

## VSM pumps

### Features and Strengths

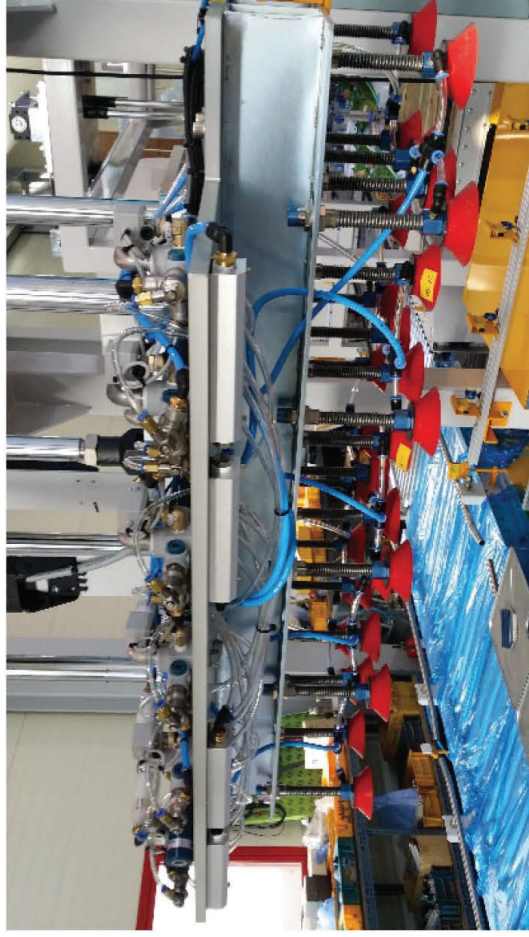
Highly operational reliability despite fluctuating or low compressed-air pressure  
Multiple connection ports

### Advantages

Fast response time with individual vacuum system available  
Reliable and stable operation - High vacuum level and vacuum flow in efficient air consumption



### Application



### Overall of specification

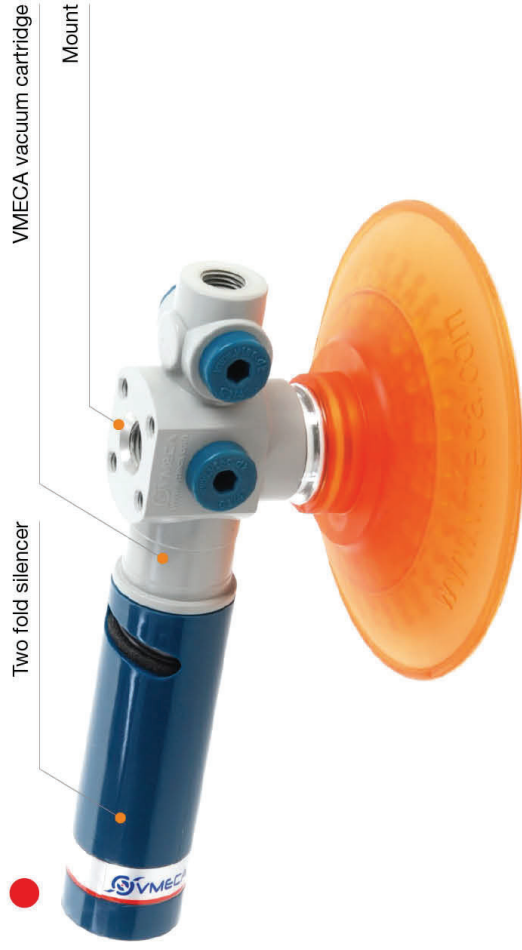
Model	Max. Vacuum level (- kPa)	Max. Feed Pressure (bar)	Max. Vacuum Flow (NI/m)	Air Consumption (NI/m)	Noise level (dBA)
VSM202	90	7	44	40	55 ~ 65
VSM203	90	7	84.5	40	55 ~ 65
VSM302	92	7	171	152	50 ~ 60
VSM303	92	7	341	152	50 ~ 60

## VSM pump

**VMECA VSM pump** is integrated with VMECA vacuum cartridge technology for reliable and stable performance in fluctuation or drop of compressed-air pressure. VQ pump is the most suitable in high speed application such as delta robot in packaging industry because SC pump has check valve on vacuum release port so, it can operate in 2times faster evacuation time compared with conventional vacuum ejectors.

### Key advantages

- VMECA vacuum cartridge integrated
- Available for quick release without vacuum release valve
- Auto filter cleaning system



### Features

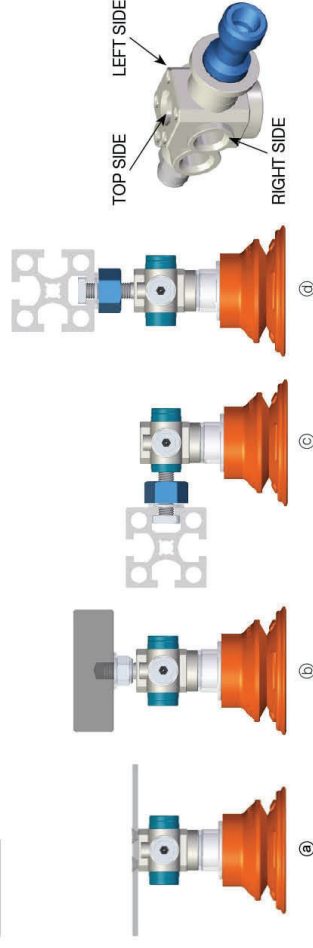
#### Wide selection

- VSM without vacuum cartridge when using as a slave to another vacuum source; typically sealed applications or where fast response time is Not required.
- VSM with VC202 Mini cartridge (2stage cartridge) Provide sufficient vacuum flow (up to 41NI/m) for sealed applications such as sheet metal handling or for low volume applications with small vacuum cups. \*Optional non-return valve available.
- VSM with VC203 cartridge (3stage cartridge) For quick response time in high volume and sealed Applications with large vacuum cups or for non-sealed applications such as cardboard handling where high vacuum flow is required. \*Optional non-return valve is available.

