



Fuji Electronic VFC 084P-5T

Fuji's complete line of ring compressors is designed to meet the most critical application requirements. Each features an impeller, mounting base and housing manufactured of aluminum alloy for maximum strength, reduced weight and increased corrosion resistance. The compressor and motor are constructed as a unit for mechanical simplicity and maximum structural integrity. The elimination of clutches, gears, belts, and sliding vanes reduces periodic maintenance while increasing reliability.

Reduces noise levels to below OSHA standards. Promotes smoother air flow and higher volumetric efficiency. Smoother operation. Allows vibration-free installation in OEM equipment. Better grease retention. Increased reliability. Protects bearings from contaminants for longer life. Eliminates the need for couplings, belts, or gears. Nothing to break or wear out. Minimizes OEM inventory requirements. Cools the motor and blower. Quieter running and more efficient. Protects the motor from overheating for greater reliability by cooling the motor and blower. Easy replacement in OEM equipment.

Features:

- Suction and discharge silencers
- Die cast impeller
- Dynamically balanced impeller
- Double shielded shaft bearing
- Dust-proof shaft seal
- Motor shaft-mounted impeller
- 50/60 Hz motors, wide voltage range
- Improved cooling fan design
- Built-in thermal protector
- Compact design
- Removable threaded flanges

Contact us for a price on this Refurbished Enclosed Fuji Electronic Blower!

363 W. SOUTH AIRPORT ROAD - TRAVERSE CITY, MI 49686 - BUS: (231) 264-3000 - FAX: (231) 264-3001
10312 North Holly Road - HOLLY, MI 48442 - BUS: (810) 238-9190 - FAX: (810) 238-9195

