List of related manuals

<table>
<thead>
<tr>
<th>Drive hardware manuals and guides</th>
<th>Code (English)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange mounting kit installation supplement</td>
<td>3AXD50000019100</td>
<td></td>
</tr>
<tr>
<td>Flange mounting kit quick installation guide for ACX580-01 frames R0 to R5</td>
<td>3AXD50000036610</td>
<td>(type codes ACX580-01-02A6-4, ACX580-01-03A3-4, etc.)</td>
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<td>Flange mounting kit quick installation guide for ACX580-01 frames R1 to R3</td>
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<td>(type codes ACX580-01-02A7-4, ACX580-01-03A4-4, etc.)</td>
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<td>Flange mounting kit quick installation guide for ACS880-01 frames R1 to R3</td>
<td>3AXD5000026158</td>
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<tr>
<td>Flange mounting kit quick installation guide for ACS880-01 frames R4 to R5</td>
<td>3AXD5000026159</td>
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</tr>
<tr>
<td>Flange mounting kit quick installation guide for ACS880-01 and ACX580-01 frames R6 to R9</td>
<td>3AXD5000019099</td>
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</tr>
<tr>
<td>ACS880-01 hardware manual</td>
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</tr>
<tr>
<td>ACS880-01 quick installation guide for frames R4 and R5</td>
<td>3AUA0000099663</td>
<td></td>
</tr>
<tr>
<td>ACS880-01 quick installation guide for frames R6 to R9</td>
<td>3AUA0000099689</td>
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<tr>
<td>ACS580-01 hardware manual</td>
<td>3AXD5000018826</td>
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<tr>
<td>ACS580-01 quick installation and start-up guide for frames R6 to R9</td>
<td>3AXD5000009286</td>
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<tr>
<td>ACH580-01 (0.75 to 250 kW) hardware manual</td>
<td>3AUA0000076331</td>
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<tr>
<td>ACH580-01 quick installation and start-up guide</td>
<td>3AUA0000076330</td>
<td></td>
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<tr>
<td>ACQ580-01 (0.75 to 250 kW) hardware manual</td>
<td>3AXD5000035866</td>
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<tr>
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<td>3AXD5000035755</td>
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<td>3AXD5000037301</td>
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</table>

You can find manuals and other product documents in PDF format on the Internet. See section Document library on the Internet on the inside of the back cover. For manuals not available in the Document library, contact your local ABB representative.

The codes below open on-line listings of the manuals applicable to the product.
# Supplement

## Flange mounting kit installation

<table>
<thead>
<tr>
<th>Table of contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Mechanical installation for ACS880-01</td>
</tr>
<tr>
<td>4. Mechanical installation for ACS580-01, ACH580-01 and ACQ580-01</td>
</tr>
<tr>
<td>5. Mechanical installation for ACS880-11 and ACS880-31</td>
</tr>
<tr>
<td>6. Mechanical installation for ACH580-31 and ACQ580-31</td>
</tr>
</tbody>
</table>

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3AXD50000019100 Rev E
EN
EFFECTIVE: 2018-02-02
# Table of contents

List of related manuals ........................................................................................................ 2

## 1. Introduction to the supplement

Contents of this chapter ....................................................................................................... 11
Applicability .......................................................................................................................... 11
Safety instructions .................................................................................................................. 11
Target audience ...................................................................................................................... 11
Purpose of the supplement ..................................................................................................... 12
Contents of the manual .......................................................................................................... 12
Related documents .................................................................................................................. 12

## 2. Hardware description

Contents of this chapter ....................................................................................................... 13
Product overview .................................................................................................................. 13
Layout and mounting position ............................................................................................. 13
  - Example: tilted position ................................................................................................. 14
  - Example: upright position ............................................................................................. 15
Degree of protection ............................................................................................................. 15
  - ACS880-01, ACS880-01, AC5H580-01 and ACQ580-01 ............................................... 15
  - ACS880-11, ACS880-31, AC5H580-31 and ACX580-31 ............................................... 15
Special requirements ............................................................................................................ 16
Ordering codes ...................................................................................................................... 17

## 3. Mechanical installation for ACS880-01

Contents of this chapter ....................................................................................................... 19
Safety ...................................................................................................................................... 19
Examining the installation site ............................................................................................. 20
Additional requirements for cabinet installations ............................................................... 20
Necessary tools ...................................................................................................................... 20
Moving the drive .................................................................................................................... 20
Unpacking and examining the delivery ................................................................................ 21
  - Transport package contents .......................................................................................... 21
  - Frames R1 to R5 .......................................................................................................... 22
  - Frames R6 to R9 .......................................................................................................... 23
Flange mounting kit package contents ................................................................................ 24
  - Frames R1 to R3 .......................................................................................................... 24
  - Frames R4 to R5 .......................................................................................................... 25
  - Frames R6 to R9 .......................................................................................................... 26
Mounting template ................................................................................................................ 27
Installing the drive ................................................................................................................ 28
  - Free space requirements ............................................................................................... 28
  - Installing drives above one another ............................................................................ 29
Installation procedure .......................................................................................................... 30
  - Frames R1 to R3 .......................................................................................................... 30
### 4. Mechanical installation for ACS580-01, ACH580-01 and ACQ580-01

**Contents of this chapter** ............................................................... 53
**Safety** ......................................................................................... 53
**Examining the installation site** .................................................. 54
**Additional requirements for cabinet installations** ................... 54
**Necessary tools** ......................................................................... 54
**Moving the drive** ....................................................................... 54
**Unpacking and examining the delivery** ..................................... 55
  - **Transport package contents** .................................................. 55
    - Frames R0 to R4 ...................................................................... 55
    - Frames R5 ............................................................................. 55
    - Frames R6 to R9 ..................................................................... 56
  - **Flange mounting kit package contents** .................................. 57
    - Frames R0 to R4 ...................................................................... 57
    - Frame R5 .............................................................................. 58
    - Frames R6 to R9 ..................................................................... 59
  - **Mounting template** ................................................................ 59
**Installing the drive** ................................................................... 60
  - **Free space requirements** ....................................................... 60
  - **Installing drives above one another** ..................................... 61
**Installation procedure** ................................................................. 62
  - Frames R0 to R5 ....................................................................... 62
  - Frames R6 to R9 ....................................................................... 72

### 5. Mechanical installation for ACS880-11 and ACS880-31

**Contents of this chapter** ............................................................... 77
**Safety** ......................................................................................... 77
**Examining the installation site** .................................................. 78
**Additional requirements for cabinet installations** ................... 78
**Necessary tools** ......................................................................... 78
**Moving the drive** ....................................................................... 78
**Unpacking and examining the delivery** ..................................... 79
  - **Transport package contents** .................................................. 79
    - Frame R3 ............................................................................. 80
    - Frames R6 and R8 .................................................................. 81
  - **Flange mounting kit package contents** .................................. 82
    - Frame R3 ............................................................................. 82
    - Frames R6 and R8 .................................................................. 83
  - **Mounting template** ................................................................ 83
**Installing the drive** ................................................................... 84
  - **Free space requirements** ....................................................... 84
  - **Installing drives above one another** ..................................... 85
**Installation procedure** ................................................................. 86
  - Frame R3 ............................................................................. 86
  - Frames R6 and R8 ................................................................... 92
### 6. Mechanical installation for ACH580-31 and ACQ580-31

Contents of this chapter ................................................................. 101
Safety ....................................................................................... 102
Examining the installation site ..................................................... 102
Additional requirements for cabinet installations ....................... 102
Necessary tools ......................................................................... 103
Moving the drive ...................................................................... 103
Unpacking and examining the delivery ........................................ 103
  Transport package contents ..................................................... 103
  Frame R3 ............................................................................. 104
  Frames R6 and R8 .................................................................. 105
Flange mounting kit package contents ....................................... 106
  Frame R3 ............................................................................. 106
  Frames R6 and R8 .................................................................. 107
Example mounting template ....................................................... 108
Installing the drive .................................................................... 109
  Free space requirements .......................................................... 109
  Installing drives above one another .......................................... 110
Installation procedure .................................................................. 111
  Frame R3 ............................................................................... 111
  Frames R6 and R8 .................................................................... 118

