

ACD Series

Coreless Direct Drive Rotary Motor

Direct drive, zero cogging coreless motor

Encoder options of SINCOS or digital

Precise homing through index pulse

Fast response and settling

Smooth motion even at low speeds (low velocity ripple)



Where Precision Matters

ACD62 Specifications

Model	Units	ACD62-60		ACD62-84	
		D	Y	D	Y
Table diameter	mm	62		62	
Table height	mm	60		84	
Number of poles		8		8	
Continuous torque	Nm	0.115	0.115	0.341	0.341
Peak torque	Nm	0.40	0.40	1.19	1.19
Torque constant	Nm/A	0.024	0.042	0.071	0.123
Back EMF constant	V/rpm	0.003	0.005	0.009	0.015
Continuous current	A	4.8	2.8	4.8	2.8
Peak current	A	16.8	9.7	16.8	9.7
Resistance	ohms	0.73	1.51	1.01	2.21
Inductance	mH	0.073	0.195	0.144	0.316
Electrical time constant	ms	0.10	0.13	0.14	0.14
Motor constant	Nm/SqRt(W)	0.028	0.034	0.071	0.083
Mass	Kg	0.50	0.50	0.80	0.80
Rotor Inertia	Kgm ²	2.15683E-05	2.15683E-05	3.94386E-05	3.94386E-05
Max mechanical allowable speed	rpm	1200	1200	1200	1200
Max speed @24V DC	rpm	1200	1200	829	
Max speed @48V DC	rpm	1200	1200	1200	1200
MS-6330 optical SINCOS encoder	lines	6330	6330	6330	6330
MS-6330 optical digital encoder (40X)	Counts/rev	253,200	253,200	253,200	253,200
Accuracy (based on MS-6330, 40X)	arc sec	+/- 51.2	+/- 51.2	+/- 51.2	+/- 51.2
Repeatability (based on MS-6330, 40X)	arc sec	+/- 5.12	+/- 5.12	+/- 5.12	+/- 5.12
Radial runout	um	10	10	10	10
Axial runout	um	12	12	12	12

