

PM pump

Features and Strengths

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

Advantages

Excellent performance in application that the large vacuum flow is needed
Reliable and stable operation - High vacuum level and vacuum flow in efficient air consumption
Optional Air-saving kit (AS-KIT) to minimize energy consumption



Application



Overall of specification

Model	Max. Vacuum level (- kPa)	Max. Feed Pressure (bar)	Max. Vacuum Flow (NI/m)	Air Consumption (NI/m)
PM303x1	92	7	341	158
PM303x2	92	7	682	304
PM303x3	92	7	1023	456
PM303x4	92	7	1364	608
PML303x1	75	7	362	104
PML303x2	75	7	724	208
PML303x3	75	7	1086	312
PML303x4	75	7	1448	416

PM pump

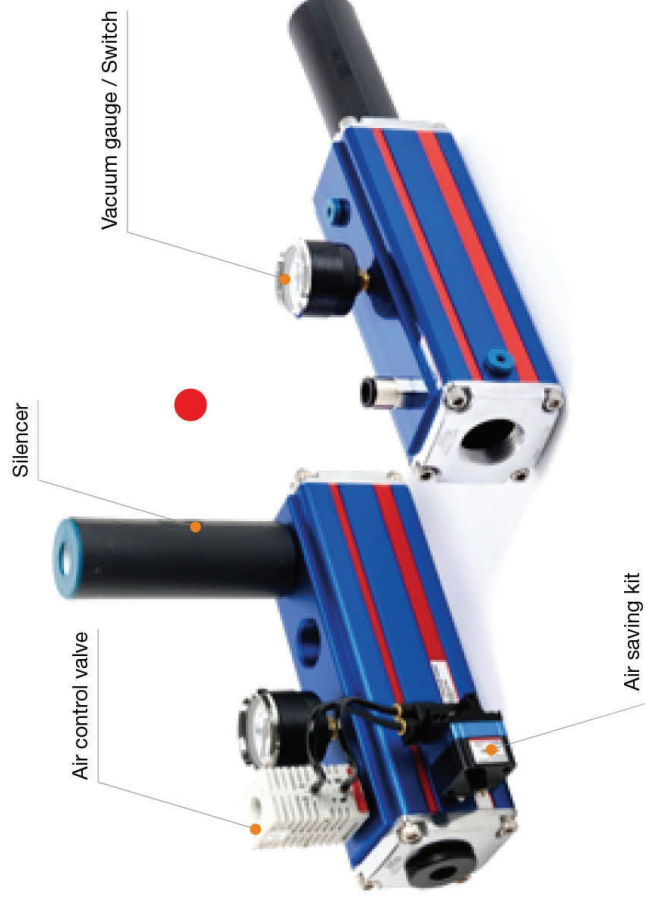
VMECA PM pump be combined with the optional Vacuum On/Off control valve, vacuum release valve and vacuum switch to create an optimal vacuum solution for many applications where the high vacuum flow required.

VMECA PM pump and optional components has been widely Used in automation field due to design which is easily mounted and can be simply replaced with classic pumps without changing dimensions



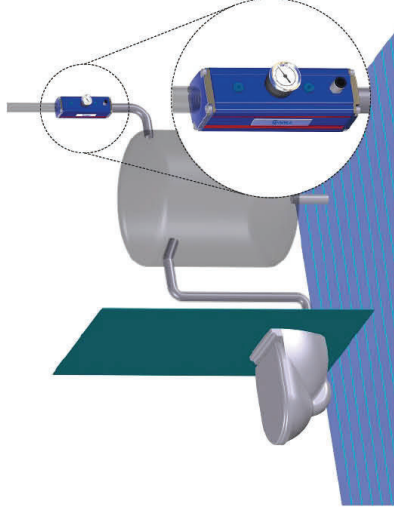
Key advantages

- VMECA vacuum cartridge integrated
- Fast response time with high vacuum flow
- Durable aluminum body



