


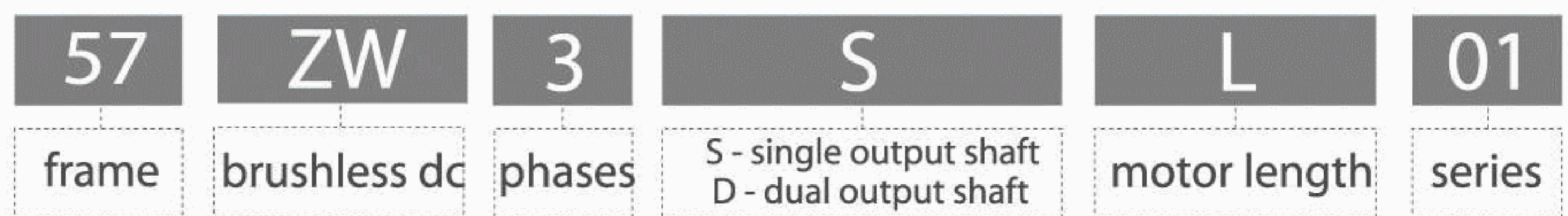
- Long, service-free operation
- Excellent efficiency
- Wide speed range
- Quiet operation

# Brushless DC Motors



3X MOTION Brushless DC Motors are widely used in such varied applications as office equipment, pumps, textiles machines and much more.

## Part Number Breakdown:



## Customisation Options:

### Custom Shaft & Mounting Details

All motors can be supplied on request with single or double ended shaft, shorter and longer shafts, as well as many other modifications. Custom flanges and other mounting details can also be considered.

### Encoders

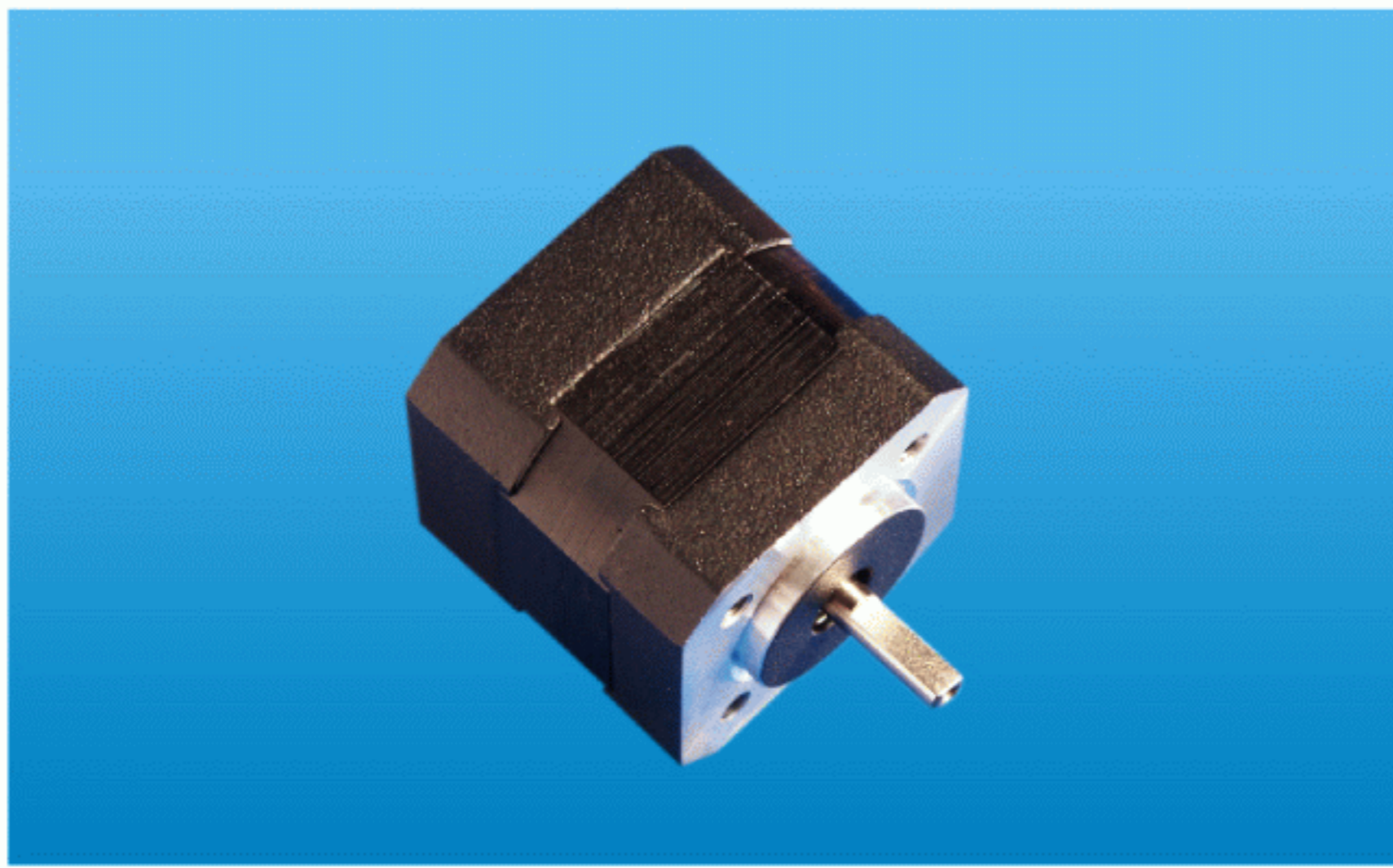
All motors can be supplied on request with a variety of encoder options and resolutions.

