

## Möhlenhoff 20405-00

# Möhlenhoff 20405-00 Actuator Instruction Manual

Model: 20405-00

## 1. INTRODUCTION AND PRODUCT OVERVIEW

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This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Möhlenhoff 20405-00 Actuator. Please read this manual thoroughly before using the product and retain it for future reference.

The Möhlenhoff 20405-00 is a 230V actuator designed for controlling valves in heating and cooling systems. It features a modern design, easy plug-in installation, and a 360° mounting position, ensuring flexible integration into various distributor systems. The actuator is engineered for reliable performance with a patented 100% protection against leaking valves and a 'first open' function for initial system setup.

## 2. SAFETY INFORMATION

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### **WARNING: Electrical Shock Hazard**

- Always disconnect power before installation, maintenance, or troubleshooting.
- Installation must be performed by a qualified electrician in accordance with all local and national electrical codes.
- Do not operate the actuator if it appears damaged.
- Ensure proper grounding to prevent electrical shock.
- This device operates at 230V AC. Handle with extreme care.

Failure to follow these safety instructions could result in property damage, serious injury, or death.

## 3. PACKAGE CONTENTS

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Verify that all components are present before beginning installation:

- Möhlenhoff 20405-00 Actuator (230V)
- Valve fitting VA 80
- Connection cable (1,000 mm long)



Image 1: Overview of multiple Möhlenhoff 20405-00 actuators and their corresponding valve fittings, as typically supplied in a multi-pack.

## 4. SETUP AND INSTALLATION

The Möhlenhoff 20405-00 actuator is designed for easy plug-in installation. Follow these steps for proper setup:

1. **Prepare the Distributor:** Ensure the valve on your heating or cooling distributor is clean and free from debris.
2. **Attach Valve Fitting:** Securely screw the provided VA 80 valve fitting onto the valve of the distributor. Ensure it is hand-tightened to prevent leaks.
3. **Mount the Actuator:** Place the actuator onto the valve fitting. The design allows for a 360° mounting position, providing flexibility for installation orientation. Push down firmly until it clicks into place.
4. **Connect Electrical Wiring:** Connect the 1,000 mm long connection cable to the appropriate electrical terminals. Refer to the wiring diagram provided with your heating system for correct connections. The actuator operates at 230V AC.
5. **Verify Installation:** Double-check all connections and ensure the actuator is securely mounted.

This actuator is compatible with a wide range of distributors, including but not limited to:

- AO-Therm brass distributor
- Aquatechnik Italy (Multirapid, before 2007, from 2009)
- Athe-Therm (brass up to February 2005)
- BHS distributor
- Böhnisch / SBK (from 1998)
- Brugman
- Caleffi distributor series 670 (plastic)

- Cosmo (object-line) (CM. cucuProtherm)
- Delphis-Therm
- Emmeti
- Empur Brass HKV
- EQ-Therm Brass HKV
- Frank (from 2003)
- GC Distribution
- Gomacal
- Heimeier
- Herb
- Inteca
- IVAR
- IVR Stainless Steel HKV
- Jaga
- Jupiter
- Kemper Stainless Steel
- Kermi
- Mair (from 1998)
- RBM
- Remo
- Roth
- Roverss. Complete (after 1993)
- Simplex
- SKV distributor
- Strasshofer
- Taco (Vogel & Noot, Cosmo Stainless Steel.)
- Therminon HKV Module
- Thermoval
- TKM
- Tour & Andersson (from 1999)
- Unicor Brass Distributor
- Bird & Noot (Cosmo Brass Distributor)
- Watts (Voogel & Noot, Finimetal, Myson)



Image 2: A single Möhlenhoff 20405-00 actuator, showing its integrated cable and the separate VA 80 valve fitting, ready for installation.

## 5. OPERATION

The Möhlenhoff 20405-00 actuator is designed for automatic operation based on signals from your heating or cooling control system. Key operational features include:

- **Powerless to NC (Normally Closed):** In the event of a power failure, the actuator will return to its normally closed position, ensuring safety and preventing uncontrolled heating/cooling.
- **First Open Function:** During initial system startup or after a prolonged shutdown, the actuator may feature a 'first open' function to facilitate system bleeding or initial flow.
- **Adjustment Control:** The actuator works in conjunction with the valve to regulate flow. Any fine-tuning or adjustment of flow rates is typically managed via the adjustment control on the valve itself, or through the central control system.

Once installed and powered, the actuator will respond to commands from your thermostat or building management system to open or close the valve, thereby controlling the flow of heating or cooling medium.

## 6. MAINTENANCE

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The Möhlenhoff 20405-00 actuator is designed for minimal maintenance. However, periodic checks can ensure optimal performance and longevity:

- **Visual Inspection:** Periodically inspect the actuator and its connections for any signs of damage, wear, or loose wiring.
- **Cleanliness:** Keep the actuator free from dust and debris. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Functionality Check:** During system maintenance, observe the actuator's movement to ensure it opens and closes smoothly in response to control signals.
- **Valve Integrity:** The actuator provides patented protection against leaking valves. However, regularly check the valve and its connections for any signs of leakage.

No user-serviceable parts are inside the actuator. Do not attempt to open or repair the unit yourself. Contact qualified service personnel for any repairs.

## 7. TROUBLESHOOTING

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If you encounter issues with your Möhlenhoff 20405-00 actuator, consider the following general troubleshooting steps:

- **Actuator Not Moving:**
  - Check if the power supply to the actuator is active (230V AC).
  - Verify that the control system (thermostat, controller) is sending an appropriate signal to the actuator.
  - Ensure the wiring connections are secure and correct.
- **Valve Not Opening/Closing Fully:**
  - Inspect the valve for any obstructions or debris that might be preventing full travel.
  - Confirm the actuator is correctly seated on the valve fitting.
  - Check for any mechanical binding in the valve or actuator mechanism.
- **Leakage Around Valve:**
  - Although the actuator offers protection, check the valve fitting and valve body for proper sealing. Tighten connections if necessary, but do not overtighten.
  - If leakage persists, the valve or fitting may be damaged and require replacement.

If these steps do not resolve the issue, contact a qualified technician or Möhlenhoff customer support for assistance.

## 8. SPECIFICATIONS

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<b>Brand</b>	Möhlenhoff
<b>Model Number</b>	20405-00 (Item model number: A00203)
<b>Voltage</b>	230 V AC, +10 %...-10 %, 50/60 Hz

<b>Wattage</b>	1 W
<b>Color</b>	Light Grey (RAL 7035)
<b>Dimensions</b>	44 x 52.2 x 48.4 mm (Product Dimensions: 3.94 x 7.87 x 9.84 inches)
<b>Item Weight</b>	2.82 pounds
<b>Connection Cable Length</b>	1,000 mm
<b>Valve Fitting</b>	VA 80
<b>Manufacturer</b>	YSYS (for Amazon listing)

## 9. WARRANTY AND SUPPORT

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For specific warranty information, please refer to the documentation provided at the time of purchase or contact your retailer. Möhlenhoff products are manufactured to high-quality standards, and support is available for technical inquiries.

For technical assistance or service, please contact your authorized Möhlenhoff dealer or the customer support channel provided by your point of purchase.