



**MOTORS**





# ***MOTORS***

## ***PERFORMANCE MAKING MOTION***

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SEE IT BEFORE IT HAPPENS

**MOTOR  
POWER**  
COMPANY

## ***WELCOME TO MOTOR POWER COMPANY***

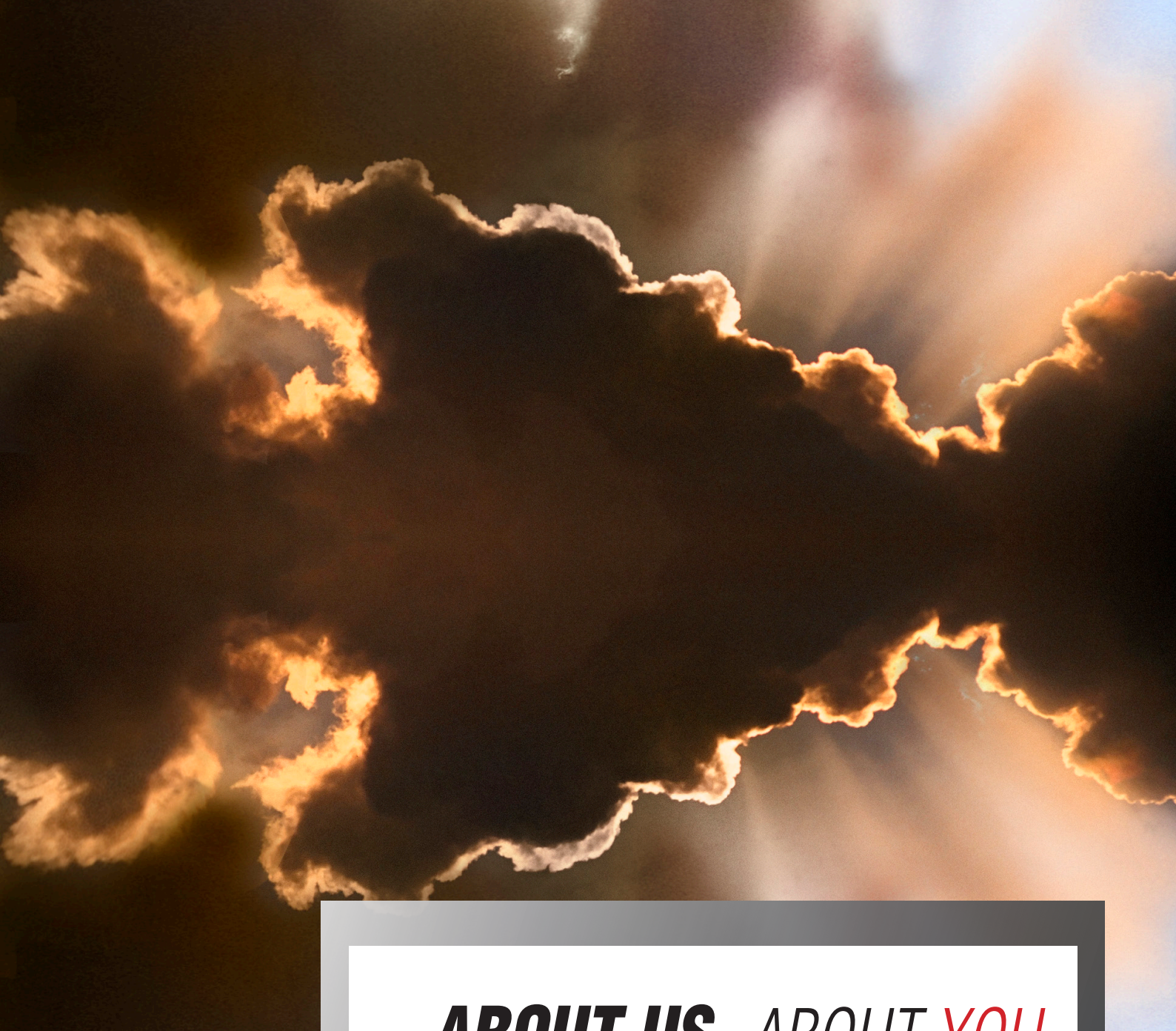
**M**otor Power Company's depth of expertise leads to reliable motors in advanced applications—**direct drive, brushless and DC technology**—that moves with force, precision and efficiency, guaranteeing excellent performance and energy saving, by supporting minimal environmental impact industries. Our standard product range highlights reliability, performance and quality features. From this core technology, which remains the foundation of our business, we create personalized solutions and **application-specific devices**, usually by working side by side with the customer—these are genuine collaborations that bring in each party's expertise to create practical, highly innovative solutions.

## ***CONTENTS***

|  |         |
|--|---------|
| Welcome to Motor Power Company . . . . . | pag. 3  |
| About us about you. . . . .              | pag. 5  |
| Motor technologies . . . . .             | pag. 7  |
| Direct drive technology . . . . .        | pag. 8  |
| Brushless technology . . . . .           | pag. 12 |
| Direct current technology . . . . .      | pag. 16 |
| Application specific device . . . . .    | pag. 20 |

SEE IT BEFORE IT HAPPENS

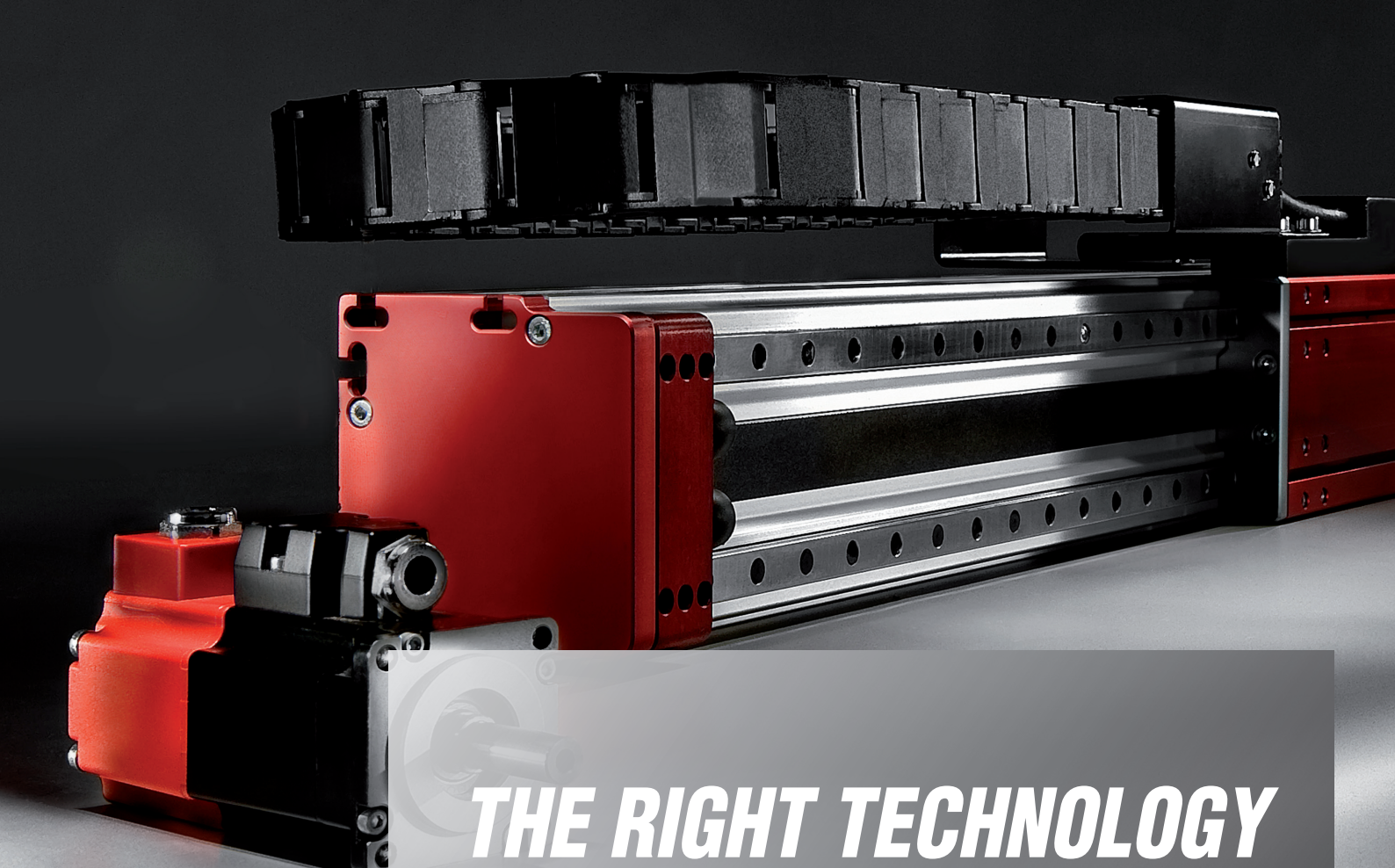




## ***ABOUT US. ABOUT YOU.***

**M**otor Power Company's approach to the market to our customers, by way of our know-how and experience is simple: we identify a need and implement a solution. Our long-term investments in the study of motion have created a deep well of knowledge in all aspects of motion technology. The result is an innate ability to come up with original ideas that distinguishes Motor Power Company and allows the design and final performance of our products to stand out in the market.