### Brakes

All motors can be supplied with electro-magnetic parking brake, with or without hand release.

### Cable Harness

All motors can be supplied on request with custom cable harness and/or special lead-wires with or without connectors



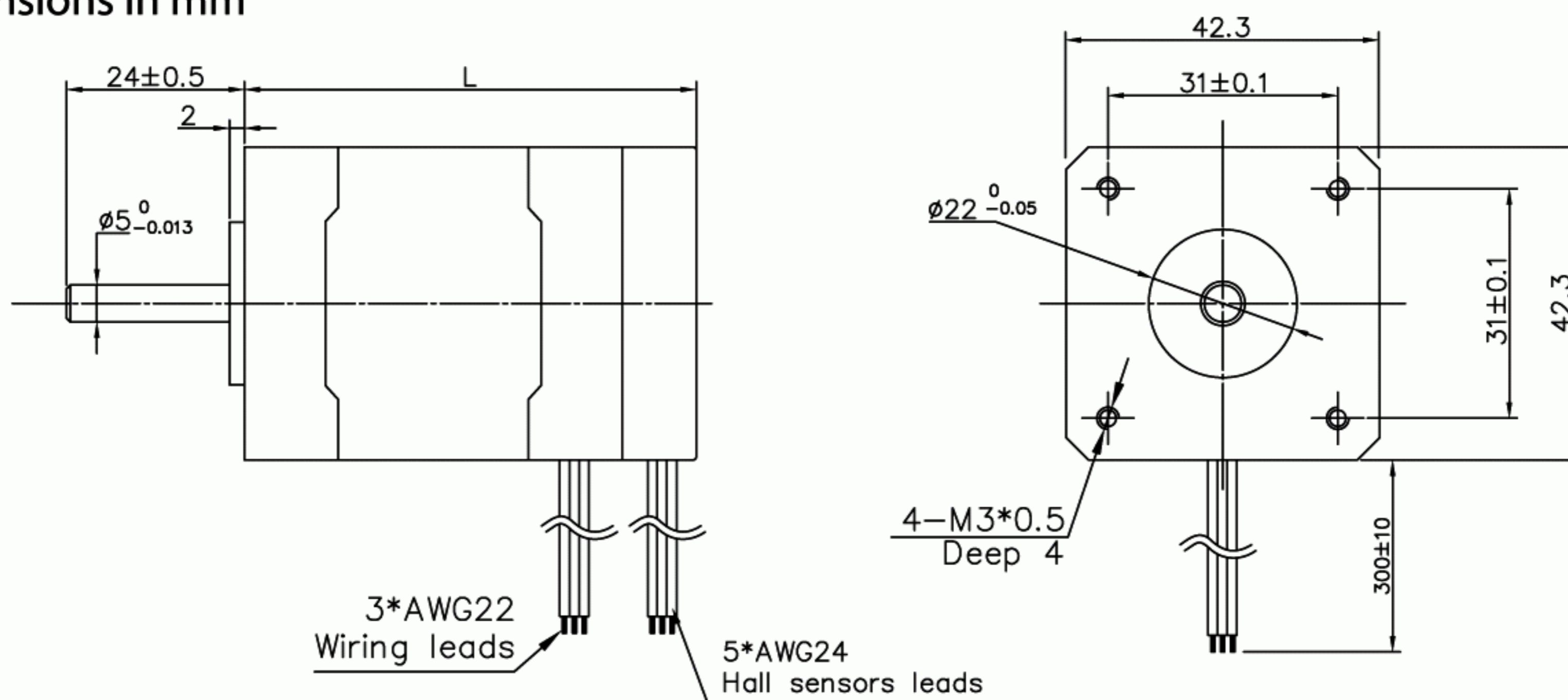
General Specification

Winding Type	Delta
Hall Effect Angle	120 degree electrical angle
Shaft Runout	0.025mm
Radial Play	0.02mm @ 450g
End Play	0.08mm @ 450g
Max. Radial Force	28N @ 20mm from the flange
Max. Axial Force	10N
Insulation Class	Class B
Dielectric Strength	500Vdc for one minute
Insulation Resistance	100M min, 500Vdc

