

# Technical parameters DriveSpin DS 050



The high precision DriveSpin DS 050 actuators represent the smallest serially produced member of the DriveSpin product range, meeting even the most demanding requirements of customers from all industries. With their optimal price/performance ratio, they reliably provide parameters such as high accuracy and precision, high tilting and torsional stiffness, low weight, compactness, low vibrations, and a wide range of suitable technical solutions.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                                    | Tolerance<br>Toleranz | DS 050/DSH 050/DSM 050      |      |      |
|--|------------------------------------|-----------------------|-----------------------------|------|------|
| Reduction ratio <i>Untersetzungsvorhältnis</i>   | i                                  |                       | 63                          |      |      |
| Rated output torque <i>Nenn-Abtriebsdrehmoment</i>   | T <sub>r</sub> [Nm]                |                       | 18                          |      |      |
| Rated input speed <i>Nenn-Antriebsgeschwindigkeit</i>  | n <sub>r</sub> [rpm]               |                       | 2000                        |      |      |
| Tilting stiffness <sup>1)6)</sup> <i>Kippsteifigkeit</i> <sup>1)6)</sup>                             | M <sub>t</sub> [Nm/arcmin]         |                       | 4                           |      |      |
| Torsional stiffness <sup>1)7)</sup> <i>Torsionssteifigkeit</i> <sup>1)7)</sup>                       | k <sub>t</sub> [Nm/arcmin]         |                       | 2,5                         |      |      |
| Lost motion <i>Lost Motion</i>   | LM [arcmin]                        |                       | < 1,5                       |      |      |
| Hysteresis <i>Hysterese</i>  | H [arcmin]                         |                       | < 1,5                       |      |      |
| Gear lubrication <i>Zahnradschmierung</i>  |                                    |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range <i>Standardmäßiger Umgebungstemperaturbereich</i>                 | [°C]                               |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage <i>DC BUS-Spannung</i>  | U <sub>dc</sub> [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed <i>Motor-Nenndrehzahl</i>  | n <sub>n</sub> [rpm]               |                       | 3500                        | 3500 | 3500 |
| Motor rated torque <i>Motor-Nenndrehmoment</i>   | M <sub>n</sub> [Nm]                | +/- 10%               | 0,23                        | 0,23 | 0,23 |
| Motor rated current <i>Motor-Nennstrom</i>   | I <sub>n</sub> [A <sub>rms</sub> ] |                       | 7,1                         | 0,58 | 0,3  |
| Motor peak torque <i>Motor-Spitzendrehmoment</i>   | M <sub>max</sub> [Nm]              | +/- 10%               | 1                           | 1    | 1    |
| Motor peak current <i>Motor-Spitzenstrom</i>   | I <sub>max</sub> [A]               |                       | 30,8                        | 2,5  | 1,25 |
| Number of poles <i>Anzahl der Pole</i>   | 2p                                 |                       | 6                           | 6    | 6    |
| Electromagnetic brake DC supply <i>DC-Versorgung der elektromagnetischen Bremse</i>                  | [V <sub>dc</sub> ]                 |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input<br><i>Drehmoment der elektromagnetischen Bremse am Eingang</i> | [Nm]                               |                       | 0,4                         |      |      |
| Protection class <i>Schutzart</i>  |                                    |                       | IP 64                       |      |      |
| Motor Insulation class <i>Motor-Isolationsklasse</i>   |                                    |                       | F                           |      |      |
| Paint <i>Lackierung</i>  |                                    |                       | RAL 9005                    |      |      |

\*All technical parameters are found in the DriveSpin catalogue.

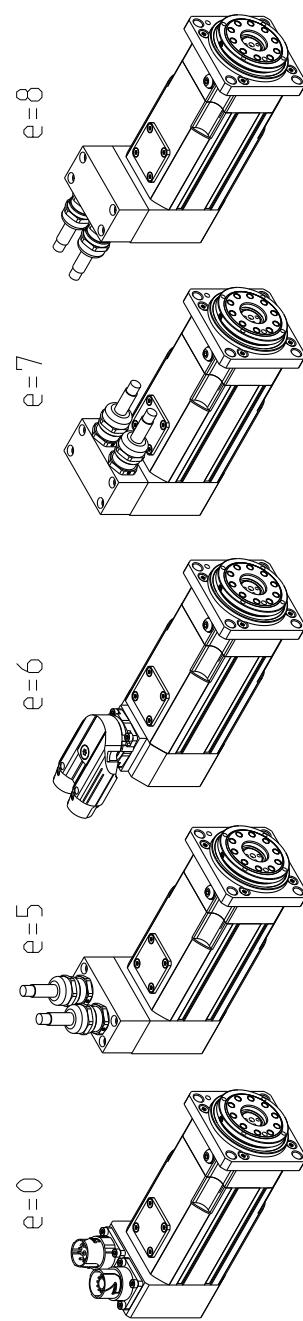
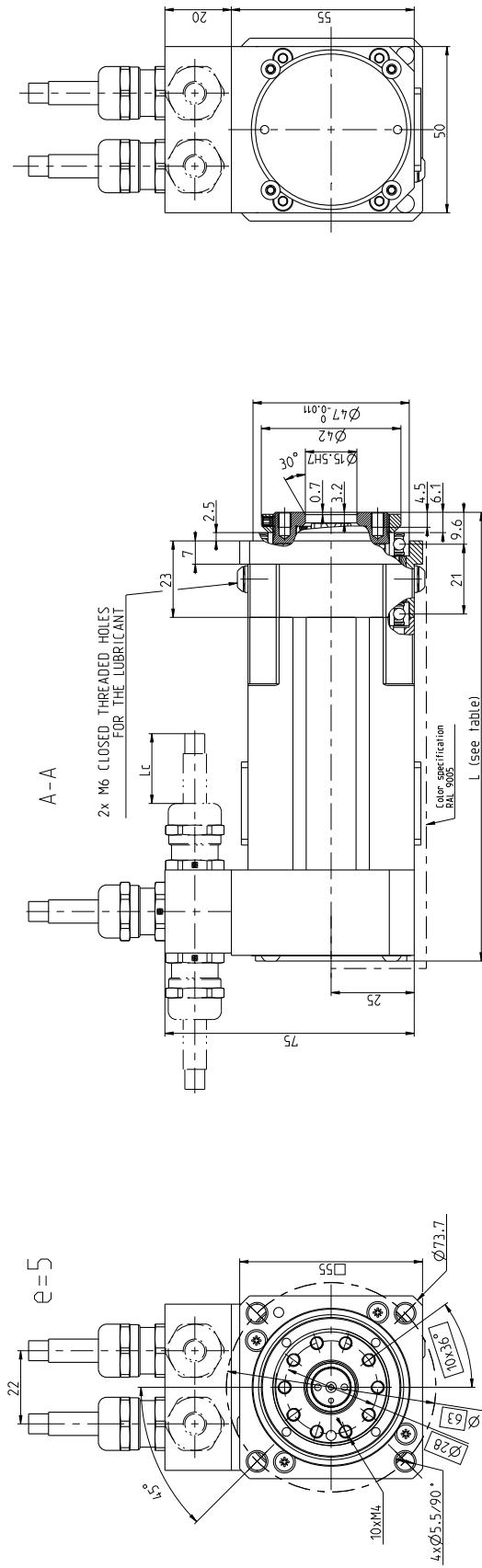
\*Technical modifications reserved.

# Drawings

## DriveSpin DS 050



**DS 050**



| Size<br>Baugröße | Feedback type (d)<br>Feedback-Typ (d) | Without brake / Ohne Bremse     |                                   | With brake / Mit Bremse         |                                   |
|------------------|---------------------------------------|---------------------------------|-----------------------------------|---------------------------------|-----------------------------------|
|                  |                                       | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]*<br>Gewicht m [kg]* | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]*<br>Gewicht m [kg]* |
| DS 050           | 0A                                    | 99                              | 0,9                               | 135                             | 1,4                               |
|                  | 0B,0C                                 | 107                             | 1,2                               | 138                             | 1,4                               |
|                  | 0D,0E                                 | 106                             | 1,2                               | 133                             | 1,3                               |

