

SPS-controlled fire extinguisher filling plant AMK-500 TRIO –
belt system facilitates the filling techniques reliable and precise.



The automatic EMDE – SPS-controlled fire extinguisher filling plant AMK-500 TRIO – belt system and the Siemens-SPS-control with EMDE-software guarantee a high operational reliability in the filling of fire extinguishers.

The compact construction of the AMK-500 TRIO demands a low space requirement in the production plant. The working stations of filling, processing and final completion of the fire extinguisher are coordinated with the production process to secure the quality standards as well as the productivity. All components are manufactured according to the standards for unitries and convince by its safety standards beyond the requested standards.

Operation of the AMK-500 TRIO guided by menu, compact and easy to survey by Siemens-Touch PC.



- » Absolute dustless filling procedure
- » Modular construction enables variable extension according to customer concern
- » Control of the complete procedure by sensor technology
- » Large fire fighting appliances can be filled by additional adaptor outside of the unit
- » Three disjoined filling positions
- » Variable height adjustment of filling head driven by spindle in case of change of fire extinguisher model
- » Three integrated filter tanks with automatic filter cleaning
- » Three universal filling heads appropriate for all fire extinguisher openings
- » Automatic dosing for 1 – 12 kg with control weighing
- » Filling and final completion with three workmen
- » Powder filling capacity: approx. 1500 pcs. per day à 8 hours according to powder quality*

* Theoretically calculated numerical value for powder filling without moving and handling time.

Advantages at one sight:

- » Own research and development
- » Job-oriented production according to customers requirements
- » Latest technology
- » Extensive and optimal provision of services
- » Highest cost-effectiveness

The way to economy and precision is achieved by the EMDE – SPS-controlled AMK-500 TRIO fire extinguisher filling plant.

TECHNICAL DATA

| | |
|-------------------------|---|
| SPS-control: | Siemens |
| Filter system: | self-cleaning, maintenance-free |
| Vacuum pump: | rotary vane vacuum pumps air-cooled, 63 m ³ /h |
| Scale: | 3 x 60 kg, 10 g resolution |
| Motor: | three-phase current 400 V, 50 Hz, 32 A |
| Compressed-air: | 8 – 10 bar, 1000 – 1500 l/min |
| Construction: | aluminium with aluminium casing |
| Dimensions (l x w x h): | approx. 2000 x 2200 x 4000 mm |
| Colour: | hammer finish painted blue or according to customer wish |

SPS controlled belt system

- » Variable transport pallet dimension up to max. 400 x 400 mm
- » Loading capacity of transport pallet up to 18 kg
- » Variably adjustable speed of the belt (standard speed 6.9 m/min)
- » Individual length of belt due to the modular construction of the single belt segments
- » Subsequent extensibility with additional belt segments
- » Variable, millimeter-exact positioning of STOP-position for working stations

TECHNICAL DATA

| | |
|-------------------------|--|
| Construction: | aluminium with twin-belt conveyor |
| Transport pallet: | 15 pcs. |
| Pallet insert: | 15 pcs. each for 1 kg, 2 kg and 6 kg |
| Motor: | three-phase current 230/400 V, 50 Hz, 0.43 A, 0.09 kW |
| Dimensions (l x w x h): | approx. 6100 x 3000 x 600 mm |

Valve Screwing Unit AEAE

Automatical EMDE-Valve Screwing Unit, model AEAE

Screwing of the armature is completely automatically and is effected according to the torque or according to the position of the extinguisher. The use of armature with swivel nut is inappropriate for the automatic screwing station.

Adaption and armature screwing is effected by special adaptor and height adjustment by compressed-air cylinder. The requested torque can be selected continuously by frequency converter.