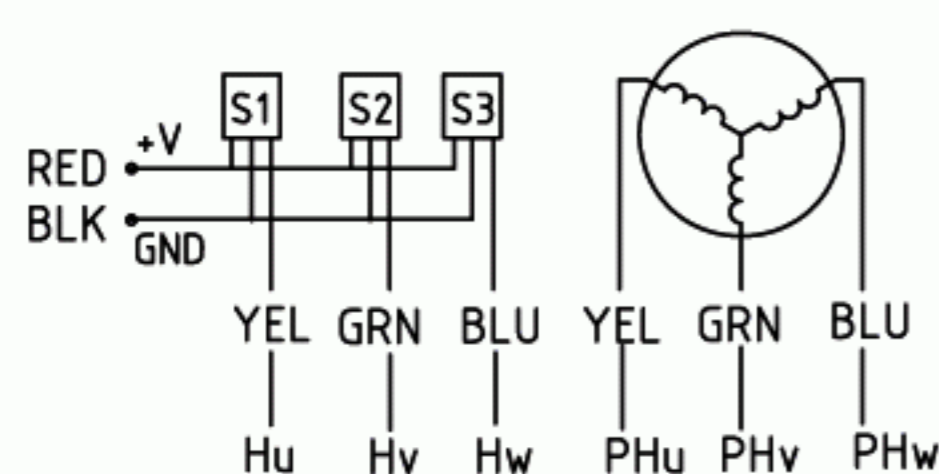
Performance Data

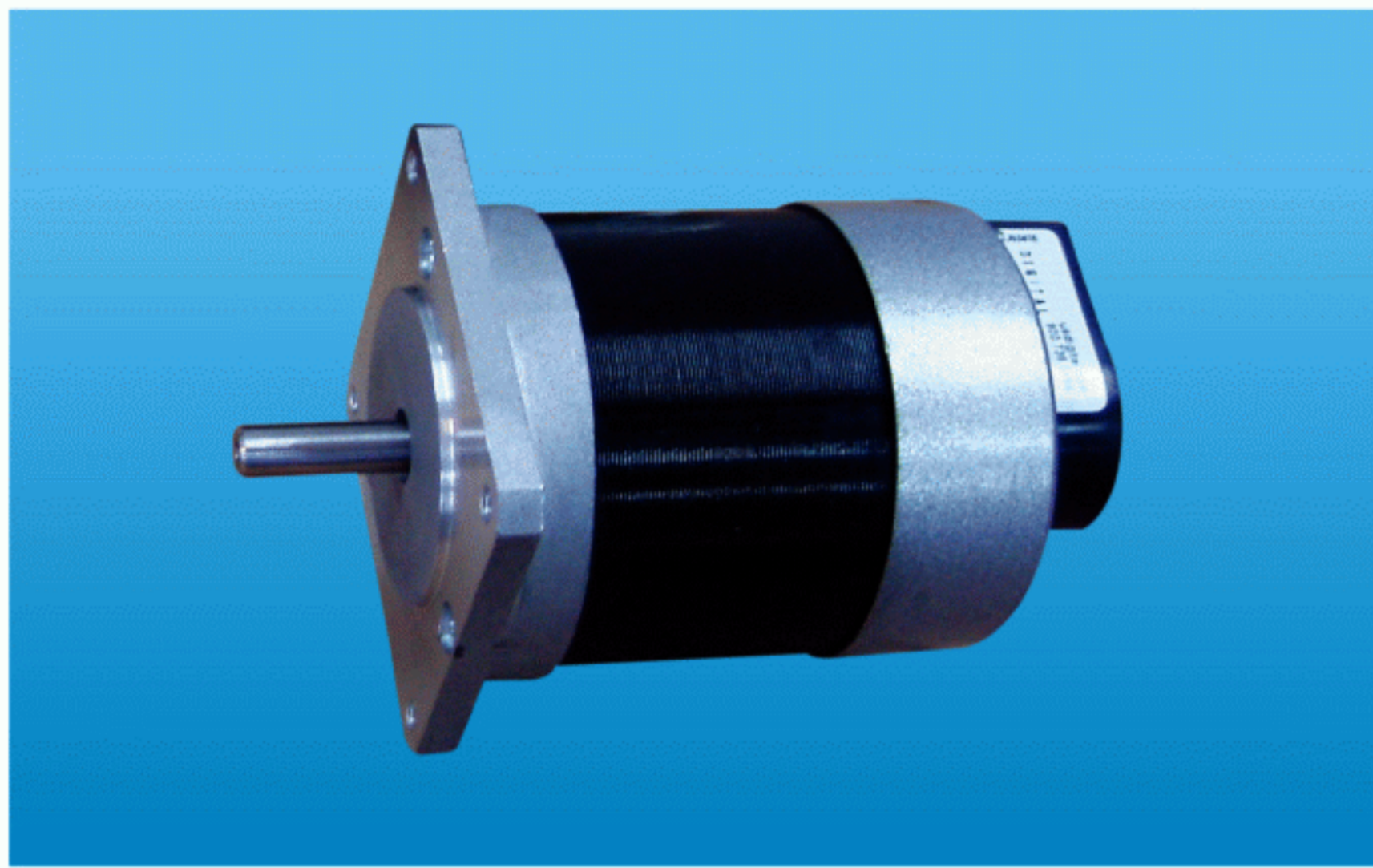
Model	Units	42ZW3SL01	42ZW3SL02	42ZW3SL03	42ZW3SL04
Number Of Poles		8			
Number Of Phase		3			
Rated Voltage	Vdc	24			
Rated Speed	rpm	4000			
Continuous Stall Torque	Nm	0.075	0.150	0.220	0.300
Rated Torque	Nm	0.063	0.125	0.185	0.250
Rated Power	W	26	52.5	77.5	105
Peak Torque	Nm	0.19	0.38	0.56	0.75
Peak Current	A	5.4	10.6	15.5	20
Line-To-Line Resistance	ohms	1.80	0.80	0.55	0.28
Line-To-Line Inductance	mH	2.60	1.20	0.80	0.54
Torque Constant	Nm/A	0.035	0.355	0.036	0.038
Back E.M.F	V/krpm	3.66	3.72	3.76	3.94
Rotor Inertia	gcm <sup>2</sup>	24	48	72	96
Body Length	mm	41	61	81	100
Mass	kg	0.30	0.45	0.65	0.80