www.global-treatmentsolutions.com

RING COMPRESSORS AND VACUUM PUMPS RING COMPRESSORS AND VACUUM PUMPS

RING COMPRESSORS AND VACUUM PUMPS RING COMPRESSORS AND VACUUM PUMPS

RING COMPRESSORS AND VACUUM PUMPS RING COMPRESSORS AND VACUUM PUMPS

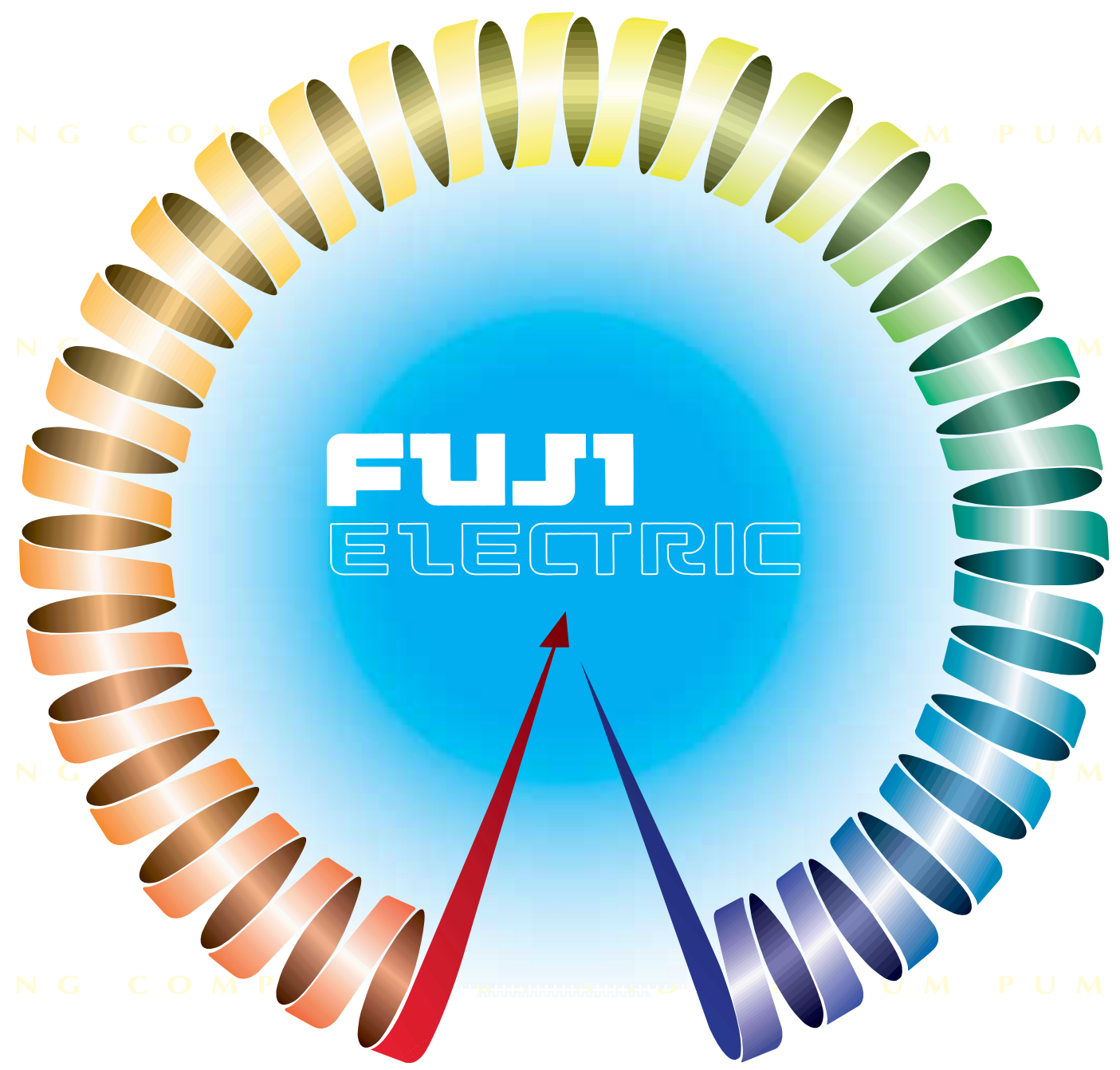
RING COMPRESSORS AND VACUUM PUMPS RING COMPRESSORS AND VACUUM PUMPS

RING COMPRESSORS AND VACUUM PUMPS RING COMPRESSORS AND VACUUM PUMPS

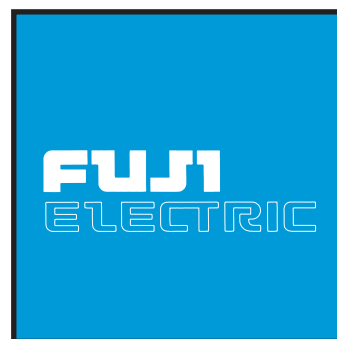
RING COMPRESSORS AND VACUUM PUMPS RING COMPRESSORS AND VACUUM PUMPS

RING COMPRESSORS AND VACUUM PUMPS RING COMPRESSORS AND VACUUM PUMPS

RING COMPRESSORS AND VACUUM PUMPS RING COMPRESSORS AND VACUUM PUMPS



FECO-A-2



FUJI ELECTRIC CORP. OF AMERICA

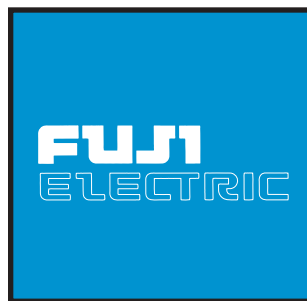
Park 80 West Plaza II • Saddle Brook, NJ 07663 • Phone (201) 712- 0555 • Fax (201) 368-8258

Fuji Electric, established in 1923, is a world leader in the electric and electronics industries. Originally a heavy electrical equipment manufacturer, Fuji Electric has grown to include power and energy systems, industrial and electrical controls, electronics, information processing, semiconductors, process and factory automation equipment, robot control systems, fuel cells and vending machines.

