



**Packaging machines** 



### **GENERAL INFORMATION**

A vacuum chamber machine removes the air out of a bag by using of a vacuum pump. Once the air has been removed the bag is then sealed. The Audionvac models start with a small tabletop model and progress through various sizes to a very large double chamber unit. The cabinet of every model is made of stainless steel, while the chamber is either constructed of stainless steel (VMS machines) or aluminum (VM machines). Each model has a unique combination of different types of lids and chambers.

#### Type of lids

- Flat transparent lid
- High transparent lid
- · Aluminum lid with window
- Stainless steel lid

### **Types of chambers**

- Stainless steel press moulded chamber
- Aluminum chamber
- Stainless steel flat working plate

#### **Digital control panel**

Every Audionvac model is equipped with a digital control panel. This control panel is clearly laid out and easy to program. VMS 43, 53, 93, 113, and 133(L) have a 1 program control panel, all the other models have a 10 program control panel.

#### Soft-air

All the 10 program models are equipped as standard with softair function which enables fragile (e.g. fish) or sharp (e.g. T-bone) products to be packed without damage. The air enters the vacuum chamber very gently after the sealing process, giving the vacuum bag time to form around the fragile or sharp product. The result is that the product or the vacuum bag will not be damaged. A further benefit is that the product looks neater with a better formed package.

#### **Filler plates**

All models come with filler plates so that the working height inside the chamber can be adjusted to the product.

#### Measurements in general

The front of the machine, where the control panel is placed, is called the length. The front to back dimension is called the width. For tabletop models this means that front side (the length) is the shortest side and the depth (width) is the longest side.

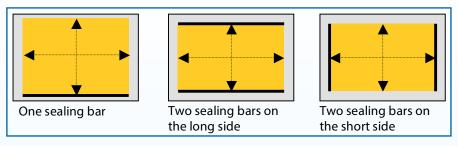
#### **Effective Chamber Size**

The effective chamber size is the space between the sealing bar(s), the sides and the lid. The net sealing bar size given, is the usable length.

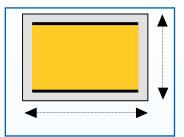
#### **Absolute Chamber Size**

The difference between the absolute chamber size and the effective chamber size is the space between the sealing bars and the walls of the chamber. This area is shown as the grey area around the effective chamber size.

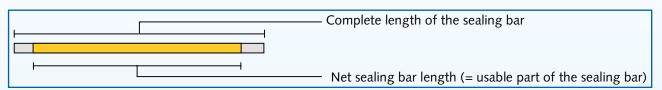
#### **Effective Chamber Size**



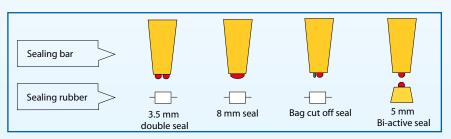
## **Absolute Chamber Size**



### Net sealing bar length



#### **Sealing bars**



# **OPTIONS, ACCESSORIES & EXTENDED FUNCTIONS**

#### **OPTIONS**

#### **Sealing bar configurations**

There are some models that can be equipped with different sealing bar configurations. The different possible sealing bar configurations are indicated next to each model.

#### **Sensor control**

When it is important to obtain an exact vacuum or gas level we recommend a sensor control. The standard machine normally relies on a time cycle for the vacuum and gas levels, which is accurate enough for most applications. However, when dealing with products that vary in volume or density, a sensor ensures that each package is under the same level of vacuum.

#### **Gas Flush**

Adding gas to the package is a way of extending the shelf life of the product. The product, and the space around it in the chamber are vacuumised as normal. Usually after the vacuuming process the bag is sealed; but with gas flush, the pouch is injected with a gas or gas mixture. When the desired volume of gas is reached the bag is then sealed. This gives a very low residual oxygen percentage and the product is no longer under vacuum pressure.

#### Filling plates for lid

By using the filler plates for the lid of the double chamber models, the volume of the chamber decreases. The benefit is that the cycle time becomes shorter and the gas consumption decreases. The filler plates are not designed for frequent mounting and dismounting therefore it may not be suitable if one of the major packed products is taller than the inner height of the lid equipped with filler plates.



#### **Easy swing**

This is a system for stainless steel double chamber models which enables the operator to work in an ergonomic way. The system keeps the lid closed after a cycle, and by pressing the button, the lid rises by the force of springs. By using this rising motion, the lid can be moved to the other side with much less effort.

