

CONTROL VALVE

Description

The invention relates to a regulating valve, which is attachable in particular in a bore, which is executed with a female thread, of a hydraulic door closer, which valve has a body adjoined by a regulating section, and has a thread located at the body and screwed into the female thread of the bore of a hydraulic door closer, the body having a reception with prominences engaging in a surface of a mounted insert part.

The document DE 102 28 872 B4 discloses a regulating valve for a door closer consisting of a body and of a regulating section. For the purpose of regulating the regulating valve, the body has a thread which can be screwed into a bore of the door closer. In this case, the regulating section has a bush-type execution and is connected to the body via a ball-joint connection. In order to prevent the regulating valve, in particular the regulating section, from unwanted rotation, an anti-rotation means is provided, which is formed as an extension or as a protuberance disposed at the regulating section. This extension is longitudinally guided in a groove within the housing of the door closer.

It is the object of the present invention to provide a regulating valve of the species described in the introduction, which has a simple configuration, wherein an

unwanted, independent adjustment of the regulating valve is excluded during operation.

As a solution to this problem, a regulating valve having the features of claim 1 is proposed. Preferred further
5 developments are set forth in the dependent claims.

According to the invention, it is intended to provide at least one prominence in a reception, in which an insert part is mounted, that the prominence engages in a surface of a mounted insert part such as to move the insert part in the
10 rotational direction upon an axial rotational movement of the regulating valve, the insert part cooperating with the bore or the female thread of the door closer in a clamping manner and with a friction torque. The external diameter of the insert part is larger than the diameter of the bore or of
15 the female thread of the door closer. The friction torque of the insert part at the bore or at the female thread of the door closer is thereby increased.

Thereby, a clamping and sealing effect is achieved even during an axial rotational movement. Furthermore, the
20 clamping effect avoids an unintentional, independent releasing or rotating of the regulating valve.

The insert part being deformable is of particular advantage. Thereby, the prominence can easily engage in a surface of an insert part. Likewise, tolerance ranges can be bridged.

Another advantage is that the insert part cooperates in a sealing manner with the bore or the female thread of the door closer. The required sealing function is thereby realized.

- 5 Obviously, several prominences can be provided in the reception. It is likewise conceivable to provide prominences which are disposed within the reception at opposite surfaces.

The following Figures are included to illustrate the solution,
10 in which

Figure 1: shows the inventive regulating valve in a perspective view,

Figure 2: shows the inventive regulating valve of Figure 1 in a lateral view,

- 15 Figure 3: shows a detailed view of the regulating valve of Figure 1,

Figure 4: shows the inventive regulating valve of Figure 1 with a mounted insert part in a lateral view.

Figure 1 shows a regulating valve 1, which is provided for a
20 hydraulic door closer. In this case, various door closers can be considered, which for example can be operated by an eccentric cam disc according to DE 103 61 085 A1 or by a toothed rack according to DE 199 01 234 C1. The regulating valve 1 consists of a regulating section 2 and of

a body 2a. The regulating section 2 is located at one end of the regulating valve 1 and an actuating section 7 is located at the end opposite the regulating section 2. A thread 3 as well as a reception 4 having prominences 6 are located
5 between these ends.

Figure 2 shows the regulating valve 1 in a lateral view. Prominences 6 are located in the section of the reception 4, and on the opposite side of the prominences 6, an abutting surface 5 is located within the reception 4. The regulating
10 valve 1 has an actuating section 7 at one end of the regulating valve 1 (in this case, on the left side of the illustration).

Figure 3 shows a detailed view of Figure 1, in which the prominences 6 are illustrated within the reception 4.

15 Figure 4 shows the regulating valve 1 with a mounted insert part 8 in a lateral view. The prominences 6 act against one side of the insert part 8 and press the insert part 8 against the abutting surface 5, located on the opposite side of the prominences 6.

List of References

	1	regulating valve
	2	regulating section
	2a	body
5	3	thread
	4	reception
	5	abutting surface
	6	prominence
	7	actuating section
10	8	insert part

Patent claims

1. A regulating valve (1), which in particular is attachable in a bore, executed with a female thread, of a hydraulic door closer, which valve has a body (2a), which is adjoined by a regulating section (2), and has a thread (3), which is located at the body (2a) and screwed into the female thread of the bore of a hydraulic door closer, **characterized in that** at least one prominence (6) is provided in a reception (4) for an insert part (8), in which engages in a surface of an insert part (8) such that, during an axial rotational movement of the regulating valve (1), the insert part (8) is moved in rotational direction, the insert part (8) cooperating in a clamping manner with the bore or with the female thread of the door closer.
2. A regulating valve (1) according to claim 1, **characterized in that** the prominence (6) being executed notch-shaped in the section engaging in the surface of the insert part (8).
3. A regulating valve (1) according to claim 1, **characterized in that** the insert part (8) is elastically deformable.
4. A regulating valve (1) according to claim 1, **characterized in that** the insert part (8)

cooperates in a sealing manner with the bore or the female thread of the door closer.