

iWMC Integrated Servo Wheel



Maintenance Friendly



Integrated system reduces supply chain complexity and lowers service costs

Precision Mounting



Rack-mounted design enables simple, accurate installation and high control precision

Compact Integration



All-in-one design with stator, encoder, shaft, and tire for space-saving installations

Efficient Power Control



Supports fast start/stop with external braking resistor and built-in brake circuit.

Robust & Reliable



Only power and communication cables externally connected

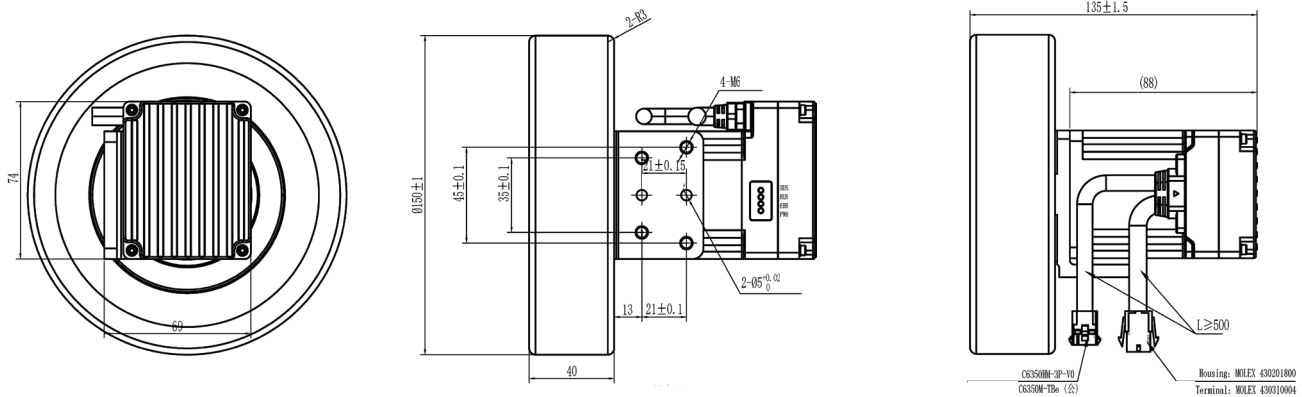
Tailored for Mobile Robots



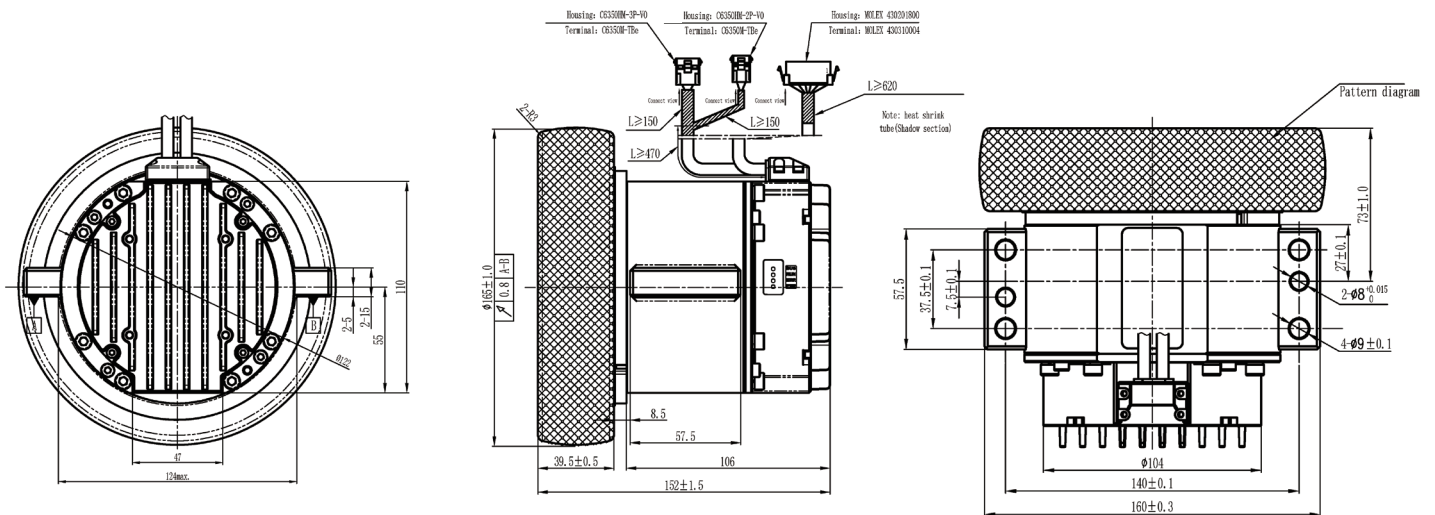
Specifically designed for AGVs and AMRs under 1000kg—high performance, easy to maintain.

