

ATR Series

The Fastest Direct Drive Rotary Motor!

(Patent Pending)



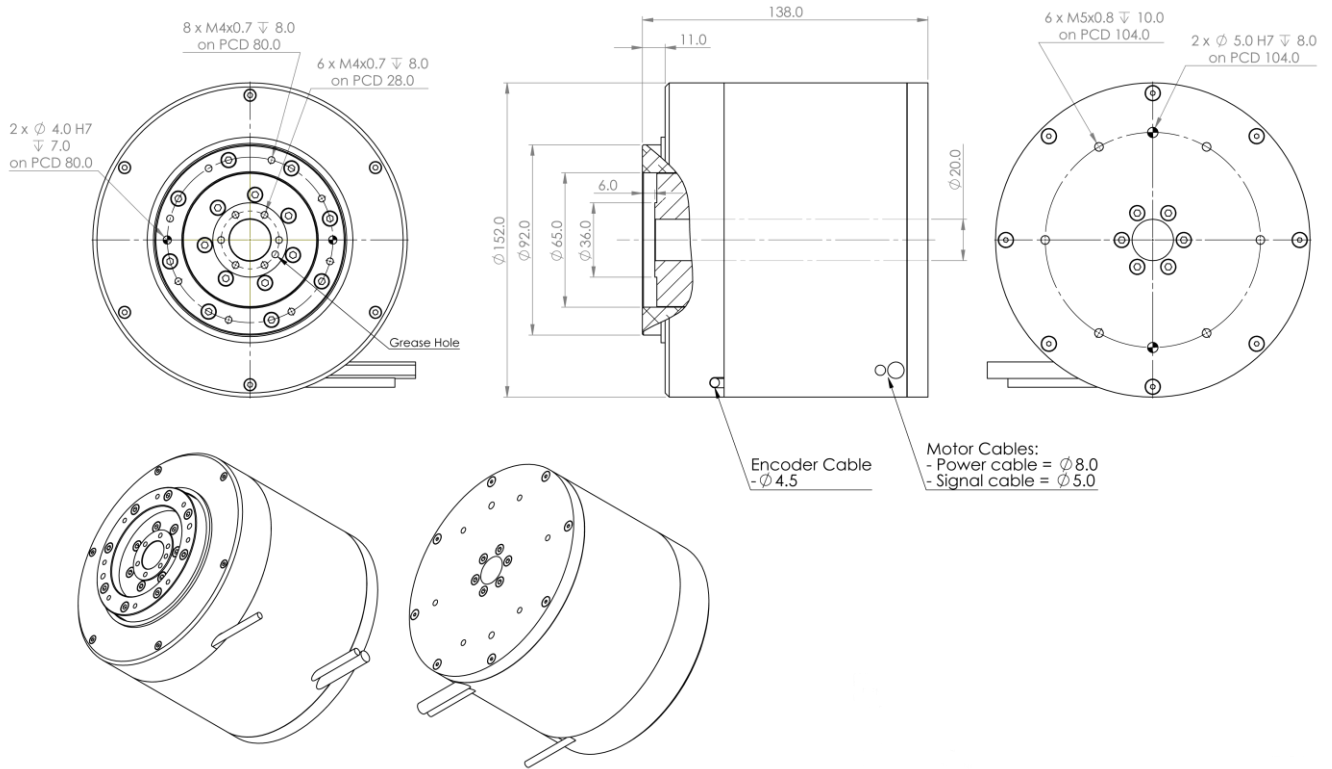
- High **Torque**, low **Rotor** inertia
- No back iron in rotor
- Excellent dynamic performance

