

# KinetiMax HPD Brushless DC Outer-Rotor Motors

## High Power Density, Frameless Stator-Rotor Sets

62 to 125 mm diameter, 0.24 to 6.7 Nm continuous torque, up to 1170 Watts output

**NEW**



The KinetiMax HPD range of outer-rotor brushless DC motors comes in frameless stator-rotor part sets. Available in six frame sizes and three stack-lengths each, the HPD series enables you to select an optimum configuration with an exact performance fit for your application.

These compact kit motors offer an ideal solution especially where total motor length is crucial in space-constrained applications.

Their large stator ID makes integration of larger ball-bearings possible, and the large clear aperture ID permits cabling to pass through the motor.

The HPD's excellent high torque-to-weight ratio is essential in applications where weight is critical. And with an efficiency ranging from 83% to 90% in a wide speed-torque range, our KinetiMax HPD frameless motors are ideal for battery-fed applications, where they help maximize the running time per battery charge.

Their low cogging torque combined with high peak torque improves motor behaviour in servo applications.

### Features & Benefits

- Winding selection for other Voltages
- Rated torque 0.24 to 6.7 Nm
- High torque-to-weight ratio
- Excellent efficiency from 83% up to 90% over a wide range around the nominal working point

### Options & Accessories

- Hall commutation sensor board
- Temperature sensor mounted on stator
- Aluminium mounting ring

### Typical Applications

- Autonomous Ground Vehicles (AGVs)
- Robotics (arms, joints)
- Handheld Hydraulic Power Tools
- Material Handling Systems
- Medical equipment
- Rotary Actuators
- Gimbals

**KinetiMax HPD Specifications**



**KM 062**



**KM 072**



**KM 083**

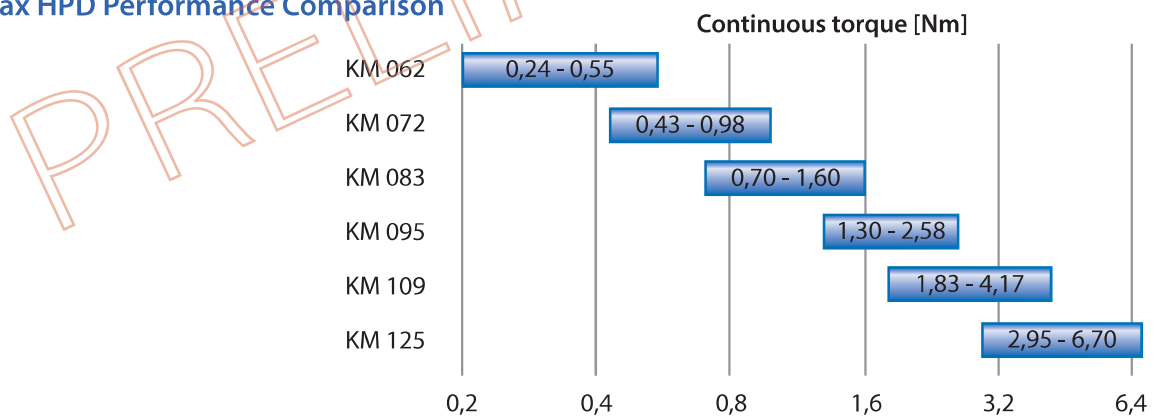
<b>Stack height</b>	01	02	03	01	02	03	01	02	03
<b>Winding Voltage</b>	30	24	31	36	29	38	24	34	26
<b>Operating Voltage - Rated<sup>1</sup></b>	17	14	18	21	16	22	14	19	15
<b>Output Power Watt – Rated</b>	108	131	150	166	202	232	245	299	345
<b>Torque Nm – Rated</b>	0.24	0.42	0.55	0.43	0.76	0.98	0.7	1.25	1.6
<b>Torque Nm – Peak</b>	0.8	1.6	2.4	1.3	2.6	3.9	2.0	4.0	6.0
<b>Speed RPM – Rated</b>	4320	2948	2617	3712	2545	2264	3327	2294	2046
<b>Speed RPM – No-load (@ winding voltage)</b>	8400	5820	5011	7310	5048	4409	6287	4453	3932
<b>DC Current A – Rated<sup>2</sup></b>	7	11	9,3	9	14	12	19,4	17,1	25,5
<b>Rotor Inertia kgm<sup>2</sup> (x10<sup>-6</sup>)</b>	44	61	79	93	131	169	189	266	343
<b>Max Winding Temperature °C</b>	160			160			160		
<b>Number of poles</b>	30			30			30		
<b>Weight kg</b>	0.11	0.16	0.22	0.18	0.27	0.37	0.27	0.41	0.56
<b>External diameter [C]<sup>3</sup> mm</b>	62	62	62	72	72	72	83	83	83
<b>Internal diameter [D]<sup>3</sup> mm</b>	38	38	38	44	44	44	51	51	51
<b>Overall length [A]<sup>3</sup> mm</b>	21	27	33	23	31	38	28	36	44

