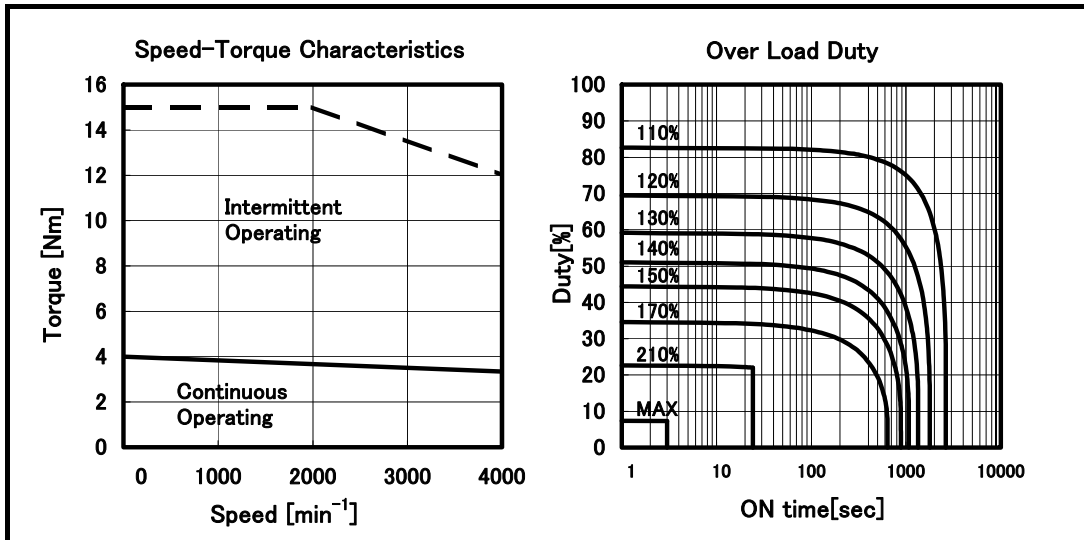


Model αi F 4/4000

Specification A06B-0223-B□□□



Data sheet

Parameter	Symbol	Value		Unit
Stall Torque (*)	Ts	4.0		Nm
		41		kgfcm
Stall Current (*)	Is	7.7		A (rms)
Rated Output (*)	Pr	1.4		kW
		1.9		HP
Rating Speed	Nr	4000		min ⁻¹
Maximum Speed	Nmax	4000		min ⁻¹
Maximum Torque (*)	Tmax	15		Nm
		153		kgfcm
Rotor Inertia	Jm	0.00135		kgm ²
		0.0138		kgfcm ²
Rotor Inertia (with Brake)	Jm	0.00142		kgm ²
		0.0145		kgfcm ²
Torque constant (*)	Kt	0.52		Nm/A (rms)
		5.3		kgfcm/A (rms)
Back EMF constant (1 phase) (*)	Ke	18		V (rms)/1000 min ⁻¹
		Kv	0.17	
Armature Resistance (1 phase) (*)	Ra	0.40		Ω
Mechanical time constant	tm	0.006		s
Thermal time constant	tt	25		min
Static friction	Tf	0.3		Nm
		3		kgfcm
Weight	w	7.5		kg
Weight (with Brake)	w	9.7		kg
Max. Current of Servo Amp.	Imax	40		A (peak)

(*) The values are the standard values at 20°C and the tolerance is ±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.)

