

Installation Instructions

Damper flap assembly

©2023

BRUNNER[®]
made in germany.

CONTENTS

1	General notes.....	3
2	Delivery contents.....	3
3	System overview.....	4
4	Description of parts.....	5
5	Dimension Sheet.....	7
6	Assembly.....	11

1 GENERAL NOTES

The following instructions describe the installation of the complete damper flap assembly consisting of a drive unit, a flexible shaft and the damper flap itself.

Damper flaps must show a free cross-section of min. 3% of its surface area, however at least 20cm². The required free cross-section can be achieved by breaking out the pre-cut surface sections of the flaps. The damper flap position must be recognizable from outside, therefore, the long nut must be always used as a flap position indicator.

The ambient temperature for the drive unit must not exceed 60°C. Proper positioning and/or ventilation must ensure that the temperature limits are kept.

The protective sleeve of the flexible shaft must be secured in place. Depending on the layout of the flexible shaft, the rotation angle of the flap can be smaller than 90°. This can be compensated by calibration of the servomotor.

Before the panelling is closed, the damper flap function must be checked. The damper flap position must be recognizable even in assembled state.

2 DELIVERY CONTENTS

The delivery contents, to which these instructions are attached, consists of the drive unit of the damper flap assembly.

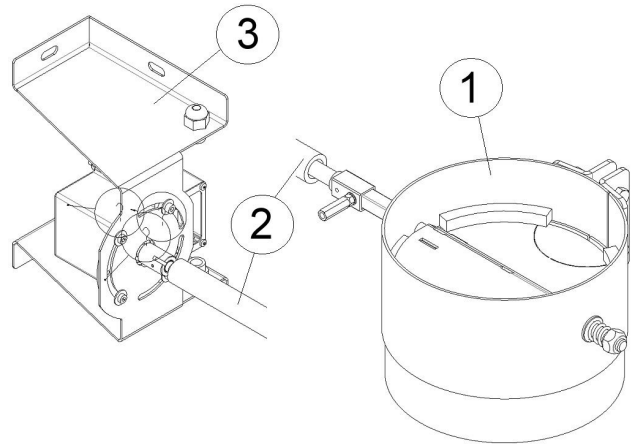
The damper flap itself can be delivered in various versions and must be ordered separately. The damper flap and the drive unit are bound together by a flexible shaft.

3 SYSTEM OVERVIEW

The motorised damper flap can be operated in a direct connection with the control units EAS- beginning with version 2 or EOS beginning with version 7. The previous versions of EAS or EOS control units are not suitable for this damper flap. The motorised damper flap cannot be used with these control units.

The mechanical parts of the 'motorised damper flap' assembly consist of the three main components:

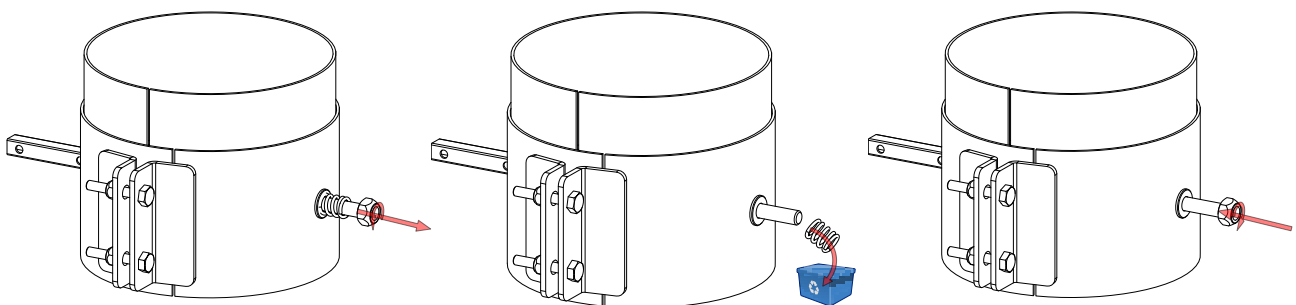
- 1 Damper flap*)
- 2 Flexible shaft (Art.no.: S004026)
- 3 Drive unit (Art.no.: E010018)



*) The damper flap is available in various versions:

Teilnr.:	Designation	Art. no.:	Designation
S002170	Damper flap d=150 mm	02459	Damper flap d=180 mm
R013109	Storage stone with switchover flap d=180 mm	02460	Damper flap d=200 mm
02461	Damper flap d=250 mm	02462	Damper flap d=300 mm
S002198	Damper flap 90° d=180 mm	S002208	Damper flap 90° d=200 mm

If the damper flap is motorised and operated by the EAS or EOS control, the compression spring on the side of the damper flap should be removed. If the spring is not removed, an error message from the control system may occur during operation due to the stiff damper flap.