#### **ESD** (Electrostatic discharge)

ESD is a rapid transfer of electrostatic charge between two objects, usually resulting when two objects at different potentials come into direct contact with each other.

During the vacuum and decompressing phase, air flows over machine surfaces and builds up a static load. If electrostatic discharge occurs during packaging of an electronic product, the product could be damaged instantly, but this can not be found visually from outside.

With ESD option, all the surfaces are made of conductive material that discharges electrical current away to the ground connection of the machine. There will be no static loaded components inside the machine, so the vulnerable electronic products are protected from electronic damage. To ensure the protection, the products need to be packed in anti-static bags.

#### Vacuum & gas speed regulation

For packaging light-weight products, it is recommendable to use this option to avoid seal failure. With the two regulators mounted on vacuum and gas pipes, the speed of air extraction and gas injection can be controlled, also, special right angled gas injection nozzles will be mounted so the gas is not blown directly against the products.

#### **External pump**

The pump can be placed outside of the machine frame with a long hose connection. This option is for example very suitable to apply in a clean room.

## **Powder filter**

Powder filter is recommended if the machine is used to pack very fine powders. The filter prevents the powder from going into the vacuum pump.

#### **Liquid filter**

Liquid filter is recommended if the machine is used to pack liquids. The filter prevents the liquid from going into the vacuum pump and causing corrosion.

#### **Voltages, Phase and Frequency**

All models can be supplied with a different voltage, phase and frequency to accommodate specific requirements of the customer.

#### **ACCESSORIES**

#### Gas kit

Gas kit is a group of parts that can be mounted to the machine to add gas flush function after the machine has left the factory. Gas kit is available on all the models manufactured after 2006 that have gas flush as an option.

#### **Tilted plate for liquid bags**

This is an inclined support table placed inside the vacuum chamber. The bags containing liquid can be vacuum packed easily without spilling.

#### **Platform**

By using the platform on VMS 153 VCB, a stand-up package and a square (brick) package can be created on the same machine. The extra benefit of having a platform is that it is also possible to have the gas function available on this model (but not together with the cassette).

#### **Extra cassette**

For making different size packages an extra cassette can be ordered.

## **EXTENDED FUNCTIONS**

## **Multi-cycle**

Multi-cycle is used for packaging applications which require very low oxygen rests in package. It is automatically repeating vacuum and gas flush processes with a maximum of 5 times each before proceeding to seal process. It is also useful for packaging products containing air inside, which require rest times between vacuum cycles to let air out of itself.



#### **Gas Plus**

Gas plus is an extra gas flushing time during the closing of the seal bars, allowing for more gas inside the bag to make ballooning packages.

To use this function, the machine should be equipped with the gas flush option.

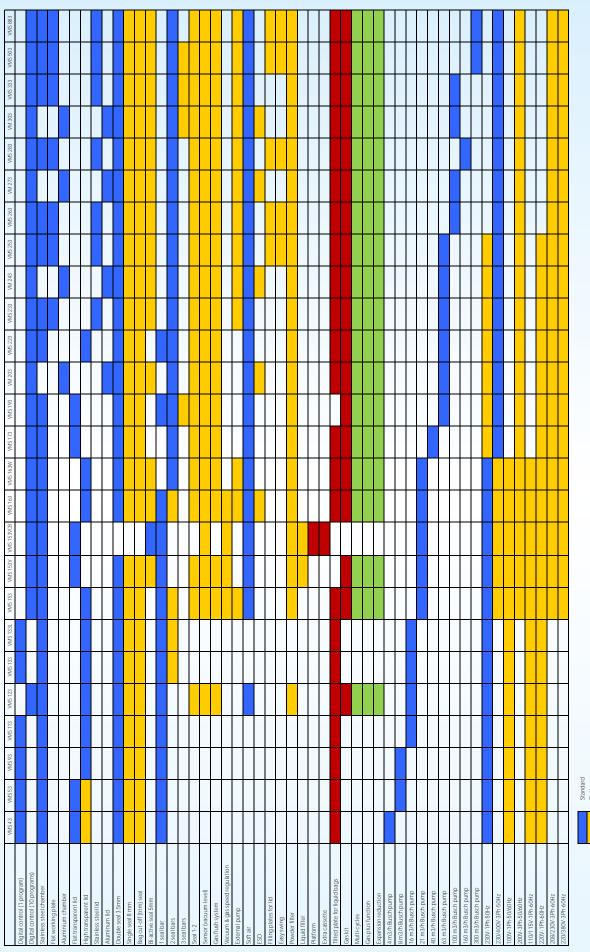
#### **Expansion reduction**

Expansion reduction is a special function for packaging large pieces of fresh meat, By using this function, drip loss and bubble forming will be solved.

