



## DEHUMIDIFER

Temperature Process Out:  $T_{po} = T_{pi} + .68 (M_{pi} - M_{po}) + .05 (T_{ri} - T_{pi})$

Reactivation Outlet Moisture:  $M_{ro} = M_{ri} + V_p/V_r (M_{pi} - M_{po})$

Temperature Reactivation Out:  $T_{ro} = T_{ri} - [(T_{po} - T_{pi}) \times V_p/V_r]$

Reactivation Energy:  $BTU/H = 1.08 \times V_r \times (T_{ri} - T_{ru})$

## MISCELLANEOUS FORMULAS

**Moisture Removal:**  $= \frac{4.47 \times CFM \times \Delta gr.}{7000}$   
(Lbs/hr)

**CFM:**  $= \frac{7000 [lbs/hr]}{(4.47 \times \Delta GR)}$

## ENERGY FORMULAS

**KW** =  $CFM \times \left( \frac{1.08 \times \Delta T}{3412} \right)$  or  $\frac{BTU/H}{3412}$

**Temperature rise** =  $\frac{BTU/H}{CFM \times 1.08}$

**BTU/H** =  $KWH \times 3412$   
 $HP \times 2545$   
 $CFM \times 1.08 \times \Delta T$



## LEGEND

<b>Tpo</b>	Temp Process Out (°F)	<b>BTU/H</b>	British Thermal Units/ Hour	<b>Mpi</b>	Moisture Process In (GR)
<b>Tpi</b>	Temp Process In (°F)	<b>ΔGR</b>	Difference in Grains	<b>Mro</b>	Moisture React Out (GR)
<b>Tru</b>	Temp React In Unheated (°F)	<b>ΔT</b>	Difference in Temperature	<b>Mri</b>	Moisture React In (GR)
<b>Tro</b>	Temp React Out (°F)	<b>Vp</b>	Process Air Volume (CFM)	<b>HP</b>	Horsepower
<b>Tri</b>	Temp React In (°F)	<b>Vr</b>	React Air Volume (CFM)	<b>KWH</b>	Kilowatt Hours
<b>CFM</b>	Cubic Feet/Minute	<b>Mpo</b>	Moisture Process Out (GR)		