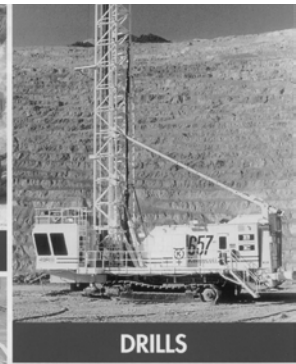


Sigma Units



CONVEYERS & HAUL TRUCKS



DRILLS



F Series	442
M Series	446
E Series	450
T Series	451
H Series	455





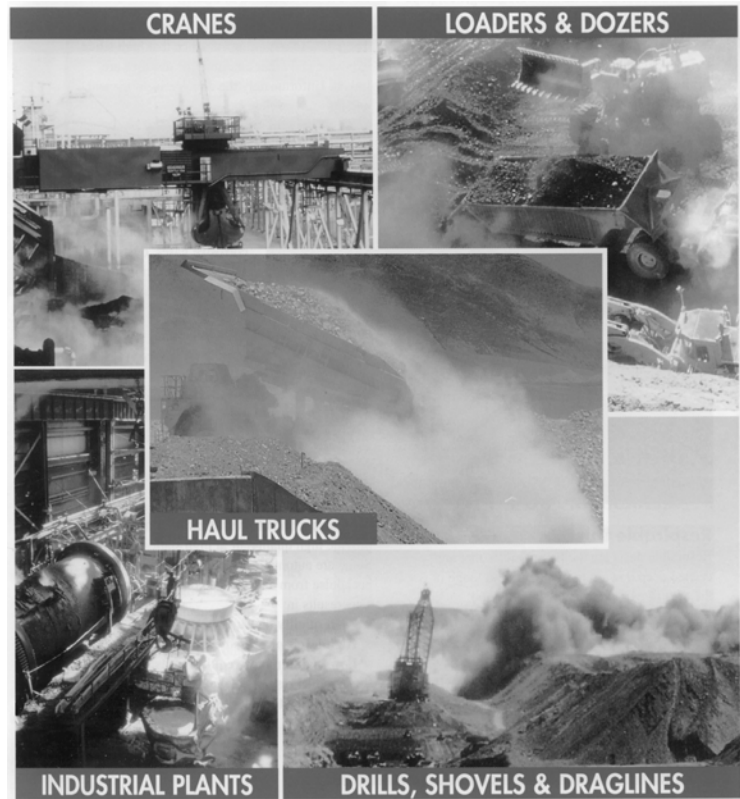
Innovative Products for the Mining, Industrial, and Defense Industries

Sigma has been designing and manufacturing main powered self-contained electric air conditioning equipment for over 30 years. Combining new technology with proven rugged design makes this equipment suitable on any mining or heavy industrial application.

These models have been installed on the cab and electrical rooms of large pieces of mining machinery for many years with excellent reliability and levels of customer satisfaction. This includes draglines and shovel cabs plus power control rooms.

As well as integrated systems, Sigma's range of light weight E Series and heavy duty T Series off highway vehicle air conditioners, available in split or packaged systems, provide greater operator comforts in applications such as:

- Agriculture**
- Mining**
- Road Construction**
- Earth Moving**



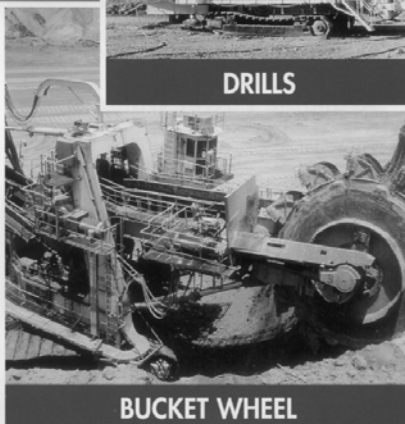
SHOVELS & HAUL TRUCKS



DRILLS



DRAGLINES



BUCKET WHEEL



Filtration & Pressurization Systems

Options

In addition to dust filters, the following options are also available:

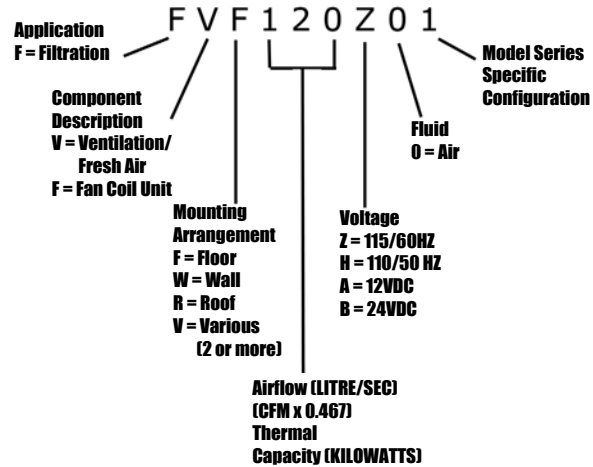
Filters which remove gaseous contaminants often generated at industrial processing sites in enclosed spaces (such as underground mining)

A wide range of electrical supplies to suite site availability

Larger capacities

New air conditioning equipment that has higher capacity in cooling, heating and also has heavily upgraded filtration systems to be compatible with higher standards of indoor air quality

Air compressor/receiver sets to suit self-cleaning filters



Product Data & Specifications

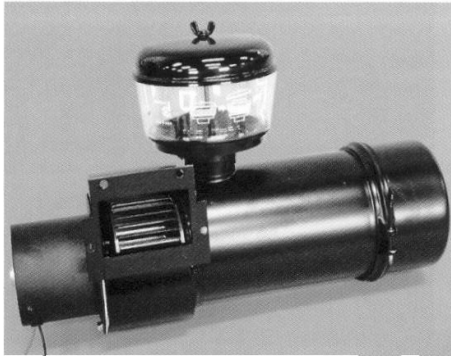
Technical Specifications:							
Model	FVV50	FVV60	FVV150	FVW100	FVF120	FFR6	
Type of Unit	filter/blower	filter/blower	filter/blower	filter/blowers	filter/blowers	cool/heat/filters	
Voltages Available V.D.C.	12 or 24	12 or 24	12 or 24	12 or 24	n/a	12 or 24	
Voltages Available V.A.C.	n/a	115-1-50/60	115-1-50/60	115-1-50/60	115-1-50/60	115-1-50/60	
Pressurizer Watts @ 24vdc	120	150	150	300	n/a	150	
Pressurizer Watts @ 115vac	n/a	200	200	400	400	200	
Pressurizer Airflow:						FVV60	FVW100
Clear filter, 0.00" w.c. ESP	85cfm-40l / s	170cfm-80l / s	315cfm-150l / s	365cfm-175l / s	365cfm-175l / s	170cfm	365cfm
0.25" w.c. ESP	18cfm-9l / s	145cfm-70l / s	235cfm-110l / s	325cfm-155l / s	325cfm-155l / s	145cfm	325cfm
0.50" w.c. ESP	5cfm-2.5l / s	126cfm-60l / s	210cfm-100l / s	285cfm-135l / s	260cfm-125l / s	126cfm	285cfm
Max. Fan Static Pressure Available	0.65" w.c.	2.5" w.c.	2.2" w.c.	5.3" w.c.	4.7" w.c.	2.5" w.c.	5.3" w.c.
No. of Blower / Motors	1	1	1	2	2	1	
No. of Motor Speeds	1	1	1	1	Variable Speed	2	
Method of Speed Change				manual	Auto Pres. Transducer	manual	
Pre-Cleaner ---Roughing	1	1	1	n/a	n/a	1	
Pre-Filter ---- Disposable	n/a	n/a	n/a	n/a	n/a	12" x 24" x 1"	
No. of Final Filter Elements	1	1	2	1	8	2	
Permanent Filter Size	5"Dia x 11"Lg	6.5"Dia x 14"Lg	14.5"Dia x 24"Lg	6"Dia x 13"Lg	5"Dia x 24"Lg	13"H x 25"Lg	
Type of Permanent Filter	Pleated	Pleated	Pleated	Pleated	Teflon Coated	Pleated	
Filter Material	Paper	Paper	Paper	Spun Polyester	Polyester Sock	Spun Polyester	
Filtration Efficiency	See Note	See Note	See Note	99% @ 0.3 microns	99% @ 0.3 microns	99% @ 0.3 microns	
Outlet Spigot	2.75" x 4.25"	3.63" x 3.63"	5.5" Dia.	4" Dia.	6" Dia.	n/a	
Compressed Air Inlet				3/8"FPT	3/8" FPT		
Compressed Air Pres. Req'd				60-100psig	60-100psig		
Mounting Type	Foot	Foot	Foot	Wall	Foot	Roof	
Cleaning Trigger				Adjustable Timer	Adjustable Timer		
Motor External Protection	no	no	no	Circuit Breaker	Circuit Breaker	Circuit Breaker	
Internal Thermal Prot.	yes	yes	yes	yes	yes	yes	
Pressurizer Casing Mat'l	Painted Steel	Plastic	Stainless Steel	Stainless Steel	Stainless Steel	Plastic	
Weight	17lb/7.7kg	21lb/9.5kg	87lb/40kg	100lb/45kg	285lb/130kg	325lb/148kg	

Note #1: Air Cleaner Test, SAE J126, which includes 12% in the 0 - 5 micron range.