Dimensions in mm



Connections





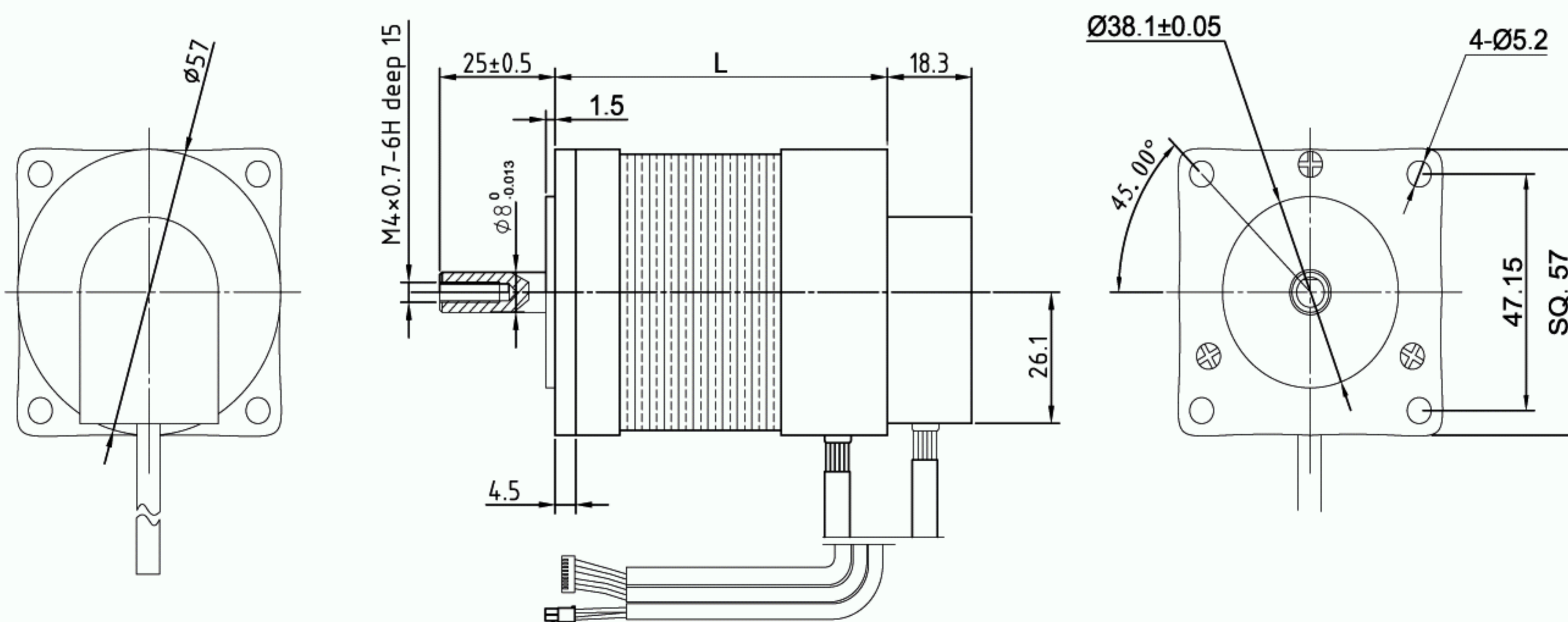
General Specification

Winding Type	Delta
Hall Effect Angle	120 degree electrical angle
Shaft Runout	0.025mm
Radial Play	0.025mm @ 460g
End Play	0.025mm @ 4000g
Max. Radial Force	75N @ 20mm from the flange
Max. Axial Force	15N
Insulation Class	Class B
Dielectric Strength	500Vdc for one minute
Insulation Resistance	100M min. 500Vdc