\* weight parameters are informative / Gewichtsparameter sind informativ

# Technical parameters

## DriveSpin DS 070



The high precision DriveSpin DS 070 actuators represent the medium-size serially produced member of the DriveSpin product range, meeting even the most demanding requirements of customers from all industries. With their optimal price/performance ratio, they reliably provide parameters such as high accuracy and precision, high tilting and torsional stiffness, low weight, compactness, low vibrations, and wide range of suitable technical solutions.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                                    | Tolerance<br>Toleranz | DS / DSH / DSM 070          |      |      |
|--|------------------------------------|-----------------------|-----------------------------|------|------|
| Reduction ratio <i>Untersetzungsrhältnis</i>   | i                                  |                       | 57,75                       |      |      |
| Rated output torque <i>Nenn-Abtriebsdrehmoment</i>   | T <sub>r</sub> [Nm]                |                       | 50                          |      |      |
| Rated input speed <i>Nenn-Antriebsgeschwindigkeit</i>  | n <sub>r</sub> [rpm]               |                       | 2000                        |      |      |
| Tilting stiffness <sup>1)6)</sup> <i>Kippsteifigkeit</i> <sup>1)6)</sup>                             | M <sub>t</sub> [Nm/arcmin]         |                       | 35                          |      |      |
| Torsional stiffness <sup>1)7)</sup> <i>Torsionssteifigkeit</i> <sup>1)7)</sup>                       | k <sub>t</sub> [Nm/arcmin]         |                       | 7                           |      |      |
| Lost motion <i>Lost Motion</i>   | LM [arcmin]                        |                       | < 1,5                       |      |      |
| Hysteresis <i>Hysterese</i>  | H [arcmin]                         |                       | < 1,5                       |      |      |
| Gear lubrication <i>Zahnradschmierung</i>  |                                    |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range <i>Standardmäßiger Umgebungstemperaturbereich</i>                 | [°C]                               |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage <i>DC BUS-Spannung</i>  | U <sub>dc</sub> [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed <i>Motor-Nenndrehzahl</i>  | n <sub>n</sub> [rpm]               |                       | 2500                        | 4500 | 4500 |
| Motor rated torque <i>Motor-Nenndrehmoment</i>   | M <sub>n</sub> [Nm]                | +/- 10%               | 0,88                        | 0,76 | 0,76 |
| Motor rated current <i>Motor-Nennstrom</i>   | I <sub>n</sub> [A <sub>rms</sub> ] |                       | 13                          | 1,2  | 0,7  |
| Motor peak torque <i>Motor-Spitzendrehmoment</i>   | M <sub>max</sub> [Nm]              | +/- 10%               | 3                           | 3    | 3    |
| Motor peak current <i>Motor-Spitzenstrom</i>   | I <sub>max</sub> [A]               |                       | 44,3                        | 4,7  | 2,8  |
| Number of poles <i>Anzahl der Pole</i>   | 2p                                 |                       | 10                          | 10   | 10   |
| Electromagnetic brake DC supply <i>DC-Versorgung der elektromagnetischen Bremse</i>                  | [V <sub>dc</sub> ]                 |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input<br><i>Drehmoment der elektromagnetischen Bremse am Eingang</i> | [Nm]                               |                       | 4,5                         |      |      |
| Protection class <i>Schutzart</i>  |                                    |                       | IP 64                       |      |      |
| Motor Insulation class <i>Motor-Isolationsklasse</i>   |                                    |                       | F                           |      |      |
| Paint <i>Lackierung</i>  |                                    |                       | RAL 9005                    |      |      |

\*All technical parameters are found in the DriveSpin catalogue.

\*Technical modifications reserved.

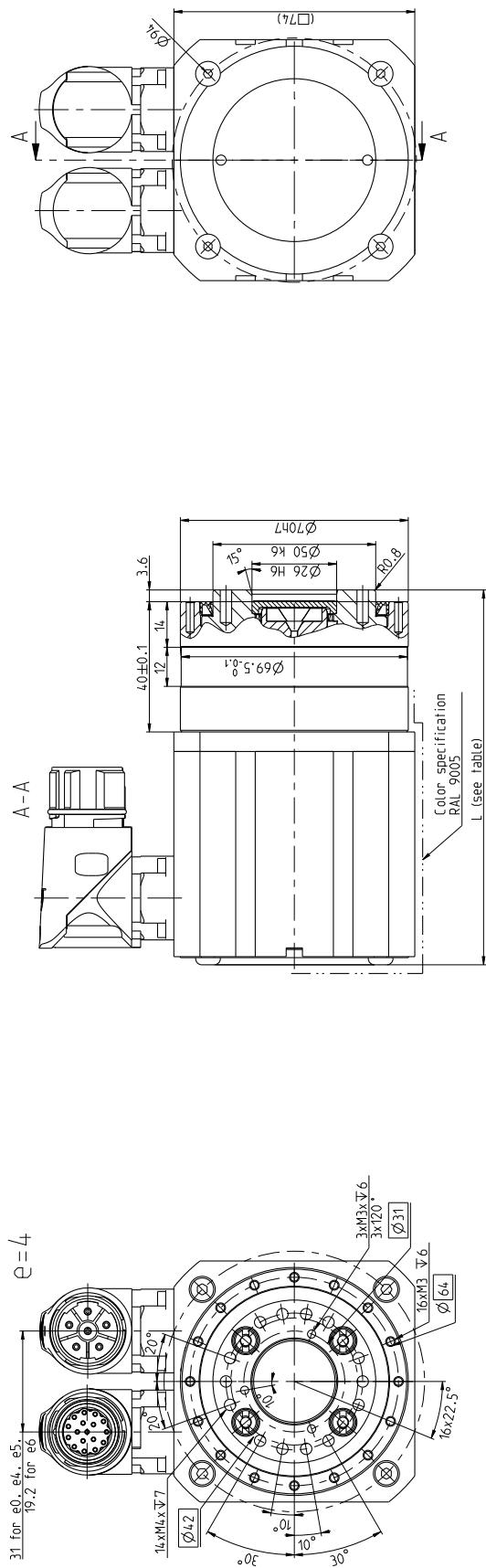
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# Drawings

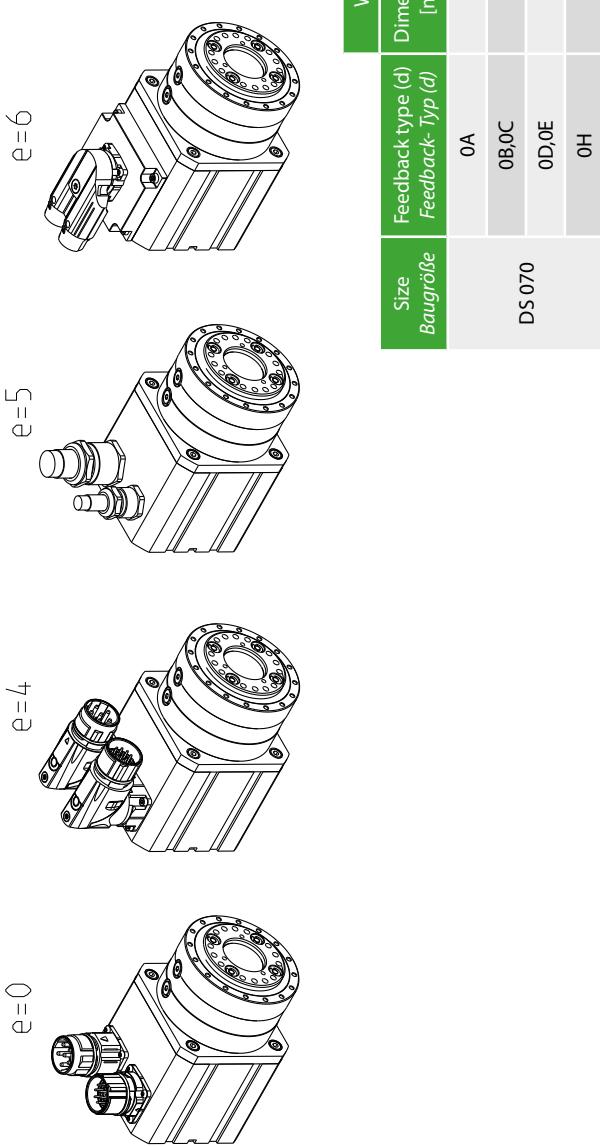
## DriveSpin DS 070



**DS 070**



| Size<br>Baugröße | Feedback type (d)<br>Feedback- Typ (d) | Without brake / Ohne Bremse     |                                     | With brake / Mit Bremse         |                                     |
|------------------|--|---------------------------------|-------------------------------------|---------------------------------|-------------------------------------|
|                  |  | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg] *<br>Gewicht m [kg] * | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg] *<br>Gewicht m [kg] * |
| DS 070           | 0A                                     | 115                             | 2,3                                 | 194                             | 3,4                                 |
|                  | 0B,0C                                  | 137                             | 2,4                                 | 178                             | 3,4                                 |
|                  | 0D,0E                                  | 148                             | 2,6                                 | 195                             | 3,5                                 |
|                  | 0H                                     | 148                             | 2,6                                 | 195                             | 3,5                                 |



\* weight parameters are informative / Gewichtsparameter sind informativ

# Technical parameters

## DriveSpin DS 095



DS 095 is representative of the latest series actuators DriveSpin in non-hollowshaft design that combines high-precision cycloidal gearbox Twin Spin G - series, a wide variety of sensors, motors and brakes. The actuator dimensions and innovative design make it easy to integrate drive in cramped installation space for all applications. With this product, you can precisely control the movement and solve your application requirements. The high precision DriveSpin DS 095 actuator is the latest member of the DriveSpin product range, meeting even the most demanding requirements of customers from all industry sectors. This technically advanced actuator offers the highest power density with the shortest axial length. With their optimal price/performance ratio, they reliably provide parameters such as high accuracy and precision, high tilting and torsional stiffness, low weight, compactness, low vibrations, and a wide range of suitable technical solutions.