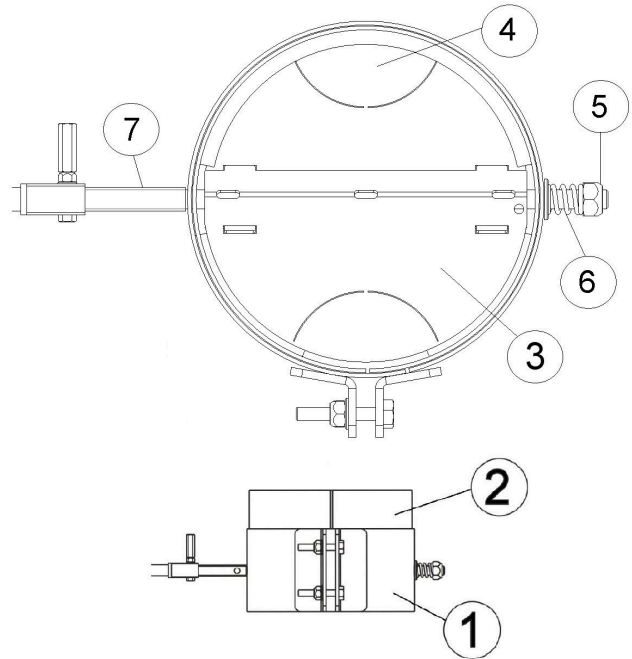


The hexagon nut with clamping part cannot be screwed up to the flap (the thread does not reach up to the flap); however, it should be replaced for possible later use.

4 DESCRIPTION OF PARTS

Damper flap Ø150, Ø180, Ø200, Ø250

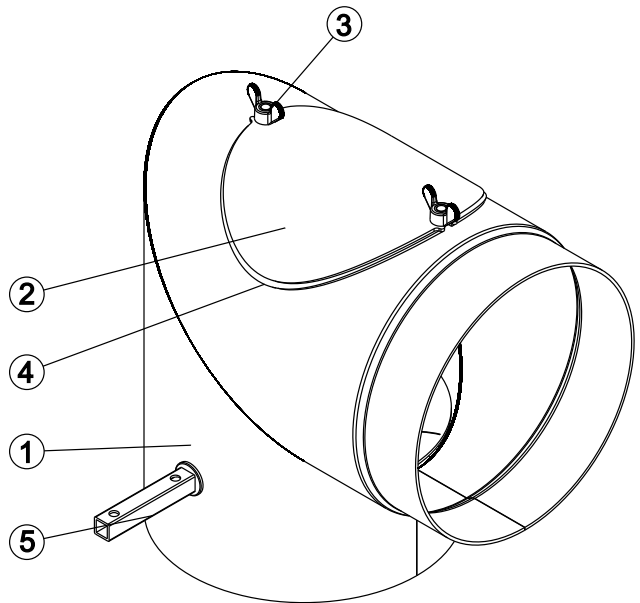
Item Designation	Item Designation
1 Pipe clamp	2 Piping nozzle
3 Flap	4 Break-out area
5 Hexagon nut	6 Compression spring
7 12x12mm coupling	



Im. 1: Damper flap components

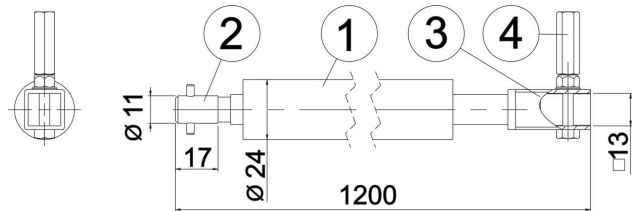
Damper flap 90° with cleaning cover Ø180, Ø200

Pos. Designation	Pos Designation
1 90° Elbow	2 Cleaning cover
3 Wing nut	4 Sealing rope
5 BG Turntable	



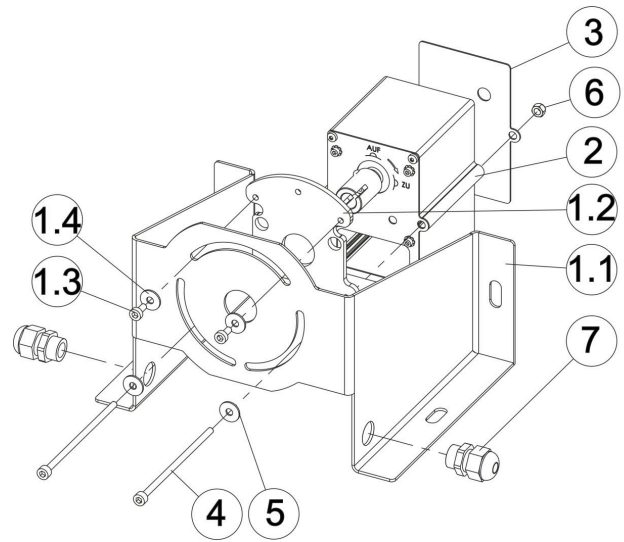
Im. 2: Bauteile der Drosselklappe 90°

Item Designation	Item Designation
1 Protective sleeve	2 Drive unit connection
3 Damper flap coupling	4 Flap position indicator (=long nut)