***THE RIGHT TECHNOLOGY***

***WE MAKE IT HAPPEN***

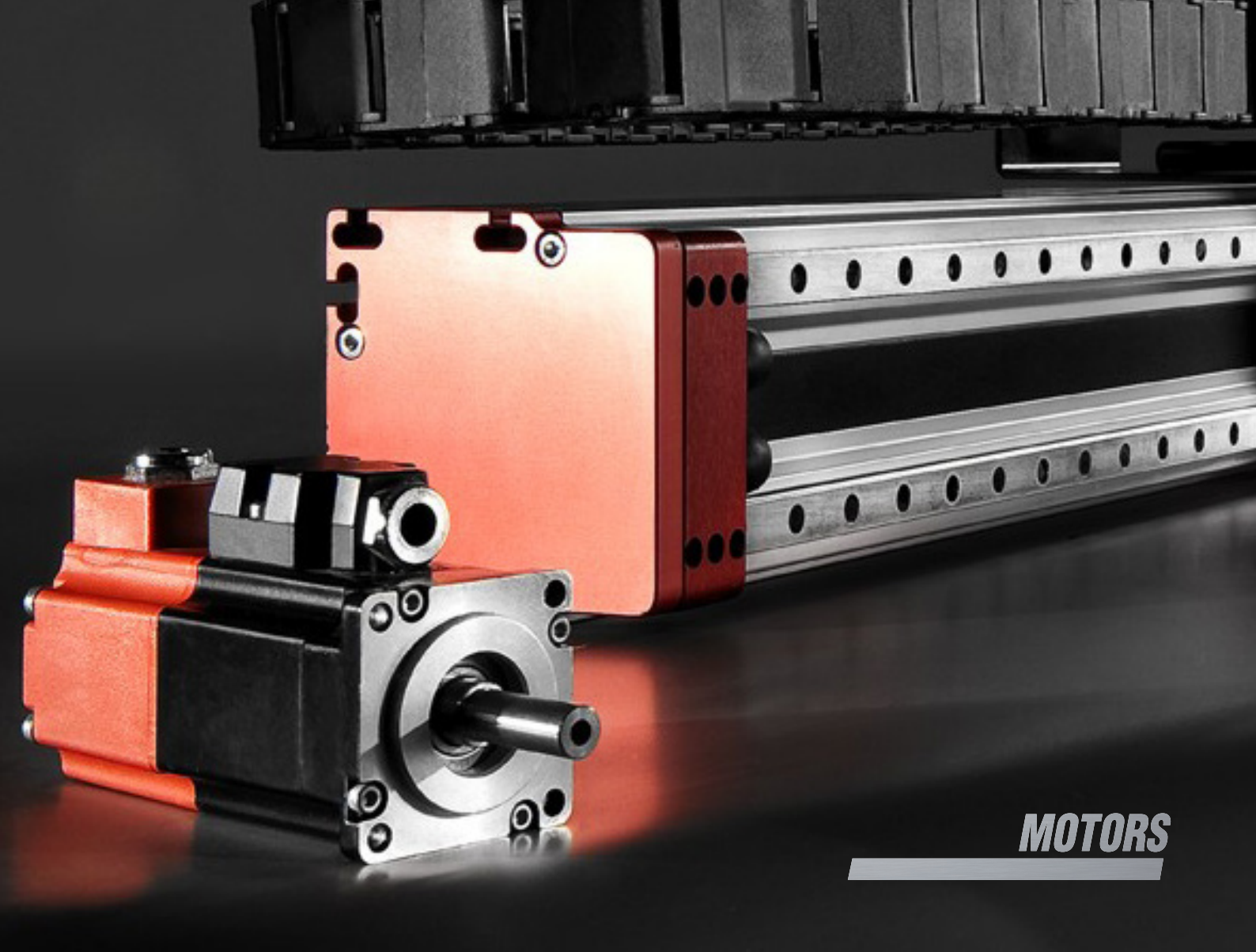
***DIRECT DRIVE TECHNOLOGY***

***BRUSHLESS TECHNOLOGY***

***DIRECT CURRENT TECHNOLOGY***

SEE IT BEFORE IT HAPPENS

**MOTOR  
POWER**  
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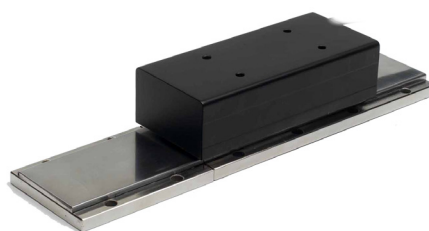


## ***MOTORS***

**M**otor Power Company started with the design and manufacture of superior quality motors and servomotors, and it has continued to lead the industry in these technologies as they have developed over time. We have identified three specialized segments of industrial handling—material handling, material processing, testing & measurement—and created an approach that applies our technical skills in mechanical engineering, electromechanics, electronics and mechatronics to each segment and to their integration. The synergy between these disciplines and our experience in bringing them together seamlessly enables us to offer solutions that are both more specific and more integrated.



# DIRECT DRIVE TECHNOLOGY



## SKA DDL DIRECT DRIVE LINEAR MOTORS

Synchronous direct-drive linear motors based on iron-core technology. SKA DDL provides tangible solutions and achieves a level of performance that was previously impossible with conventional kinematic chains. The direct-drive technology leads to exceptional results in dynamics, performance, positioning precision and energy savings. SKA DDL is available in frameless version, which includes moving coil with embedded thermal sensor and magnetic track.

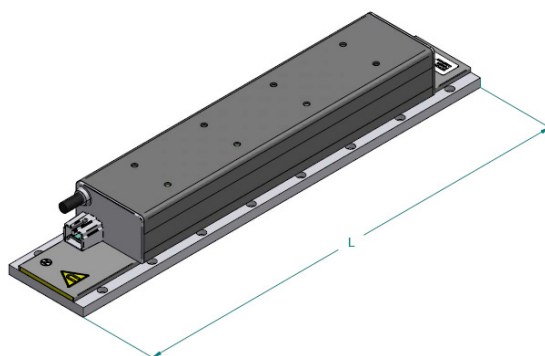
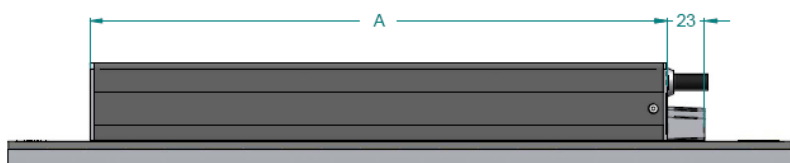
### FEATURE

