

# WHAT DO YOU KNOW ABOUT COMPRESSED AIR?



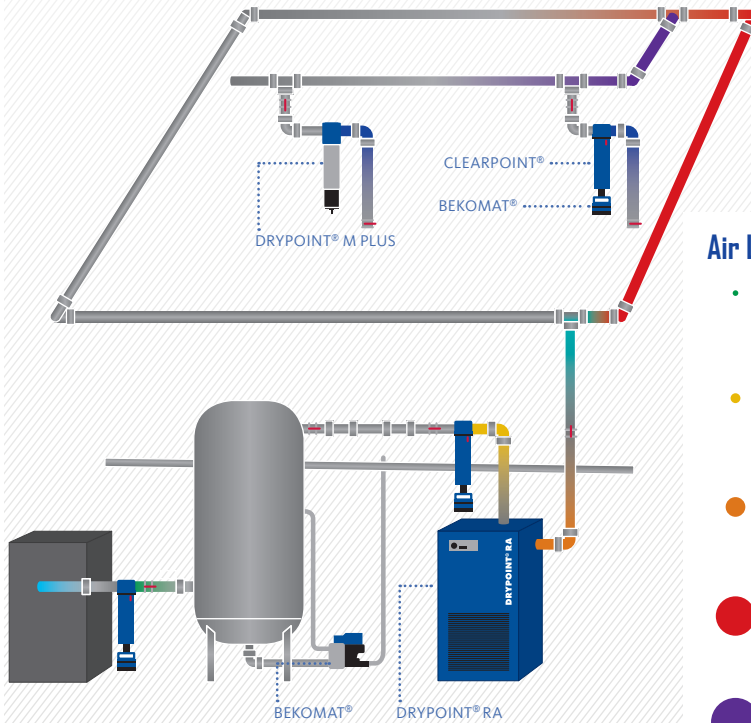
## Pressure Drop

Compressor Pressure 110 psig  
Point-of-use Pressure 85 psig

### How does this happen?

9%	10 psi	Compressor Controls
10%	1.0 psi	Main Pipe Work
10%	1.0 psi	Water Separator
10%	1.0 psi	Coalescing Filter
20%	2.0-6.0 psi	Air Dryer
5%	0.5 psi	Distribution Pipe Work
5%	0.5 psi	Connecting Lines
33%	5.0-8.0 psi	Point-of-use Connections

With 110 psig at the compressor, it is easy to lose up to 25 psi by the time the air is consumed. Each system component is crucial to the efficiency of the whole system.



## Air Leaks

Leak Size	HP	Volume	Annual Cost
1/32"	0.5	1.6	\$192
1/16"	1.5	6.5	\$577
1/8"	7.5	26	\$2,887
1/4"	25	104	\$9,625
3/8"	50	234	\$19,251
1/2"	100	415 cu. ft. lost per minute	\$38,503 annual cost

Annual cost based on 8,000 operating hours, power cost at \$0.06 kWh and motor efficiency of 93%.

$$\text{Annual cost} = (\text{BHP}) \times (.746) \times (\text{Hrs/Yr}) \times (\$/\text{kWh}) / \text{Motor Efficiency}$$

## Condensate Drain Air Loss

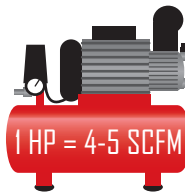
\$10,000 - ∞	Cracked Ball Valve
\$800 - \$1,000	Pneumatic Ball Valve w/ Bleeding Nozzle
\$300 - \$400	Timer Solenoid
\$0	BEKOMAT® Zero Air Loss Drain

**ROI**  
**90 DAYS**  
Average Return on Investment

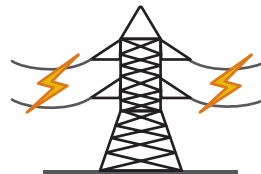
Condensate drain air loss is calculated using the same formula as air leaks.

## Facts and Figures About Compressed Air

Cost of Compressed Air (per SCFM)	
1,000 SCFM of Air Generation	\$0.30 - \$0.60
1,000 SCFM of Drying	\$0.03 - \$0.20



1 HP = 4-5 SCFM



5-6.5 SCFM = 1KW  
\$0.08 - \$0.20 KWH (US)

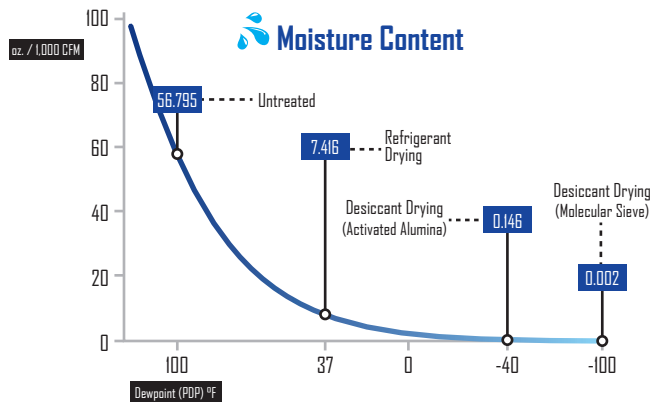
Electricity



100 SCFM = 0.75 Gal./HR



Rec. Tank Sizing  
1 Gal. / CFM



## Oil Carryover

(Gallons Entering System per Year)

PPM	Hours	25	50	100	200
2		0.5	1.0	2.4	4.8
4	4,000	1.0	2.4	4.8	9.6
6		1.4	3.6	7.2	14.4
8		1.9	4.8	9.6	19.2