<sup>(1)</sup> Data is based upon 1 standard supply voltage. Additional windings are available per frame size and stack length.

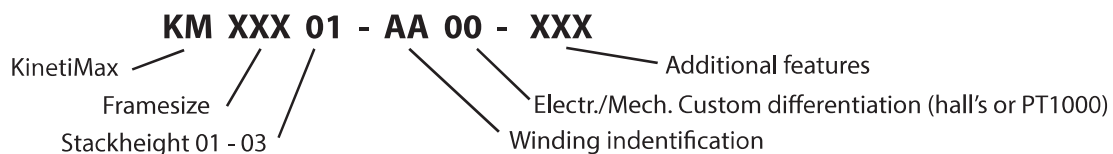
<sup>(2)</sup> DC link current assuming a sinusoidal drive is used.

<sup>(3)</sup> See dimensions on following page.

**KinetiMax HPD Performance Comparison**



**Model Numbering**





## KinetiMax HPD Specifications

KM 095

KM 109

KM 125

01	02	03	01	02	03	01	02	03	Stack height
29	24	32	21	29	40	25	40	49	Winding Voltage
17	14	18	12	16	22	15	20	27	Operating Voltage - Rated <sup>1</sup>
360	442	510	534	662	767	803	1006	1171	Output Power Watt – Rated
1.3	2.0	2.58	1.83	3.24	4.17	2.95	5.2	6.7	Torque Nm – Rated
3.0	6.0	9.0	4.5	9.1	13.6	6.8	13.7	20.5	Torque Nm – Peak
3038	2109	1886	2792	1954	1754	2598	1838	1658	Speed RPM – Rated
5799	4156	3694	5525	3815	3508	5001	4001	3267	Speed RPM – No-load (@ winding voltage)
24	36	34	51	45	38	62	55	47	DC Current A – Rated <sup>2</sup>
344	483	627	685	960	1246	1307	1879	2440	Rotor Inertia kgm <sup>2</sup> (x10 <sup>-6</sup> )
160			160			160			Max Winding Temperature °C
30			30			30			Number of poles
0.40	0.62	0.84	0.61	0.94	1.27	0.92	1.41	1.91	Weight kg
95	95	95	109	109	109	125	125	125	External diameter [C] <sup>3</sup> mm
58	58	58	67	67	67	77	77	77	Internal diameter [D] <sup>3</sup> mm
32	40	49	38	48	59	42	54	66	Overall length [A] <sup>3</sup> mm

<sup>(1)</sup> Data is based upon 1 standard supply voltage. Additional windings are available per frame size and stack length.

<sup>(2)</sup> DC link current assuming a sinusoidal drive is used.

<sup>(3)</sup> See dimensions in design below.

## KinetiMax HPD Dimensions (mm)

