



Selection aid Jumbo or VacuMaster? More on page 46

Vacuum Lifting Devices VacuMaster

Move Heavy Loads Weighing up to Several Tons Ergonomically and Securely

The vacuum lifting device VacuMaster from Schmalz is the ultimate workhorse. Whether handling metal plates, wooden boards, plastic sheets, barrels, windows or glass sheets – the VacuMaster tackles even the heaviest tasks with weights up to several tons. For applications where many hands would normally be required, the VacuMaster allows workpieces to be handled effortlessly by just a single operator while protecting the employee's health.



Vacuum Lifting Devices VacuMaster

Introduction

Application

For handling large, flat and typically non-porous workpieces, for example:

- Loading and unloading CNC laser cutting machines with metal plates
- Loading and unloading CNC machining centers with wooden boards or plastic sheets
- Handling and positioning glass panels and windows during production, framing and installation

Your Benefits

- Efficient, non-damaging handling of heavy loads
- To work ergonomically and protect operator health
- Excellent work safety and process reliability thanks to vacuum reservoir and audible warning device
- Long service life due to a robust mixture of steel, aluminum and high-strength plastic
- Low operating costs thanks to controlled vacuum generator with energy saving (Comfort version)

Design and Function

The vacuum lifting device VacuMaster has a modular design. Various basic modules, operator handles, load beams and suction plates allow you to customize the configuration. The necessary suction force is generated by the vacuum generator and transferred to the workpiece via the suction plates. For safety purposes, the aluminum load beam also serves as a vacuum reservoir. A chain hoist is required for lifting or lowering motion, which Schmalz offers along with a compatible crane system.

Chain hoist and crane
(more on page 40)
Operator handle
Basic module
with vacuum generator
Load beam and connection elements
Suction plates
Fig. shows VacuMaster Basic

Product Overview

The right solution for any task: With their modular system, the VacuMaster Basic and VacuMaster Comfort cover standard applications weighing up to 750 kg. Schmalz also offers additional lifting devices which are specially designed for the specific requirements of certain industries.



---- Additional lift capacities up to more tons on request





VacuMaster Basic and VacuMaster Comfort Flexible modular system for standard applications weighing up to 750 kg (page 26)



Additional VacuMaster For special lift capacities and industry requirements (page 32)

Lift Capacity up to 750 kg

The VacuMaster Basic's versatile standard equipment makes it indispensable for many applications. In addition, the VacuMaster Comfort offers an operator handle that brings together all of the device's controls as well as a controlled vacuum generator for reducing energy consumption.



VacuMaster Basic



www.schmalz.com/vm-basic

VacuMaster Comfort

Integrated air-saving function	Vacuum gauge (manometer) 75 kg
Operator handle	
integrated function modules for Schmalz chain hoist	Emergency-stop function
Vacuum on	7.0.
picks up the load	
lifts and lowers the load	
Vacuum off	
secure release of the load requiring two hands	
Swivel function	
continuous swiveling up to max. 90° or 180°	

www.schmalz.com/vm-comfort

Basic Module

The basic module is the heart of every VacuMaster. It contains the vacuum generator, an audible warning device as well as all the measuring and control devices. Depending on the application, you can choose from three different basic modules whose shape and design are optimally suited to the handling task.



Horizontal handling

Standard design with vacuum generator, audible warning device, vacuum gauge (manometer) and motor protection switch. Protection of the components under a robust sheet metal barrier.

• For lift capacity up to 750 kg

90° swiveling

Basic version adds to electric drive for joltfree, continuous swiveling through 90°.

• For lift capacity up to 500 kg



180° turning Basic version adds to electric drive for joltfree, continuous turning through 180°.

• For lift capacity up to 500 kg

Manual Slide Valve

Vacuum Generators

Vacuum pump EVE

750 kg.



Vacuum ejector SEM Compressed air vacuum generator with high flow rate for porous workpieces weighing up to 250 kg. Only for horizontal handling.



Reliable and safe vacuum control

VacuMaster Basic with manual slide valve for high safety by double actuation and anti-trap protection. Prevents unwanted loosing of the load.