The concept of the Inline N - DS 095 series is built on a modular platform with the objective to achieve maximum flexibility from the user's perspective. The performance characteristics of servomotors and reduction gears may be configured individually for a custom application.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                                    | Tolerance<br>Toleranz | DS 095                      |      |      |
|--|------------------------------------|-----------------------|-----------------------------|------|------|
| Reduction ratio <i>Untersetzungsverhältnis</i>   | i                                  |                       | 73, 95                      |      |      |
| Rated output torque <i>Nenn-Abtriebsdrehmoment</i>   | T <sub>r</sub> [Nm]                |                       | 85                          |      |      |
| Rated input speed <i>Nenn-Antriebsgeschwindigkeit</i>  | n <sub>r</sub> [rpm]               |                       | 2000                        |      |      |
| Tilting stiffness <sup>1)6)</sup> <i>Kippsteifigkeit</i> <sup>1)6)</sup>                             | M <sub>t</sub> [Nm/arcmin]         |                       | 120                         |      |      |
| Torsional stiffness <sup>1)7)</sup> <i>Torsionssteifigkeit</i> <sup>1)7)</sup>                       | k <sub>t</sub> [Nm/arcmin]         |                       | 15                          |      |      |
| Lost motion <i>Lost Motion</i>   | LM [arcmin]                        |                       | < 1                         |      |      |
| Hysteresis <i>Hysterese</i>  | H [arcmin]                         |                       | < 1                         |      |      |
| Gear lubrication <i>Zahnradschmierung</i>  |                                    |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range <i>Standardmäßiger Umgebungstemperaturbereich</i>                 | [°C]                               |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage <i>DC BUS-Spannung</i>  | U <sub>dc</sub> [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed <i>Motor-Nenndrehzahl</i>  | n <sub>n</sub> [rpm]               |                       | 4000                        | 4000 | 4000 |
| Motor rated torque <i>Motor-Nenndrehmoment</i>   | M <sub>n</sub> [Nm]                | +/- 10%               | 1,4                         | 1,4  | 1,4  |
| Motor rated current <i>Motor-Nennstrom</i>   | I <sub>n</sub> [A <sub>rms</sub> ] |                       | 27                          | 5,6  | 3,1  |
| Motor peak torque <i>Motor-Spitzendrehmoment</i>   | M <sub>max</sub> [Nm]              | +/- 10%               | 5,5                         | 5,5  | 5,5  |
| Motor peak current <i>Motor-Spitzenstrom</i>   | I <sub>max</sub> [A]               |                       | 106,1                       | 22   | 12,1 |
| Number of poles <i>Anzahl der Pole</i>   | 2p                                 |                       | 10                          | 10   | 10   |
| Electromagnetic brake DC supply <i>DC-Versorgung der elektromagnetischen Bremse</i>                  | [V <sub>dc</sub> ]                 |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input<br><i>Drehmoment der elektromagnetischen Bremse am Eingang</i> | [Nm]                               |                       | 2                           |      |      |
| Protection class <i>Schutzart</i>  |                                    |                       | IP 64                       |      |      |
| Motor Insulation class <i>Motor-Isolationsklasse</i>   |                                    |                       | F                           |      |      |
| Paint <i>Lackierung</i>  |                                    |                       | RAL 9005                    |      |      |

\*All technical parameters are found in the DriveSpin catalogue.

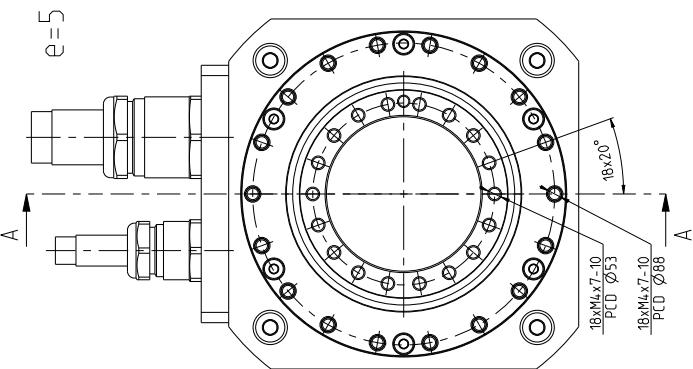
\*Technical modifications reserved.

# Drawings

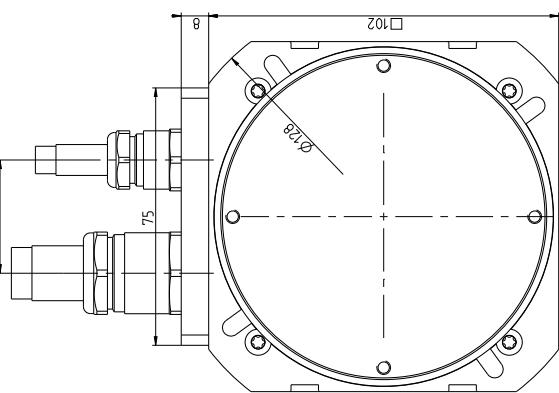
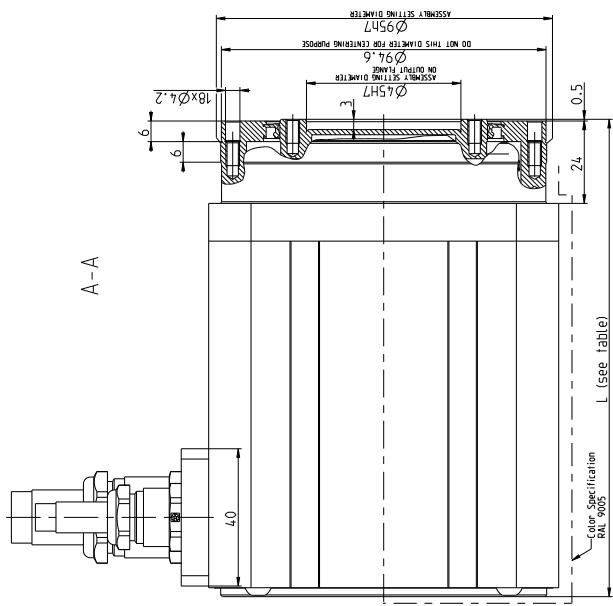
## DriveSpin DS 095



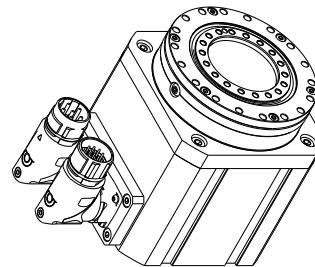
**DS 095**



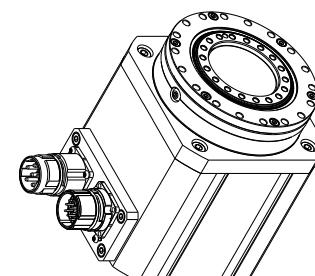
A-A



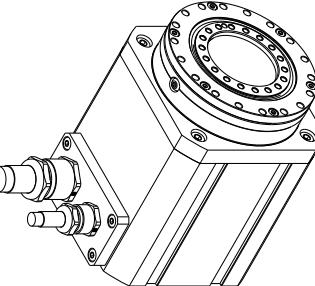
E=4



E=0



E=5



| Size<br>Baugröße | Feedback type (d)<br>Feedback- Typ (d) | Without brake / Ohne Bremse     |                                  | With brake / Mit Bremse         |                                    |
|------------------|--|---------------------------------|----------------------------------|---------------------------------|------------------------------------|
|                  |  | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg] *<br>Gewicht m [kg]* |
| DS 095           | 0A                                     | 118                             | 4,9                              | 138                             | 5,8                                |
|                  | 0H                                     | 146                             | 5,4                              | 161                             | 6,2                                |
|                  | 0C,0D                                  | 127                             | 5,2                              | 141                             | 6                                  |
|                  | 0D,0E                                  | 127                             | 5                                | 141                             | 5,8                                |

\* weight parameters are informative / Gewichtsparameter sind informativ

# Technical parameters DriveSpin DS 110



The high precision DriveSpin DS 110 actuators currently represent the largest serially produced member of the DriveSpin product range, meeting even the most demanding requirements of customers from all industries. With their optimal price/performance ratio, they reliably provide parameters such as high accuracy and precision, high tilting and torsional stiffness, low weight, compactness, low vibrations, and a wide range of suitable technical solutions.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                             | Tolerance<br>Toleranz | DS / DSH / DSM 110          |      |      |
|--|-----------------------------|-----------------------|-----------------------------|------|------|
| Reduction ratio <i>Untersetzungsvorhältnis</i>   | i                           |                       | 67, 89, 119                 |      |      |
| Rated output torque <i>Nenn-Abtriebsdrehmoment</i>   | $T_r$ [Nm]                  |                       |                             | 122  |      |
| Rated input speed <i>Nenn-Antriebsgeschwindigkeit</i>  | $n_r$ [rpm]                 |                       |                             | 2000 |      |
| Tilting stiffness <sup>1)6)</sup> <i>Kippsteifigkeit</i> <sup>1)6)</sup>                             | $M_t$ [Nm/arcmin]           |                       |                             | 150  |      |
| Torsional stiffness <sup>1)7)</sup> <i>Torsionssteifigkeit</i> <sup>1)7)</sup>                       | $k_t$ [Nm/arcmin]           |                       |                             | 22   |      |
| Lost motion <i>Lost Motion</i>   | LM [arcmin]                 |                       |                             | < 1  |      |
| Hysteresis <i>Hysterese</i>  | H [arcmin]                  |                       |                             | < 1  |      |
| Gear lubrication <i>Zahnradschmierung</i>  |                             |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range <i>Standardmäßiger Umgebungstemperaturbereich</i>                 | [°C]                        |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage <i>DC BUS-Spannung</i>  | $U_{dc}$ [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed <i>Motor-Nenndrehzahl</i>  | $n_n$ [rpm]                 |                       | 2500                        | 3000 | 3000 |
| Motor rated torque <i>Motor-Nenndrehmoment</i>   | $M_n$ [Nm]                  | +/- 10%               | 3,4                         | 3,2  | 3,2  |
| Motor rated current <i>Motor-Nennstrom</i>   | $I_n$ [A <sub>rms</sub> ]   |                       | 37                          | 4,9  | 2,8  |
| Motor peak torque <i>Motor-Spitzendrehmoment</i>   | $M_{max}$ [Nm]              | +/- 10%               | 11                          | 11   | 11   |
| Motor peak current <i>Motor-Spitzenstrom</i>   | $I_{max}$ [A]               |                       | 120                         | 17   | 10   |
| Number of poles <i>Anzahl der Pole</i>   | 2p                          |                       | 10                          | 10   | 10   |
| Electromagnetic brake DC supply <i>DC-Versorgung der elektromagnetischen Bremse</i>                  | [V <sub>dc</sub> ]          |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input<br><i>Drehmoment der elektromagnetischen Bremse am Eingang</i> | [Nm]                        |                       |                             | 4,5  |      |
| Protection class <i>Schutzart</i>  |                             |                       | IP 64                       |      |      |
| Motor Insulation class <i>Motor-Isolationsklasse</i>   |                             |                       | F                           |      |      |
| Paint <i>Lackierung</i>  |                             |                       | RAL 9005                    |      |      |