Performance Data

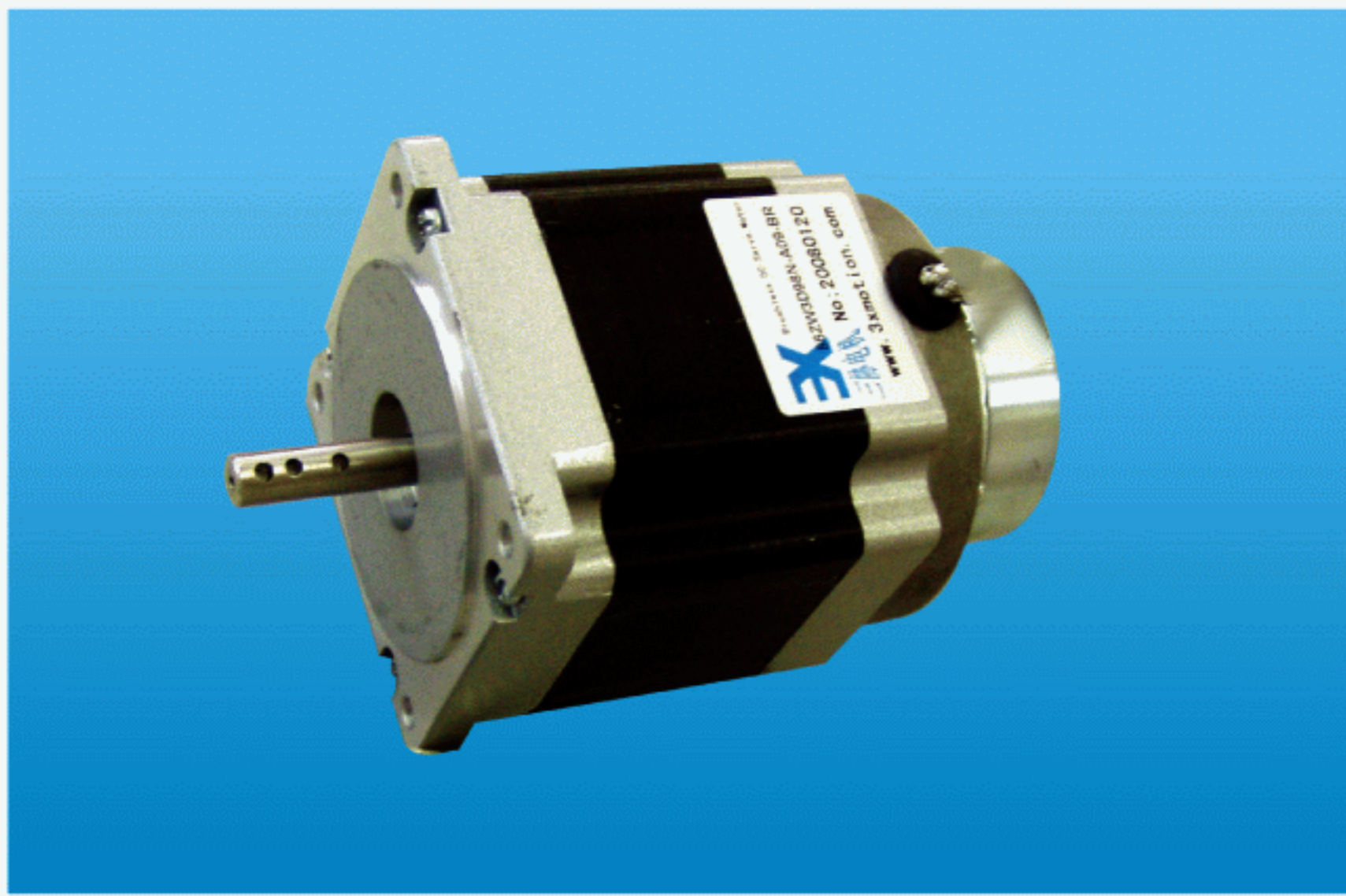
Model	Units	57ZW3SL01	57ZW3SL02	57ZW3SL03	57ZW3SL04	57ZW3SL05
Number Of Poles		4				
Number Of Phase		3				
Rated Voltage	Vdc	36				
Rated Speed	rpm	4000				
Rated Torque	Nm	0.110	0.220	0.320	0.430	0.055
Rated Power	W	46	92	133	180	23
Peak Torque	Nm	0.39	0.70	1.00	1.27	0.16
Peak Current	A	6.8	14.5	17.6	22.3	3.5
Line-To-Line Resistance	ohms	1.50	0.70	0.45	0.35	4.10
Line-To-Line Inductance	mH	4.20	2.16	1.40	1.00	10.00
Torque Constant	Nm/A	0.063	0.063	0.063	0.063	0.053
Back E.M.F	V/krpm	6.60	6.60	6.60	6.60	5.55
Rotor Inertia	gcm <sup>2</sup>	75	119	173	230	30
Body Length	mm	55	75	95	115	45
Mass	kg	0.50	0.75	1.00	1.25	0.25