Model		AB-IDW-D150-V3.9-C100-■	AB-IDW-D165-V1.9-C300-■	AB-IDW-D180-V2.14-C500-■	AB-IDW-D180-V1.57-C700-■	AB-IDW-D180-V1.57-C750-■	AB-IDW-D180-V1.18-C-1000-■
Power Supply	Main Power Supply	24VDC - 60VDC					
	Logic Power Supply	/					
Rated Linear Speed (m/s)		3.9	1.9	2.14	1.57	1.57	1.18
Rated Torque Tn (Nm)		3.6	21	40	54	60	80
Peak Torque Tn (Nm)		10.9	60	99	150	150	200
Tire Diameter (mm)		150	165	180	180	180	180
Tire Width (mm)		40	39.5	50	50	50	50
Tire Material		Polyurethane (Optional)					
Tire Hardness Rating		73 A	85 A	90 A	93 A ± 2		
Dynamic Braking		External braking resistor required (depending on operating conditions, mainly used in rapid start-stop scenarios)					
Dynamic Braking Voltage Absorption Point		None	DC63 V ± 2 V				
Overvoltage Alarm Voltage		DC68 V ± 2 V					
Undervoltage Alarm Voltage		DC18V ± 2 V					
Input Specifications		2 digital inputs / Common COMI terminal / High level: 12.5-30 VDC / Low level: 0-5 VDC / Max. frequency: 1 kHz / Input impedance: 5 kΩ					
Output Specifications		1 digital output, common COMO terminal / Max. output current: 100 mA					
Brake		Built-in Brake and Control Circuit					
Forced Brake Release Interface		One forced brake release interface, to be used only when the servo wheel has no power input					
RS485 Debug Port		Maximum supported baud rate: 115.2 Kbps					
CAN BUS		Maximum baud rate: 1 Mbps; supports communication with controllers via CANopen protocol.					
Drive Current	Max. Continuous Output Current (RMS)	7A	16A	26A	25A	27A	27A
	Peak Current (PEAK)	26Ap	64AP	100Ap(<2s)	100Ap(<2s)	100Ap(<2s)	100Ap(<2s)
Motor	Rated Speed nN (rpm)	3000	2000	2500	2500	2500	2500
	Rated Torque Tn (Nm)	0.64	2.4	4	4	4.4	4.4
	Brake Holding Torque T (Nm)	2	4	4	4	4	4
Noise		/	<65dB				
Cooling Method		/	Natural Cooling with Vehicle-Assisted Heat Dissipation				
Operating Environment	Operating Temperature	0 - 40 °C					
	Storage Temperature	-20 - 60 °C					
	Humidity (Non-condensing)	Below 90% RH					
	IP Ratings	IP54					
	Altitude	Rated operating altitude is below 1000 m. For operating altitudes above 1000 m, the power rating must be derated by 1.5% for every 100 m increase. The maximum operating altitude is 2000 m					
	Atmospheric Pressure	86 kpa - 106 kpa					
Note: ■ = B: With Brake							

