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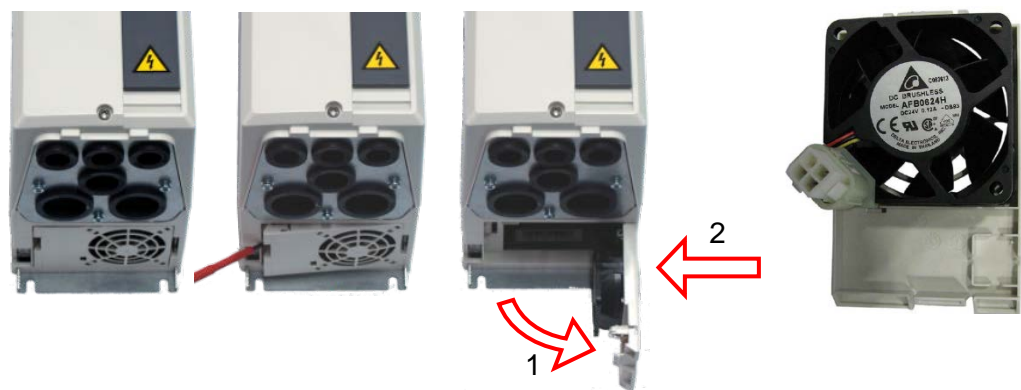## 2.2   Cooling fan replacement

2.2.1   Frame R0, Main cooling fan

Types:
- ACx580-01-02A6-4
- ACx580-01-03A3-4
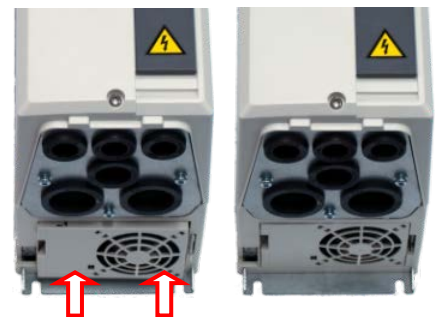- ACx580-01-04A0-4
- ACx580-01-05A6-4

The main cooling fan is located at the bottom of the drive. Replace the fan as follows:
- a. Release the locking clamp, use a flathead screwdriver to assist
- b. Remove the fan by opening the unit (1.) and pushing leftwards at the base (2.)
- c. Clean the cooling air duct and the heat sink with compressed air. See separate instructions in section 2.1.1

- d. Check that the fans blowing direction is inside the unit and install the new fan unit simply by pushing it to its place.

   Ensure the fan operation when the drive is powered up

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2.2.2 Frame R0 IP55, Internal cooling fan

Types:
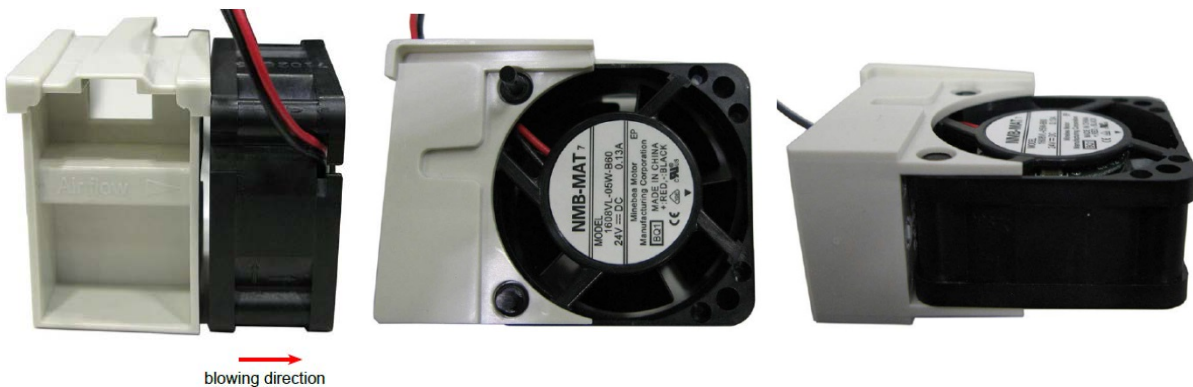- ACx580-01-02A6-4
- ACx580-01-03A3-4
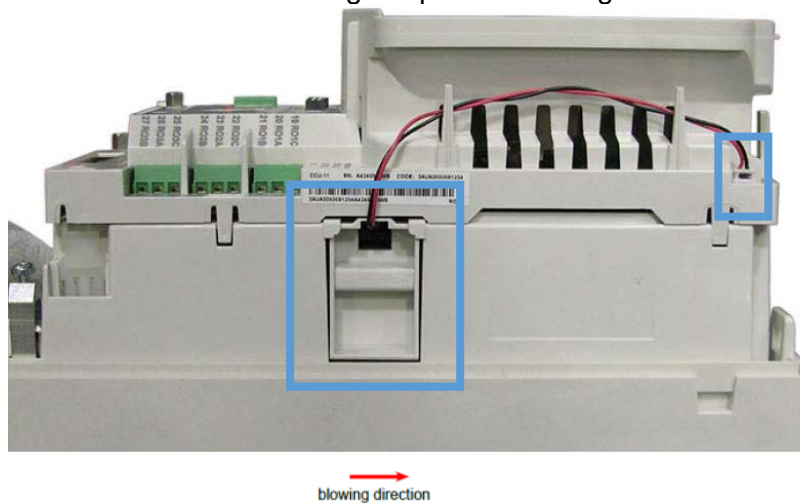- ACx580-01-04A0-4
- ACx580-01-05A6-4