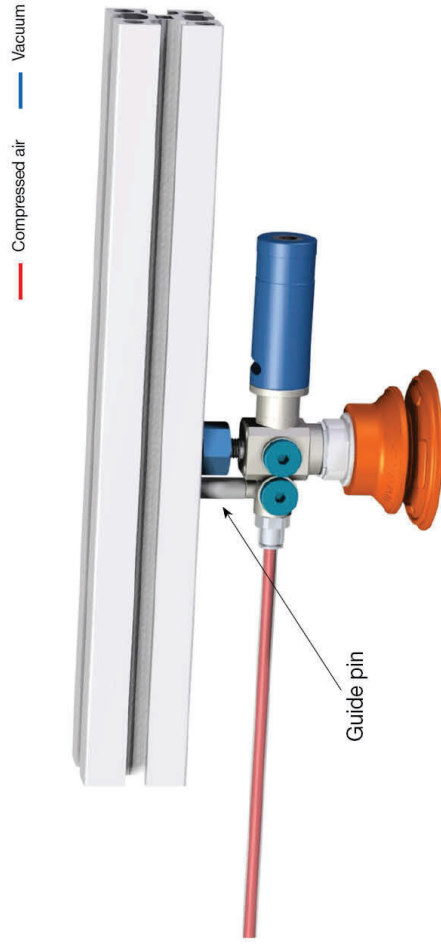
### Various mounting options



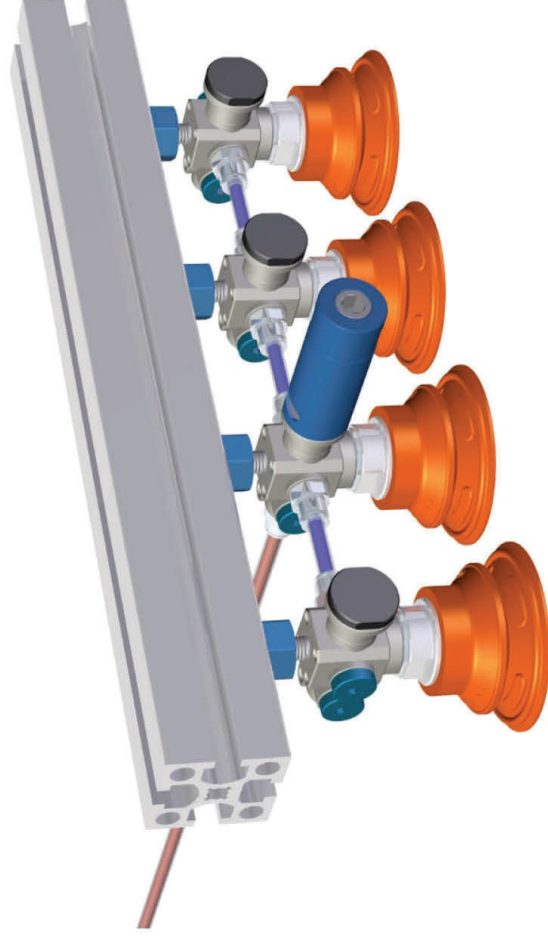
- Option "F" (Direct plate mounting) – Type ③  
Mount directly to plate (only for top mounting) using M4 screws and G1/8 plugs.
- Option "M" (M8 male mounting) – Type ④  
Mount using M8 male fixed at factory in one of 3 specified positions (top, right and left) with G1/8" plugs. Left and right side mounting provides a lower profile vs. top mounting
- Option "P" (T-Slot Frame Mounting) – Type ① & ②  
Mount to appropriate t-slot frame in one of 3 positions (top, right, left) using M8 27mm Or M6 22mm screw as specified with supplied nut, washers and G1/8" plugs.



## Features



- ▲ To prevent VSM from rotating when mounted in the top position, use a guide pin inserted into M5 port on the top of the VSM and extended into the T-frame slot.



- ▲ Use VSM as a slave unit with vacuum supplied by another VSM in sealed applications or in applications where quick response time is not required.

## VSM202

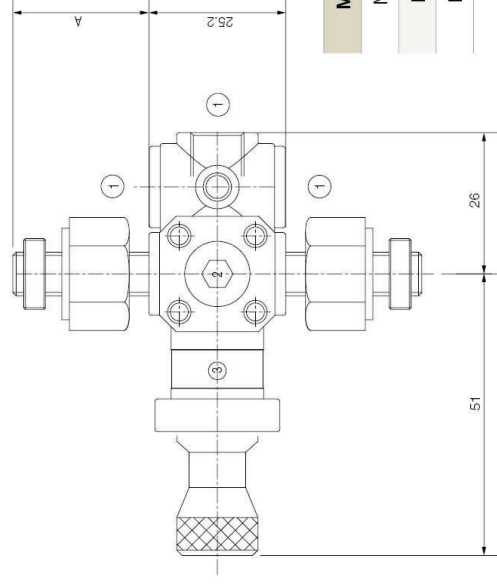
### Features and Strengths

- Efficient individual and independent point-of-use vacuum
- Highly operational reliability despite fluctuating or low compressed-air pressure
- Extremely quick response
- Available for multiple connection ports

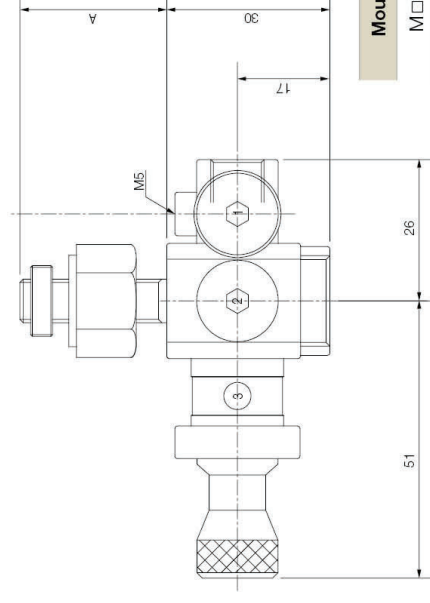


### Dimensions

[ Unit : mm ]



Mount	A
M□8	16
P□8	27
P□8	22



Mount	A
M□8	16
P□8	27
P□8	22

1. Compressed Air Port: 3 X G1/8"
2. Vacuum Port: 1 X G3/8" and 3 X G1/8"
3. Exhaust

### Specifications

Description	VSM202
Max. Vacuum level	-90 kPa
Open Vacuum flow	44 NI/min
Max. Feed pressure	7 bar
Temperature	-20 ~ 80 °C
Noise level	55 ~ 65 dBA
Weight	41 g

### Vacuum Flow

Model	Max. vacuum (-kPa)	Feed Pressure (bar)	Vacuum flow (NI/min) at different vacuum levels (-kPa)											
			0	10	20	30	40	50	60	70	80	90		
VSM202	48	1.7	38.5	20	16	12	5.3	-	-	-	-	-	-	-
	65	2.2	39	26.5	17.3	15.6	13.5	8.4	2.6	-	-	-	-	-
	90	3.14	44	36	24.5	16.5	16	13.8	10	7	3.5	-	-	-
	89	4.0	42	38.8	28.5	21.2	15.8	12.2	9.5	7	2.4	-	-	-

### Evacuation Time

Model	Feed Pressure (bar)	Air Consumption (NI/min)	Evacuation time in sec / liter to reach different vacuum levels (-kPa)											
			10	20	30	40	50	60	70	80	90			
VSM202	1.7	22	0.33	0.47	0.89	1.93	-	-	-	-	-	-	-	-
	2.2	25.5	0.20	0.47	0.70	0.92	1.24	1.35	-	-	-	-	-	
	3.14	34	0.15	0.39	0.95	1.03	1.28	1.32	2.12	3.54	-	-	-	
	4.0	40	0.15	0.42	0.56	0.80	0.99	1.21	1.46	3.74	-	-	-	

## VSM203

### Features and Strengths

- Efficient individual and independent point-of-use vacuum
- Highly operational reliability despite fluctuating or low compressed-air pressure
- Extremely quick response
- Available for multiple connection ports



### Dimensions

[Unit : mm]

