■	1574673	EMMS-AS-140-LK-HS-RMB-S1
		■			■				■	■	■	1574674	EMMS-AS-140-LK-HS-RR-S1
		■			■				■	■	■	1574675	EMMS-AS-140-LK-HS-RRB-S1
		■				■	■					1574682	EMMS-AS-140-LK-HV-RS
		■				■	■			■		1574684	EMMS-AS-140-LK-HV-RSB
		■				■		■				1574683	EMMS-AS-140-LK-HV-RM
		■				■		■		■		1574685	EMMS-AS-140-LK-HV-RMB
		■				■			■			1574686	EMMS-AS-140-LK-HV-RR
		■				■			■	■		1574687	EMMS-AS-140-LK-HV-RRB
		■				■	■				■	1574694	EMMS-AS-140-LK-HV-RS-S1
		■				■	■			■	■	1574709	EMMS-AS-140-LK-HV-RSB-S1
		■				■		■			■	1574708	EMMS-AS-140-LK-HV-RM-S1
		■				■		■		■	■	1574710	EMMS-AS-140-LK-HV-RMB-S1
		■				■			■		■	1574711	EMMS-AS-140-LK-HV-RR-S1
		■				■			■	■	■	1574712	EMMS-AS-140-LK-HV-RRB-S1

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Technical data

Ordering data – With feather key												Part No.	Type
Length			Winding				Measuring unit			Brake	Protection class IP65 <sup>1)</sup> (with rotary shaft seal)		
Short	Medium	Long	Low-voltage, standard	Low-voltage, speed-optimised	High-voltage, standard	High-voltage, speed-optimised	Encoder, single-turn	Encoder, multi-turn	Resolver				
Flange size 190													
■					■		■					1584915	EMMS-AS-190-SK-HS-AS
■					■		■			■		1584917	EMMS-AS-190-SK-HS-ASB
■					■			■				1584916	EMMS-AS-190-SK-HS-AM
■					■			■		■		1584918	EMMS-AS-190-SK-HS-AMB
■					■				■			1584919	EMMS-AS-190-SK-HS-AR
■					■				■	■		1584920	EMMS-AS-190-SK-HS-ARB
■					■		■				■	1584928	EMMS-AS-190-SK-HS-AS-S1
■					■		■			■	■	1584930	EMMS-AS-190-SK-HS-ASB-S1
■					■			■			■	1584929	EMMS-AS-190-SK-HS-AM-S1
■					■			■		■	■	1584931	EMMS-AS-190-SK-HS-AMB-S1
■					■				■		■	1584932	EMMS-AS-190-SK-HS-AR-S1
■					■				■	■	■	1584933	EMMS-AS-190-SK-HS-ARB-S1
	■				■		■					1584940	EMMS-AS-190-MK-HS-AS
	■				■		■			■		1584942	EMMS-AS-190-MK-HS-ASB
	■				■			■				1584941	EMMS-AS-190-MK-HS-AM
	■				■			■		■		1584943	EMMS-AS-190-MK-HS-AMB
	■				■				■			1584944	EMMS-AS-190-MK-HS-AR
	■				■				■	■		1584945	EMMS-AS-190-MK-HS-ARB
	■				■		■				■	1584952	EMMS-AS-190-MK-HS-AS-S1
	■				■		■			■	■	1584954	EMMS-AS-190-MK-HS-ASB-S1
	■				■			■			■	1584953	EMMS-AS-190-MK-HS-AM-S1
	■				■			■		■	■	1584955	EMMS-AS-190-MK-HS-AMB-S1
	■				■				■		■	1584956	EMMS-AS-190-MK-HS-AR-S1
	■				■				■	■	■	1584957	EMMS-AS-190-MK-HS-ARB-S1

1) For protection class IP65, special operating conditions must be observed for the rotary shaft seal. Please consult your local Festo contact.

