



Vario Line

Spring Pressure Single-Disc Brake

Spring pressure
single-disc
brakes for DC

The VARIO LINE includes spring pressure single-disc brakes for direct current which can be matched to the individual application due to a wide range of variants.

Electromagnetically operated spring pressure brakes generate the braking torque when the current is switched off. The braking effect can be neutralized by means of the electromagnetic force or an additionally mounted hand release.

Fitting dimensions and the grading of the type series of the VARIO LINE are matched to IEC-motors.



Versions

76 431..H00

- Torque range 1 – 600 Nm
- DC
- Adjustable torque

Applications

- Machining equipment
- DC motors
- Material handling vehicles
- Gear motors
- Equipment manufacturing
- Handling technology
- Lifting and conveying technology
- IEC three-phase motors
- Medical engineering
- Paper-making and printing machines
- Wheelchairs
- Textile machines

Certification



Norms

DIN VDE 0580



| | |
|-------------------------|---|
| Version | 76 431..H00 |
| Standard rated voltages | 24, 102, 178, 205 VDC Other standard rated voltages on request. |
| Protection class | IP 55 ▪ if installed under motor fan cowl IP 65 ▪ with accessories and if installed under motor fan cowl |
| Thermal class | F |
| Rated torques | 1 – 600 Nm |
| Accessories (options) | Friction plate/flange, hand release, mounting screws, protective cover, sealing plug, sealing ring |

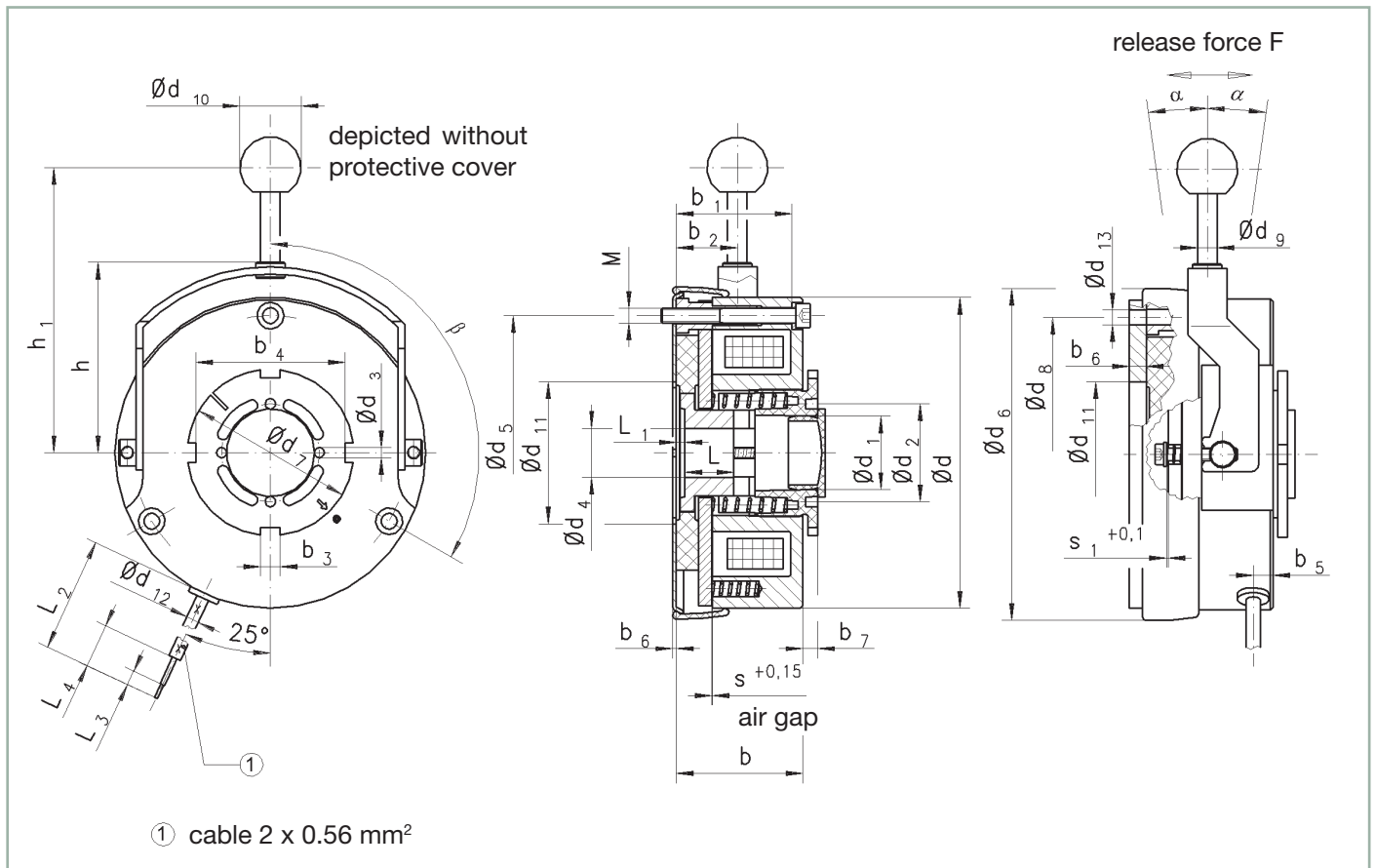
Design subject to change without notice.

