

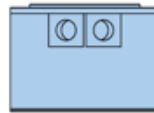
The PM-DD Series

Powerful Direct Drive Rotary Motors

- Robust power and smooth motion with no backlash
- Ideal for applications that require attaching a load directly to the motor
- Compact and accurate with high torque density
- Easily configured with multiple control options
- Very high precision rotary motion



- Easy configuration
- Multiple control options
- Predefined Profile mode provides ideal indexing features for your machine
- EtherCAT gives high speed communication for multi-axis solutions



PM-DDB06B



PM-DDFA6G

* Several other sizes available. Bracket shown is only available with home switch option.



P Series direct-drive rotary motors are high performance integrated positioning systems. The combination of high torque, zero backlash, and precision bearing structure results in fast settling time and outstanding accuracy.

The PM-DD servo motor is designed to provide high torque and high accuracy. Tapped mounting holes and a hollow through bore allow this robust motor to be used in a variety of applications that require the load to be attached directly to the motor.

By eliminating the use of couplings or belts, the load can be driven in a smooth, nearly frictionless motion with no backlash.

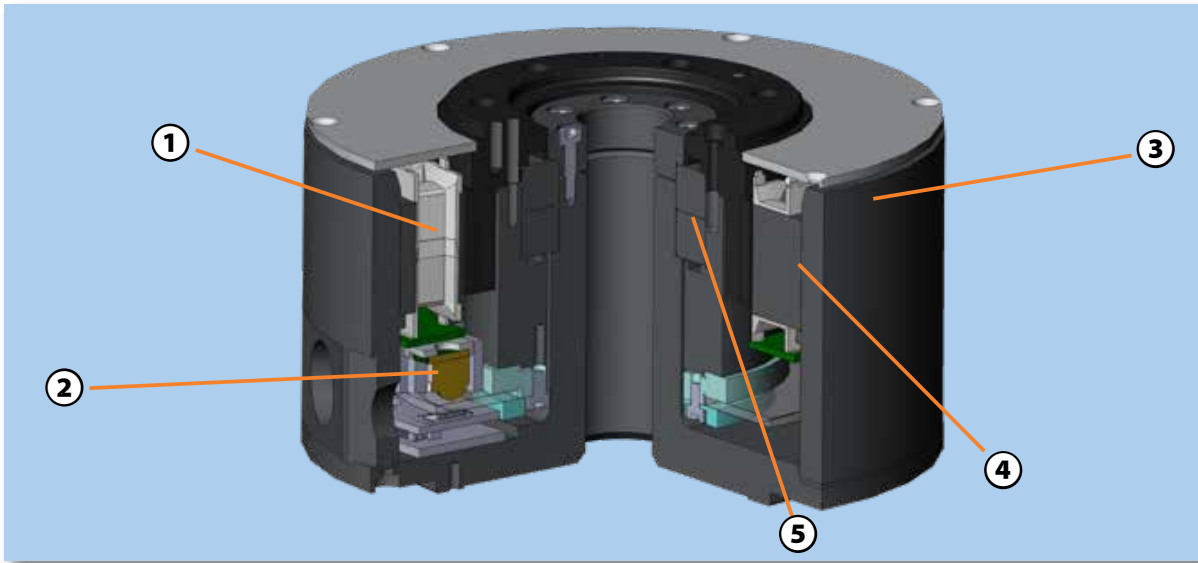
PM-DD motors are a perfect match with the P Series Servo Drives. The absolute encoders in the motor populate motor nameplate data back to the drives for simplified commissioning. Accurate and easy to use inertia detection leads to fast set-up of tuning parameters and minimal settling time. Once the motor is connected to a P series drive, it will automatically recognize the motor.

The pulse version of the drive can be configured for step and direction control input and includes analog inputs for torque or velocity control. Select indexer mode to create up to 64 position table entries triggered via inputs or over a RS422 interface.

