Nozzle Air Consumption DS-19

SurfaceFinishing Equipment Group
A SURFACEPREP COMPANY

COMPRESSOR SIZE IS IMPORTANT

Keep your productivity up - Maximise your compressed air pressure and volume.

A blast cleaning operation's productivity level directly depends on the volume and pressure of the air passing through the nozzle. In operations with slow production rates, there's usually not enough air volume (cfm) and pressure (psi). A larger compressor will provide more air to support a larger nozzle, and a larger nozzle gets the job done faster. Also ensure air lines and blast hoses are of the correct size to minimise pressure losses.

AIR CONSUMPTION – in CUBIC FEET PER MINUTE										
Nozzle Size			Nozzle Pressure							
Nozzle	Nozzle Size (inch)	Nozzle Size (mm)	50 psi	60 psi	70 psi	80 psi	90 psi	100 psi	120 psi	140 psi
No. 2	1/8	3.18	14	17	19	21	24	26	30	34
No. 3	3/16	4.76	32	37	42	47	52	57	67	77
No. 4	1/4	6.35	57	67	75	84	93	103	119	136
No. 5	5/16	7.94	89	103	117	131	145	158	186	214
No. 6	3/8	9.53	129	149	169	189	209	229	269	309
No. 7	7/16	11.11	176	203	230	258	285	312	367	422
No. 8	1/2	12.70	229	265	300	336	371	407	478	549
No. 10	5/8	15.88	356	412	468	524	580	632	744	856
No. 12	3/4	19.05	516	596	676	756	836	916	1076	1236
Efficiency			47%	55%	64%	74%	86%	100%	130%	165%

Shorter is better. Don't loose pressure -
Keep your air hose and blast hose lengths short. Put your compressor as close to the blast pot as possible and keep your pot near your blasters to shorten the distance the air has to travel and keep pressure drops to a minimum. It's especially helpful to keep blast hose length short since pressure drops are even greater than in air hose because you're pushing abrasive and compressed air through the line.

Blasting Efficiency - Every 1 psi below 100psi pressure at the nozzle equates to 1.5% LOSS of blasting efficiency	
Pressure at Nozzle	Loss of Efficiency compared to 100 psi
94 psi	9.40%
90 psi	16%
80 psi	35%
70 psi	57%

Minimum Recommended Compressor Air Supply Line Sizes	
Nozzle Bore Size	Minimum Air Line Bore
1/4"	1" (25 mm)
5/16"	1-1/4" (32 mm)
3/8"	1-1/2" (38 mm)
1/2"	2" (50 mm)

All figures above are guide only and depend on factors such as nozzle wear and abrasive type. Always ensure equipment is rated to air pressure being used.