ESBE actuator Series 90 for operating ESBE mixing valves DN 15–150. This series is provided with adjustable cam discs to obtain an operating range 30°–180° or even 270°, depending on version, which makes the series very flexible.

**OPERATION**

The ESBE series 90 actuator is a compact actuator for operating rotary mixing valves. The actuator is reversible and is provided with limit switches which are actuated by cam discs. By adjusting the cam discs an operating range from 30° to 180° can be obtained except for 1205 33 00 which has an operating range of 270°. The actuator is provided with a disconnection for manual operation and has an indication on the front showing valve position.

The 3-point signal control actuator is available for 24 VAC, 50/60 Hz, or 230V, 50 Hz with different running times as shown in the table.

**OPTIONS**

Separate auxiliary switch, see table next page marked **

---

**SUITABLE MIXING VALVES**

The actuator is supplied complete with an adaptor kit for easily fitting onto an ESBE rotary mixing valve.

<table>
<thead>
<tr>
<th>Series</th>
<th>Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRG100*</td>
<td>Centra ZR, DR</td>
</tr>
<tr>
<td>VRG200*</td>
<td>Centra Kompakt DRK/ZRK</td>
</tr>
<tr>
<td>VRG300*</td>
<td>CTC, linear movement</td>
</tr>
<tr>
<td>VRB100*</td>
<td>BRV, Meibes, Oventrop, Watts</td>
</tr>
<tr>
<td>MG</td>
<td>Sauter MH32…H42…</td>
</tr>
<tr>
<td>G</td>
<td>Series T, TM, H, HG</td>
</tr>
<tr>
<td>F</td>
<td>Spiessmann</td>
</tr>
<tr>
<td>BIV</td>
<td>Siemens VBG31, VBJ31, VBF21, VCI31</td>
</tr>
<tr>
<td>T</td>
<td>TA–VTR, TA–STM</td>
</tr>
<tr>
<td>TM</td>
<td>Schneider Electric/TAC-TRV</td>
</tr>
<tr>
<td>H</td>
<td>VA, Viessmann (all nominal diameters)</td>
</tr>
<tr>
<td>HG</td>
<td>VA, WITA</td>
</tr>
<tr>
<td>VRG</td>
<td>1605 20–24 00 Various adaptor kits for built-in mixing valves</td>
</tr>
<tr>
<td>VRB</td>
<td></td>
</tr>
</tbody>
</table>

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**LINKAGE KITS**

Required adaptor kits for easily fitting onto an ESBE rotary mixing valve is available in two different styles. Adaptor kit designed for ESBE mixing valve series MG, G, F, BIV, T, TM, H, HG is supplied with each actuator. Adaptor kits for ESBE mixing valve series VRG and VRB can be ordered separately.

Art. No.
1605 13 00 (= supplied with actuator)
1605 16 00 (= supplied with Art. No. 1205 33 00)
1605 33 00 _______ ESBE valve series VRG, VRB

Adaptor kits for other mixing valves and valves built-into boilers are available as follows:

Art. No.
1605 13 00 ___________ BRV |
1605 16 00 ___________ Centra ZR, DR, DRG, DRU (≤DN50) |
1605 17 00 ___________ Centra Kompakt DRK/ZRK |
1605 19 00 ___________ CTC, linear movement |
1605 36 00 ___________ BRV, Meibes, Oventrop, Watts |
1605 13 00 ___________ Sauter MH32…H42… |
1605 25 00 ___________ Siemens VBG31, VBJ31, VBF21, VCI31 |
1605 14 00 ___________ TA–VTR, TA–STM |
1605 26 00 ___________ Schneider Electric/TAC-TRV |
1605 15 00 ___________ Va, Viessmann (all nominal diameters) |
1605 18 00 ___________ WITA |
1605 20–24 00 ___________ Various adaptor kits for built-in mixing valves |