For high speed, real-time network applications, the P-Series is available with EtherCAT, the fastest growing, most flexible industrial Ethernet protocol. Ideal for use with the Parker Automation Controller, the P-Series also follows the open standards for EtherCAT.

PM-DD Series	
Maximum Diameter (mm)	360
Maximum Payload (N)	15,000
Maximum Velocity (rpm)	500

Rotary Tables



1 Winding
Optimized winding structure provides high performance in a compact package.

2 Encoder
For accurate control, the PM-DD is equipped with 20 bit absolute feedback with BISS-C communication as standard. This allows accuracy of +/- 30 arc-sec. with repeatability of +/- 1.3 arc-sec.

3 Frame
The PM-DD is made in five frame sizes: 135mm, 175mm, 230mm, 290mm, and 360mm. 13 models provide power options that can meet a wide variety of application requirements.

- Rated speed: 200 RPM/150 RPM
- Rated torque: 3 Nm to 160 Nm

4 Magnet
High torque density by using highest class rated Neodymium permanent magnet.

5 Bearing
Improved bearing design yields low vibration and outstanding mechanical accuracy. Load carrying capabilities extend to 15,000N.



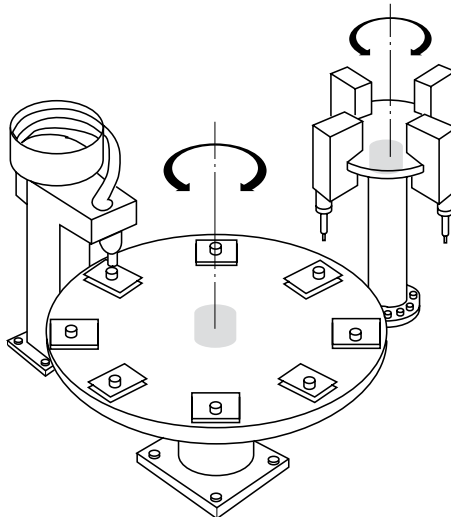
SERVO DRIVE

Ideal direct drive solution for P series drive

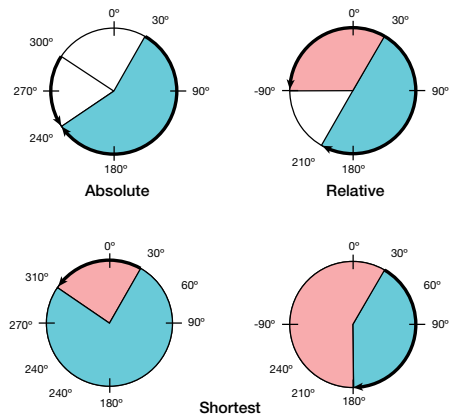
- 100~400W : PD-04P & 04C
- 400~1kW : PD-10P & 10C
- 1kW~3.5kW : PD-35P & 35C

Pre-Defined Profile Function with Parker Drives

• Available in 64 profiles



• Rotary Absolute/Relative/Shortest move



SPECIFICATIONS

PM-DD Series

With 5 frame sizes (13 models) available, the PM-DD Series can provide peak torques up to 480 Nm and load carrying capabilities up to 15,000 N.