In 1963, Fuji Electric introduced a line of Ring-Compressors in Japan, followed in 1970 by their introduction in the United States. This product was intended to meet the increasing needs of sophisticated equipment for substantial volumes of oil-free compressed air and vacuum at low to moderate pressures. Since that time, these units have gained an unexcelled reputation for performance, reliability and quality in thousands of applications, and in all types of environments. They have been constantly improved to meet even more demanding performance and environmental specifications.

This catalog introduces the latest series of Ring-Compressors manufactured by Fuji. While general performance specifications remain unchanged, these new series meet the need of increasingly stringent noise requirements, with quieter operating units.

Fuji Electric maintains worldwide sales and service facilities to provide the fastest possible response to calls for applications assistance as well as customer service. If any further information regarding any of the material in this catalog is necessary, our sales representatives will be only too happy to provide assistance.



FUJI ELECTRIC CORP. OF AMERICA
PARK 80 WEST PLAZA II
SADDLE BROOK, NEW JERSEY 07663
PHONE (201) 712-0555
FAX (201) 368-8258

PRINCIPLES OF OPERATION AND CONSTRUCTION

PRINCIPLES OF OPERATION

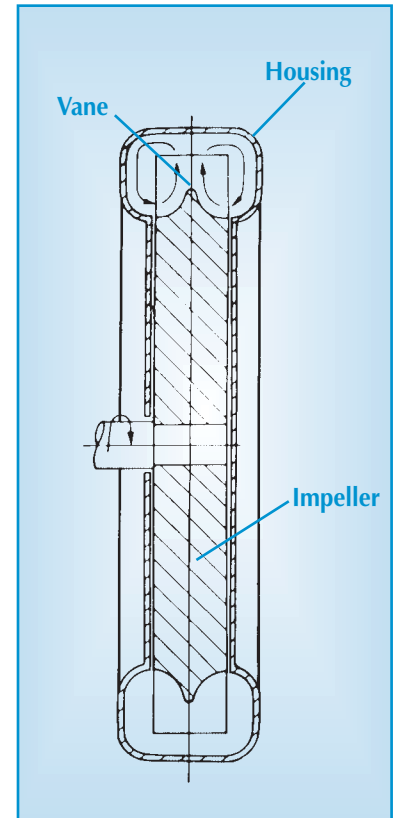
The Fuji Ring Compressor is a non-positive displacement, high volume, low pressure blower that can operate as either a compressor or a vacuum pump. It is also known by other names such as: regenerative blower, vortex blower, and side-channel blower. All of the names describe the basic principle of operation of the blower.

The blower consists of an impeller mounted directly on a motor shaft and is rotated at a high speed, about 3600 RPM. On the periphery of the impeller is a large number of radial blades. The impeller is positioned between two end-plates with the blades located with a channel on either side (hence, the name "side-channel").

As the impeller spins and the blades pass the inlet port, a low pressure area is created that draws in air, or other gases. The impeller blades impart motion to the air by centrifugal force, throwing it outward and forward, where it follows the contour of the side-channel and is returned to the base, or root, of the impeller. This action is repeated many times, creating a vortex. Each "regeneration" causes the air to gain pressure until it reaches the portion of the housing where the air is stripped from the impeller and discharged from the blower.

The ring compressor is, in effect, a multi-stage compressor with each regeneration of the air becoming another "stage". The pressure increase at each stage in the cycle is very small, but the large number of stages yields inlet vacuum levels of up to 8 in. Hg and discharge pressures of up to 5 PSIG, depending on the size of the blower. Flow levels of up to 570 SCFM can be achieved, and discharge air is free of annoying pulsations.

The basic construction of a ring compressor means that the only moving part is the impeller. Nothing touches except the bearings. The method of compression means that there is no requirement for lubrication in the compression chamber; the discharge air is oil-less. No oil aerosols are present in the discharge air; nor carbon dust generated by sliding vanes. The blowers may be mounted vertically (with impeller housing down) or horizontally.



