

Installation Instructions

General

Important: Do not discard packing material until all loose items are accounted for.

Provide a suitable blower location without high ambient temperatures, and with a clean unrestricted air supply to inlet.

Rotate the blower case if necessary to avoid piping interference and to provide adequate support for all piping.

Consider pressure drops carefully in selecting downstream pipe size, avoiding bends, turns and "bull-head" tees wherever possible.

NOTE: Installer must comply with all applicable codes and standards.

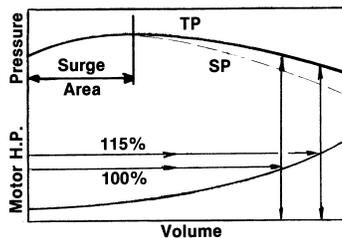
Piping Hints

(to minimize blower pulsation/resonance)

Blower pulsation can be destructive. Careful consideration to air piping between the blower discharge and air control valve can avoid the problem.

Maxon Series FG Pressure Blowers are of a centrifugal type with radial blades and direct-connected 3450 RPM motors. Fan curves for all blowers of this design follow the pattern shown by the example below.

Where the pressure curve slopes upward, blower operation is said to be in the "surge area" and is



inherently unstable, since the downstream air control valve calls for reduced pressures while the blower is trying to produce increased pressures.

Burner systems with broad turndown ranges frequently operate unnoticed in this blower "surge area" at lower firing rates.

Blower Designation	Dis. Size	Max. Lineal Ft. of Size Shown					
		4"	6"	8"	10"	12"	14"
C-1450-12	4"	20	9				
C-2060-12	4"	20	9				
C-3480-12	6"	48	21	12			
C-6360-12	6"	48	21	12			
C-9300-12	8"		38	21	13		
C-12000-12	10"			34	21	15	
C-17460-12	12"				30	21	16
C-1400-16	4"	19	8				
C-2370-16	4"	19	8				
C-4520-16	6"	46	20	11			
C-7020-16	6"	46	20	11			
C-9900-16	8"		37	21	13		
C-14400-16	10"			33	21	15	
C-18300-16	12"				29	21	16
C-2940-20	6"	44	19	11			
C-5450-20	6"	44	19	11			
C-7140-20	8"		36	20	13		
C-10500-20	10"			32	20	14	
C-14880-20	10"			32	20	14	
C-18840-20	12"				28	20	15
C-22740-20	12"				28	20	15
C-30960-20	12"				28	20	15
C-2160-24	6"	43	19	10			
C-3800-24	6"	43	19	10			
C-6060-24	6"	43	19	10			
C-9180-24	8"		35	19	12		
C-11220-24	10"			32	20	14	
C-15780-24	10"			32	20	14	
C-17600-24	12"				28	20	15
C-24720-24	12"				28	20	15
C-32250-24	12"				27	19	15

The pressure fluctuations that result can be very rapid and of low magnitude with very little obvious indication, or (if the relative dimensions of the piping system are such that a lower frequency results) the intensity *may cause ordinary pressure-sensing devices to respond*. At a system frequency of 10 cycles per second or less, the situation becomes critical and can be described as pulsating, surging, pumping, resonating, etc. At this point, it is highly audible and easily detected. *Continued operation under these conditions can lead to damage to the impeller and/or blower case* (whether Maxon's or anyone else's).

Installation Instructions *(continued)*

Blower pulsation can be avoided. A technical model (called a Helmholtz Resonator) allows us to calculate the discharge pipe length that will result in 10 cycle/second system frequency using the formula below.

$$F = K \sqrt{S/LV}$$

where:

K = 178 fps

S = outlet area (ft²)

L = pipe length to control valve (ft)

V = pipe volume (ft³)

Piping larger than the blower discharge size results in lowered system frequency and so the limiting length is shorter.

Based on those calculations, the accompanying table recommends maximum lineal feet of discharge piping between the blower and air control valve for each Maxon Series FG Pressure Blower.

Maintenance Hints

Protect blower from possible mechanical damage.

Establish a maintenance schedule that includes periodic inspection for dirt build-up which can reduce air flows. If necessary, remove accumulations *before* performance is affected.

Clean and wash or change filters (if used) before blower performance deteriorates, in accordance with the procedures outlined at right.

IMPORTANT:

KEEP FILTER CLEAN for optimum system performance.

Choose from the following, the one cleaning method that best fits your needs (based on manufacturer's recommendations), then perform it on a regularly-scheduled basis.

1. Vacuum to remove dry accumulations.
2. Remove element, wash like toweling and dry quickly.
3. Immerse in hot water and detergent, if necessary, to remove oil and dirt, then rinse thoroughly, wring gently and dry quickly.

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