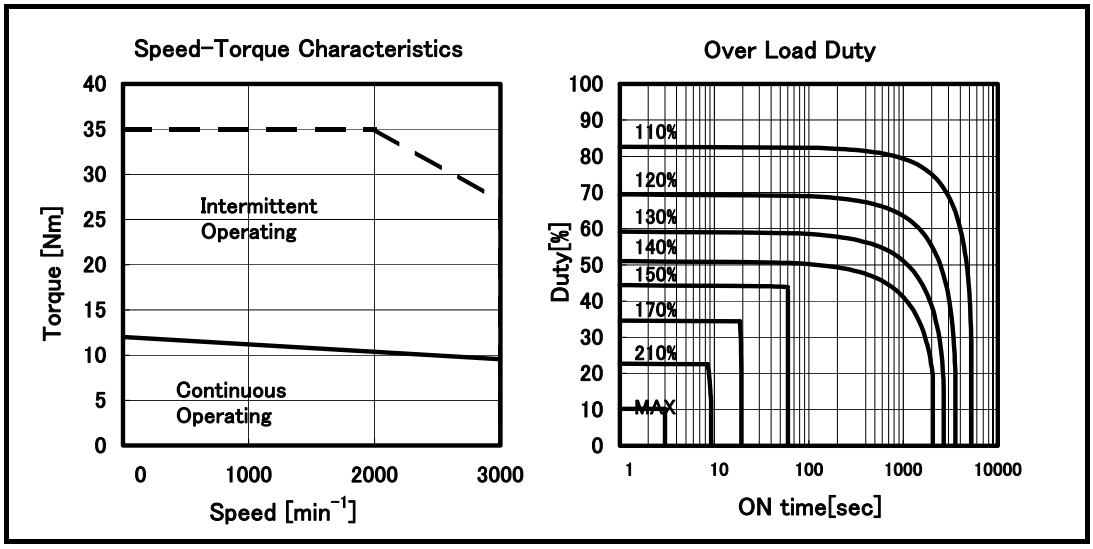
Model αi F 12/3000 Specification A06B-0243-B□0□



Data sheet

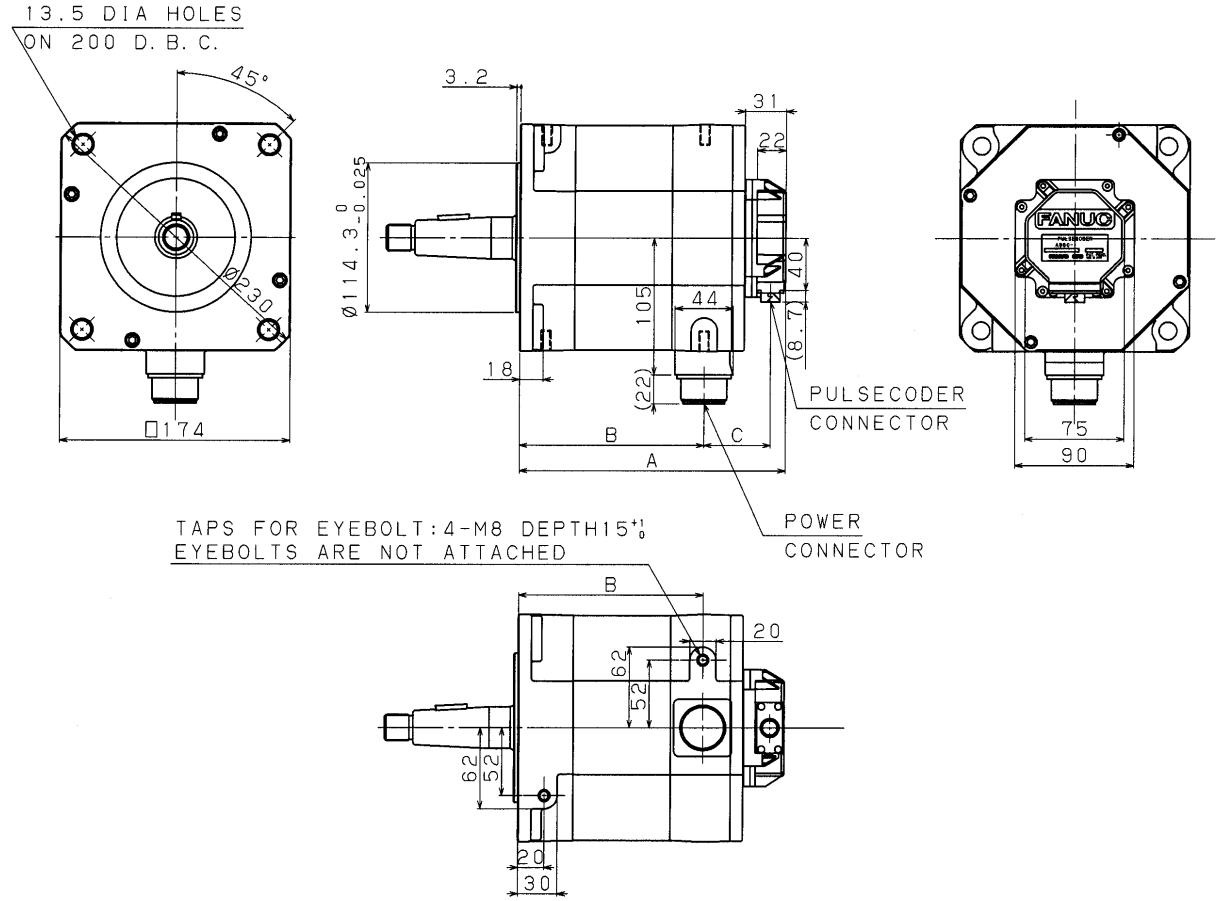
Parameter	Symbol	Value			Unit
Stall Torque (*)	Ts	12 122			Nm kgfcm
Stall Current (*)	Is	18.1			A (rms)
Rated Output (*)	Pr	3.0 4.0			kW HP
Rating Speed	Nr	3000			min^{-1}
Maximum Speed	Nmax	3000			min^{-1}
Maximum Torque (*)	Tmax	35 357			Nm kgfcm
Rotor Inertia	Jm	0.00620 0.0633			kgm^2 $kgfcms^2$
Rotor Inertia (with Brake)	Jm	0.00680 0.0694			kgm^2 $kgfcms^2$
Torque constant (*)	Kt	0.66 6.8			Nm/A (rms) kgfcm/A (rms)
Back EMF constant (1phase) (*)	Ke Kv	23 0.22			V (rms)/1000 min^{-1} V (rms)sec/rad
Armature Resistance (1 phase) (*)	Ra	0.16			Ω
Mechanical time constant	tm	0.007			s
Thermal time constant	tt	50			min
Static friction	Tf	0.8 8			Nm kgfcm
Weight	w	18			kg
Weight (with Brake)	w	24			kg
Max. Current of Servo Amp.	Imax	80			A (peak)