■ Products available ex-stock

# Servo motors EMMS-AS

Accessories

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## Gear unit EMGA



Technical data									
For motor flange size		40		55		70			
Gear unit type		EMGA-40-P-G...-40		EMGA-60-P-G...-55		EMGA-60-P-G...-70		EMGA-80-P-G...-70	
Gear ratio	[i]	3	5	3	5	3	5	3	5
Gear unit type		Planetary gear unit							
Continuous output torque <sup>1)</sup>	[Nm]	11	14	22	22	22	22	85	110
Max. output torque <sup>2)</sup>	[Nm]	17.6	22	35.2	35.2	35.2	35.2	136	176
Max. drive speed	[rpm]	18,000		13,000		13,000		7,000	
Torsional rigidity	[Nm/arcmin]	1		2.3		2.3		6	
Torsional backlash	[deg]	0.25		0.17		0.17		0.12	
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	0.031	0.019	0.135	0.078	0.135	0.078	0.77	0.45
Max. efficiency	[%]	98							
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90							
Protection class		IP54							
Product weight	[g]	350		900		900		2,100	

For motor flange size		100		100		140			
Gear unit type		EMGA-80-P-G...-100		EMGA-120-P-G...-100		EMGA-120-P-G...-140		EMGA-160-P-G...-140	
Gear ratio	[i]	3	5	3	5	3	5	3	5
Gear unit type		Planetary gear unit							
Continuous output torque <sup>1)</sup>	[Nm]	85	110	115	195	115	195	400	450
Max. output torque <sup>2)</sup>	[Nm]	136	176	184	312	184	312	640	720
Max. drive speed	[rpm]	7,000		6,500		6,500		6,500	
Torsional rigidity	[Nm/arcmin]	6		12		12		38	
Torsional backlash	[deg]	0.12		0.12		0.12		0.1	
Mass moment of inertia <sup>3)</sup>	[kgcm <sup>2</sup> ]	0.77	0.45	2.63	1.53	2.63	1.53	12.14	6.07
Max. efficiency	[%]	98							
Operating temperature <sup>4)</sup>	[°C]	-25 ... +90							
Protection class		IP54							
Product weight	[g]	2,100		6,000		6,000		18,000	

- 1) At the output shaft
- 2) The specifications refer to a drive shaft speed of 100 rpm as well as operating mode S1 and a temperature of 30 °C
- 3) In relation to the drive shaft
- 4) Note the temperature range of the motor

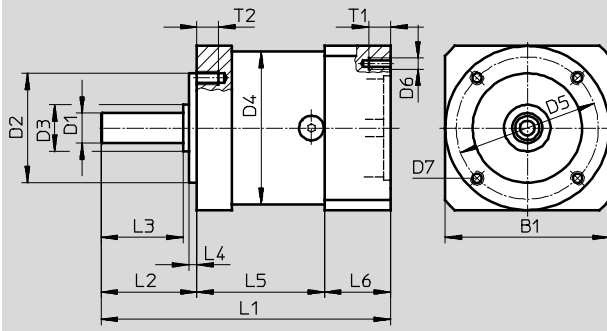
# Servo motors EMMS-AS

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## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	B1	D1 Ø h7	D2 Ø h7	D3 Ø	D4 Ø	D5 Ø	D6	D7
EMGA-40-P-G...-40	40	10	26	12	40	34	M3	M4
EMGA-60-P-G...-55	60	11	40	17	60	52	M5	M5
EMGA-60-P-G...-70	70	11	40	17	60	52	M5	M5
EMGA-80-P-G...-70	80	20	60	25	80	70	M5	M6
EMGA-80-P-G...-100	100	20	60	25	80	70	M8	M6
EMGA-120-P-G...-100	115	25	80	35	115	100	M8	M10
EMGA-120-P-G...-140	140	25	80	35	115	100	M10	M10
EMGA-160-P-G...-140	140	40	130	55	160	145	M10	M12

Type	L1	L2	L3 ±0.2	L4 ±0.2	L5	L6	T1	T2
EMGA-40-P-G...-40	88.5±1.5	26±0.6	12	2	39	23.5	6	6
EMGA-60-P-G...-55	106±1.5	35±0.8	30	3	47	24	12	8
EMGA-60-P-G...-70	106±1.5	35±0.8	30	3	47	24	12	8
EMGA-80-P-G...-70	133.5±1.5	40±0.8	36	3	60	33.5	12	10
EMGA-80-P-G...-100	143.5±1.5	40±0.8	36	3	60	43.5	16	10
EMGA-120-P-G...-100	176.5±2	55±0.8	50	4	74	47.5	20	16
EMGA-120-P-G...-140	186±2	55±0.8	50	4	74	57.5	25	16
EMGA-160-P-G...-140	255.5±2	87±0.8	80	5	104	64.5	25	20