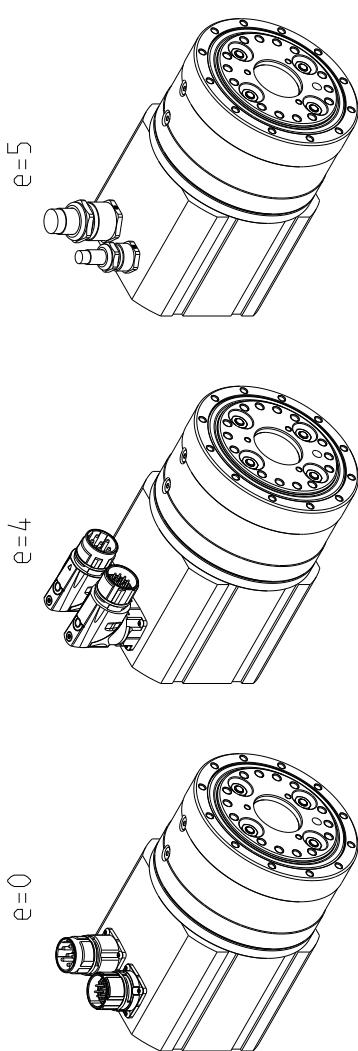
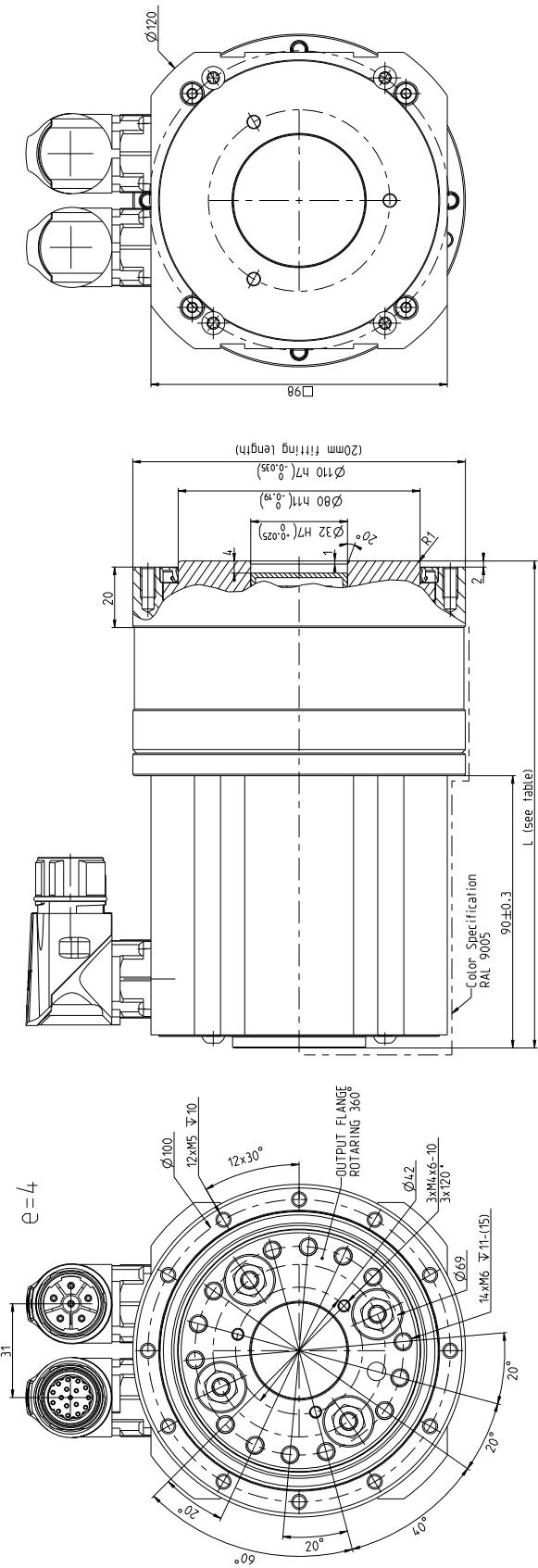
\*All technical parameters are found in the DriveSpin catalogue.

\*Technical modifications reserved.

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# Drawings / Zeichnungen

## DriveSpin DS 110



| Size<br>Baugröße | Feedback type (d)<br>Feedback- Typ (d) | Without brake / Ohne Bremse     |                                  | With brake / Mit Bremse         |                                  |
|------------------|--|---------------------------------|----------------------------------|---------------------------------|----------------------------------|
|                  |  | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* |
| DS 110           | 0A                                     | 161                             | 8,2                              | 213                             | 9,1                              |
|                  | 0B,0C                                  | 193                             | 8,8                              | 245                             | 9,7                              |
|                  | 0D,0E                                  | 202                             | 8,6                              | 242                             | 9,6                              |
|                  | 0H                                     | 202                             | 8,6                              | 242                             | 9,6                              |

\* weight parameters are informative / Gewichtsparameter sind informativ

# Technical parameters DriveSpin DS 140



The high precision DriveSpin DS 140 actuators represent the new largest member of the DriveSpin product range, meeting even the most demanding requirements of customers from all industries. With their optimal price/performance ratio, they reliably provide parameters such as high accuracy and precision, high tilting and torsional stiffness, low weight, compactness, low vibrations, and a wide range of suitable technical solutions.

The concept of the Inline N - DS 140 series is built on a modular platform with the objective to achieve maximum flexibility from the user's perspective. The performance characteristic of servomotors and reduction gears may be configured individually for a custom application.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                                    | Tolerance<br>Toleranz | DS 140                      |      |      |
|--|------------------------------------|-----------------------|-----------------------------|------|------|
| Reduction ratio <i>Untersetzungsrhältnis</i>   | i                                  |                       | 69,115                      |      |      |
| Rated output torque <i>Nenn-Abtriebsdrehmoment</i>   | T <sub>r</sub> [Nm]                |                       | 268                         |      |      |
| Rated input speed <i>Nenn-Antriebsgeschwindigkeit</i>  | n <sub>r</sub> [rpm]               |                       | 2000                        |      |      |
| Tilting stiffness <sup>1)6)</sup> <i>Kippsteifigkeit</i> <sup>1)6)</sup>                             | M <sub>t</sub> [Nm/arcmin]         |                       | 380                         |      |      |
| Torsional stiffness <sup>1)7)</sup> <i>Torsionssteifigkeit</i> <sup>1)7)</sup>                       | k <sub>t</sub> [Nm/arcmin]         |                       | 62                          |      |      |
| Lost motion <i>Lost Motion</i>   | LM [arcmin]                        |                       | < 1                         |      |      |
| Hysteresis <i>Hysterese</i>  | H [arcmin]                         |                       | < 1                         |      |      |
| Gear lubrication <i>Zahnradschmierung</i>  |                                    |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range <i>Standardmäßiger Umgebungstemperaturbereich</i>                 | [°C]                               |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage <i>DC BUS-Spannung</i>  | U <sub>dc</sub> [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed <i>Motor-Nenndrehzahl</i>  | n <sub>n</sub> [rpm]               |                       | 4000                        | 4000 | 4000 |
| Motor rated torque <i>Motor-Nenndrehmoment</i>   | M <sub>n</sub> [Nm]                | +/- 10%               | 4                           | 4    | 4    |
| Motor rated current <i>Motor-Nennstrom</i>   | I <sub>n</sub> [A <sub>rms</sub> ] |                       | 74,1                        | 5,6  | 3,2  |
| Motor peak torque <i>Motor-Spitzendrehmoment</i>   | M <sub>max</sub> [Nm]              | +/- 10%               | 13,5                        | 13,5 | 13,5 |
| Motor peak current <i>Motor-Spitzenstrom</i>   | I <sub>max</sub> [A]               |                       | 250                         | 18,8 | 11   |
| Number of poles <i>Anzahl der Pole</i>   | 2p                                 |                       | 10                          | 10   | 10   |
| Electromagnetic brake DC supply <i>DC-Versorgung der elektromagnetischen Bremse</i>                  | [V <sub>dc</sub> ]                 |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input<br><i>Drehmoment der elektromagnetischen Bremse am Eingang</i> | [Nm]                               |                       | 4,5                         |      |      |
| Protection class <i>Schutztart</i>   |                                    |                       | IP 64                       |      |      |
| Motor Insulation class <i>Motor-Isolationsklasse</i>   |                                    |                       | F                           |      |      |
| Paint <i>Lackierung</i>  |                                    |                       | RAL 9005                    |      |      |

\*All technical parameters are found in the DriveSpin catalogue.