TECHNICAL DATA

| | |
|-------------------------|---|
| Motor: | gear motor 1 kW, 230/400 V, 6 A, 50 Hz, IP 54 |
| Compressed-air: | 8 – 10 bar |
| Telescope: | length for 1 – 12 kg extinguisher |
| Torque: | adjustable 80 – 250 Nm |
| Construction: | aluminium with aluminium casing |
| Dimensions (l x w x h): | approx. 1000 x 500 x 2500 mm |
| Colour: | hammer finish painted blue or silvergrey |

Advantages at one sight:

- » Short time of assembly, operator is only for supervision
- » Without high manual strength
- » Fast and easy handling for changing the screwing adaptor

Nitrogen Filling Units AN2BS

Automatic Nitrogen Filling Unit, model AN2BS for fast pressurizing with nitrogen.

TECHNICAL DATA

| | |
|-----------------|---|
| Control system: | Siemens SPS – S7 |
| Max. pressure: | max. admitted nitrogen filling pressure 16 bar |
| Compressed-air: | 8 – 10 bar |
| Construction: | aluminium light profile with steel construction |

Advantages at one sight:

- » Sensor-controlled positioning for the different fire extinguishers
- » Automatic alignment of the extinguishers on the pallet
- » Automatic adaptation and filling with nitrogen up to the preset pressure
- » Pressure control by detectors; automatic disconnection of filling valve due to adjustable filling pressure



Multiflex Chain Conveyor

TECHNICAL DATA

| | |
|-------------------------|--|
| Construction: | steel construction made of double-T and U-profiles |
| Casing: | steel sheet |
| Conveyor belt: | EMDE-Multiflex approx. 18 m length/55 mm width |
| Gear motor: | approx. 1 kW, 2 A, IP 54 |
| Pneumatic: | compressed-air cylinder 25/50 mm stroke |
| Transport pallet: | 15 pcs. |
| Pallet insert: | 15 pcs. each for 1 kg, 2 kg and 6 kg |
| Colour: | hammer finish painted yellow or according to customer wish |
| Dimensions (l x w x h): | approx. 6000 x 1700 x 600 mm |

Optional: SPS controlled Multiflex Chain Conveyor

Consisting of:

- » Synchronous Multiflex chain conveyor with integrated working stops (speed adjusted to optimum working procedure of the unit)
- » Automatic release of working stops after finished working procedure

Nitrogen-Helium Blender

Nitrogen-Helium Blender

- » Module to generate a composite of nitrogen-helium in a direct continuous operation during filling
- » Integration of this assembly unit to be made at the nitrogen Filling Units AN2BS

- » Continuous adjustment of the mixing ratio by controller
- » Permanent monitoring of inlet pressure for exact gas mixture

BIG-BAG cabine in open construction (as double frame or single frame)

Construction:

- » Steel construction as supporting element with central space for a BIG-BAG
- » Charging hopper with suction connection for removal of powder from several BIG-BAGs
- » Electric chain pulley with manual push trolley (optional: electric trolley)

TECHNICAL DATA

| | |
|-------------------------|---|
| Dimensions (l x w x h): | approx. 700 x 400 x 800 mm |
| Weight: | approx. 60 kg |
| Motor: | 230 V, 16 A, 50 Hz |
| Inlet pressure: | at least 25 bar |
| Single frame | Dimensions: approx. 1800 x 1800 x 41000 mm Burden: 1250 kg |

A permanently increasing EMDE product range has been developed by the latest technologies, future-orientation and a perfected, innovated team targeted to the requirements of its customers.

Powder filling unit, model DSM



DSM – high-performance stationary filling unit controlled by a computer works with a fully automatical SPS-control system and has the distinction of:

- » The filling of the extinguishers takes place out of a BIG-BAG or a silo through the DSM directly into the extinguisher
- » An integrated highly wear-resistant digital scale guarantees filling accuracy beyond the required EN3-standard
- » The filling time for the extinguisher is according to the filling quantity: 8 – 20 sec. (depending on powder quality!) e.g. 6 kg extinguisher with a filling time of 10 – 15 sec.
- » Only one workman necessary
- » Low space requirement
- » Automatic filter cleaning
- » Filling procedure absolutely dustfree
- » Quick filling of extinguishers from 1 – 12 kg
- » Transportable fire fighting appliances P25 – P250 as well as 1000 kg vehicles are filled dustfree by the DSM by means of filling adaptor

