WHITLOCK • MATERIAL HANDLING

VACUUM/PRESSURE SYSTEMS

AEC provides an economical all-in-one vacuum/pressure package featuring a single blower and motor. The SVP single blower vacuum/pressure system is ideal in many applications where pelletized material is to be conveyed from railcars to bulk storage silos over distances less than 800 equivalent feet. Dual blower/dual motor vacuum/pressure systems are available for longer distances and higher rates.

STANDARD FEATURES

- *Single or dual blower configurations*
- *Single blower systems available in 30, 40, or 50 HP*
- *Cyclone receiver - pellet*
- *Continuous self-cleaning filters/receiver - powder*
- *Rotary valve*
- *Pressure take-off adapter in mild or stainless steel (product contact surfaces only)*
- *Cartridge-style vortex filter chambers*

OPTIONAL FEATURES

- *Alternate voltages*
- *Continuous vacuum/pressure power units available in 7.5 - 50 HP*
- *System after-cooler*
- *Diverter valve with control interconnect*

SINGLE BLOWER VACUUM/PRESSURE UNITS

12" Hg/6 psi (406 millibars/41.37 kPa) maximum. Single blower units include positive displacement blower, air-operated vacuum vent valve, 460/3/60 TEFC motor, vacuum and pressure gauges, pressure check valve, and mechanical pressure release valve.

System must be designed with relatively similar vacuum-side and pressure-side equivalent conveying distances for proper operation. Add proper cyclone/filter receiver, rotary valve, pressure take-off adapter, central filter, and control panel.

Model	Power unit, hp (kW)	Line size, in. OD	Airflow, cfm (cmh)	Recommended cyclone size
SVP 30	30 (22.4)	3	225 (382)	WSC4
SVP 40	40 (29.8)	4	408 (693)	WSC5
SVP 50	50 (37.3)	5	646 (1097)	WSC6

CONTINUOUS VACUUM POWER UNITS

12" Hg/6 psi (406 millibars/41.37 kPa) maximum. All vacuum power units include a positive displacement blower, vacuum gauge, 460/3/60 TEFC motor, and vacuum relief valve.

Model	Power unit, hp (kW)	Line size, in. OD	Airflow, cfm (cmh)
CVP7.5	7.5 (5.6)	2.5	150 (255
CVP10	10 (7.5)	3	225 (382)
CVP15	15 (11.2)	3, 3.5 (3 Sch. 5)	225, 303 (382, 515)
CVP20	20 (14.9)	4	408 (693)
CVP25	25 (18.6)	4.5 (4 Sch. 10)	495 (841)
CVP30	30 (22.4)	5	646 (1098)
CVP40	40 (29.8)	5 Sch. 10	765 (1300)
CVP50	50 (37.3)	6 Sch. 10	1100 (1869)

CONTINUOUS PRESSURE POWER UNITS

All vacuum power units include a positive displacement blower, pressure check valve, mechanical pressure relief valve, 460/3/60 TEFC motor, pressure gauge, inlet filter/silencer and premium discharge silencer.

Model	Power unit, hp (kW)	Line size, in. OD	Airflow, cfm (cmh)
CPP7.5	7.5 (5.6)	2.5	150 (255
CPP10	10 (7.5)	3	225 (382)
CPP15	15 (11.2)	3, 3.5 (3 Sch. 5)	225, 303 (382, 515)
CPP20	20 (14.9)	4	408 (693)
CPP25	25 (18.6)	4.5 (4 Sch. 10)	495 (841)
CPP30	30 (22.4)	5	646 (1098)
CPP40	40 (29.8)	5 Sch. 10	765 (1300)
CPP50	50 (37.3)	6 Sch. 10	1100 (1869)

On vacuum/pressure systems, starters for the two pumps and the rotary valve and controls are mounted in the NEMA 12 panel

SYSTEM AFTERCOOLER: AIR-COOLED/FAN OPERATED

Air-to-air heat exchanger with fan and TEFC motor is recommended for SVP or CPP systems with soft material (PE) and high ambient temperatures. For temperatures below 250ºF (121ºC), discharge temperature is reduced to approximately 30ºF (17ºC) of ambient.

CONTROL SYSTEM

NEMA 12 control panel, 115/1/60 includes starter for one rotary valve and one or two power units. Optional selector switch for high level receiver cut-off has up to 10 positions. Starters are available for additional rotary valves.

CYCLONE RECEIVERS

Pellet systems only. All cyclone receivers include 3108-A mounted in sidewall of throw-out cone for high level cutoff.