Please observe the “General Technical Information on Data Sheets” and the operating instructions 76 431..H00.

Technical Data

| Size | Rated torque range (standard) M_2 [Nm] | Max. reachable rated torque with fully screwed in adjustment ring $M_{2,max}$ [Nm] | Max. speed n_{max} [min ⁻¹] | Max. switching power P_{max} [kJ/h] | Max. switching energy (Z = 1) W_{max} [kJ] | Rated power P_N [W] | Response times | | Moment of inertia driver and friction disc J [kgcm ²] | Weight m [kg] |
|------|--|--|---|---------------------------------------|--|-----------------------|----------------|----------------|---|---------------|
| | | | | | | | On t_1 [ms] | Off t_2 [ms] | | |
| 08 | 1 – 5 | 6 | 10000 | 200 | 25 | 23.5 | 18 | 30 | 0.32 | 0.61 |
| 10 | 4 – 10 | 12 | 3500 | 320 | 30 | 26 | 20 | 95 | 1.2 | 1.3 |
| 11 | 8 – 20 | 23 | 3500 | 430 | 41 | 30 | 30 | 80 | 2 | 2.8 |
| 13 | 16 – 32 | 40 | 3500 | 650 | 50 | 40 | 45 | 90 | 6 | 3.7 |
| 14 | 30 – 60 | 65 | 3500 | 800 | 55 | 53 | 85 | 85 | 8 | 5.7 |
| 16 | 40 – 80 | 100 | 3500 | 1000 | 58 | 55 | 90 | 190 | 16 | 8.4 |
| 19 | 80 – 150 | 170 | 3000 | 1200 | 65 | 80 | 130 | 270 | 38 | 13.1 |
| 24 | 150 – 240 | 300 | 3000 | 1400 | 80 | 110 | 225 | 235 | 108 | 22 |
| 29 | 280 – 400 | 600 | 3000 | 1600 | 275 | 130 | 115 | 560 | 230 | 36 |

The maximum switching energy (W_{max}) specified in the table refer to the maximum rated torque (standard).



