```
fvScalarMatrix TEqn(
    (porosity*rho*Cp+(1.0-porosity)*rho_rock*cp_rock)*fvm::ddt(T)
    +fvm::div(phi*fvc::interpolate(Cp),T)
    ==
    fvm::laplacian(kr,T) + fvm::Sp(fvc::div(phi*fvc::interpolate(Cp)),T)
    + mu/permeability*magSqr(U) + fvm::Sp(alphaP*(porosity*fvc::ddt(p)+(U &
    ↪  fvc::grad(p))),T)
);
TEqn.solve();
```