---

**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature:</td>
<td>+55°C/−15°C</td>
</tr>
<tr>
<td>Power supply:</td>
<td>24 ± 10% VAC, 50 Hz</td>
</tr>
<tr>
<td>Power consumption:</td>
<td>230 ± 10% VAC, 50 Hz</td>
</tr>
<tr>
<td>Actuator 24 VAC, 2 VA</td>
<td></td>
</tr>
<tr>
<td>Actuator 230 VAC, 5 VA</td>
<td></td>
</tr>
<tr>
<td>Enclosure rating:</td>
<td>IP 54</td>
</tr>
<tr>
<td>Protection class:</td>
<td>II</td>
</tr>
<tr>
<td>Torque:</td>
<td>See table</td>
</tr>
<tr>
<td>Rating auxiliary switch:</td>
<td>B(3)A 250 VAC</td>
</tr>
<tr>
<td>Weight:</td>
<td>0.6 kg</td>
</tr>
</tbody>
</table>

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ESBE 2012/13 VALVES AND ACTUATORS
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** ROTARY MOTORIZED VALVES **

** ACTUATOR **

** SERIES 90 3-POINT **

The actuator should be preceded by a multi-pole contact breaker in the fixed installation.

### SERIES 90, 3-POINT 24 V AC

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1205 02 00</td>
<td>91</td>
<td>24</td>
<td>15</td>
<td>5</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
<tr>
<td>1205 04 00</td>
<td>91M</td>
<td>24</td>
<td>60</td>
<td>15</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
<tr>
<td>1205 06 00</td>
<td>92</td>
<td>24</td>
<td>120</td>
<td>15</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
<tr>
<td>1205 11 00</td>
<td>92M</td>
<td>24</td>
<td>240</td>
<td>15</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
</tbody>
</table>

* 3-point SPDT = Single Pole Double Throw  ** Running time 270° - 150s (preset)  

### Series 90, 3-Point 230 V AC

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1205 17 00</td>
<td>94</td>
<td>230</td>
<td>15</td>
<td>5</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
<tr>
<td>1205 18 00</td>
<td>94M</td>
<td>230</td>
<td>60</td>
<td>15</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
<tr>
<td>1205 19 00</td>
<td>95</td>
<td>230</td>
<td>120</td>
<td>15</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
<tr>
<td>1205 21 00</td>
<td>95-2M</td>
<td>230</td>
<td>240</td>
<td>15</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
<tr>
<td>1205 33 00</td>
<td>95-270M</td>
<td>230</td>
<td>50***</td>
<td>5</td>
<td>3-point SPDT</td>
<td>Separate auxiliary switch as option**&lt;br&gt;With premounted auxiliary switch</td>
</tr>
</tbody>
</table>

* 3-point SPDT = Single Pole Double Throw  ** Running time 270° - 150s (preset)  

Installation dimensions for Actuator Series 90 with ESBE series MG, G, F, T/TM, H/HG and BIV mixing valves

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**WIRING**

The actuator should be preceded by a multi-pole contact breaker in the fixed installation.

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Actuator, Art. No.<br>1205 02 00, 1205 06 00, 1205 07 00, 1205 13 00, 1205 17 00, 1205 19 00, 1205 20 00, 1205 23 00

---

Actuator with premounted auxiliary switch, Art. No.<br>1205 04 00, (09), (11), (13), (18), (21), (22), (24), (33)

These actuators are supplied with one auxiliary switch. To set the switch position, remove the actuator cover and turn the cam sleeve to the desired position.
**OPERATION**

The ESBE series 90 actuator is a compact actuator for operating rotary mixing valves. The actuator is reversible and is provided with limit switches which are actuated by cam discs. By adjusting the cam discs an operating range from 30° to 180° can be obtained. The actuator is provided with a disconnection for manual operation and has an indication on the front showing valve position.

The 2-point signal control actuator is available for 230 V, 50 Hz with different running times as shown in the table.

An 2-point signal control actuator with built-in relay should be selected when the actuator is to be controlled by an on/off-thermostat.