Load Beam and Connection Elements



Electric vacuum generator for smooth and

suction-tight workpieces weighing up to

Light, robust and flexible

The combination of aluminum and highstrength plastic allows the cross beams and suction plates to be easily adjusted to quickly adapt to changing formats.



Integrated vacuum reservoir

The large vacuum reservoir prevents the load from falling in the case of a power failure and makes gripping faster during repeated lifting processes.

Suction Plates



Versatility for every task

Allows for optimal adaptation to the workpiece and to requirements such as heat resistance, food safety and mark-free gripping. Select from suspension which is rigid, springmounted or both flexible and spring-mounted.



Accessories



Maximize stack heights Large height differences are no problem with the swiveling and locking operator handle. The working posture remains ergonomic in any position.



Adapts to changing workpieces With the vacuum gripper shut-off valve several vacuum grippers can be turned off for handling of cut pieces or pieces with gaps.



Secure storage of the lifting device When the lifting device is not in use, the parking stands allow it to be stored securely while protecting the vacuum grippers. This allows the crane to be used for other purposes.



Quick-connect electrical connection

The CEE plug suggests the lifting device to be easily connected to the power supply and then quickly disconnected if necessary (only for VacuMaster Basic).



Mark-free handling

The suction plate covers prevent the plates from leaving marks on sensitive workpieces such as glass sheets or solar panels.



Protection against water

The maintenance-free water separator prevents water from entering the vacuum generator during moist processes such as waterjet cutting.

Technical Data



Thanks to their modular system, the VacuMaster Basic and VacuMaster Comfort can be custom configured for any application. The technical data of the devices are dependent on the selected configuration. You can use the following data on pre-configured lifting devices for standard workpiece formats as a guide for determining the recommended values for your VacuMaster.

Proceed as Follows

1. Select type of handling2. Select lift capacitye.g. horizontal handlinge.g. 250 kg

3. Select workpiece format e.g. 2,000 x 1,000 mm



Horizontal Handling



VacuMaster type*	Workpiece format	Dimensions L x B	Overall he	ight H [mm]	Operator	Suction	n plates**	We	eight [kg]
Max. lift capacity [kg]	[mm]	(length x width) [mm]	Basic	Comfort	handle L ₁ [mm]	No.	Ø [mm]	Basic	Comfort
Basic/Comfort	1,000 x 1,000	400 x 250	490	445	655	1	250	38	42
125	2,000 x 1,000	1,600 x 370	410	445	645	2	210	42	50
	2,500 x 1,250	1,600 x 750	490	525	745	4	125	52	64
	3,000 x 1,500	2,400 x 1,150	555	590	945	6	125	62	68
	4,000 x 2,000	3,200 x 1,500	555	590	1,045	8	125	80	88
Basic/Comfort	1,000 x 1,000	400 x 360	490	445	655	1	360	40	45
250	2,000 x 1,000	1,600 x 410	410	445	645	2	250	44	52
	2,500 x 1,250	1,600 x 750	490	525	745	4	210	54	62
	3,000 x 1,500	2,400 x 1,150	555	590	945	6	160	59	67
	4,000 x 2,000	3,200 x 1,500	555	590	1,045	8	125	80	88
Basic/Comfort	2,500 x 1,250	1,600 x 750	570	605	760	4	250	71	84
500	3,000 x 1,500	2,400 x 1,150	635	670	960	6	210	88	91
	4,000 x 2,000	3,200 x 1,500	635	670	1,060	8	210	106	130
Basic/Comfort	3,000 x 1,500	2,400 x 1,150	635	670	960	6	250	91	105
750	4,000 x 2,000	3,200 x 1,500	635	670	1,060	8	210	115	122

*The shown VacuMaster are example configurations: The VacuMaster Basic/Comfort can be adapted flexibly to individual workpiece formats.

**The indicated number of suction plates is possible for handling of rigid goods. For unstable and thin workpieces the numbers of suction plates will be increased.