1. **Remove front cover**
   a. Remove control panel
   b. Open mounting screw with a screwdriver
   c. Push the front cover slightly upwards and lift it off

2. **Replace internal fan**
   a. Remove internal fan sledge from plastic housing
   b. Assembly new internal fan+sledge combination
      i.   Place internal fan to sledge, ensure correct blowing direction
      ii. Place FR-1 rivets through the holes and push them to bottom

blowing direction

   c. Place internal fan sledge to plastic housing

blowing direction

3. **Install components in reverse order**

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2.2.3 New Frame R1, Main cooling fan

Types:

- ACX580-01-04A6-2
- ACX580-01-04A7-2
- ACX580-01-06A6-2
- ACX580-01-06A7-2
- ACX580-01-07A5-2
- ACX580-01-07A6-2
- ACX580-01-10A6-2
- ACX580-01-012A-2
- ACX580-01-017A-2
- ACX580-01-018A-2
- ACX580-01-02A1-4
- ACX580-01-02A7-4

- ACX580-01-03A0-4
- ACX580-01-03A4-4
- ACX580-01-03A5-4
- ACX580-01-04A1-4
- ACX580-01-04A8-4
- ACX580-01-05A7-4
- ACX580-01-06A0-4
- ACX580-01-07A3-4
- ACX580-01-07A6-4
- ACX580-01-09A9-4
- ACX580-01-012A-4
- ACX580-01-12A7-4

The main cooling fan is located on the top of the drive.

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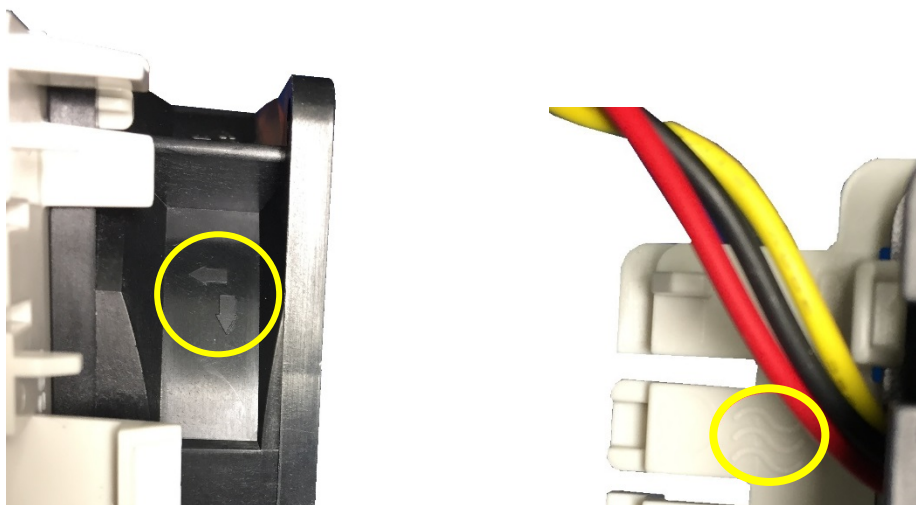| Department	Date		Revision	Page
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Replace the fan as follows:

1. Release two locking clamps, use a flathead screwdriver to assist.

2. Remove the fan.

3. Clean the cooling air duct and the heat sink with compressed air. See separate instructions in section 2.1.1.
4. Check that the fan blowing direction is outside the unit and install the new fan in reverse order to above. Ensure the fan operation when the drive is powered up.

![ABB logo]	**On-Site Service Instructions**		Document nbr 3AXD10000303478
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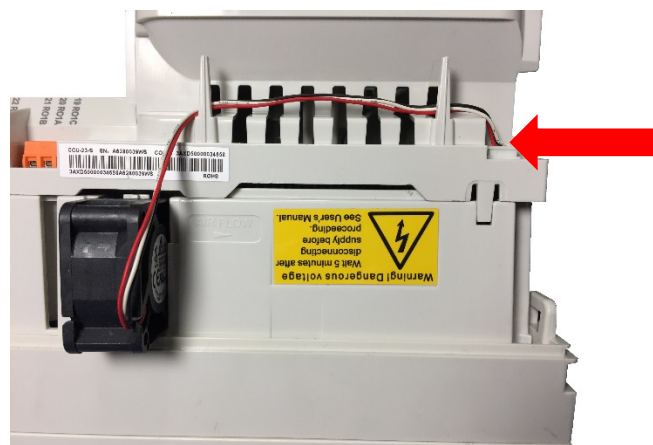### 2.2.4 New Frame R1 IP55, Internal cooling fan