Model number	Motor power, hp (kW)	Line size, in. OD	Airflow, cfm (cmh)
WSC3	5, 7.5 (3.73, 5.59)	2, 2.5	103, 153 (175, 260))
WSC4	10, 15 (7.46, 11.19)	3, 3.5	225, 303 (382, 515)
WSC5	20, 25 (14.92, 18.65)	4, 4.5	408, 495 (693, 841)
WSC6	30 (22.38)	5	646 (1097)
WSC7	40 (29.84)	5 Sch. 10	764 (1298)
WSC8	50 (37.30)	6 Sch. 10	939 (1595)

CONTINUOUS SELF-CLEANING FILTER/RECEIVERS

Self-cleaning filter/receivers include enamel exterior, primed interior, legs with adequate clearance for airlock with discharge adapter, NEMA 4 control panel, 3108-A mounted in receiver side wall for high level cutoff, and 115/1/60 voltage.

Model	Vacuum power unit hp (kW)	Filter area sq. ft. (sq. m)	Compressed air scfm @ 90-100 psi	Compressed air, slpm @ 620-690 kPa
SCF-51/7.5	7.5 (5.59)	51 (4.7)	3.3	93.4
SCF-74/10	10 (7.49)	74 (6.9)	3.5	99.1
SCF-106/15	15 (11.19)	106 (9.8)	5.1	144.4
SCF-127/20	20 (14.92)	127 (11.8)	5.9	167.1
SCF-191/25	25 (18.65)	191 (17.8)	6.5	184.1
SCF-229/30	30 (22.38)	229 (21.3)	6.8	192.5
SCF-255/40	40 (29.84)	255 (23.7)	6.9	195.4
SCF-305/50	50 (37.30)	305 (28.4)	7.2	203.9

SELF-CLEANING BIN VENT FILTERS FOR MOUNTING TO SILOS

Self-cleaning bin vent filters the exhausted conveying air and includes mild steel construction, weather hood, primed interior, enamel exterior, NEMA 4 control panel, 16 oz. polyester bags, safety grid, and 115/1/60 voltage.

Model	Max. flow, 5-1 ratio, cfm (cmh)	Filter area, sq. ft. (sq. m)	Weight, lbs. (kg)	Inlet sq. opening, sq. in. (sq. cm)	Compressed air, scfm @ 90-100 psi	Compressed air, slpm @ 620-690 kPa
BB-16-58	585 (994)	117 (10.9)	610 (277)	32 (81.3)	5.9	167
BB-16-84	850 (1444)	170 (15.8)	720 (327)	32 (81.3)	6.2	176
BB-25-84	1325 (2251)	265 (24.6)	940 (427)	40 (101.6)	7.5	212
BB-36-84	1910 (3245)	382 (35.5)	1200 (545)	48 (121.9)	8.4	238

CENTRAL FILTERS: SELF-CLEANING

Self-cleaning central filters (CFQ Series) include primed interior, enamel exterior, 115/1/60 voltage, 24" clearance, NEMA 4 control panel, and manual dump valve on filter discharge flange.

Model	Vacuum power unit, hp (kW)	Filter area sq. ft. (sq. m)	Airflow cfm (cmh)	Compressed air, scfm @ 90-100 psi	Compressed air, slpm @ 620-690 kPa
CFQ-51	25, 30, SVP50 (18.6, 22.4, 37.3)	51 (4.7)	612 (1039)	3.3	93.4
CFQ-74	40	74 (6.9)	962 (1634)	3.5	99.1
CFQ-106	50	106 (9.8)	1378 (2341)	5.1	144.4

CENTRAL FILTERS: CARTRIDGE STYLE

Model	Filter area, sq. ft. (sq. cm.)	Power unit, HP (kW)	Line size OD, in.	Length, in. (cm)	Height, in. (cm)	Width, in. (cm)	Ship. weight lbs. (kg)
VFC225	35 (225.8)	5, 7.5, 10, 15 (3.7, 5.6, 7.5, 11.2)	2, 2.5,3, 3, 3.5 (3 Sch. 5)	20 (51)	73 (186)	20 (51)	160 (73)
VFC1000	55 (354.9)	15, 20, 25, 30, 40, 50 (11.2, 14.9, 18.7, 22.4, 29.8, 37.3)	3.5 (3 Sch. 5), 4, 4.5 (4 Sch. 10), 5, 5 Sch. 10, 6 Sch. 10	26 (66)	90 (229)	26 (66)	200 (91)

DIVERTER VALVES

Diverter valve options include aluminum valve construction, stainless steel valve construction, single or double solenoid, proof switches, and pre-wired terminal box.

