

# Frameless Motors (Open Frame Motors)

The **Open Frame or Frameless motors** are ideal solutions for machine designs that require high performance in small spaces. This approach allows for direct integration with a mechanical transmission device, eliminating parts that add size and weight.



		BF42			BF65			BF75			BF85	BF115
		0.07	0.15	0.22	0.32	0.64	1.27	0.6	1.1	1.65	0.7	1.5
<b>Terminal Voltage</b>	Volts rms	55	47	53	17	23	26	49	56	57	37	52
<b>Peak Torque</b>	Nm	0.6	1.2	1.8	1.0	1.9	3.8	4.5	8.0	12.0	5	9
<b>Rated Torque</b>	Nm	0.07	0.15	0.22	0.32	0.64	1.27	0.60	1.10	1.65	0.7	1.5
<b>Cont. stall torque</b>	Nm	0.09	0.18	0.27	0.40	0.70	1.30	0.70	1.30	1.90	5.5	1.6
<b>Rated Speed</b>	RPM	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
<b>Rated Current (Trapezoidal)</b>	Amp	0.35	0.89	1.20	4.78	6.82	12.31	3.33	5.07	7.37	4.76	7.19
<b>Rated Power</b>	Watt	22	47	69	100	200	400	188	346	518	220	470
<b>Torque Constant</b>	Nm/ Amp	0.199	0.168	0.181	0.067	0.094	0.103	0.180	0.217	0.224	0.147	0.2085
<b>Back EMF (AC rms)</b>	Volts/ KRPM	14.9	12.5	13.5	5.0	7.0	7.7	13.4	16.2	16.8	10.98	15.56
<b>Terminal Resistance</b>	Ohm	28.41	10.88	10.35	0.45	0.25	0.25	2.78	1.43	0.91	0.9	0.70
<b>Terminal Inductance</b>	mH	12.00	14.00	14.50	0.36	0.52	0.69	8.27	5.62	3.57	3.04	4.39
<b>Rotor Inertia</b>	Kg-m <sup>2</sup>	1.24E-06	2.25E-06	3.23E-06	1.37E-05	2.23E-05	3.08E-05	1.00E-06	1.75E-05	2.60E-05	2.50E-05	4.99E-05
<b>Motor Constant</b>	Nm/ sqrt(W)	0.030	0.042	0.047	0.082	0.153	0.167	0.088	0.148	0.192	0.127	0.204
<b>Motor Weight</b>	gram	133	233	334	320	520	721	430	755	1061	588	1077
<b>Number of Poles</b>	-	8	8	8	8	8	8	8	8	8	8	8
<b>Electrical Time Constant</b>	mSec	0.422	1.287	1.401	0.800	2.068	2.715	2.975	3.930	3.923	3.378	6.288
<b>Mechanical Time Constant</b>	mSec	0.890	0.867	1.020	1.373	0.634	0.732	0.086	0.531	0.472	1.039	0.801

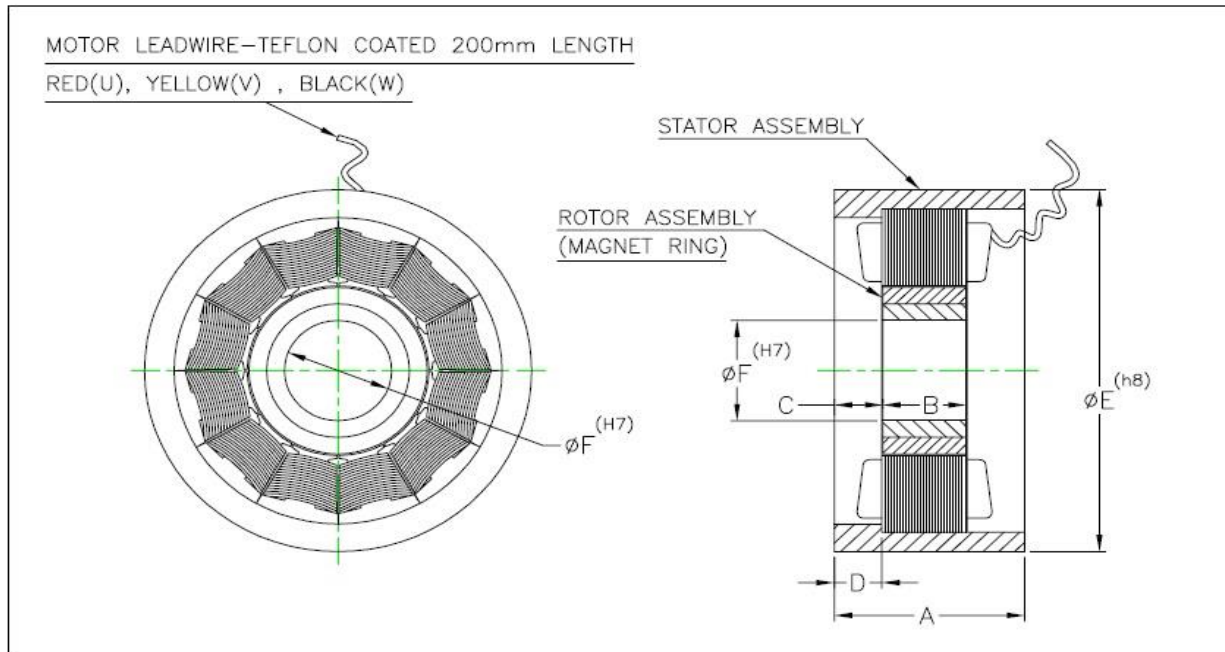
**Note:** (1) Some electrical parameters can be changed to meet customer requirements.

(2) Designs shown on the servo motor datasheet are also available in frameless.

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**Dimensions of Frameless Motor**

Model	A	B	C	D	E(h8)	F(H7)
BF42-0.07	32	14	9	8.8	42	10
BF42-0.13	46	28	9	8.8	42	10
BF42-0.20	60	42	9	8.8	42	10
BF65-0.32	32	14	8.2	8	65	18
BF65-0.64	46	28	8.2	8	65	18
BF65-1.27	60	42	8.2	8	65	18
BF75-0.60	32	14	7.7	7.5	75	18
BF75-1.10	46	28	7.7	7.5	75	18
BF75-1.65	60	42	7.7	7.5	75	18
BF85-0.70	43	14	12.7	12.5	85	20
BF115-1.50	46	14	15.2	15	115	35

**Note:** all dimensions are in mm

Direct drive motor construction gives equipment designers the advantages of lowered costs, increased reliability and improved performance. Open Frame Motors are the most cost effective direct drive motor solutions available. These save space in applications because the couplings, motor mounting brackets and extra bearings you would find in coupled drive construction are eliminated.

**Frameless motor components can be designed to suit customer needs; providing electrical and mechanical characteristics that are best suited for each specific application.**

**Larger sizes available.**