Types:
- ACX580-01-04A6-2
- ACX580-01-04A7-2
- ACX580-01-06A6-2
- ACX580-01-06A7-2
- ACX580-01-07A5-2
- ACX580-01-07A6-2
- ACX580-01-10A6-2
- ACX580-01-012A-2
- ACX580-01-017A-2
- ACX580-01-018A-2
- ACX580-01-02A1-4
- ACX580-01-02A7-4

- ACX580-01-03A0-4
- ACX580-01-03A4-4
- ACX580-01-03A5-4
- ACX580-01-04A1-4
- ACX580-01-04A8-4
- ACX580-01-05A7-4
- ACX580-01-06A0-4
- ACX580-01-07A3-4
- ACX580-01-07A6-4
- ACX580-01-09A9-4
- ACX580-01-012A-4
- ACX580-01-12A7-4

Remove the front cover. You will find the internal cooling fan on the right side of the drive.

1. Remove the transparent plastic cover in front of the fan with a screwdriver.

2. Unlock the wires from the right and take slowly the fan out by pulling the wires.

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3. Assembly the new internal fan and check that the blowing direction is to upwards. Remember to reinstall the transparent plastic cover and the wires.
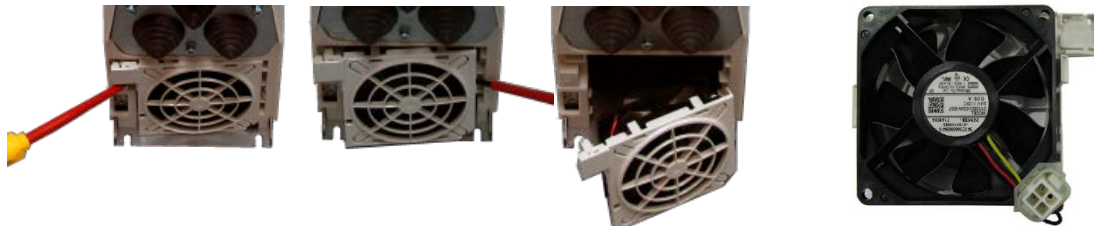

2.2.5 Old Frame R1, Main cooling fan

Types:
- ACX580-01-07A2-4
- ACX580-01-09A4-4
- ACX580-01-12A6-4

The main cooling fan is located at the bottom of the drive. Replace the fan as follows:
   a. Release two locking clamps, use a flathead screwdriver to assist
   b. Remove the fan

   c. Clean the cooling air duct and the heat sink with compressed air. See separate instructions in section 2.1.1
   d. Check that the fans blowing direction is inside the unit and install the new fan in reverse order to above. Ensure the fan operation when the drive is powered up

		Document nbr
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ABB Oy, Drives Service	**ACx580-01 R0-R5**	

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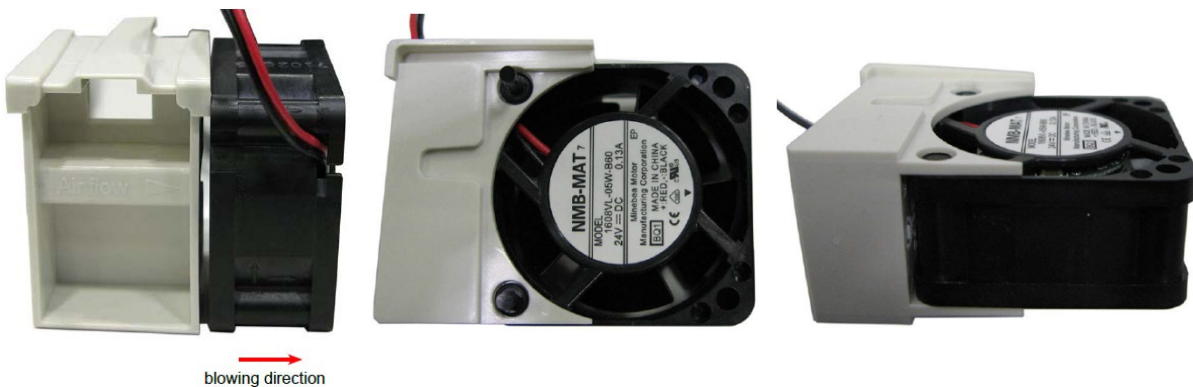### 2.2.6 Old Frame R1 IP55, Internal cooling fan