### Specifications

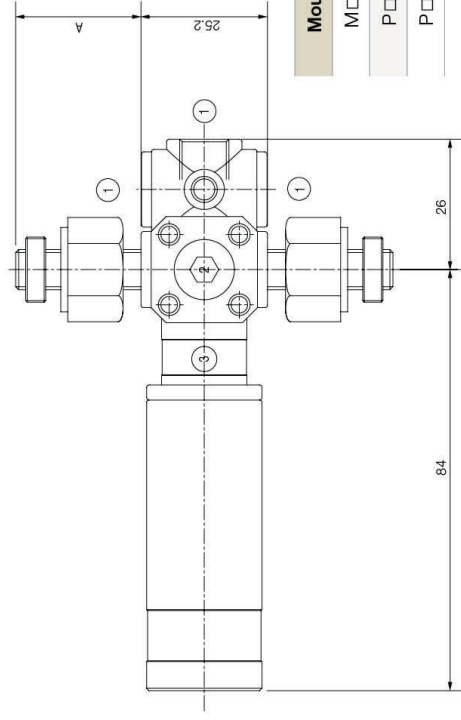
Description	VSM203
Max. Vacuum level	-90 kPa
Open Vacuum flow	84.5 Nl/min
Max. Feed pressure	7 bar
Temperature	-20 ~ 80 °C
Noise level	55 ~ 65 dBA
Weight	72 g

### Vacuum Flow

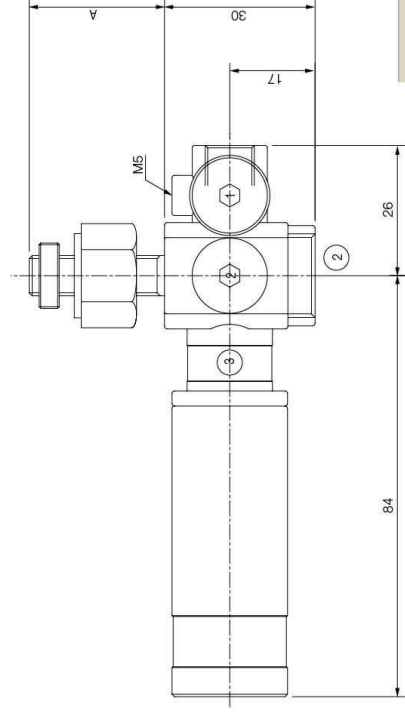
Model	Max. vacuum (-kPa)	Feed Pressure (bar)	Vacuum flow (Nl/min) at different vacuum levels (-kPa)										
			0	10	20	30	40	50	60	70	80	90	
VSM203	49	1.7	55	23.2	15.5	12.6	6.1						
	65	2.2	68	31	16.5	15.5	13.8	9	3.5				
	90	3.14	84	37.5	26	16	15.2	12.3	10	7.2	4		
	90	4.0	84.5	40	33.2	22.6	15.8	12	9.2	7.3	2.9		

### Evacuation Time

Model	Feed Pressure (bar)	Air Consumption (Nl/min)	Evacuation time in sec / liter to reach different vacuum levels (-kPa)										
			10	20	30	40	50	60	70	80	90		
VSM203	1.7	22	0.13	0.40	0.79	1.57							
	2.2	25.5	0.08	0.39	0.59	0.85	1.10	0.96					
	3.14	34	0.06	0.28	0.51	1.01	1.18	1.29	1.73	3.00			
	4.0	40	0.08	0.24	0.50	0.71	0.85	1.18	1.41	3.05			



Mount	A
M□8	16
P□8	27
P□8	22

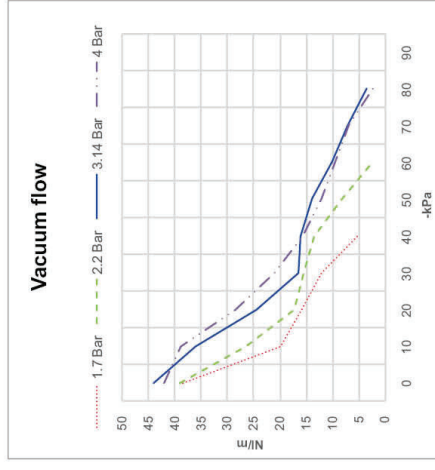


Mount	A
M□8	16
P□8	27
P□8	22

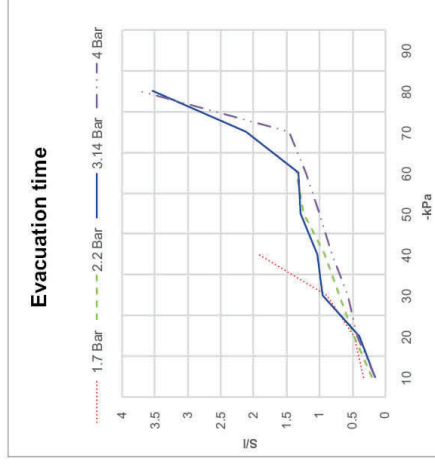
1. Compressed Air Port: 3 X G1/8"
2. Vacuum Port: 1 X G3/8" and 3 X G1/8"
3. Exhaust

## Performance data

### VSM202

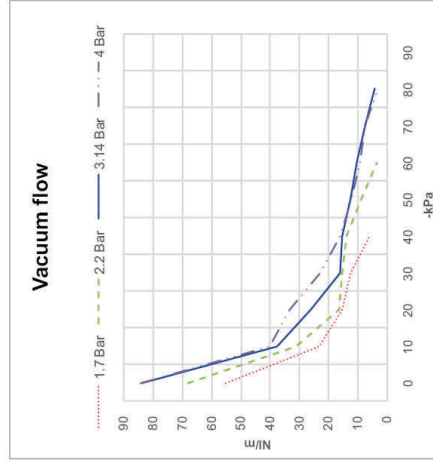


\* Vacuum flow at different vacuum level

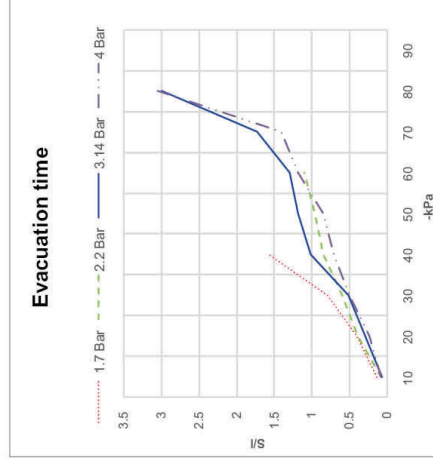


\* Time to evacuate a volume at different vacuum level

### VSM203



\* Vacuum flow at different vacuum level



\* Time to evacuate a volume at different vacuum level

## Build an Ordering No.

### 2. Mounting option

VSM203 -

### 1. Basic pump

1. Basic pump	Description	Symbol
	VSM pump, 2-stage cartridge, Plug	VSM202
	VSM pump, 2-stage cartridge, Plug, Non-return valve	VSM202N
	VSM pump, 3-stage cartridge, Two-fold silencer	VSM203
	VSM pump, 3-stage cartridge, Two-fold silencer, Non-return valve	VSM203N
	VSM pump, No vacuum cartridge for slave unit	VSM20
2. Mounting option	Description	Symbol
	4x screw M4 top, 5x plug G1/8" (direct mount)	F
	M8 16mm screw top, 4x plug G1/8" incl. mounting kit	MT8
	M8 16mm screw left, 4x plug G1/8" incl. mounting kit	ML8
	M8 16mm screw right, 4x plug G1/8" incl. mounting kit	MR8
	M8 27mm screw top, 4x plug G1/8" incl. profile kit with jam nut	PT8
	M8 27mm screw left, 4x plug G1/8" incl. profile kit with jam nut	PL8
	M8 27mm screw right, 4x plug G1/8" incl. profile kit with jam nut	PR8
	M6 22mm screw top, 4x plug G1/8" incl. profile kit with jam nut	PT6
	M6 22mm screw left, 4x plug G1/8" incl. profile kit with jam nut	PL6
	M6 22mm screw right, 4x plug G1/8" incl. profile kit with jam nut	PR6

