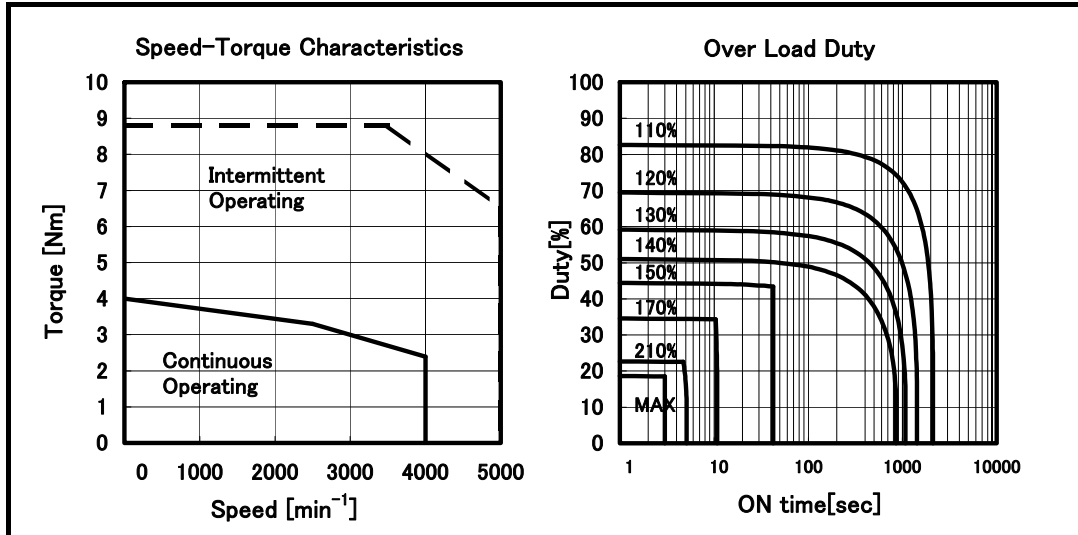


Model $\alpha i S 4/5000$

Specification A06B-0215-B□□□



Data sheet

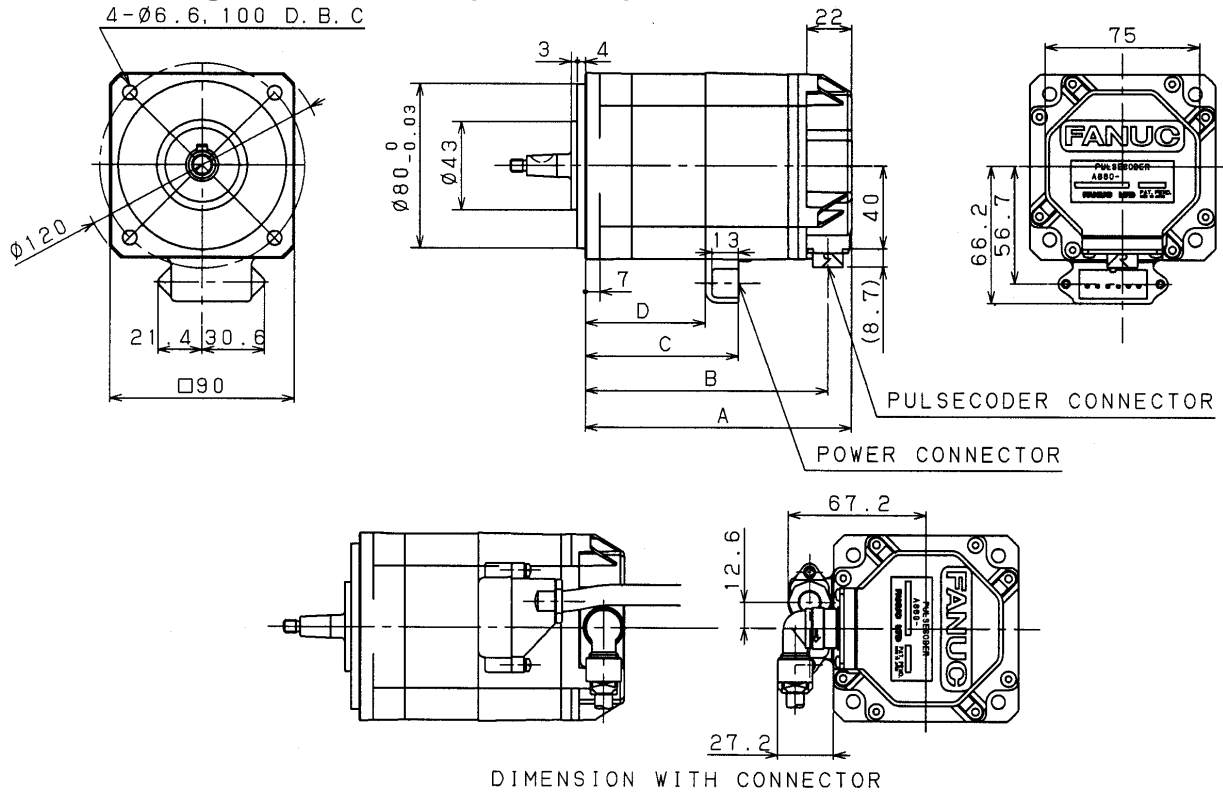
Parameter	Symbol	Value		Unit
Stall Torque (*)	Ts	4.0		Nm
		41		kgfcm
Stall Current (*)	Is	6.1		A (rms)
Rated Output (*)	Pr	1.0		kW
		1.3		HP
Rating Speed	Nr	4000		min^{-1}
Maximum Speed	Nmax	5000		min^{-1}
Maximum Torque (*)	Tmax	8.8		Nm
		90		kgfcm
Rotor Inertia	Jm	0.000515		kgm^2
		0.00526		kgfcm ²
Rotor Inertia (with Brake)	Jm	0.000535		kgm^2
		0.00546		kgfcm ²
Torque constant (*)	Kt	0.66		Nm/A (rms)
		6.7		kgfcm/A (rms)
Back EMF constant (1 phase) (*)	Ke	23		V (rms)/1000 min^{-1}
		0.22		V (rms)sec/rad
Armature Resistance (1 phase) (*)	Ra	0.61		Ω
Mechanical time constant	tm	0.002		s
Thermal time constant	tt	20		min
Static friction	Tf	0.2		Nm