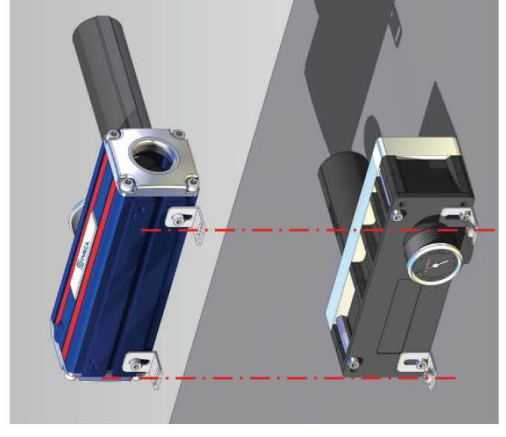
Applications

VMECA PREMIUM VACUUM PUMP (PM pump) can be mounted directly inline to save space and is suitable for applications requiring high suction flows or evacuation of large volumes of air (i.e. vacuum chamber)



Despite fluctuations and drops in air pressure, PREMIUM PUMP maintains a high flow rate along with a high and stable vacuum level eliminating lost or interrupted cycles. This pump is excellent for non-sealed system applications or where large suction cups are used.

VMECA PREMIUM VACUUM PUMP can directly replace Classic Vacuum Pump without any change of mounting holes or brackets.



PM / PML 303x1

Features and Strengths

- Highly operational reliability despite fluctuating or low compressed-air pressure
- Top and side vacuum connection ports available
- Optional Air-Saving Kit available to minimize energy consumption
- Quick response time
- Strong aluminum body



Specifications

Description	PM303x1	PML303x1
Max. Vacuum level	-92 kPa	-75 kPa
Open Vacuum flow	341 NI/min	362 NI/min
Max. Feed pressure	7 bar	7 bar
Temperature	-20 ~ 80 °C	-20 ~ 80 °C
Noise level	60 ~ 65 dbA	60 ~ 65 dbA
Weight	1,528 g	1,527 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			
PM303x1	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	-	-	-
PML303x1	60	4.0	302	172	110	70	46	28	6.8	-	-	-	-	-	-
	70	5.0	344	196	130	82	50	37.5	23	11.3	-	-	-	-	-
	75	6.0	362	207	154	100	52	38	32	22	-	-	-	-	-

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				
PM303x1	2.2	97	0.019	0.09	0.1	0.32	0.42	0.73	1.62	-	-	-	-	-	-
	3.0	118	0.015	0.07	0.18	0.28	0.38	0.64	0.8	12	3.8	-	-	-	-
	4.0	152	0.01	0.48	0.07	0.09	0.2	0.42	0.8	1	3.4	-	-	-	-
PML303x1	4.0	70	0.028	0.09	0.17	0.29	0.38	0.8	-	-	-	-	-	-	-
	5.0	85	0.013	0.08	0.15	0.25	0.3	0.4	0.8	-	-	-	-	-	-
	6.0	104	0.012	0.07	0.12	0.2	0.28	0.36	0.6	-	-	-	-	-	-

Blow flow

Model	Feed Pressure (bar)	Air Consumption (NI/min)	Blow flow, NI/min, at different internal pressure levels (-kPa)													
			10	20	30	40	50	60	70	80	90	100	110	120	130	140
PM303x1	6.0	210	572	387	359	315	280	272	274	271	269	259	242	225	-	-
	PML303x1	6.0	104	470	320	272	225	196	189	165	140	Blow flow, NI/min, at different internal pressure levels (-kPa)				
												0	10	20	30	40

PM / PML 303x2

Features and Strengths

- Highly operational reliability despite fluctuating or low compressed-air pressure
- Various connection ports
- Optional Air-Saving Kit available to minimize energy consumption
- Quick response time
- Strong aluminum body



Specifications

Description	PM303x2	PML303x2
Max. Vacuum level	-92 kPa	-75 kPa
Open Vacuum flow	682 NI/min	724 NI/min
Max. Feed pressure	7 bar	7 bar
Temperature	-20 ~ 80 °C	-20 ~ 80 °C
Noise level	60 ~ 65 dbA	60 ~ 65 dbA
Weight	1,523 g	1,523 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			
PM303x2	75	2.2	604	245	176	106	62.8	57	33	9.2	-	-	-	-	-
	92	3.0	676	304	212	128	66	64	44	3.3	12.8	3.8	-	-	-
	92	4.0	682	308	255	188	138	86	46.6	34.6	13.8	4.2	-	-	-
PML303x2	60	4.0	604	344	220	140	92	56	13.6	-	-	-	-	-	-
	70	5.0	688	392	260	164	100	75	46	23.8	-	-	-	-	-
	75	6.0	724	415	308	200	104	76	64	44	-	-	-	-	-

