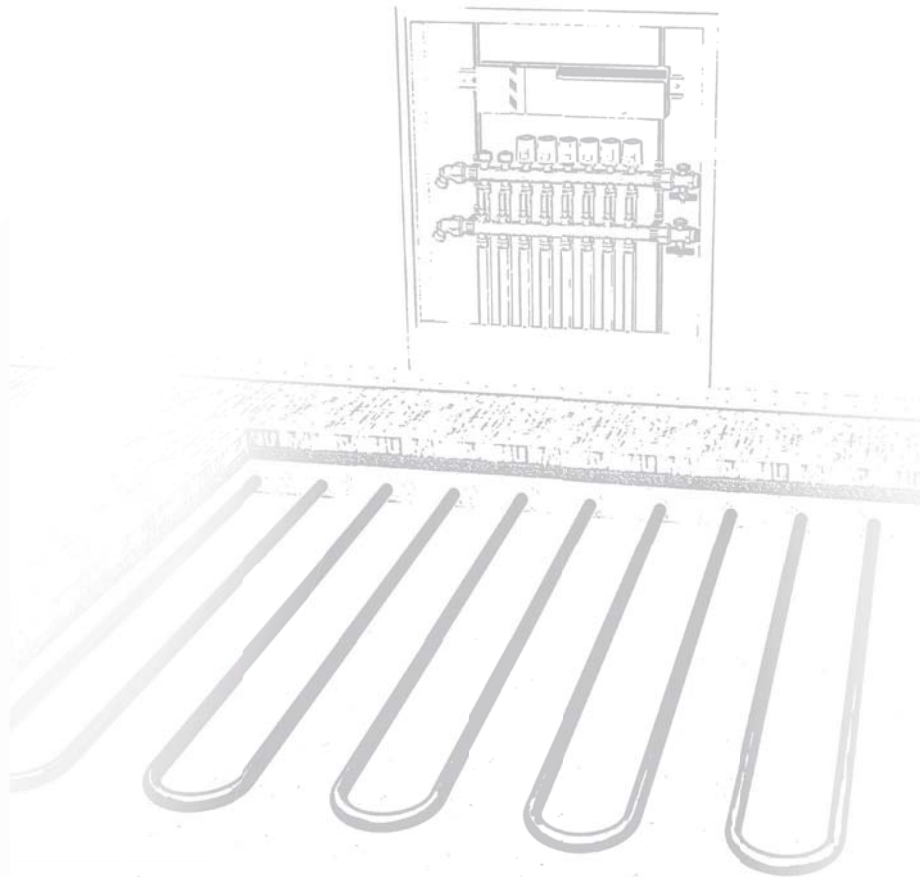


## Floor Heating



# OEM ACTUATORS

Technical Data

→ [www.moehlenhoff.de](http://www.moehlenhoff.de)

# OEM Actuator 5 – Floor heating

More efficient, more compact, more diverse



## Highlights

- Robust, long lifetime
- Multitude of varieties
- Low power consumption
- Easy plug-in installation and commissioning
- Actuating force up to 100 N
- IP54

Specifications  
at a glance



## Thermal actuators

- Modern OEM design
- Travel path variants 3.5, 4.0 or 5 mm (further variants on request)
- Guaranteed strokes over the complete lifetime
- Designs “normally closed” (NC) and “normally open” (NO)
- Power consumption 1 watt (Standard and End switch)
- Power consumption 1,2 watt (Smart Valve Drive)
- Complete compatibility to the valve adapter system
- Simple plug-in installation
- 360° installation position
- Patented 100 % protection in case of leaking valves
- First Open function (NC)
- Adaptation check (NC)
- Alignment aid on the valve
- Compact size, small dimensions
- All around function display
- Noiseless and maintenance-free
- High functional safety and long expected service life
- Certified by TÜV Süd

## Customer Specific Solutions



### Your Logo

Standard – laser imprint (grey scale)  
Plain- or multicolored on request



### All-round Function Display

Ring i.e. in the same colour as your logo



### Housing Colour

On your special request



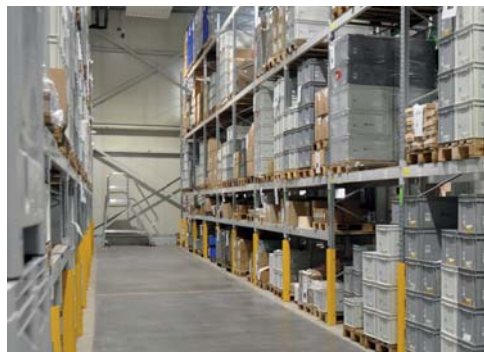
### Housing Form

Do you look for your own exclusive design?