ATR 152		ATR152-138		ATR152-138A		ATR152-138W	
		Standard		Air Cool		Water Cool	
Specifications	Units	S	P	S	P	S	P
Table diameter	mm	152					
Table height	mm	138					
Number of poles		16					
Continuous torque	Nm	17.8	17.8	20.5	20.5	35.6	35.6
Peak torque	Nm	53.5	53.5	53.5	53.5	53.5	53.5
Max. cogging torque (peak to peak)	Nm	0.070	0.070	0.070	0.070	0.070	0.070
Torque constant	Nm/Arms	5.15	2.58	5.15	2.58	5.15	2.58
Back EMF constant	Vpeak/rpm	0.440	0.220	0.440	0.220	0.440	0.220
Continuous current	Arms	3.5	6.9	4.0	8.0	6.9	13.8
Peak current	Arms	10.4	20.8	10.4	20.8	10.4	20.8
Continuous power	W	91.9	91.9	121.6	121.6	367.8	367.8
Peak power	W	827.5	827.5	827.5	827.5	827.5	827.5
Resistance ¹	ohms	7.68	1.92	7.68	1.92	7.68	1.92
Inductance ¹	mH	66.00	16.50	66.00	16.50	66.00	16.50
Electrical time constant	ms	8.6	8.6	8.6	8.6	8.6	8.6
Motor constant	Nm/SqRt(W)	1.86	1.86	1.86	1.86	1.86	1.86
Mass	Kg	8.5	8.5	8.5	8.5	8.5	8.5
Rotor Inertia	Kgm2	0.001587	0.001587	0.001587	0.001587	0.001587	0.001587
Rec. max speed @230V AC	rpm	500	1182	500	1182	500	1182
MS-16384 optical SINCOS encoder	lines	16,384	16,384	16,384	16,384	16,384	16,384
MS-16384 optical digital encoder (40X)	Counts/rev	655,360	655,360	655,360	655,360	655,360	655,360
Axial / Radial runout	um	15 (10,5) ²					
Maximum axial load	N	1,500					
Maximum moment load	Nm	48					

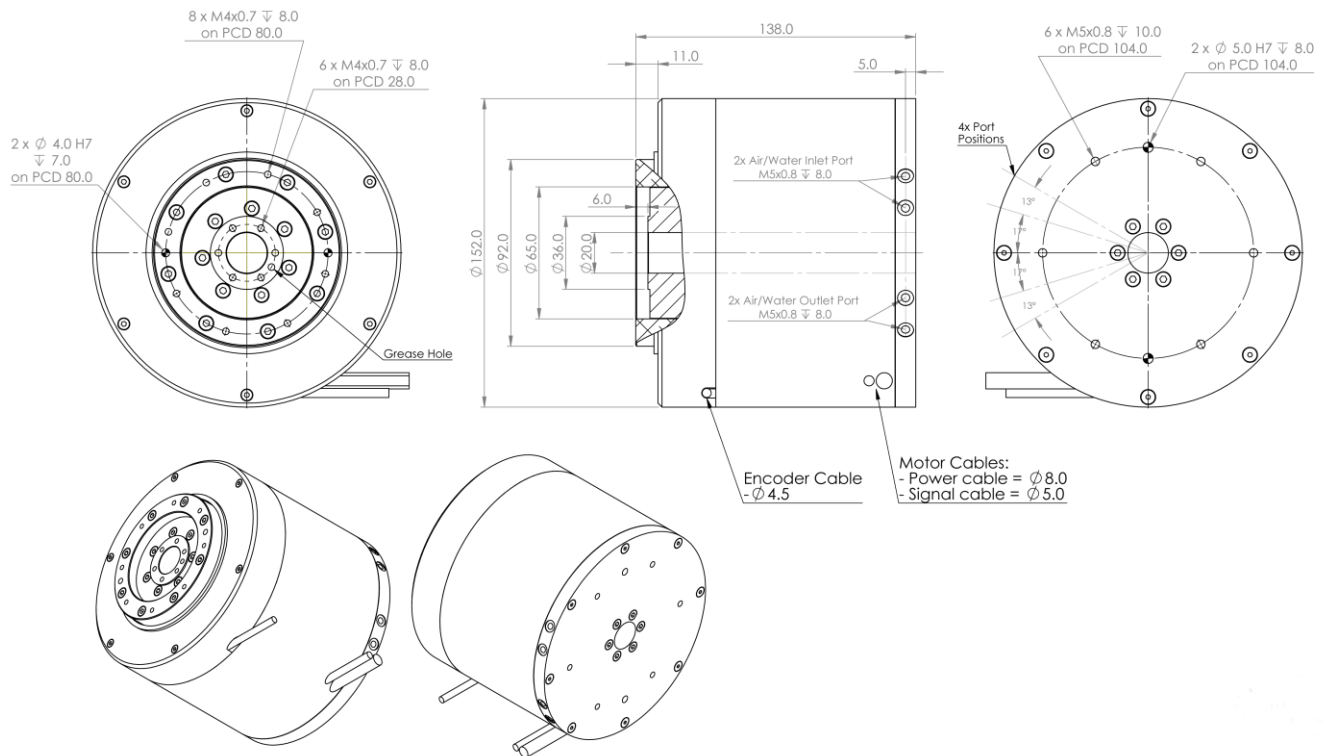