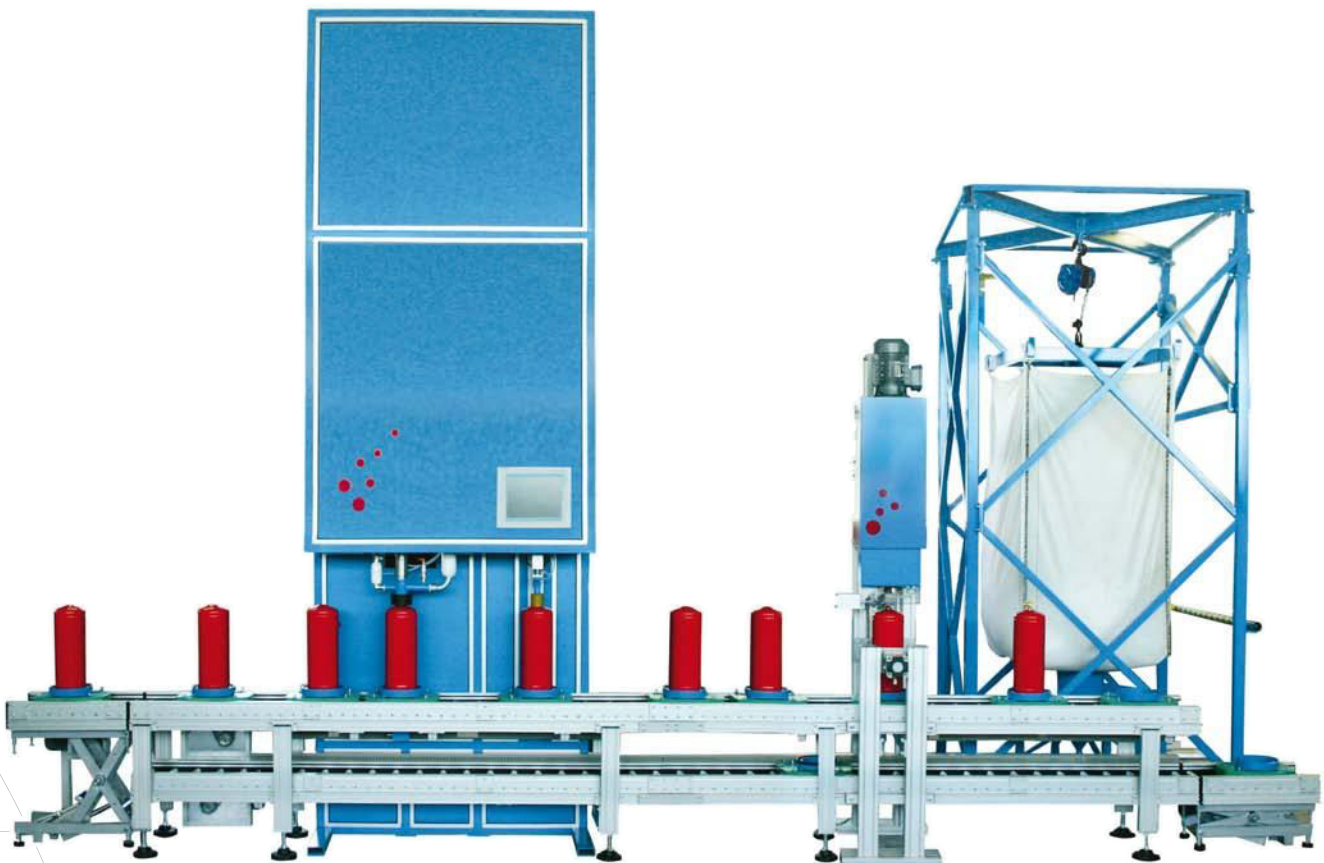
Operation of the DSM guided by menu, compact and easy to survey by Siemens-Touch PC.