## Spare Parts – Basic pumps

Part No.	Description	Weight (g)
VSM202	VSM pump, 2-stage cartridge, Plug	41
VSM202N	VSM pump, 2-stage cartridge, Plug, Non-return valve	42
VSM203	VSM pump, 3-stage cartridge, Two-fold silencer	72
VSM203N	VSM pump, 3-stage cartridge, Two-fold silencer, Non-return valve	73
VSM20	VSM pump, No vacuum cartridge for slave unit	40

## Spare Parts – Mounting

Part No.	Description
F	4x screw M4 top, 5x plug G1/8" (direct mount)
M8	M8 16mm screw, 4x plug G1/8" incl. mounting kit
P8	M8 27mm screw, 4x plug G1/8" incl. profile kit with jam nut
P6	M6 22mm screw, 4x plug G1/8" incl. profile kit with jam nut

## Spare Parts – Cartridges

Part No.	Description	Available model
VC202	Mini vacuum cartridge, 2-Stage	VSM202
VC202-N	Mini vacuum cartridge, 2-Stage, Non-return valve	VSM202N
VC203	Mini vacuum cartridge, 3-Stage	VSM203
VC203-N	Mini vacuum cartridge, 3-Stage, Non-return valve	VSM203N

## Spare Parts – Plug & Silencer

Part No.	Description
VGP-M14	Holding plug for VSM202 and VSM202N
VTTs-M14	Two-Fold Silencer for VSM203 and VSM203N

## VSM302

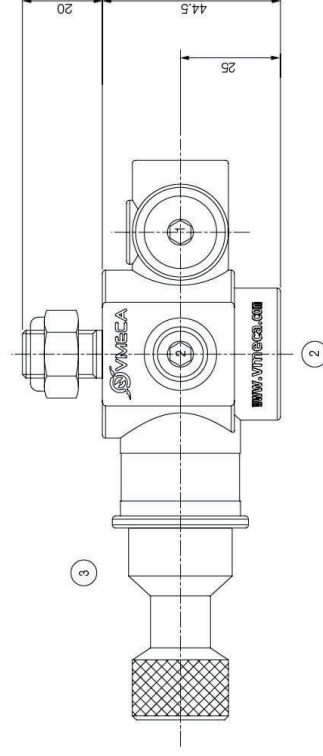
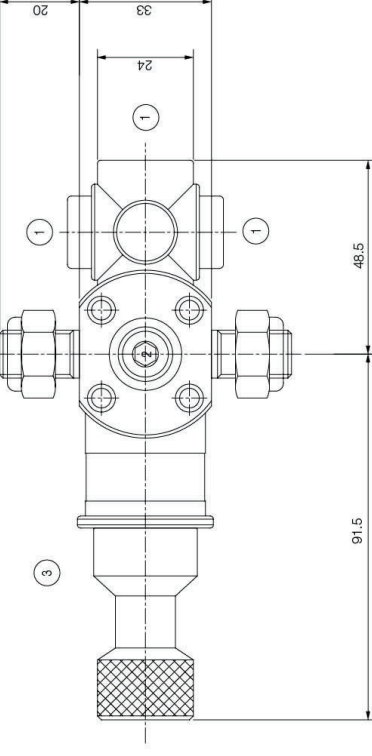
### Features and Strengths

- Efficient individual and independent point-of-use vacuum
- Highly operational reliability despite fluctuating or low compressed-air pressure
- Extremely quick response
- Available for multiple connection ports



### Dimensions

[ Unit : mm ]



1. Compressed Air Port : 3xG1/4"
2. Vacuum Port : 1xG1/2" and 3xG1/4"
3. Exhaust

### Specifications

Description	VSM302
Max. Vacuum level	-92 kPa
Open Vacuum flow	171 NI/min
Max. Feed pressure	7 bar
Temperature	-20 ~ 80 °C
Noise level	50 ~ 60 dBA
Weight	176 g

### Vacuum Flow

Model	Max. vacuum (-kPa)	Feed Pressure (bar)	Vacuum flow (NI/min) at different vacuum levels (-kPa)									
			0	10	20	30	40	50	60	70	80	90
VSM302	75	2.2	164	122.5	88	53	31.4	28.5	16.5	4.6	-	-
	92	3	170	152	106	64	33	32	22	16.5	6.4	1.9
	92	4	171	154	127.5	94	69	43	23.3	17.3	6.9	2.1

### Evacuation Time

Model	Feed Pressure (bar)	Air Consumption (NI/min)	Evacuation time in sec / liter to reach different vacuum levels (-kPa)								
			10	20	30	40	50	60	70	80	90
VSM302	2.2	97	0.03	0.12	0.21	0.38	0.47	0.73	1.62	-	-
	3	118	0.027	0.1	0.19	0.3	0.4	0.64	0.8	1.2	3.8
	4	152	0.026	0.058	0.09	0.1	0.25	0.5	0.69	1.05	3.5

## VSM303

### Features and Strengths

- Efficient individual and independent point-of-use vacuum
- Highly operational reliability despite fluctuating or low compressed-air pressure
- Extremely quick response
- Available for multiple connection ports



### Specifications

Description	VSM303
Max. Vacuum level	-92 kPa
Open Vacuum flow	341 NI/min
Max. Feed pressure	7 bar
Temperature	-20 ~ 80 °C
Noise level	50 ~ 60 dBA
Weight	212 g