Types:
- ACX580-01-07A2-4
- ACX580-01-09A4-4
- ACX580-01-12A6-4

1. **Remove front cover**
   a. Remove control panel
   b. Open mounting screw with a screwdriver
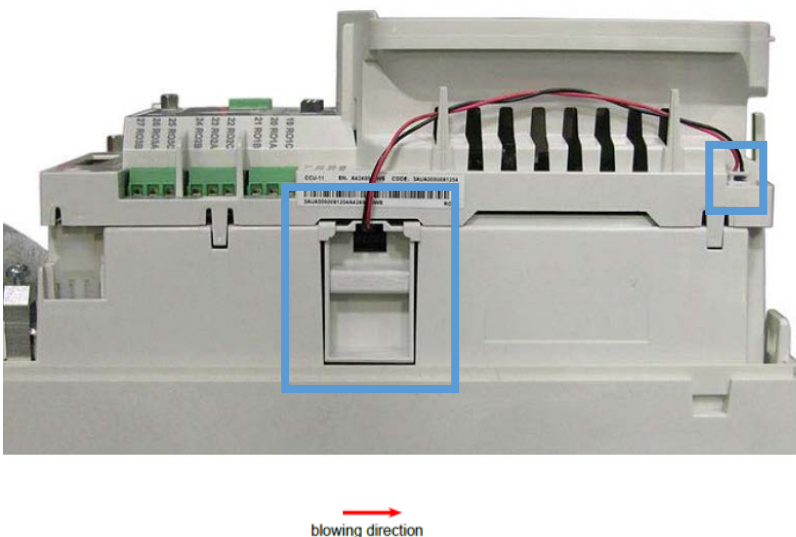   c. Push the front cover slightly upwards and lift it off

1. **Replace internal fan**
   a. Remove internal fan sledge from plastic housing
   b. Assembly new internal fan+sledge combination
      i. Place internal fan to sledge, ensure correct blowing direction
      ii. Place FR-1 rivets through the holes and push them to bottom

blowing direction

   c. Place internal fan sledge to plastic housing

2. **Install components in reverse order**

blowing direction

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2.2.7 New Frame R2, Main cooling fan

Types:

- ACX580-01-024A-2
- ACX580-01-025A-2
- ACX580-01-031A-2
- ACX580-01-032A-2
- ACX580-01-014A-4
- ACX580-01-018A-4

- ACX580-01-023A-4
- ACX580-01-03A9-6
- ACX580-01-06A1-6
- ACX580-01-09A0-6
- ACX580-01-011A-6
- ACX580-01-017A-6

The main cooling fan is located on the top of the drive.

Replace the fan as follows:

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1. Release the two locking clamps, use a flathead screwdriver to assist.

2. Remove the fan.

3. Clean the cooling air duct and the heat sink with compressed air. See separated instructions in section 2.1.1.
4. Check that the fans blowing direction is outside the unit and install the new fan in reverse order to above. Ensure the fan operation when the drive is powered up.

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2.2.8 New Frame R2 IP55, Internal cooling fan

Types:

- ACX580-01-024A-2
- ACX580-01-025A-2
- ACX580-01-031A-2
- ACX580-01-032A-2
- ACX580-01-014A-4
- ACX580-01-018A-4
- ACX580-01-023A-4

- ACX580-01-026A-4
- ACX580-01-02A7-6
- ACX580-01-03A9-6
- ACX580-01-06A1-6
- ACX580-01-09A0-6
- ACX580-01-011A-6
- ACX580-01-017A-6

Remove the front cover. You will find the internal cooling fan on the right side of the drive.

1. Remove the transparent plastic cover in front of the fan with a screwdriver.

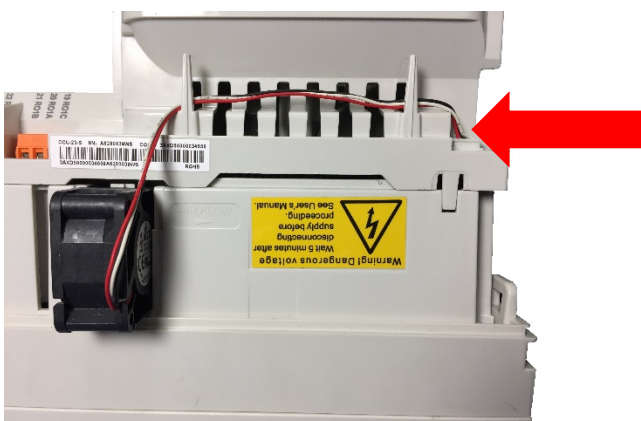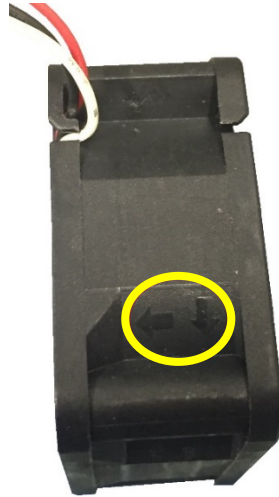2. Unlock the wires from the right and take slowly the fan out by pulling the wires.
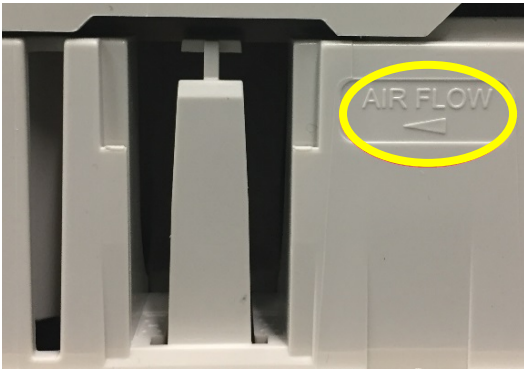
	On-Site Service Instructions		Document nbr
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ABB Oy, Drives Service	**ACx580-01 R0-R5**		Related to material

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3. Assembly the new internal fan and check that the blowing direction is to downwards. Remember to reinstall the transparent plastic cover and the wires.

