

## 1.2 Order designation

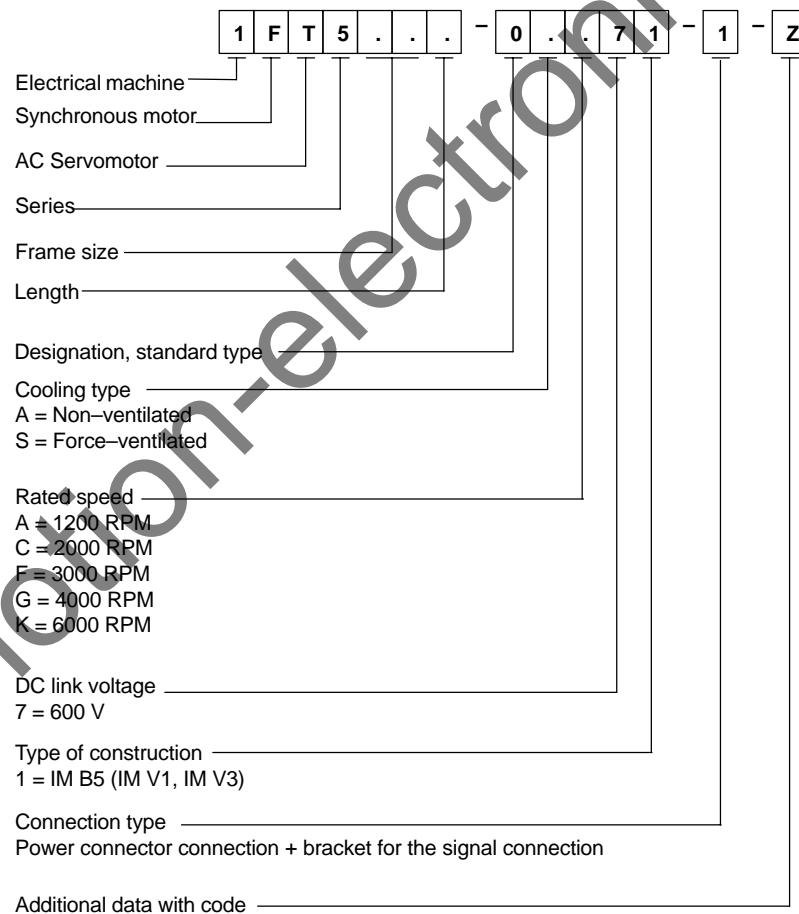
## 1.2 Order designation

## Structure of the order designation

The order designation comprises a combination of digits and letters. It is subdivided into four hyphenated blocks.

The first block has seven positions and designates the machine type. Additional features are coded in the second block. The third and fourth blocks are provided for additional data.

## 1.2.1 Order designation, standard types



## Supplementary data for standard types and options

Plain text data	Brief designation
Degree of protection IP 67 (not for force-ventilated motors) <sup>7)</sup> IP 68 (not for force-ventilated motors) <sup>7)</sup>	<b>K93</b> M24
Second rating plate (this is standard for core types)	<b>K31</b>
Connector outlet direction <sup>1)</sup> Cable entry from the drive end	<b>K83</b> <sup>4) 7) 11)</sup>
Cable entry from the non-drive end	<b>K84</b> <sup>4) 7)</sup>
rotated through 180° (with respect to the Standard)	<b>K85</b> <sup>7)</sup>
Radial shaft sealing acc. to DIN 3760	<b>K18</b>
Shaft end: Smooth shaft	<b>K42</b>
Vibration severity (ISO 2373) Severity R (reduced) 600 to 1800 RPM ≤ 0.71 mm/s >1800 to 3600 RPM ≤ 1.12 mm/s	<b>K01</b>
Shaft and flange precision, tolerance R acc. to DIN 42955	<b>K04</b>
Motor with mounted pulse encoder <sup>9)</sup> 5000 pulses/revolutions <sup>7)</sup> 2500 pulses/revolutions <sup>7)</sup> 2000 pulses/revolutions <sup>7)</sup> 1000 pulses/revolutions <sup>7)</sup>	<b>H28</b> <b>H27</b> <b>H26</b> <b>H22</b>
The motor is prepared for mounting an encoder (incremental or absolute) with synchronous flange <sup>2) 7) 11)</sup>	<b>G51</b>
Motor with mounted ROD 320 pulse encoder <sup>3) 6)</sup> 5000 pulses/revolutions <sup>7)</sup> 2500 pulses/revolutions <sup>7)</sup> 2000 pulses/revolutions <sup>7)</sup> 1250 pulses/revolutions <sup>7)</sup>	<b>H04</b> <b>G44</b> <b>G42</b> <b>H01</b>
Holding brake (integrated) <sup>8)</sup>	<b>G45</b>
Motor with mounted planetary gear <sup>10) 11)</sup>	<b>V□□</b>
Working brake; mounted <sup>4) 11)</sup>	<b>C00</b>
Prepared with a retrofit kit for mounting an encoder (G51) with mounting instructions <sup>5)</sup>	EWN: 519.4033804: 1FT5034 to 1FT5036 519.4033803: 1FT5042 to 1FT5046 519.4033801: 1FT5062 to 1FT5066 519.4033802: 1FT5072 to 1FT5108

