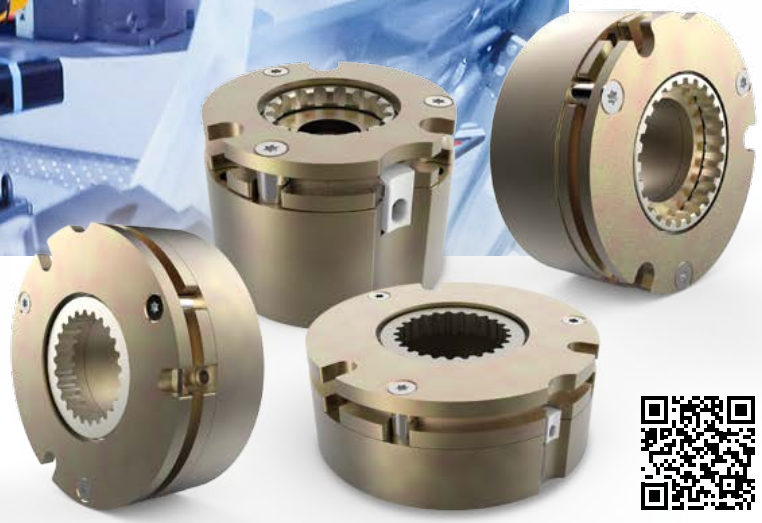
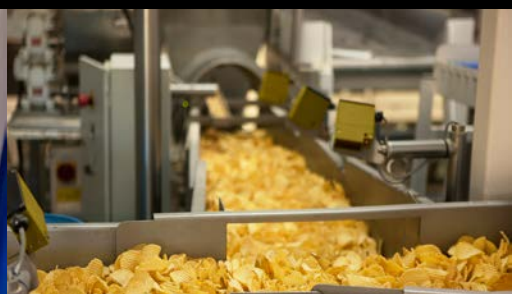
Servo Motor Brakes (SMB)



Matrix®
Altra Industrial Motion

Scan to watch SMB video





MATRIX SPRING-APPLIED BRAKES: SPECIFICALLY DESIGNED FOR SERVO MOTOR APPLICATIONS

Matrix, a leader in advanced servo motor braking solutions, has designed a range of standard spring-applied brakes, specific to servo motor applications. Matrix SMB brakes are available in a range of sizes compatible with most common servo motor frame sizes.

Previously available only as custom-engineered solutions, customers can now integrate industry-leading Matrix servo motor braking technologies into their applications faster and more cost-effectively than ever before.

The SMB range and proprietary friction material have been developed specifically for the demanding and variable conditions of servo motor applications ensuring effective static holding capabilities and dependable dynamic performance can be delivered and maintained at elevated temperatures and across a range of working conditions.

Unique Friction Material

Capitalising on in-house expertise, Matrix worked together with engineers at Svendborg Brakes, both leading Altra Industrial Motion companies, to design a proprietary friction material engineered specifically to meet the torque, temperature and energy requirements of today's servo motor brakes.

Utilising simulation software, Matrix SMB brakes are designed to optimise the control of magnetic flux to deliver an optimal performance-to-size ratio.

Reduced Lead Time

All components are produced in-house utilising lean manufacturing principles, facilitating the ability to supply customised SMB brakes within market-leading lead times. Some of the many options available include flange or rear mounting interfaces, a variety of hub designs, and lead connections.



OEMS WORLDWIDE RELY ON MATRIX'S EXTENSIVE SERVO MOTOR BRAKING EXPERTISE

Since 1985, Matrix, part of Altra Industrial Motion, has manufactured more than 2000 variants of spring-applied, electromagnetically released brakes for the leading servo motor manufacturers in Europe, the USA and Asia.

OEMs around the world have come to rely on Matrix's vast servo motor braking application knowledge to meet the faster speeds and precision accuracy requirements in a wide range of industrial applications including:

- Robotics & Industrial Automation
- Machine Tool
- Medical
- Automotive
- Printing & Paper Converting
- Assembly & Semiconductors
- Renewable Energy