### Packaging

Single packing in covering box, bundled in plastic bags packed in box or just as you want it



### Labelling

Tell us your requirements



### Article Numbers

Imprint of your article number



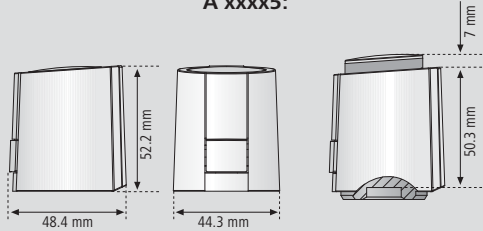
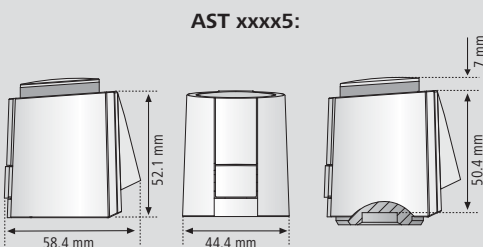
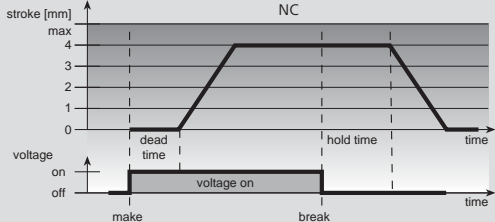
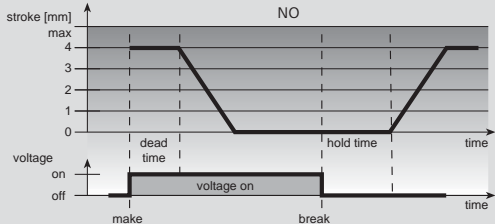
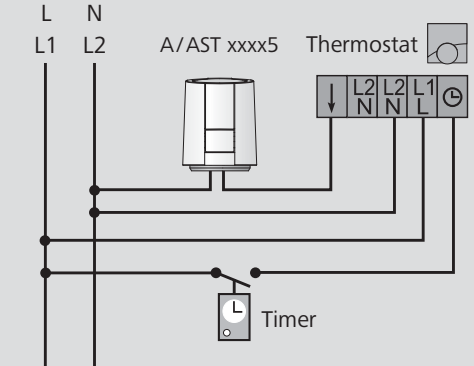
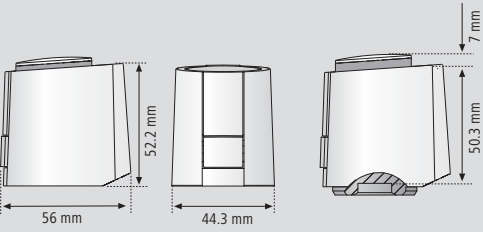
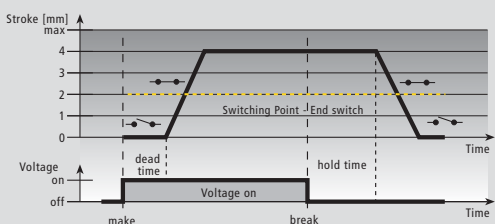
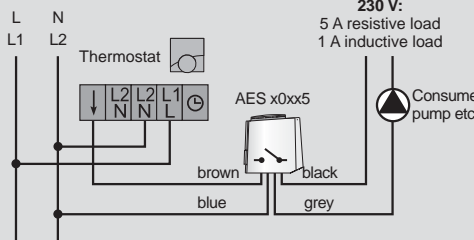
### Barcode

