

# ADR-H series

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Direct drive and brushless motor  
High torque density  
Low rotor inertia  
Suitable for indexing application  
(such as turret design)





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## Specifications

# ADR-H

Performance Parameters	Units	ADR152-H195		ADR152-H195	
		Self-Cooled		Air-Cooled	
Series or Parallel	S/P	S	P	S	P
Continuous Torque@100°C	Nm	33.6	33.6	37.4	37.4
Peak Torque	Nm	90.0	90.0	100.0	100.0
Cogging Torque (pk to pk)	Nm	0.19	0.19	0.19	0.19
Torque Constant	Nm/Arms	9.6	4.8	9.6	4.8
Back Emf Constant	Vpk/krpm	0.82	0.41	0.82	0.41
Motor Constant	Nm/√watt	2.8	2.8	2.8	2.8
Resistance (Terminal to Terminal) <sup>①</sup>	Ω	8	2	8	2
Inductance (Terminal to Terminal)	mH	78.8	19.7	78.8	19.7
Electric Time Constant	ms	9.9	9.9	9.9	9.9
Continuous Current@100°C <sup>②</sup>	Arms	3.5	7.0	3.9	7.8
Peak Current	Arms	10.5	21	11.7	23.4
Continuous Power Dissipation @100°C	W	190.2	190.2	236.2	236.2
Max.Coil Temperature	°C	100	100	100	100
Thermal Dissipation Constant@100°C	W/°C	2.5	2.5	3.1	3.1
Max.Bus Voltage	Vdc	600	600	600	600
Pole Number	-	16	16	16	16
Overall Mass	kg	13.3	13.3	13.3	13.3
Rotor Inertia	kg.m <sup>2</sup>	0.0045	0.0045	0.0045	0.0045
Max.speed @230V ac <sup>③</sup>	rpm	230	530	210	510
Encoder Parameters	Units	ADR152-H195		ADR152-H195	
		Self-Cooled		Air-Cooled	
ABI Optical Incremental Encoder (SINCOS)	lines/rev	4103		4103	
ABI Optical Incremental Encoder (64X)	counts/rev	262592		262592	
Accuracy with Error Mapping	arc sec	+/-4.0		+/-4.0	
Repeatability	arc sec	+/-2.0		+/-2.0	
Mechanical Parameters	Units	ADR152-H195		ADR152-H195	
		Self-Cooled		Air-Cooled	
Axial Runout	μm	20		20	
Radial Runout	μm	20		20	
Max Axial Load (Upright Mounting)	N	900		900	
Max Axial Load (Inverted/Wall Mounting)	N	72		72	
Max Moment Load (Upright Mounting)	Nm	50		50	
Max Moment Load (Inverted/Wall Mounting)	Nm	4		4	

① Terminal to terminal, at 25 Deg C

② Limited by Bus Voltage and Encoder Output Frequency, and the speed is based on peak torque. See max.speed in torque speed curve

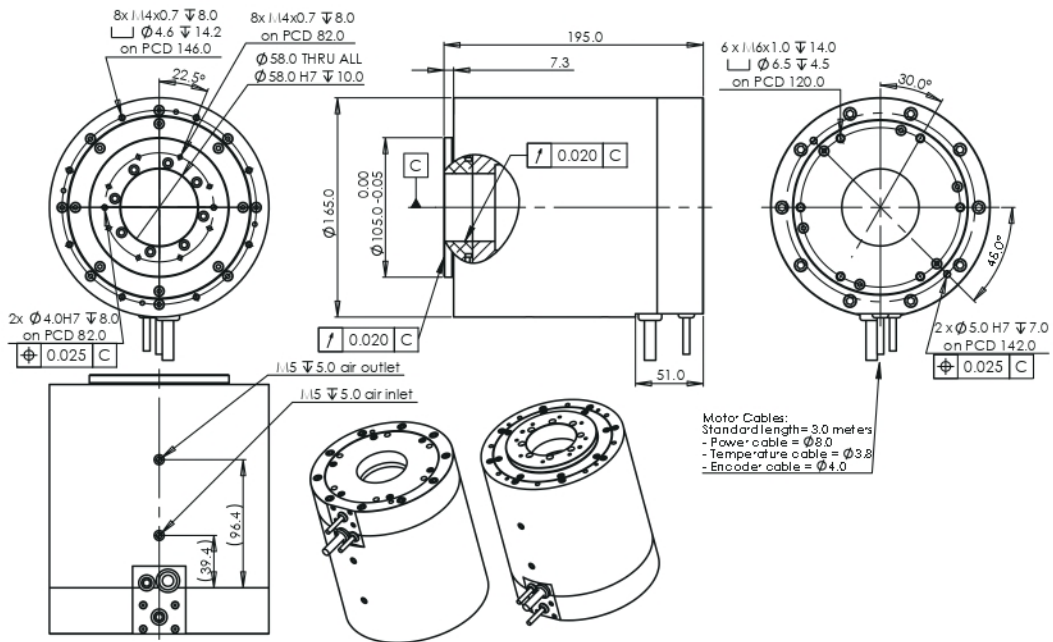
③ Based on ABI SINCOS Encoder and 4096x interpolator

