

199.1 HYDRAULIC
RADIAL
DAMPER

1. DESCRIPTION

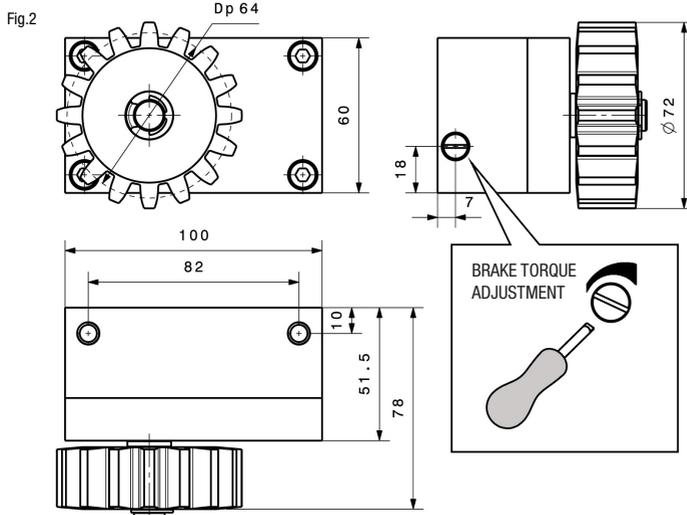
The 199.1 hydraulic rotating brake M4 Z16 has been developed to adjust and control the speed of the gate in systems with a slope throughout their path. For safety reasons, the gate must not be allowed to gain speed when the automation system is unlocked. If it is not equipped with a brake or a compensation system, it will tend to move and speed up in the direction of the slope, leading to dangerous uncontrolled movement. Moreover, during normal operation, it helps in maintaining the same speed on the operator and the downhill gate, increasing so the lifetime of the operator itself. The rotating brake only provides resistance in one direction of rotation; the opposite side is completely free.

This accessory is suitable for gates with module 4 rack.

The product 199.1 is manufactured using anti-corrosion materials for outdoor use.

2. DIMENSIONS AND TECHNICAL FEATURES.

TECHNICAL FEATURES	199.1 hydraulic rotating brake
PINION MODULE	M4
N° OF TEETH	Z16
LIQUID TYPE	SILICONE 3000
OPERATING TEMPERATURE	-15°C +70°C
MAXIMUM TORQUE	7 NM
BRAKE DIRECTION	LEFT OR RIGHT
LOAD ADJUSTMENT	YES



3. ASSEMBLY INSTRUCTIONS

3.1 Changing brake direction.

To change the brake direction, you must remove the circlip (Fig.3), remove the pinion (Fig.4) turn it around as shown in Fig.5. Replace the circlip.

Fig. 3

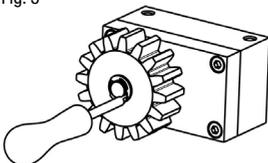


Fig. 4

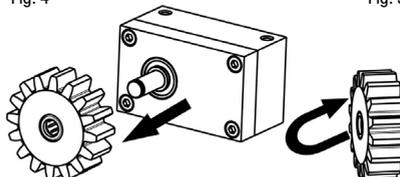
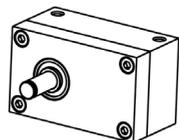


Fig. 5



3.2 Assembly.

The 199.1 hydraulic rotating brake M4 Z16 must be placed as close as possible to the control mechanism (Fig.6) and adjusted to the correct height, leaving 1 mm of clearance between the pinion and the rack (Fig.7).

Fig.6

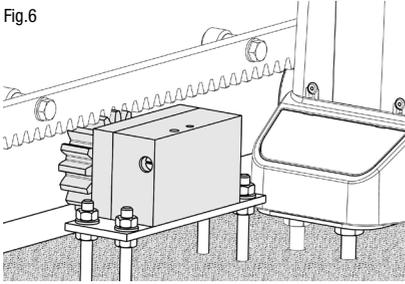
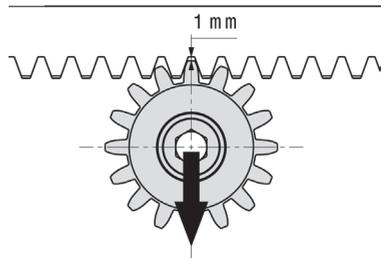
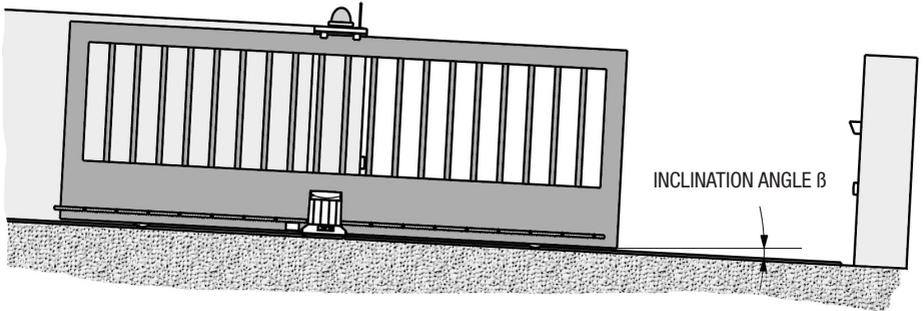


Fig.7



3.3 Calculation.

Fig.8



$$M \text{ [Nm]} = P \times \sin \beta \times 0.032$$

P = weight of the door in Newton (9.8N=1Kg)

β = inclination in degrees

Example for calculation:

Can the 199.1 hydraulic rotating brake M4 Z16 be used on doors which weigh 800kg and have an inclination of 1.5°?

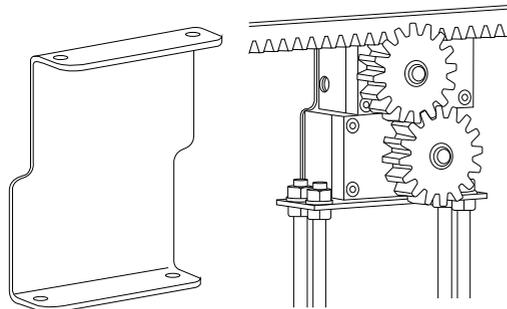
$$P = 9.8 \times 800\text{kg} = 7840 \text{ Newton}$$

$$M = 7840 \text{ Newton} \times \sin 1.5 \times 0.032 = 6.56 \text{ Nm}$$

6.56 Nm is less than 7 Nm (maximum allowed), and thus the brake would be suitable for this installation.

4. 199.11 DOUBLE BRAKE

Support for fixing two 199.1 units, to increase the brake's maximum load to 14 Nm.



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