Your packaging, your barcode

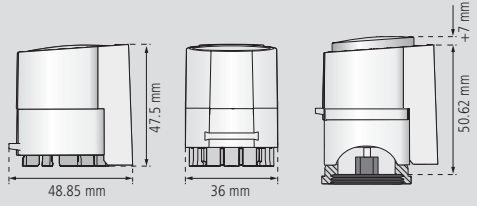
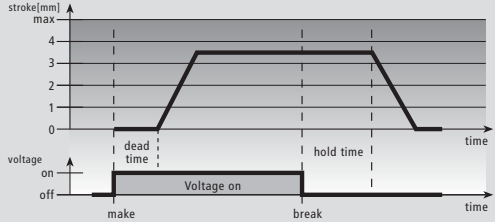
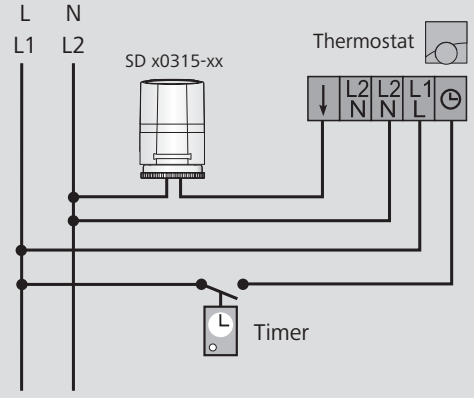
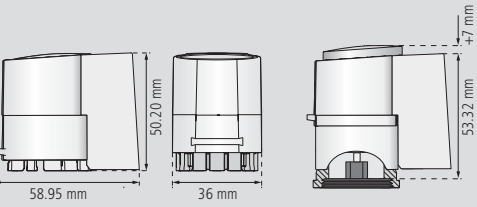
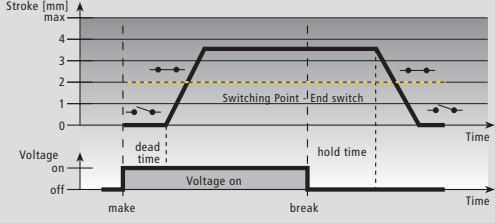
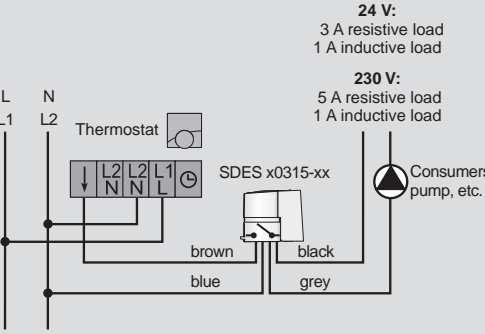
## Thermal actuators – Overview

Type	A xxxx5/ AST xxxx5		AES x0xx5	SD x0315	SDES x0315
	The thermal actuator for all applications and valves.			The special actuator for applications with restricted spatial conditions.	
Operating conditions 230 V	230 V AC, -10%...+10%, 50/60 Hz			230 V AC, -10%...+10%, 50/60 Hz	
Inrush current 230 V	< 550 mA for max. 100 ms			< 550 mA for max. 100 ms	
Operating voltage 24 V	24V AC/DC, -10%...20%			24V AC/DC, -10%...20%	
Inrush current 24 V	< 300 mA for max. 2 min.			< 300 mA for max. 2 min.	
Variants	NC with First Open/ NO	NC with First Open		NC with First Open	NC with First Open
Operating power	1 W			1,2 W	
Stroke	4.0/5.0 mm			3.5 mm	
Running times (4 mm/5 mm)	approx. 3.5 min/4 min			approx. 3 min	
Actuation force	100 N +10%			90 N +10%	
Microswitch switching current 230 V	–	230 V AC, 5 A ohmic, 1 A inductive		–	230 V AC, 5 A ohmic, 1 A inductive
Microswitch switching current 24 V	–	24 V AC, 3 A ohmic, 1 A inductive		–	24 V AC, 3 A ohmic, 1 A inductive
Switching point of micro switch	–	2 mm		–	2 mm
Fluid temperature	0 to +100 °C				
Storage temperature	-25 °C to +60 °C				
Ambient temperature	0 to +60 °C				
Degree/class of protection	IP 54/II				
CE conformity according to	EN 60730				
Casing material/colour	Polyamide/light grey (RAL 7035)				
Connection line/colour	2 x 0.75 mm <sup>2</sup> PVC/light grey (RAL 7035)	4 x 0.75 mm <sup>2</sup> PVC/light grey (RAL 7035)		2 x 0.75 mm <sup>2</sup> PVC/light grey (RAL 7035)	4 x 0.75 mm <sup>2</sup> PVC/light grey (RAL 7035)
Line length	1 m (other lengths on request)				
Weight with connection cable 1 m	100 g	150 g		100 g	150 g
Surge strength according to EN 60730-1 (230 V)	min. 2.5 kV				
Valve adaptation	Möhlenhoff adapter system			SD adapter VA 80 S – M30 x 1.5 – locking dimension: 10.5 mm other adaptations on request	