## Ordering data

For motor flange size	Gear ratio	Part No.	Type
40	3	552186	EMGA-40-P-G3-SAS-40
	5	552187	EMGA-40-P-G5-SAS-40
55	3	552188	EMGA-60-P-G3-SAS-55
	5	552189	EMGA-60-P-G5-SAS-55
70	3	552190	EMGA-60-P-G3-SAS-70
	5	552191	EMGA-60-P-G5-SAS-70
	3	552192	EMGA-80-P-G3-SAS-70
	5	552193	EMGA-80-P-G5-SAS-70
100	3	552194	EMGA-80-P-G3-SAS-100
	5	552195	EMGA-80-P-G5-SAS-100
	3	552196	EMGA-120-P-G3-SAS-100
	5	552197	EMGA-120-P-G5-SAS-100
140	3	552198	EMGA-120-P-G3-SAS-140
	5	552199	EMGA-120-P-G5-SAS-140
	3	552200	EMGA-160-P-G3-SAS-140
	5	552201	EMGA-160-P-G5-SAS-140

# Servo motors EMMS-AS

Accessories

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Technical data – Cables		
Name	Motor cable	
For motor	EMMS-AS-40/55	EMMS-AS-70/100/140
Type	NEBM-T1G7-...	NEBM-M23G6-...
Cable composition	2x (2x 0.25 mm <sup>2</sup> ) (3 A; 48 V; 0.5 KV)	
	4x 0.75 mm <sup>2</sup> (1.2 A; 630 V; 4.0 KV)	
	Screened	
Degree of contamination	3	
Min. bending radius [mm]	55	64
Ambient temperature [°C]	-50 ... +90	-50 ... +90
Ambient temperature <sup>1)</sup> [°C]	-40 ... +90	-40 ... +90
Cable characteristics	Suitable for use with energy chains	
Protection class	IP65 (in assembled state)	
Material	Polyurethane	
CE marking (see declaration of conformity)	To EU Low Voltage Directive	

For motor	EMMS-AS-70	EMMS-AS-190
Type	NEBM-M23G8-...	NEBM-M40G8-...
Cable composition	4x 0.25 mm <sup>2</sup>	
	4x 1 mm <sup>2</sup>	
	Screened	
Degree of contamination	3	
Min. bending radius [mm]	70	140
Ambient temperature [°C]	-40 ... +80	-50 ... +90
Ambient temperature <sup>1)</sup> [°C]	-30 ... +80	-40 ... +90
Cable characteristics	Suitable for use with energy chains	
Protection class	IP65 (in assembled state)	
Material	Polyurethane	

Technical data – Encoder cables		
Name	Encoder cable	
For motor	EMMS-AS-40/55	EMMS-AS-70/100/140/190
Type	NEBM-T1G8-...	NEBM-M12W8-...
Cable composition	1x (4x 0.14 mm <sup>2</sup> ); (2 A; 30 V; 0.5 KV)	
	4x 0.34 mm <sup>2</sup> (3 A; 30 V; 0.5 KV)	
	Screened	
Degree of contamination	3	
Min. bending radius [mm]	75	75
Ambient temperature [°C]	-40 ... +80	-40 ... +80
Ambient temperature <sup>1)</sup> [°C]	-10 ... +80	-10 ... +80
Cable characteristics	Suitable for use with energy chains	
Protection class	IP65 (in assembled state)	
Material	Polyurethane	

Technical data – Resolver cables		
Name	Resolver cable	
For motor	EMMS-AS-40/55/70/100/140/190	
Type	NEBM-M23W12-...	
Cable composition	3x (2x 0.14 mm <sup>2</sup> )	
	2x 0.5 mm <sup>2</sup>	
	Screened	
Degree of contamination	3	
Min. bending radius [mm]	98	
Ambient temperature [°C]	-50 ... +80	
Ambient temperature <sup>1)</sup> [°C]	-40 ... +75	
Cable characteristics	Suitable for use with energy chains	
Protection class	IP65 (in assembled state)	
Material	Polyurethane	