| Size | d | d ₁ | d ₂ | d ₃ | d ₄ (H7) | d ₅ | d ₆ (ca.) | d ₇ | d ₈ | d ₉ | d ₁₀ | d ₁₁ | d ₁₂ | d ₁₃ | b | b ₁ | b ₂ | b ₃ ⁴⁾ | b ₄ ⁴⁾ |
|------|-----|----------------|----------------|----------------|------------------------------------|----------------|----------------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|------|----------------|----------------|------------------------------|------------------------------|
| 08 | 82 | 17 | 26 | 5 | 9 ¹⁾ /15 ²⁾ | 72 | 85.5 | 42 | 64 | 4 | 16 | 3.8 | - | - | 7 | 13.7 | 12 | 7 | 36 |
| 10 | 100 | 24 | 35 | 5 | 11 ¹⁾ /20 ²⁾ | 90 | 111 | 60 | - | 6 | 25 | 44 | 5.2 | - | 42 | 38.5 | 18 | 8 | 53 |
| 11 | 127 | 30 | 40 | 4.2 | 13 ¹⁾ /23 ²⁾ | 112 | 136 | 68 | - | 8 | 25 | 58 | 5.2 | - | 52 | 47.5 | 25 | 8 | 61 |
| 13 | 147 | 35 | 50 | 5.2 | 18 ¹⁾ /30 ²⁾ | 132 | 159 | 82 | - | 8 | 32 | 70 | 5.2 | - | 55.5 | 52 | 22 | 10 | 74 |
| 14 | 164 | 35 | 50 | 5.2 | 18 ¹⁾ /30 ²⁾ | 145 | 179 | 82 | - | 10 | 40 | 61 | 5.2 | - | 61.5 | 55.5 | 28.5 | 10 | 74 |
| 16 | 188 | 45.5 | 60 | 5 | 25 ¹⁾ /40 ²⁾ | 170 | 203 | 102 | - | 10 | 40 | 61 | 5.2 | - | 70 | 65 | 25 | 10 | 94 |
| 19 | 215 | 51 | 75 | 6 | 30 ¹⁾ /45 ²⁾ | 196 | 230 | 116 | 100 | 10 | 40 | 77 | 5.2 | 9 6x60° | 83 | 70.5 | 29 | 10 | 108 |
| 24 | 252 | 69.5 | 124 | 10.1 | 35 ¹⁾ /60 ²⁾ | 230 | 268 | 156 | 120 | 14 | 40 | 90 | 5.2 | 11 6x60° | 97 | 89 | 36 | - | - |
| 29 | 302 | 89 | 124 | 10 | 40 ¹⁾ /70 ²⁾ | 278 | 321 | 156 | 278 | 14 | 40 | 120 | 5.2 | 11 6x60° | 107 | 100 | 57.5 | - | - |

| Size | b ₅ | b ₆ | b ₇ | b ₈ | h | h ₁ | L | L ₁ | L ₂ | L ₃ | L ₄ | s | s _{max} ³⁾ | s ₁ | M | F ⁵⁾ [N] | α | β |
|------|----------------|----------------|----------------|----------------|------|----------------|----|----------------|----------------|----------------|----------------|------|--------------------------------|----------------|-------|---------------------|--------|--------|
| 08 | 14 | 1 | 3-6 | 91.5 | 51 | 90 | 18 | 1.8 | 400 | 6 | 30 | 0.2 | 0.5 | - | 3xM4 | 30 | ca. 2° | - |
| 10 | 7 | 1.5 | 3.5-6.5 | - | 62 | 115 | 20 | 2.5 | 400 | 6 | 30 | 0.2 | 0.8 | 1 | 3xM5 | 25 | 10° | 3x120° |
| 11 | 8 | 1.5 | 4.0-8.0 | - | 78 | 125 | 20 | 3.5 | 400 | 6 | 30 | 0.2 | 0.95 | 1 | 3xM6 | 30 | 10° | 3x120° |
| 13 | 8 | 1.5 | 5.0-10.0 | - | 86 | 140 | 25 | 3 | 400 | 6 | 30 | 0.25 | 0.8 | 1.25 | 3xM6 | 60 | 10° | 3x120° |
| 14 | 8 | 1.5 | 5.0-10.0 | - | 96.5 | 152.5 | 30 | 3 | 400 | 6 | 30 | 0.3 | 0.9 | 1.5 | 3xM8 | 110 | 10° | 3x120° |
| 16 | 8 | 1.5 | 5.5-11.5 | - | 110 | 175 | 30 | 3 | 600 | 6 | 30 | 0.35 | 1.2 | 1.5 | 3xM8 | 130 | 10° | 3x120° |
| 19 | 13 | 11 | 6.0-14.5 | - | 134 | 210 | 35 | 4 | 600 | 6 | 30 | 0.35 | 1.5 | 1.7 | 6xM8 | 200 | 10° | 6x60° |
| 24 | 17 | 11 | 7.0-15 | - | 148 | 230 | 40 | 5 | 750 | 6 | 30 | 0.4 | 1.5 | 2 | 6xM10 | 270 | 10° | 6x60° |
| 29 | 13.5 | 12.5 | 7.0-13.5 | - | 175 | 445 | 50 | 4.5 | 700 | 6 | 30 | 0.45 | 1.5 | 2.5 | 6xM10 | 200 | 10° | 6x60° |