# Thermal actuators – Technical data

Description	Dimensions	Function diagrams	Electrical connection
<p><b>A/AST xxxx5:</b></p> <ul style="list-style-type: none"> <li>On/off actuator for a static or PWM activation via 2-point or P band controller.</li> <li>Robust, noiseless actuator.</li> <li>Superb in power consumption, longevity, and functionality.</li> <li>Connection line or plug-in connection cable</li> </ul>	<p><b>A xxxx5:</b></p>  <p><b>AST xxxx5:</b></p> 	<p><b>NC</b></p>  <p><b>NO</b></p> 	
<p><b>AES x0xx5:</b></p> <ul style="list-style-type: none"> <li>On/off actuator for a static or PWM activation via 2-point or P band controller.</li> <li>Robust, noiseless actuator.</li> <li>Superb in power consumption, longevity, and functionality.</li> <li>Integrated auxiliary switch with potential-free contact</li> </ul>			<p><b>24 V:</b> 3 A resistive load 1 A inductive load</p> <p><b>230 V:</b> 5 A resistive load 1 A inductive load</p> <p>Consumers, pump etc.</p> 

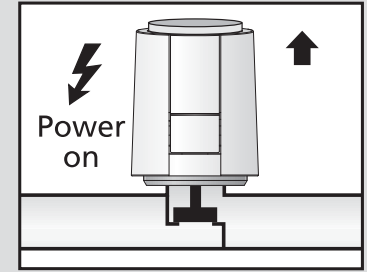
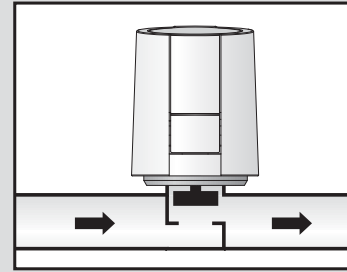
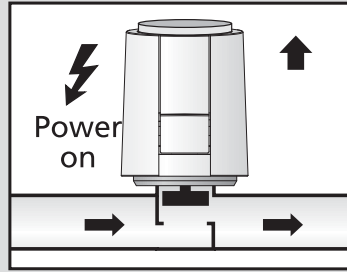
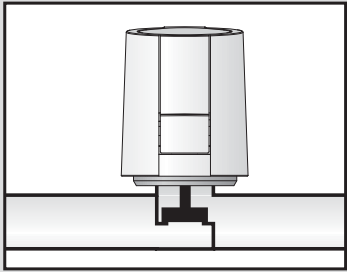
# Smart Valve Drive – Technical data

Description	Dimensions	Function diagrams	Electrical connection
<p><b>x0315-xx:</b></p> <ul style="list-style-type: none"> <li>• Special actuator with smaller installation dimensions</li> <li>• On/off actuator for a static or PWM activation via 2-point or P band controller.</li> <li>• Robust, noiseless actuator.</li> <li>• Longevity and functionality.</li> </ul>			
<p><b>SDES x0315-xx:</b></p> <ul style="list-style-type: none"> <li>• Special actuator with smaller installation dimensions</li> <li>• On/off actuator for a static or PWM activation via 2-point or P band controller.</li> <li>• Robust, noiseless actuator.</li> <li>• Longevity and functionality.</li> <li>• Integrated auxiliary switch with potential-free contact</li> </ul>			 <p><b>24 V:</b> 3 A resistive load 1 A inductive load</p> <p><b>230 V:</b> 5 A resistive load 1 A inductive load</p> <p>Consumer: pump, etc.</p>