SPECIFICATIONS

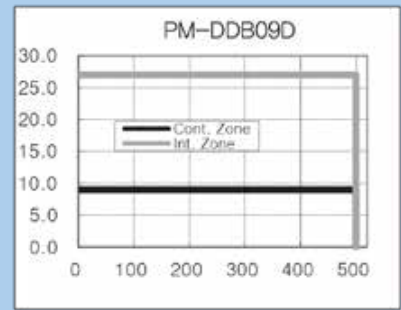
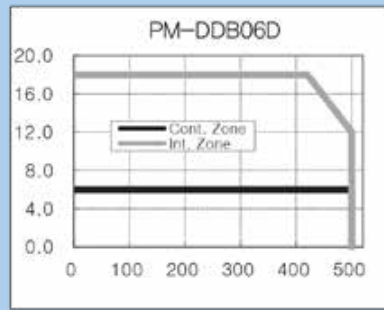
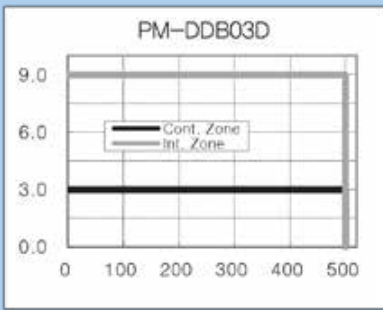
		PM-DDB□□D□H			PM-DDC□□D□H			PM-DDD□□D□H			PM-DDE□□D□H		PM-DDF□□G□H	
		03	06	09	06	12	18	12	22	34	40	60	A1	A6
P series Drive		PD-04	PD-04	PD-04	PD-04	PD-04	PD-04	PD-04	PD-10	PD-10	PD-10	PD-35	PD-35	PD-35
Diameter	mm	ø135			ø175			ø230			ø290		ø360	
Rated Power	W	63	126	188	126	251	377	251	461	712	838	1,257	1,728	2,513
Rated Torque	N-m	3	6	9	6	12	18	12	22	34	40	60	110	160
Peak Torque	N-m	9	18	27	18	36	54	36	66	102	120	180	330	480
Rated Current	Arms	1.12	1.46	2.63	1.48	2.41	3	2.58	3.33	5.72	5.3	8.33	9.48	14.6
Peak Current	Arms	3.36	4.38	7.89	4.44	7.23	9	7.74	9.99	17.16	15.9	24.99	28.44	43.8
Rated Velocity	rpm	200			200			200			200		150	
Max Velocity	rpm	500	500	500	500	500	400	500	400	400	300	300	250	250
Torque Constant	N-m/Arms	2.76	4.25	3.57	4.18	5.13	6.12	4.8	6.81	6.13	7.77	7.42	11.95	11.29
Moment of Inertia	kg-m ² ×10 ⁻⁴	5.74	8.67	11.5	27.32	38.9	50.48	54.14	68.15	82.16	311.55	371.71	1410.2	1763.4
Power Rate	kW/s	15.68	42.35	70.43	13.18	52.71	118.59	26.6	71.02	140.7	51.36	96.68	85.9	145.4
Angular Acceleration	rad/s ²	191.2	141.6	127.7	455.03	323.9	280.3	450.9	309.6	241.5	778.35	619.1	1281.13	1101.4
Accuracy for ABS Position	arc-sec	±30												
Accuracy for Repeatability	arc-sec	±1.3												
Axial run-out	mm	0.015												
Radial run-out	mm	0.03												
Allowable thrust load	N	1500			3300			4000			11000		15000	
Allowable moment load	N-m	40			70			93			250		350	
Encoder		20-bit single turn serial encoder (BiSS-C / Absolute)												
Weight (Approx.)	kg	6.3	7.2	9.2	8.7	10.6	12.6	17.3	19.6	21.9	28.2	35	54	70.3

Rotary Tables

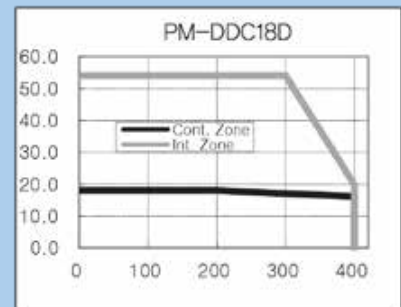
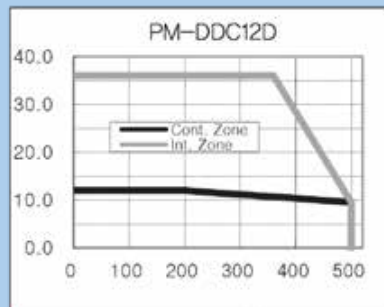
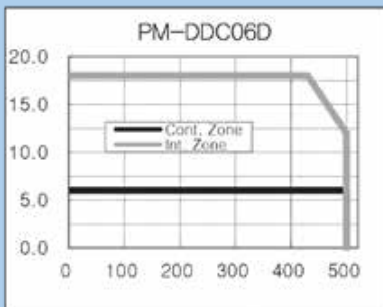
Working Environment	Ambient Temperature	Operating: 32–104°F (0–40°C) Storage: -4–140°F (-20–60°C)
	Ambient Humidity	20–80% RH (avoid dew/condensation)
	Atmosphere	Avoid direct sunlight. No corrosive gas, inflammable gas, oil mist, or dust.