NOTE

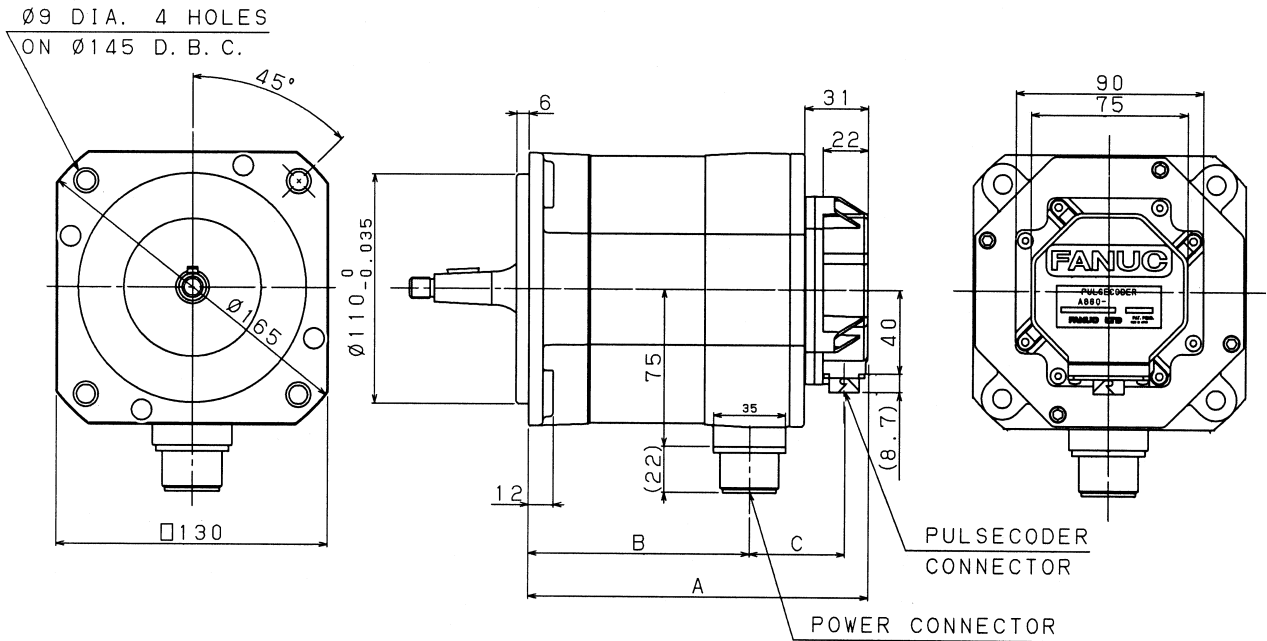
No surge absorber for brake is contained in the motor.
 Prepare a surge absorber in the power magnetics cabinet.

For the specifications, shape, and pin layout of the pulsecoder connector, see Section 8.1, "PULSECODER".

7.2 MODELS αiS 8 to αiS 12, αiS 8HV to αiS 12HV, αiF 4 to αiF 8, αiF 4HV to αiF 8HV

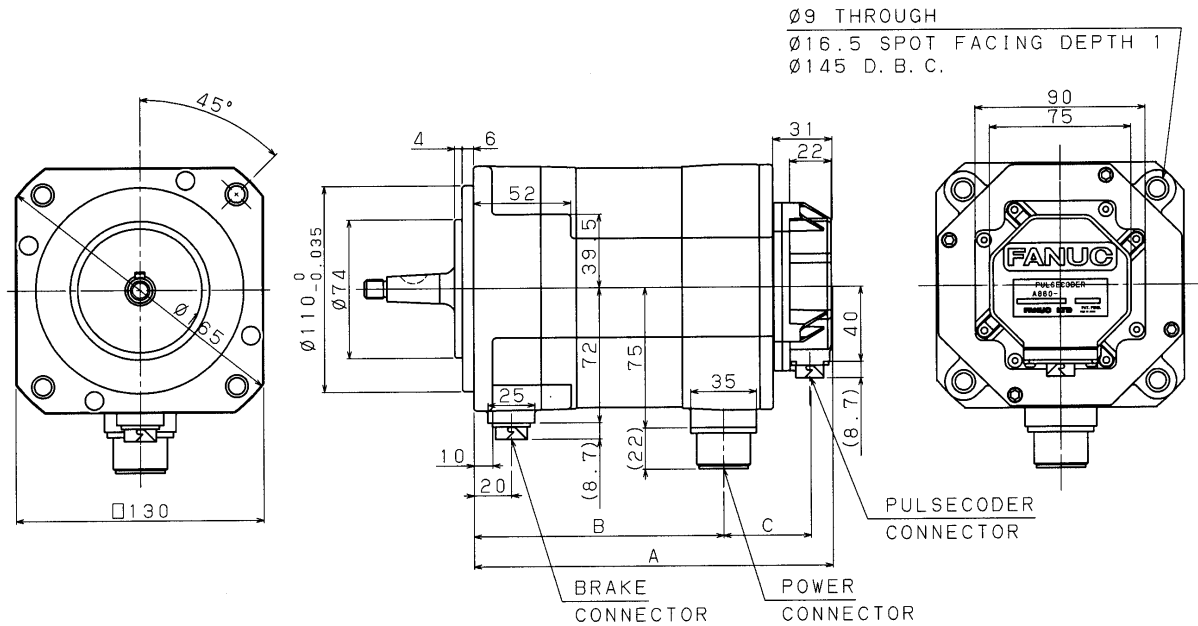
7.2.1 Outline Drawing of the Motors

Outline drawing of the motors (standard)