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				
PM303x2	2.2	194	0.011	0.043	0.05	0.17	0.23	0.38	0.81	-	-	-	-	-	-
	3.0	236	0.01	0.032	0.045	0.15	0.22	0.33	0.48	0.78	1.98	-	-	-	-
	4.0	304	0.01	0.026	0.037	0.047	0.12	0.23	0.35	0.7	1.72	-	-	-	-
PML303x2	4.0	140	0.017	0.037	0.073	0.14	0.19	0.45	-	-	-	-	-	-	-
	5.0	170	0.014	0.032	0.06	0.128	0.16	0.25	0.43	-	-	-	-	-	-
	6.0	208	0.012	0.03	0.047	0.098	0.15	0.2	0.32	-	-	-	-	-	-

Blow flow

Model	Feed Pressure (bar)	Air Consumption (NI/min)	Blow flow, NI/min, at different internal pressure levels (-kPa)													
			10	20	30	40	50	60	70	80	90	100	110	120	130	140
PM303x2	6.0	420	1144	774	718	630	560	544	548	542	538	518	484	450	-	-
	PML303x2	6.0	208	940	640	544	450	392	378	330	280	Blow flow, NI/min, at different internal pressure levels (-kPa)				
												0	10	20	30	40

PM / PML 303x3

Features and Strengths

- Highly operational reliability despite fluctuating or low compressed-air pressure
- Various connection ports
- Optional Air-Saving Kit available to minimize energy consumption
- Quick response time
- Strong aluminum body



Specifications

Description	PM303x3	PML303x3
Max. Vacuum level	-92 kPa	-75 kPa
Open Vacuum flow	1,023 NI/min	1,086 NI/min
Max. Feed pressure	7 bar	7 bar
Temperature	-20 ~ 80 °C	-20 ~ 80 °C
Noise level	60 ~ 65 dbA	60 ~ 65 dbA
Weight	1,519 g	1,519 g

Vacuum Flow

Model	Max. vacuum (-kPa)	Feed Pressure (bar)	Air Consumption (NI/min)	Vacuum flow (NI/min) at different vacuum levels (-kPa)										
				0	10	20	30	40	50	60	70	80	90	
PM303x3	92	3.0	456	1014	456	318	192	99	96	66	50	19	6	6.3
PML303x3	70	5.0	588	390	246	150	112.5	69	34	-	-	-	-	-

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			
PM303x3	4.0	210	0.016	0.03	0.085	0.09	0.12	0.26	-	-	-	-	-	-
PML303x3	6.0	312	0.0079	0.02	0.04	0.06	0.09	0.12	0.2	-	-	-	-	-

Blow flow

Model	Feed Pressure (bar)	Air Consumption (NI/min)	Blow flow, NI/min, at different internal pressure levels (-kPa)											
			10	20	30	40	50	60	70	80	90	100	110	120
PM303x3	6.0	630	1716	1161	1077	945	840	816	822	813	807	777	747	675
PML303x3	6.0	312	1404	966	822	678	589	564	482	416	-	-	-	-

PM / PML 303x4

Features and Strengths

- Highly operational reliability despite fluctuating or low compressed-air pressure
- Various connection ports
- Optional Air-Saving Kit available to minimize energy consumption
- Quick response time
- Strong aluminum body



Specifications

Description	PM303x4	PML303x4
Max. Vacuum level	-92 kPa	-75 kPa
Open Vacuum flow	1,364 NI/min	1,448 NI/min
Max. Feed pressure	7 bar	7 bar
Temperature	-20 ~ 80 °C	-20 ~ 80 °C
Noise level	60 ~ 65 dbA	60 ~ 65 dbA
Weight	1,516 g	1,516 g

Vacuum Flow

Model	Max. vacuum (-kPa)	Feed Pressure (bar)	Air Consumption (NI/min)	Vacuum flow (NI/min) at different vacuum levels (-kPa)									
				0	10	20	30	40	50	60	70	80	90
PM303x4	92	3.0	608	1364	608	424	256	132	128	88	66	26	7.6
PML303x4	70	5.0	784	520	328	200	150	92	45	-	-	-	-

