

## Feed motors

### SIMOTICS S geared motors for SINAMICS S120

#### Planetary gearbox series NP for SIMOTICS S-1FK7

#### Selection and ordering data

Motor Type	Planetary gearbox NP 1-stage Torsional backlash ≤ 10 arcmin		Available gear ratio $i =$		Input speed, max. S3-60% $n_{G1}$ rpm	Output torque, max. S3-60% $M_{G2}$ at $i = 5$ Nm (lb <sub>r</sub> -ft)		Output shaft radial force, max. <sup>1)</sup> $F_r$ N (lb <sub>r</sub> )	Gearbox moment of inertia $J_G$ at $i = 5$ $10^{-4}$ kgm <sup>2</sup> ( $10^{-3}$ lb <sub>r</sub> -in-s <sup>2</sup> )	Gearbox moment of inertia $J_G$ at $i = 10$ $10^{-4}$ kgm <sup>2</sup> ( $10^{-3}$ lb <sub>r</sub> -in-s <sup>2</sup> )
	Type	Gearbox weight, approx. kg (lb)	5	10		$M_{G2}$ at $i = 10$ Nm (lb <sub>r</sub> -ft)				
1FK7022	NP 005	0.7 (1.5)	✓	–	10000	14 (10.3)	–	800 (180)	0.03 (0.03)	–
1FK7022	NP 015	1.9 (4.2)	–	✓	8000	40 (29.5)	35 (25.8)	1700 (382)	–	0.13 (0.12)
1FK7032			✓	✓						
1FK7033			✓	✓						
1FK7034			✓	✓						
1FK7040	NP 025	3.8 (8.4)	✓	✓	7000	100 (73.8)	90 (66.4)	2800 (629)	0.61 (0.54)	0.49 (0.43)
1FK7042			✓	✓						
1FK7043			✓	✓						
1FK7044			✓	✓						
1FK7060	NP 035	9.4 (20.7)	✓	✓	6000	250 (184)	220 (162)	5000 (1124)	2.2 (1.9)	1.7 (1.5)
1FK7061			✓	✓						
1FK7062			✓	✓						
1FK7063			✓	✓						
1FK7064			✓	–						
1FK7080	NP 045	19 (41.9)	✓	✓	4000	500 (369)	400 (295)	8000 (1798)	8.8 (7.8)	7.2 (6.4)
1FK7081			✓	✓						
1FK7083			✓	✓						
1FK7084			✓	✓						
1FK7085			✓	✓						
1FK7086			✓	✓						
1FK7100			✓	✓						
1FK7101			✓	–						
1FK7103			✓	–						
1FK7105			✓	–						
			✓	–						
<b>Gear shaft</b> With feather key			Order code <b>V40</b> <b>V42</b>							

#### Requirements:

NP planetary gearboxes can be mounted on the following motor versions:

- Plain motor shaft extension, shaft and flange accuracy tolerance N, without/with holding brake
- IP64 degree of protection and paint finish

NP planetary gearboxes can therefore only be ordered with these motors:

**1FK7 . . . -2 A . 7 . -1 . 0** Compact  
**1FK7 . . . -3 B . 7 . -1 . 0** High Inertia  
**1FK7 . . . -4 C . 7 . -1 . 0** High Dynamic  
**G** without brake  
**H** with brake

or

**1FK7 02 . -5 A . 7 . -1 . G 3**  
**1FK7 02 . -5 A . 7 . -1 . H 3**

When ordering a motor with gearbox, **-Z** must be added to the Article No.

#### Example:

1FK7042 motor with holding brake  
with single-stage NP planetary gearbox  
with  $i = 5$  and gear shaft with feather key  
**1FK7042-3BK74-1AH0-Z**

**V40**

#### Continuous duty

Continuous duty is permissible at rated speed and rated torque. The gearbox temperature must not exceed 90 °C (194 °F).

Planetary gearbox NP 1-stage Torsional backlash ≤ 10 arcmin	Rated input speed	Rated output torque	
Type	$n_{G1}$ rpm	$M_{G2}$ at $i = 5$ Nm (lb <sub>r</sub> -ft)	$M_{G2}$ at $i = 10$ Nm (lb <sub>r</sub> -ft)
NP 005	4000	6.5 (4.8)	–
NP 015	3700	21 (15.5)	19 (14.0)
NP 025	3400	50 (36.9)	45 (33.2)
NP 035	2600	125 (92.2)	110 (81.1)
NP 045	2000	350 (258)	200 (148)

✓ Possible

– Not possible

<sup>1)</sup> Referred to output shaft center at 100 rpm.