**SUITEABLE MIXING VALVES**

The actuator is supplied complete with an adaptor kit for easily fitting onto an ESBE rotary mixing valve.

<table>
<thead>
<tr>
<th>Series VRG100*</th>
<th>Series VRG200*</th>
<th>Series VRG300*</th>
<th>Series VRB100*</th>
<th>Series MG</th>
</tr>
</thead>
</table>

| Series G | Series F | Series BIV | Series T, TM | Series H and HG |

**LINKAGE KITS**

Required adaptor kits for easily fitting onto an ESBE rotary mixing valve is available in two different styles. Adaptor kit designed for ESBE mixing valve series MG, G, F, BIV, H, HG is supplied with each actuator. Adaptor kits for ESBE mixing valve series VRG and VRB can be ordered separately.

Art. No. 1605 13 00 (= supplied with actuator) 1605 33 00 _______ ESBE valve series MG, G, F, BIV, T, TM, H, HG 1605 33 00 _______ ESBE valve series VRG, VRB

Adaptor kits for other mixing valves and valves built-into boilers are available as follows:

Art. No. 1605 35 00 _________________ BRV 1605 16 00 _________________ Centra ZR, DR, DRG, DRU (≤DN50) 1605 17 00 _________________ Centra Kompakt DRK/ZRK 1605 19 00 _________________ CTC, linear movement 1605 36 00 _________________ BRV, Meibes, Oventrop, Watts 1605 13 00 _________________ Sauter MH32…H42… 1605 25 00 _________________ Siemens VBG31, VBI31, VBF21, VCI31 1605 14 00 _________________ TA–VTR, TA–STM 1605 26 00 _________________ Schneider Electric/TAC–TRV 1605 15 00 _________________ Viessmann (all nominal diameters) 1605 18 00 _________________ WITA 1605 20–24 00 ___________ Various adaptor kits for built-in mixing valves

**TECHNICAL DATA**

- Ambient temperature: max. +55°C, min. -15°C
- Power supply: 230 ± 10% VAC, 50 Hz
- Power consumption: 5 VA
- Enclosure rating: IP 54
- Protection class: II
- Torque: See table
- Rating auxiliary switch: 6(3) A 250 VAC
- Weight: 0.8 kg
### ROTARY MOTORIZED VALVES

**ACTUATOR**

**SERIES 90 2-POINT**

---

**SERIES 90, 2-POINT 230 V AC**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1205 25 00</td>
<td>97</td>
<td>230</td>
<td>15</td>
<td>5</td>
<td>2-point SPST</td>
<td>With built-in relay</td>
</tr>
<tr>
<td>1205 26 00</td>
<td>98</td>
<td></td>
<td>60</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*2-point SPST = Single Pole Single Throw

---

**WIRING**

The actuator should be preceded by a multi-pole contact breaker in the fixed installation.

```
 N ----------- N  
    |         |    |
    Y        |  L  
```

Actuator with built-in relay, Art. No. 1205 25 00, 1205 26 00

The direction of rotation is changed by a contact located under the cover.
**RO​TARY MOTORIZED VALVES**

**ACTUATOR**

**SERIES 90 PROPORTIONAL**

ESBE actuator Series 90 for operating ESBE mixing valves DN 15–150. This series is provided with adjustable cam discs to obtain an operating range 30°–355° which make the series very flexible.

**OPERATION**

The ESBE series 90 actuator is a compact actuator for operating rotary mixing valves. The actuator is reversible and is provided with limit switches which are actuated by cam discs. For 1255 01 00 to 1255 03 00 the operating range is 90° alt. 180°, and for 1255 04 00 the operating range is 355°. The actuator is provided with a disconnection for manual operation and has an indication on the front showing valve position.

The actuator is also available in step motor driven versions for regulation with different proportional signals and running times. Supply voltage 24 V AC/DC. The actuators are factory set at 0–10 V and 15 s for 1255 03 00, 60 s for 1255 01 00 resp. 120 s for 1255 02 00. Any adjustments are made by removal of front cover.