Im. 3: Flexible shaft components

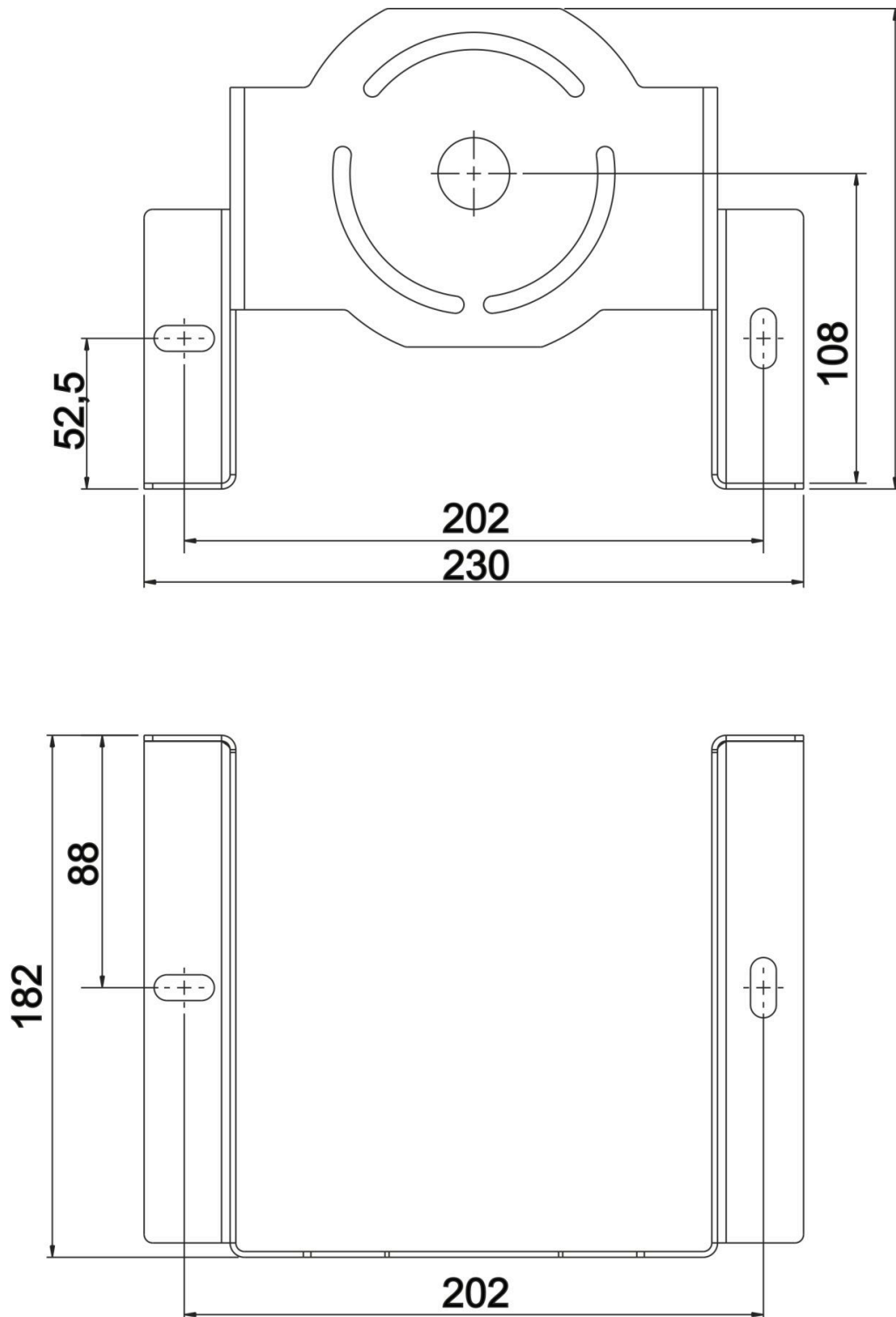
Item Designation	Item Designation
1 Motor console assembly	1.1 Motor console
1.2 Clamping sheet	1.3 Cylinder screw
1.4 Glass pane	2 EOS servomotor assembly
3 Cover assembly with decal	4 Cylinder screw
5 Glass pane	6 Hexagon lock nut
7 M16x1.5 cable gland	



