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January 4, 2010 ~ Monday Morning Minutes:

The Bell and Gossett System Syzer® – a few other uses

Many engineers and contractors in the HVAC industry are familiar with the B&G red-white-blue system syzer wheel and use it often for scale 2 pipe sizing. Over the next few weeks the MMM articles will review the use of the hand held wheel and the electronic version. Today we will review Scale 2 and Scale 3.

The wheel: To use the Scale 2 pipe sizing just rotate the wheel until the flow rate in GPM shows up in the white pie shaped area. Now rotate the wheel slightly until the arrow on the top of the “pie is aligned with a pipe size. The top portion of the “pie” gives you the pressure drop for per 100 feet of (TEL) total equivalent pipe using water as the liquid. The “pie” allows a selection range of approximately 1 to 4 pressure drop per 100 feet of TEL. Scale 3 gives the FPS (feet per second) velocity.

Example: Select a pipe size for 800 GPM. Solution: Rotate the wheel until 800 GPM is in the “pie”. There are two choices for the pipe size. 6” schedule 40 steel pipe will have 4 feet/100 feet pressure drop and 8” steel pipe will have 1.05 feet/100 feet pressure drop. If we select the 6” pipe scale 3 shows the velocity at just under 9 FPS.

On the electronic version; click on the **flow/pressure drop relationship** button; then enter the flow rate; now choose pipe sizing to get the pressure drop between 1 and 4 feet/100 feet. The electronic version also gives you the Reynolds number and friction factor as well as the velocity.



Next week we will use the electronic System Syzer® and change the fluid type.

If you would like to download the electronic system syzer go to <http://www.bellgossett.com/BG-SystemSyzer.asp>

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