MODEL	A	B	C
αiS 8, αiS 8 HV, αiF 4, αiF 4HV	166	108	47
αiS 12, αiS 12 HV αiF 8, αiF 8 HV	222	164	

Outline drawing of the motors (with a brake)



MODEL	A	B	C
<i>aiS</i> 8, <i>aiS</i> 8 HV, <i>aiF</i> 4, <i>aiF</i> 4HV	191	133	47
<i>aiS</i> 12, <i>aiS</i> 12 HV <i>aiF</i> 8, <i>aiF</i> 8 HV	247	189	

7.2.2 Shaft Shape

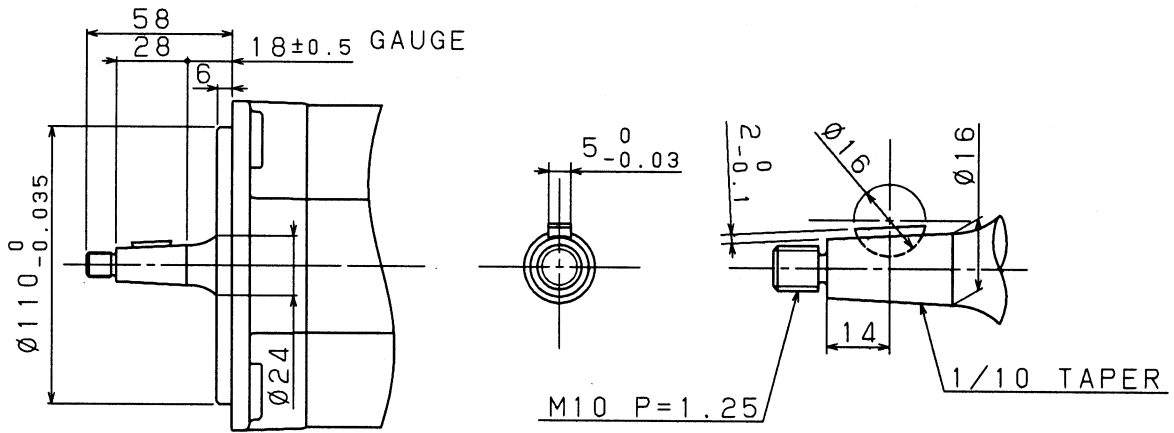
Shaft shape types

The shafts of the motors have the following shapes:

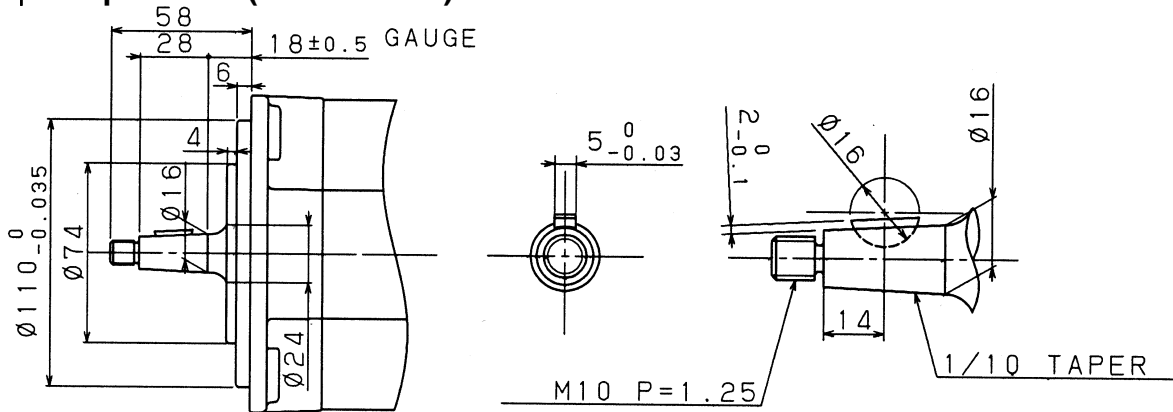
	Taper shaft	Straight shaft	Straight shaft with key way
<i>aiS</i> 8/4000	$\phi 16$	$\phi 19$	$\phi 19$
<i>aiS</i> 8/6000	$\phi 16$	$\phi 19$	$\phi 19$
<i>aiS</i> 12/4000	$\phi 16$	$\phi 24$	$\phi 24$
<i>aiS</i> 12/6000	$\phi 16$	$\phi 24$	$\phi 24$
<i>aiS</i> 8/4000 HV	$\phi 16$	$\phi 19$	$\phi 19$
<i>aiS</i> 8/6000 HV	$\phi 16$	$\phi 19$	$\phi 19$
<i>aiS</i> 12/4000 HV	$\phi 16$	$\phi 24$	$\phi 24$
<i>aiS</i> 12/6000 HV	$\phi 16$	$\phi 24$	$\phi 24$
<i>aiF</i> 4/4000	$\phi 16$	$\phi 19$	$\phi 19$
<i>aiF</i> 8/3000	$\phi 16$	$\phi 19$	$\phi 19$
<i>aiF</i> 4/4000 HV	$\phi 16$	$\phi 19$	$\phi 19$
<i>aiF</i> 8/3000 HV	$\phi 16$	$\phi 19$	$\phi 19$

