

# Awning gears – Gear series 412F5..

## I. Customer Benefits

### 1. Operating safety

Faulty operation of the awning device causes damages and leads to complaints.

The gear series 412F5.. is designed to prevent any incorrect operation.

The integrated stop system and an audible signal avoid damage caused by a faulty winding of the cloth.

### 2. Ease of use

The convenience of use is defined by the number of crank movements necessary to operate the awning as well as the necessary effort to be done by the user.

### 3. Optimized efficiency during production and assembly

The end position of the awning device is generally factory pre-set.

As far as the gear series 412F5.. is concerned, the setting is easily done within few minutes. However the requirements of the customers might differ and the end position has to be corrected during assembly on site.

For the first time the gear series 412F5.. make it possible to adjust the end stop in less than 5 minutes – without special tools. The accuracy of the setting is unique on the market.

### 4. After sales + extra business

Millions of existing awnings need to be maintained and revised leading the way for a large future market for spare parts and equipment. The gears 412F5.. are very easy to operate and this is a very big advantage for the end-user as well as for the tradesmen, this product saves a lot of time and effort and generates a significant additional business.



## **5. Quality guarantee according to DIN EN 14203**

Geiger is the only manufacturer to provide a complete documentation including the declarations of manufacturers, according to the directive DIN EN 14203.

For the first time, the application range and the gear functionality are explicit and transparent. It is a plus factor in terms of safety for all our customers in either industry or trade.

## **II. Functions of the gear series 412F5..**

### **1. Integrated stop system**

The integrated stop system allows at any time the modification of the awning end position. To adjust the end position, loosen the Allen screw which is accessible from outside. A removal of the gear or the shaft is not necessary.

### **2. Freewheel with fully extended awning**

When reaching the end position an innovative freewheel system emits an acoustic signal. This signal indicates to the user that the end position is now reached and that the awning is fully extended.

The awning device is thus protected: no gear damage and no rolling up of the cloth in the wrong direction.

### **3. Integrated additional components**

All these functions are integrated into the gear series 412F5..

There are no extra components to be mounted either during industrial production or on construction site.

### **4. Removable eyelet**

Components such as eyelet and drive shaft are also assembled by Geiger. A special plug-in system is available on request so that eyelet and shaft can be easily removed if necessary, for example during transportation or assembly.

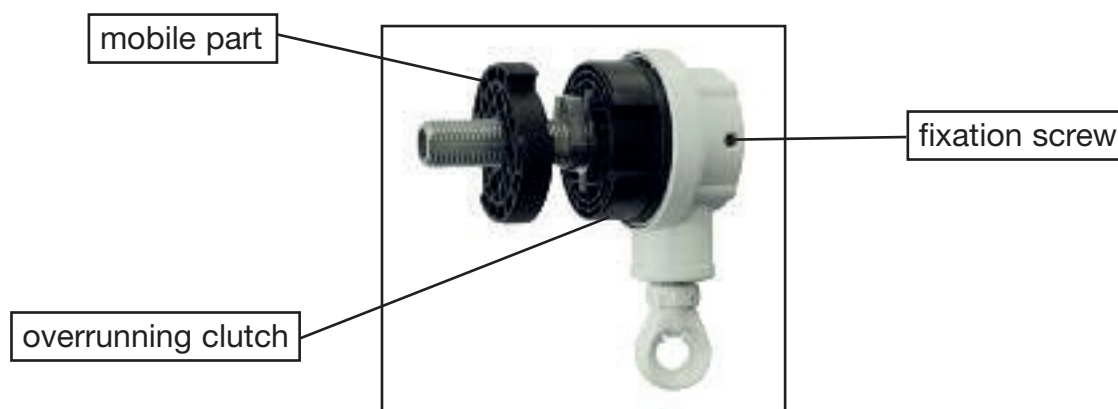
Special feature: semi-cassette awnings, even closed, can be opened from the outside by means of a plug-in system (trunnion with 2 flat sides).

### III. A look at the practice: awnings adjustment procedure

#### Situation 1: The gear is installed for the first time

Step 1: Make sure that the mobile part is in contact with the overrunning clutch.  
When assembling the right gear version, rotate clockwise until the mobile part is in contact with the overrunning clutch.

When assembling the **left** gear version **rotate counter clockwise** until the mobile part is in contact with the overrunning clutch.



Picture: right gear

Afterwards, rotate the overrunning clutch (for **right** gear **counter clockwise** and **left** gear **clockwise** (audible click) until the end of the grooved tube covers the overrunning clutch).

It might be necessary to rotate the mobile part in order to make some minor adjustments.