- 1) Min. bore with feather key groove JS9 acc. DIN 6885, sheet 1.
- 2) Max. bore with feather key groove JS9 acc. DIN 6885, sheet 1.
Feather key supporting on total length. Shaft ISO fitting k6 ^(1), 2)
- 3) Max. air gap relating to max. rated torque (standard) up to replacement of friction disc.
- 4) Not with sizes 24 and 29.
- 5) Release force F (approx.) relating to max. rated torque (standard).
Hand lifting only possible against the mounting surface.

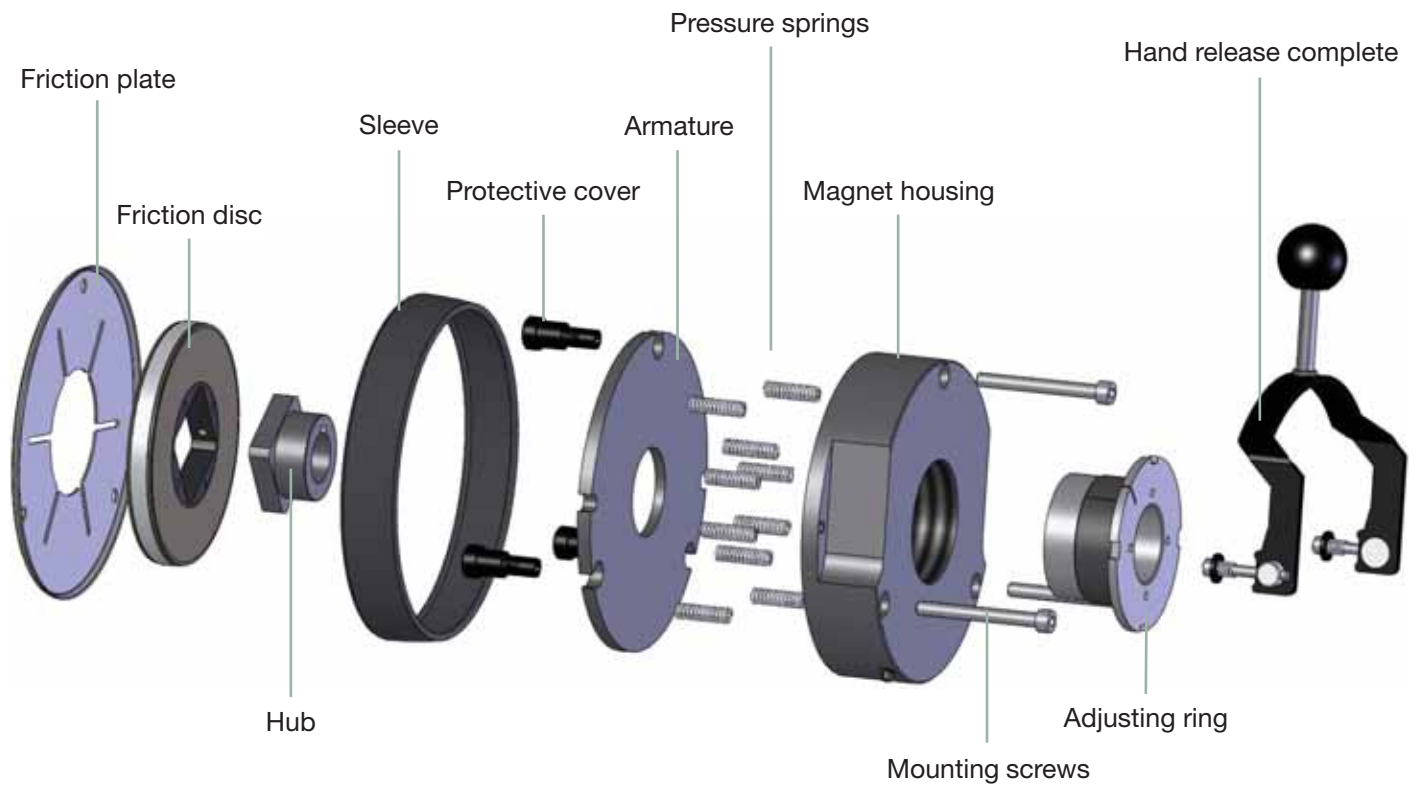
Accessories

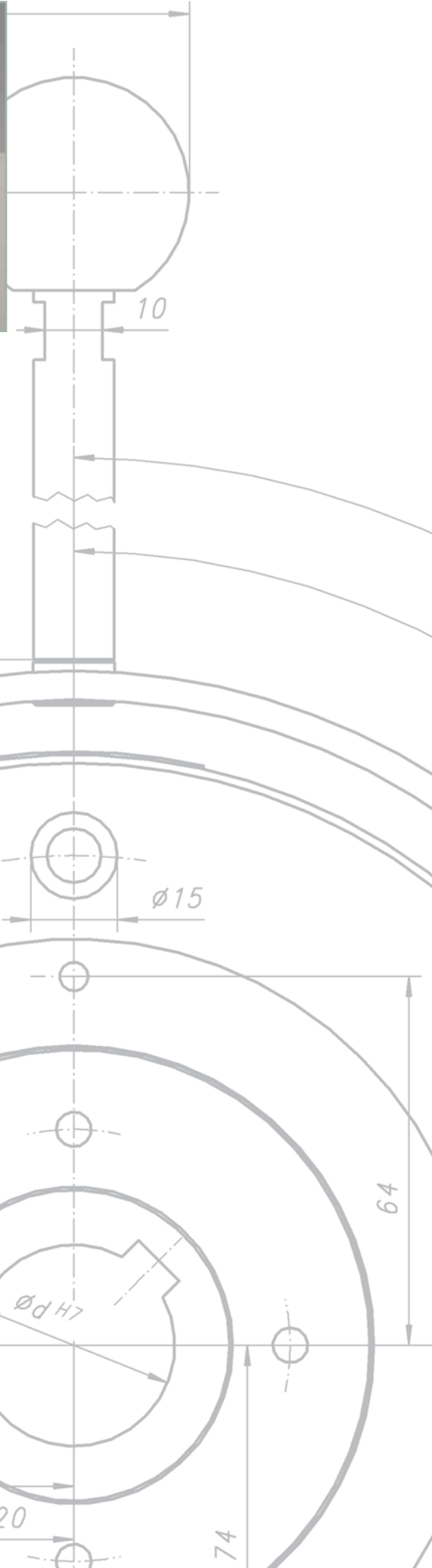
| Size | Friction plate/ flange ⁶⁾ | Hand release | Mounting screws | | | | Protective cover ⁶⁾ | Sealing plug | Sealing ring | |
|------|---|----------------|------------------------------------|----------------------|--------------|---------------------|---|-----------------|--------------|--------------------|
| | | | Screw | Tightening torque | Order no. | Screws per brake | | | Order no. | Rings per brake |
| 08 | 76 43108A0004 | 76 43108A01940 | DIN 7984-M4 x 25-8.8 | 3 Nm | 304 510 | 3 | 76 43108A00005 (without hand release) 76 43108A01005 (with hand release) | 412 817 | 326 000 | 3 |