TECHNICAL DATA

| | |
|-------------------------|---|
| SPS-control: | SIEMENS-SIMATIC – EMDE-Software |
| Filter system: | Polyamid-filter self-cleaning, maintenance-free |
| Vacuum-pump: | nominal Filling capacity 160 m ³ /h, air cooled 3 kW max. ultimate pressure 50 mbar |
| Control weighing: | calibrated digital scale 60 kg / 10 g resolution |
| Motor: | three-phase current 230/400V, 50Hz |
| Compressed-air: | 8 – 10 bar / 800 – 1000 l/min |
| Construction: | aluminium |
| Dimensions (l x w x h): | approx. 1900 x 1400 x 3900 mm |
| Colour: | hammer finish painted blue or according to customer wish |

Model DSM-NEB is a high-performance, computer controlled, stationary powder filling unit with the latest SPS-computer controlled technology. All adjustments can be made conveniently and easily by Siemens-Touch PC. The unit is equipped with powder suction which cleans the threads for the extinguishers automatically.

The fully automatic, SPS-controlled belt has minimum space requirements due to the two transport levels. The material carrier is transported from one level to the other by a fully automatic lifting gear. Powder filling takes place out of a BIG-BAG. The operation takes place menu-driven by a Siemens-Touch PC.



TECHNICAL DATA

| | | |
|-----------------------|-------------------------|--|
| DSM-NEB | Dimensions (l x w x h): | approx. 2000 x 2000 x 3950 mm |
| | Motor: | 230/400 V, 50 Hz, 32 A |
| | Compressed-air: | 6 – 8 bar |
| | Control-system: | SPS |
| | Construction: | steel frame with aluminium casing |
| | Colour: | hammer finish painted blue or silvergrey |
| Transport Belt | Dimensions (l x w x h): | approx. 6500 x 600 x 800 mm |
| | Construction: | aluminium |
| | Control-system: | SPS |

The unit is equipped with integrated screwing unit, model AEAE (see page 8) and nitrogen Filling Units, model AN2BS (see page 9)

Accessories available at extra charge:

» BIG-BAG-support with charging hopper



Model DAYNER with belt and lifting system

SPS-controlled powder emptying and filling unit for the exact filling of portable extinguishers of all makes and sizes.

The powder is filled directly out of a silo or a BIG-BAG with charging hopper in continuous operation into the extinguisher with the requested weight.

The DAYNER is equipped with an electronic scale which switches off on reaching the preset filling weight. The scale can be programmed with filling weights. These weights can be activated according to weights required and are indicated on operating panel.

BIG-BAG cabine in open construction, expandable with transport belt.



TECHNICAL DATA

| | |
|-------------------------|---|
| Filling capacity: | 6 kg / 15 – 30 sec (according to powder quality) |
| Compressed-air: | 8 bar |
| Motor: | 1,5 kW |
| Control weighing: | calibrated digital scale; 60 kg / 10 g resolution |
| Motor: | three-phase current 400 V, 50 Hz, (optional 1 x 230 V, 50 Hz) |
| Dimensions (l x w x h): | approx. 1000 x 700 x 3500 mm |
| Colour: | hammer finish painted blue or silvergrey |
| Accessory: | BIG-BAG cabine in open or closed version with electrical chain pulley |

The SPS-controlled fully automatic powder filling unit, model QUESTER is made for the filling of extinguishers from 1 – 12 kg as well as powder tanks of powder extinguisher units.

The unit operates within the filling tolerance indicated in the EN3 standards. Adjustment of the value of the filling weight has to be effected at the scale display; adjustment of the filling parameters depending on extinguisher type are effected by the text display. Height adjustment of the weighing platform takes place by screw-drive.

Admitted powder filling weight:
1 – 12 kg
(with an accuracy +/- 10 gramm)

Admitted dimensions of extinguisher:
» diameter: 80 – 360 mm
» total height: 200 – 900 mm

Powder filling takes place externally out of a silo (see page 50) or a BIG-BAG.