Evacuation Time

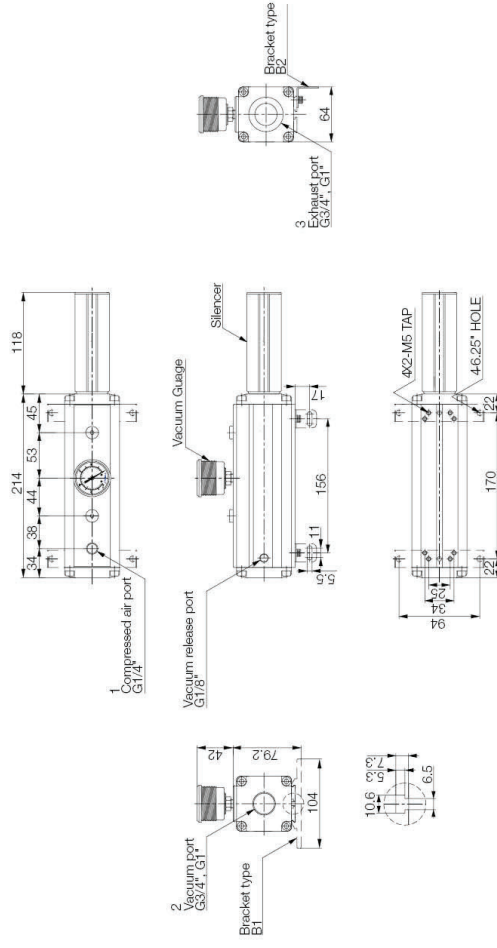
Model	Feed Pressure (bar)	Air Consumption (NI/min)	Evacuation time in sec / liter to reach different vacuum levels (-kPa)										
			10	20	30	40	50	60	70	80	90		
PM303x4	4.0	280	0.0089	0.023	0.04	0.07	0.09	0.2	-	-	-	-	-
PML303x4	6.0	416	0.0053	0.015	0.029	0.052	0.071	0.09	0.15	-	-	-	-

Blow flow

Model	Feed Pressure (bar)	Air Consumption (NI/min)	Blow flow, NI/min, at different internal pressure levels (-kPa)											
			10	20	30	40	50	60	70	80	90	100	110	120
PM303x4	6.0	840	2288	1548	1436	1280	1120	1088	1086	1084	1076	1036	988	900
PML303x4	6.0	416	1868	1284	1096	904	784	752	656	556	-	-	-	-

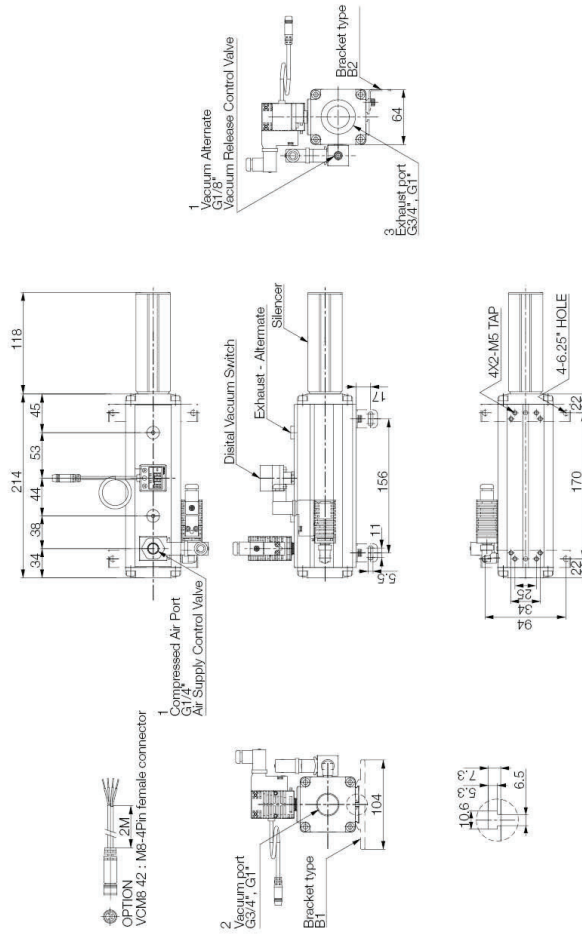
Body type "A" Dimensions – Basic Pump

[Unit : mm]