Speed-Torque Performance

Size B



Size C

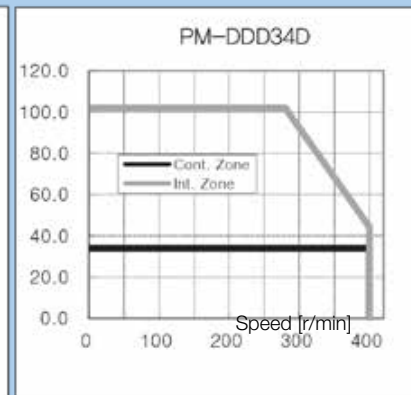
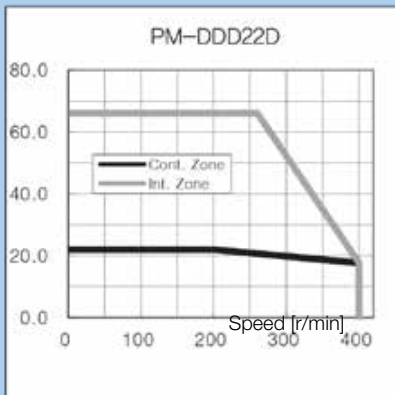
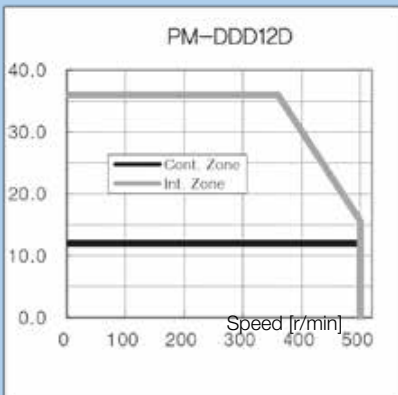


Size D

Torque [Nm]

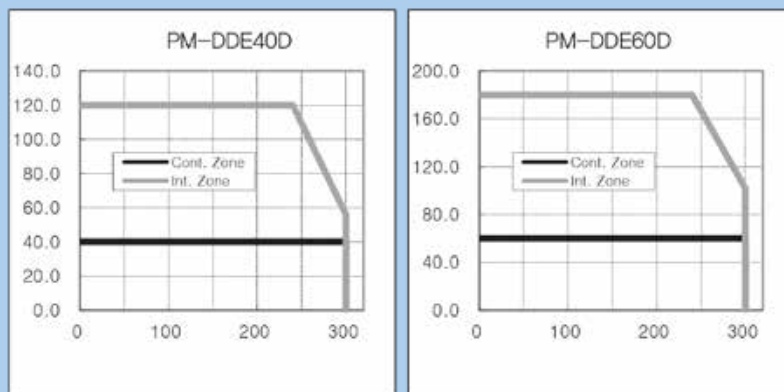
Torque [Nm]

Torque [Nm]