Technical Data



VacuMaster type*	Workpiece format	Dimensions L x B	sions L x B Overall height H [m		Operator	Suction	n plates**	W	eight [kg]
Max. lift capacity [kg]	[mm]	(length x width) [mm]	Basic	Comfort	handle L ₁ [mm]	No.	Ø [mm]	Basic	Comfort
Basic/Comfort	2,000 x 1,000	1,600 x 520	720	720	725	2	360	74	76
125	2,500 x 1,250	1,600 x 750	800	800	725	4	210	79	81
	4,000 x 2,000	3,200 x 1,500	800	800	1,025	8	210	94	101
Basic/Comfort	2,500 x 1,250	1,600 x 750	800	800	725	4	360	91	93
250	4,000 x 2,000	3,200 x 1,500	800	800	1,025	8	210	102	104
Basic/Comfort	2,500 x 1,250	1,600 x 750	1,030	1,030	785	4	360	135	137
500	4,000 x 2,000	3,200 x 1,500	1,030	1,030	1,085	8	360	151	153

*The shown VacuMaster are example configurations: The VacuMaster Basic/Comfort can be adapted flexibly to individual workpiece formats.

**The indicated number of suction plates is possible for handling of rigid goods. For unstable and thin workpieces the numbers of suction plates will be increased.

Technical Data



VacuMaster type*	Workpiece format	Dimensions L x B	Overall hei	ght H [mm]	Operator	Suction	n plates**	W	eight [kg]
Max. lift capacity [kg]	[mm]	(length x width) [mm]	Basic	Comfort	handle L ₁ [mm]	No.	Ø [mm]	Basic	Comfort
Basic/Comfort	1,000 x 1,000	800 x 410	1,150	1,150	1,265	2	250	74	74
75	2,000 x 1,000	1,600 x 410	1,150	1,150	1,265	2	250	82	82
	2,500 x 1,250	1,600 x 750	1,220	1,220	1,265	4	210	92	92
Basic/Comfort	2,000 x 1,000	1,600 x 520	1,160	1,160	1,265	2	360	87	87
125	2,500 x 1,250	1,600 x 750	1,230	1,230	1,265	4	210	92	92
Basic/Comfort	2,000 x 1,000	1,600 x 750	1,770	1,770	1,830	4	360	137	139
250	2,500 x 1,250	1,600 x 750	1,750	1,750	1,830	8	210	145	147
	4,000 x 2,000	3,200 x 1,500	1,750	1,750	1,830	8	210	165	167

*The shown VacuMaster are example configurations: The VacuMaster Basic/Comfort can be adapted flexibly to individual workpiece formats. Technical data for VacuMaster Basic/Comfort 500 on request.

**The indicated number of suction plates is possible for handling of rigid goods. For unstable and thin workpieces the numbers of suction plates will be increased.





VacuMaster Vario in process of loading and unloading a laser cutting machine

VacuMaster Vario

Application

Horizontal handling of especially heavy, airtight workpieces weighing up to 2,000 kg

- Loading and unloading machines with large-format metal sheets and plates
- Solutions for heavier loads are also possible, e.g. lifting devices for handling rotor blades weighing several tons and up to 60 m in length

Design and Function

- Modular vacuum lifting device with ergonomic operator handle
- Highly reliable manual slide valve to turn on/off the vacuum
- Electric vacuum pump for short evacuation times
- Robust steel load beam
- Audible warning device and vacuum reservoir for redundant safety in loss of vacuum and power failure respectively
- Large selection of suction plates

Your Benefits

- Heavy loads are handled very securely
- Simple adaption to the individual application



Design of VacuMaster Vario



Special VacuMaster Vario with lift capacity of 10 t (special applications with lift capacity over 2 t on request)

VacuMaster type	Max. lift capacity*	Workpiece format [mm]		Dime	ensions [mm]	Overall height H	Operator handle L ₁	Number of suction	Weight [kg]
	[kg]	Minimum	Maximum	L (length)	B (width)	[mm]	[mm]	plates	
Vario 1000	1,000	900 x 520	6,000 x 2,000	2,000 - 4,000	1,150	630 – 935	910 – 1,250	1, 4, 8	116 – 252
Vario 2000	2,000	1,230 x 900	6,000 x 2,000	2,000 - 4,000	1,150	820 - 1,000	910 – 1,250	2, 4 ,8	231 – 345

* Higher lift capacities available on request.