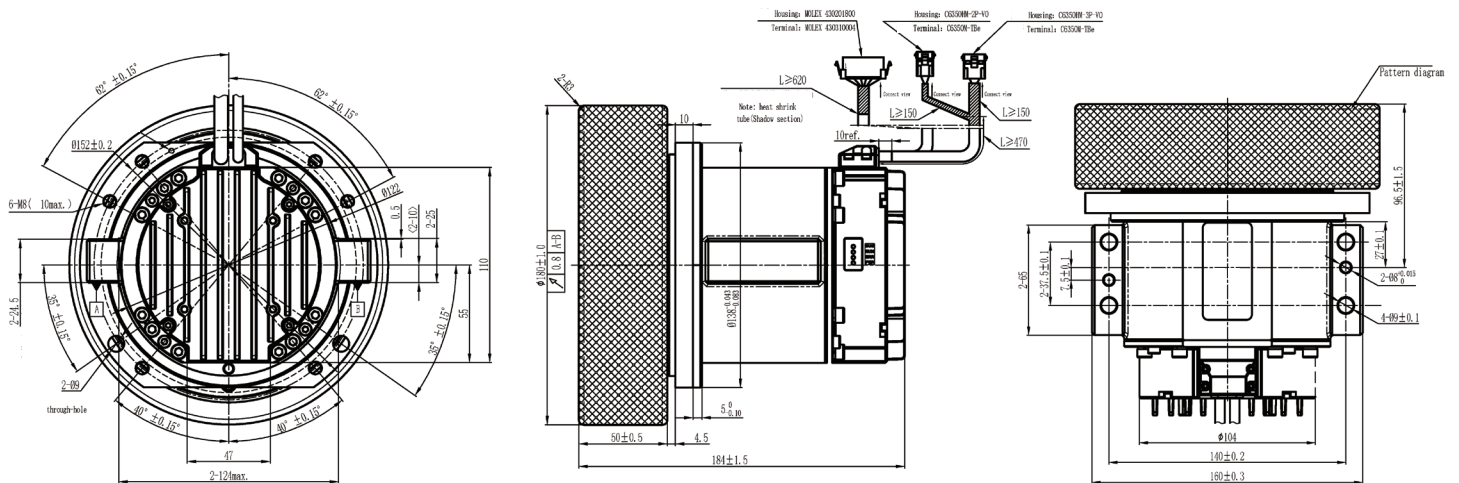
Note: ■ = B: With Brake



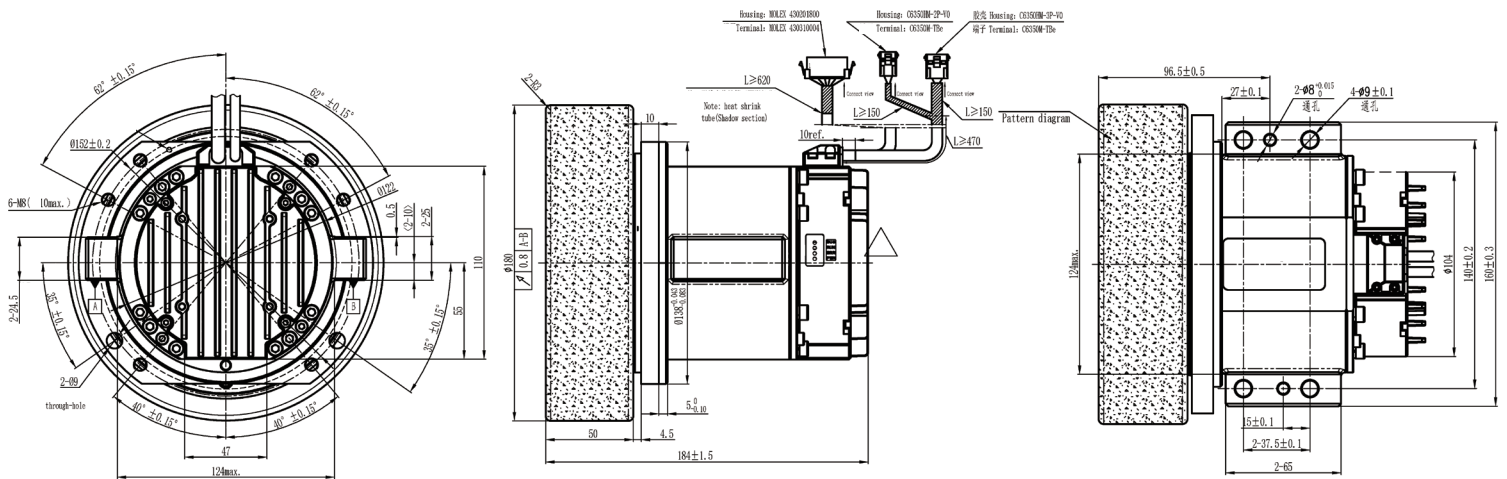
Model		AB-iDW-D150-V3.9-C100-■
Power Supply	Main Power Supply	24VDC - 60VDC
	Logic Power Supply	/
Rated Linear Speed (m/s)		3.9
Rated Torque T_n (Nm)		3.6
Peak Torque T_n (Nm)		10.9
Tire Diameter (mm)		150
Tire Width (mm)		40
Tire Material		Polyurethane (Optional)
Tire Hardness Rating		73 A
Dynamic Braking		External braking resistor required (depending on operating conditions, mainly used in rapid start-stop scenarios)
Dynamic Braking Voltage Absorption Point		None
Overvoltage Alarm Voltage		DC68 V ± 2 V
Undervoltage Alarm Voltage		DC18V ± 2 V
Input Specifications		2 digital inputs / Common COMI terminal / High level: 12.5-30 VDC / Low level: 0-5 VDC / Max. frequency: 1 kHz / Input impedance: 5 kΩ
Output Specifications		1 digital output, common COMO terminal / Max. output current: 100 mA
Brake		Built-in Brake and Control Circuit
Forced Brake Release Interface		One forced brake release interface, to be used only when the servo wheel has no power input
RS485 Debug Port		Maximum supported baud rate: 115.2 Kbps
CAN BUS		Maximum baud rate: 1 Mbps; supports communication with controllers via CANopen protocol.
Drive Current	Max. Continuous Output Current (RMS)	7A
	Peak Current (PEAK)	26Ap
Motor	Rated Speed nN (rpm)	3000
	Rated Torque T_n (Nm)	0.64
	Brake Holding Torque T (Nm)	2
Noise		/
Cooling Method		/
Operating Environment	Operating Temperature	0 - 40 °C
	Storage Temperature	-20 - 60 °C
	Humidity (Non-condensing)	Below 90% RH
	IP Ratings	IP54
	Altitude	Rated operating altitude is below 1000 m. For operating altitudes above 1000 m, the power rating must be derated by 1.5% for every 100 m increase. The maximum operating altitude is 2000 m
	Atmospheric Pressure	86 kpa - 106 kpa
Note: ■ = B: With Brake		