		2		kgfcm
Weight	w	4.3		kg
Weight (with Brake)	w	5.3		kg
Max. Current of Servo Amp.	Imax	20		A (peak)

(*) The values are the standard values at 20°C and the tolerance is $\pm 10\%$.
 The speed-torque characteristics vary depending on the type of software, parameter setting, and input voltage of the digital servo software. (The above figures show average values.)

7.1 MODELS *aiS* 2 to *aiS* 4, *aiS* 2HV to *aiS* 4HV, AND *aiF* 1 to *aiF* 2

7.1.1 Outline Drawing of the Motors

Outline drawing of the motors (standard)



MODEL	A	B	C	D
<i>aiS</i> 2, <i>aiS</i> 2HV, <i>aiF</i> 1	130	119	75	59
<i>aiS</i> 4, <i>aiS</i> 4HV, <i>aiF</i> 2	166	155	111	95

7.1.2 Shaft Shape

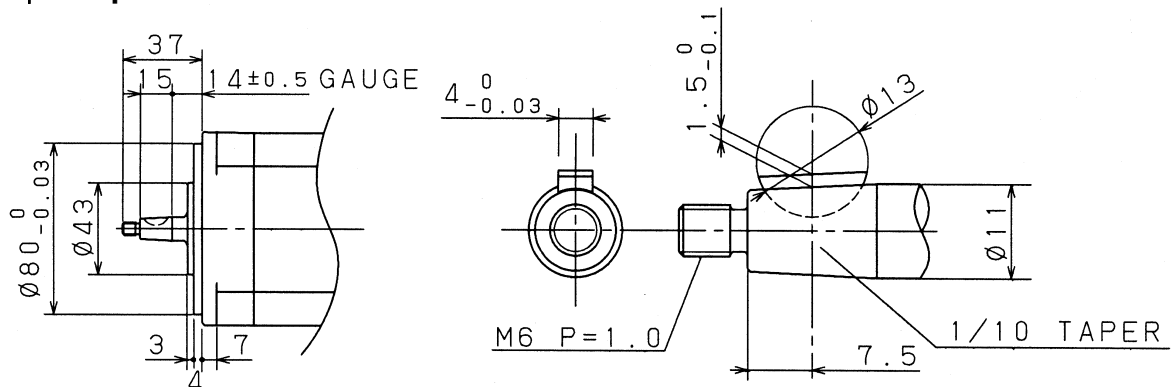
Shaft shape types

The shafts of the motors have the following shapes:

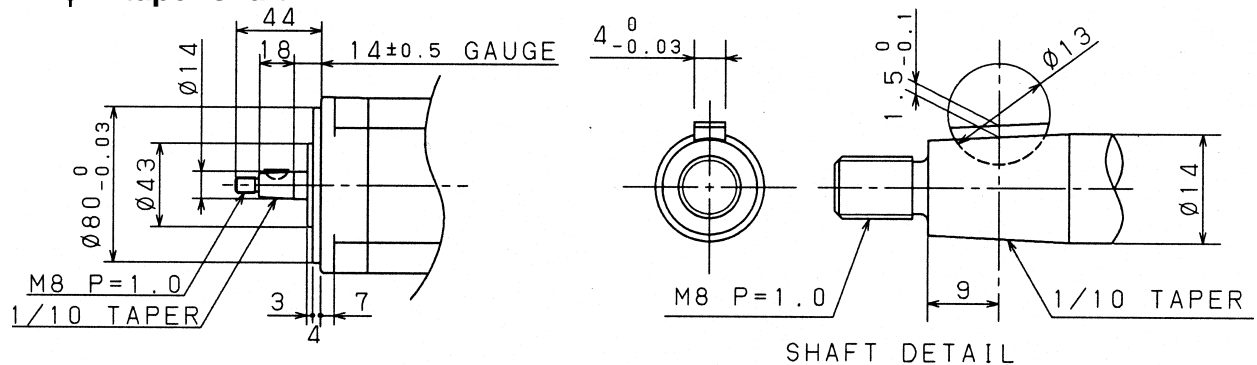
	Taper shaft	Straight shaft	Straight shaft with key way
<i>αiS</i> 2/5000	φ 11	φ 10	φ 10
<i>αiS</i> 2/6000	φ 11	φ 10	φ 10
<i>αiS</i> 4/5000	φ 14	φ 14	φ 14
<i>αiS</i> 4/6000	φ 14	φ 14	φ 14
<i>αiS</i> 2/5000 HV	φ 11	φ 10	φ 10
<i>αiS</i> 2/6000 HV	φ 11	φ 10	φ 10
<i>αiS</i> 4/5000 HV	φ 14	φ 14	φ 14
<i>αiS</i> 4/6000 HV	φ 14	φ 14	φ 14
<i>αiF</i> /5000	φ 11	φ 10	φ 10
<i>αiF</i> 2/5000	φ 11	φ 10	φ 10