CONSTRUCTION

Fuji's complete line of ring compressors is designed to meet the most critical application requirements. Each features an impeller, mounting base and housing manufactured of aluminum alloy for maximum strength, reduced weight and increased corrosion resistance. The compressor and motor are constructed as a unit for mechanical simplicity and maximum structural integrity. The elimination of clutches, gears, belts, and sliding vanes reduces periodic maintenance while increasing reliability.

TEFC (totally enclosed, fan-cooled) motors are standard on all models, except VFC063P and VFC100 models, which are TENV (totally enclosed, non-ventilated). In addition, all models have NEMA class B, or class F (model VFC704), insulation, and are Underwriters Recognized (Yellow Card File E54355), CSA certified (File LR48762), and meets CE. All single phase units have built-in automatic reset thermal protectors, except models VFC400P and VFC504P. All three phase units have pilot duty thermal protectors requiring only the addition of an external contactor for overload protection, however, magnetic motor starters are recommended.

All ring compressor impellers are dynamically balanced to virtually eliminate vibration while increasing overall long-term reliability. Most models have a shaft oil-seal between the impeller and bearing, as well as a double shielded bearing to reduce the possibility of foreign material influx and preclude air contamination.

FEATURES

Suction and discharge silencers

Die cast impeller

Dynamically balanced impeller

Double shielded shaft bearing

Dust-proof shaft seal

Motor shaft-mounted impeller

50/60 Hz motors, wide voltage range

Improved cooling fan design

Built-in thermal protector

Compact design

Removable threaded flanges

BENEFITS

Reduces noise levels to below OSHA standards. Makes it more comfortable for employees working near the blowers.

Promotes smoother air flow and higher volumetric efficiency.

Smoother operation. Allows vibration-free installation in OEM equipment.

Better grease retention. Increased reliability.

Protects bearings from contaminants for longer life.

Eliminates the need for couplings, belts, or gears. Nothing to break or wear out.

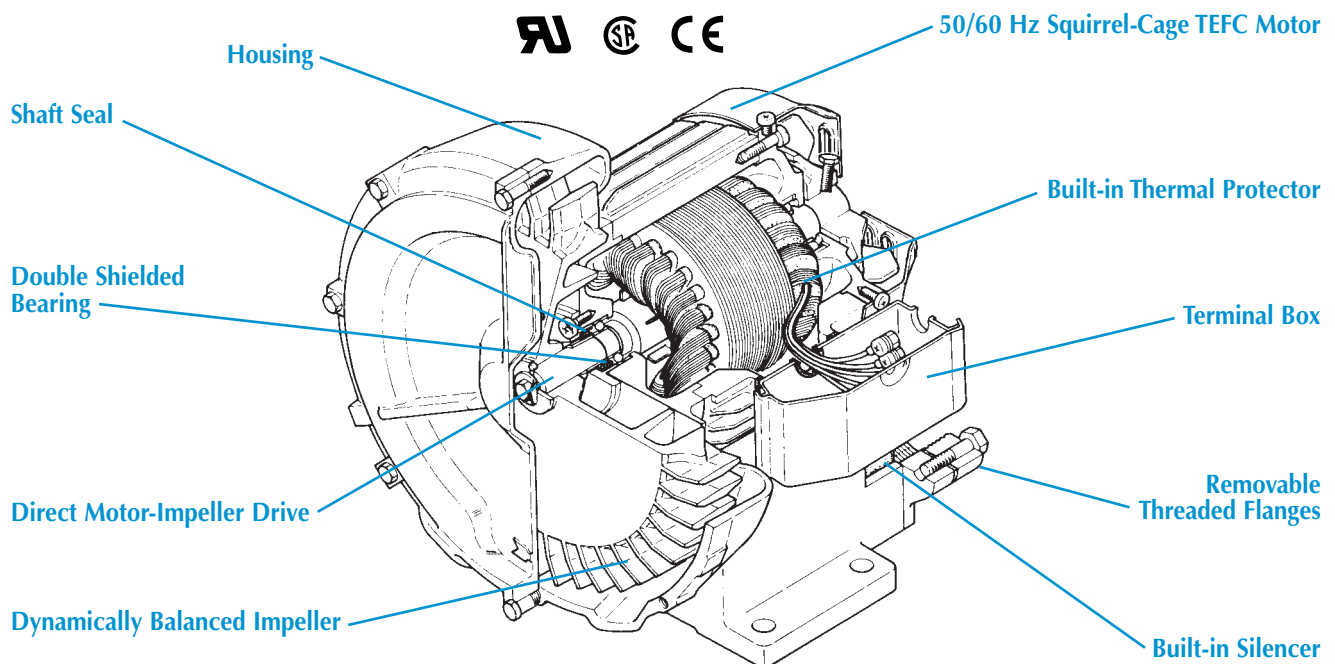
Minimizes OEM inventory requirements.

