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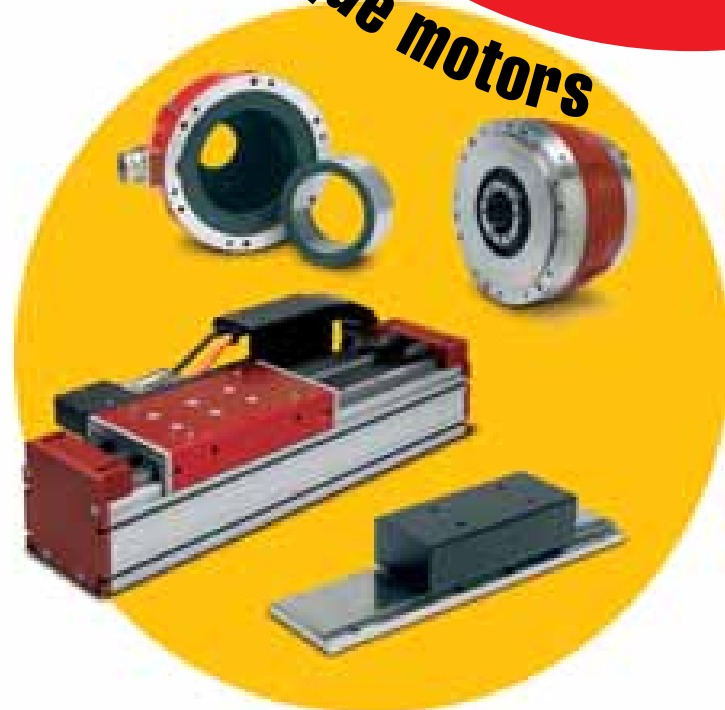
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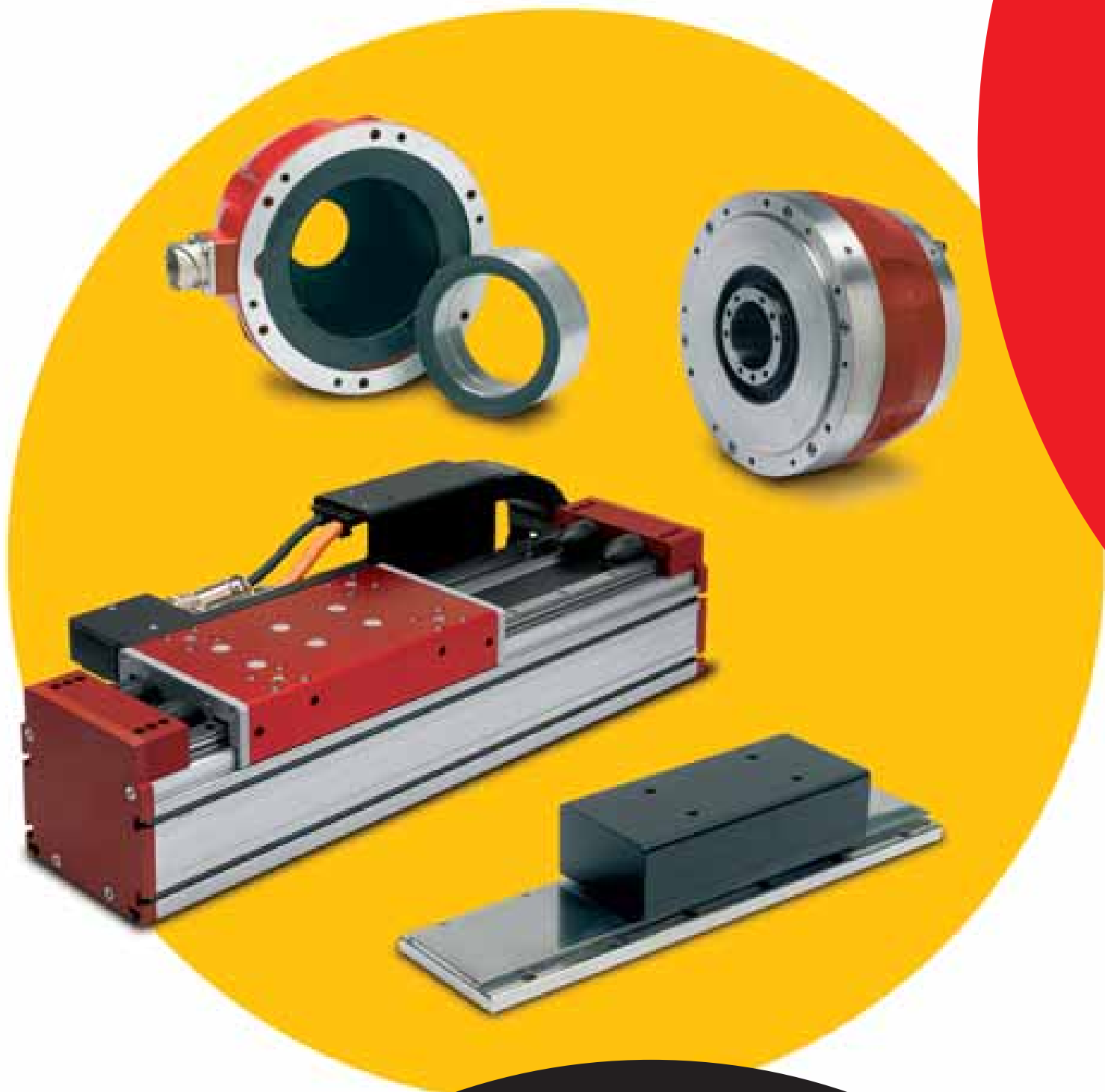
**motor**  
**technology**  
*control in motion.com*

