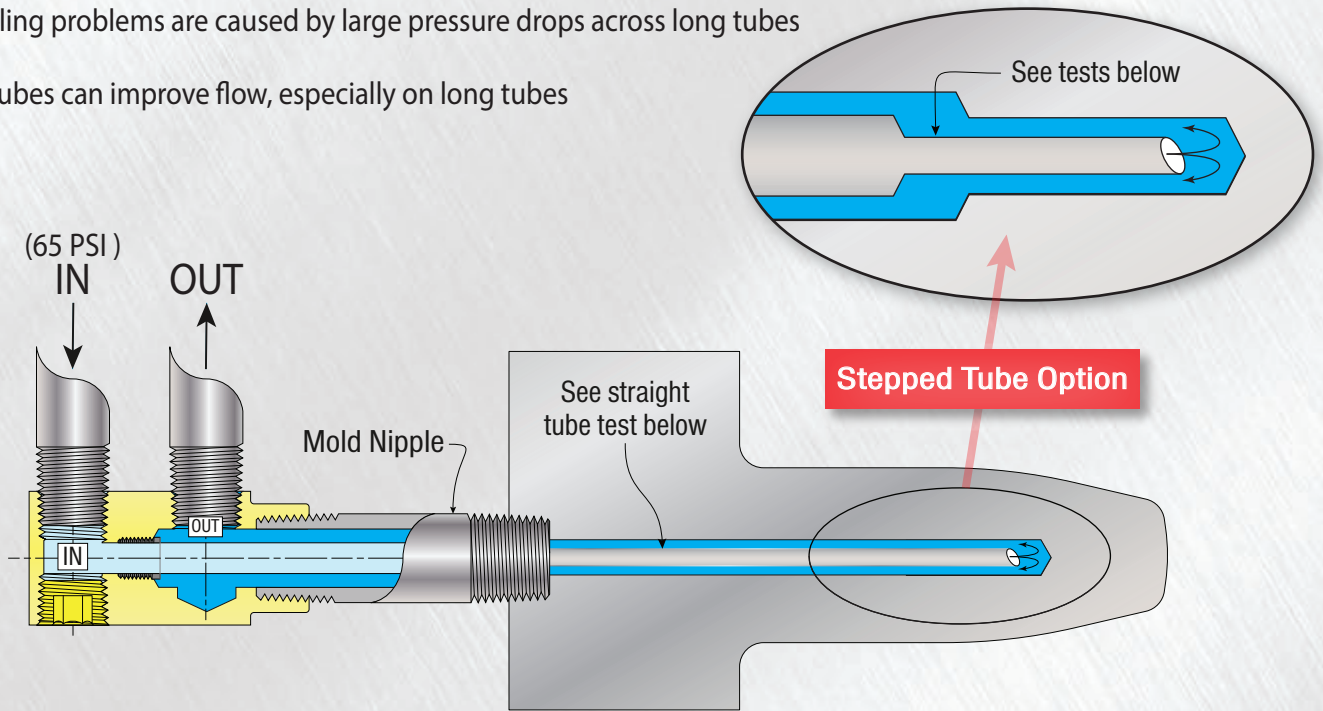


# Stepped High Flow Tubes

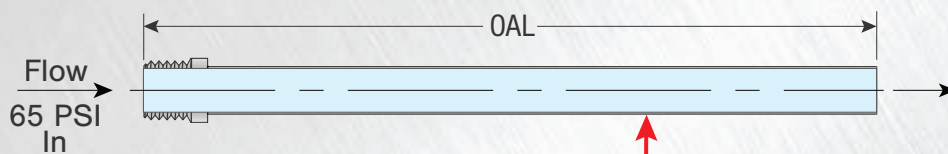
- Some cooling problems are caused by large pressure drops across long tubes
- Stepped tubes can improve flow, especially on long tubes



## Standard Tube (no step)

- An example of straight tube performance

The longer the tube, the lower the flow

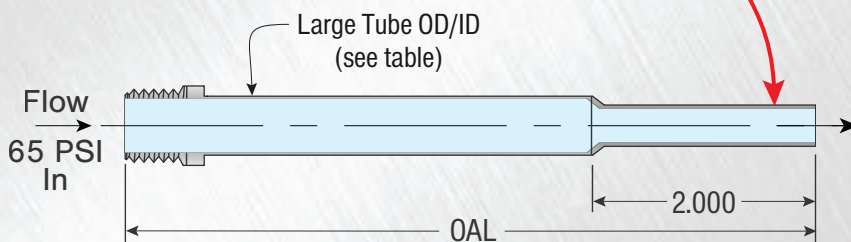


Tube Size		OAL (in)	GPM
O.D.	I.D.		
.148	.135	2	2.84
		6	2.31
		12	1.94
		20	1.65

## Stepped Tube

.148 OD x .135 ID Tube

GPM goes up with a stepped tube



- Flow drop-off seen in the straight tubes above is reduced
- Greater impact on flow at longer lengths

Larger steps can provide better flow

Large Tube		OAL (in)	GPM	Percent Flow Increase Over Straight Tube
O.D.	I.D.			
.187	.167	6	2.52	9.2%
		12	2.33	20.2%
		20	2.16	30.9%
.250	.230	6	2.83	22.6%
		12	2.75	42.2%
		20	2.65	61.1%