ATR 175		ATR175-162		ATR175-162A		ATR175-162W	
		Standard		Air Cool		Water Cool	
Specifications	Units	S	P	S	P	S	P
Table diameter	mm	175					
Table height	mm	162					
Number of poles		16					
Continuous torque	Nm	33.9	33.9	39.0	39.0	67.8	67.8
Peak torque	Nm	101.8	101.8	101.8	101.8	101.8	101.8
Max. cogging torque (peak to peak)	Nm	0.192	0.192	0.192	0.192	0.192	0.192
Torque constant	Nm/Arms	6.40	3.20	6.40	3.20	6.40	3.20
Back EMF constant	Vpeak/rpm	0.547	0.274	0.547	0.274	0.547	0.274
Continuous current	Arms	5.3	10.6	6.1	12.2	10.6	21.2
Peak current	Arms	15.9	31.8	15.9	31.8	15.9	31.8
Continuous power	W	151.7	151.7	200.6	200.6	606.7	606.7
Peak power	W	1,365.2	1,365.2	1,365.2	1,365.2	1,365.2	1,365.2
Resistance ¹	ohms	5.40	1.35	5.40	1.35	5.40	1.35
Inductance ¹	mH	37.26	9.30	37.26	9.30	37.26	9.30
Electrical time constant	ms	6.9	6.9	6.9	6.9	6.9	6.9
Motor constant	Nm/SqRt(W)	2.75	2.75	2.75	2.75	2.75	2.75
Mass	Kg	13.9	13.9	13.9	13.9	13.9	13.9
Rotor Inertia	Kgm2	0.004419	0.004419	0.004419	0.004419	0.004419	0.004419
Rec. max speed @230V AC	rpm	391	940	391	940	391	940
MS-20250 optical SINCOS encoder	lines	20,250	20,250	20,250	20,250	20,250	20,250
MS-20250 optical digital encoder (40X)	Counts/rev	810,000	810,000	810,000	810,000	810,000	810,000
Axial / Radial runout	um	20 (10,5) ²					
Maximum axial load	N	2,310					
Maximum moment load	Nm	58					