Step 2: Insert the gear into the grooved tube and fix it to the bracket (Inclination of the eyelet according to construction site conditions).

Step 3: Turn the awning inwards (about 1 cm) with the crank handle in order to relieve the end stop.

Loosen (three full turns) the fixation screw with a 4 mm Allen screw, the awning is not completely extended. Crank the awning until the desired extended position is reached and adjust the screw without tightening. Then retract the awning approx. 1 or 2 cm (see **GEIGER gearing positioning**) and tighten the screw.

Step 4: Check the adjustment by retracting the awning about 50 cm and then extend it until the overrunning clutch triggers (audible click).

## Situation 2: Changing the setting

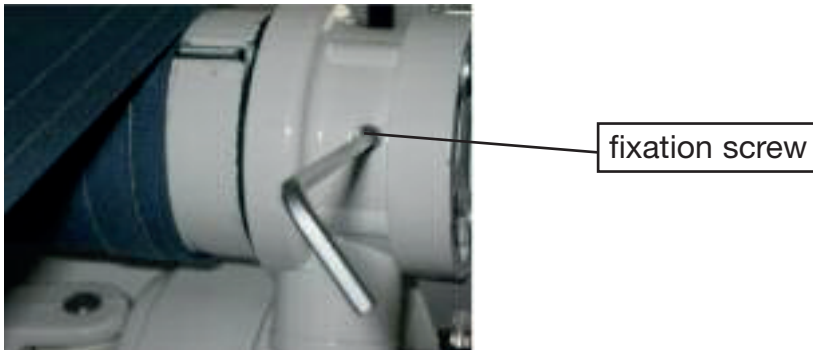
Step 1: Extend the awning until the overrunning clutch triggers (audible click). Then retract the awning approx. 1 or 2 cm.

**Safety note: This short run prevents damage to the GEIGER gearing positioning.**

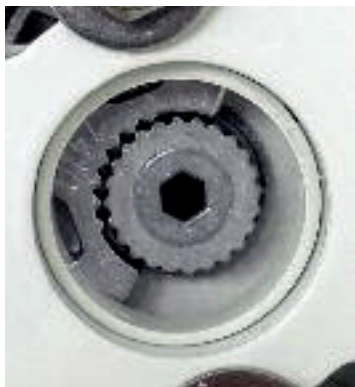
Step 2: Turn the awning inwards (about 1 cm) with the crank handle in order to relieve the end stop.

Loosen (**three** full turns) the fixation screw with a 4 mm Allen screw. Crank the awning until the desired retracted position is reached and adjust the screw without tightening. Then retract the awning approx. 1 or 2 cm (see **GEIGER gearing positioning**) and tighten the screw.

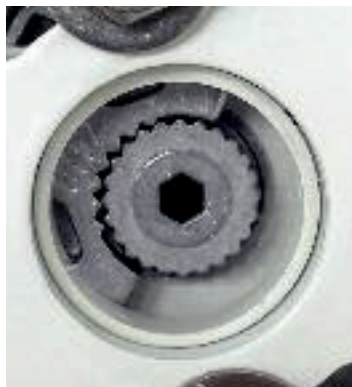
Step 3: Check the adjustment by retracting the awning about 50 cm and then extend it until the overrunning clutch triggers (audible click).



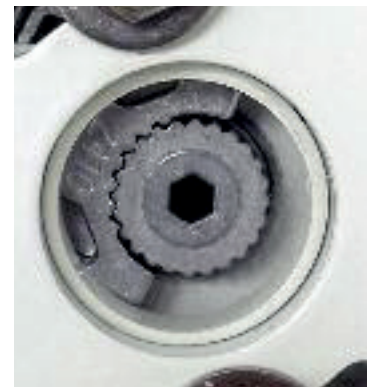
### Focus on: GEIGER gearing positioning



Picture 1



Picture 2



Picture 3

Picture 1: the teeth are on top of each other

Picture 2: retract the awning in order to have the teeth fit into each other

Picture 3: tightening the screw in order to fix the gearing

When adjusting the end stops, it may happen, for technical reasons, that the teeth are placed on top of each other. To avoid this situation, the awning must be retracted approx. 1 or 2 cm.

