

MINIMAT-E Screwdriver Spindles

Torque range from 0.3 - 4.8 Nm

The electric screwdriver with mechanical shut-off clutch. The solution where compressed air is not desired or there is no compressed air available.

- robust, long life cycle
- brushless electric drive
- lowest maintenance requirements
- highest shut-off accuracy
- highest process reliability

The stationary electric screwdriver series 342E with mechanical shut-off clutch is the optimal solution for work stations where compressed air is not desired or there is no compressed air available. This expansion of the spindle screwdriver range has set a new standard: There is now a DEPRAG screwdriving solutions available for every application case.

The strength of the MINIMAT-E spindle screwdriver lies in the screw assembly torque range of 0.3 Nm to 4.8 Nm. High speeds of 650 up to 2000 rpm guarantee short cycle times.



MINIMAT-E SCREWDRIVER SPINDLE

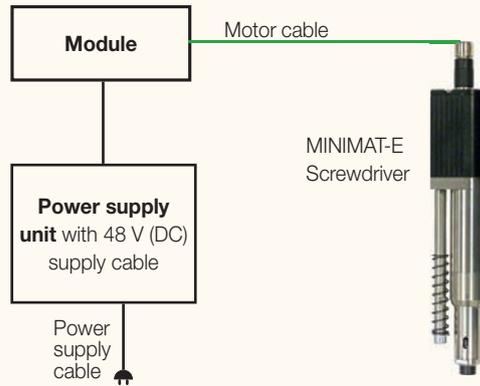
Working Principle

The MINIMAT-E screwdriver operates using the well-established principle of the mechanical MINIMAT shut-off clutch. Using the shut-off clutch guarantees torque accuracy of 3% standard deviation, irrespective of the screw joint.

However, in many cases even better accuracy can be achieved so that under certain conditions a machine capability index of ≥ 1.67 can be attained even with a tolerance requirement of $\pm 10\%$.

This means that the error rate is less than 0.6 per million screw assemblies. For further enhancement of the processing reliability the screw-in depth and screwdriver shut-off can additionally be monitored.

System Overview



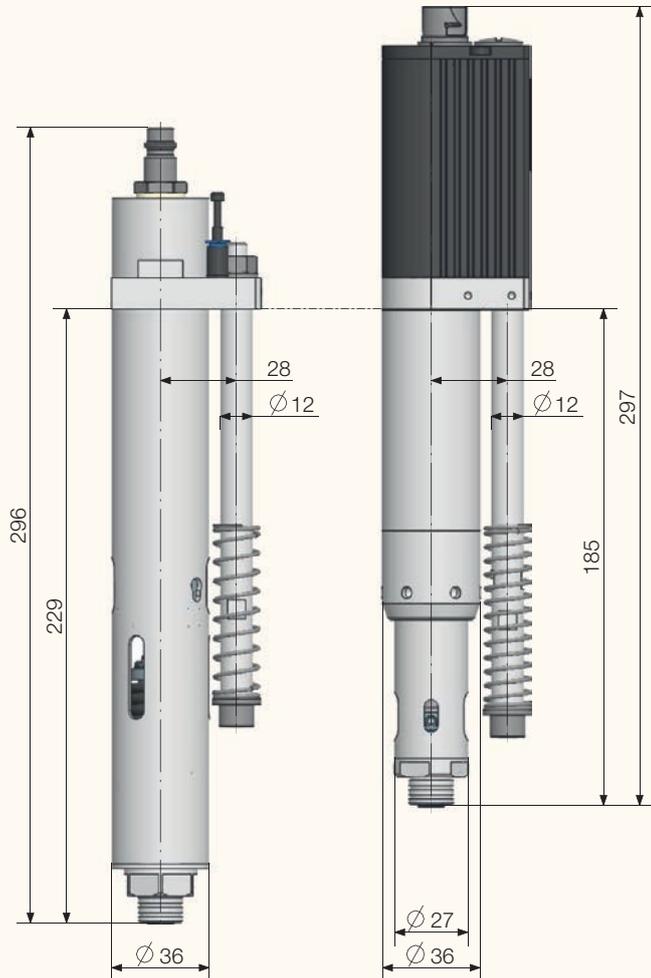
The MINIMAT-E screwdriver spindle in comparison to the pneumatic screwdriver of the DEPRAG series MINIMAT, motor size 3

MINIMAT

pneumatic screwdriver spindle,
motor size 3

MINIMAT-E

electric screwdriver spindle
with mechanical shut-off clutch



Depending on application case very short cycle times can be achieved as this screwdriver runs at maximum speed right up to the shut-off point of the clutch. Whereas in order to reach the stated accuracy other controlled screwdrivers are subject to a speed reduction before shut-off.

The screwdriver is designed for tough industrial use with high quality, robust system components guaranteeing reliability and a long life-span.

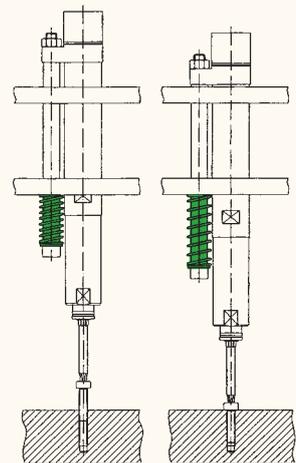
The maintenance free brushless EC drive provides outstanding dynamics and high maximum torque which is ideal for screw tightening.

The screwdriver is available with push-to-start or remote start PLC signal. As well as screw assembly to torque, the remote start version can carry out screw assembly to designated screw-in depth (with optional depth sensor) or a defined loosening procedure via reversal of the screwdriver.