Cools the motor and blower. Quieter running and more efficient.

Protects the motor from overheating for greater reliability.

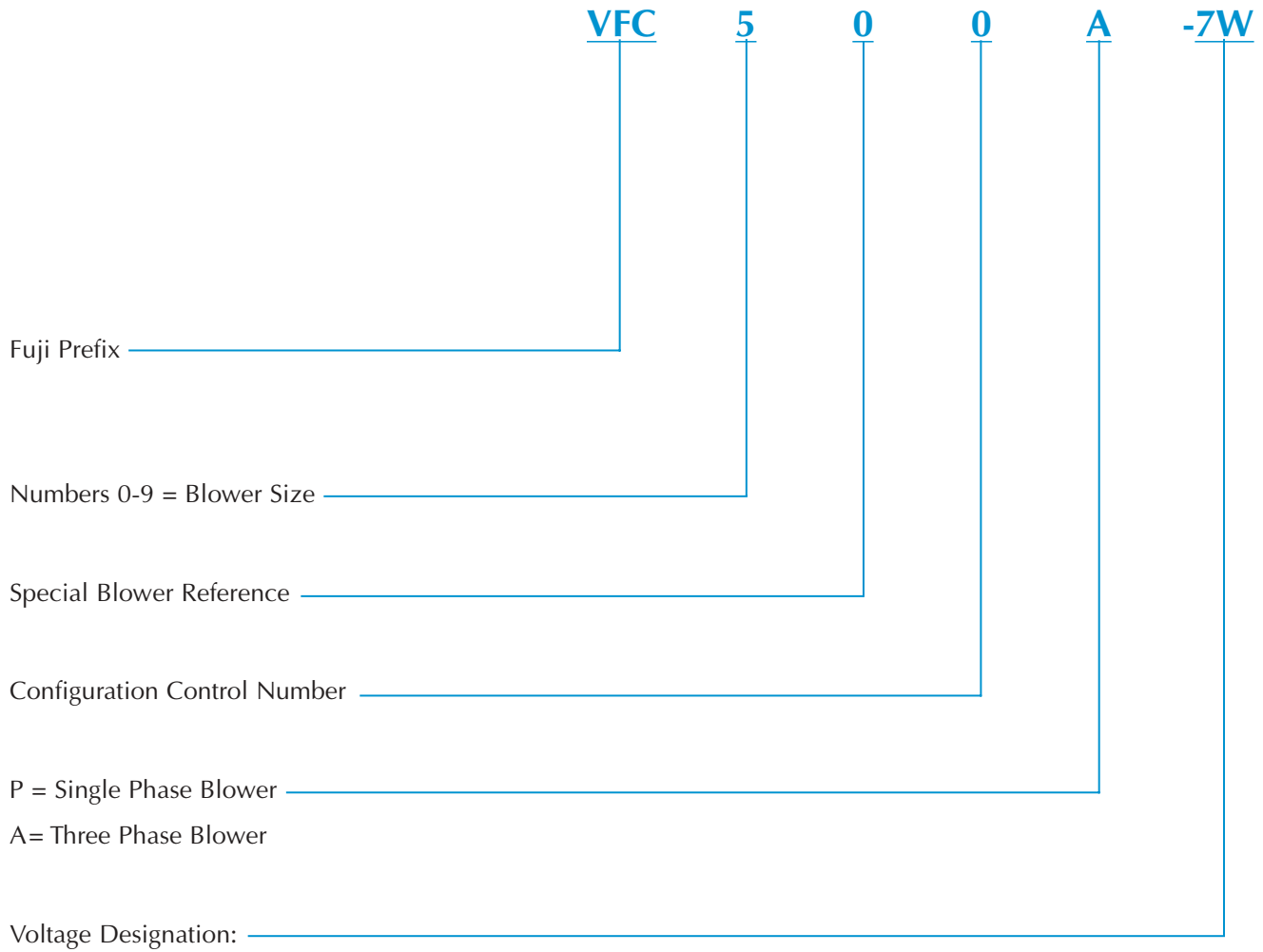
Space saving design makes it easier for OEM's to incorporate the blower into their equipment.