# Thermal actuators – Installation

## Function Display

The function display of the OEM-Actuator (all-around display) allows identifying the operating condition (valve open or closed) at a glance.

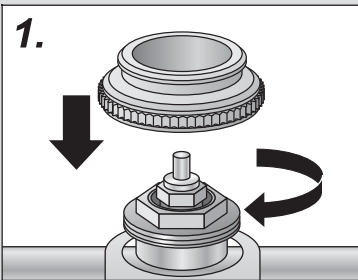


In case of the NC version, an extended function display shows opening of the valve.

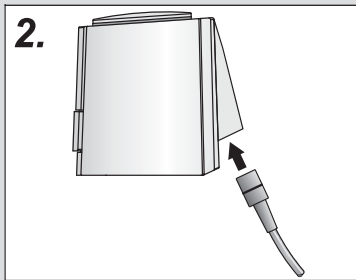
In case of the NO version, an extended function display shows that the valve is closed.

## Installation with valve adapter

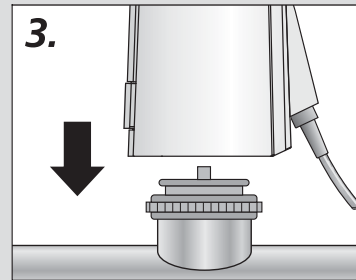
The valve adapter assortment guarantees a perfect match of the actuator to almost all valve bottoms and heating circuit distributors available on the market. The OEM Actuator 5 is simply plugged on to the valve adapter previously installed manually.



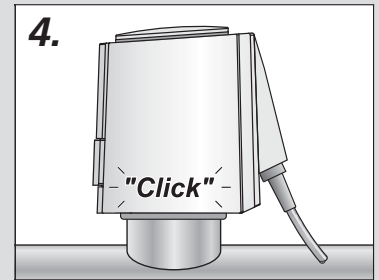
Screw the adapter manually onto the valve.



Connect the line to the OEM Actuator.

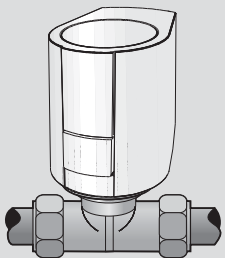


Position the OEM Actuator manually in vertical position to the valve adapter.

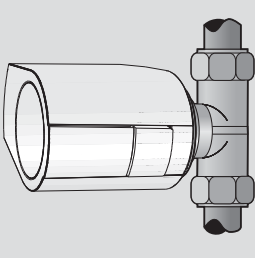


Latch the OEM Actuator to the valve adapter by manually applied vertical pressure; this can be done noiselessly and without any problems.

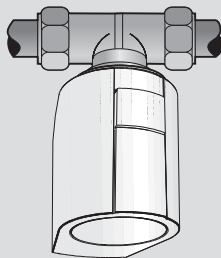
## Installation position



vertical



horizontal



"overhead"

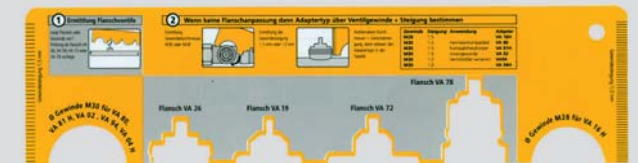
- The OEM Actuator must be installed preferably in vertical or horizontal installation position.
- For "overhead" installation special circumstances (e.g. drainwater) can reduce the lifetime of the actuator.

## Valve adapter system – adaptation check



When adapted correctly, actuator's function cap will be 0.5 to 1 mm above housing. If over elevation is too low, function cap aligns to the housing. If over elevation is too high, coloured area of function cap is visible.