- 1) Standard version corresponding to the dimension drawings
- 2) For 1FT503□, 1FT504□ absolute value encoder mounting, only on request; not for force-ventilated motors
- 3) For 1FT503□, 1FT504□ not possible; not for force-ventilated motors
- 4) For 1FT503□, 1FT504□ and 1FT506□ not possible
- 5) Only available ex-stock up to 2 motors per motor version
- 6) Limiting frequency: 300 kHz; motors may only be designed for a winding temperature rise  $\Delta T=60$  K. Cannot be combined with an axial connector outlet at the non-drive end.
- 7) Options mutually exclude one another
- 8) For motors with brake, axial forces are not permissible in operation
- 9) Pulse encoder with axial cable outlet
- 10) Only vibration severity stage N can be guaranteed for the motor and gearbox unit
- 11) Not possible for short motors

## 2.1 Speed–torque diagrams

Table 2-10 Standard 1FT5074 motor

1FT5074						
Technical data	Code	Units	–□AC71	–□AF71	–□AG71	–□AK71
<b>Engineering data</b>						
Rated speed	$n_N$	RPM	2000	3000	4000	6000
Rated torque (100 K)	$M_N$ (100 K)	Nm	14.0	12.5	11.0	7.0
Rated current	$I_N$	A	9.3	13.0	14.0	14.1
Standstill torque (60 K)	$M_0$ (60 K)	Nm	14.0	14.0	14.0	14.0
Standstill torque (100 K)	$M_0$ (100 K)	Nm	18.0	18.0	18.0	18.0
Standstill current (60 K)	$I_0$ (60 K)	A	8.5	13.0	16.5	25.0
Standstill current (100 K)	$I_0$ (100 K)	A	11.0	17.0	21.5	32.0
Moment of inertia (with brake)	$J_{mot}$	$10^{-4}$ kgm <sup>2</sup>	44.2	44.2	44.2	44.2
Moment of inertia (without brake)	$J_{mot}$	$10^{-4}$ kgm <sup>2</sup>	36.7	36.7	36.7	36.7
<b>Limiting data</b>						
Maximum speed	$n_{max}$	RPM	3200	4900	6200	7000
Maximum torque	$M_{max}$	Nm	56	56	56	56
Max. current	$I_{max}$	A	45.0	67.0	90.0	104.0
Limiting torque	$M_{limit}$	Nm	24.0	24.5	24.5	22.5
<b>Physical constants</b>						
Torque constant	$k_T$	Nm/A	1.64	1.08	0.85	0.57
Voltage constant	$k_E$	V/1000 RPM	186	122	96	65
Winding resistance	$R_{ph.}$	Ohm	1.2	0.52	0.33	0.14
Rotating field inductance	$L_D$	mH	13.2	5.6	3.6	1.5
Electrical time constant	$T_{el}$	ms	11	11	11	11
Mechanical time constant	$T_{mech}$	ms	3.3	3.3	3.3	3.3
Thermal time constant	$T_{th}$	min	40	40	40	40
Weight (with brake)	$m$	kg	18.5	18.5	18.5	18.5
Weight (without brake)	$m$	kg	17.2	17.2	17.2	17.2