**SU​ITABLE MIXING VALVES**

The actuator is supplied complete with an adaptor kit for easily fitting onto an ESBE rotary mixing valve.

- Series VRG100*
- Series VRG200*
- Series VRG300*
- Series VRB100*
- Series MG
- Series G
- Series F
- Series BIV
- Series T, TM
- Series H and HG

*Separate adaptor kit is required, see below

**LINKAGE KITS**

Required adaptor kits for easily fitting onto an ESBE rotary mixing valve is available in two different styles. Adaptor kit designed for ESBE mixing valve series MG, G, F, BIV, H, HG is supplied with each actuator. Adaptor kits for ESBE mixing valve series VRG and VRB can be ordered separately. Art. No.

- 1605 13 00 (= supplied with actuator)
  - ESBE valve series MG, G, F, BIV, T, TM, H, HG
- 1605 33 00 ____________ ESBE valve series VRG, VRB

Adaptor kits for other mixing valves and valves built-into boilers are available as follows:

Art. No.
- 1605 35 00 ____________ BRV
- 1605 16 00 ____________ Centra ZR, DR, DRG, DRU (≤DN50)
- 1605 17 00 ____________ Centra Kompakt DRK/ZRK
- 1605 19 00 ____________ CTC, linear movement
- 1605 36 00 ____________ BRV, Meibes, Oventrop, Watts
- 1605 13 00 ____________ Sauter MH32…H42…
- 1605 25 00 ____________ Siemens VBG31, VBI31, VBF21, VCI31
- 1605 14 00 ____________ TA-VTR, TA-STM
- 1605 26 00 ____________ Schneider Electric/TAC-TRV
- 1605 15 00 ____________ Viessmann (all nominal diameters)
- 1605 18 00 ____________ WITA
- 1605 20–24 00 ____________ Various adaptor kits for built-in mixing valves

**TECHNICAL DATA**

Ambient temperature: _____________max. +55°C

Power supply: _____________24 ± 10% V AC/DC, 50/60 Hz

Enclosure rating: _____________IP 54

Protection class: _____________II

Torque: _____________See table

Rating auxiliary switch: ____________8(3)A 250 VAC

Weight: _____________0.8 kg

LVD 2006/95/EC

EMC 2004/108/EC

RoHS 2002/95/EC
### Rotary Motorized Valves

**Actuator Series 90 Proportional**

![Diagram of rotary motorized valves](image)

**Installation dimensions for Actuator Series 90 with ESBE series MG, G, F, T/TM, H/HG and BIV mixing valves**

### Series 90, Proportional 24 V AC/DC

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1255 03 00</td>
<td>91P</td>
<td>91</td>
<td>15/30/45</td>
<td>4</td>
<td>0–10 V, 2–10 V, 0–20 mA, 4–20 mA</td>
<td>Operating range 90°</td>
</tr>
<tr>
<td>1255 01 00</td>
<td>92P</td>
<td>92</td>
<td>60/90/120</td>
<td>15</td>
<td></td>
<td>Operating range 90°</td>
</tr>
<tr>
<td>1255 02 00</td>
<td>92P2</td>
<td>92P2</td>
<td>120/180/240</td>
<td>15</td>
<td></td>
<td>Operating range 180°</td>
</tr>
<tr>
<td>1255 04 00</td>
<td>92P4</td>
<td>92P4</td>
<td>120/240/360</td>
<td>15</td>
<td></td>
<td>Operating range 355°</td>
</tr>
</tbody>
</table>

**Wiring**

The actuator should be preceded by a multi-pole contact breaker in the fixed installation.

![Wiring diagram](image)

- **Y** Signal: 0-10 V, 2-10 V, 0-20 mA, 4-20 mA
- **L** AC/DC 24 V
- **M**
- **N**

**Actuator, Art. No.**

- 1255 01 00, 1255 02 00,
- 1255 03 00, 1255 04 00