40 – 2400N rated force

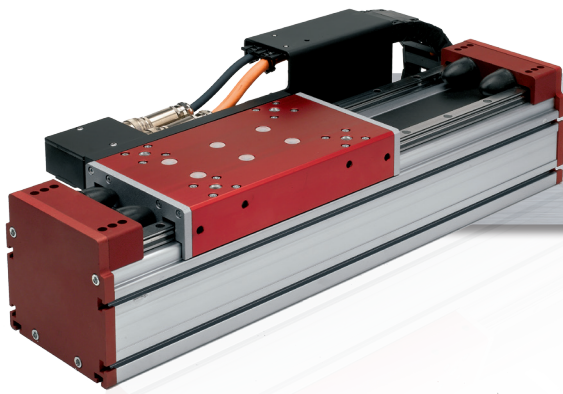
5m/s speed

50m/s<sup>2</sup> acceleration

CE – UL certified



| Motor type       | Peak force (N) | Rated force (N) | Max speed (m/s) | Max acceleration (m/s <sup>2</sup> ) | Coil lenght A (mm) | Magnetick track L (mm) |
|------------------|----------------|-----------------|-----------------|--------------------------------------|--------------------|------------------------|
| SKA DDL 30.40    | 134.8          | 40              | 5               | 50                                   | 102                | 120-240-480            |
| SKA DDL 30.80    | 269.6          | 80              | 5               | 50                                   | 186                |                        |
| SKA DDL 50.75    | 247            | 75              | 5               | 50                                   | 102                |                        |
| SKA DDL 50.150   | 495            | 150             | 5               | 50                                   | 186                |                        |
| SKA DDL 55.275   | 825            | 275             | 5               | 50                                   | 186                |                        |
| SKA DDL 55.550   | 1650           | 550             | 5               | 50                                   | 354                |                        |
| SKA DDL 75.660   | 1980           | 660             | 5               | 50                                   | 354                |                        |
| SKA DDL 75.990   | 2970           | 990             | 5               | 50                                   | 522                |                        |
| SKA DDL 100.1200 | 3600           | 1200            | 5               | 50                                   | 522                |                        |
| SKA DDL 100.1600 | 4800           | 1600            | 5               | 50                                   | 690                |                        |
| SKA DDL 125.2000 | 6000           | 2000            | 4               | 50                                   | 690                |                        |
| SKA DDL 150.2400 | 7200           | 2400            | 4               | 50                                   | 690                |                        |



## SKA COMPACT LINEAR AXES ALL-IN-ONE

### FEATURE

275 – 550N rated force

825 – 1650N peak force

5m/s speed

50m/s<sup>2</sup> acceleration

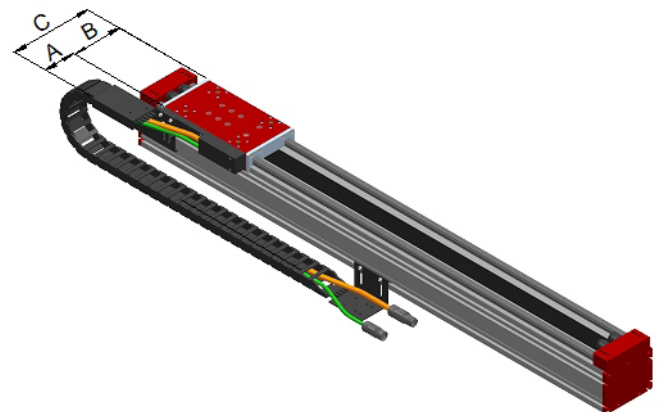
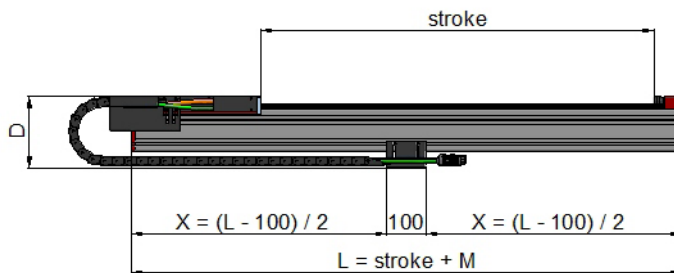
0,01 – 0,1mm accuracy

Feedback: SinCos encoder, TTL optical and magnetic encoder, Hall Sensors

CE - UL certified

All mechanical components are completely sealed off for a high degree of protection

SKA Compact combines the performance of direct drive technology with easy assembly in a complete, plug-and-play system, housed in an extruded aluminium body. This iron-core synchronous linear servomotor has a high force density, making it ideal for applications that need high reversal frequencies and positioning capacities. Advantages: total elimination of backlash and mechanical elasticity typical of conventional systems, and a lower energy consumption thanks to the higher overall efficiency. Its versatility allows a wide range of mounting configurations, even in combined axes.



| Motor type    | Peak force (N) | Rated force (N) * | Max speed (m/s) | Acceleration (m/s <sup>2</sup> ) | Stroke (mm)       | Moving head weight (Kg) |
|---------------|----------------|-------------------|-----------------|----------------------------------|-------------------|-------------------------|
| SKA C 140.275 | 825            | 275               | 5               | 50                               | from 100 to 3.500 | 7                       |
| SKA C 140.550 | 1650           | 550               | 5               | 50                               | from 100 to 3.500 | 12                      |

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

| Dimensions (mm) | A  | B   | C   | D   | M   |
|-----------------|----|-----|-----|-----|-----|
| SKA C 140.275   | 80 | 140 | 220 | 182 | 400 |
| SKA C 140.550   | 80 | 140 | 220 | 182 | 570 |



## SKA DDR DIRECT DRIVE TORQUE MOTORS

Direct drive synchronous torque motors. Featuring a remarkable stall torque capacity plus high acceleration values, SKA DDR achieves efficiencies and precision positioning that are difficult to obtain with conventional systems. Advantages: full elimination of all transmission mechanical components, significant time and cost saving in machine maintenance and proven energy reduction. SKA DDR is available in **Frameless** and **Power Pack** version, a perfect example of **Motor Power Company's** skills in the electrical and mechanical spheres.

### FEATURE

2 – 760Nm stall torque

15.9 – 2400Nm peak torque

Thermal protector (clixon)

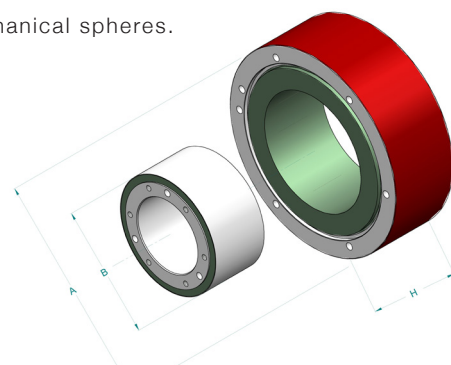
Class F insulation

IP65 protection

Feedback: resolver, incremental and absolute encoders

CE - UL certified

The Power Pack version includes the SKA DDR torque motor with mounting flange, bearings and transducer, aluminium cover case and specific connections. Power Pack version are available with blind shaft and male shaft versions.



| Motor type     | Stall torque<br>(Nm) | Peak torque<br>(Nm) | Speed<br>(Rpm) | Poles number | Inertia<br>( Kg cm <sup>2</sup> ) | Weight<br>(Kg) | Ex. diameter A<br>(mm) | Hole diam. B<br>(mm) | Thickness H<br>(mm) |
|----------------|----------------------|---------------------|----------------|--------------|-----------------------------------|----------------|------------------------|----------------------|---------------------|
| SKA DDR090.30  | 2                    | 15.9                | 1000           | 14           | 3.1                               | 1.98           | 110                    | 30                   | 60                  |
| SKA DDR090.60  | 3.5                  | 28                  | 1000           | 14           | 4.98                              | 3.4            | 110                    | 30                   | 90                  |
| SKA DDR090.90  | 4.7                  | 40                  | 1000           | 14           | 6.86                              | 4.7            | 110                    | 30                   | 120                 |
| SKA DDR148.30  | 8                    | 35                  | 800            | 14           | 36.11                             | 5.1            | 180                    | 65                   | 62                  |
| SKA DDR148.60  | 14                   | 72                  | 800            | 14           | 57.1                              | 8.45           | 180                    | 65                   | 92                  |
| SKA DDR148.90  | 20                   | 106                 | 800            | 14           | 78.09                             | 11.75          | 180                    | 65                   | 122                 |
| SKA DDR148.120 | 26                   | 141                 | 800            | 14           | 99.08                             | 15.1           | 180                    | 65                   | 152                 |
| SKA DDR245.30  | 41                   | 128                 | 600            | 28           | 245                               | 14.3           | 290                    | 130                  | 70                  |
| SKA DDR245.60  | 70                   | 241                 | 600            | 28           | 371                               | 22.9           | 290                    | 130                  | 100                 |
| SKA DDR245.90  | 93                   | 350                 | 500            | 28           | 498                               | 31.5           | 290                    | 130                  | 130                 |
| SKA DDR245.120 | 115                  | 458                 | 500            | 28           | 624                               | 40.1           | 290                    | 130                  | 160                 |
| SKA DDR335.30  | 100                  | 290                 | 400            | 42           | 1231                              | 25             | 390                    | 210                  | 82                  |
| SKA DDR335.60  | 164                  | 550                 | 400            | 42           | 1805                              | 38.7           | 390                    | 210                  | 112                 |
| SKA DDR335.90  | 220                  | 800                 | 200            | 42           | 2367                              | 52.4           | 390                    | 210                  | 142                 |
| SKA DDR335.120 | 270                  | 1043                | 200            | 42           | 2932                              | 66.2           | 390                    | 210                  | 172                 |
| SKA DDR335.150 | 320                  | 1290                | 200            | 42           | 3498                              | 79.7           | 390                    | 210                  | 202                 |
| SKA DDR430.30  | 210                  | 458                 | 200            | 56           | 3894                              | 8.1            | 490                    | 290                  | 85                  |
| SKA DDR430.60  | 340                  | 868                 | 200            | 56           | 5642                              | 58.5           | 490                    | 290                  | 115                 |
| SKA DDR430.90  | 450                  | 1254                | 150            | 56           | 7323                              | 78.5           | 490                    | 290                  | 145                 |
| SKA DDR430.120 | 560                  | 1649                | 150            | 56           | 9025                              | 99.2           | 490                    | 290                  | 175                 |
| SKA DDR430.150 | 660                  | 2025                | 90             | 56           | 1073                              | 119.2          | 490                    | 290                  | 205                 |
| SKA DDR430.180 | 760                  | 2400                | 90             | 56           | 1243                              | 138.8          | 490                    | 290                  | 235                 |