### Vacuum Flow

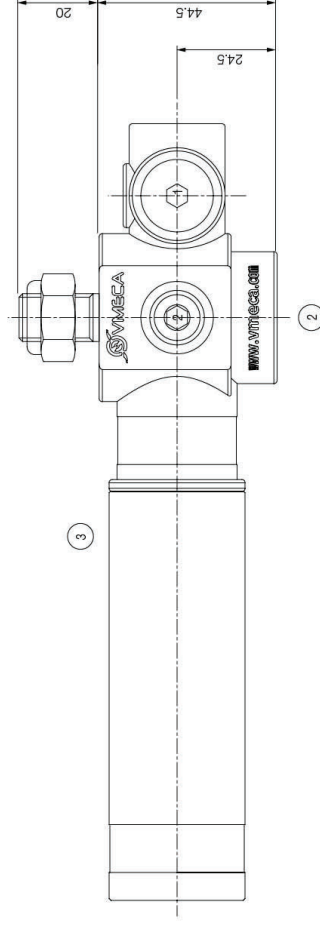
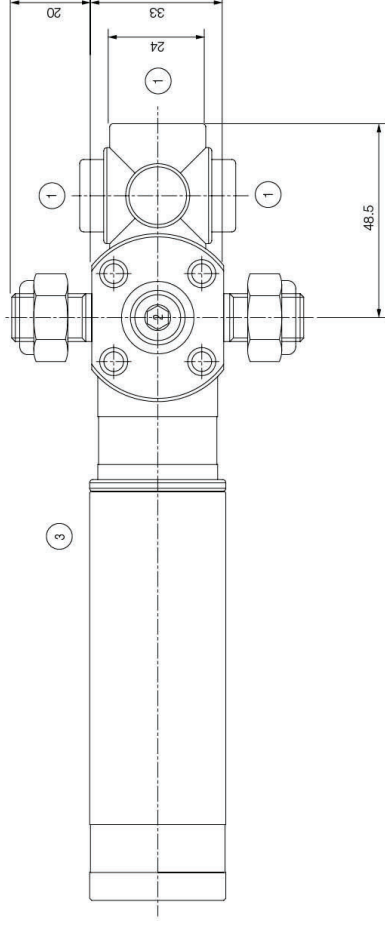
Model	Max. vacuum (-kPa)	Feed Pressure (bar)	Vacuum flow (NI/min) at different vacuum levels (-kPa)											
			0	10	20	30	40	50	60	70	80	90		
VSM303	75	2.2	302	122.5	88	53	31.4	28.5	16.5	4.6	-	-	-	-
	92	3.0	338	152	106	64	33	32	22	16.5	6.4	1.9	-	-
	92	4.0	341	154	127.5	94	69	43	23.3	17.3	6.9	2.1	-	-

### Evacuation Time

Model	Feed Pressure (bar)	Air Consumption (NI/min)	Evacuation time in sec / liter to reach different vacuum levels (-kPa)											
			10	20	30	40	50	60	70	80	90			
VSM303	2.2	97	0.019	0.09	0.1	0.32	0.42	0.73	1.62	-	-	-	-	-
	3	118	0.015	0.07	0.18	0.28	0.38	0.64	0.8	1.2	3.8	-	-	
	4	152	0.01	0.048	0.07	0.09	0.2	0.42	0.6	1	3.4	-	-	

### Dimensions

[ Unit : mm ]

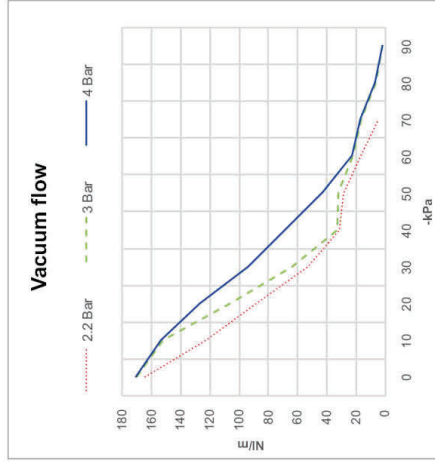


1. Compressed air Port : 3xG1/4"
2. Vacuum Port: 1xG1/2" and 3xG1/4"
3. Exhaust

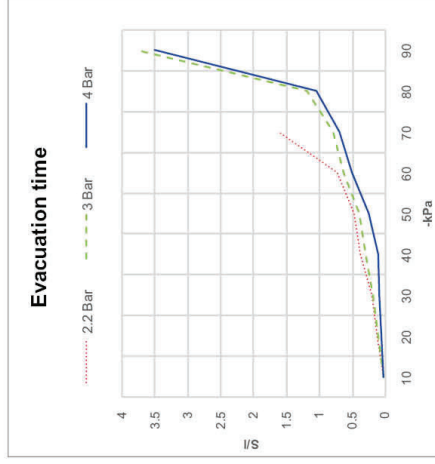


## Performance data

VSM302

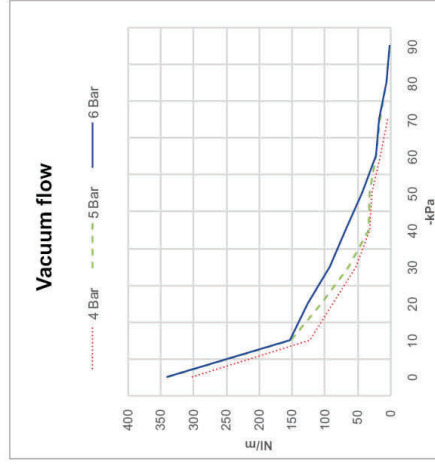


\* Vacuum flow at different vacuum level

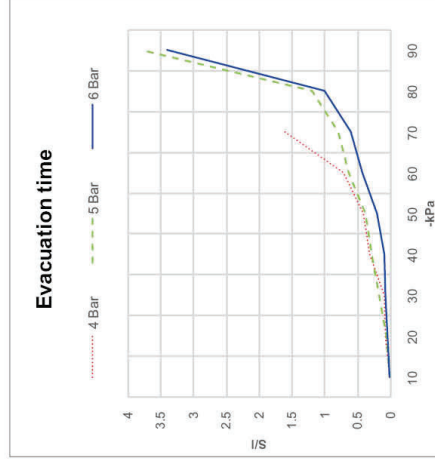


\* Time to evacuate a volume at different vacuum level

VSM303



\* Vacuum flow at different vacuum level



\* Time to evacuate a volume at different vacuum level

## Build an Ordering No.

### 2. Mounting option



VSM303 -  
1. Basic pump

1. Basic pump	Description	Symbol
VSM pump, 2-stage cartridge, Plug	VSM302P	
VSM pump, 2-stage cartridge, Plug, Non-return valve	VSM302P-N	
VSM pump, 3-stage cartridge, Plug	VSM303P	
VSM pump, 3-stage cartridge, Plug, Non-return valve	VSM303P-N	
VSM pump, 3-stage cartridge, Two-fold silencer	VSM303S	
VSM pump, 3-stage cartridge, Two-fold silencer, Non-return valve	VSM303S-N	
VSM pump, No vacuum cartridge for slave unit	VSM030	
2. Mounting option	Description	Symbol
4x screw M6 top, 6x plug G1/4" (direct mount)	F	
M12 20mm screw top, 6x plug G1/4"	MT12	
M12 20mm screw left, 6x plug G1/4"	ML12	
M12 20mm screw right, 6x plug G1/4"	MR12	
M12 20mm screw top, 6x plug G1/4, Mounting bracket	BT12	

## Spare Parts – Basic pumps

Part No.	Description	Weight (g)
VSM302P	VSM pump, 2-stage cartridge, Plug	176
VSM302P-N	VSM pump, 2-stage cartridge, Plug, Non-return valve	177
VSM303P	VSM pump, 3-stage cartridge, Plug	212
VSM303P-N	VSM pump, 3-stage cartridge, Plug, Non-return valve	213
VSM303S	VSM pump, 3-stage cartridge, Two-fold silencer	231
VSM303S-N	VSM pump, 3-stage cartridge, Two-fold silencer, Non-return valve	232
VSM030	VSM pump, No vacuum cartridge for slave unit	236