# DIRECT DRIVE

**MOTOR  
POWER  
COMPANY**

*Linear and torque motors*





**SKA DDL  
SKA COMPACT  
SKA DDR**

**MOTOR  
POWER  
COMPANY**

# Direct Drive technology: precision, dynamics, performance.

Cutting-edge technology in motion control: this is the core prerogative of the Direct Drive series by Motor Power Company. Our linear and torque motors, available in different modular solutions, respond to the most challenging applications and to your machine integration needs.

## **SKA Direct Drive Linear**

Synchronous linear permanent magnet motors created with “iron core” technology. Alongside the **Frameless** version with mobile coil, magnetic track and temperature sensor and the **Linear Stage** version, with linear guideways, bellows, encoder, cables and cable carrier, Motor Power Company also proposes the **SKA Compact** model. This has been designed as a “plug and play” solution thanks to its carrying structure enclosed in extruded aluminium.

## **SKA Direct Drive Rotative**

“Multipoles” permanent magnet synchronous brushless motors. The SKA DDR series is available in the **Frameless** version formed by the rotor and stator parts alone so that it can be integrated into machines. A **Power Pack** version is also available, with flange, bearings, feedback and connections.

## **All SKA motors feature these advantages of Direct Drive technology:**

SKA motors replace all transmission mechanical components (like gearboxes, ball screws, racks, belts and pulleys) • bypass the limits given by backlash, friction and inertia • enhance manufactured throughput and reliability • improve motion linearity and precision • decrease noise levels • distribute power and motion control intelligence in the machine • simplify and accelerate the design and assembly of the machine • save energy in machine operation • reduce costs.

# SKA DDL



## SKA DDL

	Unit	<b>DDL.30.40</b>	<b>DDL.30.80</b>	<b>DDL.50.75</b>	<b>DDL.50.150</b>	<b>DDL.55.275</b>	<b>DDL.55.550</b>
Peak Force	N (oz)	134.8 (481)	269.6 (962)	247 (882)	495 (1767)	825 (2946)	1650 (5892)
Continuous Force	N (oz)	40 (143)	80 (246)	75 (268)	150 (538)	275 (982)	550 (1964)
Magnetic Attraction	N (oz)	260 (928)	520 (1857)	430 (1535)	860 (3071)	1202 (4293)	2405 (8589)
Speed	m/s (in/s)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)
Acceleration	m/s <sup>2</sup> (in/s <sup>2</sup> )	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)
Coil length	mm (in)	102 (4.01)	186 (7.32)	102 (4.01)	186 (7.32)	186 (7.32)	354 (13.93)
Coil width	mm (in)	56 (2.20)	56 (2.20)	76 (3)	76 (3)	80 (3.15)	80 (3.15)
Coil height	mm (in)	23 (0.91)	23 (0.91)	23 (0.91)	23 (0.91)	47.5 (1.87)	47.5 (1.87)
Coil weight	Kg (lb)	0.55 (1.21)	1 (2.20)	0.8 (1.76)	1.6 (3.52)	3 (6.60)	7 (15.40)
Magnet track width	mm (in)	50 (1.97)	50 (1.97)	70 (2.76)	70 (2.76)	90 (3.543)	90 (3.543)
Magnet track height	mm (in)	10.8 (0.425)	10.8 (0.425)	10.8 (0.425)	10.8 (0.425)	14.8 (0.58)	14.8 (0.58)
Magnet track weight	Kg/m (lb/in)	3.3 (0.18)	3.3 (0.18)	5 (0.27)	5 (0.27)	9.1 (0.50)	9.1 (0.50)