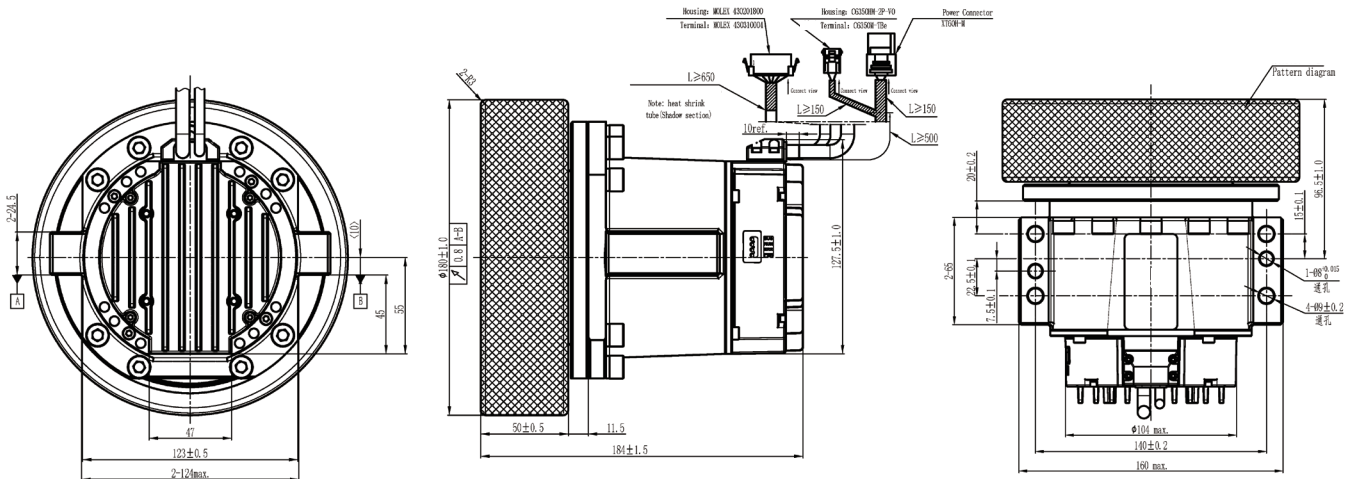
Model		AB-iDW-D165-V1.9-C300-■
Power Supply	Main Power Supply	24VDC - 60VDC
	Logic Power Supply	24VDC
Rated Linear Speed (m/s)		1.9
Rated Torque T_n (Nm)		21
Peak Torque T_n (Nm)		60
Tire Diameter (mm)		165
Tire Width (mm)		39.5
Tire Material		Polyurethane (Optional)
Tire Hardness Rating		85 A
Dynamic Braking		External braking resistor required (depending on operating conditions, mainly used in rapid start-stop scenarios)
Dynamic Braking Voltage Absorption Point		DC63 V ± 2 V
Overvoltage Alarm Voltage		DC68 V ± 2 V
Undervoltage Alarm Voltage		DC18V ± 2 V
Input Specifications		2 digital inputs / Common COMI terminal / High level: 12.5-30 VDC / Low level: 0-5 VDC / Max. frequency: 1 kHz / Input impedance: 5 kΩ
Output Specifications		1 digital output, common COMO terminal / Max. output current: 100 mA
Brake		Built-in Brake and Control Circuit
Forced Brake Release Interface		One forced brake release interface, to be used only when the servo wheel has no power input
RS485 Debug Port		Maximum supported baud rate: 115.2 Kbps
CAN BUS		Maximum baud rate: 1 Mbps; supports communication with controllers via CANopen protocol.
Drive Current	Max. Continuous Output Current (RMS)	16A
	Peak Current (PEAK)	64AP
Motor	Rated Speed nN (rpm)	2000
	Rated Torque T_n (Nm)	2.4
	Brake Holding Torque T (Nm)	4
Noise		<65dB
Cooling Method		Natural Cooling with Vehicle-Assisted Heat Dissipation
Operating Environment	Operating Temperature	0 - 40 °C
	Storage Temperature	-20 - 60 °C
	Humidity (Non-condensing)	Below 90% RH
	IP Ratings	IP54
	Altitude	Rated operating altitude is below 1000 m. For operating altitudes above 1000 m, the power rating must be derated by 1.5% for every 100 m increase. The maximum operating altitude is 2000 m
	Atmospheric Pressure	86 kpa - 106 kpa
Note: ■ = B: With Brake		



