Select air damper actuator

The data for the air damper required to select the employed air damper actuator. The manufacturer offers dimension diagram for the various air damper types in its documentation. This allows you to determine the required torque for the air damper based on air damper width, air damper height and overall plant pressure.

Example of manufacturer diagram

Example:
EMCO louver damper
JK481
Height = 1335 mm
Width = 1400 mm
Total pressure = 1000 Pa

Total torque = 9,7 Nm

To ensure that the actuator function achieves damper torque in operation and for contamination in the plant, the actuator should provide some 20% more torque as required for a new air damper.

Safety factor SF = 0.8

Overall torque = Torque characteristic [Nm/m²] x damper area [m²]

Number of actuators = \[
\frac{\text{Total required damper torque}}{\text{SF} \times \text{actuator torque (see specification)}}
\]

Actuator series GBB
Nominal torque = 20 Nm

Number of actuators = \[
\frac{9.7 \text{ Nm}}{0.8 \times 20 \text{ Nm}} = 1.375
\]

Control signal
Control with Synco™ RVU7..
DC 0..10 V
Actuator: GBB161.1E