Note #2: 1" w.c. = 250 pascals



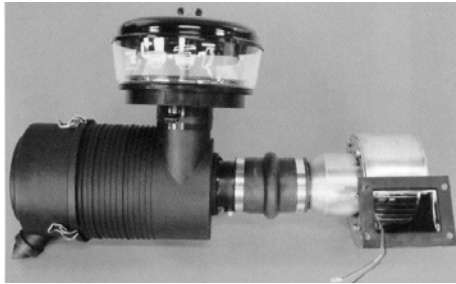
Filtration & Pressurization Systems



FVV50 Pressurizer

This is a basis pressurization for 12 and 24 V DC. It is suitable for well sealed cabs and enclosures. The typical application is as an auxiliary piece of equipment to Sigma's 'T' series air conditioners.

A welded steel base construction and impact resistant plastic cover, along with plenty of performance, ensure a comfortable environment.



FVV60 Pressurizer

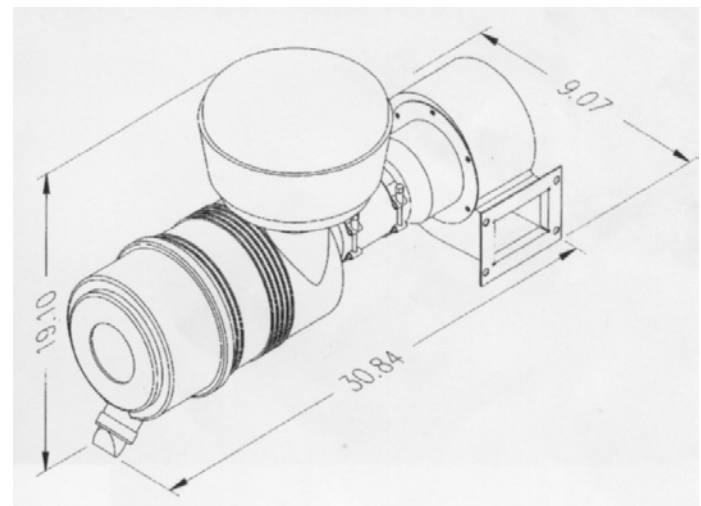
This configuration is a recent Sigma development that utilizes a plastic filter housing and in-stream motor arrangement. Performance, static pressure and air delivery, are better than the FVV50, the system is quieter, the filter surface is larger, the motor runs cooler and there is the added flexibility that the canister can be relocated to a remote site and ducting run between the blower and filter. The system is available in 12 and 24 V DC and 110 V single phase A.C.

Technical Specifications:

Model	FVV50	FVV60
Type of Unit	filter/blower	filter/blower
Voltages Available V.D.C.	12 or 24	12 or 24
Voltages Available V.A.C.	n/a	115-1-50/60
Pressurizer Watts @ 24vdc	120	150
Pressurizer Watts @ 115vac	n/a	200
Pressurizer Airflow:		
Clear filter, 0.00" w.c. ESP	85cfm-40l / s	170cfm-80l / s
0.25" w.c. ESP	18cfm-9l / s	145cfm-70l / s
0.50" w.c. ESP	5cfm-2.5l / s	126cfm-60l / s
Max. Fan Static Pressure Available	0.65" w.c.	2.5" w.c.
No. of Blower / Motors	1	1
No. of Motor Speeds	1	1
Method of Speed Change		
Pre-Cleaner ---Roughing	1	1
Pre-Filter ---- Disposable	n/a	n/a
No. of Final Filter Elements	1	1
Permanent Filter Size	5" Dia x 11"Lg	6.5" Dia x 14"Lg
Type of Permanent Filter	Pleated	Pleated
Filter Material	Paper	Paper
Filtration Efficiency	See Note	See Note
Outlet Spigot	2.75" x 4.25"	3.63" x 3.63"
Compressed Air Inlet		
Compressed Air Pres. Req'd		
Mounting Type	Foot	Foot
Cleaning Trigger		
Motor External Protection	no	no
Internal Thermal Prot.	yes	yes
Pressurizer Casing Mat'l	Painted Steel	Plastic
Weight	17lb/7.7kg	21lb/9.5kg

Note #1: Air Cleaner Test, SAE J126, which includes 12% in the 0 - 5 micron range.

Note #2: 1" w.c. = 250 pascals

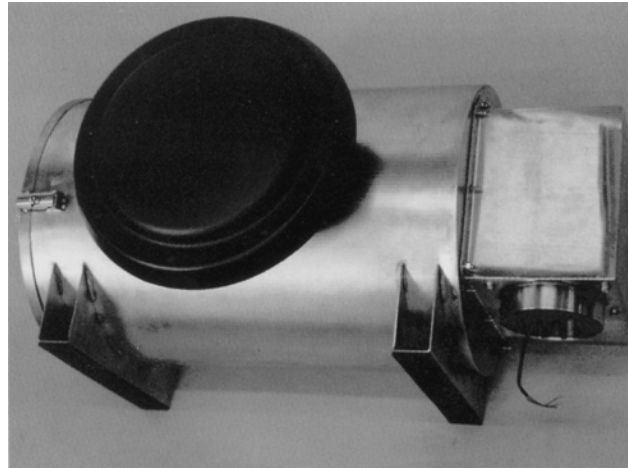




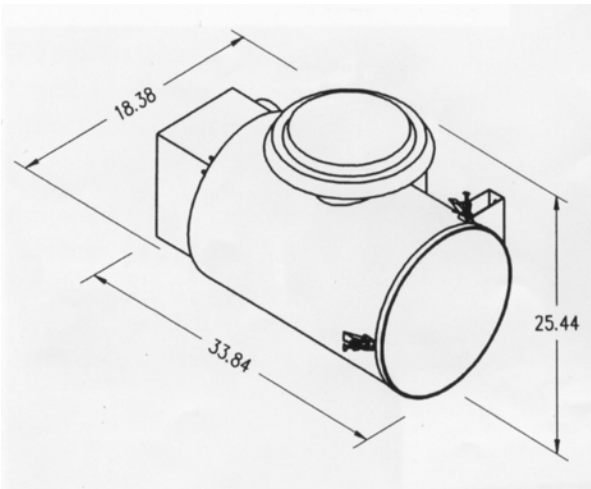
Filtration & Pressurization Systems

This is the largest of our particulate filters that require manual cleaning and are suitable for very dusty applications with extended intervals between cleaning. The element is from a 16" Donaldson STG housing and is typically used as an engine intake filter on off-highway machinery.

A safety filter is also included as standard and the system is available in AC or DC configurations.



FWV150 Pressurizer



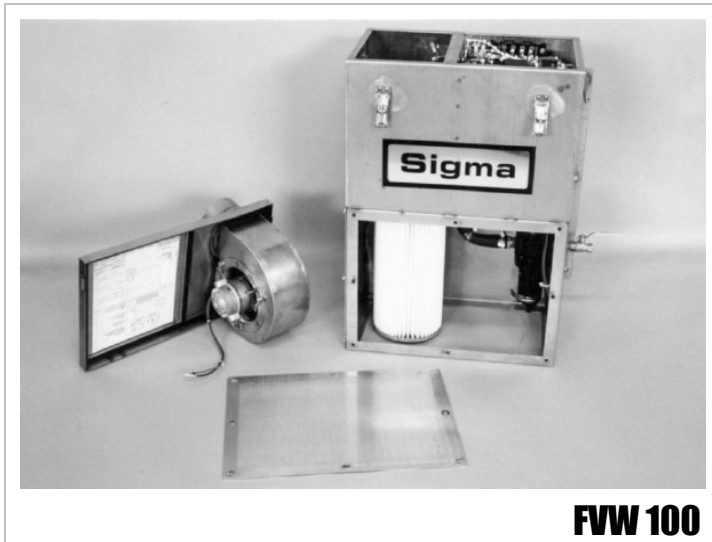
Technical Specifications:

Model	FWV150
Type of Unit	filter/blower
Voltages Available V.D.C.	12 or 24
Voltages Available V.A.C.	115-1-50/60
Pressurizer Watts @ 24vdc	150
Pressurizer Watts @ 115vac	200
Pressurizer Airflow:	
Clear filter, 0.00" w.c. ESP	315cfm-150l / s
0.25" w.c. ESP	235cfm-110l / s
0.50" w.c. ESP	210cfm-100l / s
Max. Fan Static Pressure Available	2.2" w.c.
No. of Blower / Motors	1
No. of Motor Speeds	1
Method of Speed Change	
Pre-Cleaner ---Roughing	1
Pre-Filter ---- Disposable	n/a
No. of Final Filter Elements	2
Permanent Filter Size	14.5"Dia x 24"Lg
Type of Permanent Filter	Pleated
Filter Material	Paper
Filtration Efficiency	See Note
Outlet Spigot	5.5" Dia.
Compressed Air Inlet	
Compressed Air Pres. Req'd	
Mounting Type	Foot
Cleaning Trigger	
Motor External Protection	no
Internal Thermal Prot.	yes
Pressurizer Casing Mat'l	Stainless Steel
Weight	87lb/40kg

Note #1: Air Cleaner Test, SAE J126, which includes 12% in the 0 - 5 micron range.
 Note #2: 1" w.c. = 250 pascals

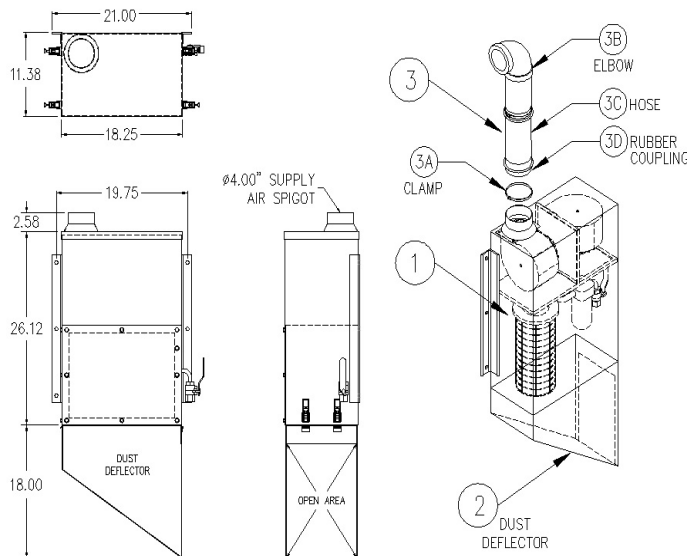


Filtration & Pressurization Systems



Sigma has designed this system for use on cabs and enclosures of typically heavy diesel driven machinery; ideally where a compressed air source is available. As with the larger FVF120 alternating current version, two fans are mounted in series to provide high static pressure capability without the need to introduce large volumes of air which will require conditioning prior to admission to the enclosed space.