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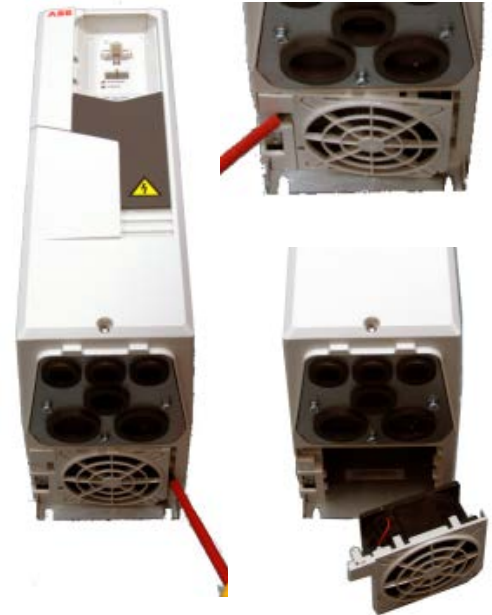| Department | Date | | Revision | Page |
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2.2.9 Old Frame R2, Main cooling fan

Types:
- ACX580-01-017A-4
- ACX580-01-025A-4

The main cooling fan is located at the bottom of the drive.
Replace the fan as follows:

a. Release two locking clamps, use a flathead screwdriver to assist
b. Remove the fan
c. Clean the cooling air duct and the heat sink with compressed air. See separate instructions in section 2.1.1

d. Check that the fans blowing direction is inside the unit and install the new fan in reverse order to above. Ensure the fan operation when the drive is powered up

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2.2.10 Old Frame R2 IP55, Internal cooling fan

Types:
- ACX580-01-017A-4
- ACX580-01-025A-4

1. **Remove front cover**
   a. Remove control panel
   b. Open mounting screw with a screwdriver
   c. Push the front cover slightly upwards and lift it off
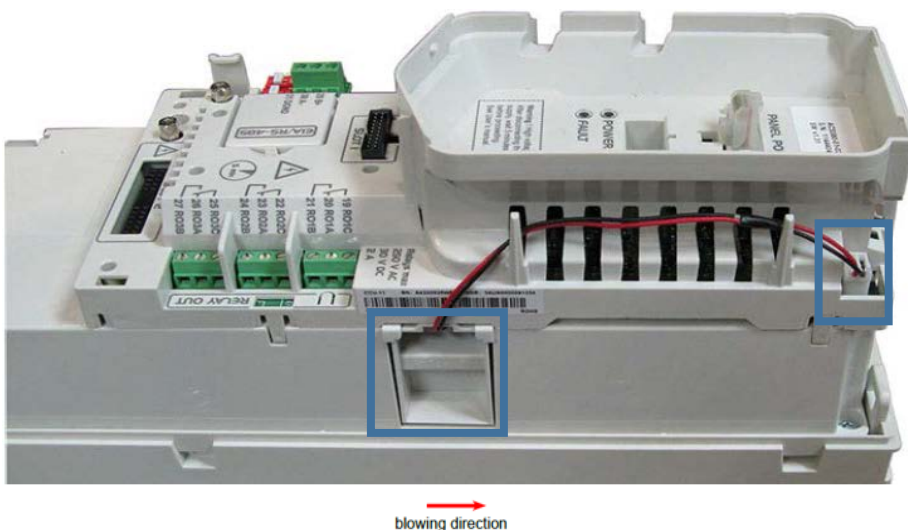
2. **Remove control unit**
   a. Remove mounting screws with a screwdriver
   b. Release mounting clamps and lift CCU-11/CCU-23 and the rigid connector off

3. **Replace internal fan**
   a. Remove internal fan sledge and cable from plastic housing
   b. Assembly new internal fan+sledge combination
      i. Place internal fan to sledge, ensure correct blowing direction
      ii. Place FR-1 rivets through the holes and push them to bottom

blowing direction

   c. Place internal fan sledge to plastic housing

blowing direction

4. **Install components in reverse order**

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ABB Oy, Drives Service	**ACx580-01 R0-R5**	Related to material

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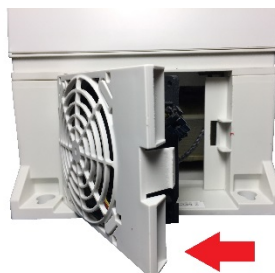## 2.2.11 New Frame R3, Main cooling fan