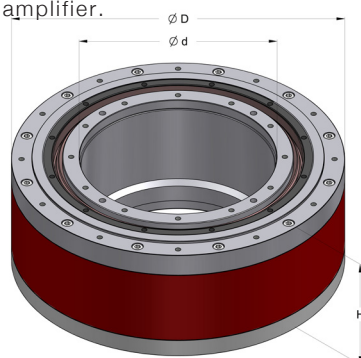
All data are related to the Frameless version, which includes rotor and stator only.





## SKA ROTARY TABLE DIRECT DRIVE MOTORS

Directly driven rotary tables provide versatile applications due to their backlash free structure. If necessary a compact servo system with high torque and high accuracy, SKA Rotary Table is the perfect answer for the ideal application. This complete series is provided with or without its perfectly coupling amplifier.

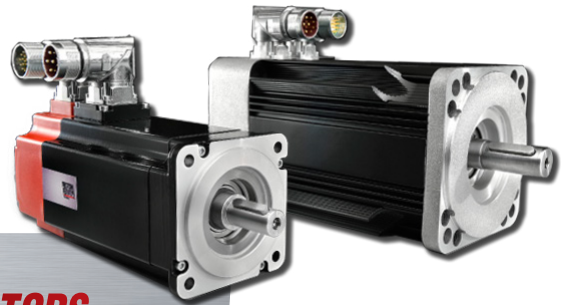


### FEATURE

- Instantaneous peak torque till 2400 Nm
- A high-speed operation up to 1400 rpm
- Maximum motor speed up to 900 rpm
- High-precision indexing with over 1,000,000 cpr, after interpolation
- Absolute accuracy of  $\pm 25$  till 6,3 arc sec
- No backlash for a high-precision, high-speed operation with shorter settling time
- Improved positioning accuracy
- Uncomplicated and trouble-free usability drives
- Perfect matching between motor and drives with different network communication
- Analog encoder for increasing the final resolution
- Absolute encoder for the purest positional information
- Parameters to change: speed control, torque or positioning control

|                | STALL<br>TORQUE<br>(Nm) | PEAK<br>TORQUE<br>(Nm) | SPEED<br>(Rpm) | POLES<br>(nr) | INERTIA<br>(kg cm <sup>2</sup> ) | WEIGHT<br>(kg) | EXTERNAL<br>DIAMETER D<br>(mm) | HOLE<br>DIAMETER d<br>(mm) | HEIGHT H<br>(mm) | RATED<br>VOLTAGE<br>(Vac) |
|----------------|-------------------------|------------------------|----------------|---------------|----------------------------------|----------------|--------------------------------|----------------------------|------------------|---------------------------|
| SKA RT 148.30  | 8                       | 35                     | 900            | 14            | 68,5                             | 15,3           | 179                            | 60                         | 127,5            | 230                       |
| SKA RT 148.60  | 14                      | 68                     | 900            | 14            | 91,8                             | 18,1           | 179                            | 60                         | 157,5            | 230                       |
| SKA RT 148.90  | 20                      | 103                    | 900            | 14            | 114,2                            | 22             | 179                            | 60                         | 187,5            | 230                       |
| SKA RT 148.120 | 26                      | 141                    | 630            | 14            | 137,1                            | 26,1           | 179                            | 60                         | 217,5            | 230                       |
|                |                         |                        |                |               |                                  |                |                                |                            |                  |                           |
| SKA RT 245.30  | 41                      | 128                    | 600            | 28            | 542,1                            | 42,9           | 290                            | 135                        | 136,5            | 400                       |
| SKA RT 245.60  | 70                      | 241                    | 600            | 28            | 651,0                            | 55,4           | 290                            | 135                        | 166,5            | 400                       |
| SKA RT 245.90  | 93                      | 330                    | 600            | 28            | 777,8                            | 67,8           | 290                            | 135                        | 196,5            | 400                       |
| SKA RT 245.120 | 115                     | 410                    | 500            | 28            | 904,2                            | 80,3           | 290                            | 135                        | 226,5            | 400                       |
|                |                         |                        |                |               |                                  |                |                                |                            |                  |                           |
| SKA RT 335.30  | 100                     | 290                    | 350            | 42            | 2847,0                           | 73,1           | 390                            | 190                        | 138              | 400                       |
| SKA RT 335.60  | 164                     | 585                    | 350            | 42            | 3629,1                           | 94,1           | 390                            | 190                        | 168              | 400                       |
| SKA RT 335.90  | 220                     | 800                    | 350            | 42            | 4411,0                           | 115            | 390                            | 190                        | 198              | 400                       |
| SKA RT 335.120 | 270                     | 975                    | 350            | 42            | 5193,0                           | 136,1          | 390                            | 190                        | 228              | 400                       |
| SKA RT 335.150 | 320                     | 1200                   | 300            | 42            | 5975,1                           | 157            | 390                            | 190                        | 258              | 400                       |
|                |                         |                        |                |               |                                  |                |                                |                            |                  |                           |
| SKA RT 430.30  | 210                     | 458                    | 300            | 56            | 8698,7                           | 105,7          | 490                            | 290                        | 150              | 400                       |
| SKA RT 430.60  | 340                     | 800                    | 300            | 56            | 10637,8                          | 133,7          | 490                            | 290                        | 180              | 400                       |
| SKA RT 430.90  | 450                     | 1200                   | 250            | 56            | 12577,0                          | 161,1          | 490                            | 290                        | 210              | 400                       |
| SKA RT 430.120 | 560                     | 1600                   | 150            | 56            | 14516,0                          | 188,7          | 490                            | 290                        | 240              | 400                       |
| SKA RT 430.150 | 660                     | 1950                   | 150            | 56            | 16455,8                          | 215,7          | 490                            | 290                        | 270              | 400                       |
| SKA RT 430.180 | 760                     | 2400                   | 100            | 56            | 18394,7                          | 243,3          | 490                            | 290                        | 300              | 400                       |

# BRUSHLESS TECHNOLOGY



## **TETRA - TETRA COMPACT BRUSHLESS SERVOMOTORS**

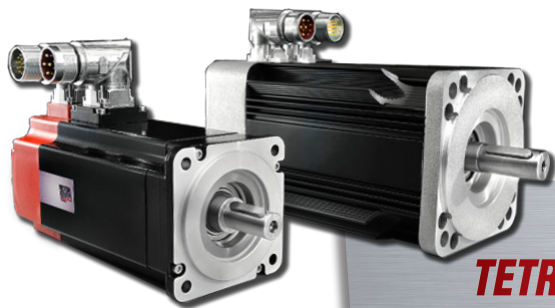
The brushless servomotor is a product of tried-and-tested success that Motor Power Company manufacturers thanks to in-company know-how acquired during years of practical experience with designing and building motors.

TETRA COMPACT belongs to the low power range and stands out for its constructional shape, TETRA is the brushless servomotor with excellent efficiency along with high torque rate, thanks to the intrinsic technology that gets the most out of the magnetic material. The original construction of the rotor part (patented) permits two possible inertia executions on the same motor size by ensuring an optimum dynamic response even with different load masses.