\*Technical modifications reserved.

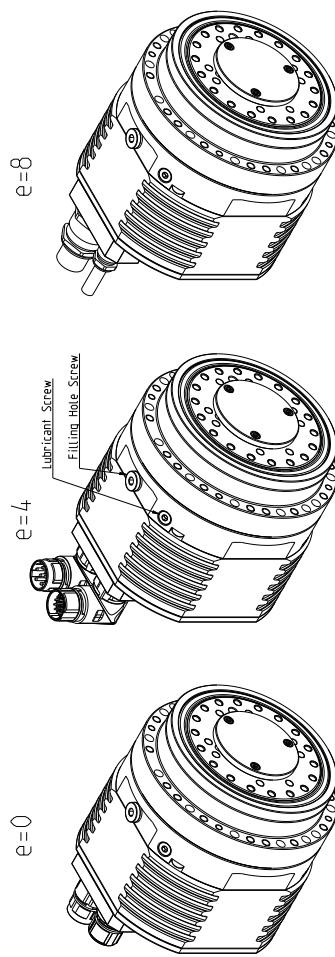
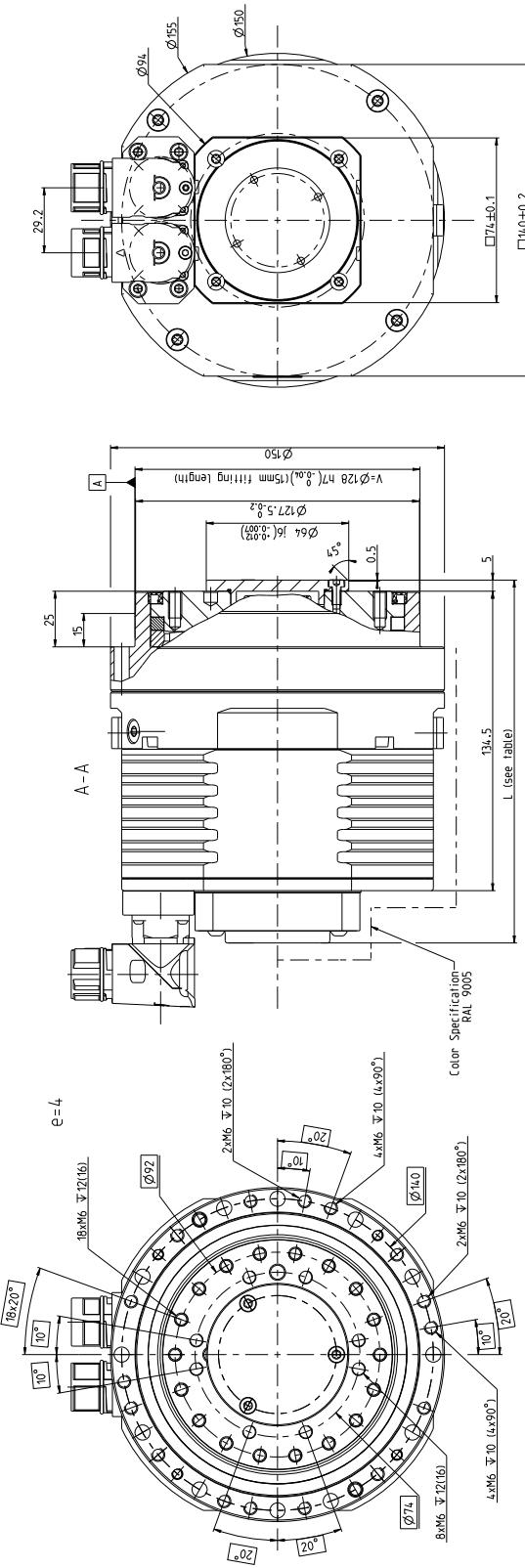
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# Drawings

## DriveSpin DS 140



**DS 140**



| Size<br>Baugröße | Feedback type (d)<br>Feedback- Typ (d) | Without brake / Ohne Bremse     |                                  | With brake / Mit Bremse         |                                    |
|------------------|--|---------------------------------|----------------------------------|---------------------------------|------------------------------------|
|                  |  | Dimension L ±<br>0,5 [mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg] *<br>Gewicht m [kg]* |
| DS 140           | 0A                                     | 148                             | 11                               | 181                             | 12,1                               |
|                  | 0B,0C                                  | 165                             | 11                               | 208                             | 12,1                               |
|                  | 0D,0E                                  | 165                             | 11                               | 208                             | 12,1                               |
|                  | 0H                                     | 199                             | 11                               | 226                             | 12,1                               |

\* weight parameters are informative / Gewichtsparameter sind informativ

# Technical parameters DriveSpin DSH 115



DSH 115 is a representative of a new series of DriveSpin actuators in the hollowshaft version, which combines a high precision TwinSpin cycloid reduction gear and a wide range of sensors and servomotors. This technically advanced drive offers a higher power density with the largest hole and the shortest axial length. The static tube with a diameter of 32 mm that runs through the whole actuator allows customers to route cables, a shaft or other feed systems without a risk of damage. The dimensions of the drive and the innovative design simplify the integration of the system in confined installation spaces for all applications. With this product, you can control movement accurately and meet your application requirements.

The concept of the Inline H - DSH 115 series is built on a modular platform with the objective to achieve maximum flexibility from the user's perspective. The performance characteristics of servomotors and reduction gears may be configured individually for a custom application.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                                    | Tolerance<br>Toleranz | DSH 115                     |      |      |
|--|------------------------------------|-----------------------|-----------------------------|------|------|
| Ratio Verhältnis   | i                                  |                       | 103                         |      |      |
| Hollowshaft diameter Hohlwellendurchmesser   | Ød [mm]                            |                       | 32                          |      |      |
| Rated output torque Nenn-Abtriebsdrehmoment  | T <sub>r</sub> [Nm]                |                       | 130                         |      |      |
| Rated input speed Nenn-Antriebsgeschwindigkeit   | n <sub>r</sub> [rpm]               |                       | 2000                        |      |      |
| Tilting stiffness <sup>1)6)</sup> Kippsteifigkeit <sup>1)6)</sup>                          | M <sub>t</sub> [Nm/arcmin]         |                       | 220                         |      |      |
| Torsional stiffness <sup>1)7)</sup> Torsionssteifigkeit <sup>1)7)</sup>                    | k <sub>t</sub> [Nm/arcmin]         |                       | 23                          |      |      |
| Lost motion Lost Motion  | LM [arcmin]                        |                       | < 1                         |      |      |
| Hysteresis Hysterese   | H [arcmin]                         |                       | < 1                         |      |      |
| Gear lubrication Zahnradschmierung   |                                    |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range Standardmäßiger Umgebungstemperaturbereich              | [°C]                               |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage DC BUS-Spannung   | U <sub>dc</sub> [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed Motor-Nenndrehzahl   | n <sub>n</sub> [rpm]               |                       | 3500                        | 3500 | 3500 |
| Motor rated torque Motor-Nenndrehmoment  | M <sub>n</sub> [Nm]                | +/- 10%               | 2,9                         | 2,9  | 2,9  |
| Motor rated current Motor-Nennstrom  | I <sub>n</sub> [A <sub>rms</sub> ] |                       | 46                          | 3,5  | 2    |
| Motor peak torque Motor-Spitzenrehmoment   | M <sub>max</sub> [Nm]              | +/- 10%               | 8,5                         | 8,5  | 8,5  |
| Motor peak current Motor-Spitzenstrom  | I <sub>max</sub> [A]               |                       | 135                         | 10,1 | 5,8  |
| Number of poles Anzahl der Pole  | 2p                                 |                       | 20                          | 20   | 20   |
| Electromagnetic brake DC supply DC-Versorgung der elektromagnetischen Bremse               | [V <sub>dc</sub> ]                 |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input Drehmoment der elektromagnetischen Bremse am Eingang | [Nm]                               |                       | 5                           |      |      |
| Protection class Schutzart   |                                    |                       | IP 64                       |      |      |
| Motor Insulation class Motor-Isolationsklasse  |                                    |                       | F                           |      |      |
| Paint Lackierung   |                                    |                       | RAL 9005                    |      |      |

\*All technical parameters are found in the DriveSpin catalogue.

\*Technical modifications reserved.