TECHNICAL DATA

| | |
|-------------------------|--|
| Dimensions (l x w x h): | approx. 1200 x 800 x 2100 mm |
| Current supply: | 230/400 Volt, 50 Hz |
| Compressed-air: | 6 – 8 bar, approx. 100 l/min |
| Total weight: | approx. 280 kg |
| Vacuum pump: | 1.5 kW |
| Weighing accuracy: | +/- 20 Gramm |
| Filter cleaning: | self-cleaning, elektropneumatic |
| Filter package: | maintenance free |
| Colour: | hammer finish painted blue or silvergrey |

The SPS-controlled fully automatic powder filling unit, model ALVIC is made for filling portable powder extinguisher from 1 kg to 12 kg.



With additional accessories the filling of movable fire fighting appliances is possible.

Filling is absolutely dust-free in vacuum procedure.

Construction of the unit – consisting of:

- » Aluminium-pipeframe with aluminium casing
- » Integrated powder tank with approx. 60 kg capacity
- » Filling automatically by filling level sensors. Powder supply directly from the BIG-BAG through the charging hopper
- » Integrated filter tank
- » Automatic filter cleaning with reuse of powder residues
- » Integrated weighing unit for filling according to the adjusted value
- » Final weight is reached by fine dosing
- » Pneumatic height adjustment by adaptation to the different extinguisher models
- » SPS-controlled filling procedure

TECHNICAL DATA

| | |
|-------------------------|---|
| Dimensions (l x w x h): | approx. 1200 x 1000 x 2200 mm |
| Capacity | approx. 800 pcs. within a shift of 8 hours (according to powder quality) |
| Drive: | 230/400 V, 16 A, 50 Hz |
| Compressed-air: | 8 – 10 bar |



The RAPID-N filling unit accomplishes the requirements of the EN3-norm by speed, precision, economy and cleanness. The RAPID-N fills extinguishers from 1 – 12 kg and larger cylinders by means of special filling adaptor.

The filling takes place by suction out of a silo, BIG-BAG or powder storage container (option – not included) directly into the fire extinguisher without any additional labour.

The filling is absolutely dust-free out of this powder storage directly into the extinguisher.

The precise filling is effected by a digital scale. The requested weight is stored at the scale and after reaching the filling quantity the scale stops automatically.

The height adjustment for different types of extinguisher result manual by pneumatic cylinder.

The RAPID-N can be used by manufacturers of extinguishers, airport-fire brigades, operating fire brigades and service offices.

The RAPID-N is convincing by its technology and shows the possibility within the filling of powder fire extinguisher.



TECHNICAL DATA

| | |
|-------------------------|---|
| Motor-capacity: | 2.2 kW |
| Pump-capacity: | 25 kg/min (according to powder quality) |
| Drive: | 230/400 V, 16 A, 50 Hz + N + PE |
| Compressed-air: | 6 – 10 bar |
| Control: | SPS / Digital scale, precision +/- 10 g |
| Dimensions (l x w x h): | approx. 1100 x 1000 x 2300 mm |
| Construction: | steel / aluminium |
| Colour: | hammer finish painted blue or silver, laquer: powder coated |

The PFF-SUMATIC-V100/50 is a movable machine for emptying and filling of portable and mobile fire extinguishers as well as powder fire trucks.



- » Interstorage of max. 50 kg powder inside the machine hopper
- » Appropriate for all types of powder (ABC, BC, etc.)
- » Emptying and filling absolutely dust-free
- » Height adjustment by pneumatic cylinder
- » Easy and convenient handling
- » Maintenance free polythene filter package with pneumatic cleaning

- » Construction: movable compact version (optional: stationary unit)
- » Emptying of extinguisher hoses from 0.6 m to 5.0 m
- » High quality, low noise vacuum pump
- » Filling capacity: 30 kg/min (20 kg/min at a filling height of 5 m)
- » two big windows for powder control

The unit is equipped with:

- » abrasion-resistant suction hose, 3 m incl. connection coupling
- » set with 4 suction lances 15, 20, 25 and 30 mm
- » 4 wheels, 2 of them with locking brake
- » robust ball valve on filling and vacuum valve
- » universal rubber filling adaptor for all sizes and types of portable fire extinguisher
- » diagonally positioned, removable sieve (420 mm long), which retains lumps and contamination

Optional available at extra charge:

Unit equipped with storage shelf on the back side; size of shelf (l x w x h): 250 x 750 x 300 mm

TECHNICAL DATA

| | |
|-------------------------|--|
| Construction: | corrosion-free aluminium |
| Unit hopper: | steel |
| Motor: | three-phase current 380 V, 50 Hz, 16 A |
| Compressed-air: | 6 – 8 bar |
| Filling capacity: | 30 kg/min |
| Weight: | approx. 155 kg |
| Dimensions (l x w x h): | approx. 1100 x 900 x 2000 mm |
| Colour: | hammer finish painted blue or silvergrey |



TOP-Selling Powder Filling Unit: PFF-SUMATIC-SV-100-W

SPS-controlled powder emptying and filling unit for the exact filling of portable extinguishers of all makes and sizes. Filling takes place out of a bag or a fire extinguisher as well as out of an EMDE storage tank (e.g. 250 kg – accessory). The extinguisher is filled directly through the powder filling unit in continuous operation on setting the requested weight.

The PFF-SUMATIC-SV-100-W is equipped with an electronic scale which switches off on reaching the preset filling weight. The scale can be programmed with filling weights which can be activated according to weight required.

The weights are indicated on operating panel. The filling of movable extinguishers is to be carried out with the help of a special filling adaptor.

The unit is equipped with:

- » High-quality, self-cleaning filters
- » Programmable digital scale, 10 g resolution for automatic cut-off on reaching the filling weight
- » Powder tank for interstorage of extinguishing powder up to 30 kg
- » Lockable ball valves
- » Pneumatic height adjustment
- » An advantage is the diagonally positioned, removable sieve, which retains lumps and contamination
- » Window for powder control
- » Powder suction hose 32 mm, length 2 m with couplings
- » Connection for fluidisation to aerate the powder inside the storage silo
- » Sound absorber for sound insulation
- » Powerful, low-maintenance vacuum pump





SV-100-W with powder silos and filling rack for old powder

Optional available at extra charge:

- » Silo 250 kg movable (No. 100 330)
- » External floor scale with automatic cut-off feature for filling of movable extinguishers
- » Unit with more silos for different types of powder with manifold and shut-off device

TECHNICAL DATA

| | |
|-------------------------|---|
| Filling capacity: | 6 kg / 15 – 30 sec (according to powder quality) |
| Compressed-air: | 5 bar |
| Motor: | 1.5 kW 400 V, 50 Hz (optional three-phase current 230 V, 50 Hz) |
| Filling capacity: | 30 kg/min |
| Dimensions (l x w x h): | approx. 700 x 800 x 1800 mm |
| Work height: | max. 2250 mm, lift 4500 mm |
| Colour: | hammer finish painted blue or silvergrey |



The filling rack, model ABF-1000 is for filling the old powder into BIG-BAGs or storage container in a dustless and fast way.



The unit is equipped with:

- » a high quality self-cleaning filter package
- » a powerful, low-maintenance vacuum pump
- » a manually operated shutting flap
- » four robust BIG-BAG loops- fastener
- » High quality steel lance 1200 mm

The emptying of the extinguisher is effected manually directly into the tank by using a suction lance.

Demand for the sucking material:

The filter unit is only appropriate for totally dried and non-aggressive dusts and powder.

Optional available at extra charge:

- » Equipped with pneumatic shutting flap
- » Adaptor for filling of plastic material barrel
- » High quality steel lance with earthed hose

TECHNICAL DATA

| | |
|-------------------------|------------------------------------|
| Construction: | aluminum construction |
| Hopper: | metallic glass |
| Voltage: | 230/400 V, 50 Hz, 12 A |
| Capacity: | 35 kg/min |
| Compressed-air: | 6 – 8 bar |
| Weight: | approx. 390 kg |
| Dimensions (l x w x h): | approx. 2000 x 1100 x 2800 mm |
| Colour: | hammer finish painted blue or grey |

The mobile filling rack, model AEE-1000-F is for filling the old powder into Big-Bags or storage container in a dustless and fast way.

