



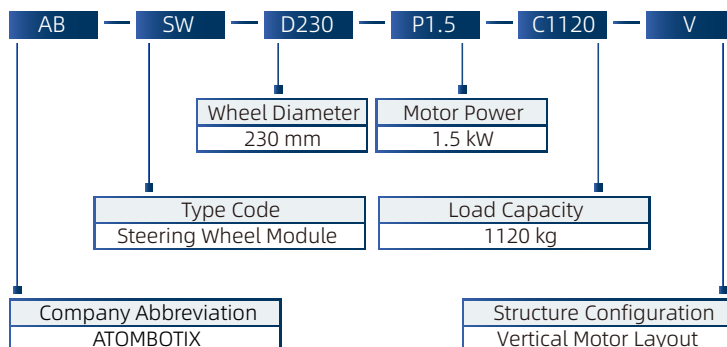
Vertical Steering Drive Wheel Module



Overview

The vertical steering wheel drive unit is a highly integrated motion module for AGVs and AMRs, featuring a vertical motor layout to provide higher transmission efficiency and larger load capacity. By integrating driving and steering functions into a compact structure, the module enables flexible vehicle movement, precise steering control, and stable operation in demanding industrial applications.

Model Nomenclature



Key Feature



High load capacity

Vertical transmission structure supports heavy-duty industrial applications



Optimized transmission efficiency

Direct power transmission improves driving performance and stability



Compact integrated design

Combines driving and steering functions into a modular structure



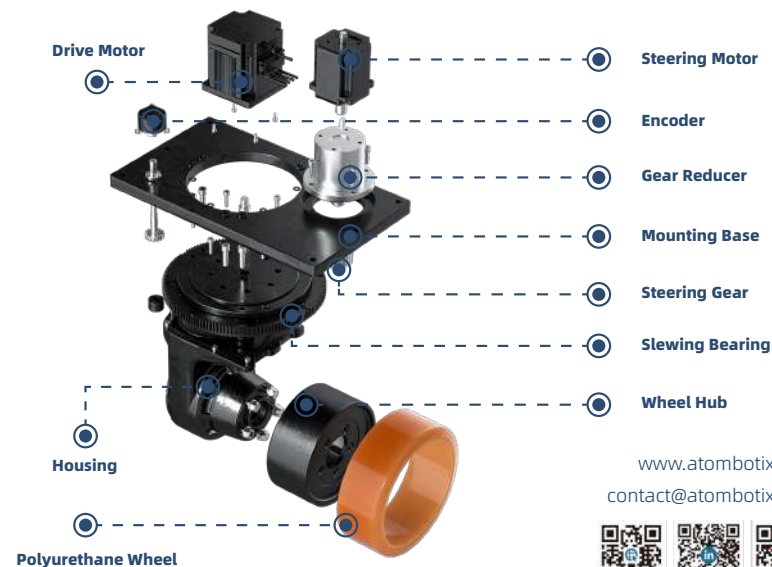
Flexible configuration

Supports customizable wheel materials and parameters for various applications

Installation Layout



Mechanical Structure



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Basic Information

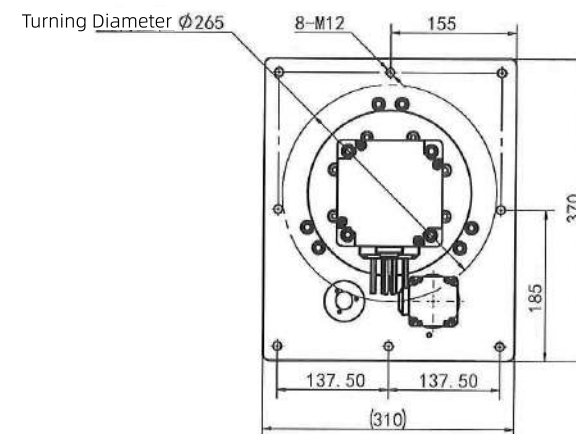
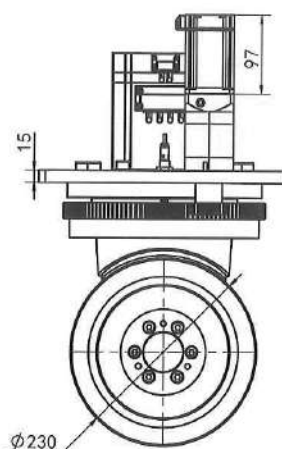
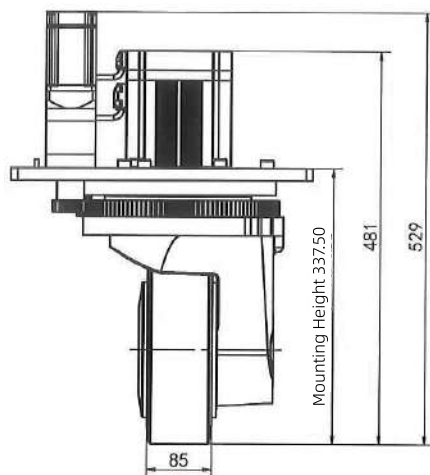
Wheel Diameter(mm)	230	
Wheel Material	Polyurethane	Rubber
Load Capacity(kg)	1120	/
Height(mm)	529	
Rated Voltage(V)	48	
Suspension	None	
Maintenance Method	Refer to maintenance manual	
Maintenance Interval	Refer to maintenance manual	