## IV. Specifications

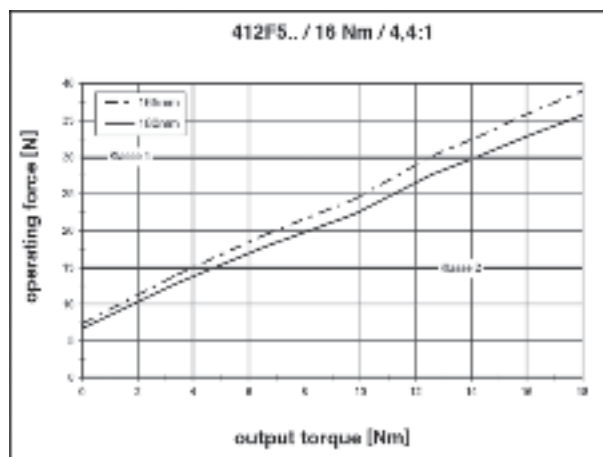
Reduction ratio: 4.4:1

Efficiency: 0.61

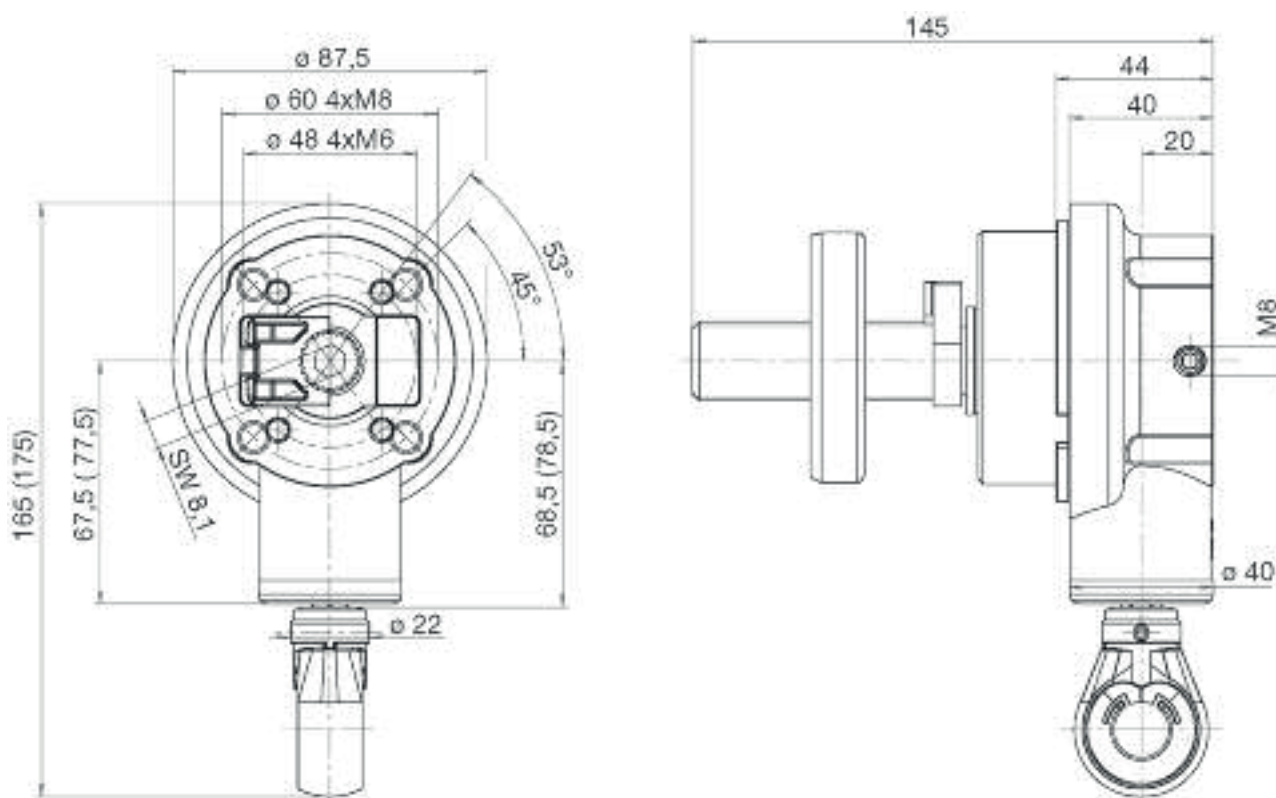
$MS_N = 14.4 \text{ Nm}$   
(According to DIN EN 14203)

$MS_p = 29.5 \text{ Nm}$   
(According to DIN EN 14203)

Operating force diagram:



## V. Size



## VI. Available versions

**Drive:** round / oval plastic eyelet

**Output:** 78 / 85 grooved tube

Available as **right and left side version**

**Housing:** coated RAL 9010, 7035 or 9005

**End position range:** 20 rotations (of the awning shaft)

**Exact positioning of the end stop** down to 10 mm / 15°

## VII. Quality and durability

**Endurance class 2 (according to DIN EN 14203):**

7.000 cycles at  $MS_N=14,4$  Nm;  $MS_P=29,5$  Nm

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