### 7. Dimension drawings for ACS880-01

Contents of this chapter ................................................................. 125
Frame R1 ................................................................................... 126
  Attaching points and hole dimensions ..................................... 127
Frame R2 ................................................................................... 128
  Attaching points and hole dimensions ..................................... 129
Frame R3 ................................................................................... 130
  Attaching points and hole dimensions ..................................... 131
Frame R4 ................................................................................... 132
  Attaching points and hole dimensions ..................................... 134
Frame R5 ................................................................................... 135
  Attaching points and hole dimensions ..................................... 137
Frame R6 ................................................................................... 138
  Attaching points and hole dimensions ..................................... 140
Frame R7 ................................................................................... 141
  Attaching points and hole dimensions ..................................... 143
Frame R8 ................................................................................... 144
  Attaching points and hole dimensions ..................................... 146
Frame R9 ................................................................................... 147
  Attaching points and hole dimensions ..................................... 149

### 8. Dimension drawings for ACS580-01, ACH580-01 and ACQ580-01

Contents of this chapter ................................................................. 151
Frame R0 ................................................................................... 152
Frame R1 ................................................................................... 154
  Attaching points and hole dimensions ..................................... 156
### 8. Table of contents

<table>
<thead>
<tr>
<th>Frame</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>R2</td>
<td>Attaching points and hole dimensions</td>
<td>157</td>
</tr>
<tr>
<td>R3</td>
<td>Attaching points and hole dimensions</td>
<td>160</td>
</tr>
<tr>
<td>R1</td>
<td>Attaching points and hole dimensions</td>
<td>163</td>
</tr>
<tr>
<td>R2</td>
<td>Attaching points and hole dimensions</td>
<td>166</td>
</tr>
<tr>
<td>R3</td>
<td>Attaching points and hole dimensions</td>
<td>169</td>
</tr>
<tr>
<td>R4</td>
<td>Attaching points and hole dimensions</td>
<td>171</td>
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<tr>
<td>R5</td>
<td>Attaching points and hole dimensions</td>
<td>172</td>
</tr>
<tr>
<td>R6</td>
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<td>177</td>
</tr>
<tr>
<td>R7</td>
<td>Attaching points and hole dimensions</td>
<td>180</td>
</tr>
<tr>
<td>R8</td>
<td>Attaching points and hole dimensions</td>
<td>183</td>
</tr>
<tr>
<td>R9</td>
<td>Attaching points and hole dimensions</td>
<td>186</td>
</tr>
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</table>

### 9. Dimension drawings for ACS880-11 and ACS880-31

<table>
<thead>
<tr>
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<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3</td>
<td>Attaching points and hole dimensions</td>
<td>190</td>
</tr>
<tr>
<td>R6</td>
<td>Attaching points and hole dimensions</td>
<td>191</td>
</tr>
<tr>
<td>R8</td>
<td>Attaching points and hole dimensions</td>
<td>194</td>
</tr>
</tbody>
</table>

### 10. Dimension drawings for ACH580-31 and ACQ580-31

<table>
<thead>
<tr>
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<th>Description</th>
<th>Page</th>
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</thead>
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<tr>
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<td>Attaching points and hole dimensions</td>
<td>200</td>
</tr>
<tr>
<td>R6</td>
<td>Attaching points and hole dimensions</td>
<td>201</td>
</tr>
<tr>
<td>R8</td>
<td>Attaching points and hole dimensions</td>
<td>205</td>
</tr>
</tbody>
</table>

### 11. ACS880-01 mounting examples

<table>
<thead>
<tr>
<th>Frame</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td></td>
<td>210</td>
</tr>
<tr>
<td>R2</td>
<td></td>
<td>213</td>
</tr>
<tr>
<td>R3</td>
<td></td>
<td>216</td>
</tr>
<tr>
<td>R4</td>
<td></td>
<td>219</td>
</tr>
<tr>
<td>R5</td>
<td></td>
<td>222</td>
</tr>
</tbody>
</table>
Frame R6 ................................................................. 225
Frame R7 ................................................................. 228
Frame R8 ................................................................. 231
Frame R9 ................................................................. 234

Further information

Product and service inquiries ........................................ 237
Product training .......................................................... 237
Providing feedback on ABB Drives manuals .................... 237
Document library on the Internet .................................... 237
Introduction to the supplement

Contents of this chapter
This chapter describes the supplement.

Applicability
This supplement applies to the following flange mounting kits:
• ACS880-01 drive (frames R1 to R9)
• ACS880-11 and ACS880-31 drives (frames R3, R6, and R8)
• ACS580-01, ACH580-01 and ACQ580-01 drives (frames R0 to R9)
• ACH580-31 and ACQ580-31 drives (frames R3, R6 and R8).

Safety instructions
Obey the general safety instructions in the hardware manual and the task-specific instructions in this supplement.

Target audience
This supplement is intended for people who plan the installation and install the drive with the flange mounting kit. Read the supplement before you work on the drive. You are expected to know the fundamentals of electricity, wiring, electrical components and electrical schematic symbols.

The supplement is written for readers worldwide. Both SI and imperial units are shown.
12 Introduction to the supplement

Purpose of the supplement

This supplement tells you how to install the drive mechanically onto an opening in a mounting plate with the flange mounting kit.

Contents of the manual

The chapters of the supplement are briefly described below.

Introduction to the supplement introduces the supplement.

Hardware description describes the flange mounting kit.

Mechanical installation for ACS880-01, Mechanical installation for ACS580-01, ACH580-01 and ACQ580-01, Mechanical installation for ACS880-11 and ACS880-31 and Mechanical installation for ACH580-31 and ACQ580-31 describe how to install the drive with the flange mounting kit mechanically.

Dimension drawings for ACS880-01, Dimension drawings for ACS580-01, ACH580-01 and ACQ580-01, Dimension drawings for ACS880-11 and ACS880-31 and Dimension drawings for ACH580-31 and ACQ580-31 contain dimension drawings of the flange mounting kit.

ACS880-01 mounting examples contains example drawings for the different frame sizes.

Related documents

See List of related manuals on the inside of the front cover.
Hardware description

Contents of this chapter
This chapter describes the flange mounting kit.

Product overview
The flange mounting kit contains brackets for attaching the drive onto a mounting plate so that the heat sink of the drive is in the cooling air channel and the front part on the other side of the mounting plate. Cable boxes are not compatible with flange mounting kits.

Layout and mounting position
The flange-mounted drive is installed in a tilted (ACS880-01 frames R1 to R5 and ACS880-11, ACS880-31, ACH580-31 and ACQ580-31 frame R3) or an upright position.
Example: tilted position

1 Mounting plate
2 Top flange bracket
3 Lifting hole
4 Side flange bracket
5 Cable shelf
6 Bottom flange bracket
7 Drive heat sink in the cooling air channel
Example: upright position

1 Hood (in the cooling air channel; required for UL type 12)
2 Top flange bracket
3 Mounting plate
4 Lifting hole
5 Drive heat sink in the cooling air channel
6 Side flange bracket
7 Drive front side
8 Bottom flange bracket

Degree of protection

ACS880-01, ACS580-01, ACH580-01 and ACQ580-01

The degree of protection of a flange-mounted IP21 drive is IP20 on the front side and IP55 on the backside. The degree of protection of a flange-mounted IP55 drive is IP55 on both the front side and the backside.

ACS880-11, ACS880-31, ACH580-31 and ACX580-31

The degree of protection of a flange-mounted IP20 drive is IP20 on the front side and IP55 on the backside. The degree of protection of a flange-mounted IP21 drive is IP21 on the front side and IP55 on the backside. The degree of protection of a flange-mounted IP55 drive is IP55 on both the front side and the backside.
### Special requirements

With some frame sizes, you must insert a sealing plug into the drive. Also with some degrees of protection, you must not leave the drive cover in place. See the tables for more information.