## Spare Parts – Cartridges

Part No.	Description	Available model
VC302	Midi vacuum cartridge, 2-Stage	VSM302P
VC302-N	Midi vacuum cartridge, 2-Stage, Non-return valve	VSM302P-N
VC303	Midi vacuum cartridge, 2-Stage	VSM303P, VSM303S
VC303-N	Midi vacuum cartridge, 3-Stage, Non-return valve	VSM303P-N, VSM303S-N

## Spare Parts – Mounting

Part No.	Description
F	4x screw M6 top, 6x plug G1/4" (direct mount)
MT12	M12 20mm screw top, 6x plug G1/4"
ML12	M12 20mm screw left, 6x plug G1/4"
MR12	M12 20mm screw right, 6x plug G1/4"
BT12	M12 20mm screw top, 6x plug G1/4, Mounting bracket

## Spare Parts – Plug & Silencer

Part No.	Description
VCP-M25-302	Holding plug for VSM302P and VSM302P-N
VCP-M25-303	Holding plug for VSM303P and VSM303P-N
VTT5-M25	Two-Fold Silencer for VSM303S and VSM303S-N

## VSMR pump

### Features and Strengths

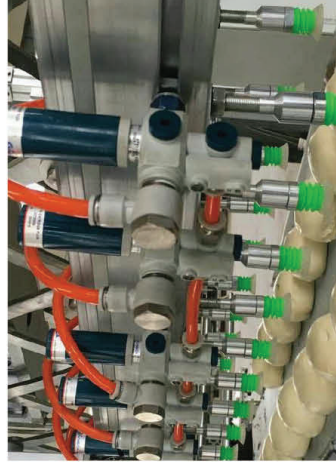
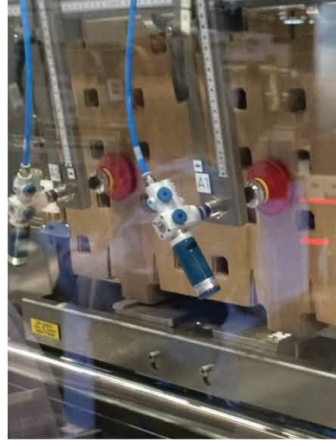
Highly operational reliability despite fluctuating or low compressed-air pressure  
 Auto quick release function – Fast response time  
 Multiple connection ports

### Advantages

Fast response time with individual vacuum system available  
 Available for auto quick release without additional vacuum release control valve  
 Reliable and stable operation - High vacuum level and vacuum flow in efficient air consumption



### Application



### Overall of specification

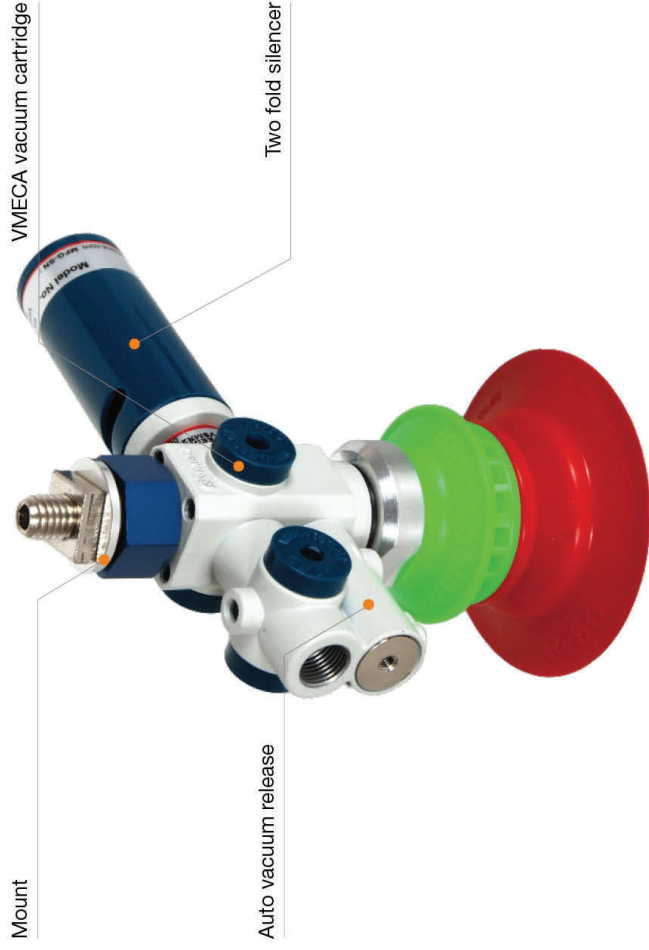
Model	Max. Vacuum level (- kPa)	Max. Feed Pressure (bar)	Max. Vacuum Flow (NI/m)	Air Consumption (NI/m)	Noise level (dB(A))
VSMR202	90	7	44	40	55 ~ 65
VSMR203	90	7	84.5	40	55 ~ 65

## VSMR pump

**VMECA VSMR pump** is integrated with VMECA vacuum cartridge technology for reliable and stable performance in fluctuation or drop of compressed-air pressure. VQ pump is the most suitable in high speed application such as delta robot in packaging industry because SC pump has check valve on vacuum release port so, it can operate in 2times faster evacuation time compared with conventional vacuum ejectors.

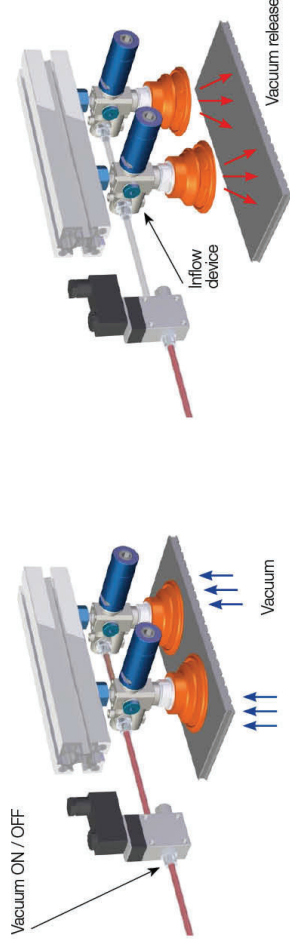
### Key advantages

- VMECA vacuum cartridge integrated
- Available for quick release without vacuum release valve
- Auto filter cleaning system

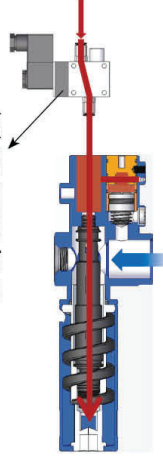


### Comparison with VSM

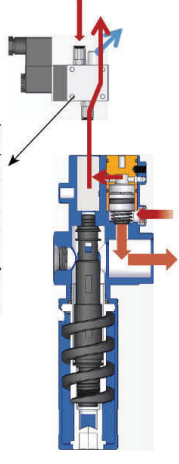
#### VSMR



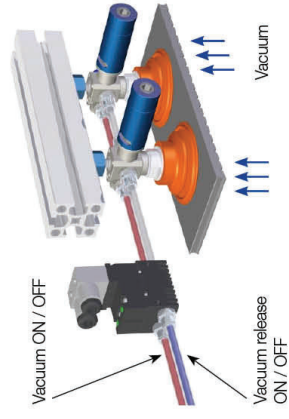
#### 3/2 way Solenoid valve (ON)