Control interconnects for diverter valves are available in 2, 3, 4, 5, or 6 position models. Control interconnects work in conjunction with selector for high level cut-off and include input provisions for proof-switches on the diverter valves.

Model	Size, in. OD
D2.5-2ALY	2.5
D3-2ALY	3
D3-2ALY-P.5	3.5 (3 Sch. 5)
D4-2ALY	3.5 (3 Sch. 10)
D4-2ALY	4
D5-2ALY	5
D5-2ALY-P1	5 Sch. 10
D6-2ALY-P1	6 Sch. 10

ROTARY VALVES

All standard rotary valves include an 8-vane, open-end rotor, TEFC motor, roller chain, sprockets, guard, and 230 or 460/3/60 voltage.

Sizing formula is lbs./hr = bulk density: (lbs./cu. ft.) x capacity: (cu. ft./rev.) x rpm: (rev./min) x 60 min./hr. x 0.75

kg/hr = bulk density: (kg/liter) x capacity: (liter/rev) x rpm: (rev./min.) x 60 min./hr. x 0.75

Applications						
Valve Type	**Applications**	**Examples**	**Housing**	**Rotor**	**Rotor tips**	**Shaft air purge**
1	Non-abrasive, non-critical pellets	PE, PP, nylon, LLDPE, non-FDA	Cast iron	8-vane open end, carbon steel	Relieved	Optional
2	Abrasive, dusty, or powdered material, non-critical	PVC powders, PET, pellets, non-FDA	Cast iron, chrome plated	8-vane closed end, carbon steel	Replaceable	Standard
3	Abrasive pellets, critical applications	Pharmaceuticals, food containers, FDA	Cast iron, chrome plated	8-vane open end, stainless steel	Relieved	Optional

All pellet applications require a shear protector (pellet valve) above the rotary valve.

Specifications				
Model number	**Capacities, open rotor, per rev, cu. ft. (l)**	**Capacities, closed rotor, per rev, cu. ft. (l)**	**Motor @ 20 rpm, hp (kW)**	**Valve type (model number)**
FT-7	0.12 (3.4)	n/a	0.33 (0.25)	1 (FT-7/1), 2 (FT-7/2), 3 (FT-7/3)
FT-9	0.27 (7.6)	0.21 (5.9)	0.50 (0.37)	1 (FT-9/1), 2 (FT-9/2), 3 (FT-9/3)
FT-11	0.47 (13.3)	0.41 (11.6)	0.75 (0.56)	1 (FT-11/1), 2 (FT-11/2), 3 (FT-11/3)
FT-12	0.75 (21.2)	0.64 (18.1)	1 (0.75)	1 (FT-12/1), 2 (FT-12/2), 3 (FT-12/3)
FT-14	1.10 (31.1)	0.96 (27.2)	1.5 (1.12)	1 (FT-14/1), 2 (FT-14/2), 3 (FT-14/3)
FT-16	1.60 (45.3)	1.40 (39.6)	2 (1.49)	1 (FT-16/1), 2 (FT-16/2), 3 (FT-16/3)

Available options include CS open-end rotor with relieved tips (Type 1), CS closed end rotor with relieved tips (Type 2), SS open end rotor with relieved tips (Type 3), high temperature package, and shaft air purge with NEMA 4*, 7, or 9 solenoids.