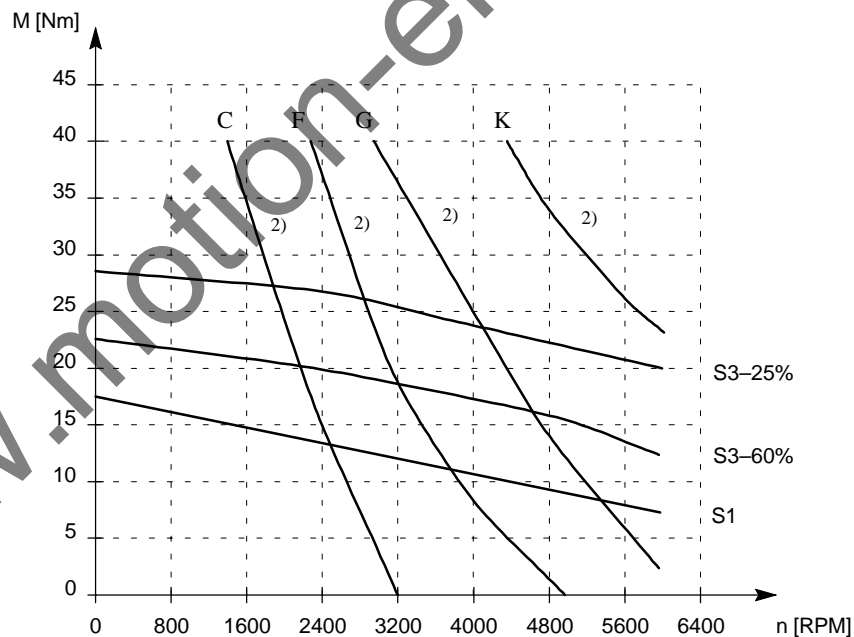


Fig. 2-10 Speed–torque diagram, 1FT5074

2) applies for a 600 V DC link voltage

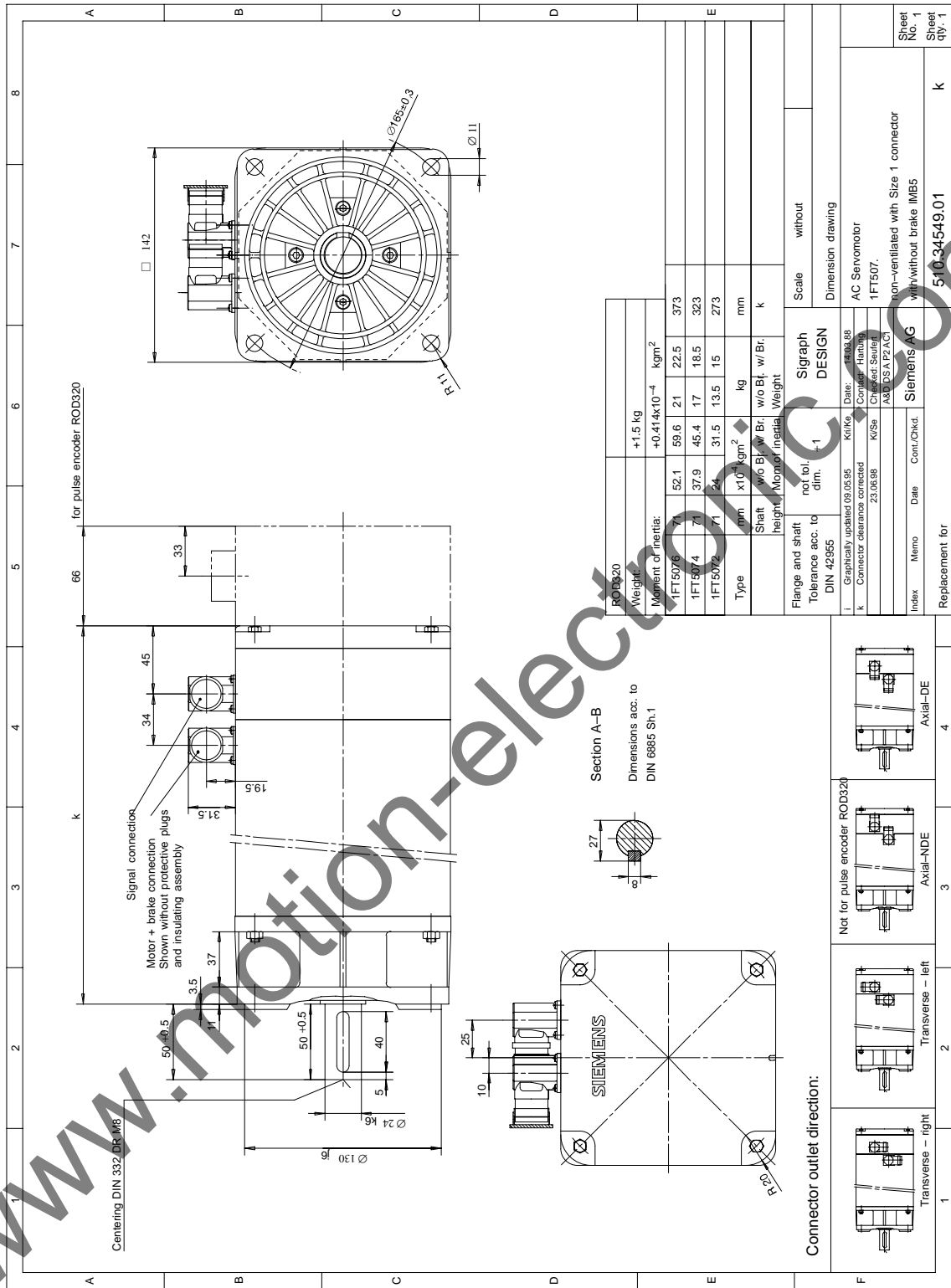