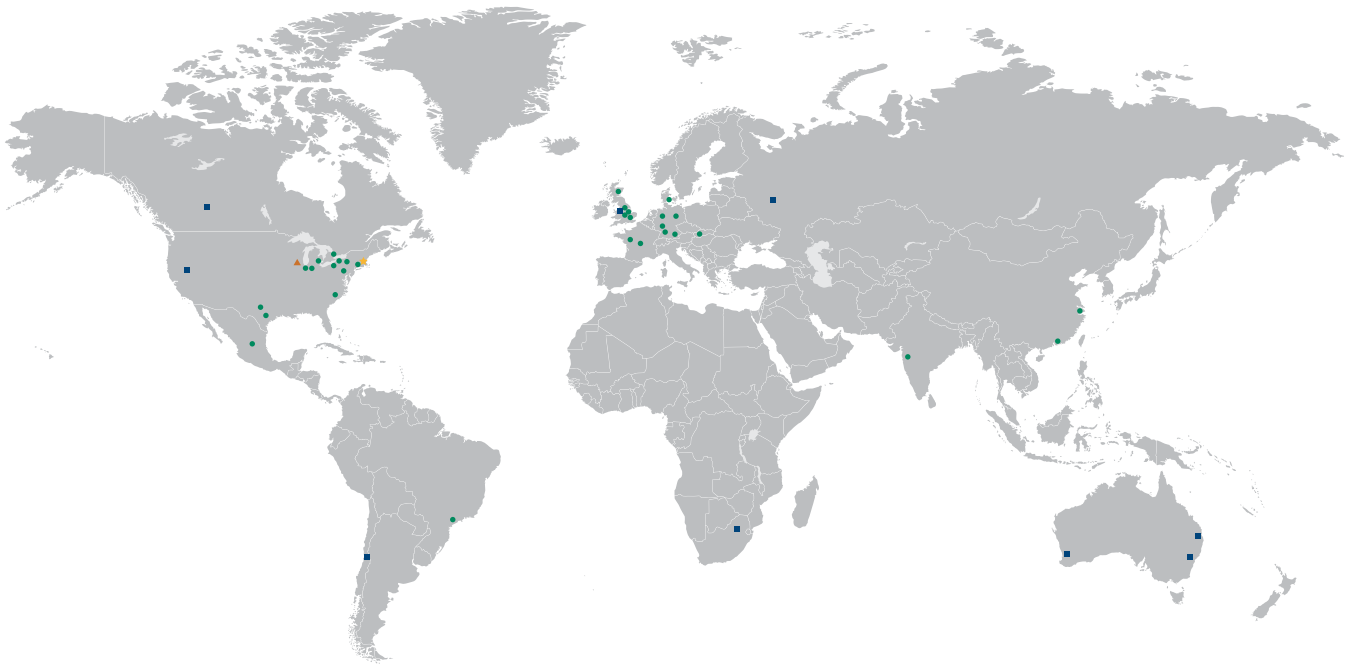
Quality

Matrix's quality system is accredited to ISO 9001 ensuring that product design and development, manufacturing and service are of the highest standard. Our refined in-house manufacturing processes and first-rate supply chain partners help us produce product quality to meet or exceed customer expectations. Component traceability from supplier to assembly and 100% end-of-line inspection record-keeping across the SMB range eliminates defective product before reaching the customer.

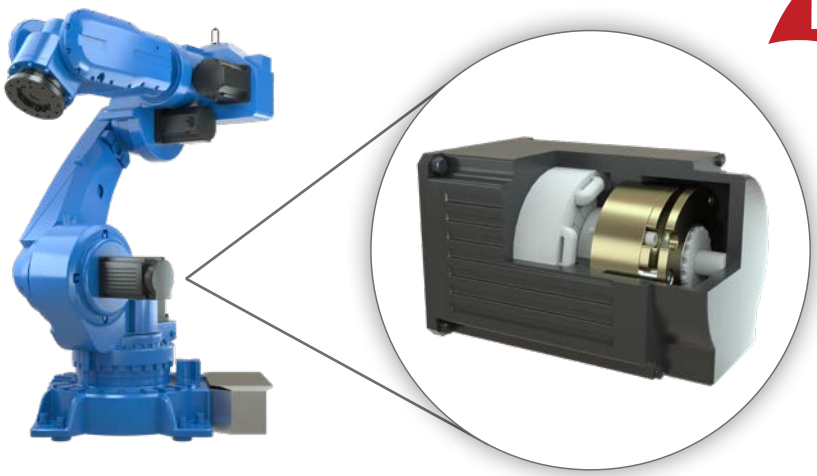
nqa ISO 9001 Registered Quality Management

nqa ISO 14001 Registered Environmental Management

Altra provides local sales and service support with global R&D capabilities and production facilities in Europe, North America, South America and Asia Pacific.