Im. 4: Drive unit components

5 DIMENSION SHEET

Antriebseinheit



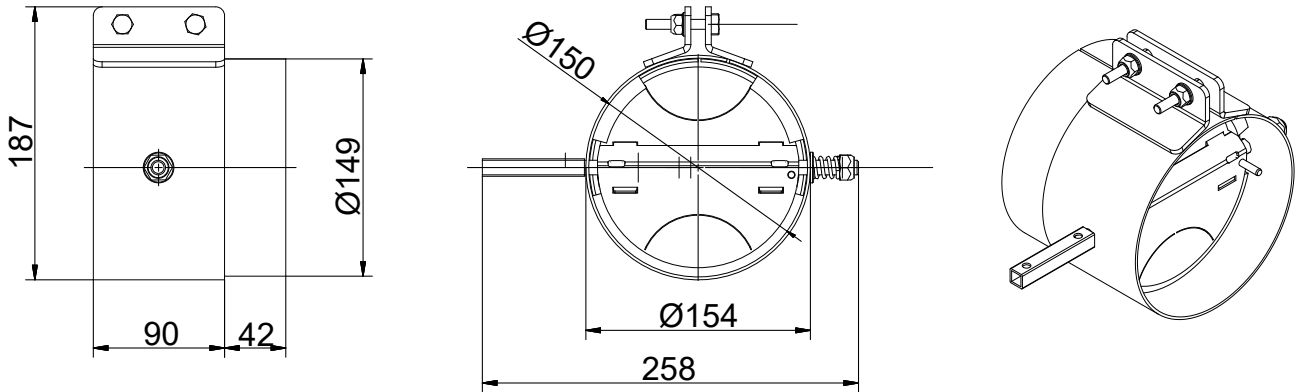
Im. 5: Maßblatt der Konsole zur Antriebseinheit

Damper flapsn

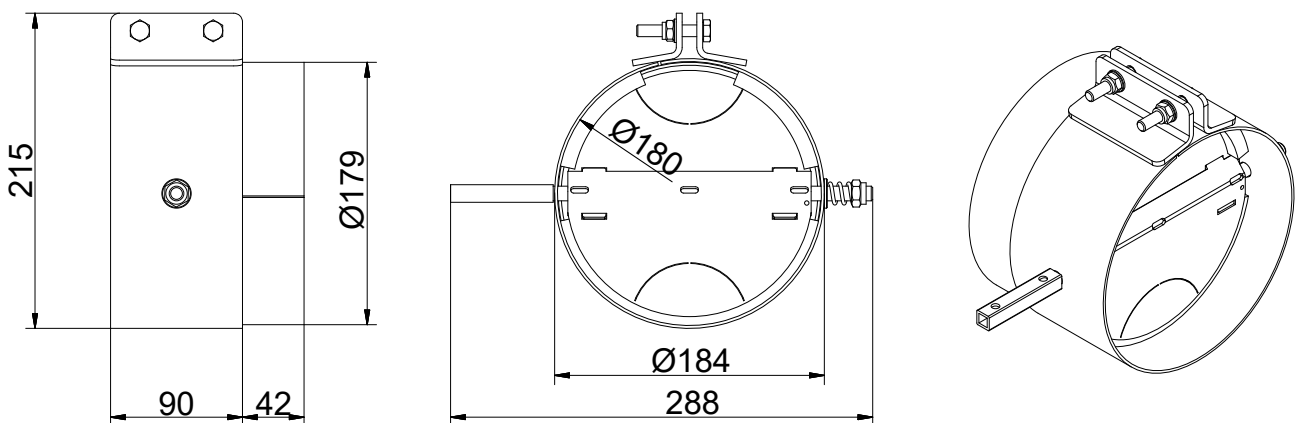


For operation as a throttle damper, the two circuit segments of the damper must be removed.