* standard with Type 2 valves

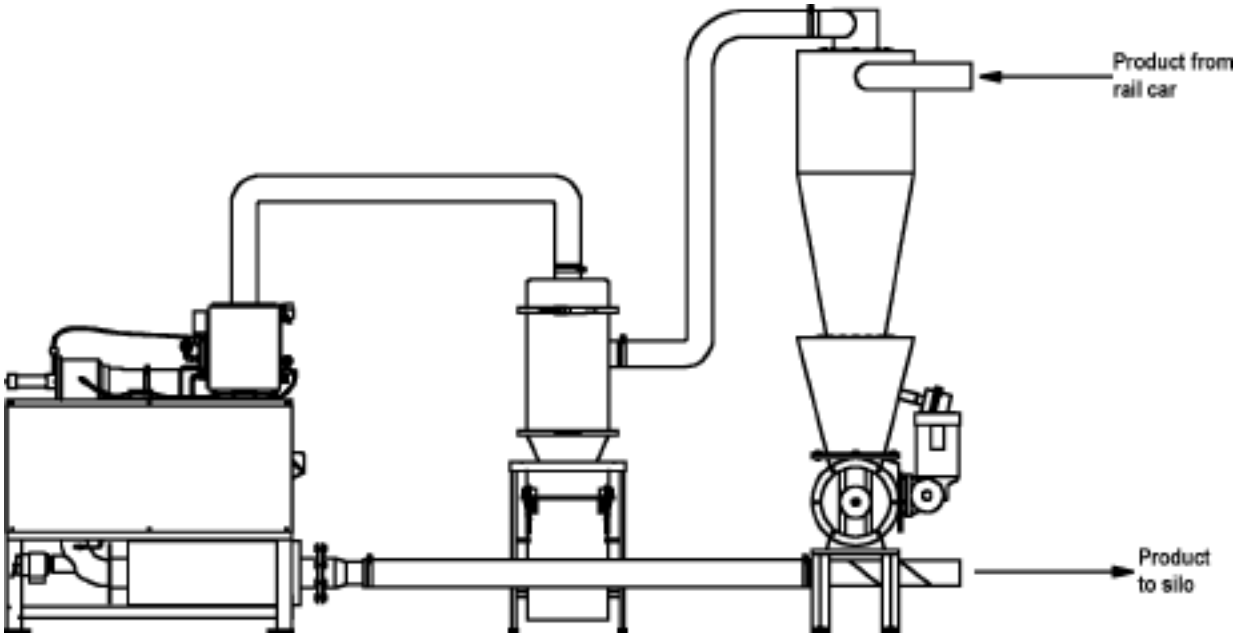
PRESSURE TAKE-OFF ADAPTERS

PTO Series pressure take-off adapters are available in mild or stainless steel. PTO models F7 through F16 are available for rotary valve models FT7 through FT16.

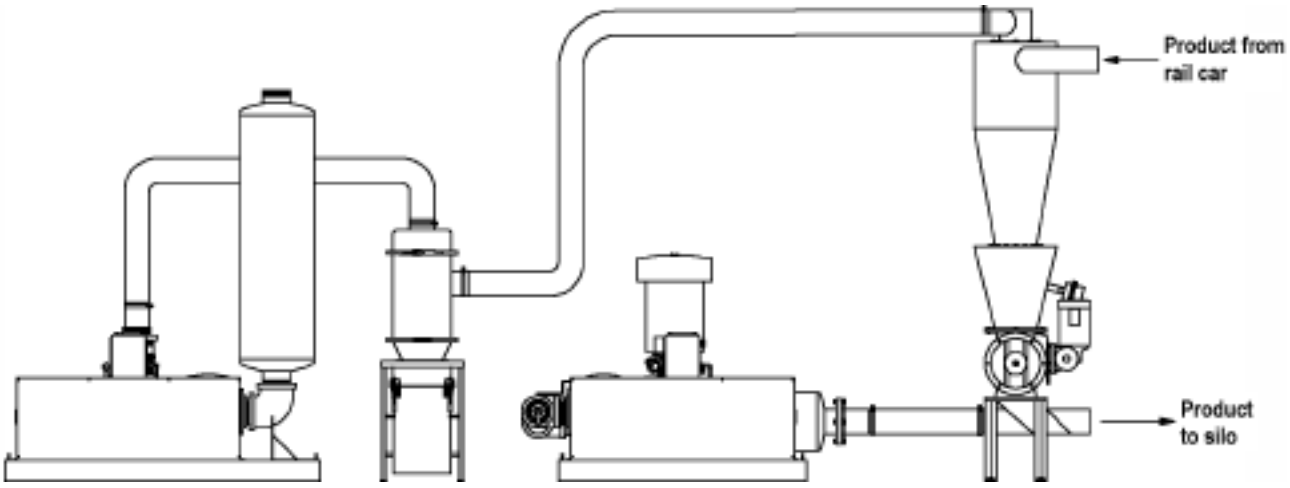
RAILCAR KITS AND ACCESSORIES

Railcar kits include components that are required to unload a railcar with an AEC conveying system. The hatch filter (model RHF-1) is required to properly vent the railcar during the unloading process. Probes are not required or included with 3.5” to 6” kits. Tubing is aluminum.

	2.0” OD	**2.25” OD**	**2.5” OD**	**3.0” OD**	**3.5” OD (3” Sch. 5)**	**4.0” OD**	**4” Sch. 5**	**5” Sch. 10**	**6” Sch. 10**
Part No.	W00011564	W00011565	W00011566	W00011567	W00017893	W00011568	W00011569	W00011570	W00052335



TYPICAL SINGLE BLOWER SYSTEM FOR FREE-FLOWING PELLETS



TYPICAL DUAL BLOWER SYSTEM FOR FREE-FLOWING PELLETS