Easy replacement in OEM equipment.



SELECTION GUIDE

FUJI RING COMPRESSOR MODEL NUMBER DESIGNATION



1T = 115V; 50/60 Hz; 1 Ph.

2T = 230V; 50/60 Hz; 1 Ph.

200-230V; 50/60 Hz; 3 Ph.

5T = 115V/230V;50/60 Hz;1Ph.

4W= 460V; 50/60 Hz; 3 Ph.

7W= 200-230/460V; 50/60 Hz; 3 Ph.

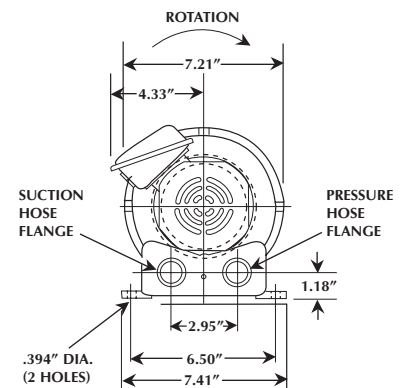
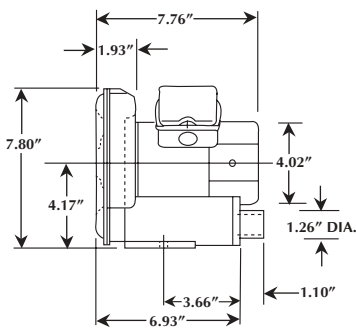
5W= 575V; 60 Hz; 3 Ph.

(For specific electrical data see pages 50, 51)

TABLE OF CONTENTS

Company Profile	1
Principle of Operation	2
Construction	2
Features and Benefits	3
Selection Guide	4
Technical and Performance Data	
VFC063	6
VFC084	8
VFC100	10
VFC200	12
VFC300	14
VFC400	16
VFC504P/500A	18
VFC600.....	20
VFC704.....	22
VFC804.....	24
VFC904.....	26
Accessories	
Inlet Filter	28
Inlet Filter Covers.....	28
Inlet Filter / Silencers	28
Inlet Filter / Silencer Replacement Elements.....	28
Inline Vacuum Filters	29
Inline Vacuum Filter Replacement Elements.....	29
Inline Filter Traps	30
Exhaust Silencer (Mufflers).....	30
Inlet Filter / Receivers	31
Fiberglass Screen Collection Bags	31
High Volume Filter / Receivers	32
Canton Flannel Filter Bags	32
Disposable / Reusable Filter Bags.....	32
Vacuum and Pressure Relief Valves	33
Vacuum Boosters	34
Aspirators.....	34
Blower / Aspirator Performance Curves	35
Air Knives	38
Applications	
General Classifications	36
Typical Applications	37
Spas and Hot Tubs	40
Tank Agitation	42
Tank Ventilation	43
Engineering	
Air Flow Through an Orifice	44
Flow Coefficients for Orifices	45
Pressure Drop Through Tubing.....	46
Altitude-vs-Barometric Pressure	47
Temperature Conversion Chart.....	48
Conversion Charts.....	49
Electrical	50
Design Considerations	52
Operating Limits	53

