Quarter-turn electric actuators to operate ball- or butterfly valves in HVAC utility systems.

**Features**
- Permanent capacitor, reversible synchronous motor driving a multi-stage precision gear train.
- Lifetime lubrication with high performance grease.
- O-ring sealing and external position indicator with knob.
- Simple, yet rugged manual operating facility by means of a clutch knob or lever.
- Molded resin housings, weatherproof to IP65 with SS cover fasteners.
- Four adjustable cams on the main shaft to ensure perfect positioning and open/close indication.
- Internal PCB for power distribution and control, with four switches, SPDT for end-of-travel and position indication.
- Terminal bank inside the housing for ease of field wiring, including two cable glands Pg11.
- AC single phase and DC motors are standard.
- Top shaft with flats showing correct valve position.
- Mounting pattern to ISO 5211/DIN 3337.
- Direct mounting onto Keystone butterfly valves with ISO top works via standard stock item spacer plates.
- Compatible to CE regulations.
- Operation possible in any mounting position.
- Electric connections via cable glands in the basic housing (DIN connectors optional).

**Applications**
TVC quarter-turn actuators are designed for the operation of valves which require a swivel stroke of 90°, e.g. butterfly or ball valves in:
- air conditioning
- heating and ventilation
- green housing
- refrigeration
- energy saving systems
- air distribution

**Technical data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Motor</td>
<td>single phase, reversible synchronous type</td>
</tr>
<tr>
<td>Duty cycle</td>
<td>ER range 50% for 110/230V AC and 30% for 24V AC/24V DC</td>
</tr>
<tr>
<td>ER range</td>
<td>30% for 24V AC/24V DC</td>
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<tr>
<td>AC voltage</td>
<td>24V-115V-230V</td>
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<tr>
<td>DC voltage</td>
<td>24V</td>
</tr>
<tr>
<td>Winding Insulation</td>
<td>VDE 0530 - class B</td>
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<tr>
<td>Temp range</td>
<td>-10°C to +55°C</td>
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<tr>
<td>Torque range</td>
<td>20-300 Nm</td>
</tr>
<tr>
<td>Stroking time</td>
<td>20-65 sec</td>
</tr>
</tbody>
</table>

(see table page 2)
### TVC Electric Actuators

#### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Output torque NM</th>
<th>Stroking time -90°</th>
<th>Bore to Bore ISO 5211</th>
<th>Bore (mm)</th>
<th>Adaptor</th>
<th>A</th>
<th>B</th>
<th>L</th>
<th>H</th>
<th>Weight (kg)</th>
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<tbody>
<tr>
<td>TVC-ER20</td>
<td>20</td>
<td>205</td>
<td>F06</td>
<td>Sq14</td>
<td>DD12x8</td>
<td>44</td>
<td>90</td>
<td>135</td>
<td>123</td>
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<td>TVC-ER45</td>
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<td>205</td>
<td>F07</td>
<td>Sq24</td>
<td>DD16x11</td>
<td>54</td>
<td>127</td>
<td>150</td>
<td>152</td>
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<td>TVC-ER60</td>
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<td>205</td>
<td>F07</td>
<td>Sq24</td>
<td>SQ24x17</td>
<td>54</td>
<td>127</td>
<td>150</td>
<td>152</td>
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<td>TVC-ER100</td>
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<td>355</td>
<td>F07</td>
<td>SQ24x17</td>
<td>DD20x14</td>
<td>54</td>
<td>127</td>
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<td>TVC-EP200</td>
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<td>F07/12</td>
<td>DD30x22</td>
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</table>

#### Options

- External connectors (2) to DIN 43650 + Pg9 cable glands
- Heating element, ERT 230-10W-4K7 including thermostat
- Reducing sleeves to meet DIN 3337
- Spacer plates
- Potentiometer kit, EPR for resistant feedback signal
- Converter kit, EPT for analog position transmission 4-20mA
- PCB for modulating service of TVC-ER models only. Input signal: 4-20mA or 1-10V
- Power failure enclosure, EBT1/230 for 230/50 only

#### Wiring diagrams

**Model TVC-ER**

```
N

1 2 3 4 5 6 7 8 9 10 11

L5O 1  L5C 1  L5O 2  L5C 2

M

Optional
```

**Model TVC-EP**

```
N

1 2 3 4 5 6 7 8 9 12 13 14

L5O 1  L5C 1  L5O 2  L5C 2

M

Optional
```

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