<table>
<thead>
<tr>
<th>Frame size</th>
<th>ACS580-01 IP21</th>
<th>ACS580-01 IP55</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0</td>
<td>Delivered with cover.</td>
<td>Delivered with cover.</td>
</tr>
<tr>
<td>R1</td>
<td>Insert sealing plug.</td>
<td>Insert sealing plug.</td>
</tr>
<tr>
<td>R2</td>
<td>Remove cover or order internal fan (sold separately).</td>
<td>You can leave the cover in place.</td>
</tr>
<tr>
<td>R3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R4</td>
<td><strong>Exception:</strong> In dry environment, you can leave the cover in place without inserting a sealing plug.</td>
<td></td>
</tr>
<tr>
<td>R5</td>
<td>Delivered with cover. You can leave the cover in place.</td>
<td></td>
</tr>
<tr>
<td>R6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R7</td>
<td>Delivered with cover. You can leave the cover in place.</td>
<td></td>
</tr>
<tr>
<td>R8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R9</td>
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<table>
<thead>
<tr>
<th>Frame size</th>
<th>ACS880-01 IP20, IP21, IP55</th>
</tr>
</thead>
<tbody>
<tr>
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<td>R2</td>
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</table>

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<th>ACS880-11, ACS880-31, ACH580-31, ACQ580-31 (IP21, IP55)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3</td>
<td>-</td>
</tr>
<tr>
<td>R6</td>
<td>Attach gasket.</td>
</tr>
<tr>
<td>R8</td>
<td></td>
</tr>
</tbody>
</table>
Ordering codes

The flange mounting kit is a plus code option (+C135) or can be ordered with these ordering codes also separately.

This table applies to ACS580-01 R0 frame types -02A6-4, -03A3-4, -04A0-4 and -05A6-4 and ACS580-01 R1 frame types -07A2-4, -09A4-4 and -12A6-4.

<table>
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<th>Frame size</th>
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<th>Ordering code ACS880-01</th>
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<tbody>
<tr>
<td>R0</td>
<td>3AXD50000031455 (IP21 and IP55)</td>
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<td>3AXD50000031456 (IP21 and IP55)</td>
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<td>3AXD50000031458 (IP21 and IP55)</td>
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<td>3AXD50000031460 (IP21 and IP55)</td>
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</table>

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<th>Ordering code</th>
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<tr>
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<td>ACS580-01-04A1-4</td>
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<tbody>
<tr>
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</table>
### Hardware description

<table>
<thead>
<tr>
<th>Frame size</th>
<th>Ordering code ACS880-11</th>
<th>Ordering code ACS880-31</th>
</tr>
</thead>
<tbody>
<tr>
<td>R8</td>
<td>3AXD50000164318</td>
<td>3AXD50000164318</td>
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<table>
<thead>
<tr>
<th>Frame size</th>
<th>Ordering code ACH580-31</th>
<th>Ordering code ACQ580-31</th>
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</thead>
<tbody>
<tr>
<td>R3</td>
<td>3AXD50000181018</td>
<td>3AXD50000181018</td>
</tr>
<tr>
<td>R6</td>
<td>3AXD50000179633</td>
<td>3AXD50000179633</td>
</tr>
<tr>
<td>R8</td>
<td>3AXD50000164318</td>
<td>3AXD50000164318</td>
</tr>
</tbody>
</table>

**Note for ACS880-01:** The separately ordered flange retrofit is kit compatible only with drives that have been produced after 2016-01-01.
Mechanical installation for ACS880-01

Contents of this chapter
This chapter describes how to install the drive with the flange mounting kit mechanically.

Safety

**WARNING!** For frame sizes R6 to R9: Use the lifting eyes of the drive when you lift the drive. Do not tilt the drive. The drive is heavy and its center of gravity is high. An overturning drive can cause physical injury.
Examining the installation site

Make sure that the installation site agrees with these requirements:

• The installation site has sufficient ventilation to prevent overheating of the drive. See section Losses, cooling data and noise in the hardware manual for the required air flow in the cooling air channel and in the front part of the drive.

• The operation conditions of the drive agree with the specifications in section Ambient conditions in the hardware manual.

• The mounting plate is vertical, not flammable and strong enough to hold the weight of the drive module.

• The material below the installation is not flammable.

• There is enough free space above and below the drive for cooling air flow, service and maintenance. There is enough free space in front of the drive for operation, service and maintenance. See section Free space requirements on page 28 and Dimensions, weights and free space requirements in the hardware manual.

Additional requirements for cabinet installations

Make sure that the cooling air gratings of the drive will not be covered. Make sure that the required cooling air change is achieved. In a totally closed cabinet with no forced ventilation, a fan for circulating the air inside the cabinet may be needed.

Necessary tools

• Drill and drill bits
• Screwdriver

Moving the drive

Move the transport package by a pallet truck to the installation site.
Unpacking and examining the delivery

- Transport package contents

The flange mounting kit package is either in the drive package, tied with straps onto the drive package or sent separately. Examine that all items are present and there are no signs of damage. Read the data on the type designation label of the drive to make sure that the drive is of the correct type.
Frames R1 to R5

To unpack:

- Cut the straps (1).
- Remove the top cardboard cover (3), lift the flange mounting kit (4), and remove the cushions (6...7).
- Lift the cardboard sleeve (5).
- Lift the drive (8).

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Straps</td>
<td>5</td>
<td>Cardboard sleeve</td>
</tr>
<tr>
<td>2</td>
<td>Printed manuals and quick guides, manuals CD and multilingual residual voltage warning stickers</td>
<td>6...7</td>
<td>Cushions</td>
</tr>
<tr>
<td>3</td>
<td>Cardboard cover</td>
<td>8</td>
<td>Drive with factory installed options</td>
</tr>
<tr>
<td>4</td>
<td>Flange mounting kit</td>
<td>9</td>
<td>Cardboard tray</td>
</tr>
</tbody>
</table>
Frames R6 to R9

To unpack:
- Cut the straps (1).
- Remove the cardboard cover (2).
- Lift the flange mounting kit (3).
- Remove the cardboard sleeve (4).
- Attach lifting hooks to the lifting eyes of the drive (5). Lift the drive with a hoist.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Straps</td>
<td>5</td>
<td>Drive with factory installed options</td>
</tr>
<tr>
<td>2</td>
<td>Cardboard cover</td>
<td>6</td>
<td>Pallet stopper</td>
</tr>
<tr>
<td>3</td>
<td>Flange mounting kit</td>
<td>7</td>
<td>Pallet tray</td>
</tr>
<tr>
<td>4</td>
<td>Cardboard sleeve</td>
<td>8</td>
<td>Printed manuals and quick guides, manuals CD and multilingual residual voltage warning stickers</td>
</tr>
</tbody>
</table>
# Flange mounting kit package contents

The illustrations show the layout of the flange mounting kit packages. Examine that all items are present and there are no signs of damage.

## Frames R1 to R3

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>1</td>
<td>Quick guide</td>
<td>2</td>
<td>Cable shelf</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Grounding plate</td>
<td>5</td>
<td>Bottom bracket</td>
<td>6</td>
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<tr>
<td>7</td>
<td>Cardboard tray</td>
<td>8</td>
<td>Top cardboard cover</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Mounting template</td>
<td>11</td>
<td>Screw package:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Sealing plug</td>
<td>13</td>
<td>Sealing plate</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>Bottom U-bracket</td>
<td>16</td>
<td>Top U-bracket</td>
<td></td>
</tr>
</tbody>
</table>

* The delivery does not include the Rivet or Kalei nuts for the M6 screws.
Frames R4 to R5