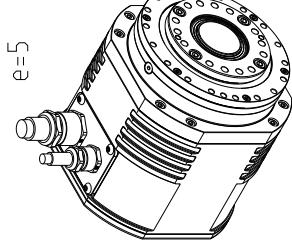
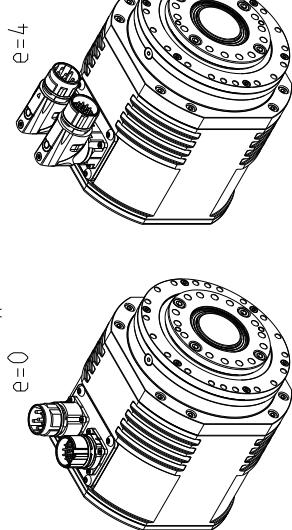
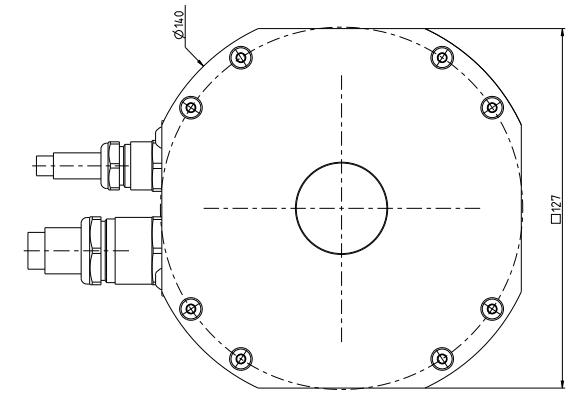
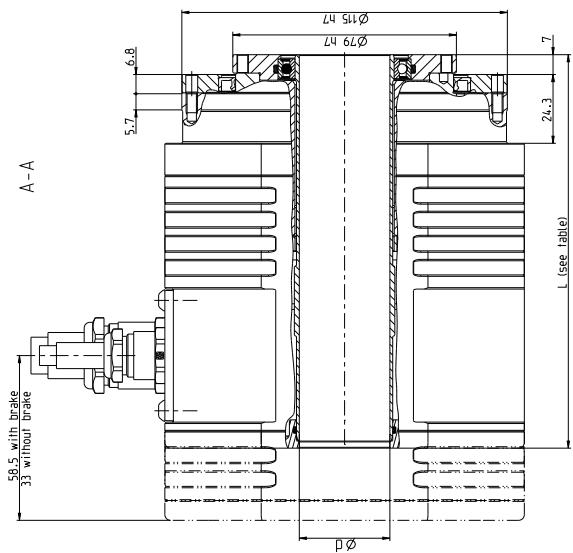
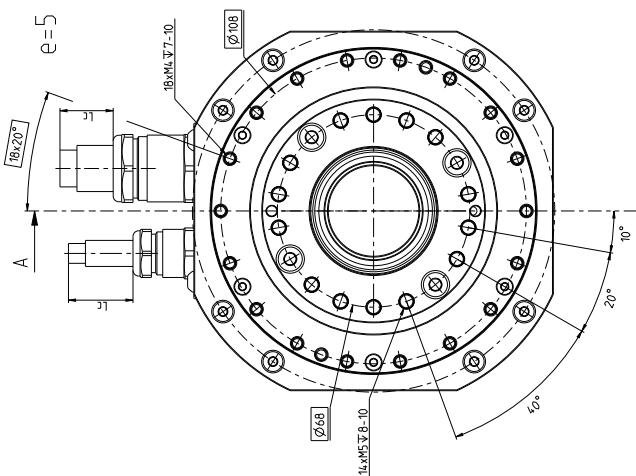
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# Drawings

## DriveSpin DSH 115



**DSH 115**



| Size<br>Baugröße | Feedback type (d)<br>Feedback-Typ (d) | Without brake / Ohne Bremse     |                                  | With brake / Mit Bremse         |                                  | Hollowshaft diameter<br>Ø [mm]<br>Lochdurchmesser<br>d = 32 |
|------------------|---------------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|---|
|                  |                                       | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* |   |
| DSH 115          | 0A                                    | 144                             | 7,3                              | 168                             | 8,3                              |   |
|                  | 0B                                    | 139                             | 6,5                              | 165                             | 7,5                              |   |
|                  | 0D,0E                                 | 139                             | 6,5                              | 165                             | 7,5                              |   |
|                  | 0F                                    | 139                             | 6,5                              | 165                             | 7,5                              |   |

\*The hollow shaft with static tube  
\*Holzwelle mit statischem Rohr

\* weight parameters are informative / Gewichtsparameter sind informativ

# Technical parameters

## DriveSpin DSH 155



DSH 155 is a representative of a new series of DriveSpin actuators in the hollowshaft version, which combines a high precision TwinSpin cycloid reduction gear and a wide range of sensors and servomotors. This technically advance drive offers a higher power density with the largest hole and the shortest axial length. The static tube with a diameter of 40 mm that runs through the whole actuator allows customers to route cables, a shaft or other feed systems without a risk of damage. The dimensions of the drive and the innovative design simplify the integration of the system in confined installation spaces for all applications. With this product, you can control movement accurately and meet your application requirements. The concept of the Inline H - DSH 155 series is built on a modular platform with the objective to achieve maximum flexibility from the user's perspective. The performance characteristic of servomotors and reduction gears may be configured individually for a custom application.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                                    | Tolerance<br>Toleranz | DSH 155                     |      |      |
|--|------------------------------------|-----------------------|-----------------------------|------|------|
| Ratio Verhältnis   | i                                  |                       | 109                         |      |      |
| Hollowshaft diameter Hohlwellendurchmesser   | Ød [mm]                            |                       | 40                          |      |      |
| Rated output torque Nenn-Abtriebsdrehmoment  | T <sub>r</sub> [Nm]                |                       | 260                         |      |      |
| Rated input speed Nenn-Antriebsgeschwindigkeit   | n <sub>r</sub> [rpm]               |                       | 2000                        |      |      |
| Tilting stiffness <sup>1)6)</sup> Kippsteifigkeit <sup>1)6)</sup>                          | M <sub>t</sub> [Nm/arcmin]         |                       | 920                         |      |      |
| Torsional stiffness <sup>1)7)</sup> Torsionssteifigkeit <sup>1)7)</sup>                    | k <sub>t</sub> [Nm/arcmin]         |                       | 67                          |      |      |
| Lost motion Lost Motion  | LM [arcmin]                        |                       | < 1                         |      |      |
| Hysteresis Hysterese   | H [arcmin]                         |                       | < 1                         |      |      |
| Gear lubrication Zahnradschmierung   |                                    |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range Standardmäßiger Umgebungstemperaturbereich              | [°C]                               |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage DC BUS-Spannung   | U <sub>dc</sub> [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed Motor-Nenndrehzahl   | n <sub>n</sub> [rpm]               |                       | 4000                        | 4000 | 4000 |
| Motor rated torque Motor-Nenndrehmoment  | M <sub>n</sub> [Nm]                | +/- 10%               | 3,8                         | 3,8  | 3,8  |
| Motor rated current Motor-Nennstrom  | I <sub>n</sub> [A <sub>rms</sub> ] |                       | 67,2                        | 5    | 3    |
| Motor peak torque Motor-Spitzenrehmoment   | M <sub>max</sub> [Nm]              | +/- 10%               | 16                          | 16   | 16   |
| Motor peak current Motor-Spitzenstrom  | I <sub>max</sub> [A]               |                       | 283                         | 21,2 | 14   |
| Number of poles Anzahl der Pole  | 2p                                 |                       | 24                          | 24   | 24   |
| Electromagnetic brake DC supply DC-Versorgung der elektromagnetischen Bremse               | [V <sub>dc</sub> ]                 |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input Drehmoment der elektromagnetischen Bremse am Eingang | [Nm]                               |                       | 5                           |      |      |
| Protection class Schutzzart  |                                    |                       | IP 64                       |      |      |
| Motor Insulation class Motor-Isolationsklasse  |                                    |                       | F                           |      |      |
| Paint Lackierung   |                                    |                       | RAL 9005                    |      |      |

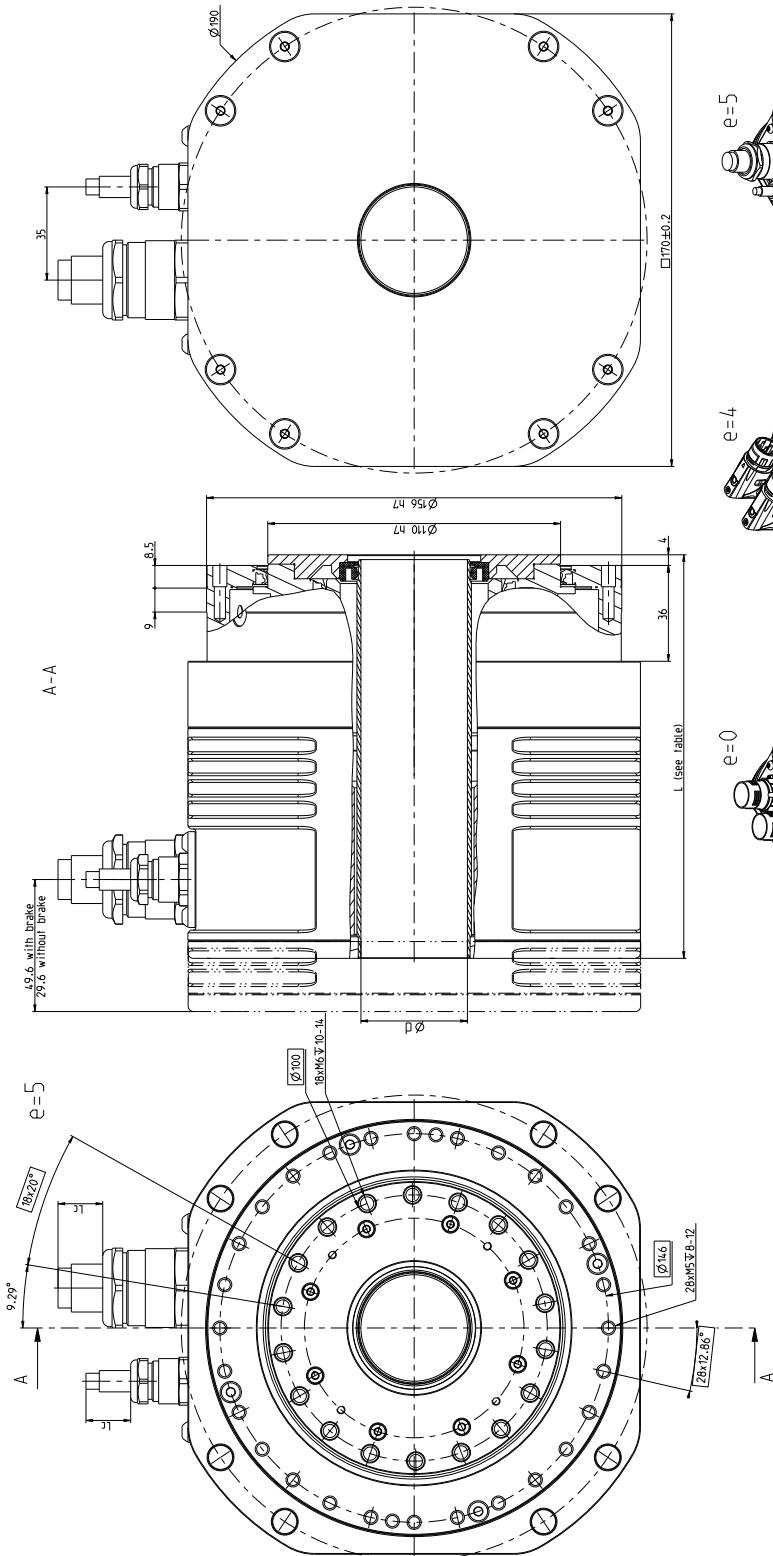
\*All technical parameters are found in the DriveSpin catalogue.