Expansion reduction allows external air to flow into the decompressed chamber for a short time (0.1-1.0 second) together with the closing of the seal bars. By slightly loosening the surrounding pressure, gas and water do not come out into the package.



# **SPECIFICATION OVERVIEW**





# **TABLE-, FLOOR- AND DOUBLE CHAMBER MODELS**

Technical information VMS 43	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration		
Net seal bar length	270 mm	
Effective chamber size	270 x 310 mm	
Absolute chamber size (lxwxh)	280 x 340 x 85 mm	280 x 340 x 130 mm (high lid)
Machine dimensions (lxwxh)	330 x 450 x 305 mm	330 x 450 x 340 mm (high lid)
Pump capacity	4 m³/h	
Power supply	230 V - 1 ph - 50 Hz	
Power consumption	0.3-0.4 kW	





Technical information VMS 53	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration		
Net seal bar length	270 mm	
Effective chamber size	270 x 310 mm	
Absolute chamber size (lxwxh)	280 x 340 x 85mm	280 x 340 x 130 mm (high lid)
Machine dimensions (lxwxh)	330 x 450 x 305 mm	330 x 450 x 340 mm (high lid)
Pump capacity	8 m³/h	
Power supply	230 V - 1 ph - 50 Hz	
Power consumption	0.35-0.45 kW	

Technical information VMS 93	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	340 mm
Effective chamber size	340 x 370 mm
Absolute chamber size (lxwxh)	350 x 420 x 150 mm
Machine dimensions (lxwxh)	450 x 555 x 370 mm
Pump capacity	$8 \text{ m}^3/\text{h}$
Power supply	230 V - 1 ph - 50 Hz
Power consumption	0.35-0.45 kW





Technical information VMS 113	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	340 mm
Effective chamber size	340 x 370 mm
Absolute chamber size (lxwxh)	350 x 420 x 150 mm
Machine dimensions (lxwxh)	450 x 555 x 405 mm
Pump capacity	16 m³/h
Power supply	230 V - 1 ph - 50 Hz
Power consumption	0.55 kW

Technical information VMS 123	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	340 mm
Effective chamber size	340 x 370 mm
Absolute chamber size (lxwxh)	350 x 420 x 150 mm
Machine dimensions (lxwxh)	450 x 555 x 405 mm
Pump capacity	16 m³/h
Power supply	230 V - 1 ph - 50 Hz
Power consumption	0.55 kW





Technical information VMS 133	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration		2 sealbars
Net seal bar length	410 mm	
Effective chamber size	410 x 370 mm	410 x 320 mm (2 sealbars)
Absolute chamber size (lxwxh)	420 x 420 x180 mm	
Machine dimensions (lxwxh)	490 x 525 x 445 mm	490 x 525 x 470 mm (2 sealbars)
Pump capacity	16 m³/h	
Power supply	230 V - 1 ph - 50 Hz	
Power consumption	0.55 kW	

Technical information VMS 133L	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration		2 sealbars
Net seal bar length	410 mm	
Effective chamber size	410 x 460 mm	410 x 410 mm: 2 sealbars
Absolute chamber size (lxwxh)	420 x 500 x 180 mm	
Machine dimensions (lxwxh)	490 x 610 x 445 mm	490 x 610 x 470 mm: 2 sealbars
Pump capacity	16 m³/h	
Power supply	230 V - 1 ph - 50 Hz	
Power consumption	0.55 kW	





Technical information VMS 153	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration		2 sealbars
Net seal bar length	410 mm	
Effective chamber size	410 x 370 mm	410 x 320 mm: 2 sealbars
Absolute chamber size (lxwxh)	420 x 420 x 180 mm	
Machine dimensions (lxwxh)	490 x 525 x 445 mm	490 x 525 x 470 mm: 2 sealbars
Pump capacity	21 m³/h	
Power supply	230 V - 1 ph - 50 Hz	
Power consumption	0.75 - 1.0 kW	