Dimensions in mm



Connections

For full connection details for both these motors and those versions with encoders, please refer to our website [www.3xmotion.com](http://www.3xmotion.com) or contact us at [europe@3xmotion.com](mailto:europe@3xmotion.com) [tel: +44 (0)1202 594 026]



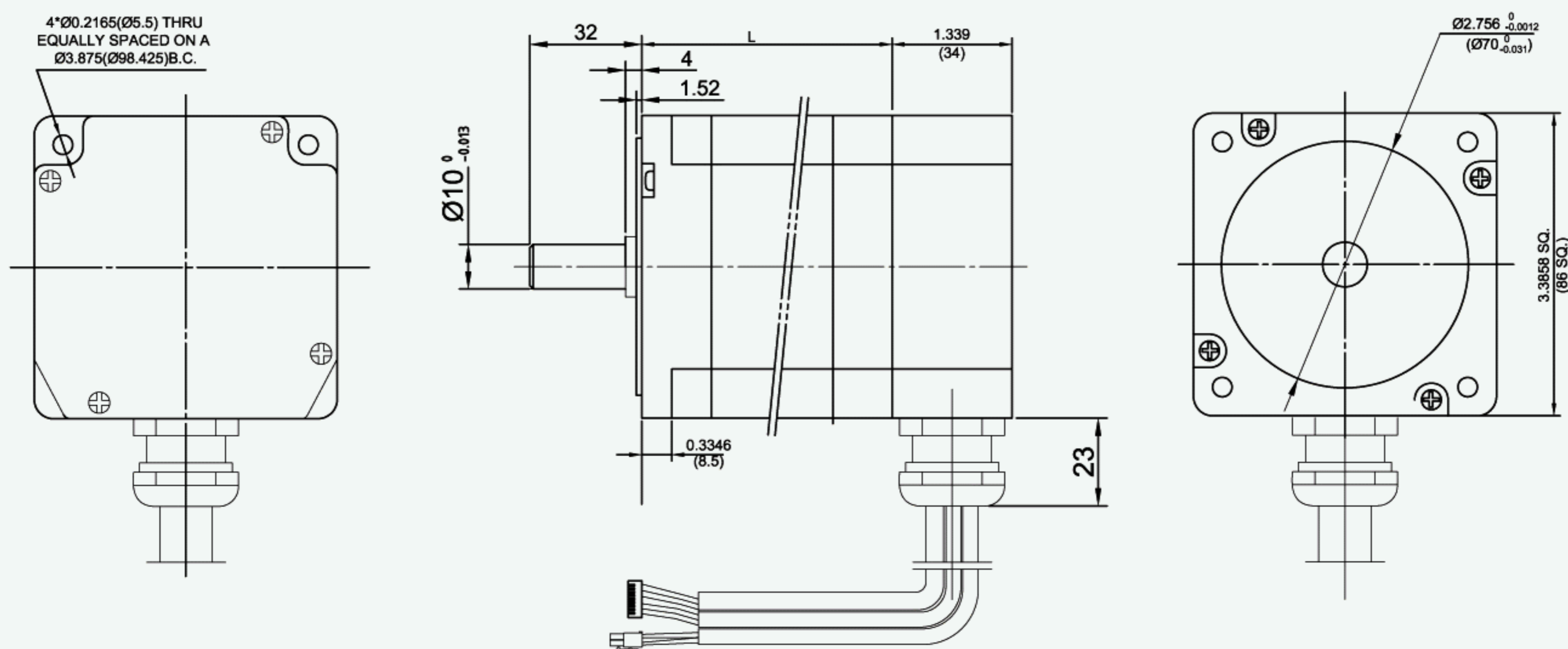
General Specification

Winding Type	Delta
Hall Effect Angle	120 degree electric angle
Shaft Run Out	0.05mm
Radial Play	0.02mm @ 450g
End Play	0.08mm @ 450g
Max. Radial Force	220N @ 20mm from flange
Max. Axial Force	60N
Insulation Class	B
Dielectric Strength	500Vdc for one minute
Insulation Resistance	100M min., 500Vdc