TECHNICAL SPECIFICATIONS



SMB on a Servo Motor

NEW

NEW Range of Spring-Applied Brakes Specifically Designed for Servo Motor Applications

- Standard brake sizes compatible with most common servo motor frame sizes
- Unique proprietary friction material
- Reduced lead time
- Optimal performance-to-size ratio

Mounting: flange, magnet or rear options

Voltage: 24 VDC (+- 10%)

Holding Torque: 1.6 to 32 Nm

Operating Temperature: -20°C to 120°C

Corrosion Resistance: suitable for long storage

Available on request*:

- Hub options
- Alternative mounting configurations
- Bearing and encoder recess
- Connector options
- Lead wire options
- Application representative testing
- Application specific dynamic torque ratings

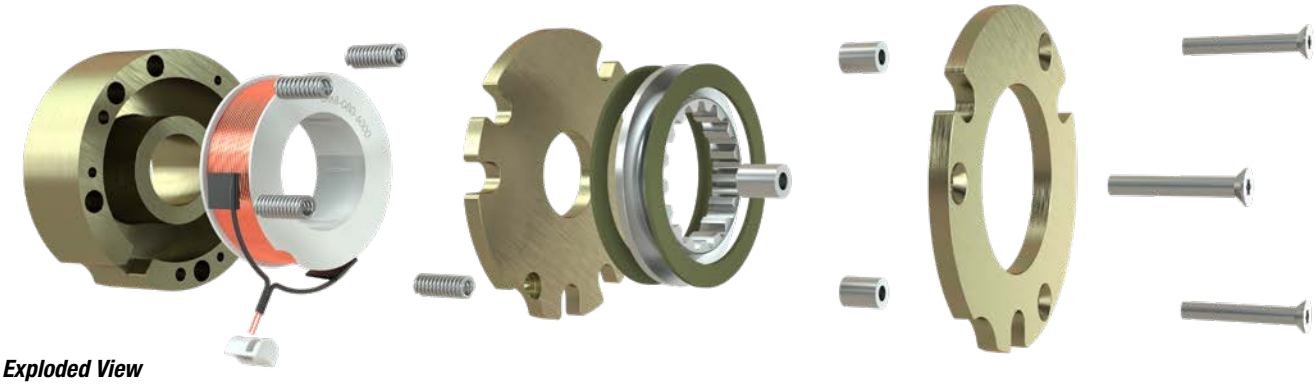
SMB Performance*

UNIT	Rated Torque At 120°C (Nm)	Nominal Static Torque [1] (Nm)	Max. No. Dynamic Stop	Max. Stop Speed (rpm)	Max. Backlash (Degrees)	Response Time		Power (W)
						Release (ms)	Engage [2] (ms)	
SMB060	1.6	2.0	2500	7000	1.0	<40	<70	10
SMB080	3.25	4.0	2500	7000	0.6	<50	<75	12.5
SMB090	5	6.5	2500	6000	0.6	<55	<100	17.5
SMB105	7	9.0	2500	6000	0.6	<65	<150	21.5
SMB130	16	20.0	2500	5500	0.6	<75	<200	25
SMB155	32	40.0	2500	5500	0.6	<100	<350	32

[1] – Typical static torque from conditioned brake.

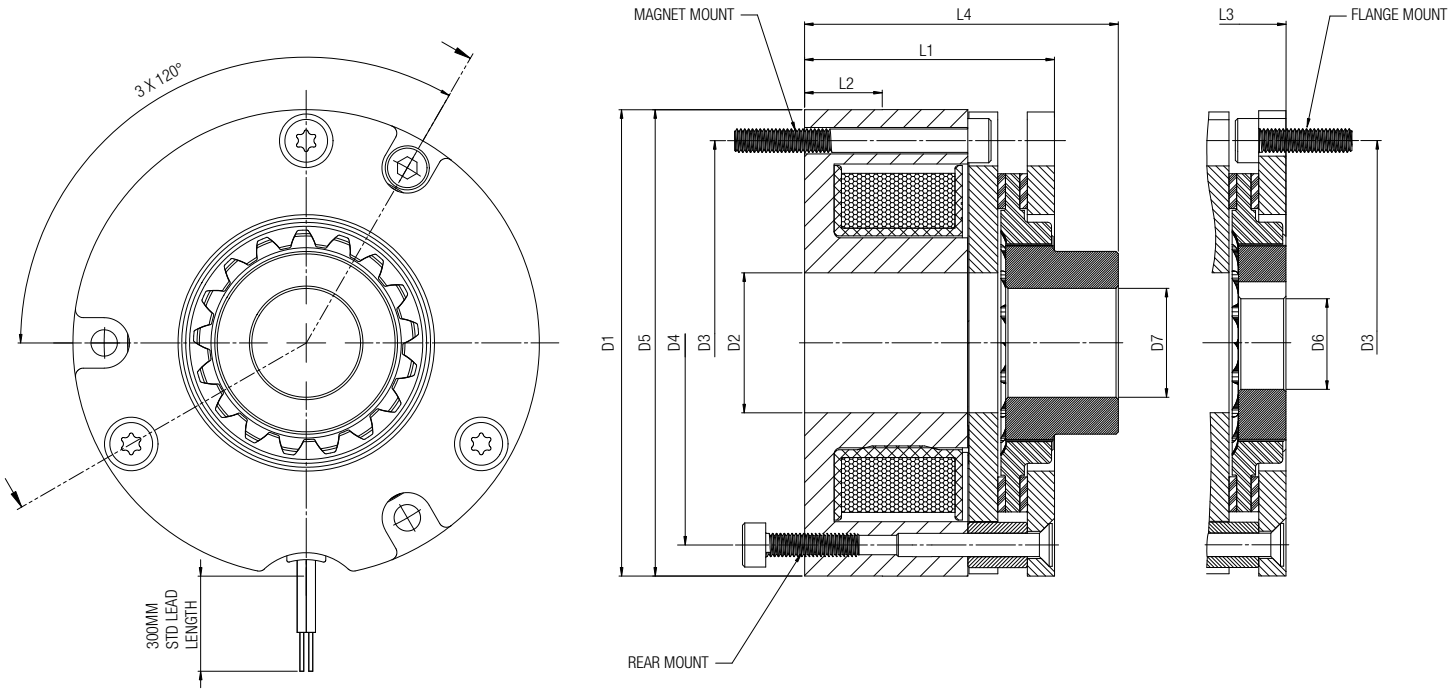
[2] – Engage time with typical flyback diode suppression circuit.