VacuMaster Eco for removing steel sheets from a drawer shelving system

VacuMaster Eco

Application

Horizontal handling of smooth and airtight workpieces without an external energy source

• For example metal sheets/plates, barrels and stone slabs

Design and Function

- Modular vacuum lifting device with piston system for vacuum generation without energy
- Vacuum is established/dissipated by the lifting/lowering motion of the chain hoist (chain hoist not included)
- Aluminum load beam with integrated vacuum distributor (up to 750 kg lift capacity)
- Battery-operated warning device with battery test function for warning of fallen vacuum
- Easily adjustable vacuum grippers

Your Benefits

- Secure and gentle vacuum handling
- Energy independence allows for flexibility in use
- Quick installation and start of operations
- Minimal operating costs



Design of VacuMaster Eco



Functional principle of VacuMaster Eco

VacuMaster type	Max. lift capacity*	Workpie	ce format [mm]	Dim	ensions [mm]	Overall height H	Operator handle L ₁	Number of suction	Weight [kg]
	[kg]	Minimum	Maximum	L (length)	B (width)	[mm]	[mm]	plates	
Eco 75	75	220 x 220	1,000 x 1,000	210	210	368 – 382	-	1	8
Eco 250	250	360 x 360	3,000 x 2,000	800 - 2,400	400 - 1,500	450 - 825	400 - 1,100	1, 2, 4, 6, 8	33 - 59
Eco 500	500	480 x 480	4,000 x 2,000	800 - 3,200	400 - 1,500	605 – 1,130	500 - 1,200	1, 2, 4, 6, 8	93 – 141
Eco 750	750	900 x 620	4,000 x 2,000	800 - 3,200	400 - 1,500	735 – 1,130	500 - 1,200	4, 6, 8	132 – 141
Eco 1000	1,000	630 x 630	4,000 x 2,000	800 - 4,000	1,150	730 – 1,210	500 - 1,200	1, 4, 8	138 – 309

* The recommended minimum workpiece weight is 10 % of the lift capacity.





VacuMaster Window

Application

Vertical handling of windows, glass sheets and glass components

- For windows with sash parts or frames protruding up to 45 mm
- Workpieces can be rotated by 90° (3,000 mm maximum workpiece diameter for rotating)

Design and Function

- Operator handle with manual slide valve to turn on/off the vacuum
- Electric vacuum pump for short evacuation times
- Manual rotation unit, up to 90° left or right
- Audible warning device and vacuum reservoir for redundant safety in loss of vacuum and power failure respectively
- UV and ozone-resistant suction plates

VacuMaster Window Comfort

- Same basic features as VacuMaster Window
- Operator handle with integrated control of all functions (see page 26)
- Air-saving function to reduce energy consumption
- Electric rotation unit for one-directional motorized rotation through 90° (optional)

Your Benefits

- Secure handling of glass while leaving no marks
- Increase in productivity due to faster turnover
- Effortless rotation of workpieces
- Small basic body for a good view



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Design of VacuMaster Window



VacuMaster Window Comfort

VacuMaster	Max. lift	Workpiec	Workpiece format [mm]		imensions	Overall	Operator	Suctio	on plates	Weight	Rotation
type	capacity						handle			[kg]	mechanism
	[kg]	Minimum	Maximum	L (length)	B (width)	H [mm]	L ₁ [mm]	No.	Ø [mm]		
Window 200	200	320 x 630	2,000 x 2,000	630-930	300	920	390	2	300	39	Manual, left/right
Window 300	300	630 x 630	2,000 x 2,000	630-930	630	1,090	400	4	300	55	Manual, left/right
Window Comfort 200	200	320 x 630	2,000 x 2,000	630-930	300	920	550	2	300	55	Manual, left/right
Window Comfort 200 EL	200	320 x 630	2,000 x 2,000	630-930	630	920	570	2	300	71	Electric, right
Window Comfort 300	300	630 x 630	2,000 x 2,000	630-930	300	1,090	630	4	300	59	Manual, left/right
Window Comfort 300 EL	300	630 x 630	2,000 x 2,000	630-930	630	1,090	650	4	300	76	Electric, right

www.schmalz.com/vm-window



VacuMaster Multi for swiveling wooden boards by 90°



VacuMaster Multi

Application

Handling large, heavy wooden boards, either airtight or porous

- Rough and coated MDF, OSB and particle boards
- Also for gypsum fiber and gypsum plaster board as well as plastic sheets
- 90° swiveling of workpieces (optional)

