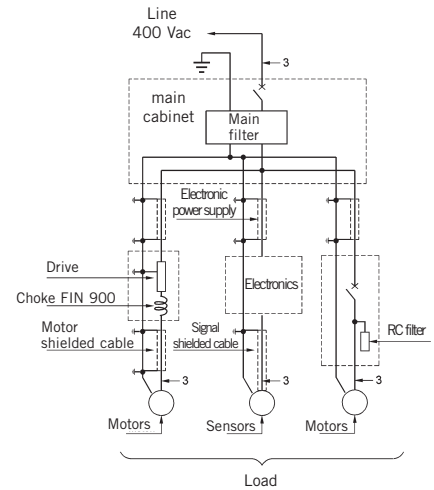


Example of (filter) application on a system with one master cubicle and several auxiliary ones.

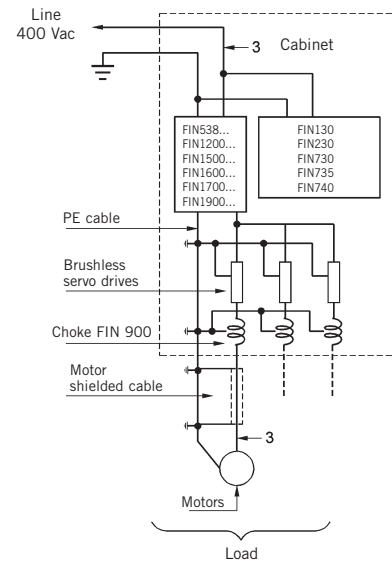
In this case, a single mains filter is installed, on the master cubicle only.

Note that power cables leaving a filtered cubicle are always screened with the screen earthed at both ends. Screened signal cables, on the other hand, have their screens earthed at the electronic board end only.



Example of (filter) application with brushless drives

To be noted are: presence of the mains filter in series with the power supply at the panel input; cell in parallel with the filter on the mains side; chokes on the drive output; screened motor cable, with the cable screen connected to earth at both ends (if possible with the earth conductor external to the screen).



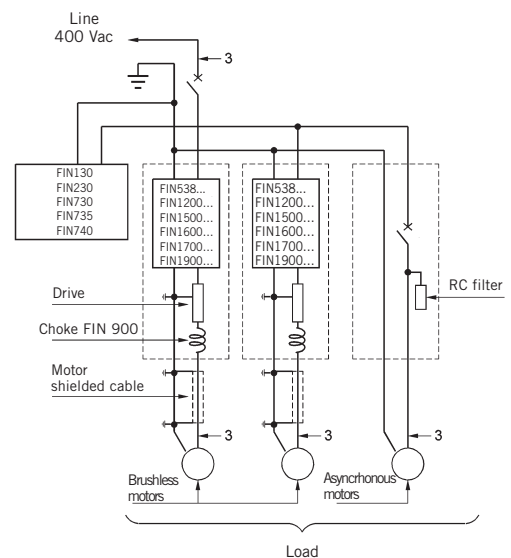
Example of filters application in a plant using more cubicles

A single cell covers the entire plant.

Each cabinet is equipped with its own filter.

The filter can be omitted on panels which do not contain components generating high disturbance levels (such as asynchronous motors).

Note the RC filter on the asynchronous motor remote control breaker necessary to eliminate the disturbance on the motor cable generated by contact opening.



Reactances application example:

- a) with one generic driver system;
- b) with one SCR driver system which pilots two motors.