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<tr>
<td>2</td>
<td>Mounting template</td>
</tr>
<tr>
<td>3</td>
<td>Bottom bracket</td>
</tr>
<tr>
<td>4</td>
<td>Top bracket</td>
</tr>
<tr>
<td>5</td>
<td>Side brackets</td>
</tr>
<tr>
<td>6</td>
<td>Cardboard tray</td>
</tr>
<tr>
<td>7</td>
<td>Sealing plug</td>
</tr>
<tr>
<td>8</td>
<td>Top cardboard cover</td>
</tr>
<tr>
<td>9</td>
<td>Option kit package label</td>
</tr>
<tr>
<td>10</td>
<td>Screw package:</td>
</tr>
<tr>
<td></td>
<td>• M6 nut (14 pcs) *</td>
</tr>
<tr>
<td></td>
<td>• M6×20 screw (2 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M6×25 screw (13 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M6×10 T30 screw (R4: 6 pcs; R5: 8 pcs)</td>
</tr>
<tr>
<td>11</td>
<td>Hood (required for UL type 12)</td>
</tr>
<tr>
<td>12</td>
<td>Tightening bracket</td>
</tr>
<tr>
<td>13</td>
<td>Cable shelf</td>
</tr>
<tr>
<td>14</td>
<td>Sealing tapes</td>
</tr>
</tbody>
</table>

* The delivery does not include the Rivet or Kalei nuts for the M6 screws.
Frames R6 to R9

1 Quick guide
2 Mounting template
3 Top bracket
4 Bottom bracket
5 Side brackets
6 Top cardboard cover
7 Option kit package label
8 Screw package:
   • M6 nut (11 pcs) *
   • M6×10 T30 (12 pcs)
   • M6×25 T25 (R6…R8: 16 pcs, R9: 18 pcs)
9 Hood (required for UL type 12)
10 Cardboard tray

* The delivery does not include the Rivet or Kalei nuts for the M6 screws.
Mounting template

The flange mounting kit package includes a template in actual size for drilling the mounting holes and cutting the holes in the mounting plate.

An example template is shown below.
Installing the drive

- Free space requirements

The flange-mounted drives can be installed side by side. For free space requirements above and below the drives, see the table.

<table>
<thead>
<tr>
<th>Above</th>
<th>Below</th>
</tr>
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<tbody>
<tr>
<td>mm</td>
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<td>-</td>
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<td>7.87</td>
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</tr>
<tr>
<td>200</td>
<td>7.87</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
</tr>
</tbody>
</table>
Installing drives above one another

Make sure that the outlet cooling air flows away from the drive above.

- 200 mm (7.87 in.)
- 250 mm (9.84 in.)
- 300 mm (11.81 in.)
Installation procedure

- Frames R1 to R3

1. To remove the fan assembly, push the retaining clip with a flat screwdriver. Lift the assembly up.
2. Insert the sealing plug to the hole shown in the figure.

3. Reinstall the fan assembly in reverse order.
4. Attach the top and bottom U-brackets to the drive.

\[ 4 \times M5 \text{ nut} 6 \text{ N\textcdot m} \]
5. First attach the side brackets (a) to the top and bottom U-brackets with four M6 nuts. Then, attach the tightening brackets (b) to the both ends with four M5×20 screws. Last attach the sealing plate (c) to the bottom of the drive with two M5×50 screws T20.

4 × M6 nut 10 N·m
4 × M5×20 screw 6 N·m
2 × M5×50 screw T20 6 N·m
6. Attach the top and bottom brackets to the side brackets.

8 × M6 nut
10 N·m
7. Push the grounding plate (d) to the alignment pins of the bottom bracket and fasten the plate to the drive with one M5×25 screw T20 and three M6 nuts. Then attach the cable shelf (e) to the bottom bracket with two M6 nuts.

5 × M6 nut 10 N·m
1 × M5×25 screw T20 6 N·m
8. See chapter *Dimension drawings for ACS880-01* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate. Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts (not included in the delivery). Remove the mounting template.
9. Attach chains to the drive lifting holes and lift the drive with a lifting device onto the opening in the mounting plate.

10. Attach the bottom bracket with one screw.
11. Attach the top bracket with one screw.

12. Attach the rest of the mounting screws. Remove the chains.
**Frames R4 to R5**

1. To remove the fan assembly, lift the fan mounting plate up from the front edge. Unplug the power supply wires. Lift the assembly off.

2. Insert the sealing plug to the hole shown in the figure.
3. Reinstall the fan assembly in reverse order.

4. Attach the sealing tapes on **both** sides of the drive.
5. Attach the side brackets to the drive. Note that R4 has 6 screws for attaching the side brackets while R5 has 8 screws.

- R4: 6 × M6×10 screw T30
- R5: 8 × M6×10 screw T30
- 8 N·m
- 4 × M6 nut 10 N·m
- 2 × M6×20 screw 6 N·m

6. Attach the bottom bracket and the tightening bracket to the side brackets.
7. Attach the top bracket to the side brackets.

8. Attach the cable shelf to the bottom bracket.
9. See chapter *Dimension drawings for ACS880-01* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate. Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts (not included in the delivery). Remove the mounting template.
10. **UL Type 12 drives only**: Attach the hood to the cooling channel.

- 3 × M6 nut
- 10 N·m

Back: View from top

Back: View from bottom
11. Attach the chains to the lifting holes of the flange and lift the drive with a lifting device onto the opening in the mounting plate.

12. Attach the top bracket with one screw.

1 × M6×25
10 N·m
13. Attach the bottom bracket with one screw.

14. Attach the rest of the mounting screws. Remove the chains.
**Frames R6 to R9**

1. Attach the side brackets of the flange to the drive.

2. Attach the top and bottom brackets.
3. See chapter *Dimension drawings for ACS880-01* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate.

Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts (not included in the delivery). Remove the mounting template.
4. **UL Type 12 drives only**: Attach the hood to the cooling channel.

5. Attach the chains to the lifting holes of the flange and lift the drive with a lifting device onto the opening in the mounting plate.
6. Attach the top bracket with one screw.

7. Attach the bottom bracket with one screw.
8. Attach the rest of the mounting screws. Remove the chains.

R6…R8:
14 × M6×25
6 N·m

R9:
16 × M6×25
6 N·m
Mechanical installation for ACS580-01, ACH580-01 and ACQ580-01

Contents of this chapter

This chapter describes how to install the drive with the flange mounting kit mechanically.

Safety

WARNING! For frame sizes R6 to R9: Use the lifting eyes of the drive when you lift the drive. Do not tilt the drive. The drive is heavy and its center of gravity is high. An overturning drive can cause physical injury.
Examining the installation site

Make sure that the installation site agrees with these requirements:

• The installation site has sufficient ventilation to prevent overheating of the drive. See section *Losses, cooling data and noise* in the hardware manual for the required air flow in the cooling air channel and in the front part of the drive.

• The operation conditions of the drive agree with the specifications in section *Ambient conditions* in the hardware manual.

• The mounting plate is vertical, not flammable and strong enough to hold the weight of the drive module.

• The material below the installation is not flammable.

• There is enough free space above and below the drive for cooling air flow, service and maintenance. There is enough free space in front of the drive for operation, service and maintenance. See section *Free space requirements* on page 60 and *Dimensions, weights and free space requirements* in the hardware manual.

Additional requirements for cabinet installations

Make sure that the cooling air gratings of the drive will not be covered. Make sure that the required cooling air change is achieved. In a totally closed cabinet with no forced ventilation, a fan for circulating the air inside the cabinet may be needed.

Necessary tools

• Drill and drill bits

• Screwdriver

Moving the drive

Move the transport package by a pallet truck to the installation site.
Unpacking and examining the delivery

- Transport package contents

The flange mounting kit package is either in the drive package, tied with straps onto the drive package or sent separately. Examine that all items are present and there are no signs of damage. Read the data on the type designation label of the drive to make sure that the drive is of the correct type.

Frames R0 to R4

The flange mounting kit package is tied onto the drive package.

To unpack:

- Cut the straps.
- Remove the flange mounting kit package. For the contents of the kit package, see Frames R0 to R4 on page 55.
- Open the drive cardboard box. For the contents of the drive package, see the relevant drive hardware manual.
- Lift the drive.

Frames R5

The flange mounting kit package is tied onto the drive package. The drive package is on a pallet.

