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## Power Factor Correction - Frequently Asked Questions

### Will Power Factor Correction save my company money?

If your power factor is less than unity (1) then Power Factor Correction will always save you money. The amount saved depends on how much your energy supplier is charging you in reactive power, kVA, Maximum Demand (MD) or availability, kWh units and climate change levy and so savings are site specific. These charges can easily run into thousands of £'s per year, indeed large electricity consumers can save thousands of £'s each month.

From looking at a recent electricity bill with kVA, PF and kW detailed we can calculate the size of the unit your site would require, the savings that can be achieved and the payback period.

### How much will Power Factor Correction cost for my site?

Power Factor Correction is site specific and thereby we need to look at your recent electricity bills to determine the type of unit most suitable for your site. To find out more please contact us or send us a recent electricity bill and we can provide a quotation which will detail the unit we recommend, the unit price and the achievable savings

### Will Power Factor Correction provide any other benefits?

Power Factor Correction reduces the load on your mains transformer so it will run cooler which will increase its service life. You will also see a reduction in your electrical load, so if you are charged for availability or your supply transformer is fully loaded it will free up power and allow you to increase production. If your transformer is already fully loaded and the site power factor is low, improving it can avoid the cost of a new transformer which can save you thousands of £'s and expensive shut downs to make the change of transformer.

### How do you calculate the “payback period”?

The payback period is the time, in months, required for the monthly savings to cover the capital cost of the Power Factor Correction (PFC) unit.

For example:           The PFC costs £3,000 and saves £500 per month in reactive power charges.  
                              Payback is  $3000 / 500 = 6$   
                              Therefore the PFC unit payback period would be 6 months.

### What are the running costs?

Power factor correction equipment doesn't have emissions, fumes or waste products. Other than annual service costs, standard equipment doesn't cost anything to run. Detuned equipment has low electrical losses and costs a few pence per hour to operate.

### What is the lifespan of a Marshall-tufflex Power Factor Correction unit?

Provided the Power Factor Correction unit is serviced on a regular basis (once per year is recommended), and as there are very few moving parts then you would expect a well looked after unit to last 15 - 18 years with minimal ongoing maintenance costs.

### Are there any maintenance costs?

Every component used in our equipment is chosen for quality, functionality and reliability. The equipment is designed to minimise technical risk and every product is fully tested before dispatch. As with any piece of electrical

equipment we would recommend annual servicing. There are very few moving parts within Power Factor Correction and therefore ongoing maintenance costs should be minimal

### Who installs the units into my building?

We have a number of approved installers of our Power Factor Correction units, please contact us and we will give you a list of your local installer. Alternatively we can advise your maintenance staff or nominated electrical contractor on how to install our units.

### How much does it cost to install Power Factor Correct units?

This is dependent on your building access, the space available in the switch room and how close you can position the PFC equipment to the switchboard it is to be connected to. We can arrange for our preferred installers to contact you to arrange a site visit to then prepare a quotation for installation.

### What rating of fuses or MCCB is required?

This can be calculated using a simple formula: Take the PFC equipment rating (kvar), multiply by two and that's the fuse or MCCB current rating measured in amps

### Does the unit need ventilation?

Our standard Power Factor Correction units generate very little heat so ventilation isn't usually a problem. Detuned equipment generates about 0.7kW per 100kvar so the switch room needs to be adequately ventilated to maintain an ambient of 30°C or less, adequate clearance should be left around the unit. We recommend that you speak to the installer to check the suitability of the location for the unit.

### What is the cable entry position?

Cable entry is top as standard, bottom entry is possible either by fitting a cable entry box on one end of the equipment or by having a larger enclosure and by positioning the internal components to allow sufficient space.

### What size are the units?

We have a range of standard sizes as detailed below, however we can manufacture bespoke units but these are subject to longer lead times. If a bespoke unit is required we shall quote accordingly

The dimensions of the standard units are shown below. Units are selected based on the maximum kvar rating (For example for ratings 110kvar to 150kvar then a PF150 unit should be used).

Code	Size / Description	Dimensions
PF50	50kvar Power Factor Correction unit	600mm(w) x 800mm h) x 300mm(d)
PF100	100kvar Power Factor Correction unit	600mm(w) x 800mm h) x 300mm(d)
PF150	150kvar Power Factor Correction unit	600mm(w) x 800mm h) x 300mm(d)
PF200	200kvar Power Factor Correction unit	800mm(w) x 1000mm h) x 300mm(d)
PF300	300kvar Power Factor Correction unit	1000mm(w) x 1200mm h) x 300mm(d)
PF400	400kvar Power Factor Correction unit	1200mm(w) x 1200mm h) x 300mm(d)

DOC: 00406