\*Technical modifications reserved.

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# Drawings

## DriveSpin DSH 155

**DSH 155**


| Size<br>Bagröße | Feedback type (d)<br>Feedback-Typ (d) | Without brake / Ohne Bremse     |                                  | With brake / Mit Bremse      |                                  | Hollowshaft diameter<br>Ø [mm]<br>Lochdurchmesser |
|-----------------|---------------------------------------|---------------------------------|----------------------------------|------------------------------|----------------------------------|---|
|                 |                                       | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* | Dimension L ± 0,5 [mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* |   |
| DSH 155         | 0A                                    | 152                             | 13,1                             | 172                          | 14,3                             |   |
|                 | 0B                                    | 152                             | 11,8                             | 172                          | 13                               |   |
|                 | 0D0E                                  | 152                             | 11,6                             | 172                          | 13,7                             |   |
|                 | 0F                                    | 152                             | 11,6                             | 172                          | 13,7                             | d = 40  |

\* weight parameters are informative / Gewichtsparameter sind informativ

\*The hollow shaft with static tube  
\*Hohlwelle mit statischem Rohr

# Technical parameters

## DriveSpin DSH 085



The DSH 085 actuator is a representative of a new size of hollowshaft actuators, which combines a high precision TwinSpin cycloid reduction gear of the G series and a wide range of sensors and servomotors. The actuator dimensions and innovative design make it easy to integrate drive in cramped installation space for all applications. The static tube with a diameter of 20 mm that runs through the whole actuator allows customers to route cables, a shaft or other feed systems without a risk of damage. The new size of the actuator allows use in highly demanding applications, which require dynamic performance. The individual characteristics of the servomotors and TwinSpin reduction gears may be configured individually according to customers' request.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                                    | Tolerance<br>Toleranz | DSH 085                     |      |      |
|--|------------------------------------|-----------------------|-----------------------------|------|------|
| Ratio Verhältnis   | i                                  |                       | 85                          |      |      |
| Hollowshaft diameter Hohlwellendurchmesser   | Ød [mm]                            |                       | 20 or 14                    |      |      |
| Rated output torque Nenn-Abtriebsdrehmoment  | T <sub>r</sub> [Nm]                |                       | 41                          |      |      |
| Rated input speed Nenn-Antriebsgeschwindigkeit   | n <sub>r</sub> [rpm]               |                       | 2000                        |      |      |
| Tilting stiffness <sup>1)6)</sup> Kippsteifigkeit <sup>1)6)</sup>                          | M <sub>t</sub> [Nm/arcmin]         |                       | 115                         |      |      |
| Torsional stiffness <sup>1)7)</sup> Torsionssteifigkeit <sup>1)7)</sup>                    | k <sub>t</sub> [Nm/arcmin]         |                       | 10                          |      |      |
| Lost motion Lost Motion  | LM [arcmin]                        |                       | < 1,5                       |      |      |
| Hysteresis Hysterese   | H [arcmin]                         |                       | < 1                         |      |      |
| Gear lubrication Zahnradschmierung   |                                    |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range Standardmäßiger Umgebungstemperaturbereich              | [°C]                               |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage DC BUS-Spannung   | U <sub>dc</sub> [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed Motor-Nenndrehzahl   | n <sub>n</sub> [rpm]               |                       | 3000                        | 3000 | 3000 |
| Motor rated torque Motor-Nenndrehmoment  | M <sub>n</sub> [Nm]                | +/- 10%               | 1,1                         | 1,1  | 1,1  |
| Motor rated current Motor-Nennstrom  | I <sub>n</sub> [A <sub>rms</sub> ] |                       | 26                          | 2    | 1,1  |
| Motor peak torque Motor-Spitzenrehmoment   | M <sub>max</sub> [Nm]              | +/- 10%               | 3                           | 3    | 3    |
| Motor peak current Motor-Spitzenstrom  | I <sub>max</sub> [A]               |                       | 70,9                        | 5,5  | 3    |
| Number of poles Anzahl der Pole  | 2p                                 |                       | 16                          | 16   | 16   |
| Electromagnetic brake DC supply DC-Versorgung der elektromagnetischen Bremse               | [V <sub>dc</sub> ]                 |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input Drehmoment der elektromagnetischen Bremse am Eingang | [Nm]                               |                       | -                           |      |      |
| Protection class Schutzzart  |                                    |                       | IP 64                       |      |      |
| Motor Insulation class Motor-Isolationsklasse  |                                    |                       | F                           |      |      |
| Paint Lackierung   |                                    |                       | RAL 9005                    |      |      |

\*All technical parameters are found in the DriveSpin catalogue.

\*Technical modifications reserved.

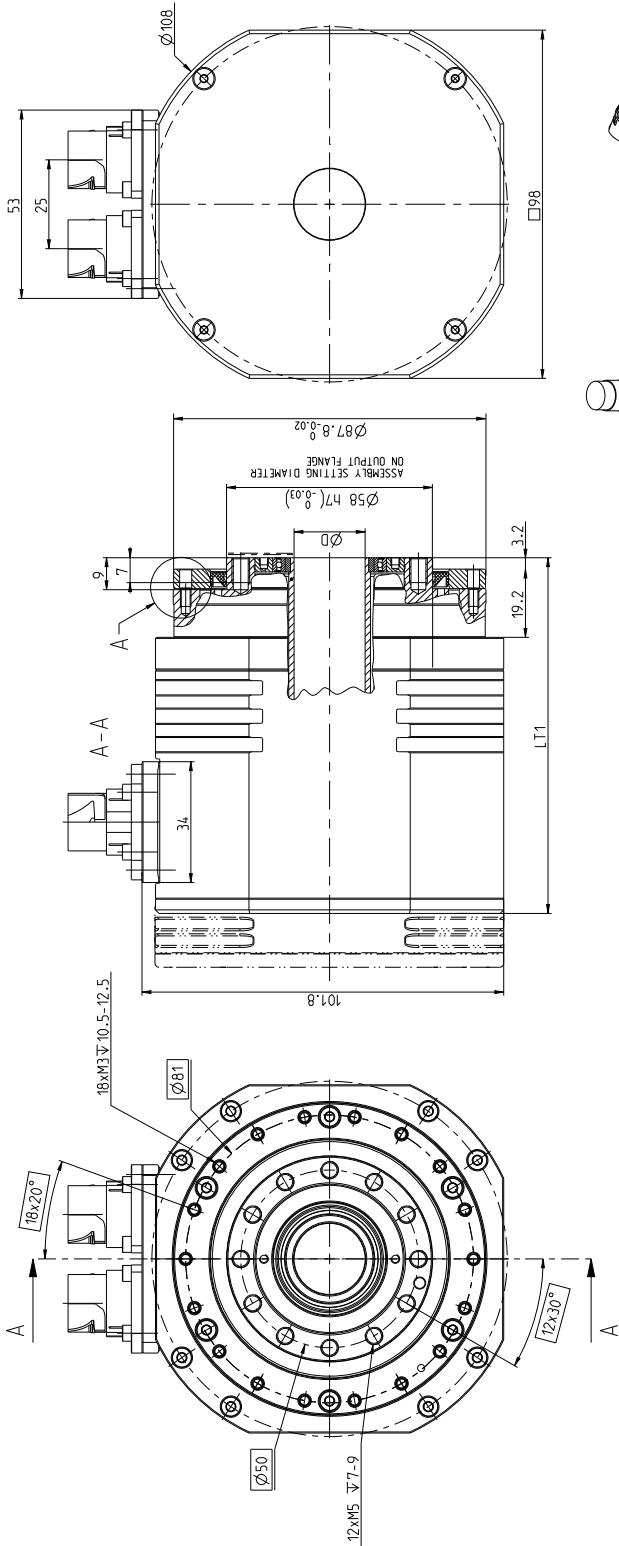
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# Drawings

## DriveSpin DSH 085



**DSH 085**



| Size<br>Bagröße | Feedback type (d)<br>Feedback-Typ (d) | Without brake / Ohne Bremse     |                                  | With brake / Mit Bremse      |                                  |
|-----------------|---------------------------------------|---------------------------------|----------------------------------|------------------------------|----------------------------------|
|                 |                                       | Dimension L ± 0,5<br>[mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* | Dimension L ± 0,5 [mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* |
| DSH 085         | 0A                                    | 110                             | -                                | 140                          | -                                |
|                 | 0B, 0C                                | 107                             | -                                | -                            | -                                |
|                 | 0D, 0E, 0F                            | 100                             | -                                | 130                          | -                                |

\*The hollow shaft with static tube  
\*Hohlwelle mit statischem Rohr

\* weight parameters are informative / Gewichtsparameter sind informativ

# Technical parameters

## DriveSpin DSH 170



The DSH 170 actuator is currently the largest hollowshaft actuator, which combines a high precision TwinSpin cycloid reduction gear and a wide range of sensors and servomotors. The static tube with a diameter of 40 mm that runs through the whole actuator allows customers to route cables, a shaft or other feed systems without a risk of damage. The new size of the actuator allows use in highly demanding applications, which require dynamic performance. The individual characteristics of the servomotors and TwinSpin reduction gears may be configured individually according to customers' request.