Performance Data

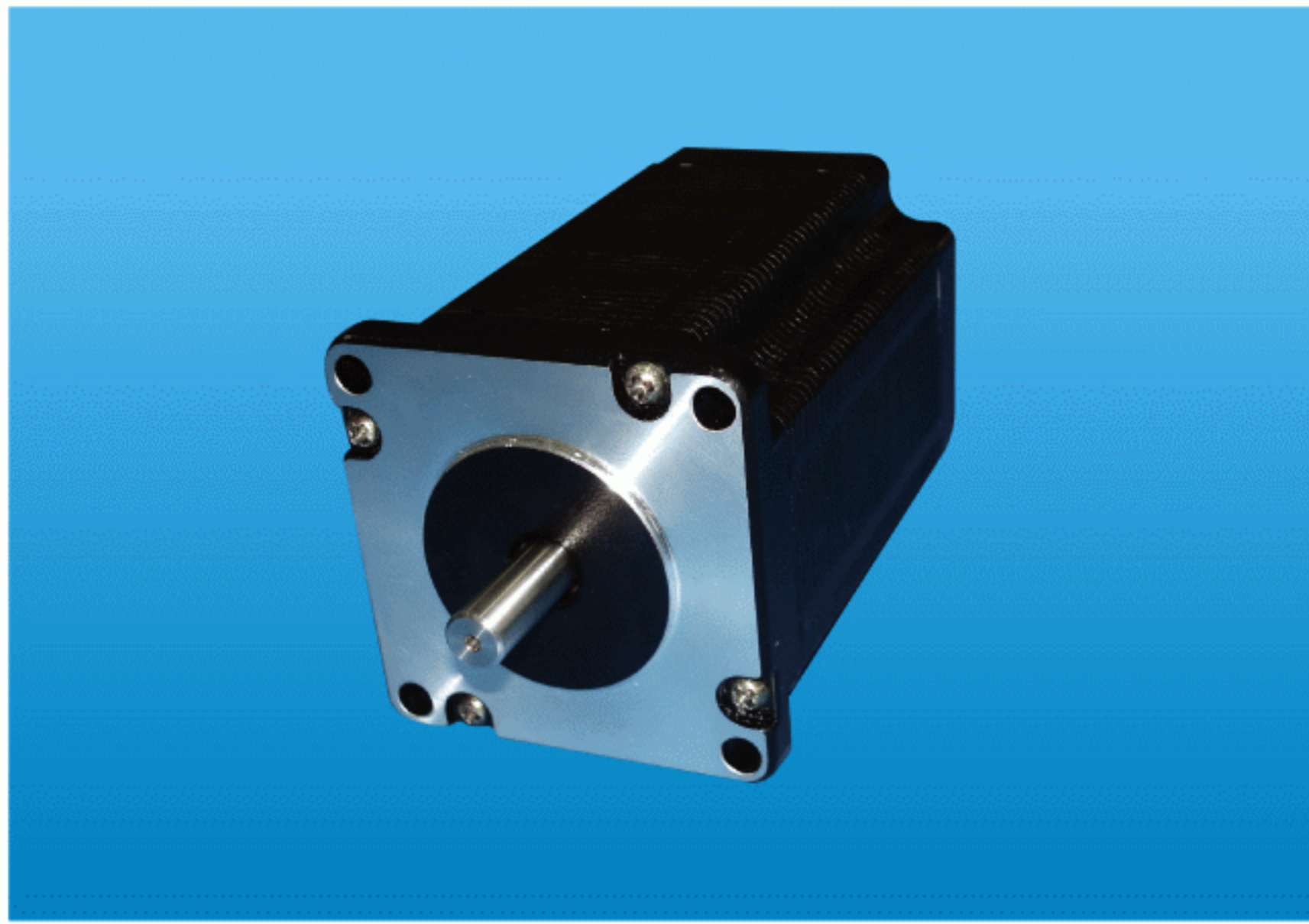
Model		86ZW3SL58	86ZW3SL71	86ZW3SL98	86ZW3SL125
Number Of Poles		8			
Number Of Phase		3			
Rated Voltage	Vdc	48			
Rated Speed	rpm	3000			
Rated Torque	Nm	0.35	0.7	1.4	2.1
Rated Power	W	110	220	440	660
Peak Torque	Nm	1.05	2.1	4.2	6.3
Peak Current	A	11	19	33	55
Line-To-Line Resistance	ohms	1.05	0.36	0.2	0.16
Line-To-Line Inductance	mH	2.2	1.05	0.48	0.3
Torque Constant	Nm/A	0.1	0.11	0.13	0.11
Back E.M.F	V/krpm	10.5	11.5	13.5	11.5
Rotor Inertia	gcm <sup>2</sup>	400	800	1600	2400
Body Length	mm	58	71	98	125
Mass	kg	1.5	1.85	2.6	4

Dimensions in mm



Connections

For full connection details for both these motors and those versions with encoders, please refer to our website [www.3xmotion.com](http://www.3xmotion.com) or contact us at [europe@3xmotion.com](mailto:europe@3xmotion.com) [tel: +44 (0)1202 594 026]