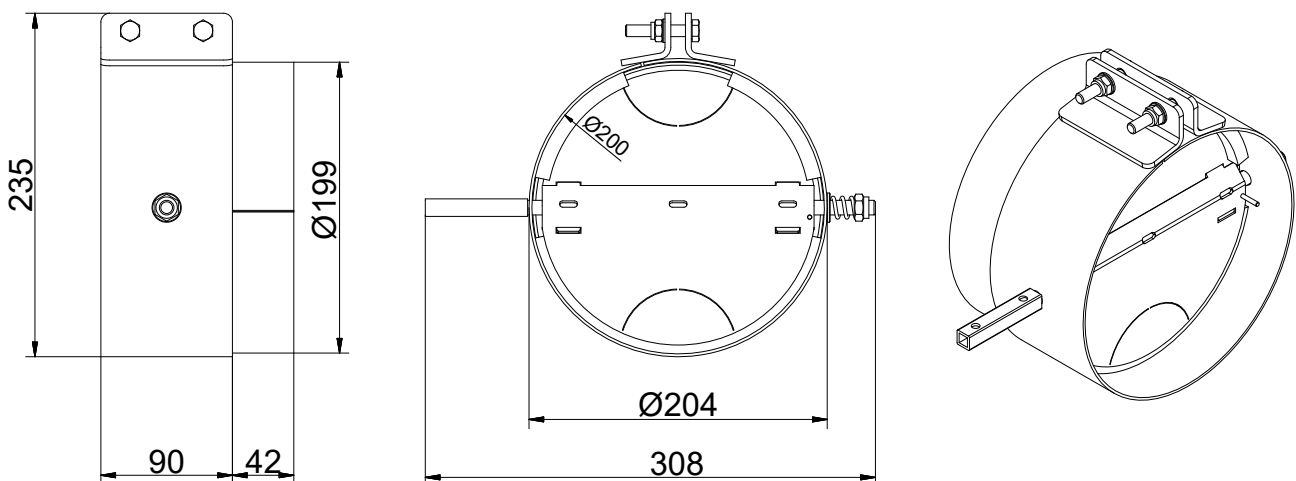
Damper flap Ø 150 mm Art.Nr.: S002170



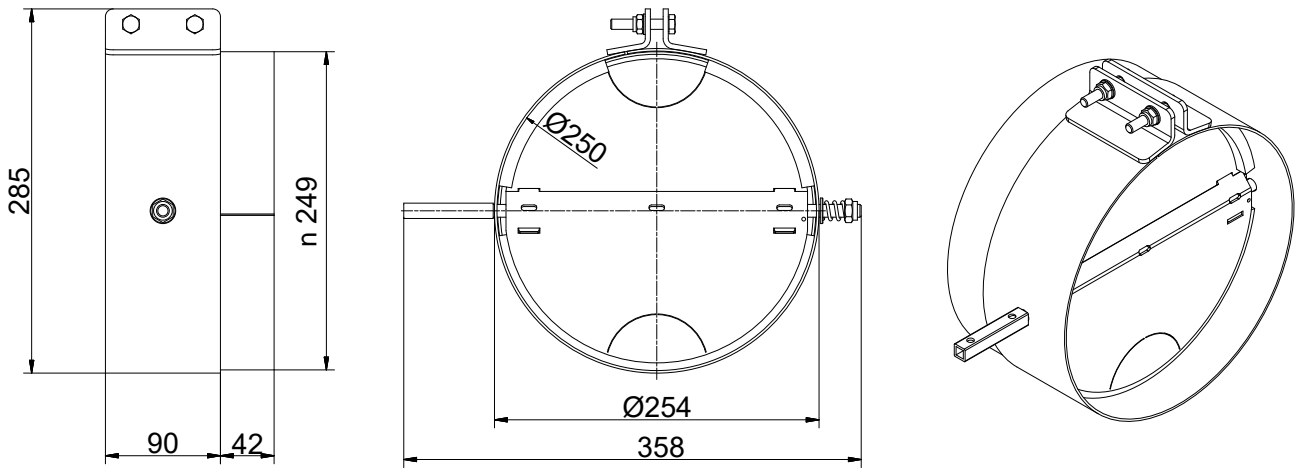
Damper flap Ø 180 mm Art.Nr.: 02459



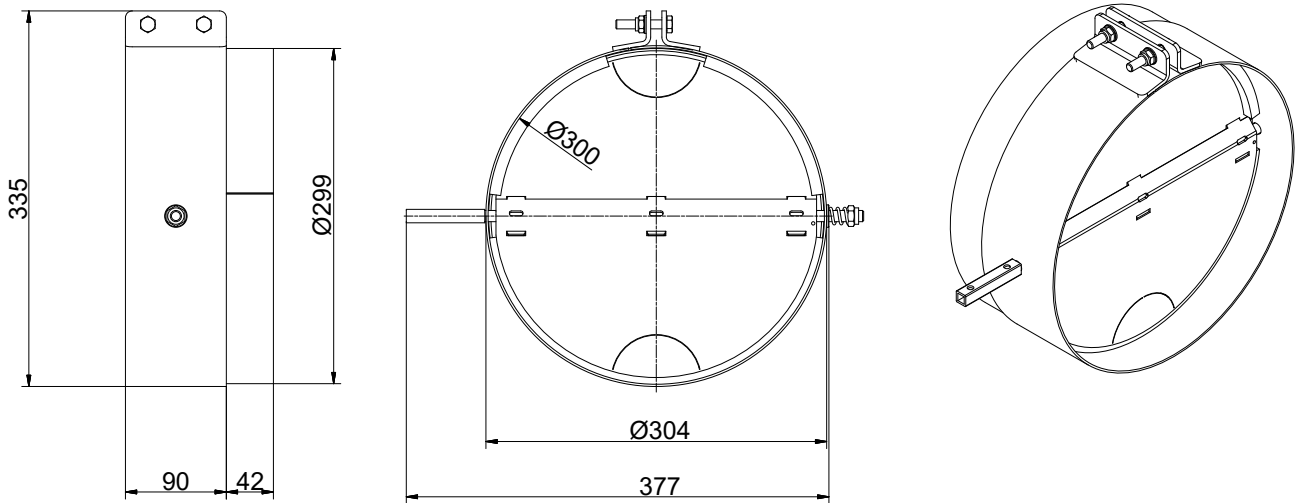
Damper flap Ø 200 mm mm Art.Nr.: 02460