The options for inserting tools and additional components such as guide sleeves or vacuum connections are designed in the same way as the DEPRAG MINIMAT pneumatic screwdriver motor size 2 so that identical accessories may be used.

Axial spring loaded suspension

Due to the axial movement of the entire screwdriver in the screwdriver fixture a spring loaded drive element is not required. Therefore low-priced standard inserting tools can be used.



TECHNICAL DATA

MINIMAT-E screwdriver, stationary, straight spindle form

| | | | | | | | |
|---|-------------|-------------------------|-------------------------|------------------------|-------------------------|-------------------------|------------------------|
| Spindle, push to start | Type | 342EA36-0009-200 | 342EA36-0009-100 | 342EA36-0009-65 | 342EA36-0018-200 | 342EA36-0018-100 | 342EA36-0018-65 |
| | Part no. | 304001A | 304001B | 304001C | 304004A | 304004B | 304004C |
| Spindle, remote start | Type | 342EF36-0009-200 | 342EF36-0009-100 | 342EF36-0009-65 | 342EF36-0018-200 | 342EF36-0018-100 | 342EF36-0018-65 |
| | Part no. | 305001A | 305001B | 305001C | 305004A | 305004B | 305004C |
| Torque min. | Nm/in.lbs | 0.3 / 2.65 | | | 0.5 / 4.4 | 0.4 / 3.5 | 0.3 / 2.65 |
| Torque max. | Nm/in.lbs | 0.9 / 8 | | | 1.8 / 16 | | |
| Speed | rpm | 2000 | 1000 | 650 | 2000 | 1000 | 650 |
| Diameter | mm/in. | 36 / 1.4 | 36 / 1.4 | 36 / 1.4 | 36 / 1.4 | 36 / 1.4 | 36 / 1.4 |
| Length | mm/in. | 283 / 11 | 283 / 11 | 283 / 11 | 283 / 11 | 283 / 11 | 283 / 11 |
| Weight | kg/lbs | 1 / 2.2 | 1 / 2.2 | 1 / 2.2 | 1 / 2.2 | 1 / 2.2 | 1 / 2.2 |
| Noise level | dB (A) | 68 | 68 | 68 | 68 | 68 | 68 |
| Line voltage (DC) | V | 48 | 48 | 48 | 48 | 48 | 48 |
| Internal hex. drive DIN ISO 1173 | | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") |
| Suitable inserting tools and connection parts with inserting end DIN ISO 1173 | | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") |
| Spindle, push to start | Type | 342EA36-0024-100 | 342EA36-0024-65 | 342EA36-0036-65 | 342EA36-0048-100 | 342EA36-0048-65 | |
| | Part no. | 304002A | 304002B | 304003A | 304005A | 304005B | |
| Spindle, remote start | Type | 342EF36-0024-100 | 342EF36-0024-65 | 342EF36-0036-65 | 342EF36-0048-100 | 342EF36-0048-65 | |
| | Part no. | 305002A | 305002B | 305003A | 305005A | 305005B | |
| Torque min. | Nm/in.lbs | 0.4 / 3.5 | | 0.5 / 4.4 | 0.4 / 3.5 | 0.3 / 2.65 | |
| Torque max. | Nm/in.lbs | 2.4 / 21.24 | | 3.6 / 31.86 | 4.8 / 42.48 | | |
| Speed | rpm | 1000 | 650 | 650 | 1000 | 650 | |
| Diameter | mm/in. | 36 / 1.4 | 36 / 1.4 | 36 / 1.4 | 36 / 1.4 | 36 / 1.4 | |
| Length | mm/in. | 283 | 283 | 283 | 283 | 283 | |
| Weight | kg/lbs | 1 / 2.2 | 1 / 2.2 | 1 / 2.2 | 1 / 2.2 | 1 / 2.2 | |
| Noise level | dB (A) | 68 | 68 | 68 | 68 | 68 | |
| Line voltage (DC) | V | 48 | 48 | 48 | 48 | 48 | |
| Internal hex. drive DIN ISO 1173 | | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | |
| Suitable inserting tools and connection parts with inserting end DIN ISO 1173 | | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | |

Required accessories

| | | |
|--|------------------------|--|
| Motor cable , length 2 m/6.56 ft., suitable for all screwdriver spindles | Part no. | 151515A |
| Power supply unit suitable for types 342EA/EF36-0009/0024/0036-xxx | Type / Part no. | NG18 / 101067 |
| Power supply unit suitable for types 342EA/EF36-0018/0048-xxx | Type / Part no. | NG20 / 101069 |
| Power supply cable (EU) , length 2 m/6.56 ft., suitable for power supply unit NG18/NG20 | Type / Part no. | KN-C13/EU / 833790 |
| alternative | | |
| Power supply cable (USA) , length 2 m / 6.56 ft. | Type / Part no. | KN-C13/US / 833791 |
| Power supply cable (UK) , length 2 m / 6.56 ft. | Type / Part no. | KN-C13/UK / 833792 |
| Power supply cable (China) , length 2.5 m / 8.2 ft. | Type / Part no. | KN-C13/CN / 832927 |
| Power supply cable (Brazil) , length 1.8 m / 5.9 ft. | Type / Part no. | KN-C13/BR / 207388 |
| Module suitable for spindle with remote start | Part no. | 100901A function: supply of the signals - screwdriver running - screwdriver start and reverse |
| Module suitable for spindle with push to start | Part no. | 100901B function: supply of the signal - screwdriver running |

Optional equipment

| | | |
|---|----------|---------|
| Spring sleeve cpl. | Part no. | 364672A |
| Spring sleeve cpl., with vacuum connection (in connection with finder, see leaflet: Inserting tools D3320E) | Part no. | 364672C |

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CERTIFIED AS PER DIN EN ISO 9001