Air is drawn through a heavy-duty pleated filter by two fans and discharged out the top of the unit for ducting to the air conditioner. As with the larger unit, the fans will run for a time period, stop for a while and then compressed air is discharged into the filter element and dust is removed. The cycle times are adjustable to suit site conditions.



Product Identification			
Item No.	FVW100 (12V)	FVW100 (24V)	Description
1	FVW100Z01	FVW100B02	FVW100 115/1/60V AC
2	FVW100-DD	FVW100-DD	FVW100 DUST DEFLECTOR, RIGHT OR LEFT HAND
3	FVW100-DK2	FVW100-DK2	FVW100 DUCT KIT, 1 - 10FT HOSE, 2 - RUBBER COUPLINGS, 2 - 90DEG RUBBER ELBOWS, 8 - CLAMPS

Technical Specifications:

Model	FVW100
Type of Unit	filter/blowers
Voltages Available V.D.C.	12 or 24
Voltages Available V.A.C.	115-1-50/60
Pressurizer Watts @ 24vdc	300
Pressurizer Watts @ 115vac	400
Pressurizer Airflow:	
Clear filter, 0.00" w.c. ESP	365cfm-175l / s
0.25" w.c. ESP	325cfm-155l / s
0.50" w.c. ESP	285cfm-135l / s
Max. Fan Static Pressure Available	5.3" w.c.
No. of Blower / Motors	2
No. of Motor Speeds	1
Method of Speed Change	manual
Pre-Cleaner ---Roughing	n/a
Pre-Filter ---- Disposable	n/a
No. of Final Filter Elements	1
Permanent Filter Size	6"Dia x 13"Lg
Type of Permanent Filter	Pleated
Filter Material	Spun Polyester
Filtration Efficiency	99% @ 0.3 microns
Outlet Spigot	4" Dia.
Compressed Air Inlet	3/8"FPT
Compressed Air Pres. Req'd	60-100psig
Mounting Type	Wall
Cleaning Trigger	Adjustable Timer
Motor External Protection	Circuit Breaker
Internal Thermal Prot.	yes
Pressurizer Casing Mat'l	Stainless Steel
Weight	100lb/45kg

Filtration & Pressurization Systems



FVF120

Sigma designed the FVF120 to suit mains powered electrical equipment and baghouse technology has been adopted on a smaller scale. The heart of the unit consists of eight teflon coated elements housed on wire frame structures fitted with a venturi tube air delivery.

Two backward curve fans, mounted in series to increase static pressure, provide a number of control options that include:

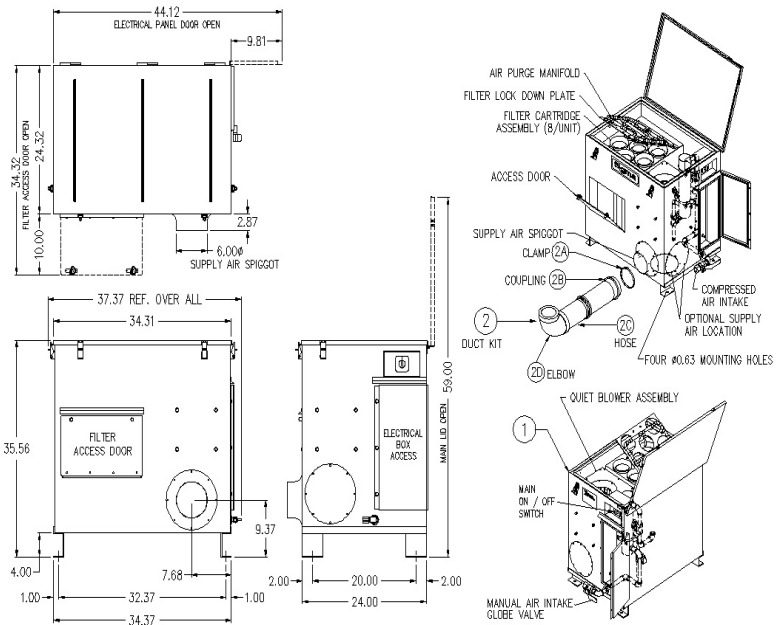
Two stage operation with the second fan coming on with drop in room pressure, alternatively

Automatic speed control according to room pressure, infinitely variable. This is done by mounting an adjustable pressure transducer in the room and a matched control in the unit

Technical Specifications:	
Model	FVF120
Type of Unit	filter/blowers
Voltages Available V.D.C.	n/a
Voltages Available V.A.C.	115-1-50/60
Pressurizer Watts @ 24vdc	n/a
Pressurizer Watts @ 115vac	400
Pressurizer Airflow:	
Clear filter, 0.00" w.c. ESP	365cfm-175l / s
0.25" w.c. ESP	325cfm-155l / s
0.50" w.c. ESP	260cfm-125l / s
Max. Fan Static Pressure Available	4.7" w.c.
No. of Blower / Motors	2
No. of Motor Speeds	Variable Speed
Method of Speed Change	Auto Pres. Transducer
Pre-Cleaner ---Roughing	n/a
Pre-Filter ---- Disposable	n/a
No. of Final Filter Elements	8
Permanent Filter Size	5"Dia x 24"Lg
Type of Permanent Filter	Teflon Coated
Filter Material	Polyester Sock
Filtration Efficiency	99% @ 0.3 microns
Outlet Spigot	6" Dia.
Compressed Air Inlet	3/8" FPT
Compressed Air Pres. Req'd	60-100psig
Mounting Type	Foot
Cleaning Trigger	Adjustable Timer
Motor External Protection	Circuit Breaker
Internal Thermal Prot.	yes
Pressurizer Casing Mat'l	Stainless Steel
Weight	285lb/130kg

The system is equipped with a receiver tank and solenoid valves for cleaning the air filtration system. The back-flush cycle is on a variable time basis which is determined by site conditions. After a pre-set time, the fans will stop to assist the purging process with compressed air. After another time delay, fans will start up again.

The system has been designed as a stand-alone device and has the capacity to have up to three air discharge outlets from its base. Standard electrical power supply is 110 V-1PH-50/60HZ.



Product Identification

Item No.	FVF120 115V AC	Description
1	FVF120Z02	FVF120 115/1/50 - 60V AC
2	FVF120-DK1	FVF120 DUCT KIT, 1 - 10FT HOSE, 2 - RUBBER COUPLINGS, 2 - 90DEG RUBBER ELBOWS, 8 - CLAMPS
3	FVF120ICP	FVF120 INTELLIGENT CONTROL PACKAGE





Sigma has been designing and manufacturing main powered self-contained electric air conditioning equipment for over 30 years. Combining new technology with proven rugged design makes this equipment suitable on any mining or heavy industrial application.