Types:

- ACX580-01-046A-2
- ACX580-01-047A-2
- ACX580-01-059A-2
- ACX580-01-060A-2
- ACX580-01-027A-4
- ACX580-01-033A-4
- ACX580-01-034A-4

- ACX580-01-039A-4
- ACX580-01-044A-4
- ACX580-01-046A-4
- ACX580-01-022A-6
- ACX580-01-027A-6
- ACX580-01-032A-6
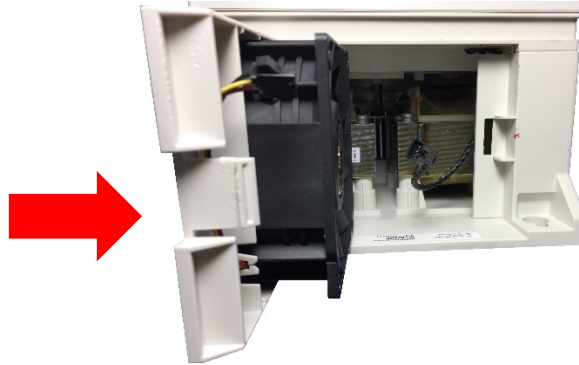
The main cooling fan is located on the top of the drive.

Replace the fan as follows:

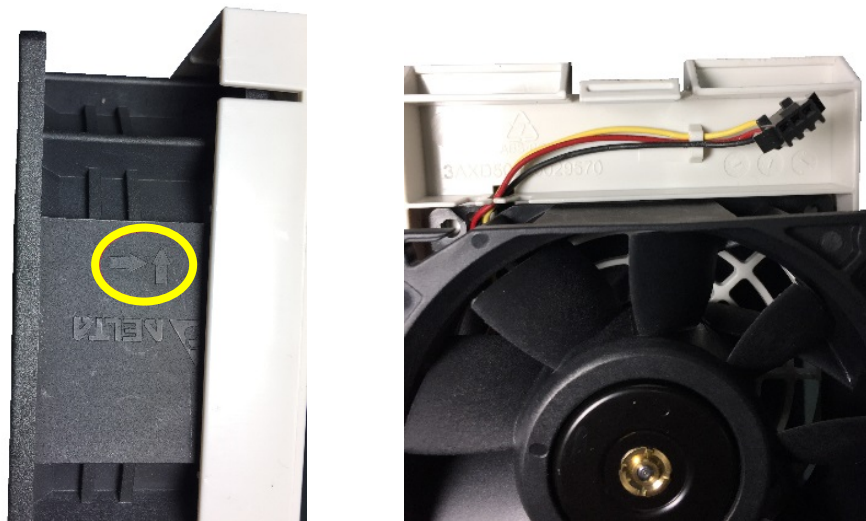1. Release the locking clamp, use a flathead screwdriver to assist.

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ABB Oy, Drives Service	**ACx580-01 R0-R5**	Related to material

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2. Remove the fan by opening the unit and pushing rightwards at the base.

3. Clean the cooling air duct and the heat sink with compressed air. See separate instructions in section 2.1.1
4. Check that the fans blowing direction is outside the unit and install the new fan unit simply by pushing it to its place.

    Ensure the fan operation when the drive is powered up

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2.2.12 New Frame R3 IP55, Internal cooling fan

Types:

- ACX580-01-046A-2
- ACX580-01-047A-2
- ACX580-01-059A-2
- ACX580-01-060A-2
- ACX580-01-027A-4
- ACX580-01-033A-4
- ACX580-01-034A-4

- ACX580-01-039A-4
- ACX580-01-044A-4
- ACX580-01-046A-4
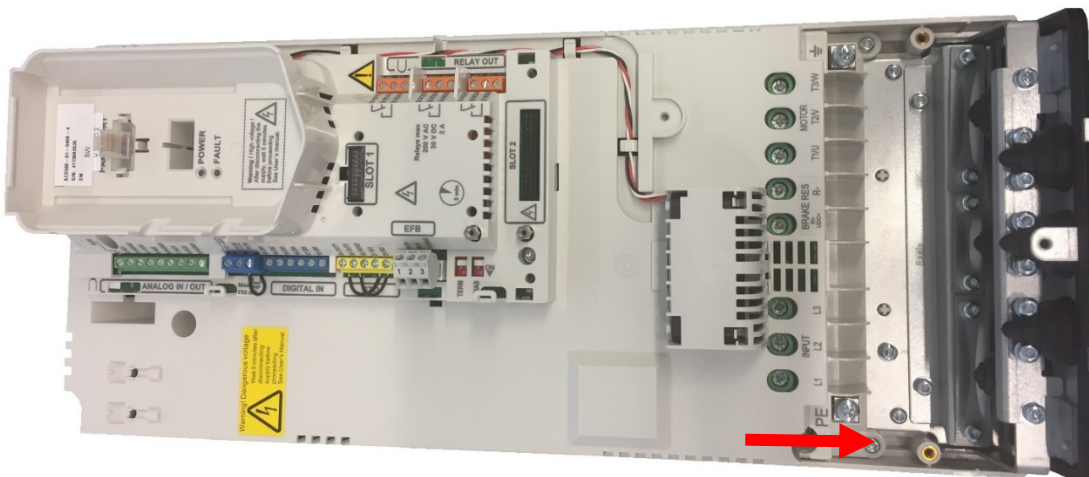- ACX580-01-022A-6
- ACX580-01-027A-6
- ACX580-01-032A-6