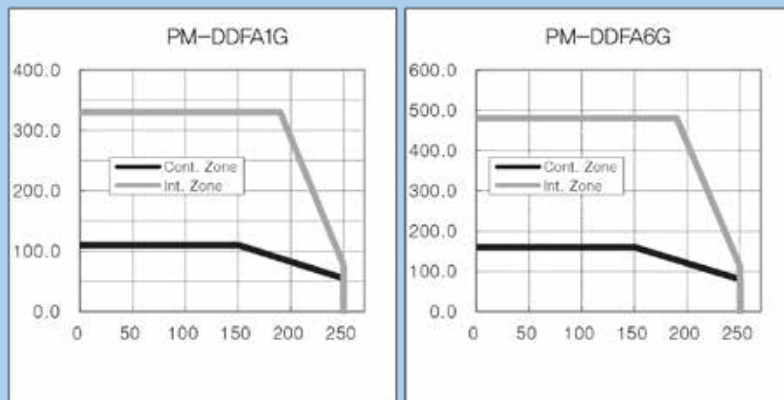


Speed-Torque Performance

Size E



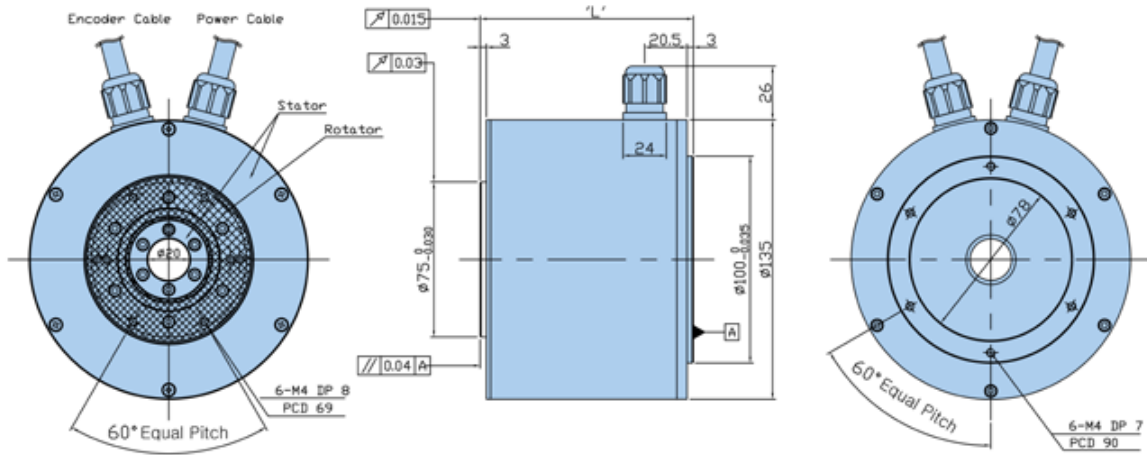
Size F



Rotary Tables

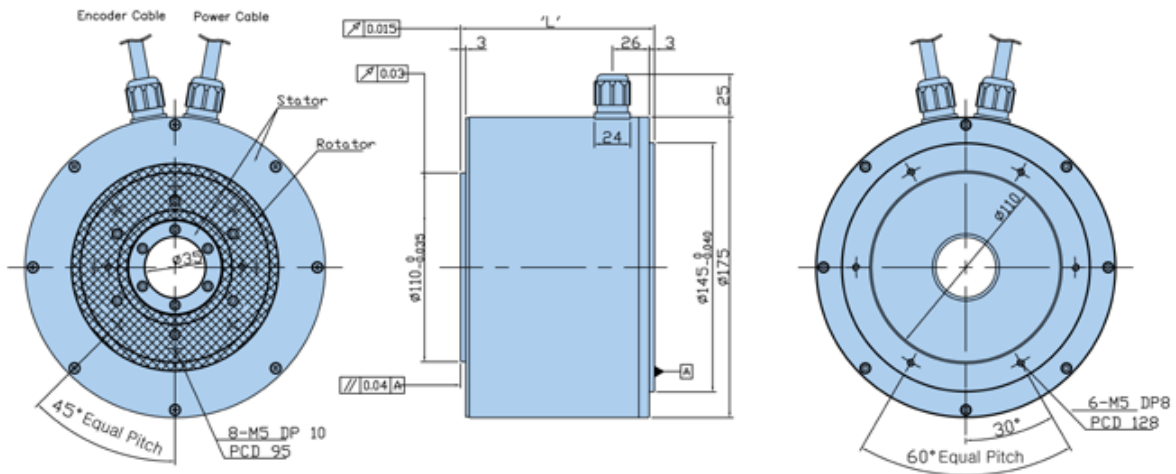
DIMENSIONS

PM-DD Series



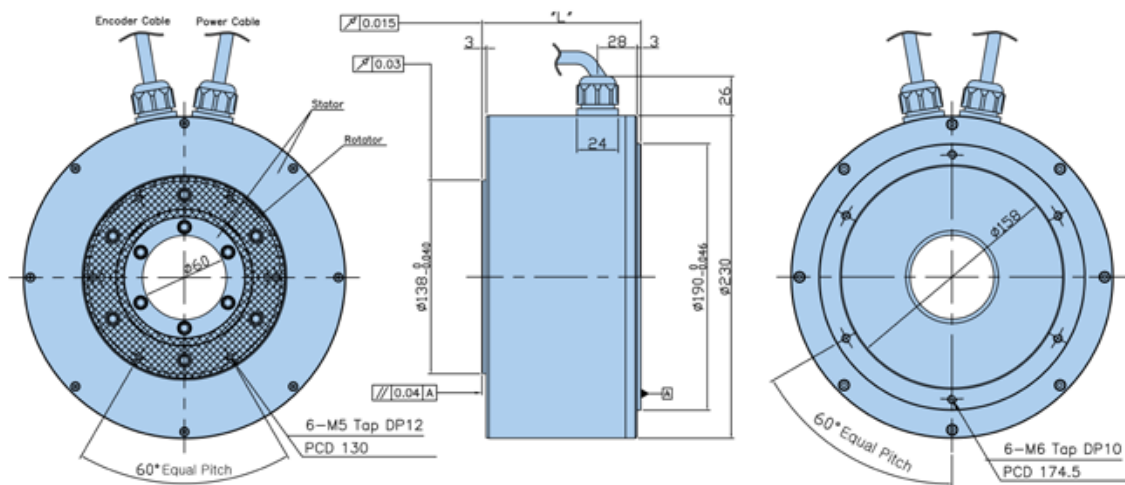