**Additional performance characteristics available, please contact Matrix for details.*



Exploded View

DIMENSIONS



UNIT	Outside Diameter D1 (mm)	Length L1 (mm)	Through Bore D2 (mm)	Mounting PCD & Fastener Type [1]			Location Diameter D5 x L2 (mm)	Hub Bore (Keyway) [2]		Overall Length With Keyway Hub [2] L3 (mm)	Hub Bore (Interference) [2] [3]		Overall Length With Interference Hub[2] L4 (mm)
				D3 (mm)	D4 (mm)	(TYPE)		D6 Std. (mm)	D6 Max. (mm)		D7 Std. (mm)	D7 Max. (mm)	
SMB060	45	31.9	11.5	39.5	38.5	(3xM3)	45(h8) x 10	8	≤8	35.2	10	≤10.5	38.6
SMB080	60	32.2	18	52	52	(3xM3)	60(h8) x 10	12	≤12	32.2	14	≤15.5	40.2
SMB090	70	37.3	30	63	63	(3xM4)	70(h8) x 10	15	≤17	37.3	15	≤20	37.3
SMB105	80	35.9	30	72	71.5	(3xM4)	80(h8) x 10	20	≤21	36.1	20	≤25	46.6
SMB130	102	39.1	43	90	90	(3xM4)	102(h8) x 10	22	≤25	39.1	22	≤32	39.1
SMB155	120	44.1	55	112	108	(3xM5) / (4xM5)	120(h8) x 10	25	≤32.5	44.1	25	≤40	44.1

[1] – Alternative PCDs & screw types available.

[2] – Bespoke hub designs available to achieve increased/decreased bore and overall lengths.

[3] – Standard keyway to DIN:6885, alternative & non-standard sizes available.

APPLICATION DATA FORM

Email or Fax to: Matrix | Customer Service and Engineering

Europe: Email: sales@matrix-international.com
Phone: +44 (0) 1356 602000
Fax: +44 (0) 1356 602060

America: Email: matrix.usa@altramotion.com
Phone: +1-860-238-4783
Fax: +1-815-389-2582