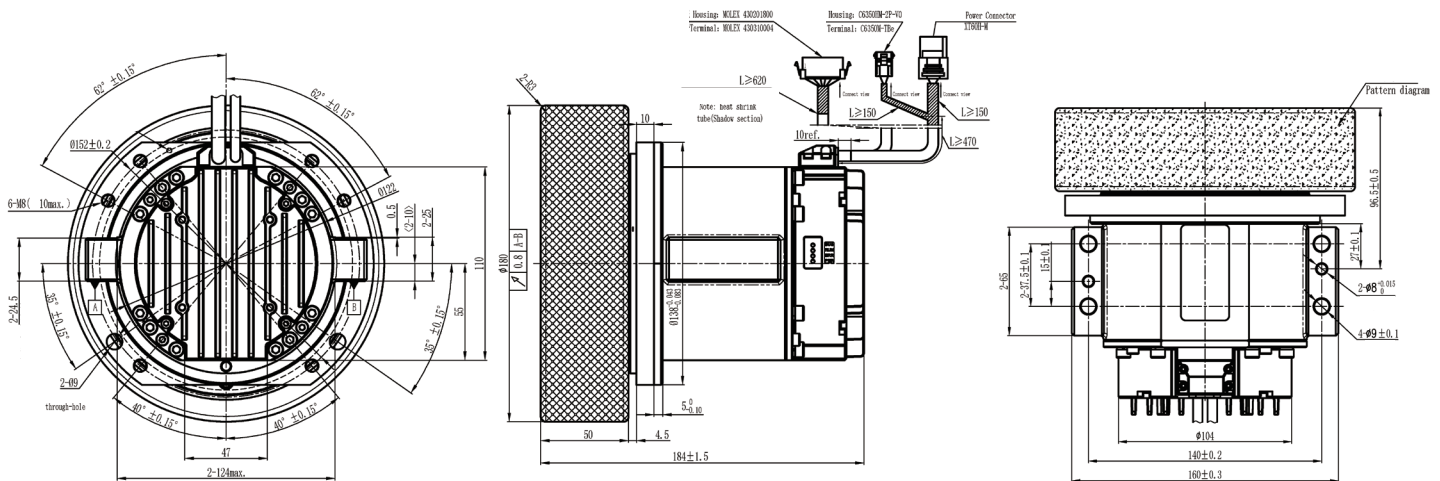
Model		AB-iDW-D180-V2.14-C500-■
Power Supply	Main Power Supply	24VDC - 60VDC
	Logic Power Supply	24VDC
Rated Linear Speed (m/s)		2.14
Rated Torque T_n (Nm)		40
Peak Torque T_n (Nm)		99
Tire Diameter (mm)		180
Tire Width (mm)		50
Tire Material		Polyurethane (Optional)
Tire Hardness Rating		90 A
Dynamic Braking		External braking resistor required (depending on operating conditions, mainly used in rapid start-stop scenarios)
Dynamic Braking Voltage Absorption Point		DC63 V ± 2 V
Overvoltage Alarm Voltage		DC68 V ± 2 V
Undervoltage Alarm Voltage		DC18V ± 2 V
Input Specifications		2 digital inputs / Common COM1 terminal / High level: 12.5-30 VDC / Low level: 0-5 VDC / Max. frequency: 1 kHz / Input impedance: 5 kΩ
Output Specifications		1 digital output, common COM2 terminal / Max. output current: 100 mA
Brake		Built-in Brake and Control Circuit
Forced Brake Release Interface		One forced brake release interface, to be used only when the servo wheel has no power input
RS485 Debug Port		Maximum supported baud rate: 115.2 Kbps
CAN BUS		Maximum baud rate: 1 Mbps; supports communication with controllers via CANopen protocol.
Drive Current	Max. Continuous Output Current (RMS)	26A
	Peak Current (PEAK)	100Ap(<2s)
Motor	Rated Speed nN (rpm)	2500
	Rated Torque T_n (Nm)	4
	Brake Holding Torque T (Nm)	4
Noise		<65dB
Cooling Method		Natural Cooling with Vehicle-Assisted Heat Dissipation
Operating Environment	Operating Temperature	0 - 40 °C
	Storage Temperature	-20 - 60 °C
	Humidity (Non-condensing)	Below 90% RH
	IP Ratings	IP54
	Altitude	Rated operating altitude is below 1000 m. For operating altitudes above 1000 m, the power rating must be derated by 1.5% for every 100 m increase. The maximum operating altitude is 2000 m
	Atmospheric Pressure	86 kpa - 106 kpa
Note: ■ = B: With Brake		