Design and Function

- Vacuum lifting device with movable operator handle to adjust the working height
- High-power vacuum blower with centrifugal mass to delay vacuum dissipation in event of a power failure
- Audible warning device
- Reversing valve to quickly release the load
- Electric drive for continuous and precise swiveling through 90° (optional)
- Large suction plates which can be shifted the main beam

Your Benefits

- Work ergonomically at any working height
- Porous workpieces are handled very securely
- Robust design for use in harsh working environments
- Precise, continuous swiveling (optional)
- Large volume for highly porous workpieces



Design of VacuMaster Multi



Functional principle of VacuMaster Multi for picking up large and porous plates

VacuMaster	Max. lift		Workpiece format [mm]		Main beam	Overall	Operator	Su	uction plates	Weight
type	capacity [kg]				length L height H		handle L ₁			[kg]
	Horizontal	Vertical	Minimum	Maximum	[mm]	[mm]	[mm]	No.	Size [mm]	
Multi 400	400	-	1,100 x 700	4,100 x 2,100	-	520	1,050	1	1,000 x 675	80
	400	-	1,400 x 1,100	5,600 x 2,100	2,000	600	1,050	2	1,000 x 675	133
Multi 400/150 90°	400	150	1,100 x 700	4,100 x 2,100	-	540	1,050	1	1,000 x 675	101
Multi 400/300 90°	400	300	1,400 x 1,100	5,600 x 2,100	2,000	620	1,050	2	1,000 x 675	159
	400	300	2,200 x 1,000	5,600 x 2,100	2,500	630	1,050	8	Ø 400	189





VacuMaster HHVM for removing wooden boards from upright storage

VacuMaster HHVM

Application

Vertical handling of wooden boards and swiveling of workpieces 90° from horizontal to the right or left

- For very narrow pieces such as kitchen countertops or cutting scraps
- Removing wooden boards from upright storage
- Loading and unloading vertical saws

Design and Function

- Vacuum lifting device with flat design and front-side operator handle
- Highly reliable manual slide valve to turn on/off the vacuum
- Highly responsive pivot bearing with pneumatic latch bolt
- Pneumatic vacuum ejector with high suction flow rate
- Air-saving control to reduce energy consumption
- Audible warning device and vacuum reservoir for redundant safety in loss of vacuum and power failure respectively
- Offset suction plates available with either single or double deactivation

Your Benefits

- Lifting and swiveling of wooden boards allows for increased productivity
- Low overall height allows it to be used in tight spaces
- Low energy consumption with high suction flow rate



Design of VacuMaster HHVM



Overall height of VacuMaster HHVM when swiveled 90°

VacuMaster type	Max. lift capacity	capacity beam L				Operator handle L ₁	Su	ction plates	Weight [kg]		
	[kg]	Minimum	Maximum	[mm]	H ₁	H ₂	H ₃	[mm]	No.	Ø [mm]	
HHVM 100	100	1,350 x 420	4,100 x 3,050	1,900	325	220	270	700	4	250	49
HHVM 150	150	1,600 x 420	4,100 x 3,050	1,900	325	220	270	700	6	250	54
HHVM 200	200	1,950 x 420	4,100 x 3,050	1,900	325	220	270	700	8	250	59

*For swiveling large panels the suction plates need to be attached off center.





VacuMaster VHB in process of loading a rip saw with wooden boards

VacuMaster VHB

Application

Horizontal handling of narrow workpieces such as planks, boards and beams with a minimum width of 120 mm

Loading rip saws

Design and Function

- Vacuum lifting device with flat design and front-side operator handle
- Highly reliable manual slide valve to turn on/off the vacuum
- Electric vacuum pump with high suction capacity
- Audible warning device and vacuum reservoir for redundant safety in loss of vacuum and power failure respectively
- Two rectangular suction plates, can be shifted along the length of the beam
- VacuMaster VHB 350/500 with two separate suction areas per suction plate, including a self-locking ball valve that prevent vacuum loss by closing the vacuum feed to a particular area if there are cracks or damages on the workpiece

