

Program Version	Creation Date	State & City	Region & Country	Calculator	ROM Version
1.01	06/12/2002	NEUQUEN	 Patagonia ARGENTINA		HP49-C (Rev.#1.18)
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Program Title					
<b>Chen's Equation for Friction Factor Calculus</b>					
Library Number			Checksum (CRC)		Bytes
<b>L998</b>			<b># 2587h</b>		<b>1,823.50</b>

I'm writing this program in UsrRPL Language and after create a Library (L998), wich perform calculations as follow :

### Head of Program

0.To Solve Equation

1.Purge Data

2.Quit & Home

### Known Data for Entry

Rr

Relative Rugosity (  $\epsilon/D$  )

Re

Reynolds Number (  $N_{Re}$  )

### Result :

f

Factor Friction (  $\lambda$  )

The equation is :

$$\frac{1}{\sqrt{f}} = -4 \log \left( \frac{\frac{\epsilon}{D}}{3.7065} - \frac{5.0452}{N_{Re}} \log \left[ \frac{1}{2.8257} \left( \frac{\epsilon}{D} \right)^{1.1098} + \frac{5.8506}{N_{Re}^{0.8981}} \right] \right)$$

#### Example 1

Rr : 0.00111

Re: 8627

f : 8.42829956362E-3 ( 0.008428 )

#### Example 2

Rr : 0.024

Re: 61234

f : 0.013192141589 ( 0.013192 )

For solve equation: From the Head of Program, move the bar with the arrows keys (horizontal's or vertical's) and go to variables Rr and Re.Then complete the values. Next step move with the indicated arrows keys, the bar to f, and now press F6 key (SOLVE). For return to the ...

Head of Program, press ENTER key.

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For any questions, please contact me to :



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