1. **Remove front cover**
   a. Remove control panel
   b. Open mounting screws with a screwdriver
   c. Push the front cover slightly upwards and lift it off

2. **Replace the internal fan**
   a. Remove internal fan plastic housing
   b. Remove fan connector from CCU-23
   c. Replace internal fan, see that the blowing direction is downwards the unit

3. **Install components in reverse order**

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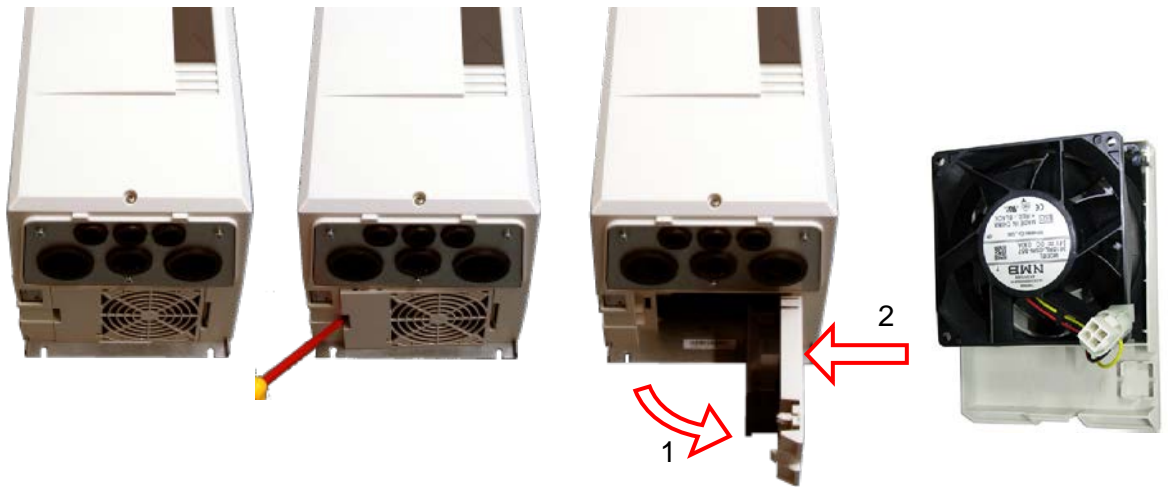| Department	Date		Revision	Page
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2.2.13 Old Frame R3, Main cooling fan

Types:
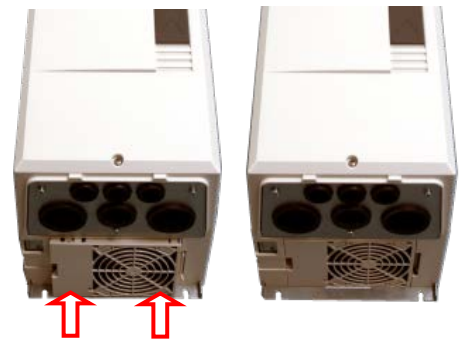- ACX580-01-032A-4
- ACX580-01-038A-4
- ACX580-01-045A-4

The main cooling fan is located at the bottom of the drive. Replace the fan as follows:
  a. Release the locking clamp, use a flathead screwdriver to assist
  b. Remove the fan by opening the unit (1.) and pushing leftwards at the base (2.)

  c. Clean the cooling air duct and the heat sink with compressed air. See separate instructions in section 2.1.1

  d. Check that the fans blowing direction is inside the unit and install the new fan unit simply by pushing it to its place.

     Ensure the fan operation when the drive is powered up

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2.2.14 Old Frame R3 IP55, Internal cooling fan

