



Compressed air is, with abrasive, one of the most important components of the entire abrasive blast system.

### **1. Compressed air has to be clean.**

It has to be free from any trace of oil and moisture.

- oil would contaminate abrasive and thus blasted surfaces.
- moisture would cause flash rusting and abrasive pot clogging.

### **2. Air supply has to be adapted to the application**

Abrasive velocity and flow rate, which determine the productivity of a blasting operation, are directly linked to air pressure and flow rate. Influential parameters are:

- compressor characteristics
- pressure loss through hoses and fittings
- nozzle wear

### **3. A few important points**

- To reduce pressure drop as much as possible, air piping has to be as short, as direct and as big in diameter as possible.
- All parts and connections have to match up with inside diameter of supply hose to prevent any turbulence and extra pressure drop.
- Hose must be cut square and fully inserted.
- Fastening screws must not dimple or penetrate inner lining of hose.
- Blast hose inside diameter should be 3 to 4 times the size of the nozzle orifice.
- To prevent the productivity from dropping as soon as the nozzle starts to wear, the air supply system should be able to provide at least 50% more air flow than the new nozzle would need to develop the required working blasting pressure.

**4. Maximum hose lengths and suggested diameters according to nozzle diameter**

nozzle diameter		air hose diameter		max. length per diameter		blast hose inside diameter	
mm	inch	mm	inch	mtr.	ft	mm	inch
5	3/16	19	3/4	23	75	19	3/4
5	3/16	25	1	30	100	19	3/4
6	1/4	25	1	23	75	25	1
6	1/4	32	1 1/4	45	150	25	1
8	5/16	25	1	18	60	25	1
8	5/16	32	1 1/4	30	100	32	1 1/4
10	3/8	32	1 1/4	15	50	32	1 1/4
10	3/8	38	1 1/2	30	100	32	1 1/4
10	3/8	51	2	45	150	38	1 1/2
11	7/16	32	1 1/4	5	18	32	1 1/4
11	7/16	38	1 1/2	15	50	32	1 1/4
11	7/16	51	2	45	150	38	1 1/2
11	7/16	63	2 1/2	90	300	38	1 1/2
13	1/2	38	1 1/2	8	25	38	1 1/2
13	1/2	51	2	30	100	38	1 1/2
13	1/2	63	2 1/2	50	170	38	1 1/2
16	5/8	51	2	30	100	38	1 1/2
16	5/8	63	2 1/2	45	150	38	1 1/2
16	5/8	76	3	90	300	44	1 3/4

**5. Nozzle and compressor size**

nozzle		no.	pressure	psi	60	80	100	140
mm	inch		pressure	bar	4	5.5	7	9.5
5	3/16	3	HP		7	9	10	15
			CFM		30	40	45	70
			m <sup>3</sup> /hr		50	65	75	120
6	1/4	4	HP		12	16	19	27
			CFM		55	70	80	115
			m <sup>3</sup> /hr		90	115	135	195
8	5/16	5	HP		20	26	31	45
			CFM		90	115	135	200
			m <sup>3</sup> /hr		150	195	230	340
10	3/8	6	HP		30	35	45	65
			CFM		125	160	200	315
			m <sup>3</sup> /hr		210	270	340	535
11	7/16	7	HP		40	50	60	90
			CFM		170	215	255	405
			m <sup>3</sup> /hr		290	365	435	690
13	1/2	8	HP		50	63	75	120
			CFM		225	275	340	540
			m <sup>3</sup> /hr		380	465	580	920
16	5/8	10	HP		80	100	120	195
			CFM		350	450	550	880
			m <sup>3</sup> /hr		595	765	935	1500
19	3/4	12	HP		115	145	175	275
			CFM		500	650	800	1255
			m <sup>3</sup> /hr		850	1100	1360	2135