PFold= $\frac{P}{V×I}$

 =$\frac{308}{220×2}$=0.7

Qold= V$×$I$×$ sin(cos-1(PFold)

 = 220$×$2$×$sin(cos-1(0.7)

 = 314.2228 VAR

Inew= $\frac{P}{V×PF\_{new}}$

 = $\frac{308}{220×0.97}$

 = 1.44 A

Qnew= V$×$Inew$×$ sin(cos-1(PFnew)

 = 220$×$1.44$×$sin(cos-1(0.97)

 = 77.192 VAR

C=$\frac{Q\_{old - }Q\_{new }}{V^{2}×2π×f}$

 =$\frac{314.2228-77.192}{220^{2}×2π×50}$= 15.588 μF.

$\left|Z\right|$=$\frac{V}{A}$=$\frac{220}{2}$ =110A

Since Z= R+jX

Thus;

R= $\left|Z\right|$ $×$ PFold

 = 110 $× $0.7= 77 Ω

X= $\left|Z\right|$ $×$ sin (cos -1(PFold))

 = 110$× $0.714= 78.55 Ω

L =$\frac{X}{2π×f}$

 = $\frac{78.55}{2×π×50}$= 250.05 mH