Note: Except dimensions and encoder resolution , all the specifications in the table are +/-10% tolerance

# ADR-H

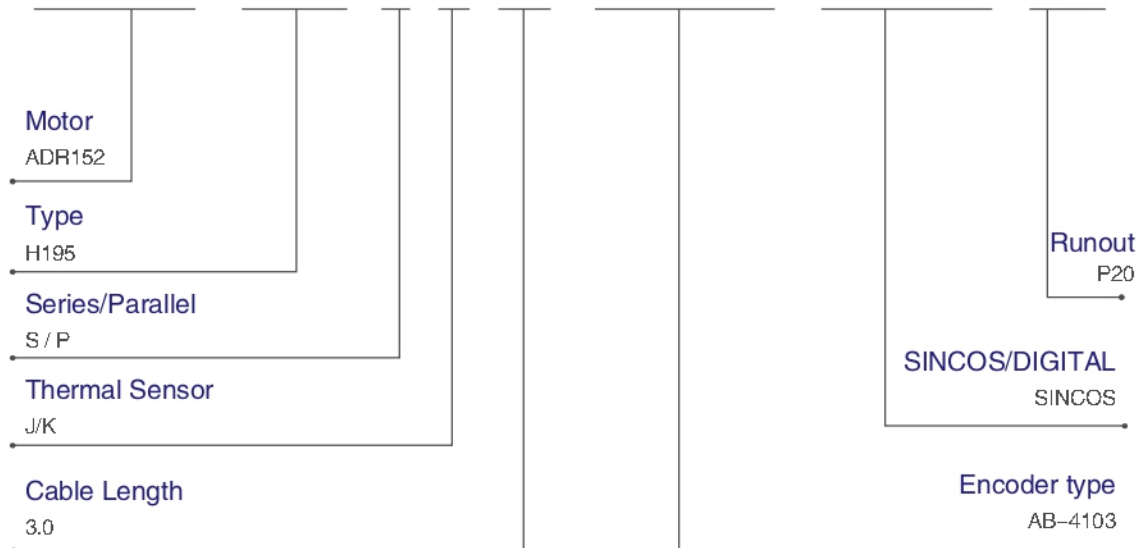
## Dimensions/Part Numbering

### ADR151-H195



## Part Numbering

ADR152-H195-S-J-3.0-AB-4103-SINCOS-P15

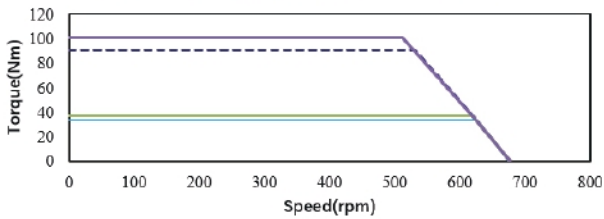


# ADR-H

Successful case

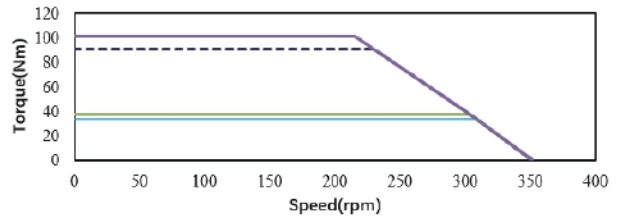
## Torque-Speed-Curve

Torque speed curve-ADR152-H195-Parallel-  
@DC bus voltage 310V (SINCOS/DIGITAL)



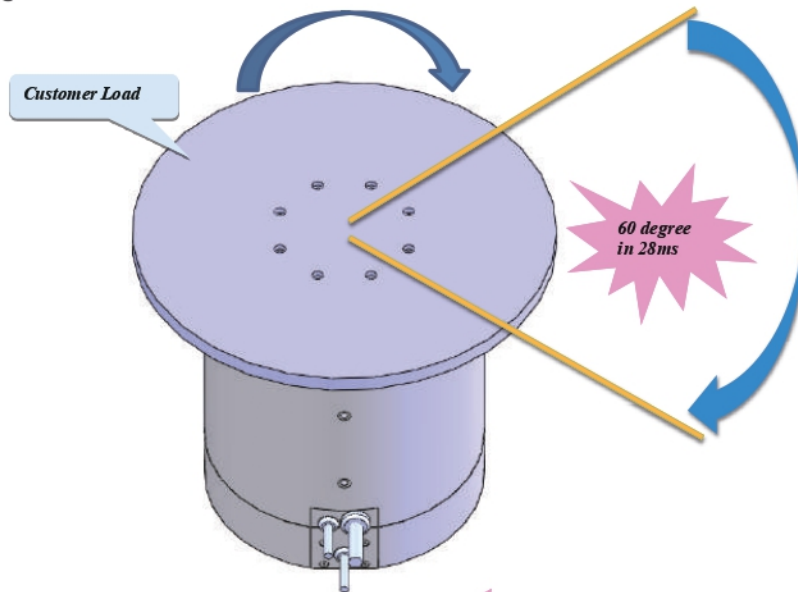
— continuous torque with self cooling --- peak torque with self cooling  
— continuous torque with air cooling --- peak torque with air cooling