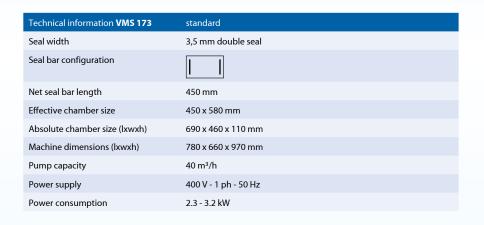


Technical information VMS 163	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration		2 sealbars
Net seal bar length	410 mm	
Effective chamber size	410 x 460 mm	410 x 410 mm: 2 sealbars
Absolute chamber size (lxwxh)	420 x 500 x180 mm	
Machine dimensions (lxwxh)	490 x 610 x 445 mm	490 x 610 x 470 mm: 2 sealbars
Pump capacity	21 m³/h	
Power supply	230 V - 1 ph - 50 Hz	
Power consumption	0.75 - 1.0 kW	





Technical information VMS 163W	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	400 mm
Effective chamber size	400 x 520 mm
Absolute chamber size (lxwxh)	630 x 410 x 185 mm
Machine dimensions (lxwxh)	700 x 530 x 445 mm
Pump capacity	21 m³/h
Power supply	230 V - 1 ph - 50 Hz
Power consumption	0.75 - 1.0 kW







Technical information VMS 193	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration	A. long	C. short/long
	B.short/short	D. 3 seal bars
Net seal bar length	310 mm short 970 mm long	920 mm long front (C) 870 mm long front (D)
Effective chamber size	A. 970 x 270 mm B. 890 x 310 mm	C. 920 x 270 mm D. 870 x 270 mm
Absolute chamber size (lxwxh)	990 x 320 x100 mm	
Machine dimensions (lxwxh)	1065 x 480 x 960 mm	
Pump capacity	63 m³/h	
Power supply	400 V - 3 ph - 50 Hz	
Power consumption	2.0 - 4.0 kW	

Technical information VM 203	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	510 mm
Effective chamber size	510 x 500 mm
Absolute chamber size (lxwxh)	610 x 520 x 230 mm
Machine dimensions (lxwxh)	680 x 700 x 1060 mm
Pump capacity	63 m³/h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	2.4 - 3.5 kW





Technical information VMS 223	standard
Seal width	3,5 mm double seal
Seal bar configuration	short/short long
Net seal bar length	510 mm short 590 mm long
Effective chamber size	510 x 500 mm short/short 590 x 475 mm long
Absolute chamber size (lxwxh)	600 x 520 x 200 mm
Machine dimensions (lxwxh)	700 x 710 x 1030 mm
Pump capacity	63 m³/h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	2.4 - 3.5 kW

Technical information VMS 233	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	510 mm
Effective chamber size	510 x 500 mm
Absolute chamber size (lxwxh)	630 x 540 x 200 mm
Machine dimensions (lxwxh)	700 x 730 x 1030 mm
Pump capacity	63 m³/h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	2.4-3.5 kW





Technical information VM 243	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	440 mm
Effective chamber size	440 x 580 mm
Absolute chamber size (lxwxh)	470 x 690 x 230 mm
Machine dimensions (lxwxh)	1060 x 900 x 1070 mm
Pump capacity	63 m³/h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	3.3 - 4.5 kW





Technical information VMS 253	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	610 mm
Effective chamber size	610 x 400 mm
Absolute chamber size (lxwxh)	680 x 540 x240 mm
Machine dimensions (lxwxh)	1490 x 820 x 1100 mm
Pump capacity	63 m³/h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	2.4 - 3.5 kW

Technical information VMS 263	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	610 mm
Effective chamber size	610 x 500 mm
Absolute chamber size (lxwxh)	680 x 640 x 240 mm
Machine dimensions (lxwxh)	1490 x 920 x 1100 mm
Pump capacity	100 m <sup>3</sup> /h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	3.5 - 5.3 kW



Technical information VM 273	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	540 mm
Effective chamber size	540 x 700 mm
Absolute chamber size (lxwxh)	570 x 820 x 240 mm
Machine dimensions (lxwxh)	1260 x 1010 x 1070 mm
Pump capacity	100 m³/h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	3.5 -5.0 kW





Technical information VMS 283	standard
Seal width	3,5 mm double seal
Seal bar configuration	short/short long/long
Net seal bar length	610 mm: short 830 mm: long
Effective chamber size	610 x 750 mm: short/short 830 x 530 mm: long/long
Absolute chamber size (lxwxh)	680 x 880 x 250 mm
Machine dimensions (lxwxh)	1490 x 1220 x 1110 mm
Pump capacity	160 m <sup>3</sup> /h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	5.5 -9.0 kW

