**ASM 105, 115: Actuators**

For controllers with switched output (two- or three-point control). For the operation of air dampers, cut-off dampers and multi-louvre dampers.

Two-piece housing of fire-retardant plastic, black lower part, yellow upper part. Synchronous motor with electronics for control and switch-off, magnetic clutch and maintenance-free gearbox. Electronic recognition of end position and motor switch-off using time-switch in the device. Self-centring spindle adaptor for fitting to the damper spindle. Gearbox can be de-coupled in order to position the damper or to make manual adjustments. Power cable is 1.2 metres long, $3 \times 0.75 \text{ mm}^2$, fixed to the housing. Fixing bracket, which functions as an anti-torsion device, has two metal screws. Suitable for fitting in any position.

<table>
<thead>
<tr>
<th>Type 4)</th>
<th>Control</th>
<th>Torque</th>
<th>Holding torque</th>
<th>Running time for 90°</th>
<th>Power supply</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASM 105 F100</td>
<td>2/3-point</td>
<td>5</td>
<td>5</td>
<td>30</td>
<td>230 V~</td>
<td>0.7</td>
</tr>
<tr>
<td>ASM 105 F120</td>
<td>2/3-point</td>
<td>5</td>
<td>5</td>
<td>120</td>
<td>230 V~</td>
<td>0.7</td>
</tr>
<tr>
<td>ASM 105 F122</td>
<td>2/3-point</td>
<td>5</td>
<td>5</td>
<td>120</td>
<td>24 V~</td>
<td>0.7</td>
</tr>
<tr>
<td>ASM 115 F120</td>
<td>2/3-point</td>
<td>10</td>
<td>10</td>
<td>120</td>
<td>230 V~</td>
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<td>10</td>
<td>120</td>
<td>24 V~</td>
<td>0.7</td>
</tr>
</tbody>
</table>

**Power supply**
- F100: 230 V~ ± 15%, 50 Hz
- F12: 230 V~ ± 15%, 50...60 Hz
- F122: 24 V~ ± 20%, 50...60 Hz

**Power consumption**
- F100: 2.4 W, 4.5 VA
- F120: 2.0 W, 4.0 VA
- F122: 1.6 W, 1.7 VA

**Angle of rotation**
- 90° 1)

**Damper spindle**
- Ø 8...16 mm
- Ø 6.5...12.7 mm

**Damper spindle (hardness)**
- Max. 300 HV

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**Accessories**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0361977 002</td>
<td>Assembly kit for MH32 / MH42 control valve; MV 505840</td>
</tr>
<tr>
<td>0372145 001</td>
<td>Single auxiliary change-over contacts 2); MV 505795</td>
</tr>
<tr>
<td>0372145 002*</td>
<td>Double auxiliary change-over contacts 2); MV 505795</td>
</tr>
<tr>
<td>0372286 001*</td>
<td>Potentiometer 3) 130 Ω; MV 505795</td>
</tr>
<tr>
<td>0372286 002*</td>
<td>Potentiometer 3) 1000 Ω; MV 505795</td>
</tr>
<tr>
<td>0372286 003*</td>
<td>Potentiometer 3) 5000 Ω; MV 505795</td>
</tr>
<tr>
<td>0372300 001</td>
<td>Anti-torsion device, long (230 mm)</td>
</tr>
<tr>
<td>0372301 001</td>
<td>Spindle adaptor for squared-end (Ø15 mm) tubular section (batch package of 10 pieces)</td>
</tr>
<tr>
<td>0372302 001</td>
<td>Plastic Allen key for indicating the position</td>
</tr>
<tr>
<td>0372459 100*</td>
<td>External circuitry 230V version for parallel operation with ASM/AVM 104, 114 or actuators with end-switch, incl. distribution box; MV 506102</td>
</tr>
<tr>
<td>0372459 102*</td>
<td>External circuitry 24V version for parallel operation with ASM/AVM 104, 114 or actuators with end-switch, incl. distribution box; MV 506102</td>
</tr>
</tbody>
</table>