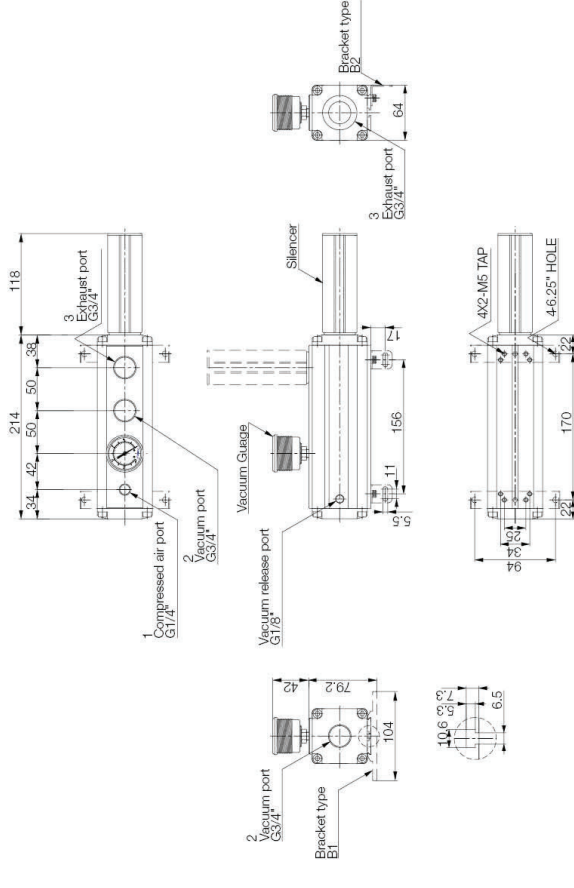
Body type "A" Dimensions – with Accessories

[Unit : mm]



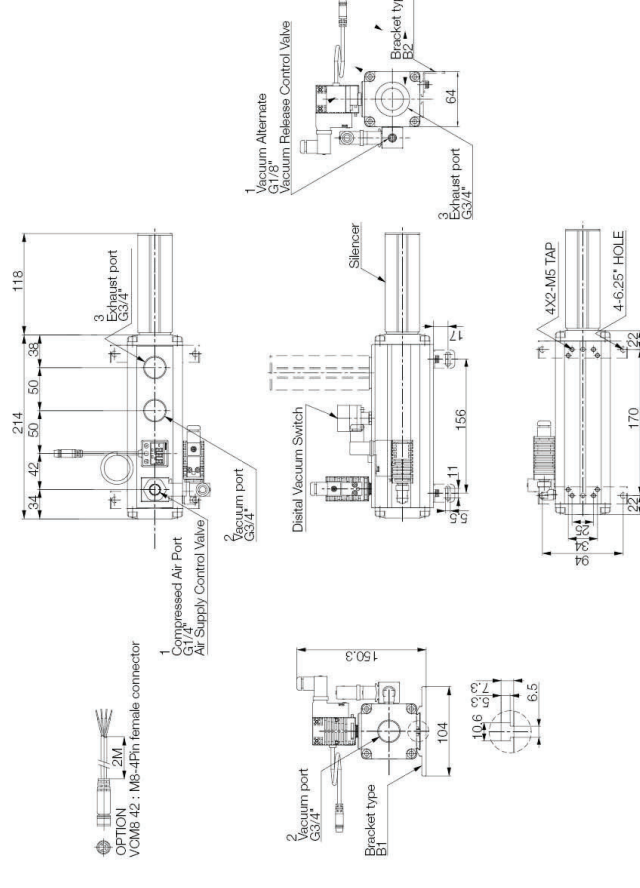
Body type "B" Dimensions – Basic Pump

[Unit : mm]