#### 3/2 way Solenoid valve (OFF)



#### VSM



## VSMR202

### Features and Strengths

- Efficient individual and independent point-of-use vacuum
- Highly operational reliability despite fluctuating or low compressed-air pressure
- Extremely quick response
- Available for multiple connection ports



### Specifications

Description	VSMR202
Max. Vacuum level	-90 kPa
Open Vacuum flow	44 NI/min
Max. Feed pressure	7 bar
Temperature	-20 ~ 80 °C
Noise level	55 ~ 65 dBA
Weight	237 g

### Vacuum Flow

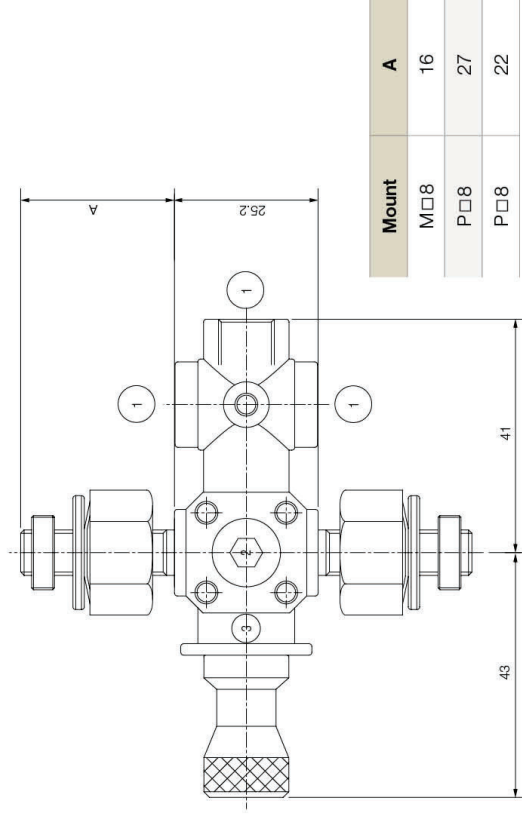
Model	Max. vacuum (-kPa)	Feed Pressure (bar)	Vacuum flow (NI/min) at different vacuum levels (-kPa)											
			0	10	20	30	40	50	60	70	80	90		
VSMR202	48	1.7	38.5	20	16	12	5.3							
	65	2.2	39	26.5	17.3	15.6	13.5	8.4	2.6					
	90	3.14	44	36	24.5	16.5	16	13.8	10	7	3.5			
	89	4.0	42	38.8	28.5	21.2	15.8	12.2	9.5	7	2.4			

### Evacuation Time

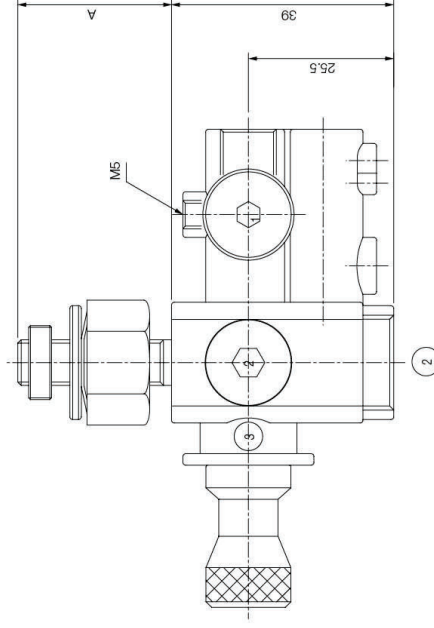
Model	Feed Pressure (bar)	Air Consumption (NI/min)	Evacuation time in sec / liter to reach different vacuum levels (-kPa)											
			10	20	30	40	50	60	70	80	90			
VSMR202	1.7	22	0.33	0.47	0.89	1.93								
	2.2	25.5	0.20	0.47	0.70	0.92	1.24	1.35						
	3.14	34	0.15	0.39	0.95	1.03	1.28	1.32	2.12	3.54				
	4.0	40	0.15	0.42	0.56	0.80	0.99	1.21	1.46	3.74				

### Dimensions

[ Unit : mm ]



Mount	A
M□8	16
P□8	27
P□8	22



Mount	A
M□8	16
P□8	27
P□8	22

1. Compressed air : 3xG1/8"
2. Vacuum : 1xG3/8" and 3xG1/8"
3. Exhaust

## VSMR203

### Features and Strengths

- Efficient individual and independent point-of-use vacuum
- Highly operational reliability despite fluctuating or low compressed-air pressure
- Extremely quick response
- Available for multiple connection ports



### Specifications

Description	VSMR203
Max. Vacuum level	-90 kPa
Open Vacuum flow	84.5 NI/min
Max. Feed pressure	7 bar
Temperature	-20 ~ 80 °C
Noise level	55 ~ 65 dBA
Weight	141 g

### Vacuum Flow

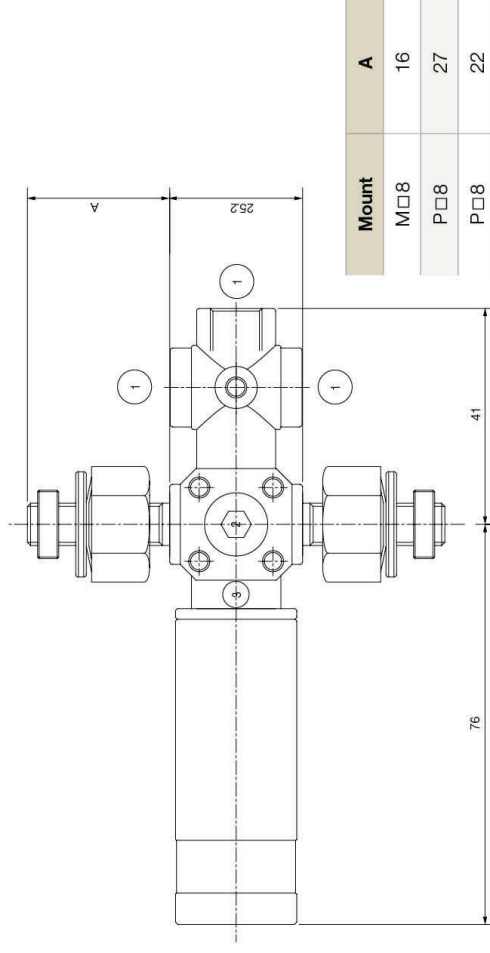
Model	Max. vacuum (-kPa)	Feed Pressure (bar)	Vacuum flow (NI/min) at different vacuum levels (-kPa)											
			0	10	20	30	40	50	60	70	80	90		
VSMR203	49	1.7	55	23.2	15.5	12.6	6.1							
	65	2.2	68	31	16.5	13.8	9	3.5						
	90	3.14	84	37.5	26	16	15.2	12.3	10	7.2	4			
	89	4.0	84.5	40	33.2	22.6	15.8	12	9.2	7.3	2.9			