To unpack:

- Cut the straps.
- Remove the flange mounting kit package. For the contents of the kit package, see Frame R5 on page 58.
- Remove the drive cardboard box and option box.
- Remove the cover protecting film. For the contents of the drive package, see the relevant drive hardware manual.
- Lift the drive.
Frames R6 to R9

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Straps</td>
<td>5</td>
<td>Drive with factory installed options</td>
</tr>
<tr>
<td>2</td>
<td>Cardboard cover</td>
<td>6</td>
<td>Pallet stopper</td>
</tr>
<tr>
<td>3</td>
<td>Flange mounting kit</td>
<td>7</td>
<td>Pallet tray</td>
</tr>
<tr>
<td>4</td>
<td>Cardboard sleeve</td>
<td>8</td>
<td>Printed manuals and quick guides, manuals CD and multilingual residual voltage warning stickers</td>
</tr>
</tbody>
</table>

To unpack:
- Cut the straps (1).
- Remove the cardboard cover (2).
- Lift the flange mounting kit (3).
- Remove the cardboard sleeve (4).
- Attach lifting hooks to the lifting eyes of the drive (5). Lift the drive with a hoist.
Flange mounting kit package contents

The drawings below show the layout of the flange mounting kit packages. Examine that all items are present and there are no signs of damage.

**Frames R0 to R4**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mounting template</td>
</tr>
<tr>
<td>2</td>
<td>Quick guide</td>
</tr>
<tr>
<td>3</td>
<td>Tightening brackets</td>
</tr>
<tr>
<td>4</td>
<td>Bottom bracket</td>
</tr>
<tr>
<td>5</td>
<td>Side brackets</td>
</tr>
<tr>
<td>6</td>
<td>Cardboard tray</td>
</tr>
<tr>
<td>7</td>
<td>Top cardboard cover</td>
</tr>
<tr>
<td>8</td>
<td>Option kit package label</td>
</tr>
<tr>
<td>9</td>
<td>Screw package:</td>
</tr>
<tr>
<td></td>
<td>• M4 nut (2 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M5x20 screw (4 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M6x25 screw</td>
</tr>
<tr>
<td></td>
<td>(R0…R1: 10 pcs; R2: 12 pcs; R3: 14 pcs; R4: 16 pcs) *</td>
</tr>
<tr>
<td></td>
<td>• M6 nut (R0…R2: 18 pcs; R3: 19 pcs; R4: 23 pcs)</td>
</tr>
<tr>
<td>10</td>
<td>Hood (required for UL type 12)</td>
</tr>
<tr>
<td>11</td>
<td>Sealing plug</td>
</tr>
<tr>
<td>12</td>
<td>Top bracket</td>
</tr>
<tr>
<td>13</td>
<td>Top and bottom U-brackets</td>
</tr>
</tbody>
</table>

* The delivery does not include the Rivet or Kalei nuts for the M6 screws.
Frame R5

<p>| | | | | | | | |</p>
<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Mounting template</td>
<td>2</td>
<td>Quick guide</td>
<td>3</td>
<td>Tightening brackets</td>
<td>4</td>
<td>Bottom bracket</td>
</tr>
<tr>
<td>5</td>
<td>Side brackets</td>
<td>6</td>
<td>Cardboard tray</td>
<td>7</td>
<td>Top cardboard cover</td>
<td>8</td>
<td>Option kit package label</td>
</tr>
<tr>
<td>9</td>
<td>Screw package:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• M4 nut (2 pcs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• M5x20 screw (4 pcs)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• M6x25 screw (16 pcs) *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• M6 nut (23 pcs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Hood (required for UL type 12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Top bracket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Top and bottom U-brackets</td>
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</table>

* The delivery does not include the Rivet or Kalei nuts for the M6 screws.
Frames R6 to R9

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Quick guide</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mounting template</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Top bracket</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Bottom bracket</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Side brackets</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Top cardboard cover</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Option kit package label</td>
<td></td>
</tr>
</tbody>
</table>
| 8 | Screw package:  
  • M6 nut (11 pcs)  
  • M6×10 T30 (12 pcs) *  
  • M6×25 T25 (R6…R8: 16 pcs, R9: 18 pcs) |   |
| 9 | Hood (required for UL type 12) |   |
| 10 | Cardboard tray |   |

* The delivery does not include the Rivet or Kalei nuts for the M6 screws.

Mounting template

The flange mounting kit package includes a template in actual size for drilling the attaching holes and cutting the holes in the mounting plate.

An example template is shown below.
Installing the drive

- **Free space requirements**

The flange-mounted drives can be installed side by side. For free space requirements above and below the drives, see the table.

<table>
<thead>
<tr>
<th></th>
<th>Above</th>
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<tbody>
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<td><strong>ACX580-01</strong></td>
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<td>100</td>
<td>3.94</td>
</tr>
<tr>
<td>R1</td>
<td>100</td>
<td>3.94</td>
</tr>
<tr>
<td>R2</td>
<td>100</td>
<td>3.94</td>
</tr>
<tr>
<td>R3</td>
<td>115</td>
<td>4.53</td>
</tr>
<tr>
<td>R4</td>
<td>115</td>
<td>4.53</td>
</tr>
<tr>
<td>R5</td>
<td>115</td>
<td>4.53</td>
</tr>
<tr>
<td>R6</td>
<td>200</td>
<td>7.87</td>
</tr>
<tr>
<td>R7</td>
<td>200</td>
<td>7.87</td>
</tr>
<tr>
<td>R8</td>
<td>200</td>
<td>7.87</td>
</tr>
<tr>
<td>R9</td>
<td>200</td>
<td>7.87</td>
</tr>
</tbody>
</table>
Installing drives above one another

Make sure that the outlet cooling air flows away from the drive above.
Installation procedure

- Frames R0 to R5

1. **Frames R0…R4:** To remove the fan assembly, push the retaining clip with a flat screwdriver. Lift the assembly up. See also steps for IP21 on page 66.

2. **Frames R0…R4:** Insert the sealing plug to the hole.
3. **Frames R0…R4**: Reinstall the fan assembly.

4. **Frames R0…R5**: Attach the U-brackets to the back of the drive.
5. **Frames R0…R5:** First attach the side brackets (a) to the U-brackets which were attached in step 4 with M6 nuts. Then attach the tightening brackets (b) to both ends with M5×20 screws.

- 4 × M5×20 screw
- 3 N·m
- R0…R3: 4 × M6 nut
- R4…R5: 8 × M6 nut
- 6 N·m
6. **Frames R0...R5:** Attach the top (c) and bottom (d) brackets to the side brackets, first the inner sides (the sides that touch the drive), then the outer sides. Remove the tightening bracket (e) from the front of the fan.
Note for frames R0…R5, P21:

- If you use the IP21 cover with the flange mounting kit, install an internal fan (sold separately) to the drive or remove the IP21 cover for ventilation (f).
- If you install an IP21 drive in dry environment, you can leave the cover in place but DO NOT insert the sealing plug.
- Frame R5 has an internal fan. With R5, you can leave the cover in place.

### Note:
Save the screw!
1.5 N·m
Optional steps:

- If you wish to install the power cable shelf lower on the bottom bracket, first remove the cover and lead-through plate.

- Then detach the power cable shelf and attach it to the bottom bracket with M4 nuts.
Note: Frame R3 is shown here as an example. The cable shelf varies in different frame sizes.

Note: Reinstall the screws to avoid moisture exchange through the empty holes!

1.5 N·m

2 × M4 nut

1.5 N·m
7. See chapter *Dimension drawings for ACS580-01, ACH580-01 and ACQ580-01* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate.

Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts (not included in the delivery). Remove the mounting template.
8. **UL Type 12 drives only**: Attach the hood to the cooling channel.

- **R0…R2:**
  - 2 × M6 nuts
- **R3…R5:**
  - 3 × M6 nuts
  - 6 N·m
9. Attach chains to the drive lifting holes and lift the drive with a lifting device onto the opening in the mounting plate.

10. Attach the bottom bracket with one screw.

11. Attach the top bracket with one screw.

12. Attach the rest of the mounting screws. Remove the chains.

- 1 × M6×25 screw
  - 6 N·m

- R0…R1: 8 × M6×25 screw
- R2: 10 × M6×25 screw
- R3: 12 × M6×25 screw
- R4…R5: 14 × M6×25 screw
  - 6 N·m
Frames R6 to R9

1. Attach the side brackets of the flange to the drive.

2. Attach the top and bottom brackets.
3. See chapter *Dimension drawings for ACS580-01, ACH580-01 and ACQ580-01* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate.

Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts (not included in the delivery). Remove the mounting template.
4. **UL Type 12 drives only**: Attach the hood to the cooling channel.

5. Attach the chains to the lifting holes of the flange and lift the drive with a lifting device onto the opening in the mounting plate.
6. Attach the top bracket with one screw.

7. Attach the bottom bracket with one screw.
8. Attach the rest of the mounting screws. Remove the chains.

R6…R8:
14 × M6×25
6 N·m

R9:
16 × M6×25
6 N·m
Mechanical installation for ACS880-11 and ACS880-31

Contents of this chapter

This chapter describes how to install the drive with the flange mounting kit mechanically.

Safety

**WARNING!** For frame sizes R6 and R8: Use the lifting eyes of the drive when you lift the drive. Do not tilt the drive. The drive is heavy and its center of gravity is high. An overturning drive can cause physical injury.
Examining the installation site

Make sure that the installation site agrees with these requirements:

- The installation site has sufficient ventilation to prevent overheating of the drive. See section *Losses, cooling data and noise* in the hardware manual for the required air flow in the cooling air channel and in the front part of the drive.
- The operation conditions of the drive agree with the specifications in section *Ambient conditions* in the hardware manual.
- The mounting plate is vertical, not flammable and strong enough to hold the weight of the drive module.
- The material below the installation is not flammable.
- There is enough free space above and below the drive for cooling air flow, service and maintenance. There is enough free space in front of the drive for operation, service and maintenance. See section *Free space requirements* on page 84 and *Dimensions, weights and free space requirements* in the hardware manual.

Additional requirements for cabinet installations

Make sure that the cooling air gratings of the drive will not be covered. Make sure that the required cooling air change is achieved. In a totally closed cabinet with no forced ventilation, a fan for circulating the air inside the cabinet may be needed.

Necessary tools

- Drill and drill bits
- Screwdriver

Moving the drive

Move the transport package by a pallet truck to the installation site.
Unpacking and examining the delivery

- **Transport package contents**

The flange mounting kit package is either in the drive package, tied with straps onto the drive package or sent separately. Examine that all items are present and there are no signs of damage. Read the data on the type designation label of the drive to make sure that the drive is of the correct type.
Frame R3

To unpack:
- Cut the straps (2).
- Remove the tray (4) and sleeve (5).
- Remove the cover protecting film.
- Lift the drive (8).

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mounting template</td>
<td>5</td>
<td>Sleeve</td>
</tr>
<tr>
<td>2</td>
<td>PET straps</td>
<td>6</td>
<td>Package cushion</td>
</tr>
<tr>
<td>3</td>
<td>Printed quick guides and manuals, multilingual residual voltage warning sticker, manuals CD</td>
<td>7</td>
<td>Foam cushion</td>
</tr>
<tr>
<td>4</td>
<td>Tray</td>
<td>8</td>
<td>Drive with factory installed options.</td>
</tr>
</tbody>
</table>
Frames R6 and R8

To unpack:

- Cut the straps (1).
- Remove the cardboard cover (2).
- Lift the flange mounting kit (3).
- Remove the cardboard sleeve (4).
- Attach lifting hooks to the lifting eyes of the drive (5). Lift the drive with a hoist.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Straps</td>
<td>5</td>
<td>Drive with factory installed options</td>
</tr>
<tr>
<td>2</td>
<td>Cardboard cover</td>
<td>6</td>
<td>Pallet stopper</td>
</tr>
<tr>
<td>3</td>
<td>Flange mounting kit</td>
<td>7</td>
<td>Pallet tray</td>
</tr>
<tr>
<td>4</td>
<td>Cardboard sleeve</td>
<td>8</td>
<td>Printed manuals and quick guides, manuals CD and multilingual residual voltage warning stickers</td>
</tr>
</tbody>
</table>
**Flange mounting kit package contents**

The illustrations below show the layout of the flange mounting kit packages. Examine that all items are present and there are no signs of damage.

**Frame R3**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mounting template</td>
</tr>
<tr>
<td>2</td>
<td>Quick guide</td>
</tr>
<tr>
<td>3</td>
<td>Tightening brackets</td>
</tr>
<tr>
<td>4</td>
<td>Bottom bracket</td>
</tr>
<tr>
<td>5</td>
<td>Side brackets</td>
</tr>
<tr>
<td>6</td>
<td>Cardboard tray</td>
</tr>
<tr>
<td>7</td>
<td>Top cardboard cover</td>
</tr>
<tr>
<td>8</td>
<td>Option kit package label</td>
</tr>
<tr>
<td>9</td>
<td>Screw package:</td>
</tr>
<tr>
<td></td>
<td>• M4 nut (2 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M5x20 screw (4 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M6x25 screw * (R0…R1: 10 pcs; R2: 12 pcs; R3: 14 pcs; R4: 16 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M6 nut (R0…R2: 18 pcs; R3: 19 pcs; R4: 23 pcs)</td>
</tr>
<tr>
<td>10</td>
<td>Hood (required for UL type 12)</td>
</tr>
<tr>
<td>11</td>
<td>Sealing plug</td>
</tr>
<tr>
<td>12</td>
<td>Top bracket</td>
</tr>
<tr>
<td>13</td>
<td>Top and bottom U-brackets</td>
</tr>
</tbody>
</table>

* The delivery does not include the Rivet or Kalei nuts for the M6 screws.
Frames R6 and R8

The flange mounting kit package includes a template in actual size for drilling the attaching holes and cutting the holes in the mounting plate.

An example template is shown below.

* The delivery does not include the Rivet or Kalei nuts for the M6 screws.

Mounting template

The flange mounting kit package includes a template in actual size for drilling the attaching holes and cutting the holes in the mounting plate.

An example template is shown below.
Installing the drive

Free space requirements

The flange-mounted drives can be installed side by side. For free space requirements above and below the drives, see the table.

<table>
<thead>
<tr>
<th></th>
<th>ACS880-11 and ACS880-31</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Above</td>
<td>Above</td>
<td>Below</td>
</tr>
<tr>
<td>mm</td>
<td>in</td>
<td>mm</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
<td>300</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
<td>300</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
<td>300</td>
</tr>
</tbody>
</table>
Installing drives above one another

Make sure that the outlet cooling air flows away from the drive above.

- 200 mm (7.87 in.)
- 250 mm (9.84 in.)
- 300 mm (11.81 in.)
- 120 mm (4.72 in.)
Installation procedure

- **Frame R3**

1. Attach the U-brackets to back of the drive.

   - 4 × M5 nut
   - 6 N·m
2. Attach the side brackets to the U-brackets with M6 nuts.
3. Attach the top and bottom brackets to the side brackets.
4. See chapter *Dimension drawings for ACS880-11 and ACS880-31* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate.

Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts (not included in the delivery). Remove the mounting template.
5. Attach chains to the drive lifting holes and lift the drive with a lifting device onto the opening in the mounting plate.

6. Attach the bottom bracket with one screw.
7. Attach the top bracket with one screw.

8. Attach the rest of the mounting screws. Remove the chains.
Frames R6 and R8

1. Attach the gasket.
2. Attach the side brackets.

12 × M6×10 T30
6 N·m
3. Attach the top and bottom brackets to the side brackets, first the inner side (the side that touches the drive), then the outer sides.

8 × M6 nut
6 N·m
4. **IP20**: Install the sealing screws.

**R6 (IP20)**
- 5 × M5×12 T20
- 3 N·m

**R8 (IP20)**
- 9 × M5×12 T20
- 3 N·m
5. See chapter *Dimension drawings for ACS880-11 and ACS880-31* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate.

Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts (not included in the delivery). Remove the mounting template.
6. **UL Type 12 drives only**: Attach the hood to the cooling channel.