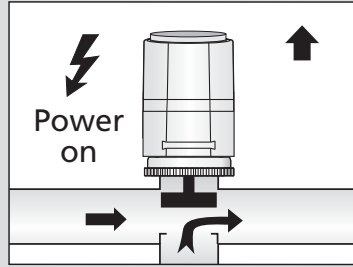
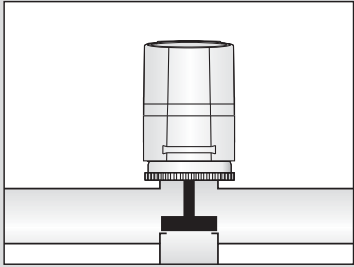
Valve adapter gauge available upon request.



# Smart Valve Drive – Installation

## Function display

The function display (all around display) of the OEM Actuator shows at the first glance whether the valve is open or closed; this can also be felt in the dark.



### Please note:

The SD adaptors aren't compatible with the Möhlenhoff adaptor system.

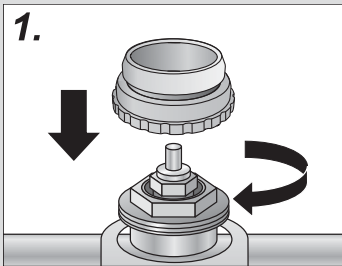
Standard adaptor: VA 80S

Other adaptors on request.

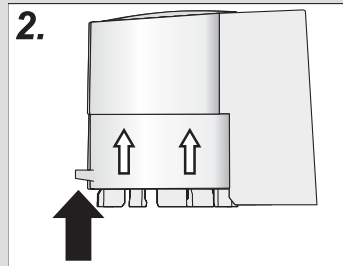
The function display extracts when the valve opens.

## Installation

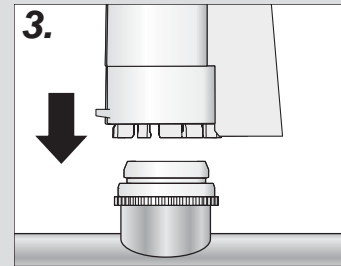
The OEM Smart Valve Drive: 230 V Standard is simply plugged onto the valve adapter previously installed manually.



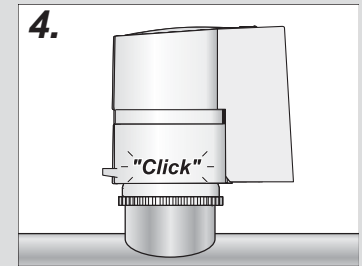
Screw the valve adapter manually onto the valve.



Push the locking ring of the OEM Smart Valve Drive: 230 V Standard upwards.

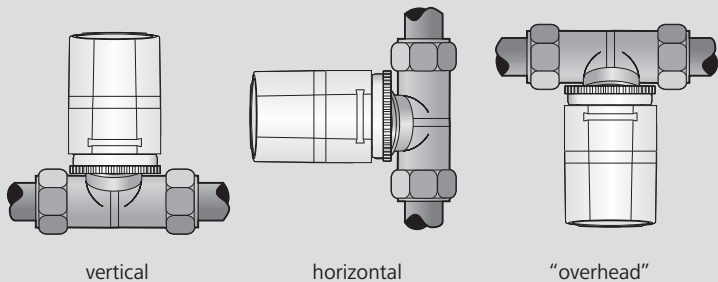


Position the actuator manually in vertical position to the valve adapter.



Simply latch the actuator to the valve adapter manually by applying vertical pressure; a clicking sound can be heard.

## Installation position



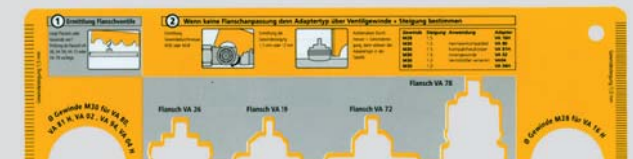
- The OEM Smart Valve Drive: Standard must be installed preferably in vertical or horizontal installation position.
- In case of "overhead" installation, special circumstances (e.g. drain water) can reduce the lifetime of the actuator.