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

7.3 MODELS αiS 22 to αiS 60 with FAN, αiS 22HV to αiS 60HV with FAN, αiF 12 to αiF 40 with FAN, αiF 12HV to αiF 22HV

7.3.1 Outline Drawing of the Motors

Outline drawing of the motors (standard)



MODEL	A	B	C
αiS 22, αiS 22 HV αiF 12, αiF 12 HV	202	141	50
αiS 30, αiS 30 HV	239	178	
αiS 40, αiS 40 HV αiF 22, αiF 22 HV	276	215	
αiS 50, αiS 50 HV αiF 30	350	289	
αiS 60, αiS 60 HV αiF 40	424	363	

7.3.2 Shaft Shape

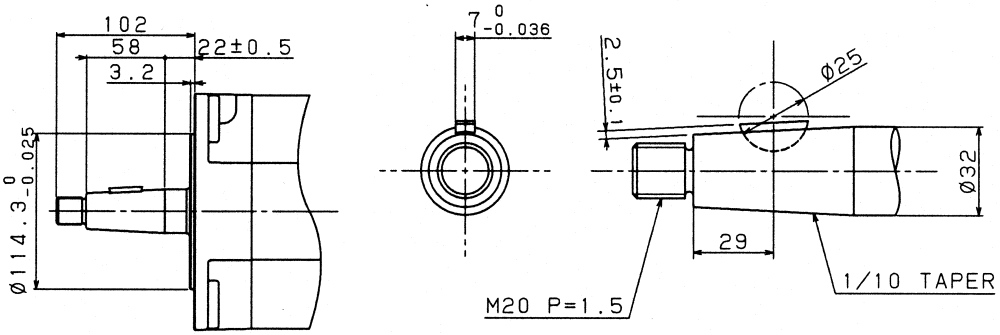
Shaft shape types

The shafts of the motors have the following shapes:

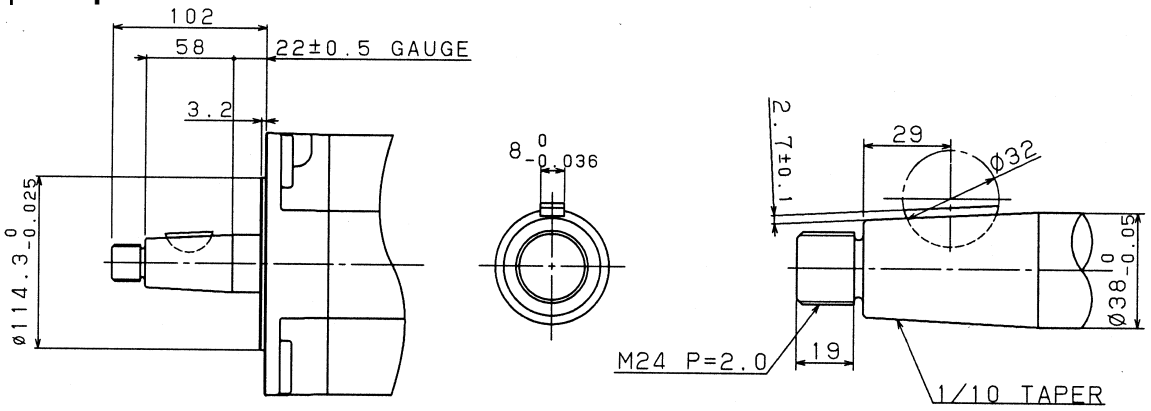
	Taper shaft	Straight shaft	Straight shaft with key way
α*i*S 22/4000	φ32	φ35	φ35
α*i*S 22/6000	φ32	φ35	φ35
α*i*S 30/4000	φ32	φ35	φ35
α*i*S 40/4000	φ32	φ35	φ35
α*i*S 50/2000	φ38	φ35	—
α*i*S 60/2000	φ38	φ35	—
α*i*S 50/3000 with fan	φ38	φ35	—
α*i*S 60/3000 with fan	φ38	φ35	—
α*i*S 22/4000 HV	φ32	φ35	φ35
α*i*S 22/6000 HV	φ32	φ35	φ35
α*i*S 30/4000 HV	φ32	φ35	φ35
α*i*S 40/4000 HV	φ32	φ35	φ35
α*i*S 50/2000 HV	φ38	φ35	—
α*i*S 60/2000 HV	φ38	φ35	—
α*i*S 50/3000 HV with fan	φ38	φ35	—
α*i*S 60/3000 HV with fan	φ38	φ35	—
α*i*F 12/3000	φ32	φ35	φ35
α*i*F 22/3000	φ32	φ35	φ35
α*i*F 30/3000	φ32	φ35	φ35
α*i*F 40/3000 α*i*F 40/3000 with fan	φ38	φ35	φ35
α*i*F 12/3000 HV	φ32	φ35	φ35
α*i*F 22/3000 HV	φ32	φ35	φ35

Shaft details

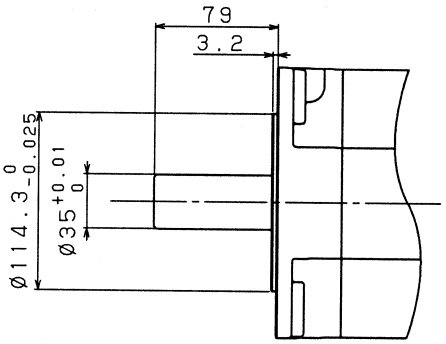
- **φ32 taper shaft**



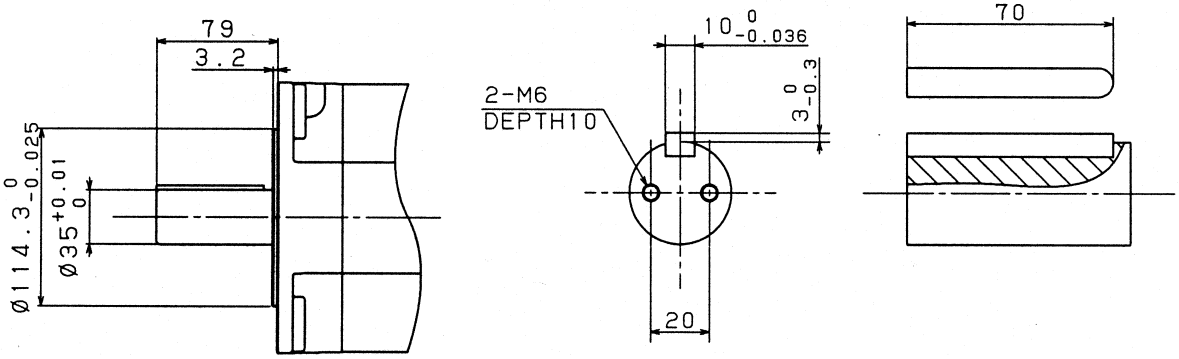
- **ϕ38 taper shaft**



- **ϕ35 straight shaft**



- **ϕ35 straight shaft with key way**



7.3.3 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
1960[N] (200 [kgf])	588[N] (60 [kgf])	6208