- **Back**: View from bottom
- **Front**: View from top

3 × M6 nut
6 N·m
7. Attach the chains to the lifting holes of the flange and lift the drive with a lifting device onto the opening in the mounting plate.
8. Attach the top bracket with one screw.

9. Attach the bottom bracket with one screw.
10. Attach the rest of the mounting screws. Remove the chains.
Mechanical installation for ACH580-31 and ACQ580-31

Contents of this chapter

This chapter describes how to install the drive with the flange mounting kit mechanically.

Note! Some installation figures display the face of the ACH580-31 model instead of the ACQ580-31 model and vice versa. The installation instructions are still applicable for both models.
Safety

WARNING! For frame sizes R6 and R8: Use the lifting eyes of the drive when you lift the drive. Do not tilt the drive. The drive is heavy and its center of gravity is high. An overturning drive can cause physical injury.

Examining the installation site

Make sure that the installation site agrees with these requirements:

- The installation site has sufficient ventilation to prevent overheating of the drive. See section *Losses, cooling data and noise* in the hardware manual for the required air flow in the cooling air channel and in the front part of the drive.
- The operation conditions of the drive agree with the specifications in section *Ambient conditions* in the hardware manual.
- The mounting plate is vertical, not flammable and strong enough to hold the weight of the drive module.
- The material below the installation is not flammable.
- There is enough free space above and below the drive for cooling air flow, service and maintenance. There is enough free space in front of the drive for operation, service and maintenance. See section *Free space requirements* on page 109 and *Dimensions, weights and free space requirements* in the hardware manual.

Additional requirements for cabinet installations

Make sure that the cooling air gratings of the drive will not be covered. Make sure that the required cooling air change is achieved. In a totally closed cabinet with no forced ventilation, a fan for circulating the air inside the cabinet may be needed.
Necessary tools

- Drill and drill bits
- Screwdriver

Moving the drive

Move the transport package by a pallet truck to the installation site.

Unpacking and examining the delivery

Transport package contents

The flange mounting kit package is either in the drive package, tied with straps onto the drive package or sent separately. Examine that all items are present and there are no signs of damage. Read the data on the type designation label of the drive to make sure that the drive is of the correct type.
Frame R3

- To unpack:
  - Cut the straps (2).
  - Remove the tray (4) and sleeve (5).
  - Remove the cover protecting film.
  - Lift the drive (8).

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mounting template</td>
<td>5</td>
<td>Sleeve</td>
</tr>
<tr>
<td>2</td>
<td>PET straps</td>
<td>6</td>
<td>Package cushion</td>
</tr>
<tr>
<td>3</td>
<td>Printed quick guides and manuals, multilingual residual voltage warning</td>
<td>7</td>
<td>Foam cushion</td>
</tr>
<tr>
<td></td>
<td>sticker, manuals CD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Tray</td>
<td>8</td>
<td>Drive with factory installed options.</td>
</tr>
</tbody>
</table>
Frames R6 and R8

To unpack:
- Cut the straps (1).
- Remove the cardboard cover (2).
- Lift the flange mounting kit (3).
- Remove the cardboard sleeve (4).
- Attach lifting hooks to the lifting eyes of the drive (5). Lift the drive with a hoist.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Straps</td>
<td>5</td>
<td>Drive with factory installed options</td>
</tr>
<tr>
<td>2</td>
<td>Cardboard cover</td>
<td>6</td>
<td>Pallet stopper</td>
</tr>
<tr>
<td>3</td>
<td>Flange mounting kit</td>
<td>7</td>
<td>Pallet tray</td>
</tr>
<tr>
<td>4</td>
<td>Cardboard sleeve</td>
<td>8</td>
<td>Printed manuals and quick guides, manuals CD and multilingual residual voltage warning stickers</td>
</tr>
</tbody>
</table>
### Flange mounting kit package contents

The illustrations show the layout of the flange mounting kit packages. Examine that all items are present and there are no signs of damage.

**Frame R3**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mounting template</td>
</tr>
<tr>
<td>2</td>
<td>Quick guide</td>
</tr>
<tr>
<td>3</td>
<td>Tightening brackets</td>
</tr>
<tr>
<td>4</td>
<td>Bottom bracket</td>
</tr>
<tr>
<td>5</td>
<td>Side brackets</td>
</tr>
<tr>
<td>6</td>
<td>Cardboard tray</td>
</tr>
<tr>
<td>7</td>
<td>Top cardboard cover</td>
</tr>
<tr>
<td>8</td>
<td>Option kit package label</td>
</tr>
<tr>
<td>9</td>
<td>Screw package:</td>
</tr>
<tr>
<td></td>
<td>• M4 nut (2 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M5x20 screw (4 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M6x25 screw</td>
</tr>
<tr>
<td></td>
<td>(R0…R1: 10 pcs; R2: 12 pcs; R3: 14 pcs; R4: 16 pcs)</td>
</tr>
<tr>
<td></td>
<td>• M6 nut</td>
</tr>
<tr>
<td></td>
<td>(R0…R2: 18 pcs; R3: 19 pcs; R4: 23 pcs)</td>
</tr>
<tr>
<td>10</td>
<td>Hood (required for UL type 12)</td>
</tr>
<tr>
<td>11</td>
<td>Sealing plug</td>
</tr>
<tr>
<td>12</td>
<td>Top bracket</td>
</tr>
<tr>
<td>13</td>
<td>Top and bottom U-brackets</td>
</tr>
</tbody>
</table>
Frames R6 and R8

1 Quick guide
2 Mounting template
3 Top bracket
4 Bottom bracket
5 Side brackets
6 Top cardboard cover
7 Option kit package label
8 Screw package:
   • M6 nut (11 pcs)
   • M6×10 T30 (12 pcs)
   • M6×25 T25 (R6…R8: 16 pcs, R9: 18 pcs)
9 Hood (required for UL type 12)
10 Cardboard tray
Example mounting template

The flange mounting kit package includes a template in actual size for drilling the attaching holes and cutting the holes in the mounting plate. For drilling the holes, see the installation procedures for:

- Frame R3,
- Frames R6 and R8.

Note: The delivery does not include the Rivet or Kalei nuts for the M6 screws. Consider the hole size for the nuts.

An example template is shown below.
Installing the drive

- Free space requirements

The flange-mounted drives can be installed side by side. For free space requirements above and below the drives, see the table.

<table>
<thead>
<tr>
<th></th>
<th>Above</th>
<th>Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACH580-31 and ACQ580-31</td>
<td>mm</td>
<td>in</td>
</tr>
<tr>
<td>Above</td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
<td>300</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
<td>300</td>
</tr>
<tr>
<td>200</td>
<td>7.87</td>
<td>300</td>
</tr>
</tbody>
</table>
Installing drives above one another

Make sure that the outlet cooling air flows away from the drive above.
Installation procedure

- Frame R3

1. **Frame R3:** To remove the fan assembly, push the retaining clip with a flat screwdriver. Lift the assembly up. See also steps for IP21 on page 115.

2. **Frame R3:** Insert the sealing plug to the hole shown in the figure.
3. **Frame R3**: Reinstall the fan assembly.

4. **Frame R3**: Attach the top and bottom U-brackets to the drive.

   - 4 × M6 nut
   - 6 N·m
5. **Frame R3:** First attach the side brackets (a) to the top and bottom U-brackets with M6 nuts. Then attach the tightening brackets (b) to the both ends with M5×20 screws.

4 × M5×20 screw
3 N·m
R0...R3: 4 × M6 nut
R4...R5: 8 × M6 nut
6 N·m

**Note:** Attach this end of the side brackets to the bottom U-bracket to make sure that the sealing is tight.
6. **Frame R3**: Attach the top (c) and bottom (d) brackets to the side brackets, first the inner sides of the top and bottom brackets (the sides that touch the drive), then the outer sides. Remove the tightening bracket (e) from the front of the fan.

8 × M6 nut
6 N·m
IP21:

- If you use the IP21 cover with the flange mounting kit, install an internal fan (sold separately) to the drive or remove the IP21 cover for ventilation (f).
- If you install an IP21 drive in dry environment, you can leave the cover in place but DO NOT insert the sealing plug.
7. See chapter *Dimension drawings for ACH580-31 and ACQ580-31* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate.