Drive Unit

Motor Model	SMC130D-0150-30WBK-4DSH		
Rated Motor Power(W)	1570		
Rated Motor Speed(rpm)	3000		
Rated Motor Torque(N·m)	5		
Built-in Encoder Type	Incremental magnetic Encoder		
Encoder Performance	/		
Gear Ratio	16	20	28
Traction Force(N)	608	782	1086
Travel Speed(m/min)	135.4	108.3	77.3
Brake Type	/		
Brake Torque(N·m)	/		
External Safety Encoder	Optional		

Steering Unit

Motor Model	SMC60S-0040-30QAK-5DSU		
Rated Motor Power(W)	400		
Rated Motor Speed(rpm)	3000		
Rated Motor Torque(N·m)	1.27		
Built-in Encoder Type	Absolute Encoder		
Encoder Performance	/		
Gearbox Ratio	35		
Total Steering Ratio	215.25		
Max. Turning Radius(mm)	265		
Steering Angle(°)	±180		
Mechanical Stop	Yes		
Electronic Limit	/		
Zero-position Switch	IME12-02BNSZW2S		


AB-SW-D230-P1.5-C1120-V
NO. 1


Basic Information

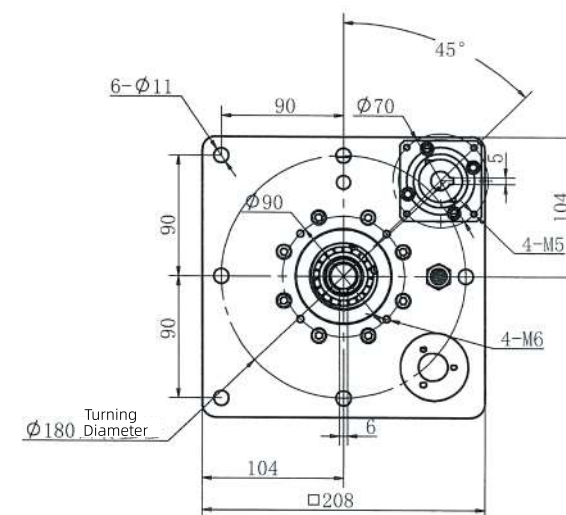
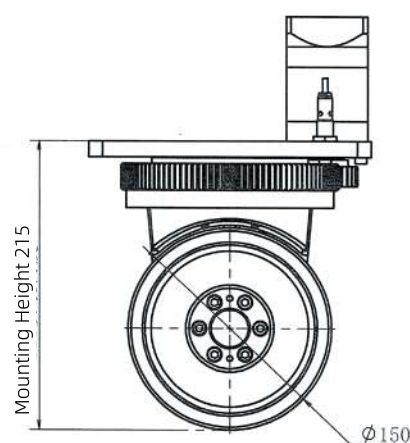
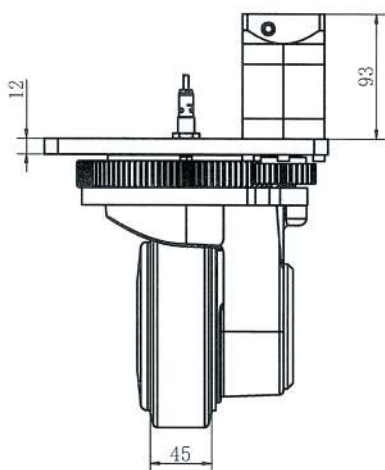
Wheel Diameter(mm)	150	
Wheel Material	Polyurethane	Rubber
Load Capacity(kg)	550	/
Height(mm)	/	
Rated Voltage(V)	48	
Suspension	None	
Maintenance Method	Refer to maintenance manual	
Maintenance Interval	Refer to maintenance manual	

Drive Unit

Motor Model	SMC80S-0075-30MAK-5DSU		
Rated Motor Power(W)	750		
Rated Motor Speed(rpm)	3000		
Rated Motor Torque(N·m)	2.39		
Built-in Encoder Type	Incremental magnetic Encoder		
Encoder Performance	/		
Gear Ratio	16	20	28
Traction Force(N)	453	573	800
Travel Speed(m/min)	88.3	70.7	50.5
Brake Type	/		
Brake Torque(N·m)	/		
External Safety Encoder	Optional		