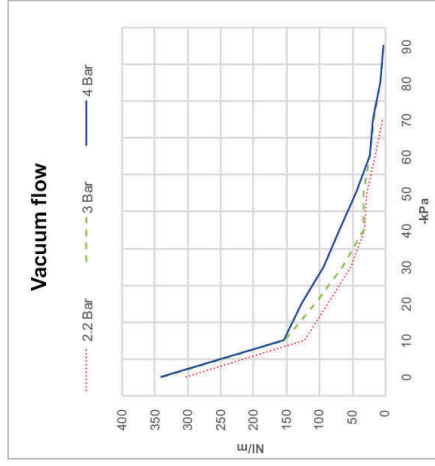
Body type "B" Dimensions – with Accessories

[Unit : mm]

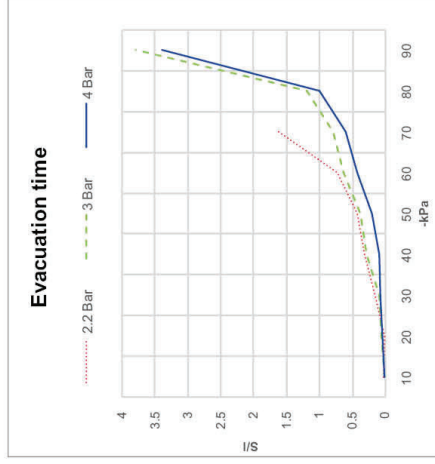


Performance data

PM303x1

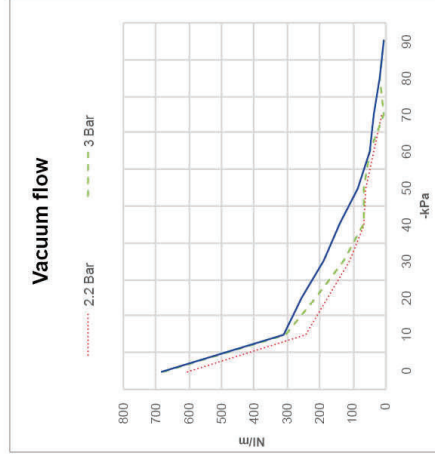


※ Vacuum flow at different vacuum level

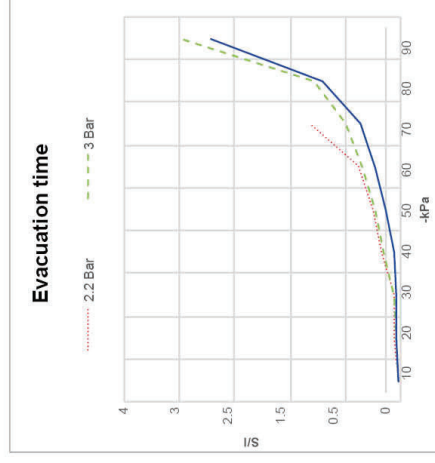


※ Time to evacuate a volume at different vacuum level

PM303x2

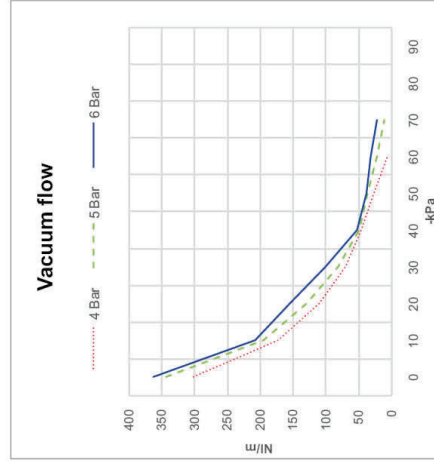


※ Vacuum flow at different vacuum level

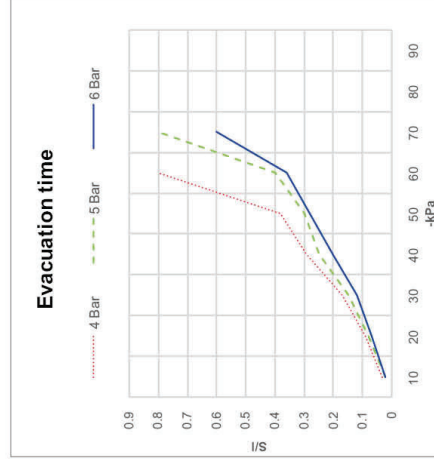


※ Time to evacuate a volume at different vacuum level

PM303x1