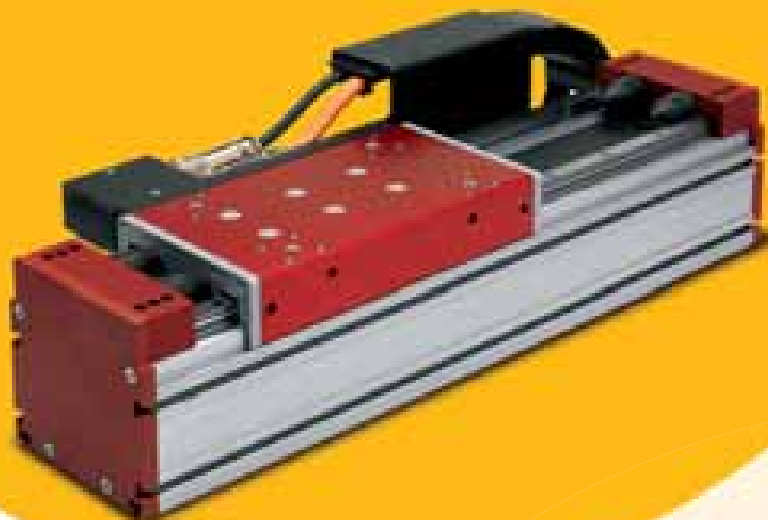
Data are rated at  $\Delta T = 80^{\circ}\text{C}$ ,  $0\div 40^{\circ}\text{C}$  environmental temperature - Class F insulation - Performances are rated with natural ventilation

The Frameless version includes the moving coil, with embedded temperature sensor and magnetic track.  
The Linear Stage version features moving coil, temperature sensor and magnetic track assembled on a basement with moving coil, linear guideways, bellows, encoder, cables and cable carrier.

- Iron Core Technology
- 40N to 2400N continuous force (134.8N to 7200N peak force)
- 5 m/s speed
- 5g (50m/s<sup>2</sup>) acceleration
- Feedback options: Hall effect, Sin Cos, TTL (optical or magnetic) or absolute encoder.

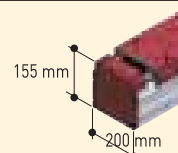
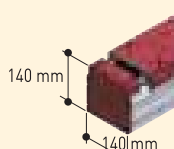
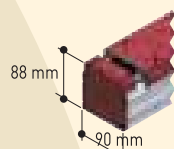


# SKA COMPACT



DDL.75.660	DDL.75.990	DDL100.1200	DDL.100.1600	DDL.125.2000	DDL.150.2400
1980 (7071)	2970 (10607)	3600(12857)	4800(17143)	6000(21428)	7200(25714)
660 (2357)	990 (3536)	1200 (4286)	1600 (5714)	2000 (7143)	2400 (8571)
3143 (11225)	4663 (16653)	5831 (20825)	7774 (27768)	9829 (35093)	11790 (42107)
5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)
50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)
354 (13.93)	522 (20.55)	522 (20.55)	690 (27.16)	690 (27.16)	690 (27.16)
100 (3.94)	100 (3.94)	125 (4.92)	125 (4.92)	150 (5.90)	175 (6.88)
47.5 (1.87)	47.5 (1.87)	47.5 (1.87)	47.5 (1.87)	47.5 (1.87)	47.5 (1.87)
10 (22.00)	14 (30.80)	18 (39.60)	25 (55)	31(68.20)	38 (83.60)
120 (4.724)	120 (4.724)	140 (5.51)	140 (5.51)	175 (6.89)	200 (7.87)
14.8 (0.58)	14.8 (0.58)	14.8 (0.58)	14.8 (0.58)	14.8 (0.58)	14.8 (0.58)
12.2 (0.67)	12.2 (0.67)	14.6 (0.80)	14.6 (0.80)	18 (0.99)	21.4 (1.18)

## SKA COMPACT



	Unit	SKA.C.90.60	SKA.C.90.120	SKA.C.140.275	SKA.C.140.550	SKA.C.200.800	SKA.C.200.1200	SKA.C.200.1600
Peak Force	N (oz)	196 (700)	392 (1400)	825 (2946)	1650 (5892)	2400(8571)	3600(12855)	4800(17140)
Cont. Force	N (oz)	58 (207)	116 (414)	275 (982)	550 (1964)	800 (2857)	1200 (4285)	1600 (5713)
Speed	m/s (in/s)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)	5 (196.85)
Acceleration	m/s <sup>2</sup> (in/s <sup>2</sup> )	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)	50 (1968.5)
Stroke	From 50 to 3500 mm – further stroke extension available with extra modules addition							

Data are rated at  $\Delta T = 80^{\circ}\text{C}$ ,  $0 \pm 40^{\circ}\text{C}$  environmental temperature - Class F insulation - Performances are rated with natural ventilation

Cutting-edge linear axis "all in one" based on iron core technology. A range of three sizes with aluminium carrying structure. The power components, moving coil and magnetic track, are preassembled and equipped with temperature protector, moving head, linear guideways, encoder, stroke stopper, cables and cable carrier.