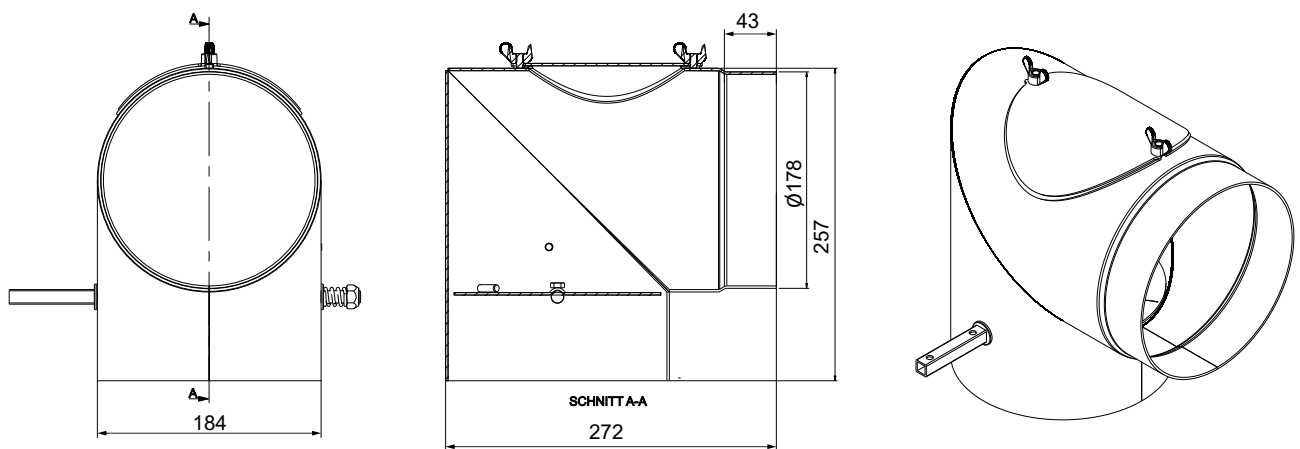
Damper flap Ø 250 mm mm Art.Nr.: 02461



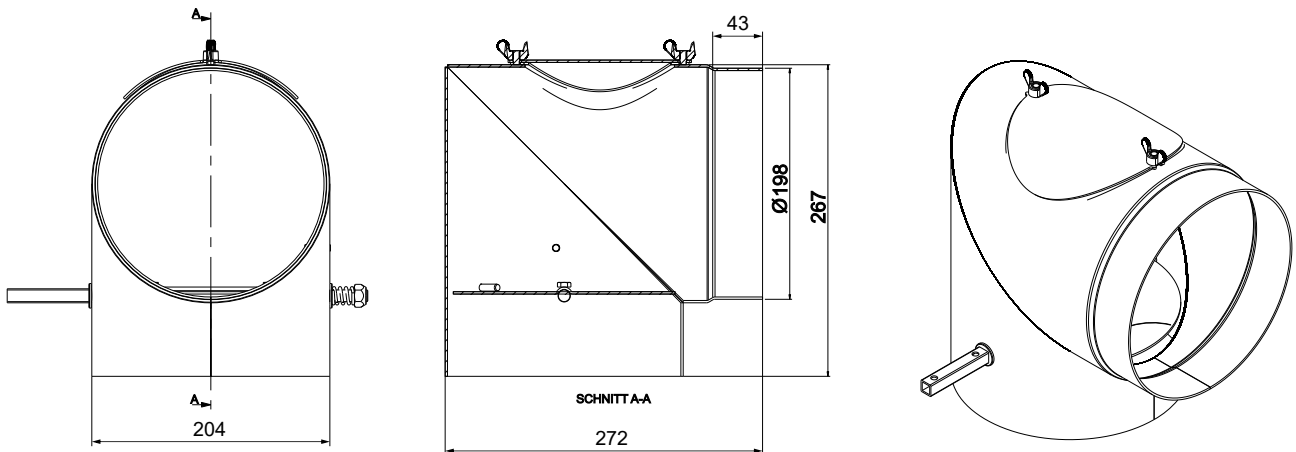
Damper flap Ø 300 mm mm Art.Nr.: 02462



Damper flap 90° Ø 180 mm Art.Nr.: S002198

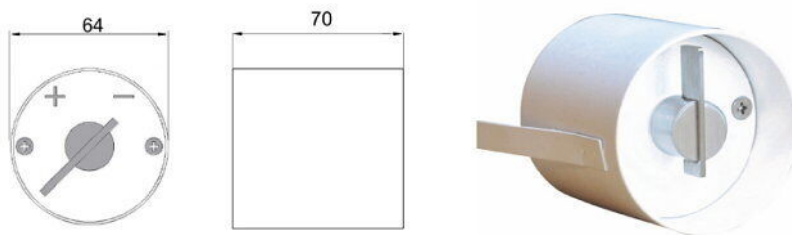


