
```
function [ vars ] = compressor( vars )

P03_over_P02 = vars.P_ratio_overall;
P013_over_P02 = vars.P_ratio_fan;
P03_over_P013 = P03_over_P02 ./ P013_over_P02;
vars.P_03 = vars.P_013 .* P03_over_P013;

T_03s = vars.T_013 .* P03_over_P013 .^ ((vars.k - 1)./vars.k);
vars.T_03 = ((vars.c_p .* T_03s - vars.c_p .* vars.T_013) ./ ...
    vars.eta_comp + (vars.c_p * vars.T_013)) ./ vars.c_p;

end
```

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