Steering Unit

Motor Model	SMC60S-0040-30MAK-5DSU		
Rated Motor Power(W)	400		
Rated Motor Speed(rpm)	3000		
Rated Motor Torque(N·m)	1.27		
Built-in Encoder Type	Incremental magnetic Encoder		
Encoder Performance	/		
Gearbox Ratio	35		
Total Steering Ratio	175		
Max. Turning Radius(mm)	180		
Steering Angle(°)	±180		
Mechanical Stop	Yes		
Electronic Limit	/		
Zero-position Switch	PR12-2DN		


AB-SW-D150-P0.75-C550-V
NO. 2


Basic Information

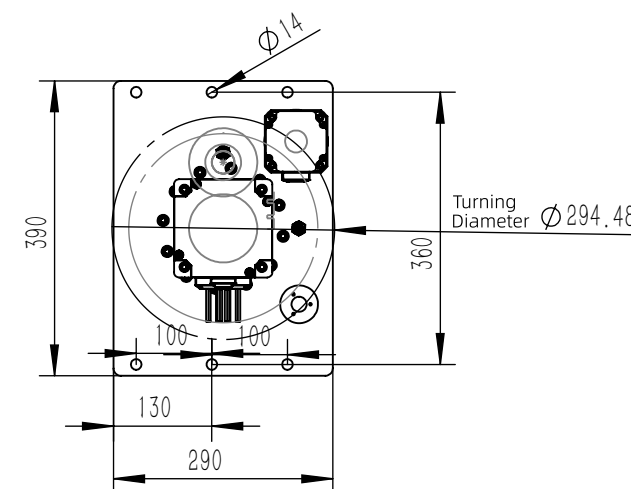
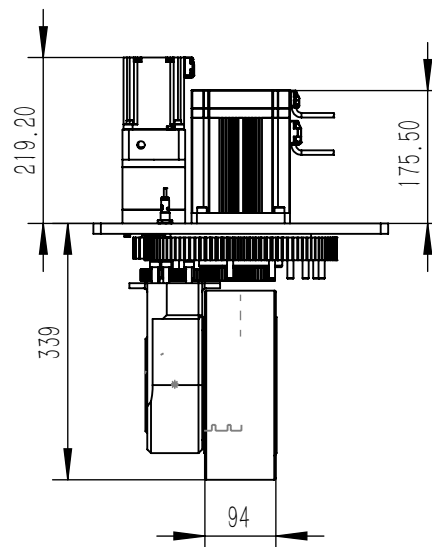
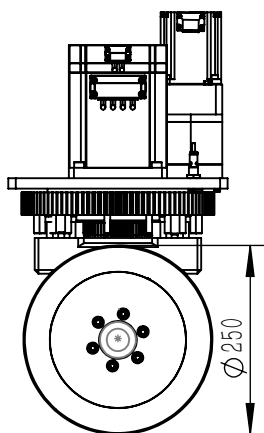
Wheel Diameter(mm)	250	
Wheel Material	Polyurethane	Rubber
Load Capacity(kg)	1500	/
Height(mm)	/	
Rated Voltage(V)	48	
Suspension	None	
Maintenance Method	Refer to maintenance manual	
Maintenance Interval	Refer to maintenance manual	

Drive Unit

Motor Model	SMC130D-0150-30MAK-5DSU						
Rated Motor Power(W)	1500						
Rated Motor Speed(rpm)	3000						
Rated Motor Torque(N·m)	5						
Built-in Encoder Type	Incremental magnetic Encoder						
Encoder Performance	/						
Gear Ratio	16	20	25	28	35	40	50
Traction Force(N)	576	720	900	1008	1260	1440	1800
Travel Speed(m/min)	147.2	117.8	94.2	84.1	67.3	58.9	47.1
Brake Type	/						
Brake Torque(N·m)	/						
External Safety Encoder	Optional						

Steering Unit

Motor Model	SMC80S-0075-30MAK-5DSU	
Rated Motor Power(W)	750	
Rated Motor Speed(rpm)	3000	
Rated Motor Torque(N·m)	2.39	
Built-in Encoder Type	Incremental magnetic Encoder	
Encoder Performance	/	
Gearbox Ratio	/	
Total Steering Ratio	/	
Max. Turning Radius(mm)	294.48	
Steering Angle(°)	±180	
Mechanical Stop	Yes	
Electronic Limit	/	
Zero-position Switch	/	


AB-SW-D250-P1.5-C1500-V
NO. 3

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