Damper flap 90° Ø 200 mm Art.Nr.: S002208

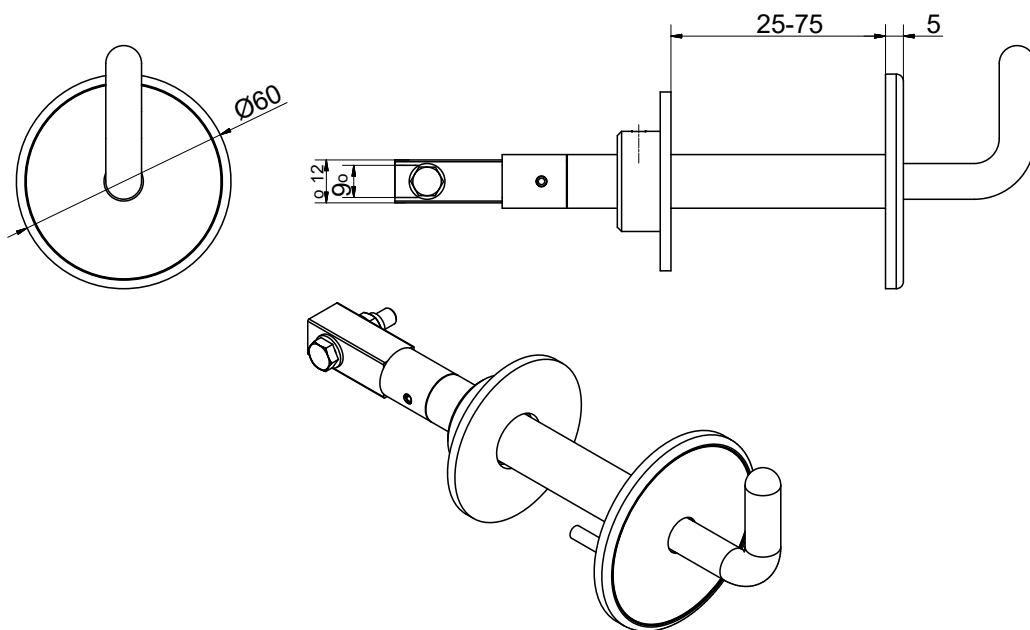


Bediengriff (Flexible Welle nicht dargestellt.)

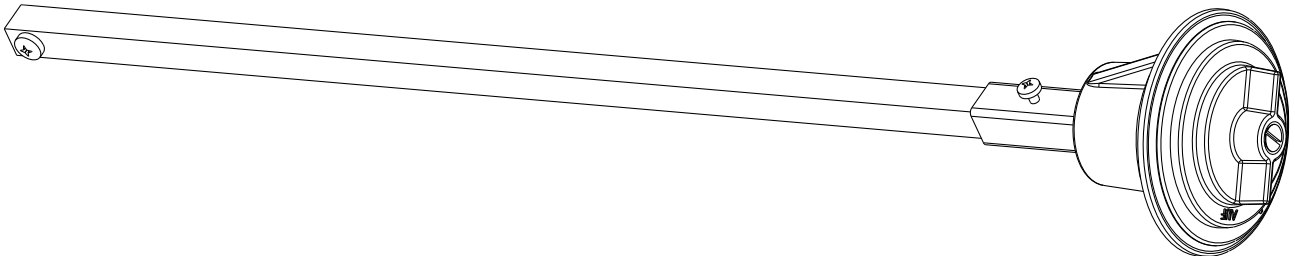
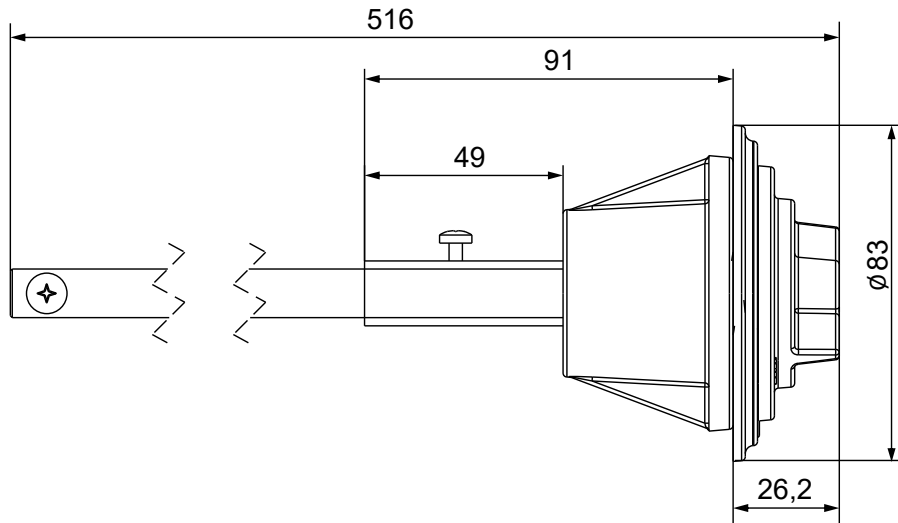
Deepened operating handle Art.Nr.: 900296