| 10 | 76 43110H00004 | 76 43110H00940 | ISO 4762 - M5 x 45 | 6 Nm | 304 065 | 3 | 76 43110H00005 | 412 859 | 326 005 | 3 |
| 11 | 76 43111H00004 | 76 43111H00940 | ISO 4762 - M6 x 55 | 10 Nm | 304 051 | 3 | 76 43111H00005 | 412 842 | 326 006 | 3 |
| 13 | 76 43113H00004 | 76 43113H00940 | ISO 4762 - M6 x 60 | 10 Nm | 304 052 | 3 | 76 43113H00005 | 412 843 | 326 006 | 3 |
| 14 | 76 43114H00004 | 76 43114H00940 | ISO 4762 - M8 x 70 | 25 Nm | 304 078 | 3 | 71 10116A3013 | 412 843 | 326 007 | 3 |
| 16 | 76 43116H00004 | 76 43116H00940 | ISO 4762 - M8 x 75 | 25 Nm | 304 079 | 3 | 76 43116H00005 | 412 860 | 326 007 | 3 |
| 19 | 76 43119H00024 | 76 43119H00940 | ISO 4762 - M8 x 80 ⁷⁾ | 25 Nm | 304 080 | 6 | 76 43119H00005 | 412 841 | 326 007 | 6 |
| 24 | 76 43124H00024 | 76 43124H00940 | ISO 4762 - M10 x 100 ⁷⁾ | 40 Nm | 304 117 | 6 | 76 43124H00005 | 412 885 | 326 008 | 6 |
| 29 | 76 43129H00024 | 76 43129H00940 | ISO 4762 - M10 x 110 ⁷⁾ | 40 Nm | 304 118 | 6 | 76 43129H00005 | - | 326 008 | 6 |