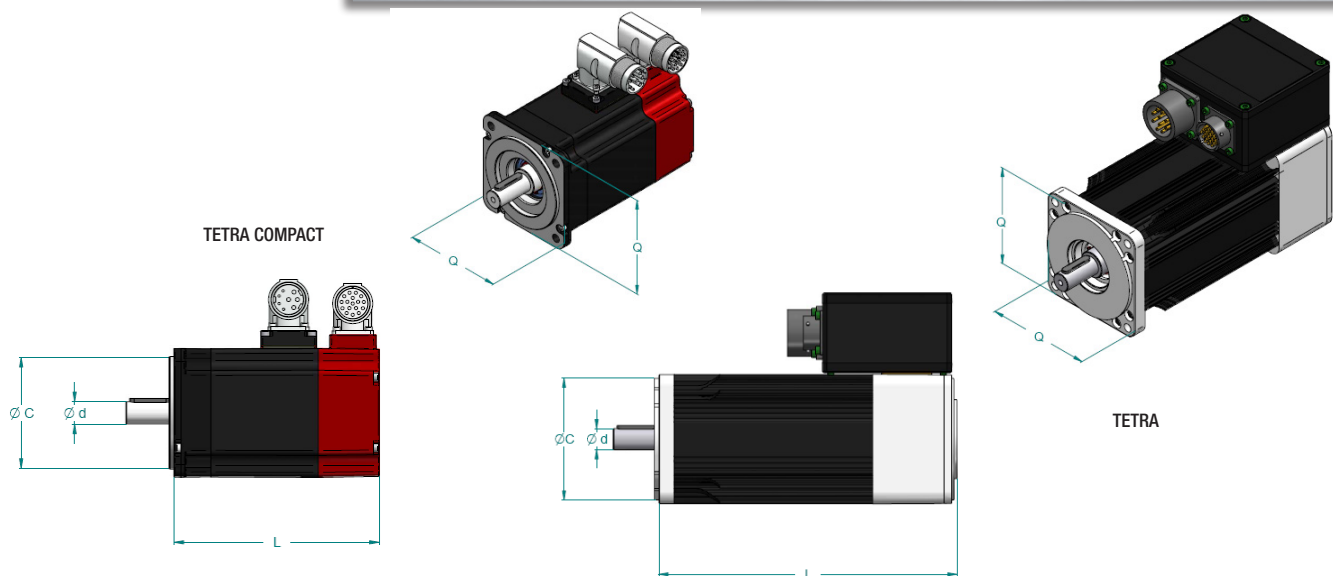
This servomotors are particularly suitable for positioning tasks in industrial robotic, machine tools, actuators and machine automation with demanding requirements in terms of dynamics and stability.

### **FEATURE**

|   |
|---|
| Synchronous brushless servomotor, permanently excited                                   |
| Rated output power from 60W to 8kW  |
| Maximum servomotor speed up to 5000rpm  |
| Insulation class F (155 °C)   |
| IP 65 on motor body   |
| Ral 9005 black powder coating   |
| Temperature protection by KTY 84 (excluding TC 40)                                      |
| Shaft balancing class G 2,5 according ISO 1940  |
| Smooth or keyed shaft   |
| Built-in feedback resolver 2 poles, TTL Encoder, Absolute Multiturn Encoder (Hiperface) |
| Cable flange with connectors for TC 40  |
| 90° round circular turnable connectors (IP 67) for all other models                     |
| Optional electromagnetic permanent-holding brake. Zero backlash                         |
| Optional shaft sealing  |



## TETRA - TETRA COMPACT BRUSHLESS SERVOMOTORS



| Servomotor Type | Rated Output Power* | Rated Torque | Peak Torque | Rated Voltage | Rated Speed | Inertia               | Weight | Brake length** | L    | d    | c    | Q    |
|-----------------|---------------------|--------------|-------------|---------------|-------------|-----------------------|--------|----------------|------|------|------|------|
|                 | (W)                 | (Nm)         | (Nm)        | (V)           | (rpm)       | (kg cm <sup>2</sup> ) | (kg)   | (mm)           | (mm) | (mm) | (mm) | (mm) |
| TC 40 0,16      | 60                  | 0,2          | 0,48        | 24 Vdc        | 3000        | 0,027                 | 0,4    | 31             | 91   | 8    | 30   | 40   |
| TC 40 0,32      | 100                 | 0,32         | 0,96        | 48 Vdc        | 3000        | 0,047                 | 0,54   | 31             | 109  | 8    | 30   | 40   |
| TC 60 0,65      | 200                 | 0,64         | 1,95        | 230 Vac       | 3000        | 0,13                  | 0,85   | 37             | 111  | 11   | 50   | 60   |
| TC 60 1,3       | 370                 | 1,17         | 3,9         | 230 Vac       | 3000        | 0,24                  | 1,25   | 37             | 136  | 14   | 50   | 60   |
| TC 80 1,5       | 480                 | 1,53         | 4,5         | 230 Vac       | 3000        | 0,64                  | 2,25   | 42             | 128  | 14   | 70   | 80   |
| TC 80 2,8       | 800                 | 2,54         | 8,4         | 400 Vac       | 3000        | 1,16                  | 3,0    | 42             | 153  | 19   | 70   | 80   |
| TC 80 4 15      | 1068                | 4,0          | 12,0        | 230 Vac       | 3000        | 1,58                  | 4,1    | 42             | 178  | 19   | 70   | 80   |
| TC 100 3,2      | 820                 | 2,62         | 11,0        | 230 Vac       | 3000        | 1,55                  | 3,9    | 50             | 145  | 14   | 95   | 100  |
| TC 100 5,6      | 1320                | 4,2          | 22,0        | 400 Vac       | 3000        | 2,91                  | 5,6    | 50             | 175  | 19   | 95   | 100  |
| TC 100 8        | 1570                | 5,0          | 33,0        | 400 Vac       | 3000        | 4,1                   | 7,3    | 50             | 205  | 19   | 95   | 100  |
| T 115 3         | 840                 | 2,7          | 9,0         | 400 Vac       | 3000        | SEE CATALOGUE         | 4,7    | 50             | 164  | 14   | 110  | 115  |
| T 115 5,2       | 1300                | 4,1          | 15,6        | 230 Vac       | 3000        |                       | 6,2    | 50             | 189  | 19   | 110  | 115  |
| T 115 7         | 1650                | 5,3          | 21,0        | 230 Vac       | 3000        |                       | 7,5    | 50             | 214  | 19   | 110  | 115  |
| T 115 9,2       | 2000                | 6,4          | 27,6        | 230 Vac       | 3000        |                       | 8,8    | 50             | 239  | 19   | 110  | 115  |
| T 115 11        | 2300                | 7,3          | 33,0        | 230 Vac       | 3000        |                       | 9,9    | 50             | 264  | 19   | 110  | 115  |
| T 142 12        | 2700                | 8,6          | 31,0        | 230 Vac       | 3000        |                       | 13,5   | 60             | 245  | 24   | 130  | 142  |
| T 142 16,5      | 3500                | 11,1         | 42,0        | 400 Vac       | 3000        |                       | 15,5   | 60             | 275  | 24   | 130  | 142  |
| T 142 21        | 4100                | 13,1         | 55,0        | 230 Vac       | 3000        |                       | 18,5   | 60             | 305  | 24   | 130  | 142  |
| T 142 25,5      | 5000                | 15,9         | 65,0        | 230 Vac       | 3000        |                       | 20,5   | 60             | 335  | 24   | 130  | 142  |
| T 180 22,5      | 4700                | 15,0         | 63,0        | 400 Vac       | 3000        |                       | 30     | 60             | 290  | 28   | 180  | 190  |
| T 180 35 17     | 6600                | 21,0         | 95,0        | 400 Vac       | 3000        |                       | 37,5   | 60             | 350  | 38   | 180  | 190  |
| T 180 47 17     | 8380                | 40,0         | 130,0       | 400 Vac       | 2000        |                       | 45,5   | 60             | 410  | 38   | 180  | 190  |

\* Output continuous ratings with 250x250x6mm heat sink flange coupling for Tetra Compact 40-60-80, with 300x300x6mm for Tetra Compact 100, with 350x350x20mm for Tetra 115-142, with 500x500x20mm for Tetra 180