Modern operating handle Art.Nr.: 10275



Rustical operating handle Art.Nr.: 10274

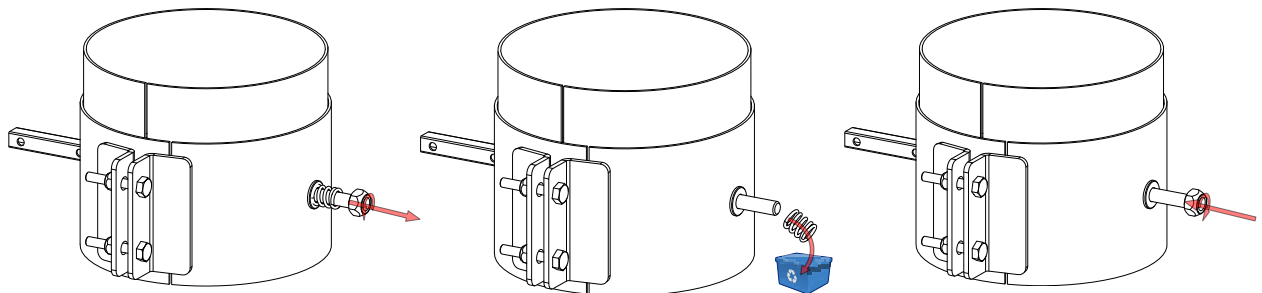


6 ASSEMBLY

Fitting instructions

- 1 Prepare the necessary free cross-section of the damper flap by breaking out the flap sections (Item 4 - ["Image 1: Damper flap components", page 5](#)).
- 2 Install the damper flap in the exhaust section, making sure that the flap axis is facing in a direction which requires possibly small bends of the flexible shaft. Turn the damper flap in "OPEN" position.
- 3 Unwind the compression spring (Item 6 - ["Image 1: Damper flap components", page 5](#)) by releasing the hexagon screw (Item 5 - ["Image 1: Damper flap components", page 5](#)), until the damper flap can be moved easily.

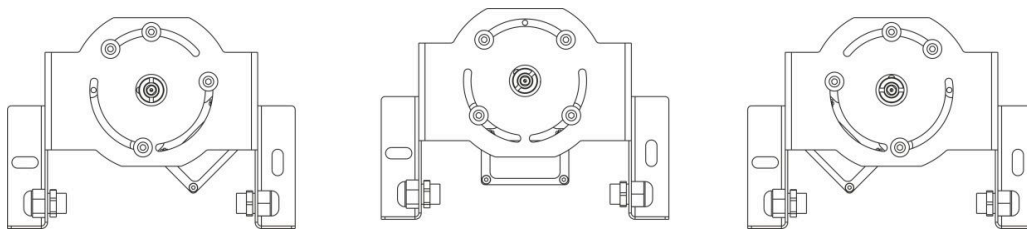
If the damper flap is motorised and operated by the EAS or EOS control, the compression spring on the side of the damper flap should be removed. If the spring is not removed, an error message from the control system may occur during operation due to the stiff damper flap.



The hexagon nut with clamping part cannot be screwed up to the flap (the thread does not reach up to the flap); however, it should be replaced for possible later use.

- 4 Attach the flexible shaft to the flap axis, secure with a screw and mount the long nut (Item 4 - "[Image 3: Flexible shaft components](#)", page 5) as a position indicator.
- 5 Before the flexible shaft is combined with the drive unit, connect the bus wiring and put the control unit into operation. During the initial start-up, the drive goes into "open" position. The shaft and drive must be coupled in this position.
- 6 Attach the drive unit to the floor or wall. After the motor console is affixed with screws, check the damper flap position. It must be standing in "OPEN" position. If this is not the case, the flap position can be corrected to "OPEN" by turning the drive. (See "Changing the drive position on the motor console").
- 7 The flexible shaft should be laid with possibly large radius (minimal radius = 200mm).
- 8 Secure the protective sleeve of the flexible shaft in place.
- 9 Check the flap turning angle during motorized operation. This is possible only after the drive unit and flexible shaft are secured in place. When the 90° turning angle cannot be reached on the flap, the turning angle of the drive can be enlarged (see: "Calibrating the drive").

Changing the drive position on the motor console



Im. 6: Possible rotation range of the drive unit – from 45° counter-clockwise to 45° clockwise direction

After mounting the motor console, the position of the damper flap can be different from 100% OPEN. In order to correct this, when the shaft is coupled, the drive unit can be turned on the motor console. To do so, the screws 1.4 and 4 ("[Image 4: Drive unit components](#)", page 6) must be turned loose, then turn the drive unit until the damper flap has reached 100% (OPEN) and tighten the screws 1.4 and 4 again. It can be necessary to remove one of the screws 1.4 and put it in a new position.

Calibrating the drive

The turning angle of the drive has a factory setting of 90°. When a flexible shaft is used, some part of this turning angle can be "lost" on the distance to the flap. By extending the turning angle on the drive, the flap turning angle of 90° can be ensured.

To re-calibrate the drive, follow the steps described in the EAS-2 or EOS7 installation instructions.

Ulrich Brunner GmbH
 Zellhuber Ring 17-18
 D-84307 Eggenfelden
 Tel.: +49 (0) 8721/771-0 / Fax: +49 (0) 8721/771-100
 Email: info@brunner.de

Technical and assortment changes as well as errors and misprints reserved.
 Reprinting and reproduction, even in part, only with the express permission of the publisher.

Art. No.: 200229