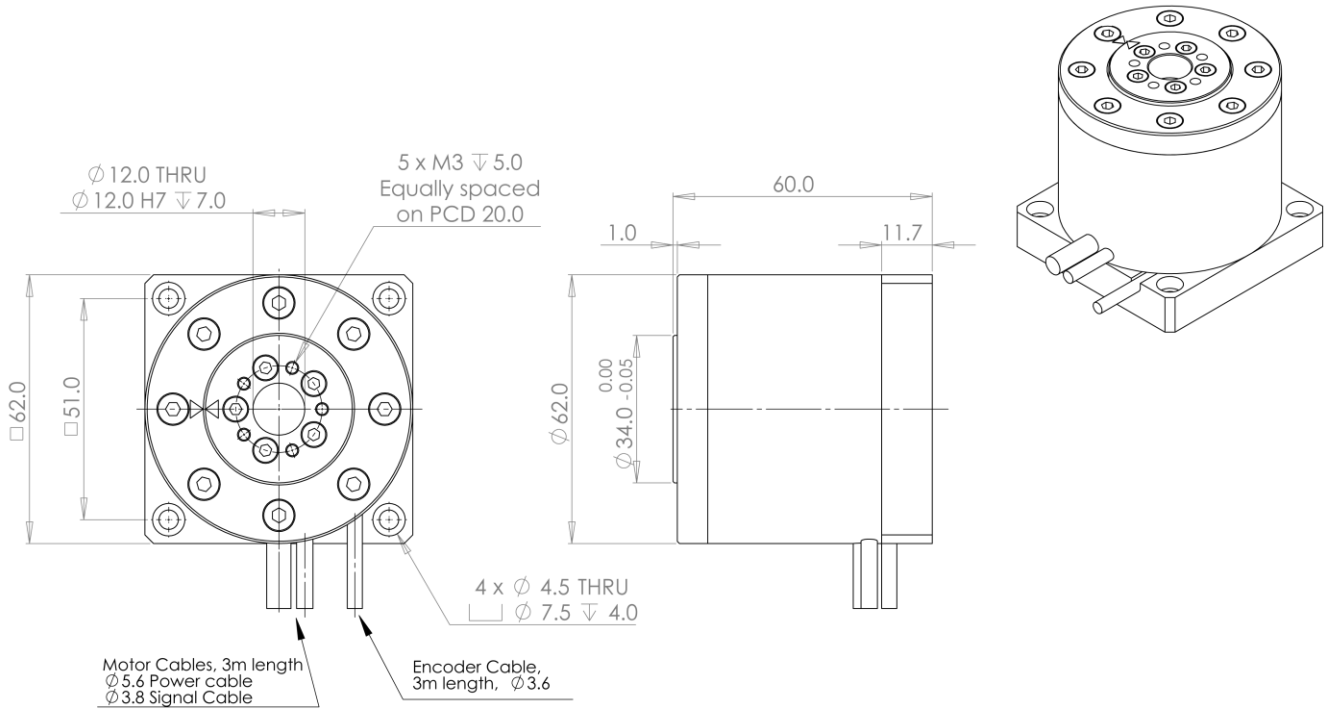
ACD120 Specifications

Model	Units	ACD120-80		ACD120-175	
		D	Y	D	Y
Table diameter	mm	120		120	
Table height	mm	80		175	
Number of poles		12		12	
Continuous torque	Nm	1.8	1.8	9.2	9.2
Peak torque	Nm	6.5	6.5	32.3	32.3
Torque constant	Nm/A	0.36	0.63	1.81	3.13
Back EMF constant	V/rpm	0.044	0.076	0.219	0.379
Continuous current	A	5.1	2.9	5.1	2.9
Peak current	A	17.9	10.3	17.9	10.3
Resistance	ohms	1.80	4.64	4.02	12.07
Inductance	mH	0.628	1.900	1.873	5.619
Electrical time constant	ms	0.35	0.41	0.47	5.06
Motor constant	Nm/SqRt(W)	0.27	0.29	0.90	0.90
Mass	Kg	3.2	3.2	7.0	7.0
Rotor Inertia	Kgm ²	0.001078	0.001078	0.003208	0.003208
Max mechanical allowable speed	rpm	952	952	952	952
Max speed @ 150V DC	rpm	952	952	358	68
Max speed @ 230V AC	rpm	952	952	952	490
MS-8192 optical SINCOS encoder	lines	8192	8192	-	-
MS-8192 optical digital encoder(40X)	Counts/rev	327,680	327,680	-	-
MS-11450 optical SINCOS encoder	lines	-	-	11,450	11,450
MS-11450 optical digital encoder(40X)	Counts/rev	-	-	458,000	458,000
Accuracy (based on MS-8192, 40X)	arc sec	+/- 39.6	+/- 39.6	-	-
Repeatability (based on MS-8192, 40X)	arc sec	+/- 3.96	+/- 3.96	-	-
Accuracy (based on MS-11450, 40X)	arc sec	-	-	+/- 28.3	+/- 28.3
Repeatability (based on MS-11450, 40X)	arc sec	-	-	+/- 2.83	+/- 2.83
Radial runout	um	10	10	10	10
Axial runout	um	15	15	15	15