\*\* The safety brake value increases the motor length-



## TETRA COMPACT-ENHANCED BRUSHLESS SERVOMOTORS



Motor Power Company introduces its new brushless servo motor series: **TETRA COMPACT-ENHANCED**. Featuring the newest engineering and manufacturing technology, these enhanced servomotors provide high dynamic response for any automation need. A careful selection of components, highest quality standard and international certifications assure that this series is optimum for a responsive, accurate and reliable automation. Besides TTL and absolute multiturn encoder, the series supports an innovative and patented 20 bit absolute magnetic encoder. TETRA COMPACT-E brushless servo motors are the result of a completely new design and a modern production concept: uncompromised quality, international certifications and a wide range of power ratings make these servo motors ideal for modern machine performance needs.

| Servomotor Type | Nominal Power $P_n$<br>[W] | Nominal Torque $M_n$<br>[Nm] | Peak Torque $M_{max}$<br>[Nm] | Nominal Speed $n_M$<br>[min <sup>-1</sup> ] | Moment of inertia |
|-----------------|----------------------------|------------------------------|-------------------------------|---|-------------------|
| TC-E 40 1A      | 50                         | 0,16                         | 0,48                          | 3000  | Medium            |
| TC-E 40 1B      | 100                        | 0,32                         | 0,96                          | 3000  | Medium            |
| TC-E 60 2A      | 200                        | 0,64                         | 1,92                          | 3000  | Low               |
| TC-E 60 2B      | 400                        | 1,27                         | 3,81                          | 3000  | Low               |
| TC-E 80 3A      | 400                        | 1,27                         | 3,81                          | 3000  | Low               |
| TC-E 80 3B      | 750                        | 2,39                         | 7,16                          | 3000  | Low               |
| TC-E 100 4A     | 1000                       | 3,18                         | 9,54                          | 3000  | Low               |
| TC-E 100 4B     | 2000                       | 6,37                         | 19,11                         | 3000  | Low               |
| TC-E 130 5A     | 500                        | 2,39                         | 7,16                          | 2000  | Medium            |
| TC-E 130 5B     | 300                        | 2,86                         | 8,59                          | 1000  | Medium            |
| TC-E 130 5C     | 1000                       | 4,77                         | 14,3                          | 2000  | Medium            |
| TC-E 130 5D     | 850                        | 5,39                         | 13,8                          | 1500  | Medium            |
| TC-E 130 5E     | 600                        | 5,73                         | 17,19                         | 1000  | Medium            |
| TC-E 130 5F     | 900                        | 8,59                         | 25,77                         | 1000  | Medium            |
| TC-E 130 5G     | 1500                       | 7,16                         | 21,48                         | 2000  | Medium            |
| TC-E 130 5H     | 2000                       | 9,55                         | 28,65                         | 2000  | Medium            |
| TC-E 180 6A     | 2000                       | 9,55                         | 28,65                         | 2000  | Medium            |
| TC-E 180 6B     | 3000                       | 14,32                        | 42,97                         | 2000  | Medium            |
| TC-E 180 6C     | 3000                       | 19,1                         | 57,29                         | 1500  | Medium            |
| TC-E 180 6D     | 3500                       | 16,7                         | 50,3                          | 2000  | Medium            |
| TC-E 180 6E     | 4500                       | 28,65                        | 71,62                         | 1500  | Medium            |
| TC-E 180 6F     | 5500                       | 35,01                        | 87,53                         | 1500  | Medium            |
| TC-E 180 6G     | 7000                       | 44,6                         | 119,36                        | 1500  | Medium            |



***TETRA COMPACT-ENHANCED***  
*THIRD GENERATION*  
*BRUSHLESS SERVOMOTORS*

SEE IT BEFORE IT HAPPENS

**MOTOR  
POWER**  
COMPANY

# DIRECT CURRENT

## TECHNOLOGY



### ESA DIRECT CURRENT SERVOMOTORS

#### FEATURE

0.32 – 15Nm torque

IP 54 protection (IP 55 as an option)

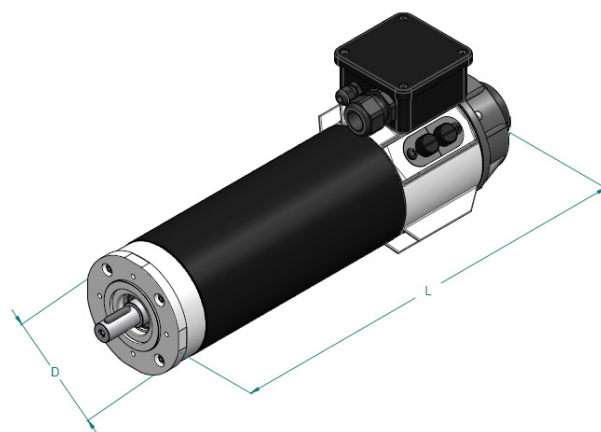
4 poles tacho generator with rare earth magnets

Original electromagnetic circuit to overcome the cogging effect

High number of blades commutator reduces the velocity ripple

CE certified

An advanced mechanical design and a recognized technology make the ESA servomotor a reliable and durable product, with an optimum dimensional/performance ratio. The ESA range has a high overload capacity and notably linear rotation, even at low speed. A commutator with a high number of blades and a built-in tacho generator allows repeated and precise speed variations even at high torque values.



| Servomotor type | Continuous stall torque (Nm) | Rated power (W) | Motor diameter D (mm) | Brake lenght (mm) * | Motor lenght L (mm) |
|-----------------|------------------------------|-----------------|-----------------------|---------------------|---------------------|
| ESA 2S          | 0.32                         | 70              | 57.8                  | 41.5                | 136                 |
| ESA 2L          | 0.47                         | 95              |                       |                     | 183.5               |
| ESA 3XS         | 0.6                          | 150             | 83.5                  | 44                  | 177.5               |
| ESA 3S          | 0.93                         | 200             |                       |                     | 212.5               |
| ESA 3SL         | 1.3                          | 300             |                       |                     | 229                 |
| ESA 3M          | 1.6                          | 360             |                       |                     | 267.5               |
| ESA 3L          | 2.1                          | 500             |                       |                     | 322.5               |
| ESA 6S          | 2.65                         | 590             | 116                   | *                   | 268                 |
| ESA 6F          | 3.5                          | 720             |                       | *                   | 268                 |
| ESA 6M          | 5.5                          | 1250            |                       | *                   | 340                 |
| ESA 6L          | 8                            | 1320            |                       | *                   | 412                 |
| ESA 9S          | 6                            | 1380            | 153.5                 | *                   | 298                 |
| ESA 9M          | 11                           | 1570            |                       | *                   | 363                 |
| ESA 9L          | 15                           | 2680            |                       | *                   | 424                 |

\*Included in motors' lenght



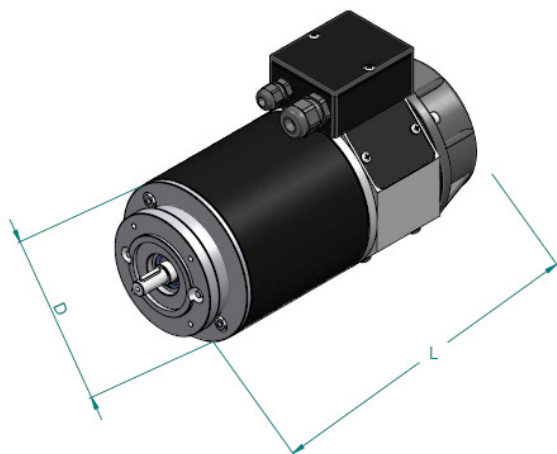
## PENTA DIRECT CURRENT MOTORS



A range of direct-current motors with power, reliability and durability features. Using only top-quality materials, PENTA is ideal for variable-speed handling applications. Available with a wide range of windings, as well as different mechanical configurations and options, PENTA is flexible and adaptable to an extremely wide variety of specific needs.