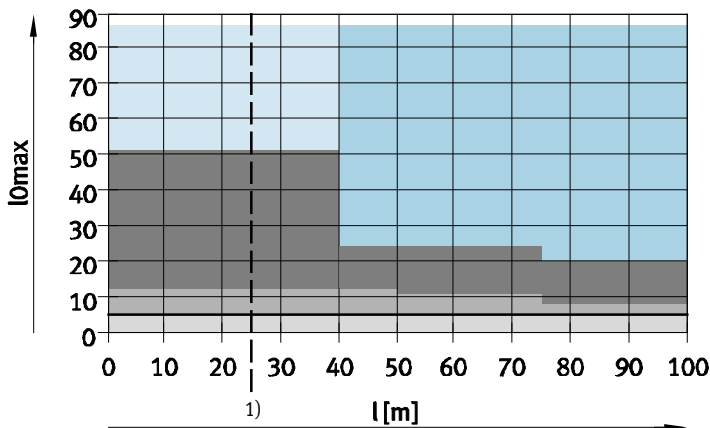
1) With flexible cable installation

# Servo motors EMMS-AS

Accessories

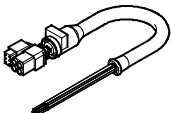
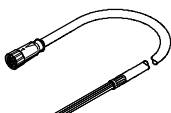
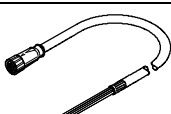
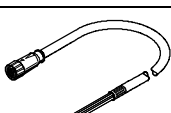
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Recommended cable cross section as a function of cable length  $l$  and max. motor current  $I_{0max}$



1) Cable lengths > 25 m possible following technical clarification; up to 100 m on request.

- No standard
- 2,5 mm<sup>2</sup>
- 1,5 mm<sup>2</sup>
- 1,0 mm<sup>2</sup>
- 0,75 mm<sup>2</sup>

Ordering data			
	Cable length [m]	Part No.	Type
<b>Motor cable</b>			
	For EMMS-AS-40/55 with encoder (cable cross section: 0.75 mm <sup>2</sup> )		
	5	550306	NEBM-T1G7-E-5-N-LE7
	10	550307	NEBM-T1G7-E-10-N-LE7
	15	550308	NEBM-T1G7-E-15-N-LE7
	X length <sup>1)</sup>	550309	NEBM-T1G7-E- -N-LE7
	For EMMS-AS-70 and EMMS-AS-40/55 with resolver (cable cross section: 1 mm <sup>2</sup> )		
	5	1732657	NEBM-M23G8-E-5-N-LE8
	10	1732658	NEBM-M23G8-E-10-N-LE8
	15	1732659	NEBM-M23G8-E-15-N-LE8
	X length <sup>1)</sup>	1732660	NEBM-M23G8-E- -N-LE8
	For EMMS-AS-70/100/140 (cable cross section: 1.5 mm <sup>2</sup> )		
	5	550310	NEBM-M23G6-E-5-N-LE7
	10	550311	NEBM-M23G6-E-10-N-LE7
	15	550312	NEBM-M23G6-E-15-N-LE7
	X length <sup>1)</sup>	550313	NEBM-M23G6-E- -N-LE7
	For EMMS-AS-190 (cable cross section: 2.5 mm <sup>2</sup> )		
	5	1750241	NEBM-M40G8-E-5-N-LE7
	10	1750242	NEBM-M40G8-E-10-N-LE7
	15	1750243	NEBM-M40G8-E-15-N-LE7
	X length <sup>1)</sup>	1750244	NEBM-M40G8-E- -N-LE7

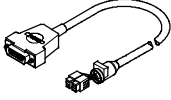
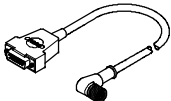
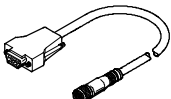
1) Max. 25 m. Cable lengths > 25 m possible following technical clarification; up to 100 m on request.  
Available in 0.1 m increments.



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Accessories

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Ordering data			
	Cable length [m]	Part No.	Type
<b>Encoder cable</b>			
	For EMMS-AS-40/55		
	5	550314	NEBM-T1G8-E-5-N-S1G15
	10	550315	NEBM-T1G8-E-10-N-S1G15
	15	550316	NEBM-T1G8-E-15-N-S1G15
	X length <sup>1)</sup>	550317	NEBM-T1G8-E- -N-S1G15
	For EMMS-AS-70/100/140/190		
	5	550318	NEBM-M12W8-E-5-N-S1G15
	10	550319	NEBM-M12W8-E-10-N-S1G15
	15	550320	NEBM-M12W8-E-15-N-S1G15
	X length <sup>1)</sup>	550321	NEBM-M12W8-E- -N-S1G15
<b>Resolver cable</b>			
	For EMMS-AS-40/55/70/100/140/190		
	5	1732653	NEBM-M23G12-E-5-N-S1G9
	10	1732654	NEBM-M23G12-E-10-N-S1G9
	15	1732655	NEBM-M23G12-E-15-N-S1G9
	X length <sup>1)</sup>	1732656	NEBM-M23G12-E- -N-S1G9

1) Max. 25 m. Cable lengths > 25 m possible following technical clarification; up to 100 m on request.  
Available in 0.1 m increments.