Fig. 4-4 1FT507□ non-ventilated with Size 1 connector

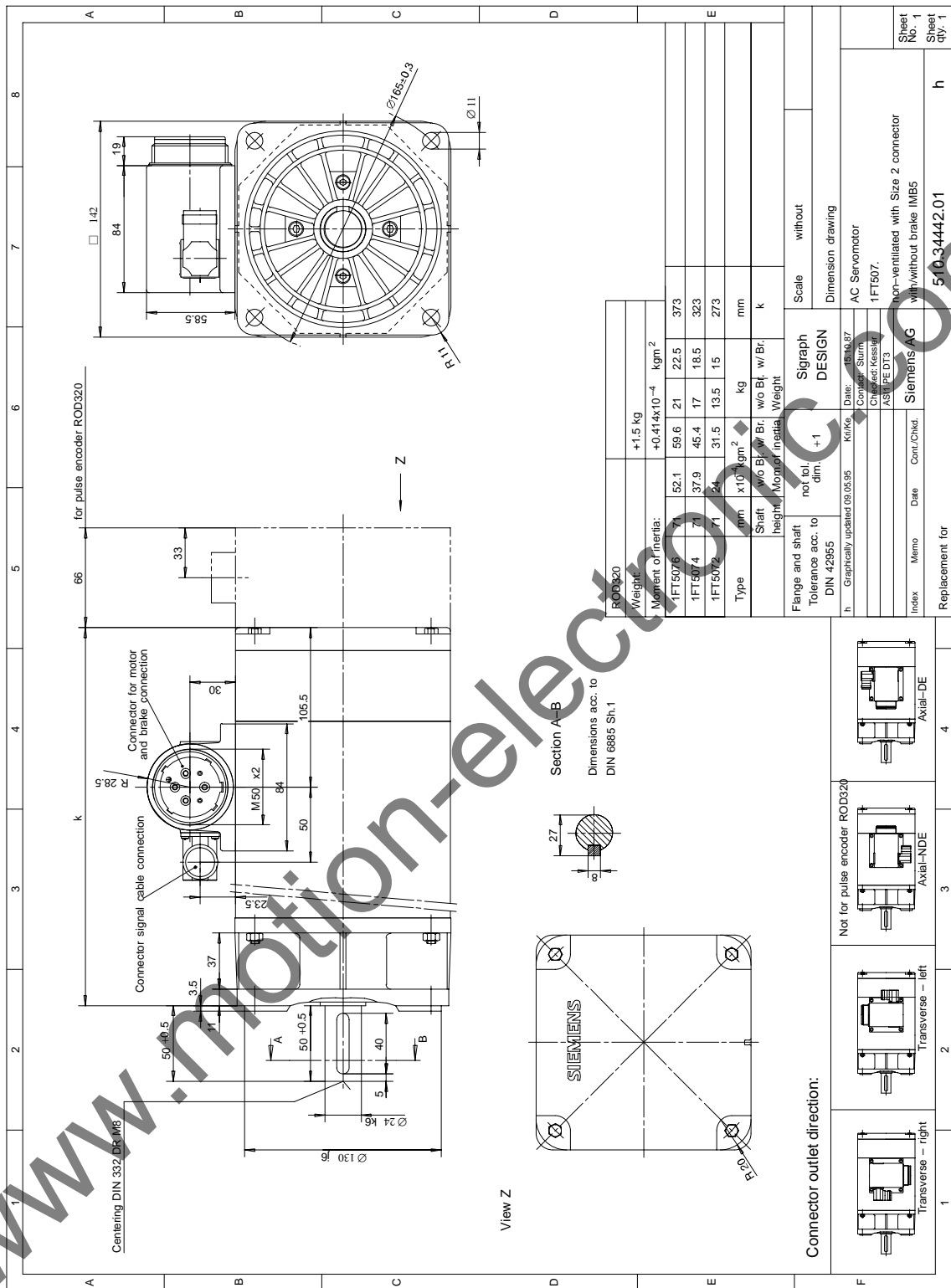


Fig. 4-5 1FT507□ non-ventilated with Size 2 connector