Standard features include:

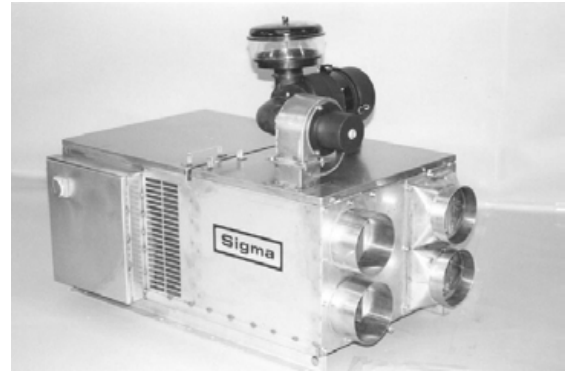
- Heavy gauge stainless steel construction
- Ease of service with over-center door catches
- Hinged covers with gas struts for quick access
- Industrial quality construction and componentry
- Wide fin pitch to reduce coil clogging
- Large heat exchangers for high ambient temps
- Capacity controls to enhance operation over a wide temperature range
- Electronic temperature controls to provide precise control in any environment
- Flexibility in mounting hardware to enable several configurations with the same unit
- Uses environmentally friendly refrigerant 134a

Available Power Options:

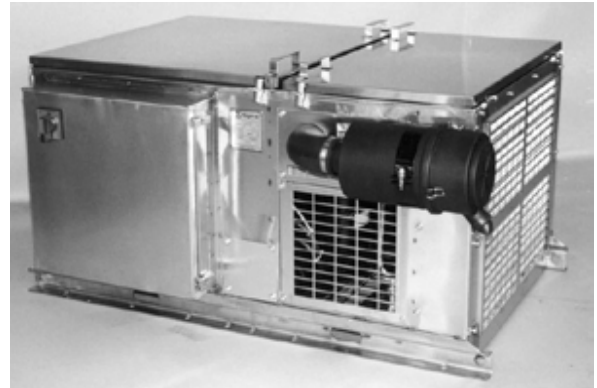
- 208-230/1/60
- 200-230/3/60
- 200-220/3/50
- 380-415/3/50
- 460/3/60
- 460/3/50
- 575/3/60

Special Options:

- Coated Coils
- Alternative High Ambient Refrigerants
- Inverter Operation



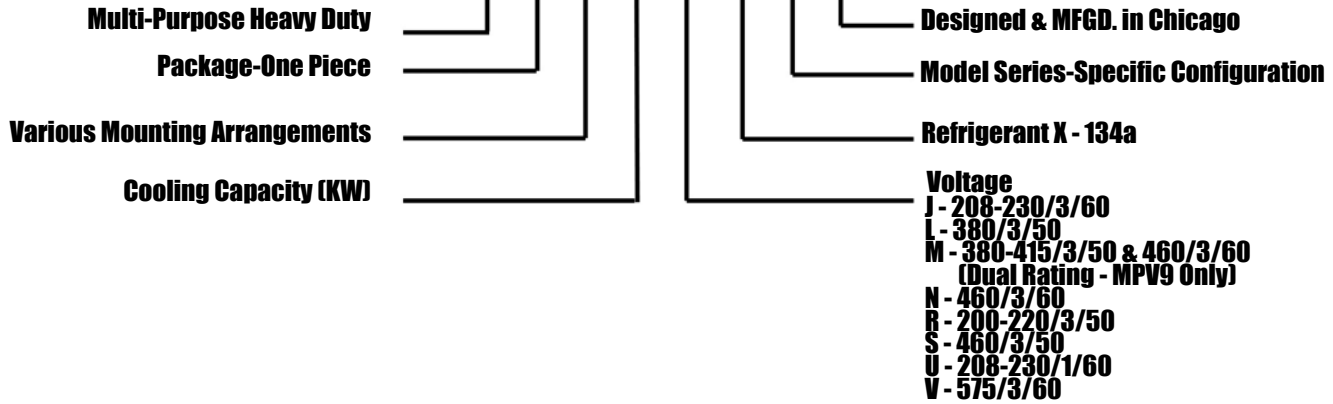
MPV5



MPV9



M P V 9 M X 1 C



Product Data & Specifications

Technical Specifications:				
Model	MPV5		MPV9	
Cooling Capacity	18,000 btu/hr	5.2 kw	31,000 btu/hr	8.9 kw
Heating Capacity	34,000 btu/hr	10.0 kw	41,000 btu/hr	12.0 kw
Heating Stages	two		two	
Airflow - High Speed	600 cfm	280 l/s	1300 cfm	610 l/s
Airflow - Low Speed	500 cfm	240 l/s	870 cfm	410 l/s
Weight	540 lbs	245 kg	1300 lbs	590 kg
Compressor Type	scroll		scroll	
Number of Cylinders	n/a		n/a	
Pressurization	120 cfm	56 l/s	120 cfm	56 l/s
Controls	110 VAC		110 VAC	
Motor Protection	Circuit Breaker		Circuit Breaker	
	Thermal Overload		Thermal Overload	
Compr. Capacity Control	none		none	
Condenser Fan	1 speed		1 speed	
Refrigerant Metering	TXV		TXV	
Thermostat-Electronic 5 Stage	Standard		Standard	

Rating Conditions: Cooling Capacity - Indoor 80°F DB/67°F WB with Outdoor 110°F DB/60°F WB

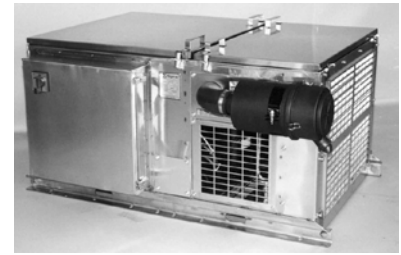
Heating Capacity @ Rated Voltage

For capacities at ARI Std. 210 conditions of cooling capacity, with Indoor 80°F DB/67°F WB and Outdoor 95°F DB/75°F WB add approximately 7.5% to rated capacity.

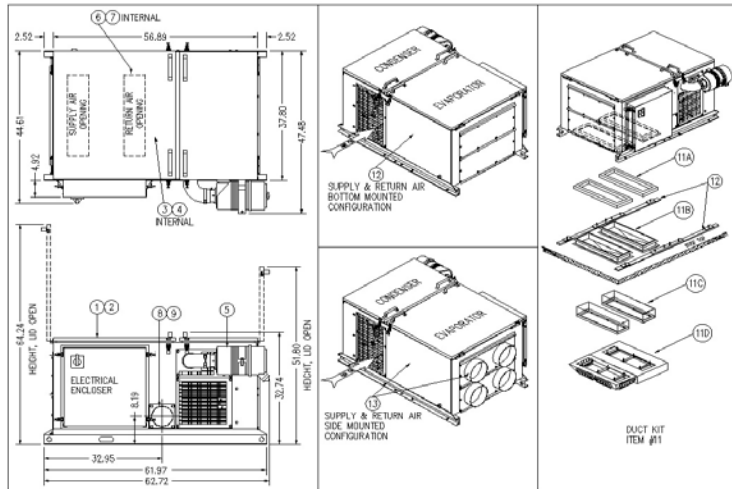
Sigma has listened to the market and refined the previous MPV8 to make it the system of choice for OEM's on new or rebuilt machinery, and users on retrofit programs. This is a very new model and incorporates many features which make it ideal for heavy duty applications.

Standard features include:

- Triple gasketed evaporator cover to eliminate dust and water ingress
- Positively pressurized electrical cubicle to keep dust and water out
- Very easy to service and keep clean
- Quiet operation with large scroll compressor
- Higher capacity to handle increased cooling and heating loads due to increases in amounts of pressurization air
- Pressurizer intake is from condenser fan discharge, so no pre-cleaner is required (which usually fills up with snow and water)
- 5 stage electronic thermostat with remote control to allow the operator precise control of comfort level
- Compatible with new automatic cleaning pressurizers
- Head pressure control for operation in cooler climates without sacrificing performance in hot locations
- System can be configured to have supply and return air out the front face for those applications where rooftop just won't work
- MPV9 mounts to exact same footprint as MPV8



MPV9



Technical Specifications:		
Model	MPV9	
Cooling Capacity	31,000 btu/hr	8.9 kw
Heating Capacity	41,000 btu/hr	12.0 kw
Heating Stages	two	
Airflow - High Speed	1300 cfm	610 l/s
Airflow - Low Speed	870 cfm	410 l/s
Weight	1300 lbs	590 kg
Compressor Type	scroll	
Number of Cylinders	n/a	
Pressurization	120 cfm	56 l/s
Controls	110 VAC	
Motor Protection	Circuit Breaker	
	Thermal Overload	
Compr. Capacity Control	none	
Condenser Fan	1 speed	
Refrigerant Metering	TXV	
Thermostat-Electronic 5 Stage	Standard	

Product Identification					
Item No.	MPV9MX12C	Description	Item No.	MPV9MX12C	Description
1	MPV9MX12C	MPV9 AC UNIT 380/3/50	9	MPV9-HIEFLT	MPV9 HIGH EFFICIENT RETURN AIR FILTER PACKAGE
2	MPV9MX12C	MPV9 AC UNIT 460/3/60	10	MPV9-RAIL	MPV9 UNIT ROOF TOP MOUNTING RAILS
3	MPV9M-HT	MPV9 ELECTRICAL HEAT PACKAGE 380V	11	MKV7-D6-8	MPV9 BOTTOM DISCHARGE UNIT DUCT KIT
4	MPV9M-HT	MPV9 ELECTRICAL HEAT PACKAGE 460V	12	MPV9-BDSK	MPV9 BOTTOM MOUNTED CONFIGURATION
5	MPV9-PR	MPV9 PRESSURIZER PACKAGE STANDARD FILTER	13	MPV9-SDSK	MPV9 SIDE MOUNTED CONFIGURATION
6	MPV9-FAS4	"MPV9 FRESH AIR NOZZLE 4"" DIAMETER (FOR FVW100)"	14	MKVP-P1	MPV9 REMOTE MOUNTED CONTROL PLATE
7	MPV9-FAS6	"MPV9 FRESH AIR NOZZLE 6"" DIAMETER (FOR FVF120)"	15	MKVP-P2	MPV9 REMOTE MOUNTED CONTROL BOX
8	MPV9-FLT	MPV9 STANDARD RETURN AIR FILTER PACKAGE	16	MKVP-P4	MPV9 REMOTE LOOSE CONTROLS

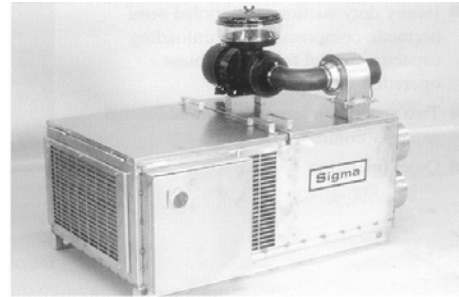
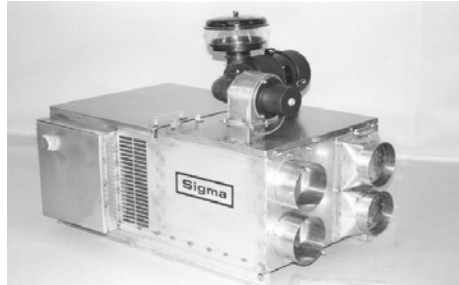


Sigma designed this system for the smaller cab of mining and industrial equipment. Installation is very easy and the designer can select from either rooftop with base supply and return openings, or mount on an adjacent deck and duct through the front face. Return air can be drawn from both openings while the supply is limited to a single outlet.