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1) **Maximum angle of rotation**: 95° (without stops for the dampers)
2) **Fully variable** from 0...90°; max. loading 5 (2) A, 24...230 V
3) **Only one potentiometer or one set of auxiliary contacts can be fitted to each drive!**
4) **Version** with halogen-free cable available on request
5) **Operating time approx. 80% up to 65 °C, 100% up to 55 °C**
Operation
The final control element can be moved into any desired position by connecting the power supply.
In 3-point control systems, the spindle adaptor turns (as viewed from the actuator towards the coupling) in a clockwise direction if power is connected to the brown wire, and in an anti-clockwise direction if connected to the black wire.
In 2-point control systems, the spindle adaptor turns (as viewed from the actuator towards the coupling) in a clockwise direction if power is connected to the brown wire, and in an anti-clockwise direction if no power is connected to the brown wire. The black wire always has power applied to it.
In the end positions (on reaching the stop in the air damper or on reaching the maximum angle of rotation) or in the event of overloading, the magnetic coupling responds. The control signal is switched off by the electronic cut-out after three minutes (60 seconds for F100). The effective end position is set by the damper stop or by the angle limiter, or by reaching the maximum angle of 95°.
Manual adjustment by de-coupling the gears (by pressing the button on the housing cover and moving the spindle adaptor at the same time).
In 3-point control systems, the direction of rotation can be changed by swapping the power-supply wires over.

Engineering and fitting notes
The concept of the synchronous motor allows several dampers to be run in parallel. The actuator can be mounted in any position (including upside down). It can be put directly onto the damper shaft and clipped onto the anti-torsion device. The self-centring spindle adaptor ensures that the damper spindles are operated smoothly. The damper drive can easily be removed from the damper spindle without having to take off the anti-torsion device.
The angle of rotation can be limited between 0 and 90°, and set anywhere between 5° and 80°. The limit is set by means of a screw on the drive itself and with the stop on the self-centring spindle adaptor. The spindle adaptor is suitable for damper spindles of Ø 8...16 mm, Ø 6,5...12,7 mm.
The following accessories can be fitted to each actuator: one set of auxiliary contacts or a potentiometer.
The auxiliary contacts should be screwed onto the drive's top cover. Before the mechanical connection can be established, the indicator knob should be removed. A new indicator is then visible on the lid of the auxiliary contacts.
N.B.: The housing should not be opened.
Fitting outdoors. If the devices are fitted outdoors, we recommend that additional measures be taken to protect them against the effects of the weather.

Additional technical data
The upper part of the housing, with the lid and indicator knob, contains the synchronous motor with the capacitor. The lower part contains the maintenance-free gears and the gear-release knob. To reverse the direction of operation in 3-point control systems, the brown and the black wires should be transposed. The actuators are protected against incorrect connection.
Auxiliary change-over contacts
Switch rating: max. 230 V a.c.; min. current 20 mA at 20 V
Switch rating: max. 4...30 V d.c.; min. current 1...100 mA
Power consumption:

<table>
<thead>
<tr>
<th>Type</th>
<th>Running time</th>
<th>Condition</th>
<th>active power P</th>
<th>apparent power S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>s</td>
<td></td>
<td>W</td>
<td>VA</td>
</tr>
<tr>
<td>ASM 105 F100</td>
<td>30</td>
<td>Operating</td>
<td>2.4</td>
<td>4.5</td>
</tr>
<tr>
<td>ASM 105 F120</td>
<td>120</td>
<td>Operating</td>
<td>2.0</td>
<td>4.0</td>
</tr>
<tr>
<td>ASM 105 F122</td>
<td>120</td>
<td>Operating</td>
<td>1.6</td>
<td>1.7</td>
</tr>
<tr>
<td>ASM 115 F120</td>
<td>120</td>
<td>Operating</td>
<td>2.0</td>
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<td>ASM 115 F122</td>
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</tr>
</tbody>
</table>

CE conformity
EN 61000-6-1 EN 1050 EN 60730-1
EN 61000-6-2 EN 60730-2-14
EN 61000-6-3 Over-voltage category III
EN 61000-6-4 Degree of pollution II
*) For ASM 1 . 5 F1 . 0 only
**Wiring diagram**

Direction of operation 1:
- 01 closed, 02 open

Direction of operation 2:
- 02 closed, 01 open

**Accessories**

372145 001  
372145 002  
0372286

RD = red  
BN = brown  
BK = black  
BU = blue  
GY = grey

**Dimension drawing**

372286, 372145

Direction of operation 1:
- 01 closed, 02 open

Direction of operation 2:
- 02 closed, 01 open