Torque speed curve-ADR152-H195-Series-  
@DC bus voltage 310V (SINCOS/DIGITAL)



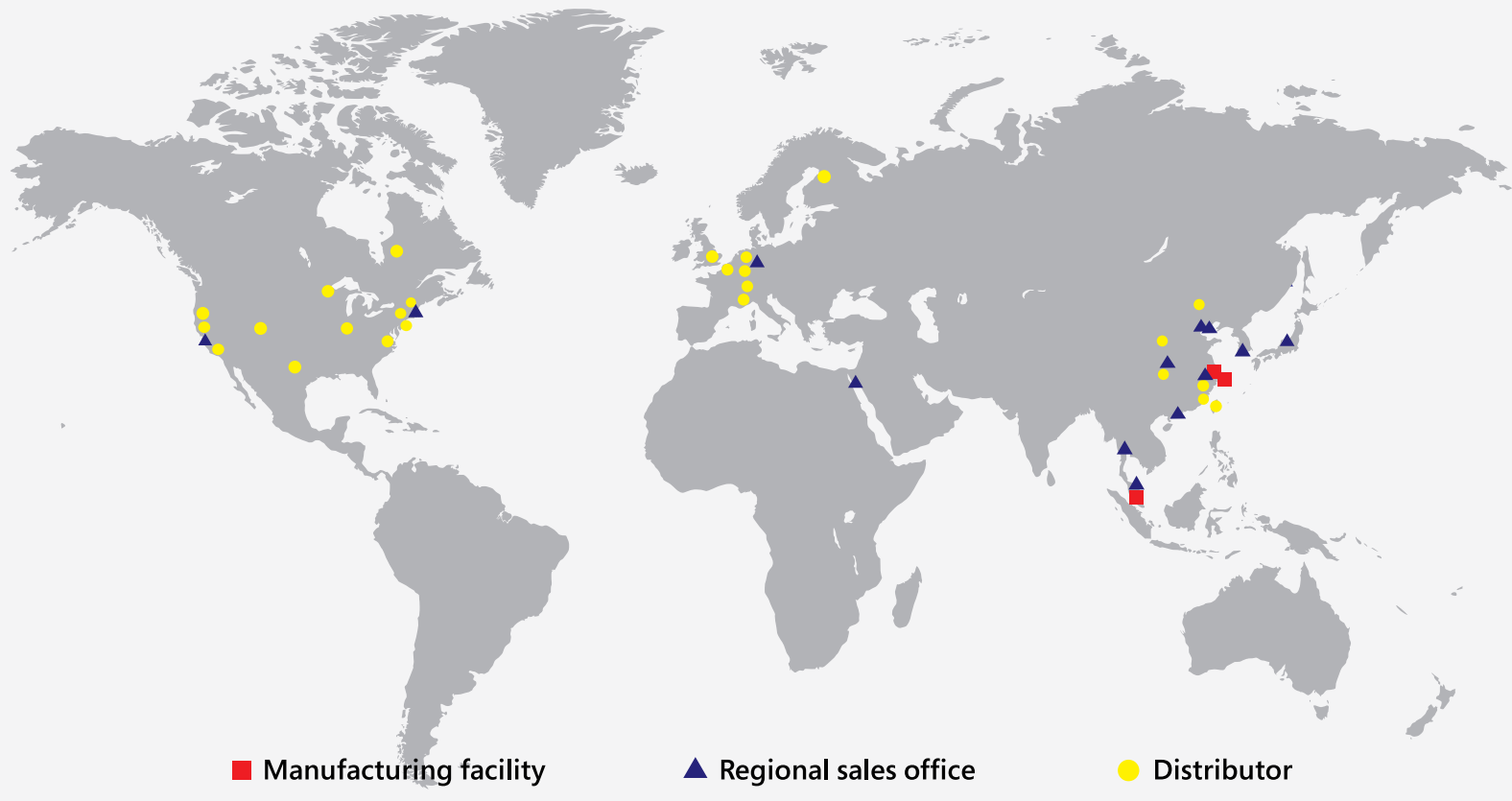
— continuous torque with self cooling --- peak torque with self cooling  
— continuous torque with air cooling --- peak torque with air cooling

## Successful case



*Load inertia: 0.002kg\*m<sup>2</sup>;  
60 degree indexing motion in 28ms;  
Dwell for 50ms, repeat cycle;  
Tested Accuracy: 21.96 arc sec*

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