Model		AB-iDW-D180-V1.57-C700-■
Power Supply	Main Power Supply	24VDC - 60VDC
	Logic Power Supply	24VDC
Rated Linear Speed (m/s)		1.57
Rated Torque T_n (Nm)		54
Peak Torque T_n (Nm)		150
Tire Diameter (mm)		180
Tire Width (mm)		50
Tire Material		Polyurethane (Optional)
Tire Hardness Rating		93 A ± 2
Dynamic Braking		External braking resistor required (depending on operating conditions, mainly used in rapid start-stop scenarios)
Dynamic Braking Voltage Absorption Point		DC63 V ± 2 V
Overvoltage Alarm Voltage		DC68 V ± 2 V
Undervoltage Alarm Voltage		DC18V ± 2 V
Input Specifications		2 digital inputs / Common COMI terminal / High level: 12.5-30 VDC / Low level: 0-5 VDC / Max. frequency: 1 kHz / Input impedance: 5 kΩ
Output Specifications		1 digital output, common COMO terminal / Max. output current: 100 mA
Brake		Built-in Brake and Control Circuit
Forced Brake Release Interface		One forced brake release interface, to be used only when the servo wheel has no power input
RS485 Debug Port		Maximum supported baud rate: 115.2 Kbps
CAN BUS		Maximum supported baud rate: 115.2 Kbps
Drive Current	Max. Continuous Output Current (RMS)	25A
	Peak Current (PEAK)	100Ap(<2s)
Motor	Rated Speed n_N (rpm)	2500
	Rated Torque T_n (Nm)	4
	Brake Holding Torque T (Nm)	4
Noise		<65dB
Cooling Method		Natural Cooling with Vehicle-Assisted Heat Dissipation
Operating Environment	Operating Temperature	0 - 40 °C
	Storage Temperature	-20 - 60 °C
	Humidity (Non-condensing)	Below 90% RH
	IP Ratings	IP54
	Altitude	Rated operating altitude is below 1000 m. For operating altitudes above 1000 m, the power rating must be derated by 1.5% for every 100 m increase. The maximum operating altitude is 2000 m
	Atmospheric Pressure	86 kpa - 106 kpa
Note: ■ = B: With Brake		