Shaft details

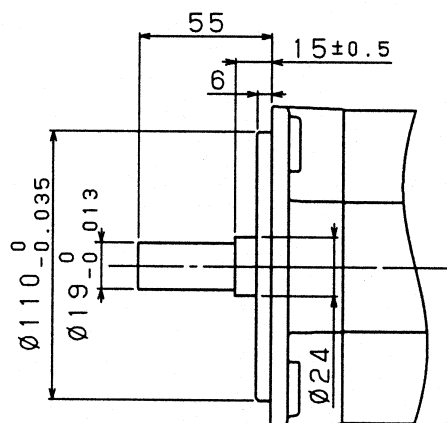
- **φ16 taper shaft (standard)**



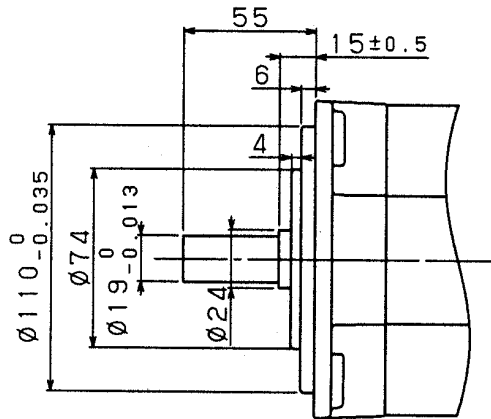
- **φ16 taper shaft (with a brake)**



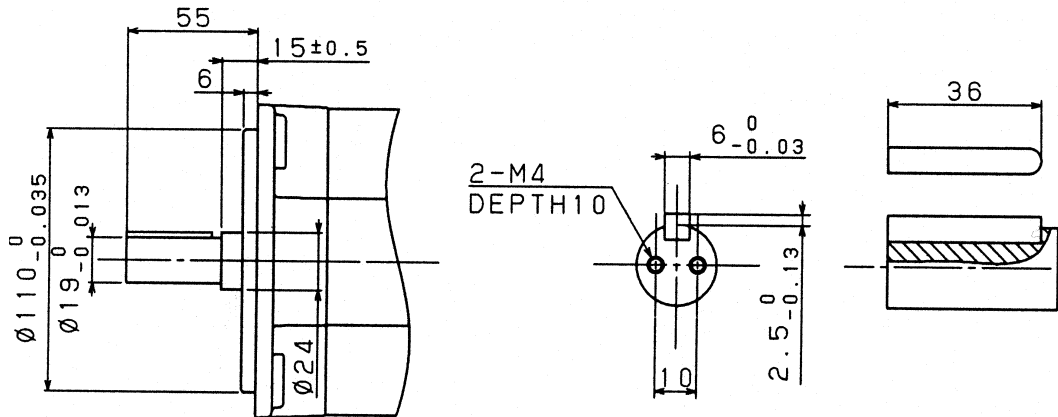
- **φ19 straight shaft (standard)**



- $\phi 19$ straight shaft (with a brake)



- $\phi 19$ straight shaft with key way (standard)



- $\phi 19$ straight shaft with key way (with a brake)

