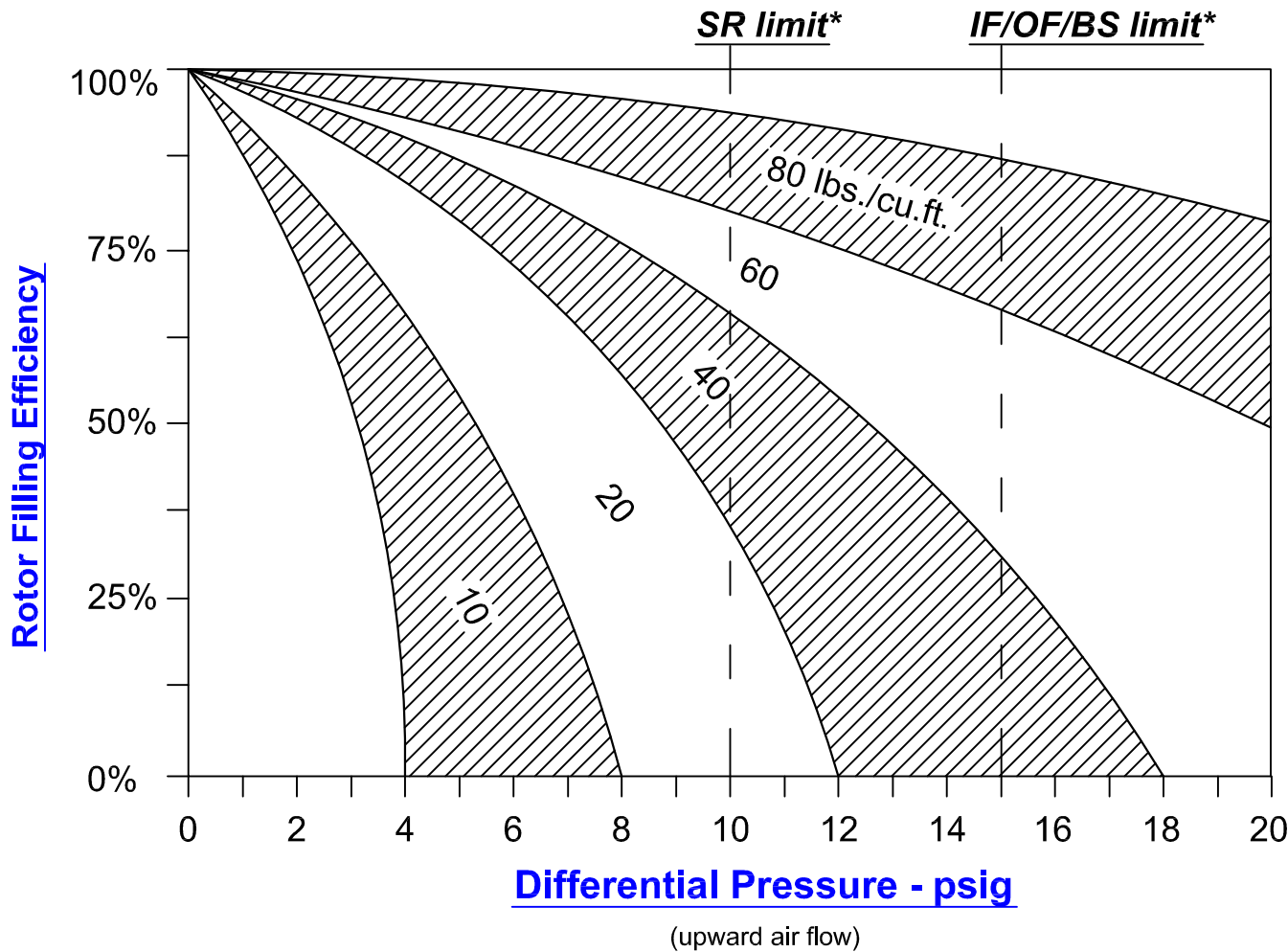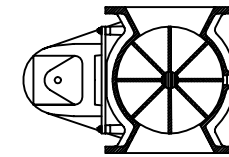# Rotary Valve Filling Efficiency Guidelines

Guidelines Only ~ Not for Firm Recommendations!

Extra Heavy Duty designs available for differential pressures up to 75 psig.

SR limit*   IF/OF/BS limit*

Rotor Filling Efficiency (vertical axis: 0% to 100%)

Differential Pressure - psig (horizontal axis: 0 to 20)

(upward air flow)

Curves labeled: 80 lbs./cu.ft., 60, 40, 20, 10

X = pressure above

Y = pressure below

1 psig =
-2.036"Hg
-27.68"H20
0.069 Bar

X - Y = Z (ΔP)

Example: 6"Hg vacuum above and 6 psig positive pressure below.

1) convert "Hg to psig: 6"Hg = -3 psig
2) -3 psig - 6 psig = -9 psig ΔP

Assumes standard 0.005" rotor clearance. Upward air leakage through a rotary valve aerates the product and reduces its apparent bulk density. Increasing rotor clearance increases the leakage rate which has the same effect as increasing the differential pressure.

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other material characteristics that can negatively affect filling efficiency:
- cohesiveness
- high angle of repose
- bridging
- hygroscopic
- static charge
- fibers
- larger particles

fill-cap JH 10-00