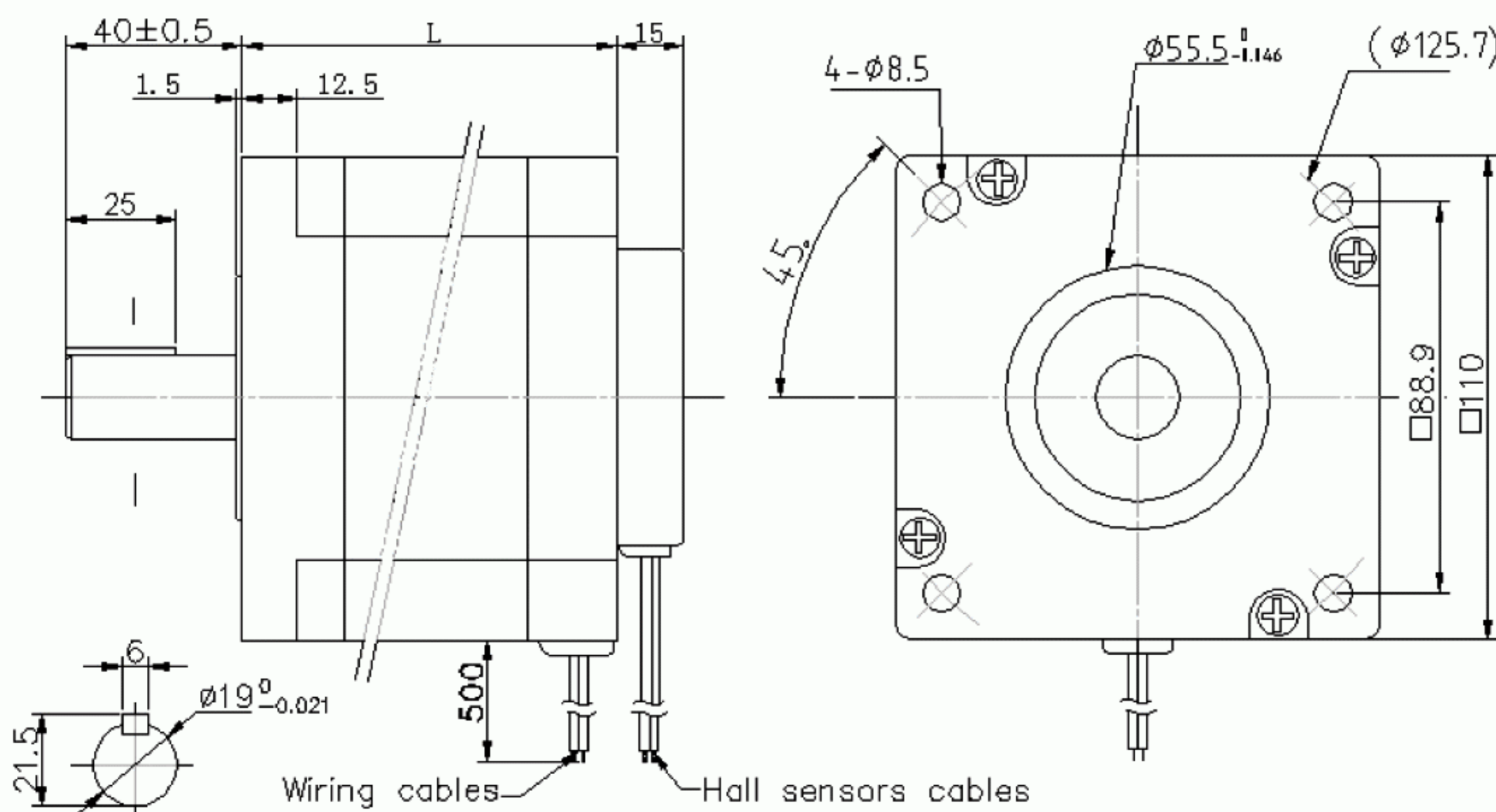
General specification

Wiring type	YWE
Hall sensors angle	120 Deg. Electrical angle
Shaft run out	0.025 mm
Radial play	0.02mm @ 450g
End play	0.08mm @ 450g
Max. radial force	80N @20mm f rom the flange
Max. axial force	100N
Insulation class	B
Dielectric strength	1500Vdc for one minute
Insulation resistance	100M min., 500Vdc

Performance Data

Model		110ZW 3S113N-A	110ZW 3S173N-B
Number Of Poles		8	
Number Of Phase		3	
Rated Voltage	Vdc	170	325
Rated Speed	rpm	2000	
Rated Torque	Nm	3	6
Rated Power	W	630	1250
Peak Torque	Nm	9	18
Peak Current	A	18	16
Line-To-Line Resistance	ohms	1.05	0.36
Line-To-Line Inductance	mH	2.2	1.05
Torque Constant	Nm/A	0.6	1.15
Back E.M.F	V/krpm	85	162.5
Rotor Inertia	gcm <sup>2</sup>	3000	6000
Body Length	mm	113	173
Mass	kg	5.6	9.2

Dimensions in mm



- \* Optical encoder,optional
- \* precision Gearhead,optional
- \* IP54 House sealing,optional