Types:
- ACX580-01-032A-4
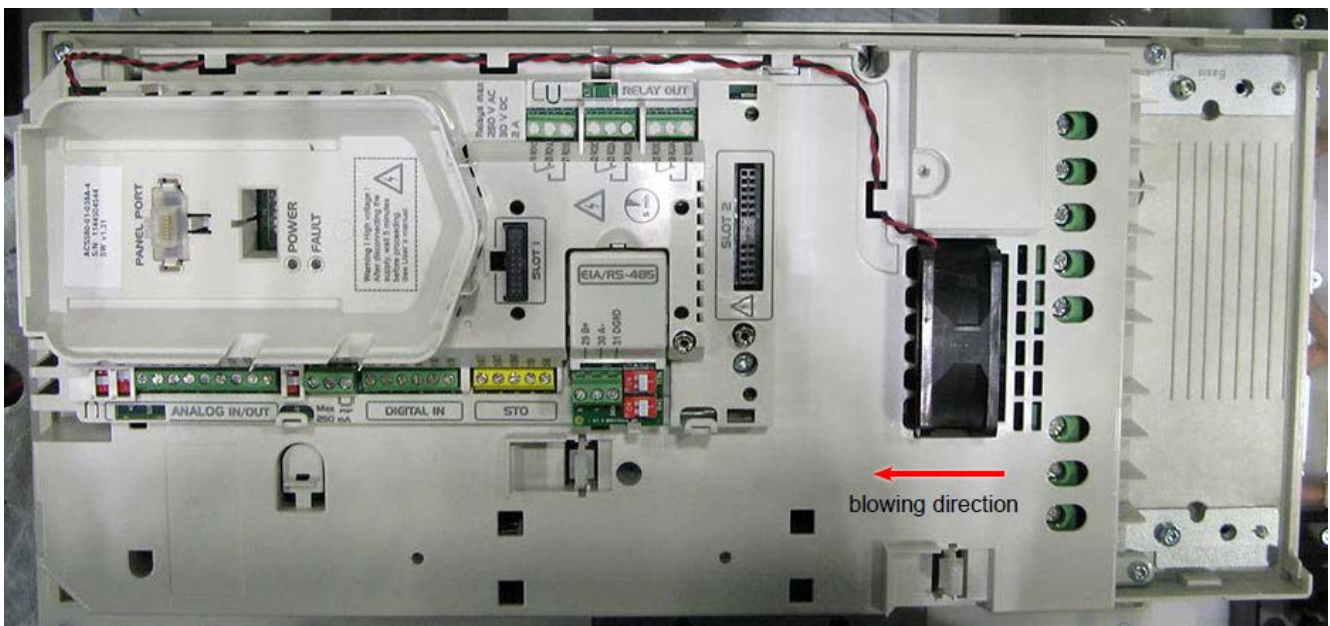- ACX580-01-038A-4
- ACX580-01-045A-4

1. **Remove front cover**
   a. Remove control panel
   b. Open mounting screws with a screwdriver
   c. Push the front cover slightly upwards and lift it off

2. **Replace internal fan**
   a. Remove internal fan plastic housing
   b. Remove fan connector from CCU-11/CCU-23
   c. Replace internal fan, see that the blowing direction is upwards the unit

blowing direction

3. **Install components in reverse order**

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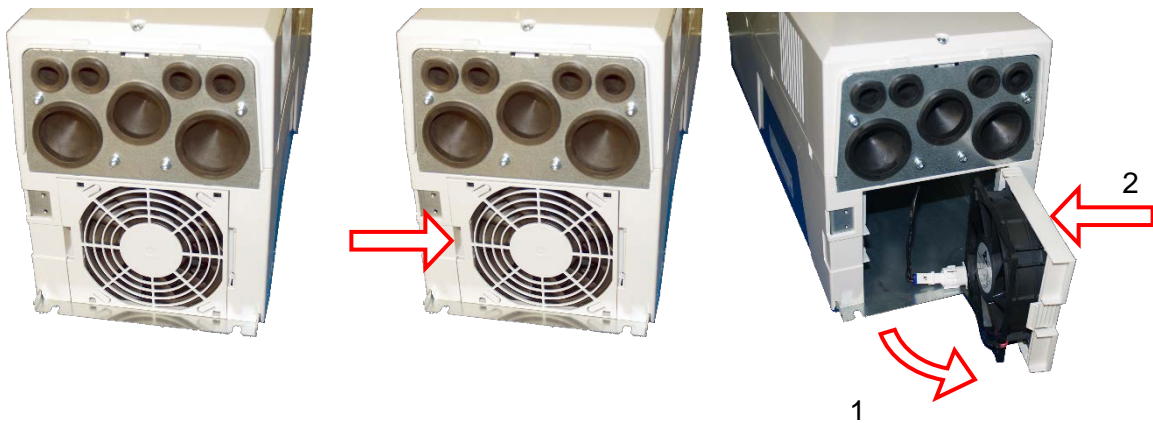| Department	Date		Revision	Page
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2.2.15 Frame R4, Main cooling fan

Types:
- ACX580-01-062A-4
- ACX580-01-073A-4

- ACX580-01-075A-2
- ACX580-01-076A-2
- ACX580-01-052A-4
- ACX580-01-065A-4
- ACX580-01-077A-4

The main cooling fan is located at the bottom of the drive. Replace the fan as follows:
a. Release the locking clamp, use a flathead screwdriver to assist
b. Remove the fan by opening the unit (1.) and pushing leftwards at the base (2.)

c. Clean the cooling air duct and the heat sink with compressed air. See separate instructions in section 2.1.1

d. Check that the fans blowing direction is inside the unit and install the new fan unit simply by pushing it to its place.

   Ensure the fan operation when the drive is powered up