### FEATURE

- 45 – 900Watt power
- IP54 protection (IP 55 as an option)
- Class F insulation
- Options: tacho generator, brake, encoder
- CE certified



| Motor type | Watt power at 3000 Rpm (W) | Rated speed torque (Nm) | Voltage (Vdc)  | Diameter D (mm) | Length L (mm) |
|------------|----------------------------|-------------------------|----------------|-----------------|---------------|
| PENTA 1S   | 45                         | 0.14                    | from 24 to 180 | 57.8            | 109.5         |
| PENTA 1M   | 70                         | 0.22                    |                |                 | 136           |
| PENTA 1L   | 95                         | 0.30                    |                |                 | 183.5         |
| PENTA 4S   | 300                        | 0.95                    | from 12 to 180 | 116             | 197.5         |
| PENTA 4M   | 600                        | 1.9                     | from 24 to 180 |                 | 227.5         |
| PENTA 4L   | 900                        | 2.86                    | from 24 to 180 |                 | 257.5         |
| PENTA 5X   | 100                        | 0.32                    | from 12 to 180 | 83.5            | 144.5         |
| PENTA 5XS  | 150                        | 0.48                    | from 12 to 180 |                 | 177.5         |
| PENTA 5S   | 200                        | 0.64                    | from 12 to 180 |                 | 212.5         |
| PENTA 5SL  | 300                        | 0.96                    | from 24 to 180 |                 | 229           |
| PENTA 5M   | 360                        | 1.15                    | from 36 to 180 |                 | 267.5         |
| PENTA 5L   | 500                        | 1.6                     | from 48 to 180 |                 | 322.5         |



## ROK – WORM GEARMOTORS

A series of worm gearmotors directly equipped with d.c. motors, with an extraordinary durability, wear resistance and small dimensions. Featuring a casehardened and ground profile worm screw and an extremely silent, high-efficiency bronze-tin ring gear, allow to reach notable advantages.

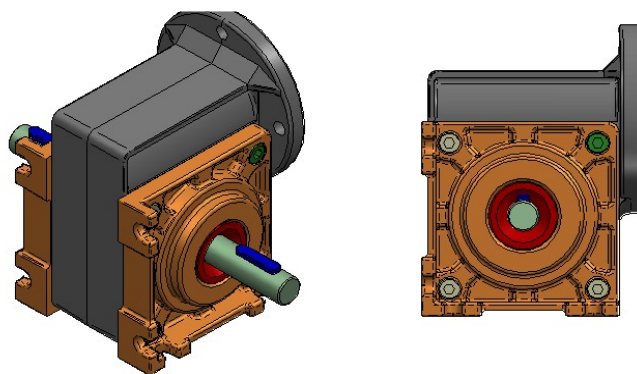
### FEATURE

Worm gear center distance 31, 33, 40, 50 mm

CE certified

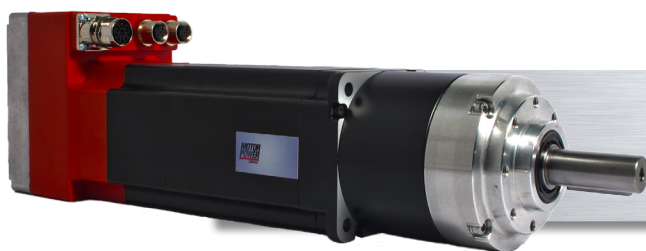
High efficiency

Direct coupling between motor and gearbox



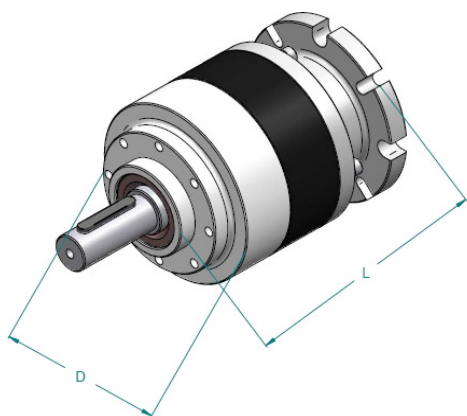
| Gearbox type | Ratio    | Rated torque (Nm) | Peak torque (Nm) | Rated speed input (Rpm) | Axial load (N) | Radial load (N) |
|--------------|----------|-------------------|------------------|-------------------------|----------------|-----------------|
| ROK 31       | 7 : 100  | 10                | 15               | 3000                    | 80             | 120             |
| ROK 33       | 7 : 75   | 13                | 20               | 3000                    | 100            | 140             |
| ROK 40       | 20-36-80 | -                 | -                | 3000                    | -              | -               |
| ROK 50       | 35       | -                 | -                | 3000                    | -              | -               |

The worm gearboxes series ROK are exclusively available combined with Motor Power Company motors and servomotors.



## EPG – PLANETARY GEARMOTOR

The planetary gearboxes series EPG is designed for the coupling with rotative motors range. Mounting EPG gearboxes makes the dimensions of the coupling part extremely compact, also thanks to the possibility of mounting the pinion directly on the motor shaft. The planetary gearboxes are manufactured with hardened and tempered steel shaft and carburised/hardened steel or synthetic gears, by ensuring a lower noise level.



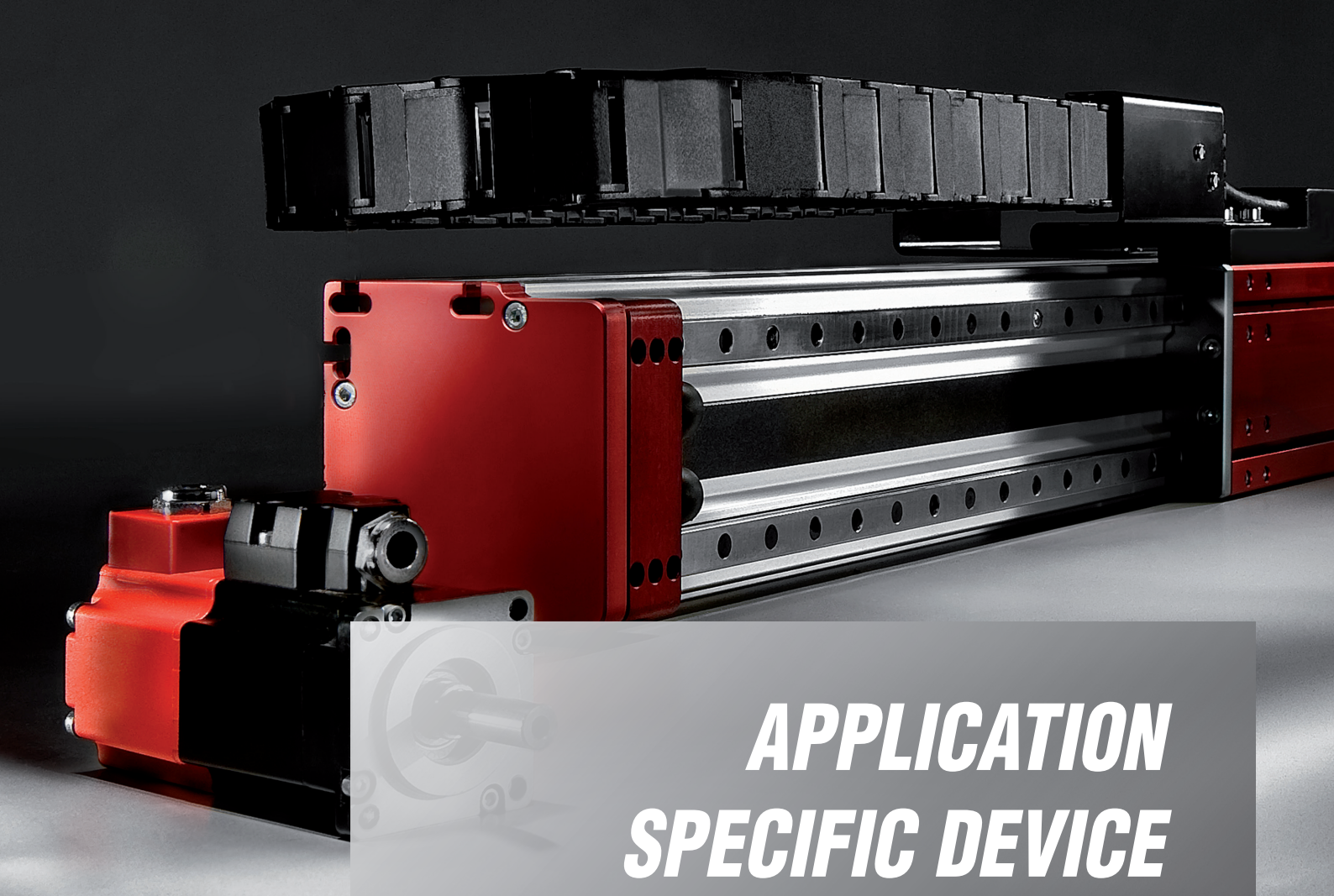
| Gearbox type | Stages | Ratio | Rated torque (Nm) | Peak torque (Nm) | Rated speed input (Rpm) | Max speed input (Rpm) | Axial load (N)  | Radial load (N)  |
|--------------|--------|-------|-------------------|------------------|-------------------------|-----------------------|-----------------|------------------|
| EPG 51       | 1      | 3:216 | 7 - *(3.5)        | 10 - *(3.5)      | 3000                    | 4000                  | 140             | 310              |
|              | 2      |       | 15 - *(10)        | 19 - *(15)       |                         |                       | 140             | 310              |
|              | 3      |       | 25 - *(22)        | 30 - *(27)       |                         |                       | 140             | 310              |
| EPG 79       | 1      |       | 28                | 40               |                         |                       | 350 : ** (1000) | 600 : ** (2500)  |
|              | 2      |       | 44                | 70               |                         |                       | 350 : ** (1000) | 600 : ** (2500)  |
|              | 3      |       | 75                | 120              |                         |                       | 350 : ** (1000) | 600 : ** (2500)  |
| EPG 109      | 1      |       | 80                | 100              |                         |                       | 800 : ** (1600) | 1300 : ** (4000) |
|              |        |       | 100               | 180              |                         |                       | 800 : ** (1600) | 1300 : ** (4000) |
|              | 2      |       | 80                | 100              |                         |                       | 800 : ** (1600) | 1300 : ** (4000) |
|              |        |       | 140               | 200              |                         |                       | 800 : ** (1600) | 1300 : ** (4000) |
|              | 3      |       | 190               | 320              |                         |                       | 800 : ** (1600) | 1300 : ** (4000) |