1. Terminal to terminal, at 25 Deg C.
2. Optional.

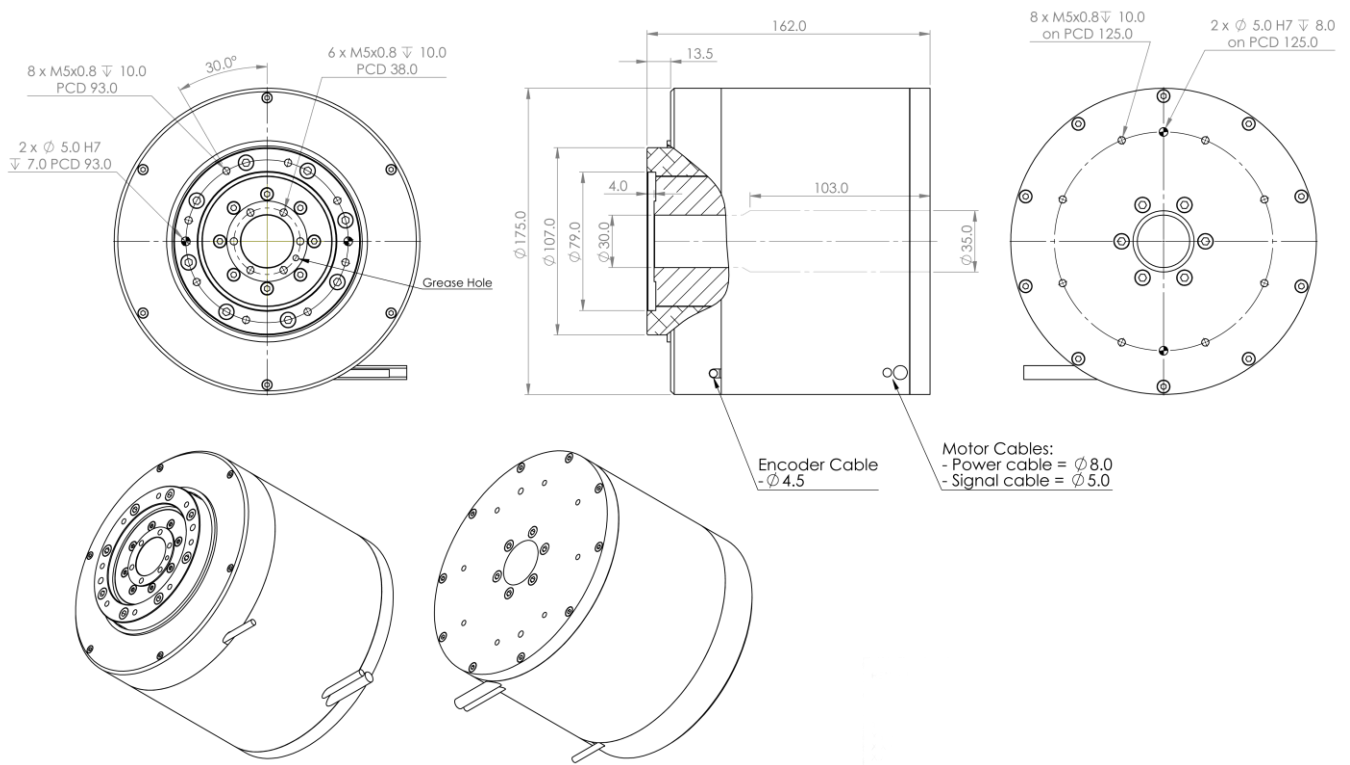
ATR152-138



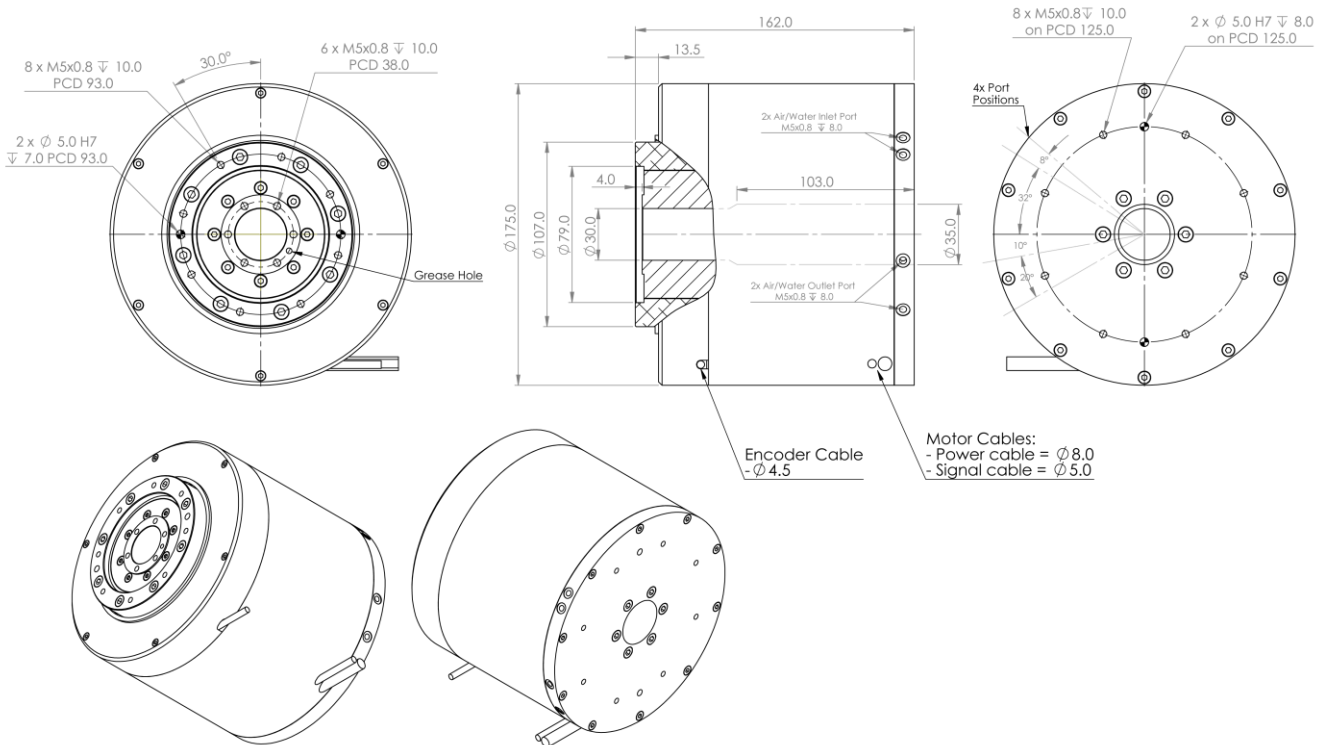
ATR152-138A-138W



ATR175-162



ATR175-162A-162W



Part Numbering

Motor	Height	Cooling	Winding	Thermal Sensor	Cable Length	Interpolation Option
ATR152	138	Blank/A/W	S/P	J/K	3.0	40X
ATR175	162					256X
						1024X
						SINCOS

J- Thermostat

K- PT100 (RTD)

Example: ATR152-138-P-J-3.0-MS-16384-40X

Connector Pin Assignment