- Moving head with the same payload capacity in all main directions - radial, reverse radial, on the side -
- Possibility of fitting the extruded profile on the three sides
- The extruded profile is designed for utilizing its cavity as a carrying element of the machine
- All mechanical components are completely sealed off for a high degree of protection
- 58N to 1600N continuous force (196N to 4800N peak force)
- Modularity of stroke lengths up to 8000mm
- 5m/s speed
- 5g (50m/s<sup>2</sup>) acceleration
- 0,01 to 0,1 mm accuracy
- Liquid cooling option without increase in size
- Optional safety brake
- Cantilever and Gantry configurations
- Feedback options: Hall effect, sin Cos, TTL (optical or magnetic) or absolute encoder.

# SKA DDR

Framless



Power Pack Male Shaft



Power Pack Hollow Shaft



Power Pack Through Hollow Shaft



Model	Rotor	Stator	Shaft	Bearings	Front Flange	Rear Flange	Power Connector	Signal Connector	Back Cover	Safety Brake	Hall Sensors	Resolver	TTL - SinCos Optical Encoder	Magnetic and Optical Ring Encoder
<b>Framless</b>	●	●	◇	◇	◇	◇	●	◇	◇	◇	▲	◇	◇	◇
<b>PP Male Shaft</b>	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	◇
<b>PP Hollow Shaft</b>	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	◇
<b>PP Through Hollow Shaft</b>	●	●	●	●	●	●	●	●	◇	▲	▲	◇	▲*	▲

● standard    ◇ not available    ▲ on demand    \* Max. 45mm inner shaft diameter

Data are rated at  $\Delta T = 105^{\circ}\text{C}$ ,  $0 \div 40^{\circ}\text{C}$  environmental temperature - Class F insulation - Performances are rated with natural ventilation

- Brushless multipolar synchronous permanent magnet motor
- 2Nm to 760Nm stall torque
- Thermal protector (clixon)
- Class F insulation
- IP65 protection degree (Power Pack solution).

	Unit	SKA DDR090	SKA DDR148	SKA DDR245	SKA DDR335	SKA DDR430
External diameter	mm (in)	110 (4.33)	180 (7.085)	290 (11.415)	390 (15.355)	490 (19.29)
Hole diameter	mm (in)	30 (1.18)	65 (2.6)	130 (5.118)	210 (8.267)	290 (11.417)
Thickness	mm (in)	60 (2.362)	62 (2.44)	70 (2.755)	82 (3.228)	85 (3.346)
		90 (3.543)	92 (3.622)	100 (3.937)	112 (4.409)	115 (4.527)
		120 (4.724)	122 (4.8)	130 (5.118)	142 (5.59)	145 (5.708)
			152 (5.984)	160 (6.3)	172 (6.77)	175 (6.89)
				202 (7.952)	205 (8.07)	235 (9.25)
Poles	no.	14	14	28	42	56
Stall torque	Nm (oz in)	2 (284)	8 (1136)	41 (5822)	100 (1420)	210 (29820)
		3.5 (454.4)	14 (1988)	70 (9940)	164 (23288)	340 (47940)
		4.7 (610.6)	20 (2840)	93 (13206)	220 (31240)	450 (63450)
			26 (3692)	115 (16330)	270 (38340)	560 (78960)
				320 (45440)	660 (93060)	760 (107160)
Speed range	Rpm	1700 - 300	1200 - 150	800 - 90	500 - 50	300 - 50

# Italian design in motion technology

The experience achieved by Motor Power Company and a continuous market orientation turn into successful applications in several industrial areas.

Food & Beverage • Textile • Laser  
• Metal • Packaging • Wood •  
Ceramic • Semiconductor • Power  
& Energy Management • Military &  
Defence • Robotic • Printing •  
Machine Tool • Medical • Sorting •  
Material Handling • Plastic •  
Alternative Energy • Semiconductors  
• Automotive • Retrofit • PVC-  
Rubber • Transports • Aluminium •  
Glass • Pharmaceutical

**MOTOR  
POWER  
COMPANY**

For over 20 years Motor Power Company has been dedicated to research in motion technologies and the development of cutting-edge motors for industrial automation. Our mission is to respond to the most specific requirements by co-designing in cooperation with our partners making any mechanical mounting of Motor Power Company technology special and revolutionary in its results.

# DIRECT DRIVE

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