CONTACT INFORMATION

Name: _____ Date: _____

Email: _____ Phone: _____

Company: _____ Location: _____

ENQUIRY INFORMATION

Size Selection: ☐ 060 ☐ 080 ☐ 090 ☐ 105 ☐ 130 ☐ 155

Electrical System: ___ Operating Voltage ___ Max VDC ___ Min VDC

Mounting Type: ☐ Rear Mount ☐ Magnet Mount ☐ Flange Mount

Hub Type & Size: ☐ Standard Hub ☐ Custom Hub ☐ No Hub

☐ Keyway ☐ Interference Fit

___ Bore (mm/in)

Application: ☐ Static ☐ Dynamic ☐ Both

☐ Servo motor ☐ Other: _____

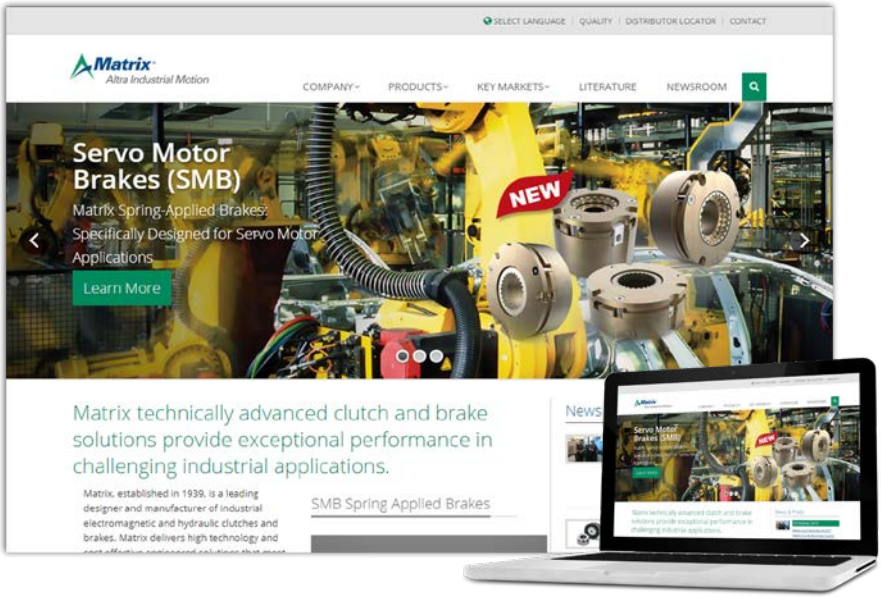
___ Motor Power (kW) ___ Speed (rpm) ___ Inertia (kg/m^2)

___ Min °C ___ Max °C

Additional Application Notes:
Inform us of any details of brake requirements; dynamic braking, backlash, lifetime, response time, etc.

Matrix Online Resources

VISIT US ON THE WEB AT
WWW.MATRIX-INTERNATIONAL.COM



Everything Matrix

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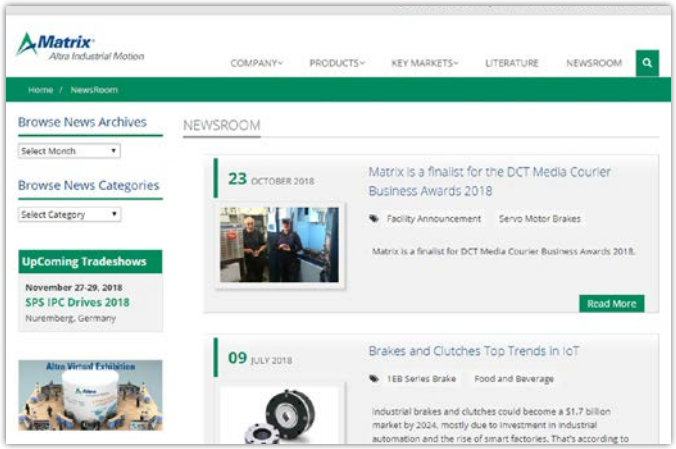

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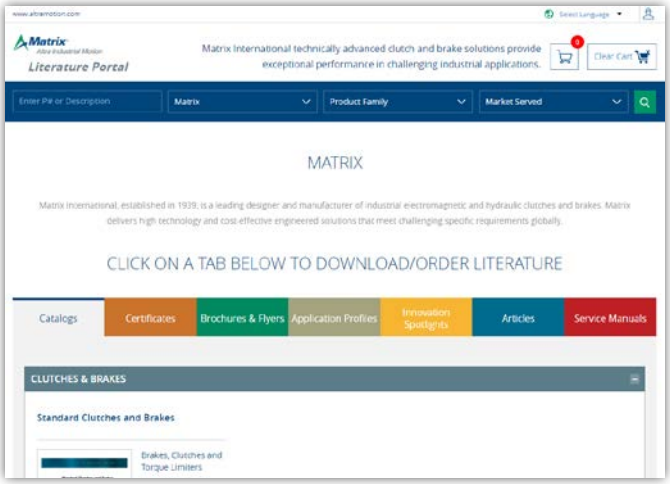

Matrix Facilities

Europe

United Kingdom
East Mill Road
Brechin, Angus DD9 7EP - Scotland
+44 (0) 1356 602000
Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes

Customer Service
+44 (0) 1356 602000

Application Support
+44 (0) 1356 602000

North America

USA
31 Industrial Park Road
New Hartford, CT 06057 - USA
815-389-3771
Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes

Customer Service
1-860-238-4783

Application Support
1-860-238-4783

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