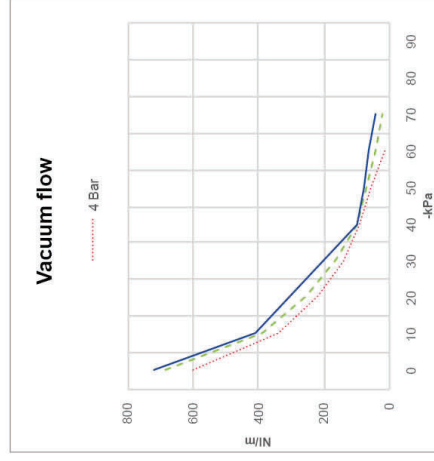


※ Vacuum flow at different vacuum level

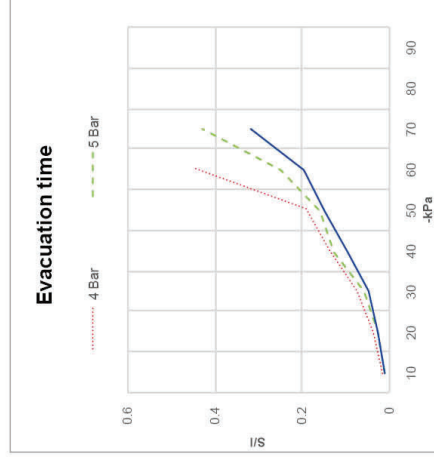


※ Time to evacuate a volume at different vacuum level

PM303x2



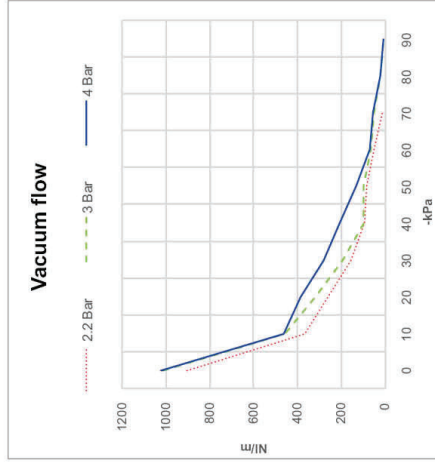
※ Vacuum flow at different vacuum level



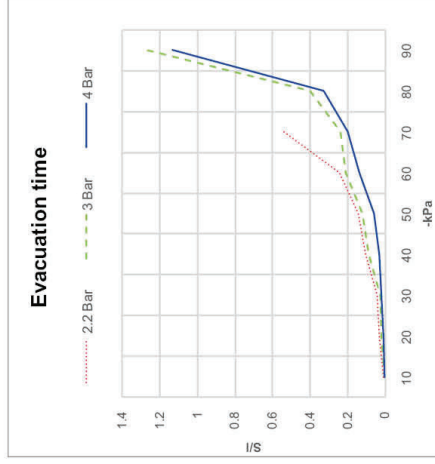
※ Time to evacuate a volume at different vacuum level

Performance data

PM303x3



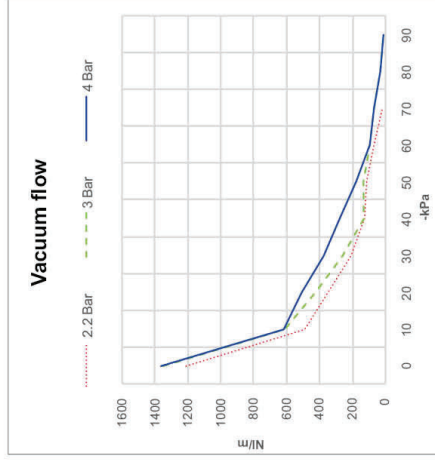
* Vacuum flow at different vacuum level



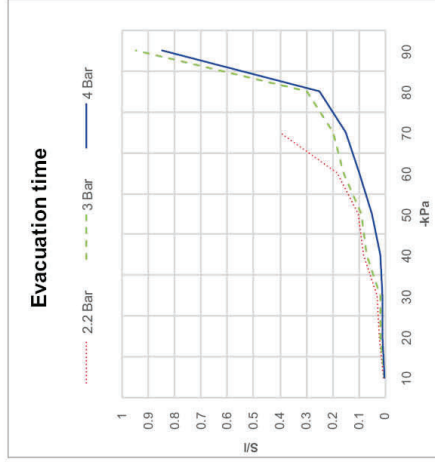
* Time to evacuate a volume at different vacuum level