VFC084



The VFC084 is a single-stage ring compressor with a maximum pressure of 19.5 in. H₂O, and a maximum vacuum of 18.7 in. H₂O, and a maximum capacity of 19.5 SCFM. It comes

complete with a direct-drive, 1/10 horsepower, TEFC motor capable of operating on a wide range of voltages and on 50 or 60 Hz. A pilot-duty thermal protector is standard equipment

on all 3-phase models, and built-in automatic reset thermal protectors on 1-phase units. All versions have NEMA class B insulation, are UL recognized, CSA certified and CE.

SPECIFICATIONS

Model No.		Hz	Voltage		Amps (Max. Rated)	Amps (Locked Rotor)	Max. Pressure	Max. Vacuum	Max. Airflow	Min. Airflow	Max. Temp Rise (ΔT)	Weight
Model No.		Hz	Low Voltage/High Voltage				in. H ₂ O	in. H ₂ O	SCFM	SCFM	°F(°C)	lbs.(kg)
1 Phase	VFC084P-5T	60	115/230	1.2/0.6	3.4/1.7	19.5	18.7	19.5	0	54(30)	13.3 (6.0)	
		50	110/220	1.1/0.5	3.2/1.6	15	14.4	16.5	0	36(20)		
3 Phase	VFC084A-2T	60	200-240	0.42-0.40	1.8-2.1	19.5	18.7	19.5	0	54(30)		
		50	190-230	0.37-0.32	1.8-2.1	15	14.4	16.5	0	36(20)		
	VFC084A-4W	60	400-480	0.21-0.20	0.9-1.1	19.5	18.7	19.5	0	54(30)		
		50	380-460	0.18-0.16	0.9-1.1	15	14.4	16.5	0	36(20)		

ACCESSORIES

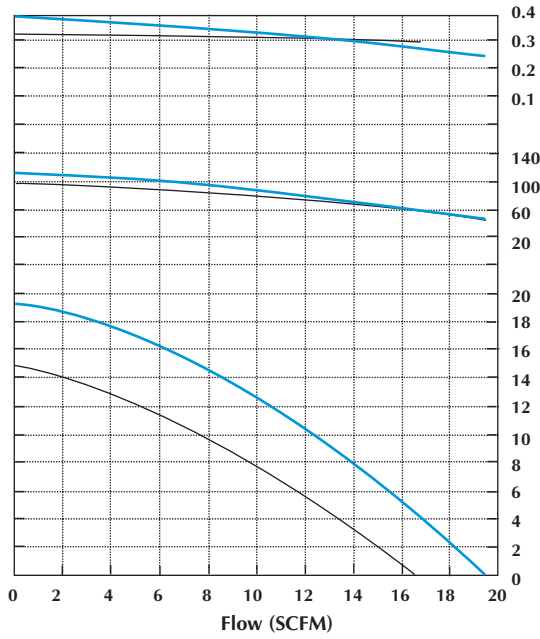
Description	Vacuum Relief Valve	Pressure Relief Valve	Inlet Filter	Inlet Filter Cover	Inlet Filter/Receiver	Exhaust Silencer/Muffler
Model No.	Not Req'd	Not Req'd	F-123	C-123	R15P1.5	VFY-021A
See Page No.	-	-	28	28	31	30