Standard features include:

- Numerous voltages available
- Quiet and efficient scroll compressors
- Two stage electric heat
- Positive fan forced pressurization
- Sealed electrical cubicle
- 5 stage electronic thermostat with remote control for operator comfort

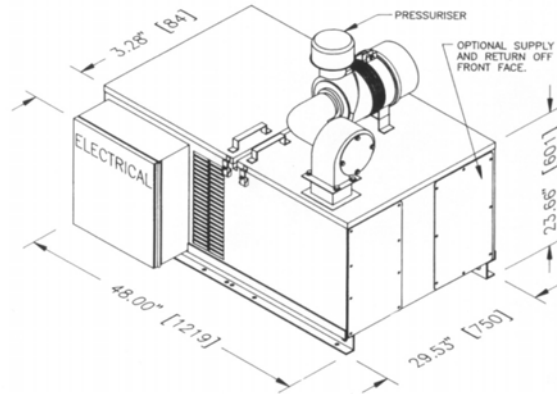
Compatible with new automatic cleaning pressurizer



MPV5

Technical Specifications:

Model	MPV5	
Cooling Capacity	18,000 btu/hr	5.2 kw
Heating Capacity	34,000 btu/hr	10.0 kw
Heating Stages	two	
Airflow - High Speed	600 cfm	280 l/s
Airflow - Low Speed	500 cfm	240 l/s
Weight	540 lbs	245 kg
Compressor Type	scroll	
Number of Cylinders	n/a	
Pressurization	120 cfm	56 l/s
Controls	110 VAC	
Motor Protection	Circuit Breaker	
	Thermal Overload	
Compr. Capacity Control	none	
Condenser Fan	1 speed	
Refrigerant Metering	TXV	
Thermostat-Electronic 5 Stage	Standard	



Rating Conditions: Cooling Capacity - Indoor 80°F DB/67°F WB with Outdoor 110°F DB/60°F WB

Heating Capacity @ Rated Voltage

For capacities at ARI Std. 210 conditions of cooling capacity, with Indoor 80°F DB/67°F WB and Outdoor 95°F DB/75°F WB add approximately 7.5% to rated capacity.

The EC5 is a rooftop package designed for rubber tired vehicles of off highway equipment.

It is a simple, basic unit which has high cooling performance, hot water heating and pressurization as standard.

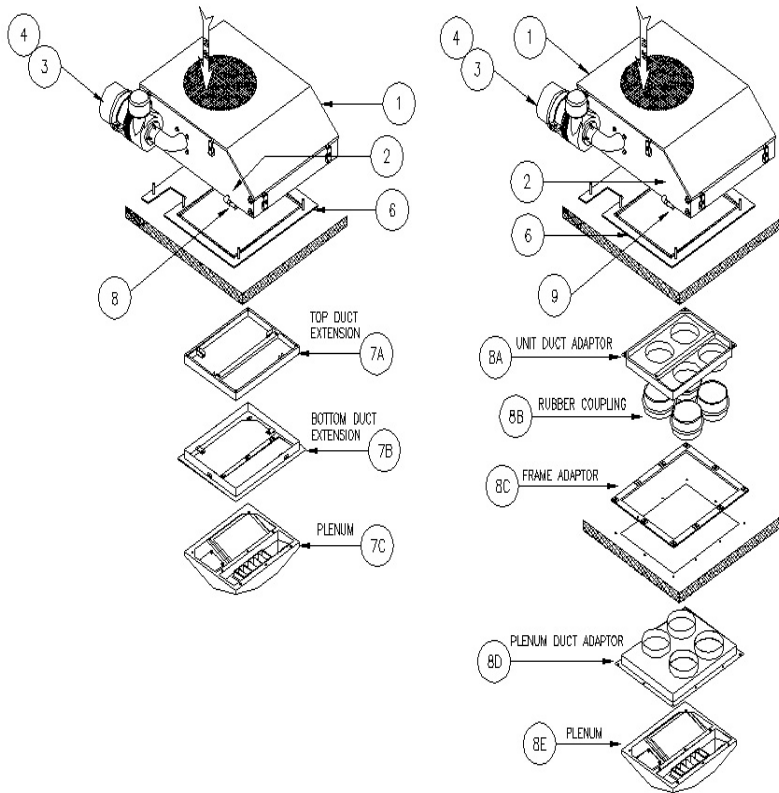
Serviceability is a big factor in the design and all components are easy to get at and replace if necessary. System is designed for 134a and casing is stainless steel.

High efficiency filters are also available.

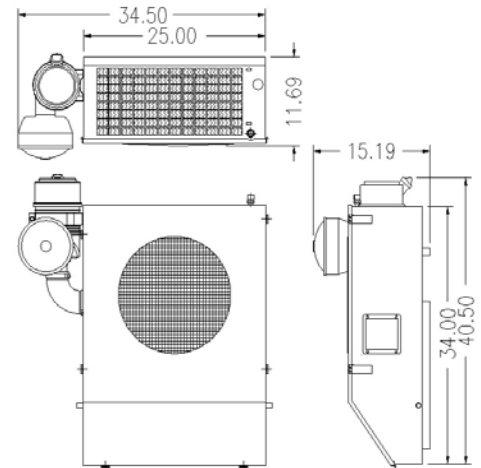
Compressor is remote and fans are 12 or 24V DC.



EC5



Technical Specifications:		
Model	EC5	
Weight	120 lbs	54 kg
Cooling Capacity	17,500 btu/hr	5.0 kw
Heating-Hot Water	33,000 btu/hr	9.6 kw
Airflow - High	380 cfm	180 l/s
Airflow - Med	320 cfm	150 l/s
Airflow - Low	280 cfm	130 l/s
Pressurization	75 cfm	35 l/s
Condenser Motors	Sealed, Heavy Duty, Serviceable	
Condenser Fans	12"	300mm
Evaporator Motor	Double Shaft, Ball Bearing	
Pressurizer Motor	Single Shaft, Ball Bearing	
Motor Protection	Fuse	
Heater Valve	Electric	



Product Identification			
Item No.	EC5 (12V)	EC5 (24V)	Description
1	EC5AX4C	EC5BX4C	AC UNIT
2	EC5A-HT	EC5B-HT	HEAT PACKAGE
3	EC5A-PRSTD	EC5B-PRSTD	PRESSURIZER/FILTER STANDARD PACKAGE
4	EC5A-HIE	EC5B-HIE	PRESSURIZER/HIGH EFFICIENT FILTER PACKAGE
5	EC5-HIERAF	EC5-HIERAF	HIGH EFFICIENT RETURN AIR FILTER
6	EC5-RP	EC5-RP	ROOF PLATE
7	EC5A-DUKSTD	ECKB-DUKSTD	DUCT KIT STANDARD WITH PLENUM
8	EC5A-DUKKROPS	EC5B-DUKKROPS	DUCT KIT ROLL OVER PROTECTION WITH PLENUM
9	EC5-DK	EC5-DK	DRAIN KIT

These rooftop packages are suitable for use with remote compressors and are typically in 12 or 24V DC.

Both units are designed for mining and industrial use and incorporate the highest quality componentry, construction and serviceability features.

The TDR5 is suitable for drills and heavy trucks while the TDR4 is for rubber tired machinery. Both are stainless and operate on 134a refrigerant.