### Evacuation Time

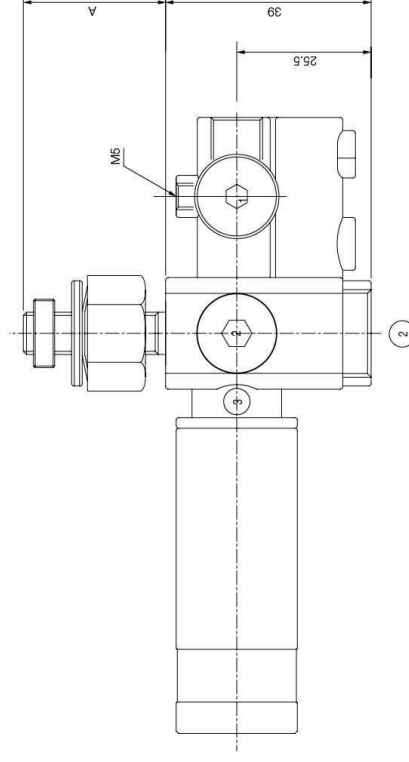
Model	Feed Pressure (bar)	Air Consumption (NI/min)	Evacuation time in sec / liter to reach different vacuum levels (-kPa)											
			10	20	30	40	50	60	70	80	90			
VSMR203	1.7	22	0.13	0.40	0.79	1.57								
	2.2	25.5	0.08	0.39	0.59	0.85	1.10	0.96						
	3.14	34	0.06	0.28	0.51	1.01	1.18	1.29	1.73	3.00				
	4.0	40	0.08	0.24	0.50	0.71	0.85	1.18	1.41	3.05				

### Dimensions

[ Unit : mm ]



Mount	A
M□8	16
P□8	27
P□8	22

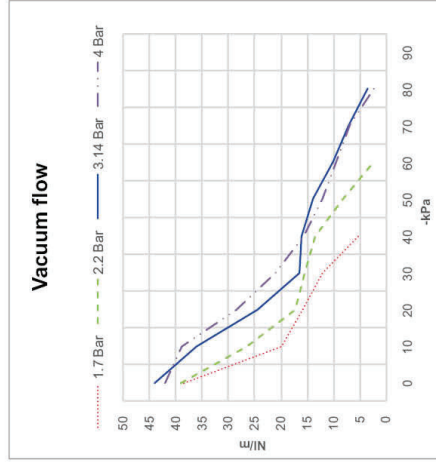


Mount	A
M□8	16
P□8	27
P□8	22

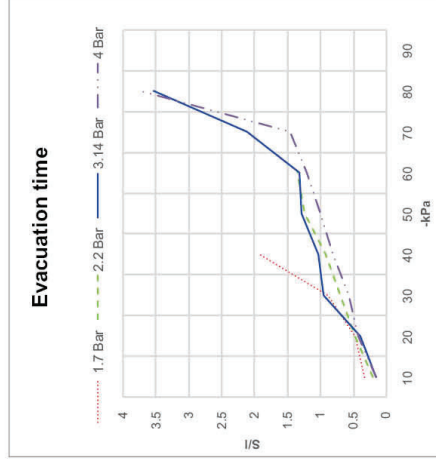
1. Compressed air : 3xG1/8"
2. Vacuum : 1xG3/8" and 3xG1/4"
3. Exhaust

## Performance data

VSMR202

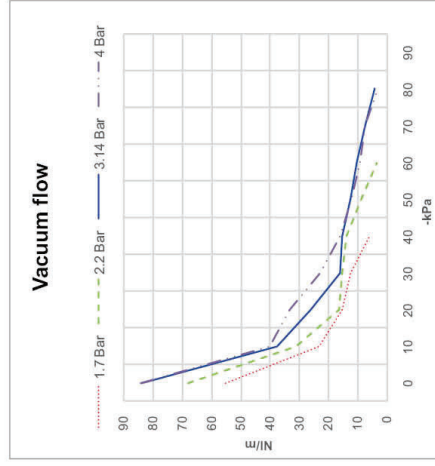


\* Vacuum flow at different vacuum level

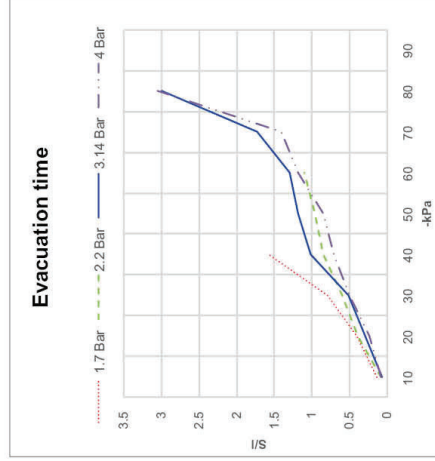


\* Time to evacuate a volume at different vacuum level

VSMR203



\* Vacuum flow at different vacuum level



\* Time to evacuate a volume at different vacuum level

## Build an Ordering No.

### 2. Mounting option

VSMR203 -

### 1. Basic pump

1. Basic pump	Description	Symbol
	VSMR pump, 2-stage cartridge, Plug	VSMR202
	VSMR pump, 3-stage cartridge, Two-fold silencer	VSMR203
2. Mounting option	Description	Symbol
	4x screw M4 top, 5x plug G1/8"(direct mount)	F
	M8 16mm screw top, 4x plug G1/8" incl. mounting kit	MT8
	M8 16mm screw left, 4x plug G1/8" incl. mounting kit	ML8
	M8 16mm screw right, 4x plug G1/8" incl. mounting kit	MR8
	M8 27mm screw top, 4x plug G1/8" incl. profile kit with jam nut	PT8
	M8 27mm screw left, 4x plug G1/8" incl. profile kit with jam nut	PL8
	M8 27mm screw right, 4x plug G1/8" incl. profile kit with jam nut	PR8
	M6 22mm screw top, 4x plug G1/8" incl. profile kit with jam nut	PT6
	M6 22mm screw left, 4x plug G1/8" incl. profile kit with jam nut	PL6
	M6 22mm screw right, 4x plug G1/8" incl. profile kit with jam nut	PR6

## Spare Parts – Basic pumps

Part No.	Description	Weight (g)
VSMR202	VSMR pump, 2-stage cartridge, Plug	237
VSMR203	VSMR pump, 3-stage cartridge, Two-fold silencer	147

## Spare Parts – Mounting

Part No.	Description
F	4x screw M4 top, 5x plug G1/8"(direct mount)
M8	M8 16mm screw, 4x plug G1/8" incl. mounting kit
P8	M8 27mm screw, 4x plug G1/8" incl. profile kit with jam nut
P6	M6 22mm screw, 4x plug G1/8" incl. profile kit with jam nut

## Spare Parts – Cartridges

Part No.	Description	Weight (g)
VC202	Mini vacuum cartridge, 2-Stage for VSMR202	2.69
VC203	Mini vacuum cartridge, 3-Stage for VSMR203	5.45

## Spare Parts – Plug & Silencer

Part No.	Description
VCP-M14	Holding plug for VSMR202
VTTs-M14	Two-Fold Silencer for VSMR203