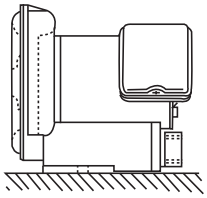
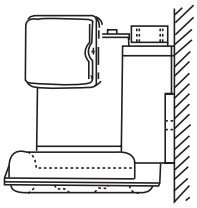
FUJI ELECTRIC
APPLICATIONS

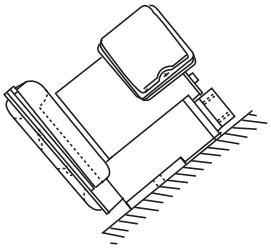
DESIGN CONSIDERATIONS

The successful operation of a Fuji Ring Compressor depends upon following certain guidelines when installing the unit.

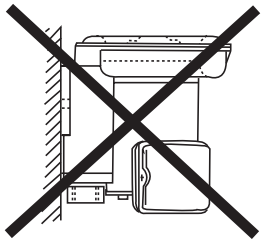
CORRECT

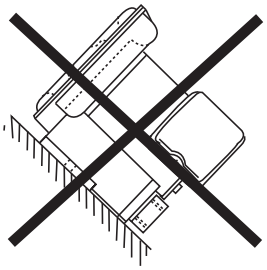






INCORRECT





INSTALLATION

The blowers may be used for handling non-corrosive, non-combustible and nonexplosive gases as well as air. The gas temperature and ambient temperature should be kept at less than 104°F, and the relative humidity at less than 80%.

The blowers can be installed in most directions. When installing the blower with the motor axis mounted vertically or at an angle, it is important to keep the impeller side downward (motor side upward). The VFC70, VFC80 and VFC90 should only be installed with the motor axis mounted horizontally for longer life.

Do not install the Ring Compressors on a base that is subject to vibration. The mounting base should be rigid enough to prevent resonance. Rubber feet, pads, or other vibration absorption materials are recommended.

SOLID PARTICLES

Gases contaminated by solid particles must be filtered before entering the Blower. Fuji offers a complete line of accessories designed to remove all types of contaminates, which include: Inlet filters for both pressure and vacuum, filter traps, and cyclone separators and receivers. These can be used to prevent dust, dirt, lint, threads, and water from entering the blower inlet.

DIRECTION OF ROTATION

All Fuji Ring Compressors have an arrow located on the blower housing to indicate the proper direction of rotation, and all blowers operate in a counterclockwise direction when viewed from the motor side. This can be checked by watching the fan on the motor, or by feeling the airflow entering or exiting the blower inlet and outlet, which are labeled "IN" and "OUT", respectively. All three phase units may have the direction of rotation reversed by switching the two main power leads. All single phase units operate in one direction of rotation only, regardless of wire connections.

When three phase units operate with reversed rotation, a loss of performance will result, and airflow will be reversed. Some applications may benefit from this type of operation; please contact the factory for information.

TEMPERATURE

The temperature rise of air passing through the blower can be determined from each product's Performance Data Charts.

CONTINUOUS OPERATION

When operating Fuji Ring Compressors, the air flow can be throttled between the open-flow (0" H2O pressure difference) to a blank-off condition (zero flow). The blankoff duration of the blower must not exceed the maximum allowable time (3 Phase Wiring Diagrams). If the blower will be operating in a continuous mode, it requires a minimum amount of air flow. Fuji offers pressure and vacuum relief valves that are set at the correct point to allow proper operation of the blower. When using relief valves, the blower must be rotated in one direction only.

Models VFC60-VFC70 and smaller must be limited to 10 starts per hour; models VFC70 and larger must be limited to 4-6 starts per hour, for extended life.

OPERATING LIMITS

60 HZ OPERATION						
Model	TEMPERATURE		PRESSURE		VACUUM	
	Maximum Outlet Temperature**		Maximum Time at Dead-head (Seconds)[1]	Minimum Airflow (SCFM)	Maximum Time at Dead-head (Seconds)[1]	Minimum Airflow (SCFM)
	°C	°F				
VFC06	70	158	Cont.	0	Cont.	0
VFC08	70	158	Cont.	0	Cont.	0
VFC10	80	176	600	3.5	600	3.5
VFC20	80	176	240	3.5	240	3.5
VFC30	70	158	120	17*	120	16*
VFC40	105	223	120	3.5*	120	3.2*
VFC50	95	205	60	45*	60	40*
VFC60	110	230	60	56*	60	50*
VFC70	115	241	30	88*	30	70*
VFC80	115	241	30	135*	30	106*
VFC90	130	266	30	195*	30	140*

50 HZ OPERATION						
Model	TEMPERATURE		PRESSURE		VACUUM	
	Maximum Outlet Temperature**		Maximum Time at Dead-head (Seconds)[1]	Minimum Airflow (SCFM)	Maximum Time at Dead-head (Seconds)[1]	Minimum Airflow (SCFM)
	°C	°F				
VFC06	70	140	Cont.	0	Cont.	0
VFC08	70	140	Cont.	0	Cont.	0
VFC10	75	169	600	1.75	600	1.7
VFC20	75	169	240	3.5	240	3.5
VFC30	65	151	120	10*	120	9*
VFC40	95	208	120	3.5*	120	3.2*
VFC50	80	176	60	25*	60	23*
VFC60	100	212	60	28*	60	24*
VFC70	100	212	30	63*	30	62*
VFC80	115	241	30	88*	30	87*
VFC90	125	259	30	140*	30	139*

* Use of pressure or vacuum relief valves are recommended. See Vacuum and Pressure Relief Valve Charts.
** Max. outlet temp. = max. temp rise + 40°C (104°F) ambient temp.
[1] Maximum time (seconds) at dead-head starting at ambient temperature.