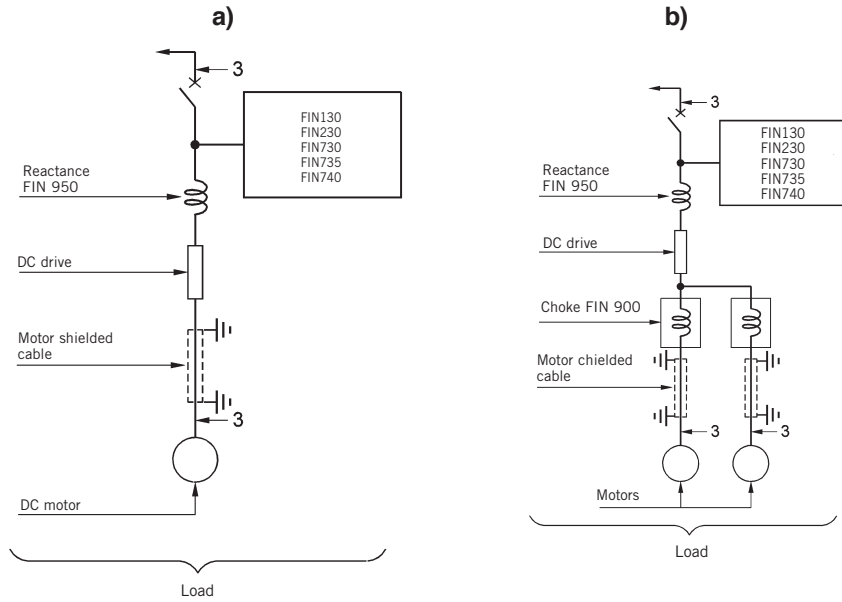


Fig. 1

In **example A**, the application of the filter feeding only the driver/inverter is technically correct. However, there exists a risk that, inside the cableform, cable **1** may run parallel to and nearby cable **2** and **3**. In this case, cable **1** becomes coupled to cable **2** and **3**, inducing in the latter disturbances which are, then transmitted to the mains network, thus reducing the effectiveness of the filter. It is therefore better to use the solution shown in **example B**. The only precaution needed is to avoid the close and parallel run of cables **1** and **2**, which would induce in the latter the phenomenon previously explained.

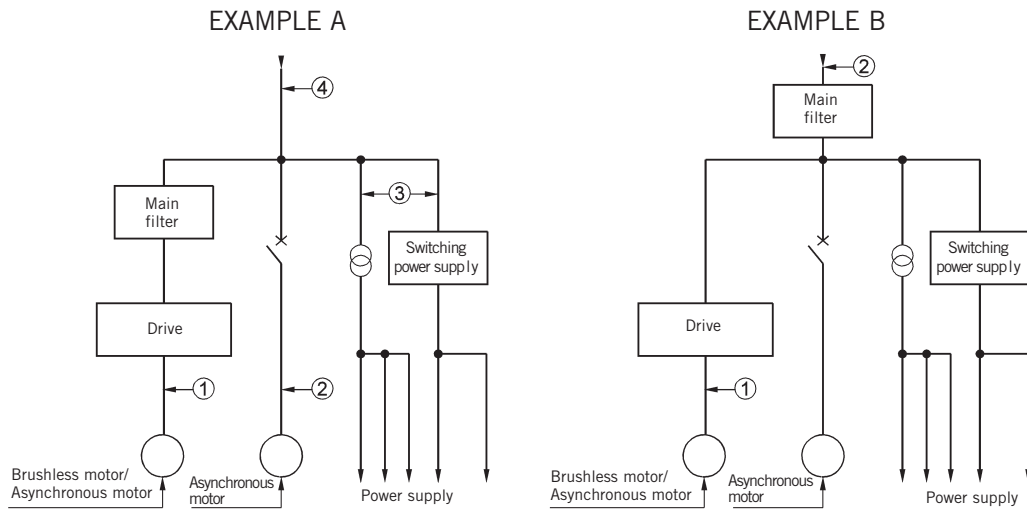


Fig. 2

In this example, the application of the filter is correct. The **system 2**, which does not incorporate disturbing components, is not filtered. However, for the reason stated in connection with **figure 1**, it is necessary to avoid that, outside the system, cable 1 runs parallel and close to cables 2, 3 and 4. The coupling would induce disturbances in the latter which, transmitted to the mains network, would reduce the filter effectiveness.

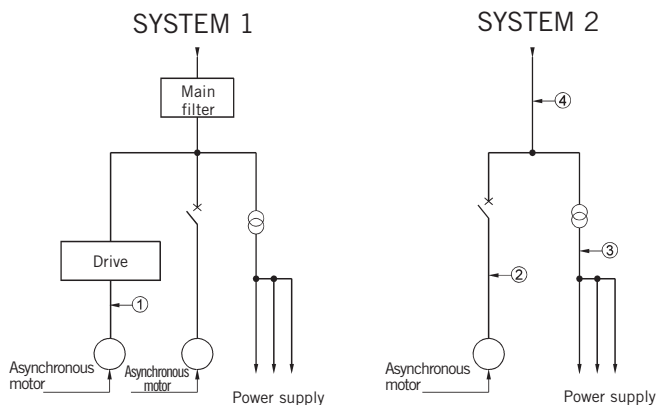


Fig. 3

In **example A**, in which the mains filter filters a part of the machine only, the cell filter must be connected immediately after the main breaker of the panel, as close as possible to the main grounding collector.

In the **example B**, the cell filter is connected in parallel to the input of the mains filter.

In both cases, the cables connecting the cell filter must be as short as possible.