MOTOR FEEDBACK TYPES : Hiperface, Endat, Resolver, Incremental

BRAKE OPTIONS: With or without hand release

ELECTRICAL CONNECTION TYPE: Terminal cables , Connectors (angled, rotatable angled, straight)

| Parameter  |                                    | Tolerance<br>Toleranz | DSH 170                     |      |      |
|--|------------------------------------|-----------------------|-----------------------------|------|------|
| Ratio Verhältnis   | i                                  |                       | 69                          |      |      |
| Hollowshaft diameter Hohlwellendurchmesser   | Ød [mm]                            |                       | 40                          |      |      |
| Rated output torque Nenn-Abtriebsdrehmoment  | T <sub>r</sub> [Nm]                |                       | 420                         |      |      |
| Rated input speed Nenn-Antriebsgeschwindigkeit   | n <sub>r</sub> [rpm]               |                       | 2000                        |      |      |
| Tilting stiffness <sup>1)6)</sup> Kippsteifigkeit <sup>1)6)</sup>                          | M <sub>t</sub> [Nm/arcmin]         |                       | 1100                        |      |      |
| Torsional stiffness <sup>1)7)</sup> Torsionssteifigkeit <sup>1)7)</sup>                    | k <sub>t</sub> [Nm/arcmin]         |                       | 110                         |      |      |
| Lost motion Lost Motion  | LM [arcmin]                        |                       | < 1                         |      |      |
| Hysteresis Hysterese   | H [arcmin]                         |                       | < 1                         |      |      |
| Gear lubrication Zahnradschmierung   |                                    |                       | Grease Castrol Optitemp TT1 |      |      |
| Standard ambient temperature range Standardmäßiger Umgebungstemperaturbereich              | [°C]                               |                       | -10 °C to +40 °C            |      |      |
| DC BUS voltage DC BUS-Spannung   | U <sub>dc</sub> [V <sub>dc</sub> ] | +/- 10%               | 24                          | 320  | 560  |
| Motor rated speed Motor-Nenndrehzahl   | n <sub>n</sub> [rpm]               |                       | 4000                        | 4000 | 4000 |
| Motor rated torque Motor-Nenndrehmoment  | M <sub>n</sub> [Nm]                | +/- 10%               | 5                           | 5    | 5    |
| Motor rated current Motor-Nennstrom  | I <sub>n</sub> [A <sub>rms</sub> ] |                       | 133                         | 10   | 6    |
| Motor peak torque Motor-Spitzenrehmoment   | M <sub>max</sub> [Nm]              | +/- 10%               | 23                          | 23   | 23   |
| Motor peak current Motor-Spitzenstrom  | I <sub>max</sub> [A]               |                       | 612                         | 45,9 | 27,6 |
| Number of poles Anzahl der Pole  | 2p                                 |                       | 24                          | 24   | 24   |
| Electromagnetic brake DC supply DC-Versorgung der elektromagnetischen Bremse               | [V <sub>dc</sub> ]                 |                       | 24, Special                 |      |      |
| Electromagnetic brake torque at input Drehmoment der elektromagnetischen Bremse am Eingang | [Nm]                               |                       | -                           |      |      |
| Protection class Schutzart   |                                    |                       | IP 64                       |      |      |
| Motor Insulation class Motor-Isolationsklasse  |                                    |                       | F                           |      |      |
| Paint Lackierung   |                                    |                       | RAL 9005                    |      |      |

\*All technical parameters are found in the DriveSpin catalogue.

\*Technical modifications reserved.

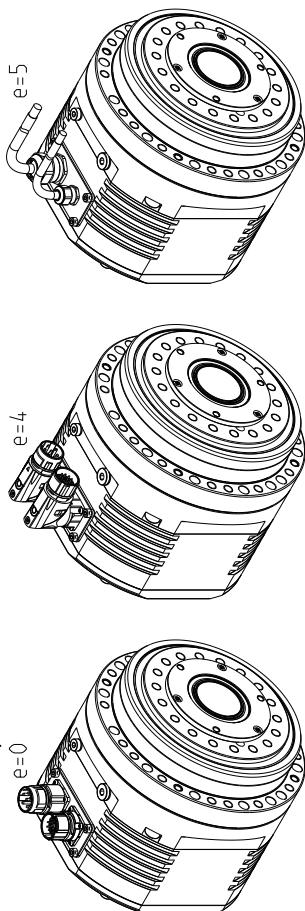
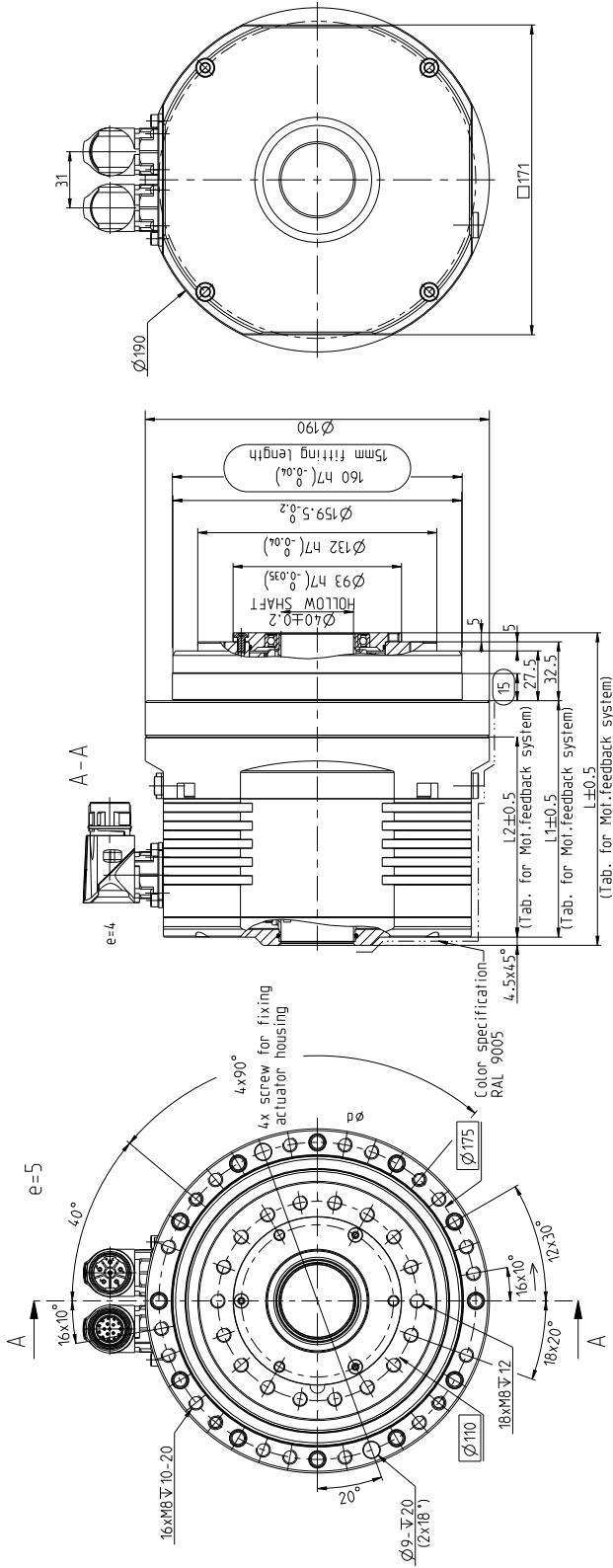
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# Drawings

## DriveSpin DSH 170



**DSH 170**



| Size<br>Baugröße | Feedback type (d)<br>Feedback- Typ (d) | Without brake / Ohne Bremse     |                                  |                              | With brake / Mit Bremse          |                              |                                  |
|------------------|--|---------------------------------|----------------------------------|------------------------------|----------------------------------|------------------------------|----------------------------------|
|                  |  | Dimension L ± 0.5<br>[mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* | Dimension L ± 0.5 [mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* | Dimension L ± 0.5 [mm] / Maß | Weight m [kg]<br>Gewicht m [kg]* |
| DSH 170          | 0A, 0C, 0D, 0E, 0F                     | 189                             | -                                | 172                          | -                                | 235                          | -                                |
|                  |  |                                 |                                  |                              |                                  |                              | 219                              |
|                  |  |                                 |                                  |                              |                                  |                              | d = 40                           |

\*The hollow shaft with static tube  
\*Hohlwelle mit statischem Rohr

\* weight parameters are informative / Gewichtsparameter sind informativ