**Note:** Mounting templates are different (size, number and position of holes) for different frame sizes.

**Note:** The delivery does not include Rivet or Kalei nuts for the M6 mounting screws.

Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts. Remove the mounting template.
8. Attach chains to the drive lifting holes and lift the drive with a lifting device onto the opening in the mounting plate.

9. Attach the bottom bracket with one screw.

10. Attach the top bracket with one screw.

11. Attach the rest of the mounting screws. Remove the chains.

8

9

10

11

1 × M₆×25 screw
6 N·m

R₀…R₁: 8 × M₆×25 screw
R₂: 10 × M₆×25 screw
R₃: 12 × M₆×25 screw
R₄…R₅: 14 × M₆×25 screw
6 N·m
### Frames R6 and R8

1. Attach the side brackets of the flange to the drive.

2. Attach the top and bottom brackets.

---

12 × M6 × 10 T30
6 N·m

8 × M6 nut
6 N·m
3. See chapter *Dimension drawings for ACH580-31 and ACQ580-31* for the dimensions of the flange and the required opening in the mounting plate. Attach the mounting template from the flange mounting kit package onto the mounting plate.

**Note:** The delivery does not include Rivet or Kalei nuts for the M6 mounting screws.

Make the opening and drill the holes for the mounting screws. Consider the hole size for the Rivet or Kalei nuts. Remove the mounting template.
4. **UL Type 12 drives only:** Attach the hood to the cooling channel.

5. Attach the chains to the lifting holes of the flange and lift the drive with a lifting device onto the opening in the mounting plate.
6. Attach the top bracket with one screw.

7. Attach the bottom bracket with one screw.
8. Attach the rest of the mounting screws. Remove the chains.

R6…R8:
14 × M6×25
6 N·m

R9:
16 × M6×25
6 N·m
Mechanical installation for ACH580-31 and ACQ580-31
Dimension drawings for ACS880-01

Contents of this chapter

This chapter contains the dimension drawings of the flange mounting kits and required openings in the mounting plate.
Frame R1
Attaching points and hole dimensions

- Dimensions in millimeters
Frame R2
Attaching points and hole dimensions
Frame R3
Attaching points and hole dimensions
Frame R4
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions

- Attaching points and hole dimensions
Frame R5
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions


88.5 [3.48]  88.5 [3.48]  R10 [1.39]

230 [9.06]

26.5 [1.04]  177 [6.97]

Frame R6
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Frame R7
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions

- \( \Phi 8 \) [0.32] 3 pcs
- \( \Phi 9.1 \) [0.36]

Dimensions:
- 6.24
- 25 [0.98]
- 647 [25.41]
- 330 [12.99]
- 366 [14.41]
- 47 [1.85]

3AXD50000019324
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions

\[
\begin{align*}
\phi 8 & \qquad [0.32] \\
93 & \qquad [3.66] \\
90 & \qquad [3.54] \\
70 & \qquad [2.76] \\
6 & \qquad [0.24] \\
73 & \qquad [2.87] \\
100 & \qquad [3.94] \\
100 & \qquad [3.94] \\
400 & \qquad [15.75] \\
346 & \qquad [13.62] \\
73 & \qquad [2.87] \\
200 & \qquad [7.87] \\
\phi 9.1 & \qquad [0.36] \\
13 & \qquad [0.51] \\
168 & \qquad [6.61] \\
168 & \qquad [6.61] \\
168 & \qquad [6.61] \\
113 & \qquad [4.45] \\
727 & \qquad [28.62]
\end{align*}
\]
Frame R9
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions

Ø 8
3 Pcs

Ø 9.1

R10

462
[18.19]

425
[16.73]

727
[28.62]

44.5
[1.75]

102
[4.02]

132
[5.20]

102
[4.02]
Dimension drawings for ACS880-01
Dimension drawings for ACS580-01, ACH580-01 and ACQ580-01

Contents of this chapter

This chapter contains the dimension drawings of the flange mounting kits and required openings in the mounting plate.
Frame R0

For ACS580-01, ACH580-01 and ACQ580-01 types -02A6-4, -03A3-4, -04A0-4 and -05A6-4.
Hood is needed for UL Type 12 drives only
Frame R1

For ACS580-01, ACH580-01 and ACQ580-01 types -07A2-4, -09A4-4 and -12A6-4.
Hood is needed for UL Type 12 drives only
**Attaching points and hole dimensions**

For ACS580-01, ACH580-01 and ACQ580-01 types -02A6-4, -03A3-4, -04A0-4, -05A6-4, -07A2-4, -09A4-4 and -12A6-4
Frame R2

For ACS580-01, ACH580-01 and ACQ580-01 types -017A-4 and -025A-4.
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Frame R3

Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Frame R1

For ACS580-01, ACH580-01 and ACQ580-01 types -02A7-4, -03A4-4, -04A1-4, -05A7-4, -07A3-4, -09A5-4 and -12A7-4.
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions

---

Dimension drawings for ACS580-01, ACH580-01 and ACQ580-01  165
Frame R2

Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Frame R3

Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Frame R4
Hood is needed for UL Type 12 drives only
Hood is needed for UL Type 12 drives only
Frames R4…R5

- Attaching points and hole dimensions
Frame R6
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions

Dimension drawings for ACS580-01, ACH580-01 and ACQ580-01
Frame R7
Hood is needed for UL Type 12 drives only
**Attaching points and hole dimensions**

- Dimensions: 3AXD50000019324
- Section 8: Diameter 0.32
- Section 9: Diameter 0.36
- Section 10: Diameter 0.39

- Measurements:
  - 103 [4.06]
  - 72 [2.83]
  - 52 [2.05]
  - 6 [0.24]
  - 25 [0.98]
  - 20 [0.79]
  - 330 [12.99]
  - 366 [14.41]

- Scale: 1:5

3AXD50000019324
Frame R8
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Frame R9
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Dimension drawings for ACS880-11 and ACS880-31

Contents of this chapter

This chapter contains the dimension drawings of the flange mounting kits and required openings in the mounting plate.
Frame R3
- Attaching points and hole dimensions
Frame R6
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Frame R8
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions

- ø8 [0.32]
- ø9.1 [0.36]
- 93 [3.66]
- 90 [3.54]
- 70 [2.76]
- 6 [0.24]
- 73 [2.87]
- 100 [3.94]
- 100 [3.94]
- 13 [0.51]
- 400 [15.75]
- 346 [13.62]
- 73 [2.87]
- 200 [7.87]

R10 [0.39] 4 Pcs
Dimension drawings for ACS880-11 and ACS880-31
Dimension drawings for ACH580-31 and ACQ580-31

Contents of this chapter

This chapter contains the dimension drawings of the flange mounting kits and required openings in the mounting plate.

Note! Some dimension drawings display the face of the ACH580-31 model instead of the ACQ580-31 model and vice versa. The dimensions are still applicable for both models.
Frame R3
Attaching points and hole dimensions
Frame R6

Dimension drawings for ACH580-31 and ACQ580-31
Hood is needed for UL Type 12 drives only
Attaching points and hole dimensions
Frame R8
Hood is needed for UL Type 12 drives only
- Attaching points and hole dimensions

![Diagram of attaching points and hole dimensions for ACH580-31 and ACQ580-31]
Dimension drawings for ACH580-31 and ACQ580-31
ACS880-01 mounting examples

Contents of this chapter

This chapter contains ACS880-01 flange mounting examples in a cooling channel.
Frame R1
Frame R2
214 ACS880-01 mounting examples
Frame R3
Frame R4
ACS880-01 mounting examples
Frame R5
Frame R6
ACS880-01 mounting examples

A-A (1:5)
ACS880-01 mounting examples 227

SECTION A SCALE 1:5
Frame R7
Frame R8
Frame R9
Further information

Product and service inquiries
Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to www.abb.com/searchchannels.

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For information on ABB product training, navigate to new.abb.com/service/training.

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