\* this value is referred to the reducer with first speed stage in synthetic material

\*\* this value is referred to the reducer with conical bearings

|        | EPG 51 | EPG 79 | EPG 109 |
|--------|--------|--------|---------|
| D (mm) | 51     | 79     | 109     |
| L (mm) | 77     | 105.5  | 126.5   |
|        | 90     | 124.5  | 159     |
|        | 103    | 143.5  | 191.5   |

The planetary gearboxes series EPG are exclusively available combined with Motor Power Company motors and servomotors.



## ***APPLICATION SPECIFIC DEVICE***

### *WE MAKE IT HAPPEN*

**O**ur strength comes from skill and innovation. The combination of technology, industrial handling and empathic relationships enables us to help the customer be innovative in the way that is best suited to the customer's own needs. From the core technology of our standard product range we create highly innovative personalized solutions and application specific devices.



# APPLICATION SPECIFIC DEVICE

## MOTORS

Full capability to undertake design and development of brand new equipments that can be either transferred as projects or turned into industrialized customized products based on Motor Power Company core technologies.



### FOOT STEP GEARMOTOR

Planetary gearmotor based on Tetra Compact 60 direct coupled to EPG79

Field: railway transport

Application: foot step driving

Technical data: motor rated torque 0,65 Nm, EPG gear ratio 30:1, protection degree IP65, anti-corrosive painting

Feature: special device according to European transport laws, shock and vibration resistance, cable and connectors according to railways laws, rugged frame, insulation system UL /CSA

### AUTOMOTIVE GLASS PROCESS ROTARY TABLE

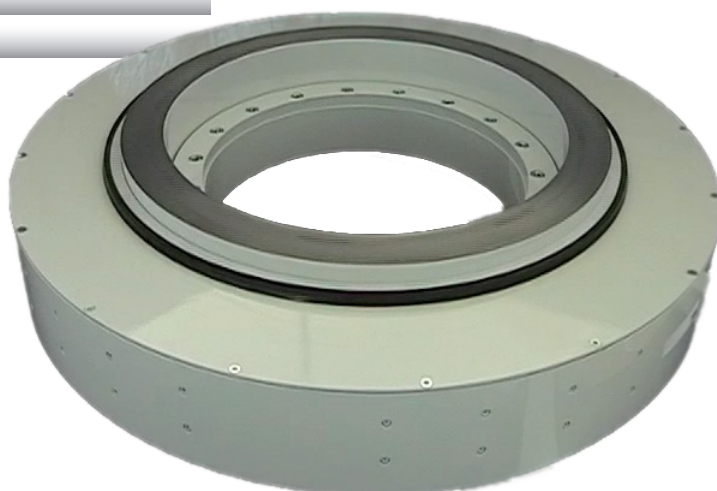
Extraordinary diameter gearless rotary table based on SKA RT

Field: automotive

Application: glass grinding process

Technical data: motor rated torque 1624 Nm, peak torque 4870 Nm, 40 rpm, analog encoder, accuracy 11 arc/sec, tilt moment 0,02mm @2m diameter

Feature: 1m diameter, 440mm hollow shaft, rugged structure



# APPLICATION SPECIFIC DEVICE

## MOTORS

### CAPPING STAINLESS STEEL MOTOR

Blind shaft motor based on Tetra Compact 80

Field: packaging

Application: capping machine

Technical data: motor rated torque 2,8 Nm, nominal power 870 W, 3000 rpm, protection degree IP65, resolver feedback.

Feature: full stainless steel motor frame, designed for aseptic environment, chemical proof specific gaskets.



### FLYING PROBE TESTER IRONLESS MOTOR

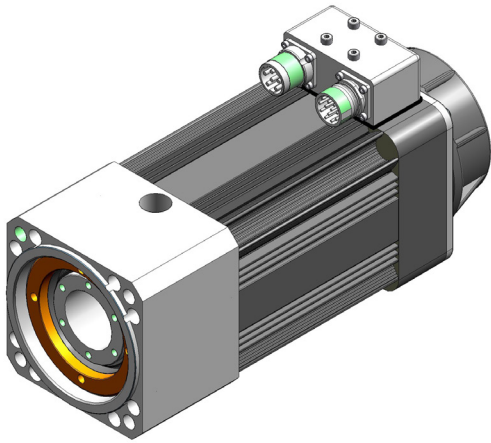
Z axis ironless motor based on SKA IL

Field: semiconductor

Application: flying probe tester

Technical data: motor rated force 11 N, speed 6 m/s, optical encoder feedback.

Feature: drastic reduction of the test time. The full linear motion, with linear optical encoders, guarantees high acceleration without losing the extreme accuracy.



### ***AUTOMOTIVE WELDING ROBOT SERVOMOTOR***

Ball screw integrated brushless servomotor based on TETRA

Field: automotive

Application: welding robot suspended guns

Technical data: linear peak force 1000N, screw pitch 1mm, stroke 150mm, IP 65

Feature: liquid cooler, feedback resolver, insulation system UL /CSA.

### ***CERAMIC PRESS DOUBLE SHAFT GEARMOTOR***

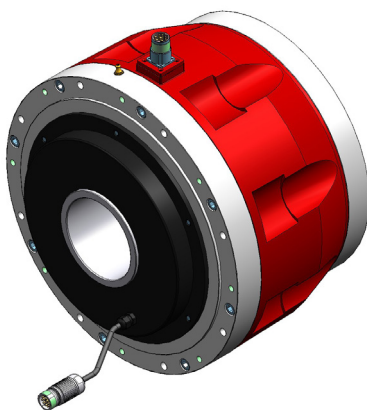
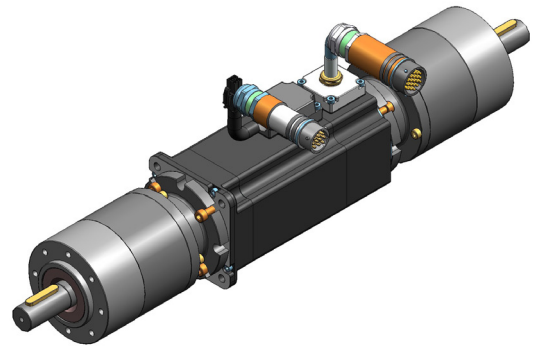
Original two-shaft brushless gearmotor based on TETRA COMPACT servomotors and EPG planetary gears

Field: ceramic machines

Application: press feeding system

Technical data: motor rated torque 2,8 Nm, safety brake 24Volt, gear ratio 72:1, encoder feedback, insulation system UL /CSA, IP 65

Feature: great space and energy saving, special hollow shaft encoder, motion control simplification, high IP degree and rugged structure.



### ***SOLAR CELLS STAINLESS STEEL SHAFT TORQUE MOTOR***

Gearless solution based on SKA DDR torque motor with stainless steel shaft

Field: solar cell manufacturing process

Technical data: absolute analog encoder with 3 arc/sec accuracy, motor continuous torque 270Nm, peak torque 1043Nm, high axial load 8500 N

Feature: cross roller bearing without backlash.

**MOTORS**

**MOTION CONTROL**

**MECHATRONICS**

**MOTOR  
POWER**  
**COMPANY**

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