## Valve adapter system – adaptation check



When adapted correctly, actuator's function cap will be 0.5 to 1 mm above housing. If over elevation is too low, function cap aligns to the housing. If over elevation is too high, coloured area of function cap is visible.

Valve adapter gauge available upon request.





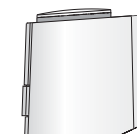
## Actuators on/off – 4...5 mm



On/off variants 24 V	Stroke	Control direction	Actuation force	Scope of supply
A 40405-00N	4.0 mm	NC	100 N	<ul style="list-style-type: none"> <li>OEM Actuator 5: 24 V in individual packaging with 1 m connection line, light grey, PVC H03VV 2 x 0.75 mm<sup>2</sup></li> <li>Installation instruction in 12 languages</li> </ul>
A 41405-10N	4.0 mm	NO	100 N	
A 40505-00N	5.0 mm	NC	100 N	
A 41505-10N	5.0 mm	NO	100 N	
AST 40405-00N	4.0 mm	NC	100 N	<ul style="list-style-type: none"> <li>OEM Actuator 5: 24 V in individual packaging with 1 m connection line with connector, light grey, PVC H03VV 2 x 0.75 mm<sup>2</sup></li> <li>Installation instruction in 12 languages</li> </ul>
AST 41405-10N	4.0 mm	NO	100 N	
AST 40505-00N	5.0 mm	NC	100 N	
AST 41505-10N	5.0 mm	NO	100 N	

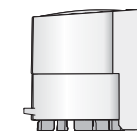
On/off variants 230 V	Stroke	Control direction	Actuation force	Scope of supply
A 20405-00N	4.0 mm	NC	100 N	<ul style="list-style-type: none"> <li>OEM Actuator 5: 230 V in individual packaging with 1 m connection line, light grey, PVC H03VV 2 x 0.75 mm<sup>2</sup></li> <li>Installation instruction in 12 languages</li> </ul>
A 21405-10N	4.0 mm	NO	100 N	
A 20505-00N	5.0 mm	NC	100 N	
A 21505-10N	5.0 mm	NO	100 N	
AST 20405-00N	4.0 mm	NC	100 N	<ul style="list-style-type: none"> <li>OEM Actuator 5: 230 V in individual packaging with 1 m connection line with connector, light grey, PVC H03VV 2 x 0.75 mm<sup>2</sup></li> <li>Installation instruction in 12 languages</li> </ul>
AST 21405-10N	4.0 mm	NO	100 N	
AST 20505-00N	5.0 mm	NC	100 N	
AST 21505-10N	5.0 mm	NO	100 N	

## End switch – 4...5 mm



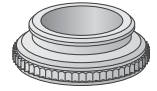
24 V variants	Stroke	Control direction	Actuation force	Scope of supply
AES 40405-00N	4 mm	NC	100 N	<ul style="list-style-type: none"> <li>OEM Actuator 5: 24 V in individual packaging with 1 m connection line, light grey, PVC H03VV 4 x 0.75 mm<sup>2</sup></li> <li>Installation instruction in 12 languages</li> </ul>
AES 40505-00N	5 mm	NC	100 N	
230 V variants	Stroke	Control direction	Actuation force	Scope of supply
AES 20405-00N	4 mm	NC	100 N	<ul style="list-style-type: none"> <li>OEM Actuator 5: 230 V in individual packaging with 1 m connection line, light grey, PVC H03VV 4 x 0.75 mm<sup>2</sup></li> <li>Installation instruction in 12 languages</li> </ul>
AES 20505-00N	5 mm	NC	100 N	

## Smart Valve Drive – 3.5 mm



24 V variants	Stroke	Control direction	Actuation force	Scope of supply
SD 40315-00N	3.5 mm	NC	90 N	<ul style="list-style-type: none"> <li>SD Actuator: 24 V in individual packaging with 1 m connection line, light grey, PVC H05VV 2 x 0.75 mm<sup>2</sup></li> <li>Installation instruction in 12 languages</li> </ul>
SDES 40315-00N	3.5 mm	NC	90 N	
230 V variants	Stroke	Control direction	Actuation force	Scope of supply
SD 20315-00N	3.5 mm	NC	90 N	<ul style="list-style-type: none"> <li>SD Actuator: 230 V in individual packaging with 1 m connection line, light grey, PVC H05VV 2 x 0.75 mm<sup>2</sup></li> <li>Installation instruction in 12 languages</li> </ul>
SDES 20315-00N	3.5 mm	NC	90 N	