Technical information VM 303	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration	short/short	3 seal bars
	long/short	
Net seal bar length	550 mm: short 790 mm: long 490 mm: short bar for long/short	490 mm: short bar for 3 sealbars
Effective chamber size	710 x 550 mm: short/short 790 x 460 mm: long/long 750 x 490 mm: long/short	710 x 490 mm: 3 seal bars
Absolute chamber size (lxwxh)	820 x 560 x 240 mm	
Machine dimensions (Ixwxh)	900 x 820 x 1060 mm	
Pump capacity	100 m <sup>3</sup> /h	
Power supply	400 V - 3 ph - 50 Hz	
Power consumption	3.0-5.0 kW	





Technical information VMS 333	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration	short/short	3 seal bars
	long/long	short/long
	long/short	
Net seal bar length	550 mm: short 790 mm: long 490 mm: short bar for long/short	490 mm: short bar for short/long, 3 sealbars
Effective chamber size	710 x 550 mm: short/short 790 x 460 mm: long/long 790 x 490 mm: long/short	710 x 490 mm: 3 seal bars 790 x 490 mm: short/long
Absolute chamber size (lxwxh)	840 x 580 x 200 mm	
Machine dimensions (lxwxh)	920 x 825 x 1125 mm	
Pump capacity	100 m³/h	
Power supply	400 V - 3 ph - 50 Hz	
Power consumption	3.0-5.0 kW	





Technical information VMS 503	standard	option
Seal width	3,5 mm double seal	
Seal bar configuration	short/short long/long	3 seal bars
Net seal bar length	830 mm: short 1090 mm: long	1090 mm: 3 seal bars
Effective chamber size	1000 x 830 mm: short/short 1090 x 730 mm: long/long	1090 x 470 mm + 1090 x 235 mm: 3 seal bars
Absolute chamber size (lxwxh)	1150 x 880 x 300 mm	
Machine dimensions (Ixwxh)	2420 x 1210 x 1160 mm	
Pump capacity	300 m <sup>3</sup> /h	
Power supply	400 V - 3 ph - 50 Hz	
Power consumption	7.0 - 11.0 kW	

Technical information VMS 883	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	830 mm
Effective chamber size	830 x 830 mm
Absolute chamber size (lxwxh)	890 x 950 x 255 mm
Machine dimensions (lxwxh)	1900 x 1295 x 1130 mm
Pump capacity	300 m³/h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	7.0 - 11.0 kW



# **VERTICAL VACUUM CHAMBER**

#### **VMS 153 V**

The VMS 153 V is designed for vacuum packaging stand-up pouches of solids, liquids, or powders. It has a platform in the chamber that can be adjusted for different bag heights.

Technical information VMS 153 V	standard
Seal width	3,5 mm double seal
Seal bar configuration	
Maximum bag size (wxdxh)	380 x 80 x 270 mm
Machine dimensions (wxdxh)	490 x 490 x 750 mm
Pump capacity	21 m³/h
Power supply	230 V - 1 ph - 50 Hz
Power consumption	0.75 - 1.0 kW



#### **VMS 153 VCB**

The VMS 153 VCB is ideal for creating vacuum brick bags of powdered products (such as ground coffee) or nuts. The brick shape is created with a custom designed forming cassette, which is useable for multiple bags per cycle operation. To ensure a nice brick shape, a "stamper" is delivered with the machine with which the top of the package can be flattened prior to vacuuming.

It is possible to pack stand-up pouches as well as brick packages by exchanging the forming cassette with the optional platform. When the platform is attached, it is possible to use the gas flush option.



Technical information VMS 153 VCB	standard
Seal width	5 mm bi-active seal
Seal bar configuration	
Maximum product size (wxdxh)	380 x 80 x 280 mm (size of brick)
Machine dimensions (wxdxh)	490 x 490 x 750 mm
Pump capacity	21 m³/h
Power supply	230 V - 1 ph - 50 Hz
Power consumption	0.75 - 1.0 kW



# **DIP TANKS**

The dip tank is mainly used in the food industry. Food is often packed in a shrink bag or in a vacuum bag. When using a vacuum chamber with a dip tank both methods are combined. Special vacuum shrink bags are therefore required.

After vacuum packaging, the product is placed into the hot water filled dip tank for a few seconds. During this bath, the special vacuum shrink film will retract the plastic surplus film around the product. Resulting in a better looking package, with reduced packaging volume.