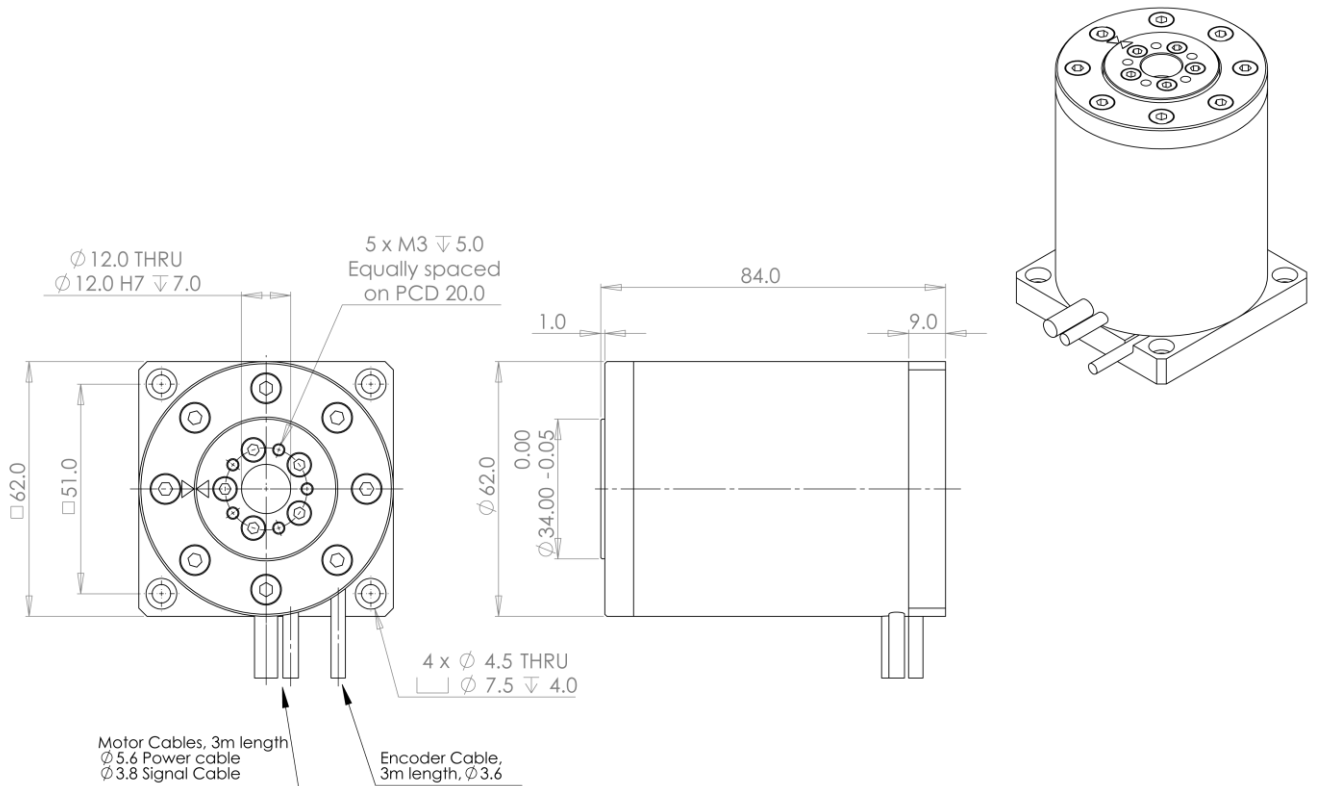
ACD200 Specifications

Model	Units	ACD200-115		ACD200-145	
		D	Y	D	Y
Table diameter	mm	200		200	
Table height	mm	115		145	
Number of poles		16		16	
Continuous torque	Nm	12.9	12.9	25.8	25.8
Peak torque	Nm	45.2	45.2	90.3	90.3
Torque constant	Nm/A	2.53	4.38	5.06	8.77
Back EMF constant	V/rpm	0.306	0.530	0.612	1.060
Continuous current	A	5.1	2.9	5.1	2.9
Peak current	A	17.9	10.3	17.9	10.3
Resistance	ohms	5.2	15.6	7.6	22.7
Inductance	mH	3.64	10.92	6.05	18.16
Electrical time constant	ms	0.70	0.70	0.80	0.80
Motor constant	Nm/SqRt(W)	1.11	1.11	1.84	1.84
Mass	Kg	12.0	12.0	15.0	15.0
Rotor Inertia	Kgm ²	0.034922	0.034922	0.045706	0.045706
Max mechanical allowable speed	rpm	517	517	517	517
Max speed @ 150V DC	rpm	187			
Max speed @ 230V AC	rpm	517	263	269	62
MS-16384 optical SINCOS encoder	lines	16384	16384	16384	16384
MS-16384 optical digital encoder(40X)	Counts/rev	655,360	655,360	655,360	655,360
Accuracy (based on MS-16384, 40X)	arc sec	+/- 19.8	+/- 19.8	+/- 19.8	+/- 19.8
Repeatability (based on MS-16384, 40X)	arc sec	+/- 1.98	+/- 1.98	+/- 1.98	+/- 1.98
Radial runout	um	14	14	14	14
Axial runout	um	18	18	18	18