Shaft details

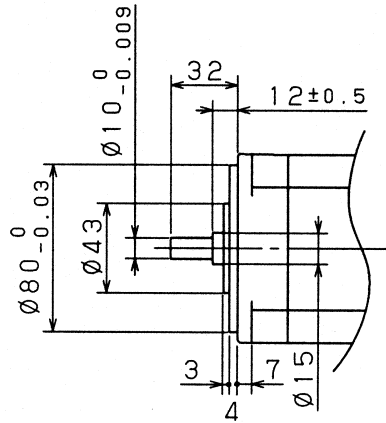
- φ11 taper shaft



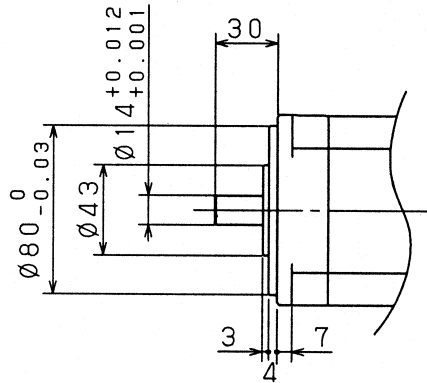
- φ14 taper shaft



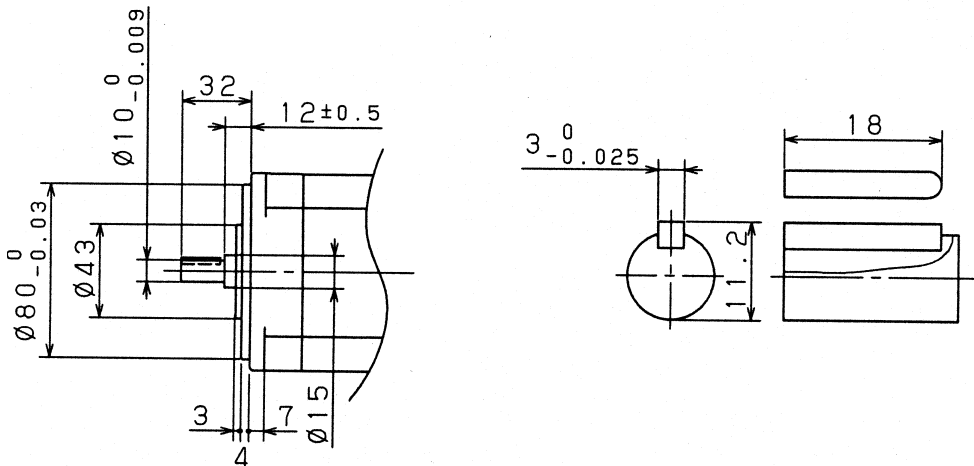
- $\phi 10$ straight shaft



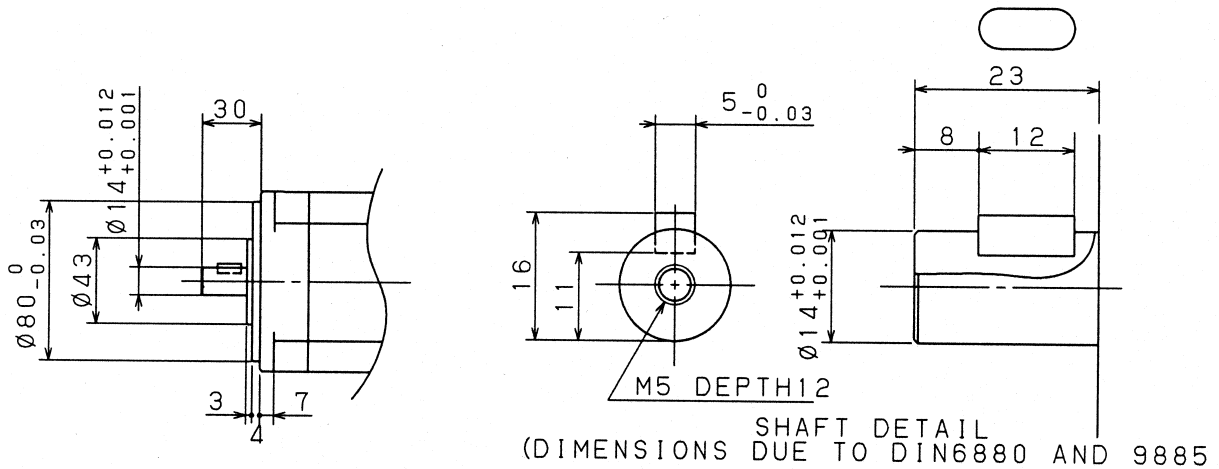
- $\phi 14$ straight shaft



- $\phi 10$ straight shaft with key way



- $\phi 14$ straight shaft with key way



7.1.3 Allowable Axis Load

The allowable axis load is indicated below.
For details of the allowable axis load, see Chapter 3, "USAGE".

Radial load	Axial load	(Reference) Front bearing specification
245[N] (25 [kgf])	78[N] (8 [kgf])	6003

7.1.4 Shaft Run-out Precision

The shaft run-out precision is indicated below.
For details of the shaft run-out precision, see Chapter 3, "USAGE".

Shaft dia. run-out	Faucet joint run-out	Mounting face run-out
0.02mm or less	0.04mm or less	0.05mm or less

7.1.5 Power and Brake Connector

Manufacture: Tyco Electronics AMP
Manufacturer specification: 1473060-2

The power and brake connector has a dripproof property when engaged with the connector on the cable side.

The following shows the shape and pin layout of the power connector.