Technical information <b>VDT 5060</b>	
Machine size (lxwxh)	740 x 770 x 1055 mm
Chamber size (lxwxh)	600 x 500 x 220 mm
Max. load on working plate	35 kg
Water capacity	95 L
Machine weight	120 kg
Power supply	400 V - 3 ph - 50 Hz
Power consumption	9.0 kW





Technical information VDT 6080	
Machine size (lxwxh)	950 x 875 x 1055 mm
Chamber size (lxwxh)	800 x 600 x 220 mm
Max. load on working plate	35 kg
Water capacity	150 L
Machine weight	155 kg
Power supply	400 V - 3 ph - 50 Hz
Power consumption	15.0 kW

# **CUSTOM MADE**

# **Vertical Vacuum Chamber**

For applications that require vacuum packing large pouches or creating brick packs that can not be made with our tabletop vertical vacuum chambers, custom built floor standing machines can be offered. These units have chambers that are specially designed for the customer's required bag size and production speed. Such a vertical vacuum chamber can even be added as part of a production line that uses Audion's vertical form fill seal equipment, considerably increasing production capacity when creating large brick packs of coffee or other products.

# **Advantages**

- Suitable to pack for example several small bags of 5 KG each or 1 large bag of 25 KG
- Cassette to allow you to make a brick packaging when requested. When using the gas flush, bricks cannot be made!
- Roller conveyor to position the cassettes easily
- Bag stretchers to keep larger bags in position
- Bi-active seal to enable you to sealing all kinds of bags: different thickness, gusset bags etc.
- · Gas flush
- Standard vacuum sensor to control the exact vacuum time
- Multi cycle to repeat the vac/gas cycle
- Vacuum pump: Busch 250m³ pump

# **Sold applications**

- Packing of 25 KG milk powder bags
- Packing of potato powder 5 KG bags
- Packing of large portions of meat with bone

Technical information machine for 25 kg milk powder bags		
Absolute chamber size (lxwxh)	400 x 200 x 590 mm	
Machine dimensions (lxwxh)	1120 x 886 x 1165 mm	
Pump capacity	63 m <sup>3</sup> /h	
Power supply	3/N~400/230 V - 3 ph - 50 Hz	
Power consumption	2400 W	
Air pressure	>6 bar	





# **Bladderbox Horizontal solution for brick packaging**

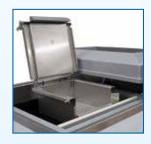
The bladderbox is our horizontal solution for making brick packaging.

With help of a custom made cassette you can place the product into a horizontal vacuum chamber and make a brick packaging. We can make either single packaging bladderboxes or multi packaging bladderboxes.

One bladderbox goes into 1 chamber. Meaning that you will need 2 bladderboxes for a double chamber. (1 bladderbox can contain multiple bags)













# **Audionvac VMS 1403 XXL**

This semi-automatic XXL floor model vacuum chamber is suitable for large flat items. Stainless steel housing, accurate, easy to adjust and insensitive for moist, the XXL machine is the packaging solution for many industries: food, automotive, medical, chemical, production plants.

# Special features

- Computer driven impulse sealer, temperature controlled
- Programmable, 9 programs
- Electronic/digital panel
- Pneumatic lid
- Push-button to open the lid
- Roller conveyor (not motorized)



Technical information VMS 1403 XXL	
Seal width	3,5 mm double seal
Seal bar configuration	
Net seal bar length	1300 mm
Absolute chamber size (lxwxh)	1300 x 1400 x 190 mm
Machine dimensions (lxwxh)	1530 x 1500 x 1390 mm
Pump capacity	300 m³/h
Power supply	400 V - 3 ph - 50 Hz
Power consumption	7000 W
Air pressure	>6 bar



## Validatable Vacuum Chamber

Our Special Engineering department developed a validatable vacuum chamber which is based on the VM 203 used to vacuum pack medical devices. The extended features of this validatable vacuum chamber are:

### **Main features**

- 8 mm seal
- Sensor control
- Multi cycle
- Validatable seal bar pressure
- Validatable temperature
- Validatable vacuum with alarm
- Validatable gas flush pressure
- Calibration certificate



this validatable vacuum chamber are.		
validatable		
8 mm bi-active		
510 mm		
510 x 500 mm		
610 x 520 x 230 mm		
680 x 700 x 1060 mm		
63 m³/h		
400 V - 3 ph - 50 Hz		
2.4 - 3.5 kW		
>6 bar		