ATR

MICROE - M1500 (DIGITAL)

Pin	Description
12	+5VDC
5	A+
4	A-
10	B+
9	B-
14	Z+
15	Z-
13	0VDC

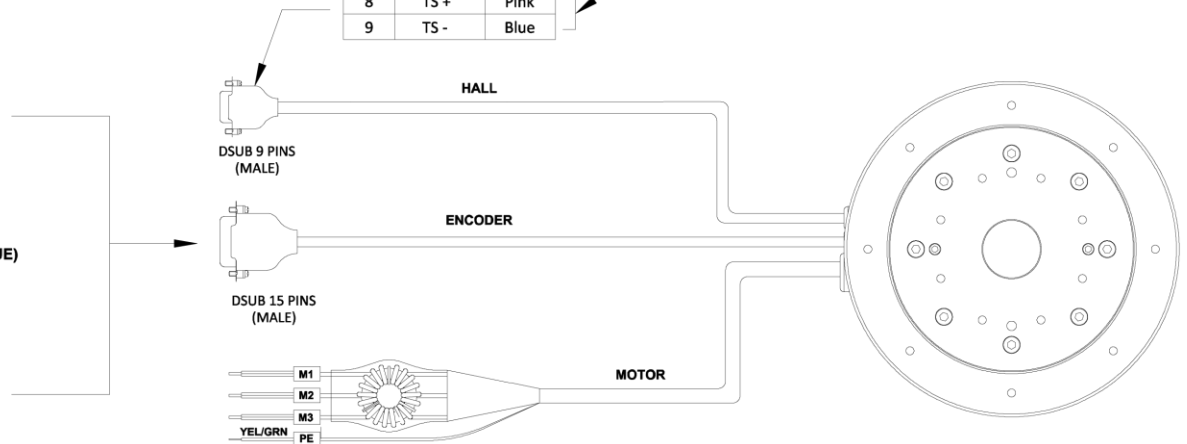
MICROE - M1000 (ANALOGUE)

Pin	Description
12	+5VDC
8	SIN+
15	SIN-
7	COS+
14	COS-
2	Z+
1	Z-
13	0VDC

HALL CABLE

Pin	Description	Color
1	HA	Green
2	HB	Yellow
3	HC	Grey
4	+5VDC	Brown
5	0VDC	White
8	TS +	Pink
9	TS -	Blue

THERMAL SENSOR WIRE
(K TYPE - PT100)
(1Type - THERMOSTAT)



MOTOR CABLE

Description	Color
M1	-
M2	-
M3	-
PE	YEL/BLK