



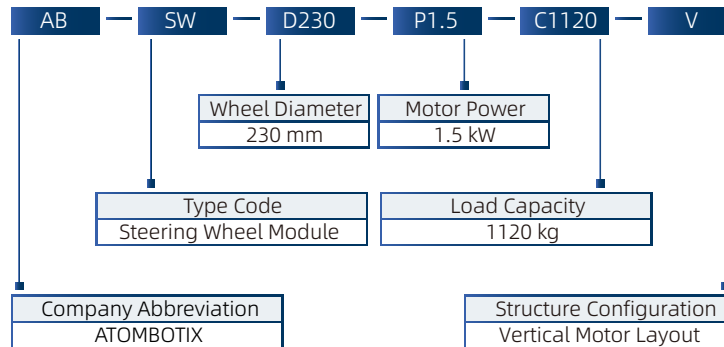
Vertical Steering Drive Wheel Module



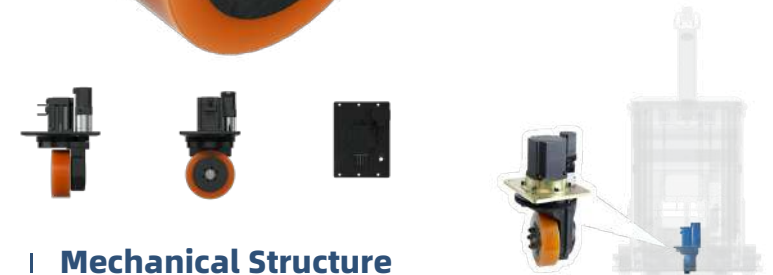
Overview

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



Installation Layout



Mechanical Structure



Key Feature

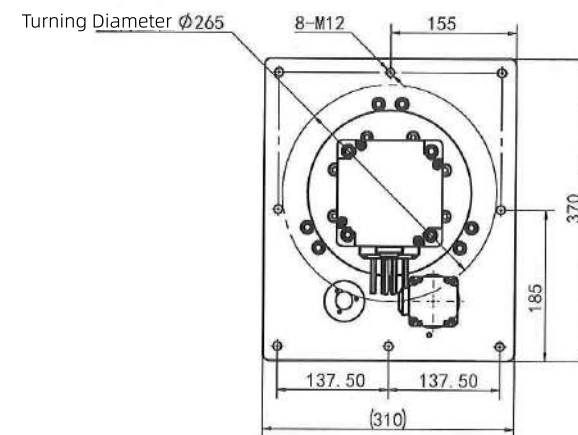
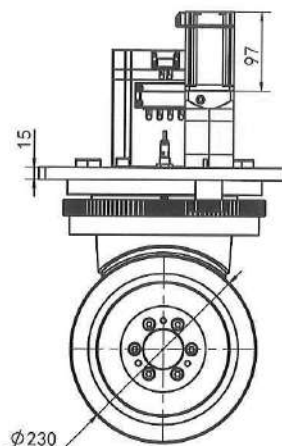
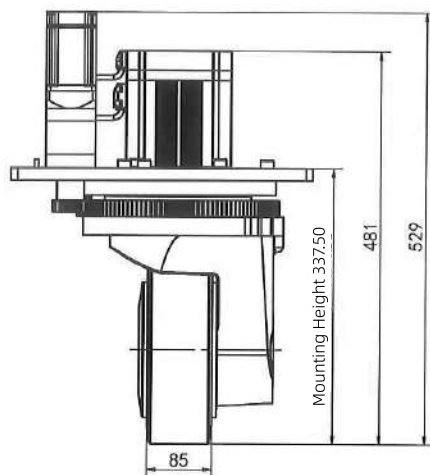
High load capacity	Optimized transmission efficiency	Compact integrated design	Flexible configuration
Vertical transmission structure supports heavy-duty industrial applications	Direct power transmission improves driving performance and stability	Combines driving and steering functions into a modular structure	Supports customizable wheel materials and parameters for various applications



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



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		

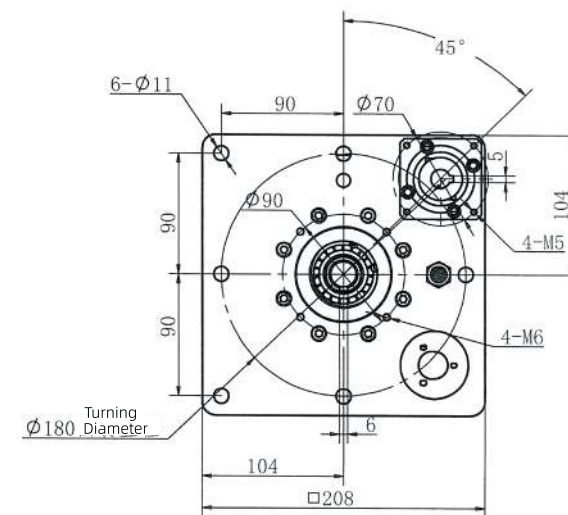
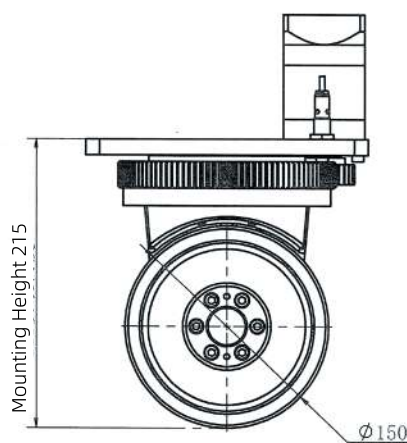
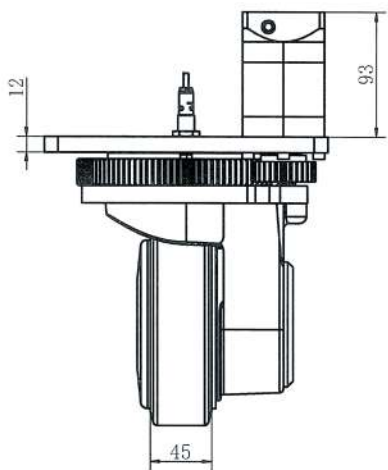
Steering Unit

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