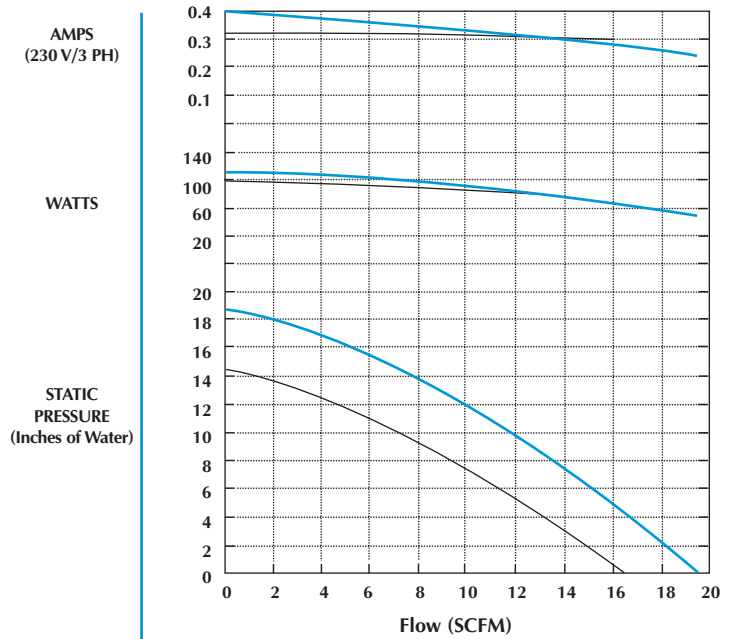
NOTE: Maximum allowable time at deadhead is unlimited

PERFORMANCE DATA

PRESSURE

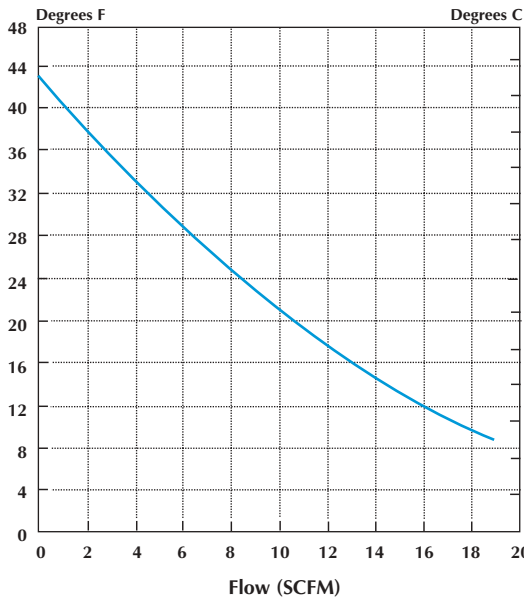


VACUUM

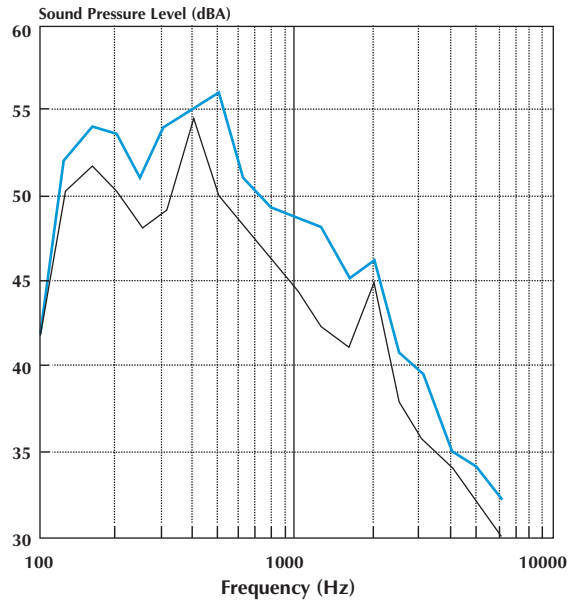


— 60 Hz
— 50 Hz

TEMPERATURE RISE



SOUND LEVEL



*Measured at distance of 1.0 meters