Options:

Coated Coils

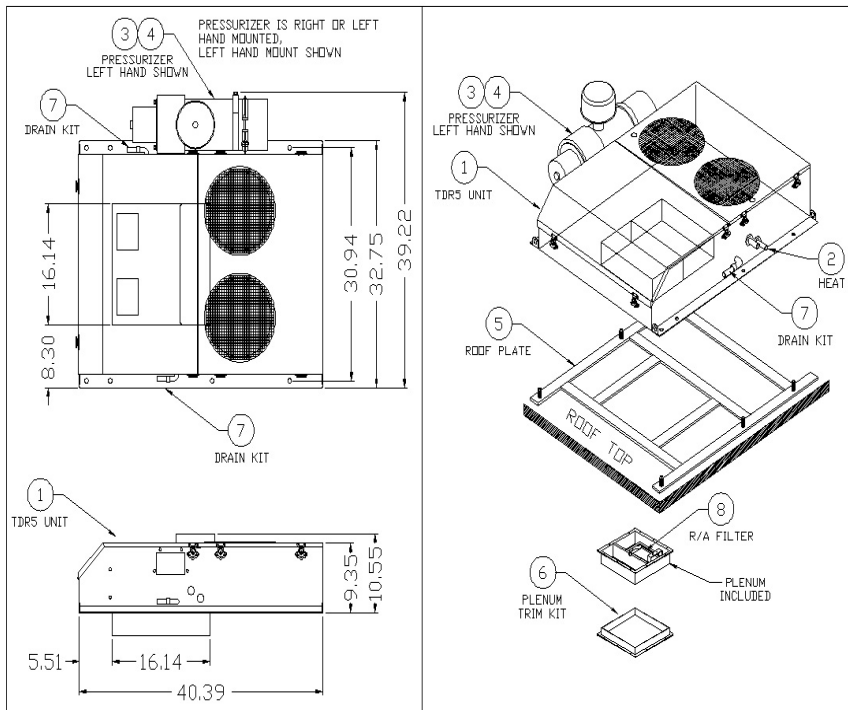
Alternative Voltages

Hydraulic Power Packs



TDR5

SIGMA UNITS



Technical Specifications:	
Model	TDR5
Weight	300 lbs 136 kg
Cooling Capacity	18,000 btu/hr 5.2 kw
Heating-Hot Water	35,000 btu/hr 10.0 kw
Airflow - High	400 cfm 190 l/s
Airflow - Med	350 cfm 165 l/s
Airflow - Low	300 cfm 140 l/s
Pressurization	110 cfm 50 l/s
Condenser Motors	2 Fully Sealed
Condenser Fans	10" 250mm
Evaporator Motor	2 Fully Sealed
Evaporator Fans	2 Single Inlet
Motor Protection	Circuit Breakers

Product Identification			
Item No.	TDR5 (12V)	TDR5 (24V)	Description
1	TDR5AX5C	TDR5BX5C	TDR5 AC UNIT W/PLENUM
2	TDR5-HT	TDR5-HT	TDR5 HEAT PACKAGE
3	TDR5A-PRL	TDR5B-PRL	TDR5 PRESSURIZER/FILTER STANDARD PACKAGE LEFT HAND MOUNT
4	TDR5A-PRR	TDR5B-PRR	TDR5 PRESSURIZER/FILTER STANDARD PACKAGE RIGHT HAND MOUNT
5	TDR5-H	TDR5-H	TDR5 ROOF PLATE
6	TDR5-TR	TDR5-TR	TDR5 PLENUM TRIM KIT
7	TDR-DK	TDR-DK	TDR5 DRAIN KIT
8	TDR5-FLT	TDR5-FLT	TDR5 STANDARD RETURN AIR FILTER PACKAGE

This is a very heavy duty system suitable for use on tracked type vehicles of off highway mining and construction equipment. This will include dozers, graders, loaders, drills, crane cabs, locomotives, etc.

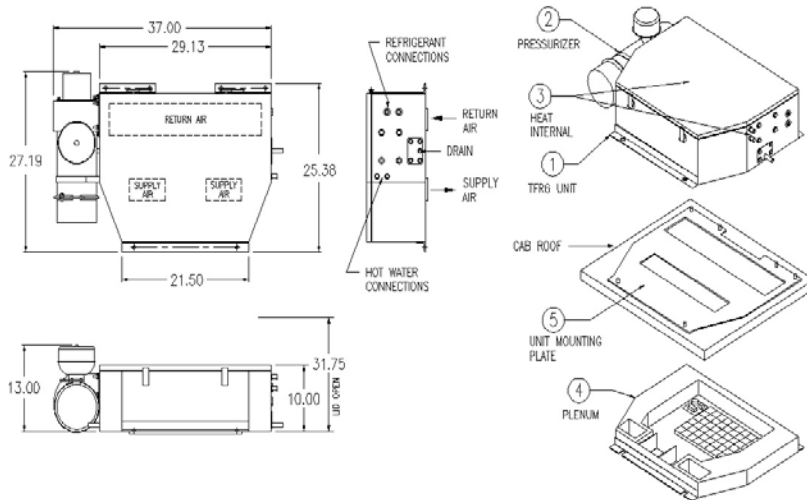
Construction is heavy gauge stainless steel and the highest quality components have been used. Refrigerant is 134a.



TFR6



Technical Specifications:		
Model	TFR6	
Weight	200 lbs	91 kg
Cooling Capacity	22,500 btu/hr	6.5 kw
Heating-Hot Water	35,000 btu/hr	10.0 kw
Airflow - High	480 cfm	225 l/s
Airflow - Med	390 cfm	185 l/s
Airflow - Low	350 cfm	165 l/s
Pressurization	110 cfm	50 l/s
Evaporator Fans	Double Wheel, Double Inlet, Steel	
Evaporator Motor	Double Shaft, Fully Sealed, Ball Bearing	
Pressurizer Motor	Single Shaft, Fully Sealed, Ball Bearing	
Motor Protection	Circuit Breakers	
Heater Valve	Electric	



Product Identification		
Item No.	TFR6	Description
1	TFR6BX2C	TFR6 24V EVAPORATOR UNIT
2	TFR6B-HT	TFR6 24V HEAT PACKAGE
3	TFR6B-PR	TFR6 24V PRESSURIZER
4	TFR6B-PL	TFR6 24V PLENUM
5	TFR6-MNTPLT	TFR6 UNIT MOUNTING PLATE
6	TCR6BX1C	TCR6 24V CONDENSER PACKAGE
7	110-C022	HEAVY DUTY CONDENSER COIL RADIATOR MOUNTED
8	110-C032	CONDENSER COIL RADIATOR MOUNTED

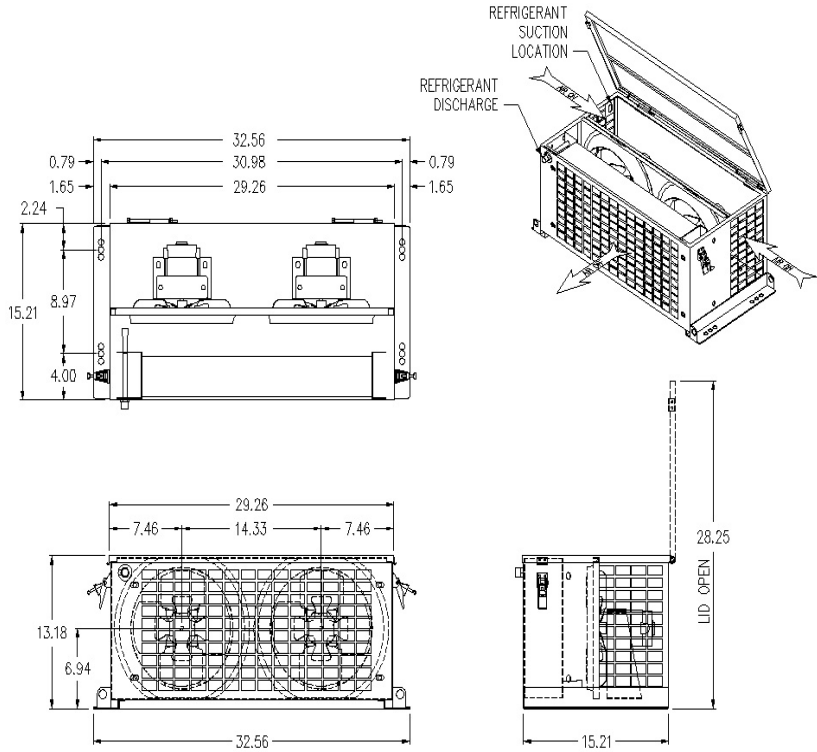
The TCR6 condenser package is used in conjunction with Sigma units FFR6, TFW5, TFR6 & TPR6 24V versions.

The TCR6 package is constructed from heavy gauge stainless steel.

Technical Specifications:	
Model	TCR6
Capacity	For use up to 22,000 Btu/Hr
Airflow	2400 CFM



TCR6



Product Identification			
Item No.	TCR6 (12V)	TCR6 (24V)	Description
1	TCR6AX1C	TCR6BX1C	CONDENSER PACKAGE





Filtration & Pressurization Systems



FFR6

In order to completely address the dust problem at a mine site, a combination of good pressurization and high quality return air filtration is required in the air conditioning unit. Sigma has designed the FFR6 unit with the following goals:

Higher heating (30,000 btu/hr) and cooling capacity (22,000 btu/hr) and airflow (450 cfm) than the TDR5, to accommodate higher amounts of outside pressurization air

Larger return air filter and a low cost disposable first stage filter, which will eliminate maintenance between machine service days. Consequently, no one gets covered in dust while cleaning filters.

High efficiency, servicable, final filter to ensure extremely clean air is supplied to the cab.

Optional pressurization systems; either FVV60, as shown, or FVW100 for a total treatment.

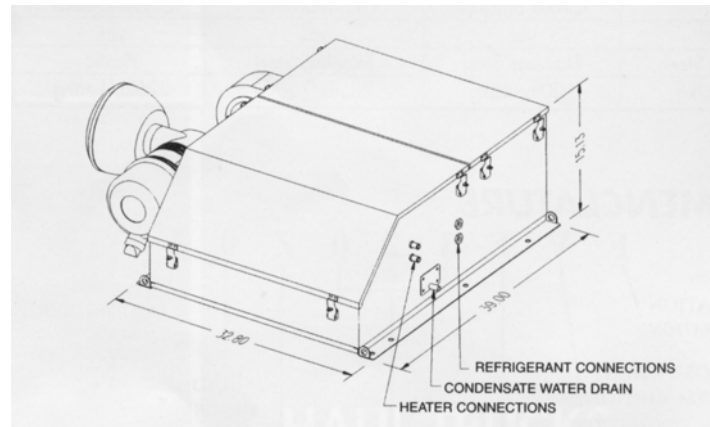
Electronic temperature control for optional in-console mounting.