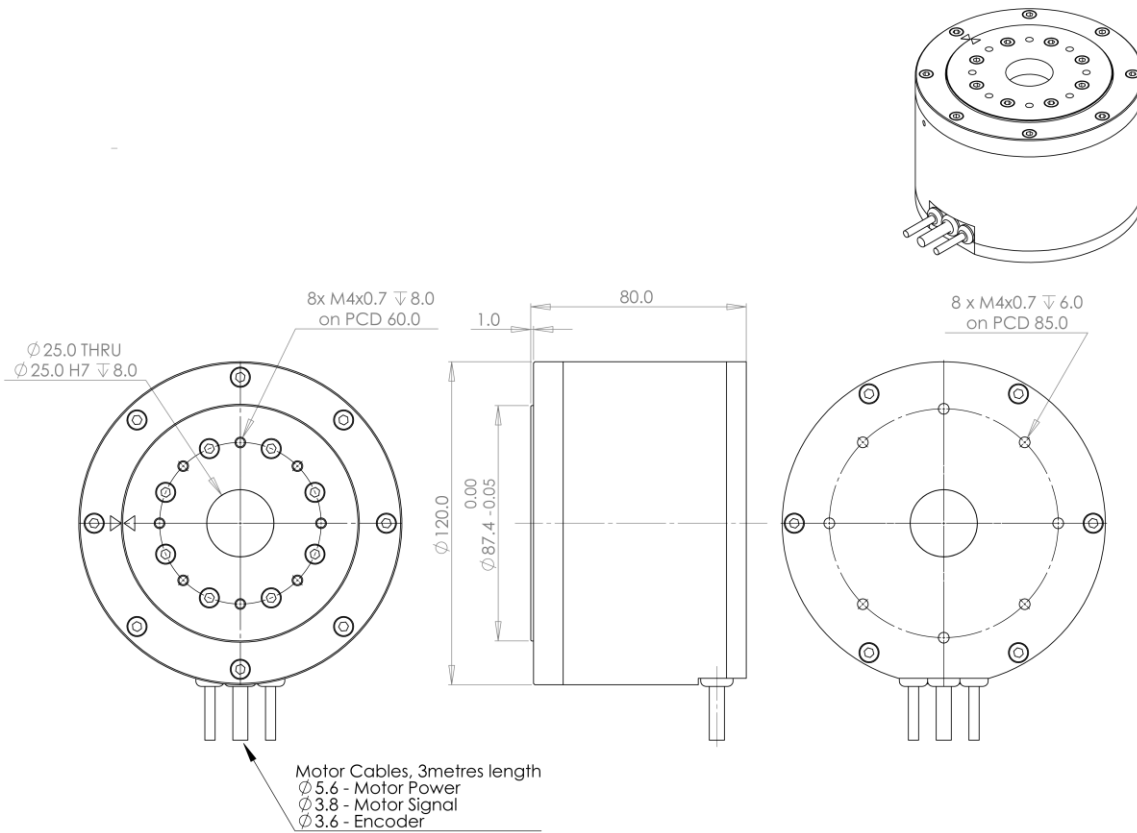
ACD62-60-MS



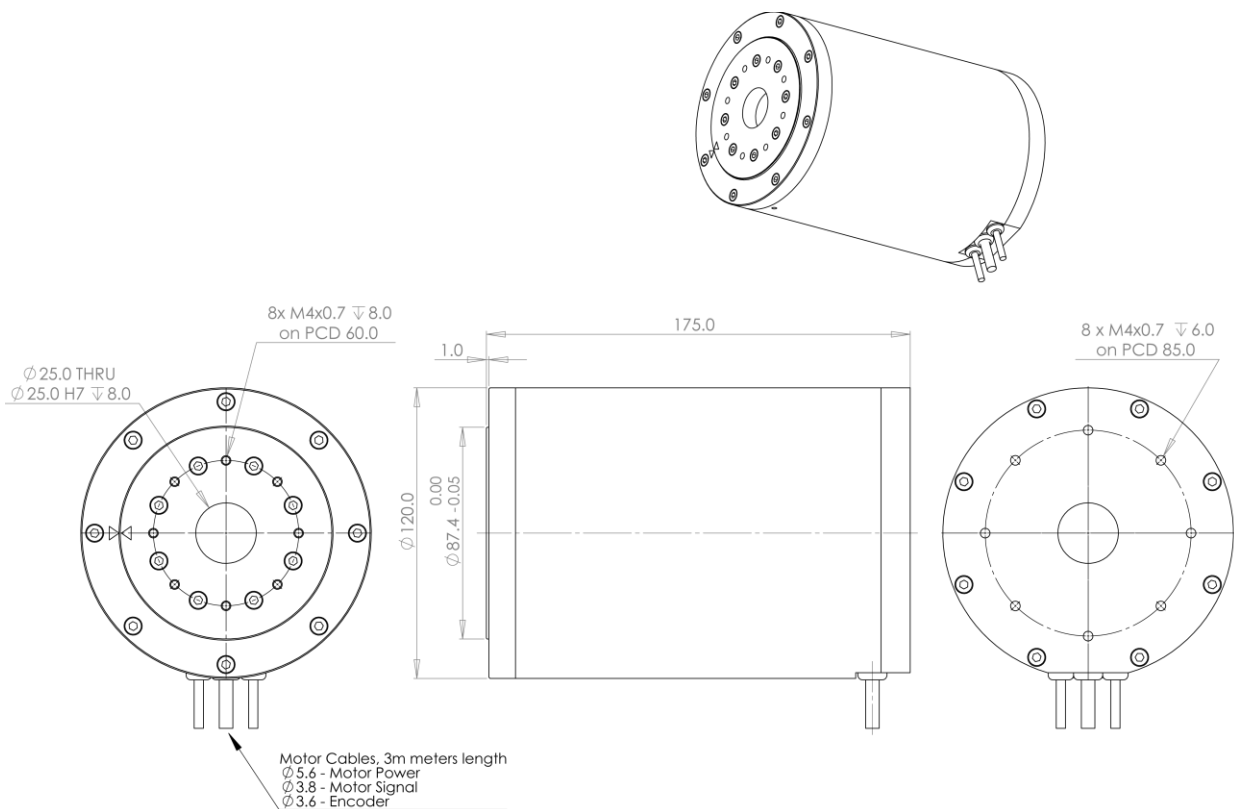
ACD62-84-MS



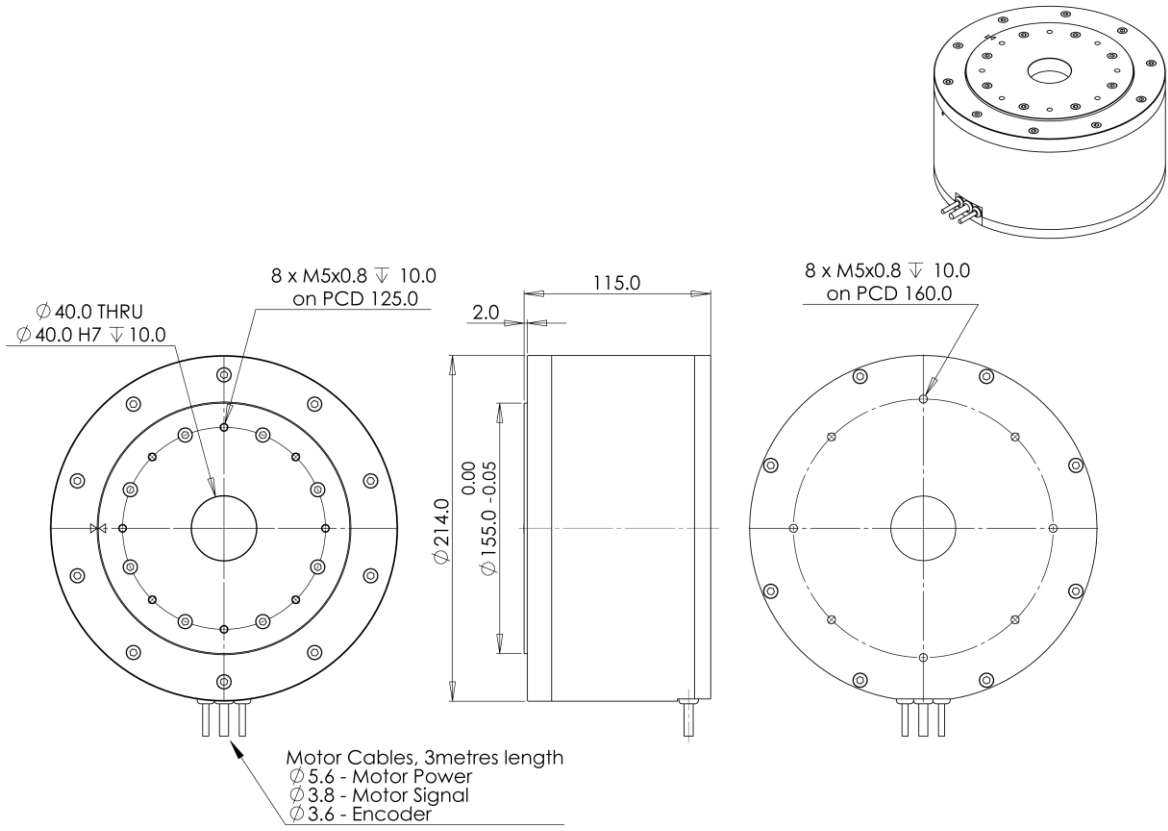
ACD120-80



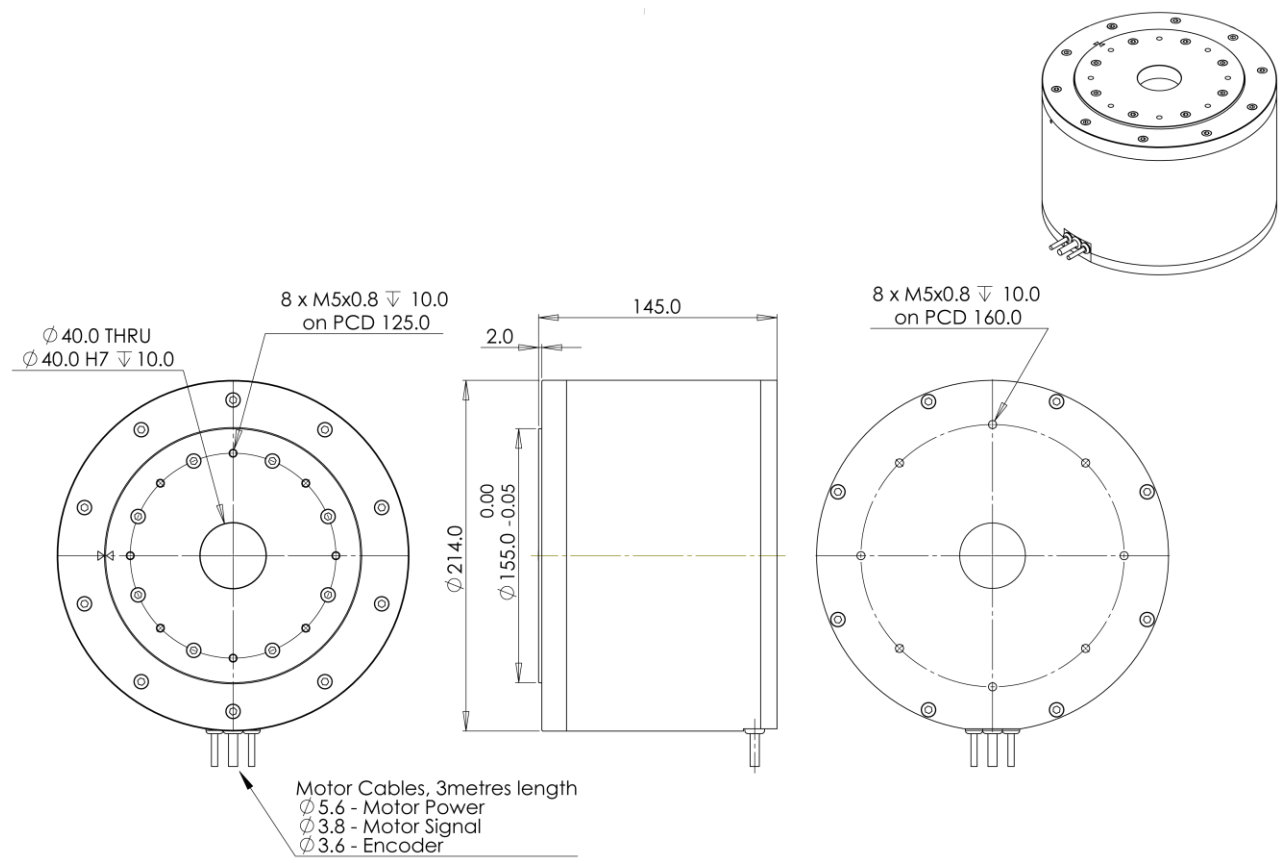
ACD120-175



ACD200-115



ACD200-145



Part Numbering

Motor	Model	Connection	Thermal Sensor	Cable Length	Encoder Option	Interpolation Option
ACD62	60/84	D/Y	K	3.0	MS-6330	40X/SINCOS
ACD120	80	D/Y	K	3.0	MS-8192	40X/SINCOS
ACD120	175	D/Y	K	3.0	MS-11450	40X/SINCOS
ACD200	115/145	D/Y	K	3.0	MS-16384	40X/SINCOS

Example: **ACD120-80-Y-K-3.0-MS-8192-40X**