Size B

Motor	Length (mm) 'L'	Weight (Kg)
PM-DDB03D	78	6.3
PM-DDB06D	100	7.2
PM-DDB09D	124	9.2



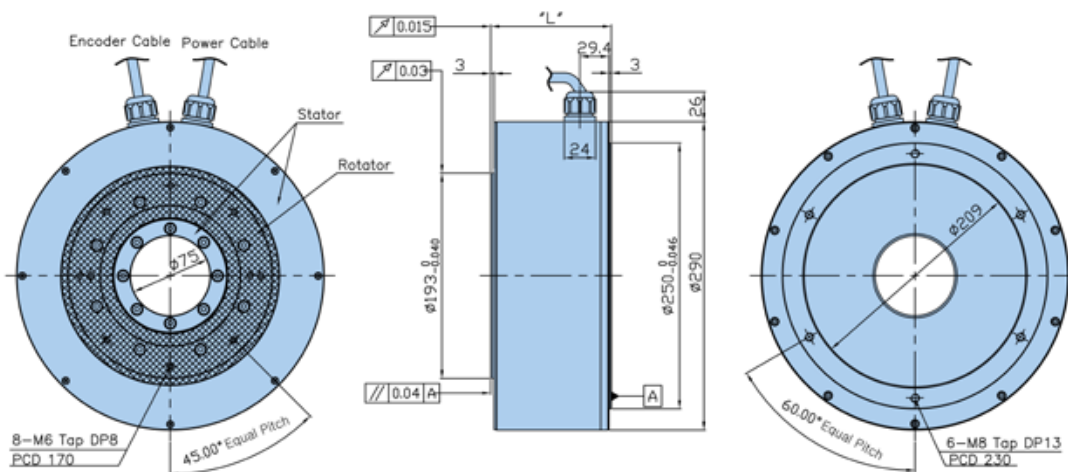
Size C

Motor	Length (mm) 'L'	Weight (Kg)
PM-DDC06D	77	8.7
PM-DDC12D	95	10.6
PM-DDC18D	113	12.6