The unit is equipped with:

- » a high quality self-cleaning filter package
- » four wheels
- » by-pass channel with high suction capacity
- » a manually operated shutting flap
- » four robust BIG-BAG loops- fastener
- » High quality steel lance 1200 mm

The emptying of the extinguisher is effected manually directly into the tank by using a suction lance. Extinguisher under pressure can be emptying direct with a connection into the storage container.

Demand for the sucking material:

The filter unit is only appropriate for totally dried and non-aggressive dusts and powder.

Optional available at extra charge:

- » Equipped with pneumatic shutting flap
- » Adaptor for filling of plastic material barrel
- » High quality steel lance with earthed hose
- » a powerful, low-maintenance vacuum pump



TECHNICAL DATA

| | |
|-------------------------|------------------------------------|
| Construction: | aluminum construction |
| Hopper: | metallic glass |
| Voltage: | 230/400 V, 50 Hz, 12 A |
| Capacity: | 30 kg/min |
| Compressed-air: | 6 – 8 bar |
| Weight: | approx. 300 kg |
| Dimensions (l x w x h): | approx. 1400 x 1600 x 2750 mm |
| Colour: | hammer finish painted blue or grey |

Unit for disposal of old powder

The PFF-SUMATIC-SWS-600 is a powder suction unit with bag emptying to dispose old powder.

- » Absolute dust free emptying
- » Interstorage up to 100 kg powder
- » Closable ball valve
- » Inspection window for powder control
- » Cleaning of the tank and the filter package effected electrically
- » Guaranteed high capacity in continuous operation
- » Height adjustment by rack worm drive with hand wheel for different dimensions of bags
- » Manually operated butterfly valve

Accessories available at extra charge:

- » Adaptor for filling of plastic material barrel
- » High quality steel lance with earthed hose

Optional:

The PFF-SUMATIC-SWS-600-W is a powder suction unit with bag emptying to dispose old powder for wall installation.

PFF-SWS-600-W

(No. 117 100)



TECHNICAL DATA

| | |
|-------------------------|--|
| Dimensions (l x w x h): | approx. 1300 x 780 x 1800 mm |
| Motor: | 230 V, 8 A, 50 Hz optional 400 V, 6 A |
| Max. height: | 2500 mm |
| Weight: | approx. 79 kg |
| Operation: | WITHOUT any vibration |
| Filling capacity: | 25 kg/min |
| Hopper: | metal |
| Filter package: | maintenance-free |
| Filter cleaning: | self-cleaning electrically |
| Colour: | hammer finish painted blue or silvergrey |

Unit for disposal of old powder

The PFF-SUMATIC-SWS-600-E is a ejector driven powder suction unit with bag emptying to dispose old powder.

- » Absolute dust free emptying
- » Interstorage up to 100 kg powder
- » Closable ball valve
- » Inspection window for powder control
- » Cleaning of the tank and the filter package effected electrically
- » Guaranteed high capacity in continuous operation
- » Height adjustment by rack worm drive with hand wheel for different dimensions of bags
- » Manually operated butterfly valve

Accessories available at extra charge:

- » Adaptor for filling of plastic material barrel
- » High quality steel lance with earthed hose

**TECHNICAL DATA**

| | |
|-------------------------|--|
| Compressed-air: | 7 bar |
| Dimensions (l x w x h): | approx. 1300 x 780 x 1800 mm max. height: 2500 mm |
| Weight: | approx. 55 kg |
| Operation: | WITHOUT any vibration |
| Filling capacity: | 20 kg/min |
| Hopper: | metal |
| Filter package: | maintenance-free |
| Filter cleaning: | self-cleaning electrically |
| Colour: | hammer finish painted blue or silvergrey |