# Valve adapter overview



Manufacturer	Type	Thread size	Adapter colour	Plunger colour
Beulco (pre-2005)	VA 04 H	M 30 x 1.0	dust grey	light blue
Beulco (from 2005)	VA 10	M 30 x 1.5	light grey	
Bönisch SBK (from 1998)	VA 80 H	M 30 x 1.5	dust grey	white grey
Cazzaniga	VA 50	M 30 x 1.5	dark grey	
Comap	VA 70 H	M 28 x 1.5	dust grey	yellow
Danfoss RA	VA 78	Flange	pure white RAL 9010	
Danfoss RAV / L	VA 59	Flange	light grey	
Danfoss RAV	VA 72	Flange	light grey	white grey
Dumser	VA 10	M 30 x 1.5	light grey	
Giacomini	VA 26	Flange	dust grey	
Giacomini angle valve	VA 26 H	Flange	dust grey	light blue
Heimeier	VA 80	M 30 x 1.5	white grey	
Herz	VA 16	M 28 x 1.5	red	
Herz	VA 16 H	M 28 x 1.5	dust grey	red
Honeywell & Braukmann	VA 50	M 30 x 1.5	dark grey	
IVAR	VA 80	M 30 x 1.5	white grey	
Kermi (compact radiators)	VA 81 H	M 30 x 1.5	pure white (RAL 9010)	light green
MMA	VA 54	M 28 x 1.5	dark blue	
MNG (from 1998)	VA 80	M 30 x 1.5	white grey	

Manufacturer	Type	Thread size	Adapter colour	Plunger colour
Onda	VA 80	M 30 x 1.5	white grey	
Oventrop (from 1997)	VA 80	M 30 x 1.5	white grey	
Polytherm	VA 16 H	M 28 x 1.5	dust grey	red
Reich (distributors)	VA 50	M 30 x 1.5	dark grey	
Rotex	VA 94	M 30 x 1.0	dust grey	light yellow
Schlösser (pre-93)	VA 20 H	M 30 x 1.5	dust grey	yellow
Schlösser (from 93)	VA 80	M 30 x 1.5	white grey	
Siemens	VA 80	M 30 x 1.5	white grey	
Strawa (from 2003)	VA 80	M 30 x 1.5	white grey	
Taco	VA 80	M 30 x 1.5	white grey	
Temset	VA 97	Flange	dust grey	light blue
Thermotechnik Edelstahl	VA 91	M 30 x 1.5	light blue	
Tour & Anderson	VA 32	M 28 x 1.5	light green	
Tour & Anderson	VA 80	M 30 x 1.5	white grey	
Universa (pre-1999)	VA 70 H	M 28 x 1.5	dust grey	yellow
Universa (from 1999)	VA 62 H	M 30 x 1.5	dust grey	orange
Velta	VA 02	M 30 x 1.5 exterior thread	dust grey	carmine
Viega brass	VA 20 H	M 30 x 1.5	dust grey	yellow
Viega stainless steel	VA 10	M 30 x 1.5	light grey	

SD adapter on request.

Adaptations to valve or distributor manufacturers not mentioned here on request.

## Your OEM partner

Möhlenhoff GmbH has been an established player on the international market for more than 3 decades. The company is a reliable, expert OEM that excels. These factors, combined with innovative ideas and a spirit of fairness in partnerships, have made it a very successful player worldwide for years. As an OEM, Möhlenhoff GmbH supplies products and complete systems for heating, ventilation and air-conditioning systems. As a specialist in control components and systems, the company offers its expertise to manufacturers worldwide. Möhlenhoff GmbH is a global market leader in thermal valve drives.



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