⁶⁾ Sizes 10 to 16: friction plate, sizes 19 to 29: flange.

⁷⁾ Screw length without use of flange.

⁸⁾ Friction plate resp. flange are required.





INDIVIDUAL CUSTOMER SOLUTIONS

Customer-Specific Applications

- Based on existing standard platforms
- From minor to major adaptations
- According to specific customer requirements

Customized Solutions and Applications

- Comprehensive design of new devices according to individual customer requirements

Complete Solutions

- Based on the individual solutions mentioned above
- Our brakes and clutches in combination with our electronic accessories



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OUR CUSTOMER SUPPORT WILL BE HAPPY TO ASSIST YOU.

Extended Accessories



| | | |
|---------------------------|--|---|
| Series line | LEAN COLLECTION | UNIVERSAL COLLECTION |
| Features | <ul style="list-style-type: none"> extremely small size cost-effective manifold mounting and connecting options | <ul style="list-style-type: none"> all types of rectifiers and switches can be combined in one housing manifold mounting and connecting options |
| Types | 32 0710.B.. 32 0730.B.. 32 0731.B.. | 32 07.2.B.. 32 17.2.B.. 32 4730.B.. 32 57303B.. 32 67.04B.. 32 77303B.. |
| Nominal input voltage VAC | max. 500 V | max. 500 (575) V |
| Max. output current ADC | half wave: 1.0 full wave: 2.0 | half wave: 0.7 to 2.0 full wave: 0.7 to 2.0 overexcitation: 1.4/0.7 to 3.0/1.5 |
| Overexcitation | no | depending on model 2:1 |
| High-speed switching-off | depending on type external | external or internal with voltage or current detection |
| Standards | CE EN60529 HD625.1 S1 NSRL IP 00 | CE EN60529 HD625.1 S1 NSRL, EMVRL IP 00 |
| Options and accessories | <ul style="list-style-type: none"> mounting rail clip adhesive pad leads for motor connection M4 | <ul style="list-style-type: none"> mounting rail clip adhesive pad, mounting clip leads for motor connection M4 |



POWER TRANSMISSION

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