Size D

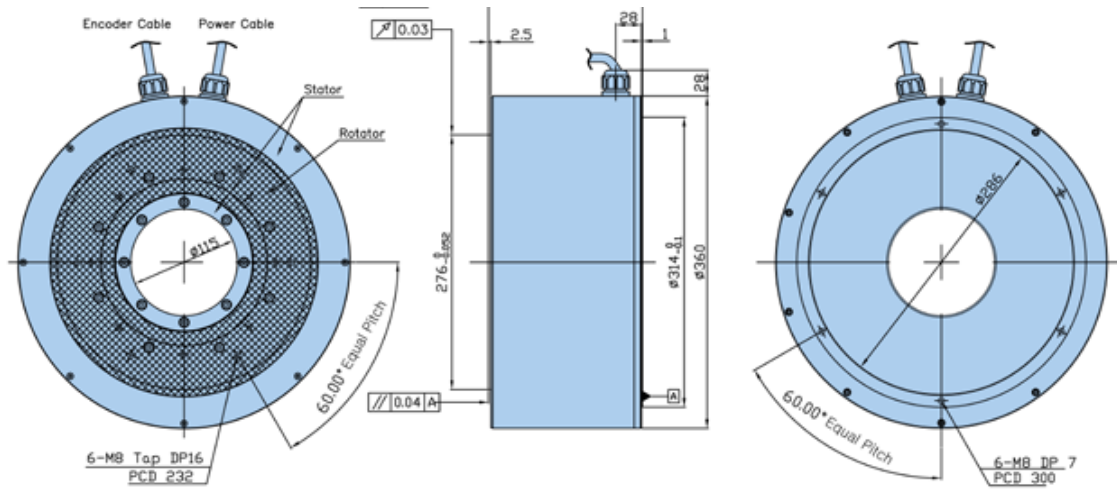
Motor	Length (mm) 'L'	Weight (Kg)
PM-DDD12D	82.5	17.3
PM-DDD22D	100.5	19.6
PM-DDD34D	118.5	21.9



Size E

Motor	Length (mm) 'L'	Weight (Kg)
PM-DDE40D	95.4	28.2
PM-DDE60D	113.4	35

Rotary Tables



Size B

Product	Length (mm) 'L'	Weight (Kg)
PM-DDFA1G	131	54
PM-DDFA6G	167	70.3

Free sizing and selection support
from Virtual Engineer at
parker.com/VirtualEngineer



ORDERING INFORMATION

PM-DD Series

ORDERING INFORMATION

Fill in an order code from each of the numbered fields to create a complete model order code.

	①	②	③	④	⑤	⑥	⑦
MOTOR Order Example:	PM-DD	B	60	A	NO	H	
① Series	DD	DD Motor		④ Rated Speed	A	300rpm	
② Size	B	External Diameter 135mm		D	200rpm (Standard, ø135~ø290 : 200rpm)		
	C	External Diameter 175mm		G	150rpm (Standard, ø360 : 150rpm)		
	D	External Diameter 230mm		M	100rpm		
	E	External Diameter 290mm		⑤ Encoder	NO	135 175 230 290 360	
	F	External Diameter 360mm				20Bit (Single turn ABS, Biss-C communication)	
③ Torque	03	3Nm		⑥ Shaft Type	H	Standard hollow shaft	
	06	6Nm		⑦ Voltage		200V DD Motor (no entry needed)	
	09	9Nm					
	60	60Nm					
	A6	160Nm					

	①	②	③	④
CABLE Order Example:	APCS	E	03	ZS
① Cable Type	APCS	APCS		
② Cable	E	Encoder Feedback		
	PN	Motor Power		
③ Length	03	3m		
	05	5m		
	10	10m		
	20	20m		
④ Rated Speed	ZS	Standard Feedback Cable		
		Standard Power Cable (PM-DDF series)		
	YS	Standard Power Cable(PM-DDB-E series)		

Rotary Tables

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