A choice of either radiator mounted or fan forced condensers.

Same mounting as the TDR5, so field retrofit is easy.

Technical Specifications:

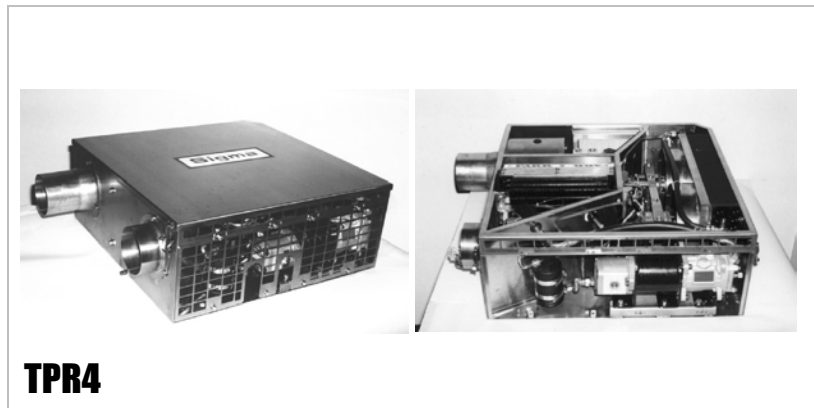
Model	FFR6	
Type of Unit	cool/heat/filters	
Voltages Available V.D.C.	12 or 24	
Voltages Available V.A.C.	115-1-50/60	
Pressurizer Watts @ 24vdc	150	
Pressurizer Watts @ 115vac	200	
Pressurizer Airflow:	FVV60	FVW100
Clear filter, 0.00" w.c. ESP	170cfm	365cfm
0.25" w.c. ESP	145cfm	325cfm
0.50" w.c. ESP	126cfm	285cfm
Max. Fan Static Pressure Available	2.5" w.c.	5.3" w.c.
No. of Blower / Motors	1	
No. of Motor Speeds	2	
Method of Speed Change	manual	
Pre-Cleaner ---Roughing	1	
Pre-Filter ---- Disposable	12" x 24" x 1"	
No. of Final Filter Elements	2	
Permanent Filter Size	13"H x 25"Lg	
Type of Permanent Filter	Pleated	
Filter Material	Spun Polyester	
Filtration Efficiency	99% @ 0.3 microns	
Outlet Spigot	n/a	
Compressed Air Inlet		
Compressed Air Pres. Req'd		
Mounting Type	Roof	
Cleaning Trigger		
Motor External Protection	Circuit Breaker	
Internal Thermal Prot.	yes	
Pressurizer Casing Mat'l	Plastic	
Weight	325lb/148kg	





The TPR4 air conditioning unit, with hydraulically driven compressor and electrically or hydraulically driven condenser and evaporator fan motors, has been designed to provide 13,500 Btu/Hr (4 kw) cooling capacity with built-in-sub-micron filtration and cab pressurization. This rating was established at the condition of 115F outdoor ambient temperature and 80Fdb/75Fwb indoor condition.

The TPR4 is designed for side or roof mounting applications. It is suitable for use on off highway machines and underground mine equipment which includes, but is not limited to:



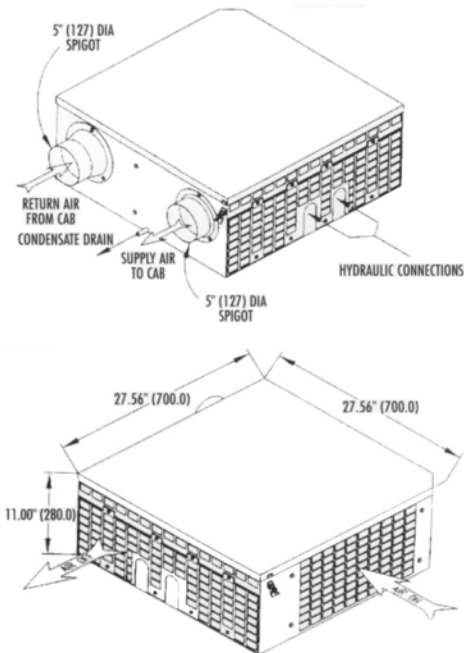
TPR4

Loaders, Dozers, Excavators, Drills

The unit is made with a heavy gauge stainless steel casing and with environmentally coated, corrosion resistant evaporator and condenser coils.

Filtration is of particular importance to the markets where this unit will be used, so inside the unit is provided a high level of sub-micron filtration on both fresh and return air. This is achieved by using high efficiency filter media made from spun bond polyester materials. Also, chemical filter media can be substituted for the return air filter, to remove poisonous gases.

The air conditioning package is available in options that will allow it to be powered by either 12 or 24 vdc or entirely by hydraulic power. The compressor will always be driven by hydraulic power.



Technical Specifications:			
Model	TPR4AX	TPBXR	TPR40X
Type of Unit	air conditioner	air conditioner	air conditioner
Compressor Power	hydraulic	hydraulic	hydraulic
Compressor motor Hydr. Flow (Gal/min)	5.4	5.4	4.5
Compressor Speed (RPM)	1800	1800	1800
Evaporator Fan Motors/unit	one	one	one
Evaporator Fan Motor	12 vdc	24 vdc	hydraulic
Evap Fan Motor Amp Draw	15 amps	8 amps	1.2 Gal/min
Evap Fan Motor Speeds	three	three	one
Evap Fan Motor Speed (Max. RPM)	2500	2500	2500
Condenser Fan Motors	two	two	two
Condenser Fan Motors	12 vdc	24 vdc	hydraulic
Cond. Fan Motor Amp Draw each	15 amps	8 amps	1.2 Gal/min
Cond. Fan Motor Speed (RPM)	2500	2500	2500
Evaporator Airflow (Max. CFM)	623	623	623
Condenser Airflow (CFM)	1200	1200	1200
Fresh Air (CFM @ 0.5" ESP Max)	167	167	167
Fresh Air Filter-Pleated 2" Thick	Spun Polyester	Spun Polyester	Spun Polyester
Fresh Air Filter Size (inches)	6 x 10	6 x 10	6 x 10
Return Air Filter Size	13 x 10.5	13 x 10.5	13 x 10.5
Pleated Throwaway Pre-Filter 1"	standard	standard	standard
Final Air Filter 2" Thick	optional	optional	optional
Chemical Filter 2" Thick	optional	optional	optional
Unit Mounting Options	Side & Roof	Side & Roof	Side & Roof
Evaporator Inlet Spigot	5" dia.	5" dia.	5" dia.
Evaporator Outlet Spigot	5" dia.	5" dia.	5" dia.
Operator Controls	remote	remote	remote
Casing Material	stainless steel	stainless steel	stainless steel
Motor External Protection	Fuses	Fuses	n/a
Refrigerant Metering	TXV	TXV	TXV
Thermostat	standard	standard	n/a
Refrigerant	R-134a	R-134a	R-134a
Heating	n/a	n/a	n/a
Weight (lbs/kg)	180/82	180/82	200/91



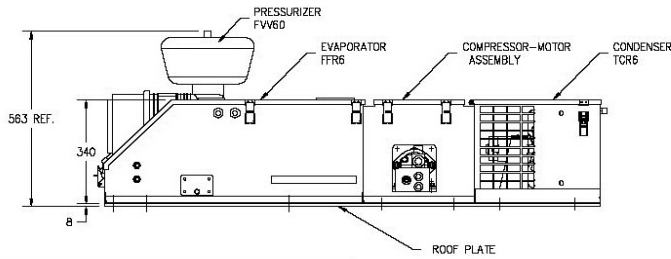
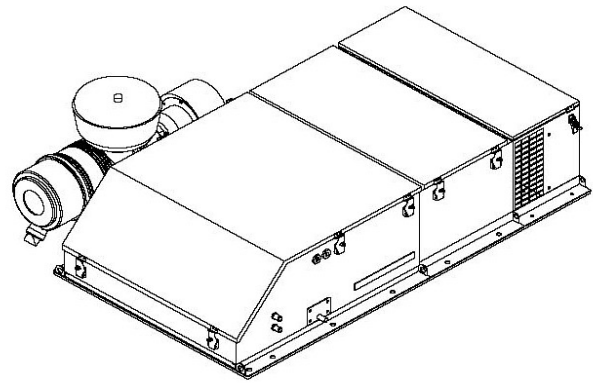
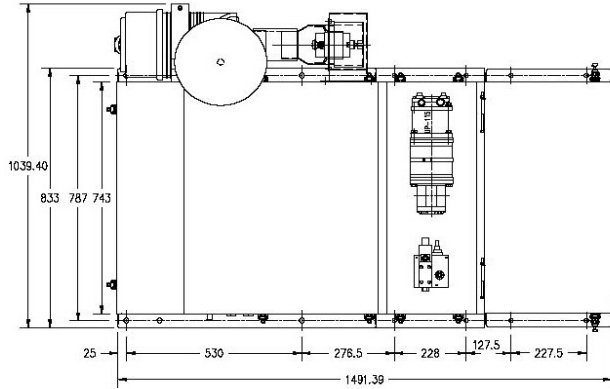
The TPR6 has been designed to provide high levels of air filtration and also offer climate control through refrigeration for cooling and hot water for heating. It is designed for rooftop mounting. The compressor is driven hydraulically and is mounted within the unit.