Model		AB-iDW-D180-V1.57-C750-■
Power Supply	Main Power Supply	24VDC ~ 60VDC
	Logic Power Supply	24VDC
Rated Linear Speed (m/s)		1.57
Rated Torque T_n (Nm)		60
Peak Torque T_n (Nm)		150
Tire Diameter (mm)		180
Tire Width (mm)		50
Tire Material		Polyurethane (Optional)
Tire Hardness Rating		93 A ± 2
Dynamic Braking		External braking resistor required (depending on operating conditions, mainly used in rapid start-stop scenarios)
Dynamic Braking Voltage Absorption Point		DC63 V ± 2 V
Overvoltage Alarm Voltage		DC68 V ± 2 V
Undervoltage Alarm Voltage		DC18V ± 2 V
Input Specifications		2 digital inputs / Common COM1 terminal / High level: 12.5-30 VDC / Low level: 0-5 VDC / Max. frequency: 1 kHz / Input impedance: 5 kΩ
Output Specifications		1 digital output, common COM2 terminal / Max. output current: 100 mA
Brake		Built-in Brake and Control Circuit
Forced Brake Release Interface		One forced brake release interface, to be used only when the servo wheel has no power input
RS485 Debug Port		Maximum supported baud rate: 115.2 Kbps
CAN BUS		Maximum baud rate: 1 Mbps; supports communication with controllers via CANopen protocol.
Drive Current	Max. Continuous Output Current (RMS)	27A
	Peak Current (PEAK)	100Ap(<2s)
Motor	Rated Speed n_N (rpm)	2500
	Rated Torque T_n (Nm)	4.4
	Brake Holding Torque T (Nm)	4
Noise		<65dB
Cooling Method		Natural Cooling with Vehicle-Assisted Heat Dissipation
Operating Environment	Operating Temperature	0 ~ 40 °C
	Storage Temperature	-20 ~ 60 °C
	Humidity (Non-condensing)	Below 90% RH
	IP Ratings	IP54
	Altitude	Rated operating altitude is below 1000 m. For operating altitudes above 1000 m, the power rating must be derated by 1.5% for every 100 m increase. The maximum operating altitude is 2000 m
	Atmospheric Pressure	86 kpa ~ 106 kpa
Note: ■ = B: With Brake		



Model		AB-iDW-D180-V1.18-C-1000-■
Power Supply	Main Power Supply	24VDC - 60VDC
	Logic Power Supply	24VDC
Rated Linear Speed (m/s)		1.18
Rated Torque Tn (Nm)		80
Peak Torque Tn (Nm)		200
Tire Diameter (mm)		180
Tire Width (mm)		50
Tire Material		Polyurethane (Optional)
Tire Hardness Rating		93 A ± 2
Dynamic Braking		External braking resistor required (depending on operating conditions, mainly used in rapid start-stop scenarios)
Dynamic Braking Voltage Absorption Point		DC63 V ± 2 V
Overvoltage Alarm Voltage		DC68 V ± 2 V
Undervoltage Alarm Voltage		DC18V ± 2 V
Input Specifications		2 digital inputs / Common COMI terminal / High level: 12.5-30 VDC / Low level: 0-5 VDC / Max. frequency: 1 kHz / Input impedance: 5 kΩ
Output Specifications		1 digital output, common COMO terminal / Max. output current: 100 mA
Brake		Built-in Brake and Control Circuit
Forced Brake Release Interface		One forced brake release interface, to be used only when the servo wheel has no power input
RS485 Debug Port		Maximum supported baud rate: 115.2 Kbps
CAN BUS		Maximum baud rate: 1 Mbps; supports communication with controllers via CANOpen protocol.
Drive Current	Max. Continuous Output Current (RMS)	27A
	Peak Current (PEAK)	100Ap(<2s)
Motor	Rated Speed nN (rpm)	2500
	Rated Torque Tn (Nm)	4.4
	Brake Holding Torque T (Nm)	4
Noise		<65dB
Cooling Method		Natural Cooling with Vehicle-Assisted Heat Dissipation
Operating Environment	Operating Temperature	0 - 40 °C
	Storage Temperature	-20 - 60 °C
	Humidity (Non-condensing)	Below 90% RH
	IP Ratings	IP54
	Altitude	Rated operating altitude is below 1000 m. For operating altitudes above 1000 m, the power rating must be derated by 1.5% for every 100 m increase. The maximum operating altitude is 2000 m
	Atmospheric Pressure	86 kpa - 106 kpa

Note: ■ = B: With Brake



www.atombotix.com
contact@atombotix.com