Your Benefits

- Secure handling of long boards and planks
- Excellent seal on moist, unplaned and cracked wood
- Suction plates can be quickly adapted to various workpiece lengths
- Low-noise operation with sound level below 65 dB(A)



Design of VacuMaster VHB



Suction plate with two separate suction areas and self-locking ball valves of the VacuMaster VHB 350/500

VacuMaster type	Max. lift c Full	apacity [kg] Partial	Workpiece format [mm]		Workpiece format [mm]		Main beam length L	Overall height H	Operator handle L ₁	9	Suction plate	Weight [kg]
	coverage	coverage	Minimum	Maximum	[mm]	[mm]	[mm]	No.	Size [mm]			
VHB 250	250	-	120 x 1,200	1,000 x 6,000	3,210	550	1,220	2	550 x 100	100		
VHB 500	500	-	220 x 1,200	1,000 x 6,000	3,210	550	1,220	2	550 x 200	145		
VHB 350/500	500	350	220 x 1,200	1,000 x 6,000	3,210	550	1,220	2	550 x 200	145		

i www.schmalz.com/vm-vhb



VacuMaster Coil for swiveling stainless steel coils by 90°



VacuMaster Coil

Application

Handling coils and slit strip, e.g. for positioning onto a decoiler mandrel

- For thin and ultra-thin sheet metal, steel and stainless steel, metal foils, tinplate and aluminum
- Maximum strip thickness of 3.0 mm (aluminum) or 1.5 mm (steel)
- Continuous swiveling up to 90°

Design and Function

- Vacuum lifting device with vacuum clamps (suction rings) that can be switched on/off separately
- Highly reliable manual slide valve for activating vacuum
- Electric vacuum pump for short evacuation times
- Precise electric drive for continuous swiveling of the load
- Audible warning device and vacuum reservoir for redundant safety in loss of vacuum and power failure respectively
- Transparent suction plate for easily positioning

Your Benefits

- Different sized coils can be handled with one device
- Exact positioning and safe gripping of coils
- Damage-free gripping without mechanical clamping
- Loads can be swiveled effortlessly and set down flush with the floor



Design of VacuMaster Coil



Suction plate with three separate vacuum clamps

VacuMaster	Max. lift capacity	Workpiece format Ø [mm]			Max. coil height Overa At At height		Operator handle L₁	Suction	plate Ø [mm]	Number of suction	Weight [kg]
type										suction	[KY]
	[kg]	Minimum	Maximum	50 Hz	60 Hz	[mm]	[mm]	Inner D ₁	Outer D ₂	clamps	
Coil 500 90°	500	600	1,200	400	330	1,300	660	410	850	3	140
Coil 750 90°	750	600	1,400	220	160	1,300	660	410	1,050	3	155
Coil 1000 90°	1,000	750	1,800	320	240	1,300	660	410	1,200	3	190





VacuMaster Light for handling metal housings

VacuMaster Light

Application

Horizontal handling of mainly airtight small to mediumsized workpieces weighing up to 100 kg

- For example, metal plates, plastic sheets, barrels, cabinets, furniture parts or sections
- Its versatility allows it to be used in processes such as component assembly, packaging and machine loading

Design and Function

- Compact and light vacuum lifting device
- Pneumatic vacuum ejector with high suction capacity
- Central control button for vacuum control
- Choose between one large suction plate or four hinged pad mounting arms that are flexible and continuously adjustable

Your Benefits

- Ergonomic operation and low weight allow you to work for long periods without fatigue
- Vacuum grippers can be adjusted quickly and easily to handle different workpieces
- Quick and easy installation and startup



Design of VacuMaster Light



Vacuum gripper spacing with adjustable suction feet (VacuMaster Light 100-4)

VacuMaster type	Max. lift capacity	Workpiece format [mm]		Length L	Overall height H	Operator handle L ₁	Suction plates		Weight [kg]
	[kg]	Minimum	Maximum		[mm]	[mm]	No.	Ø [mm]	
Light 100-1	100	250 x 250	1,500 x 800	260	270	405	1	250	15
Light 100-4	100	250 x 250	2,000 x 800	400	330	405	4	120	15