The package comprises 4 basic modules.

- Heater, air conditioner, return air filter.
- Outside fan forced filtration and pressurization system.
- Hydraulic motor compressor set, control head, pressure relief and flow control valve.
- Fan forced condenser assembly



TPR6



Technical Specifications:

Model	TPR6BX1C
Type of Unit	air conditioner
Compressor Power	hydraulic
Cooling Capacity	22,500 BTU/hr (6 kw) at 100°F and 81°F FDB/67°F WB (38°C and 27/19°C) Return Air
Heating Capacity	At 180°F (81°C) water is 40,000 BTU/hr.
Air Flow	450 cfm max.
Weight (lbs/kg)	

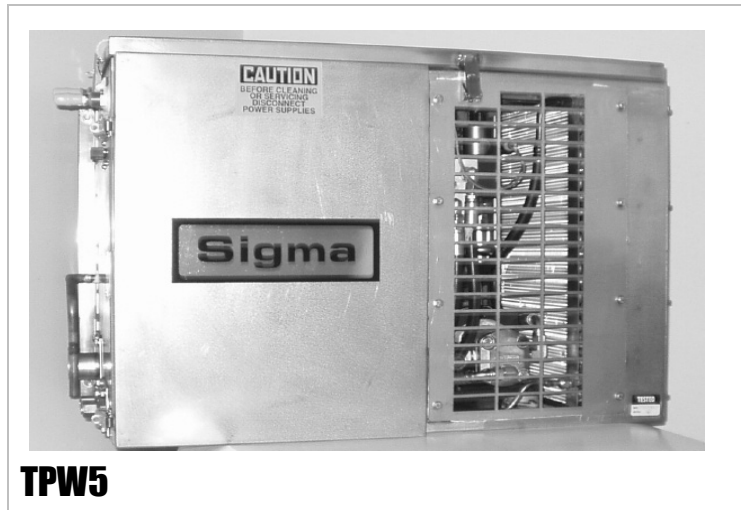
Product Identification

Item No.	TPR6 (12V)	TPR6 (24V)	Description
1	N/A	TPR6BX1C	TPR6 Self-Contained Hydraulic AC Unit

The TPW5 unit is suited for, Loaders, Walkway or Deck Mounting.

The TPW5 unit is constructed from heavy gauge stainless steel.

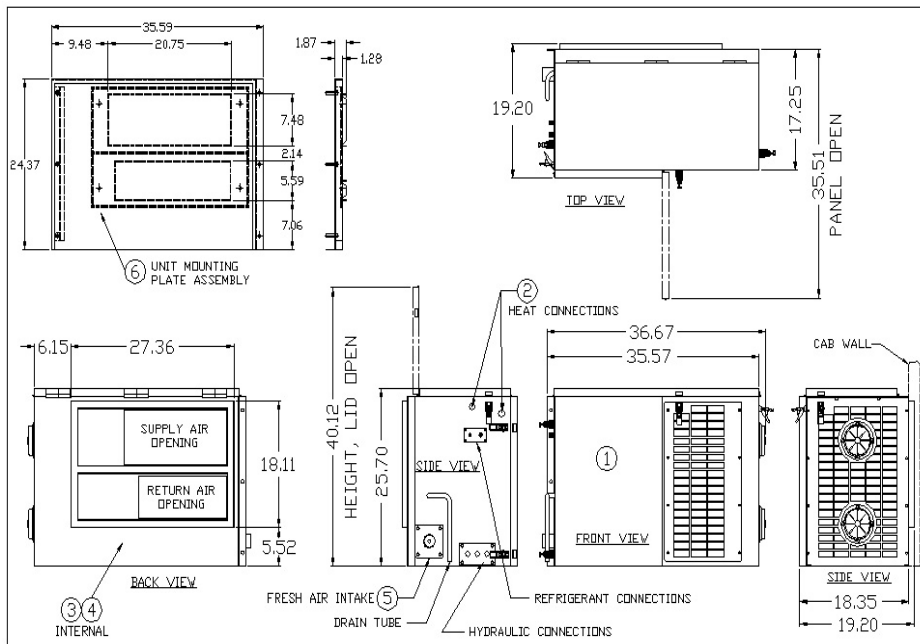
Hydraulically driven compressor.



SIGMA UNITS



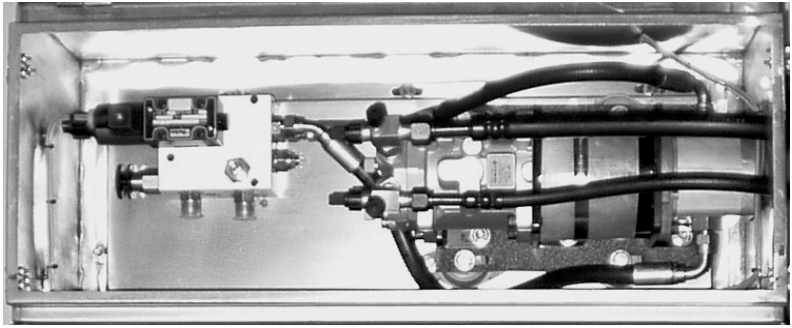
Technical Specifications:	
Model	TPW5
Cooling Capacity	18,000 btu/hr
Heating Capacity	40,000 btu/hr



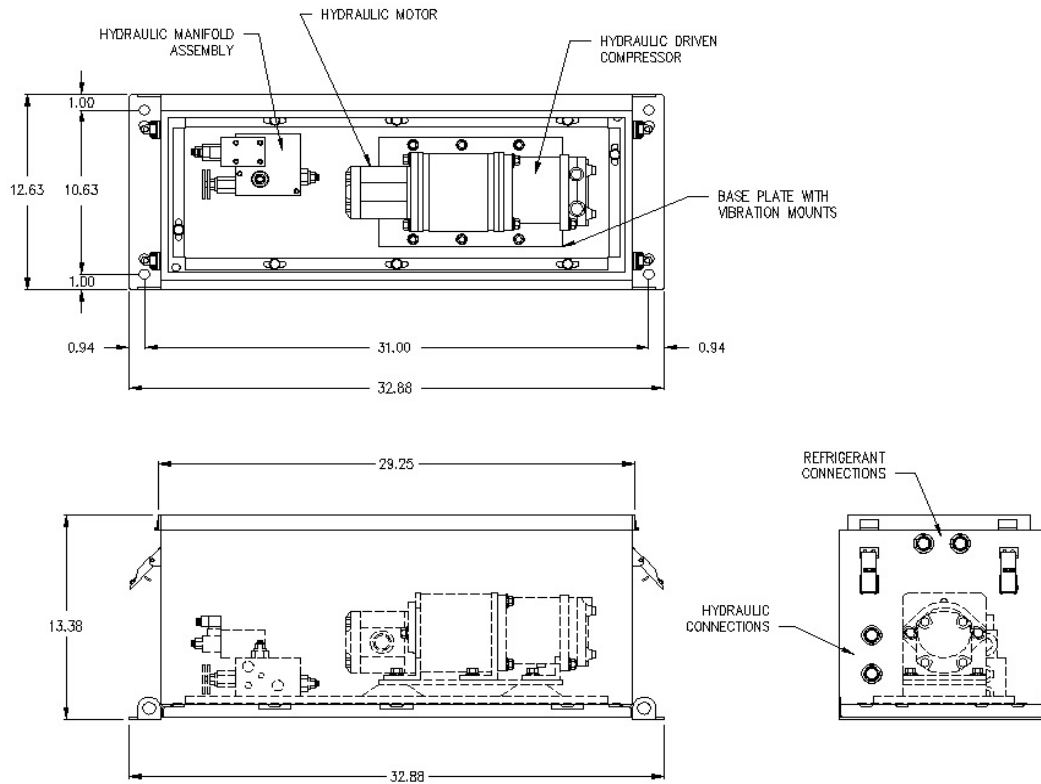
Product Identification		
Item No.	TPW5	Description
1	TPW5BX5C	TPW5 24V AC UNIT W/HYDRAULICALLY DRIVEN COMPRESSOR
2	TPW5-HT	TPW5 HEAT PACKAGE
3	TPW5-STDFLT	TPW5 STANDARD FILTER PACKAGE
4	TPW5-HIEFLT	TPW5 HIGH EFFICIENT FILTER PACKAGE
5	TPW5-FAS	TPW5 FRESH AIR NOZZLE KIT
6	TPW5-MNTPLT	TPW5 UNIT MOUNTING PLATE ASSEMBLY
7	TPW5B-PL	TPW5 24V PLENUM

The TBV6 hydraulic compressor package is used in conjunction with Sigma units EC5, TDR5, FFR6, TPR6 & TPR4 12V versions.

The TBV6 package is constructed from heavy gauge stainless steel.



TBV6



Product Identification			
Item No.	TBV6 (12V)	TBV6 (24V)	Description
1	TBV6AX1C	TBV6BX1C	HYDRAULIC COMPRESSOR PACKAGE