Performance data

PM303x4

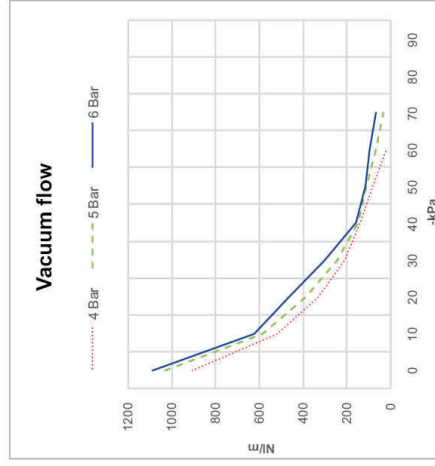


* Vacuum flow at different vacuum level

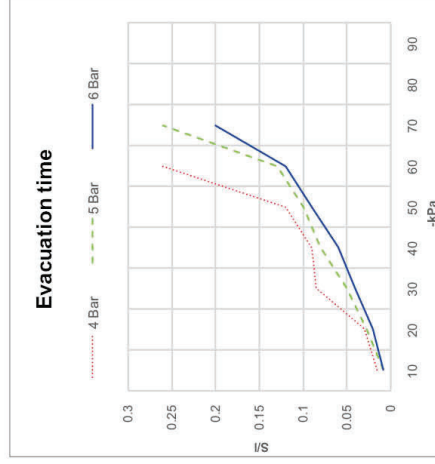


* Time to evacuate a volume at different vacuum level

PML303x3

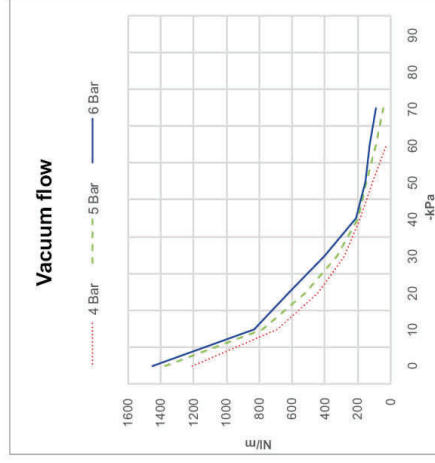


* Vacuum flow at different vacuum level

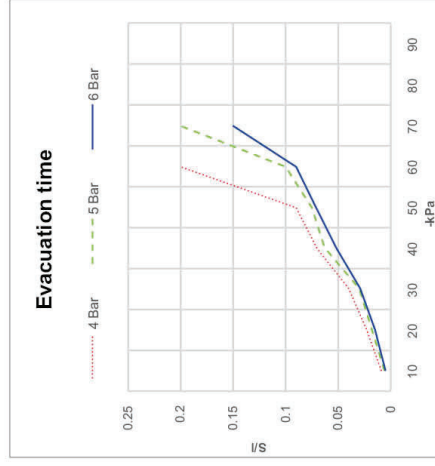


* Time to evacuate a volume at different vacuum level

PML303x4

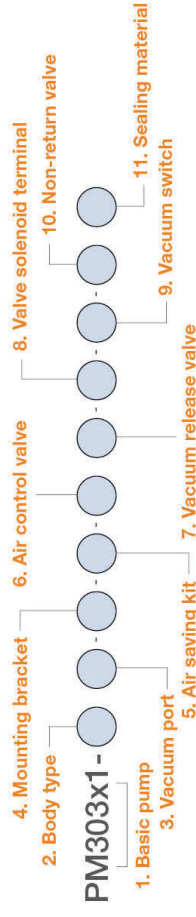


* Vacuum flow at different vacuum level



* Time to evacuate a volume at different vacuum level

Build an Ordering No.



1. Basic pump	Description	Symbol
PM Pump, 3-Stage, 1-vacuum cartridge, Silencer	PM303x1	PM303x1
PM Pump, 3-Stage, 2-vacuum cartridge, Silencer	PM303x2	PM303x2
PM Pump, 3-Stage, 3-vacuum cartridge, Silencer	PM303x3	PM303x3
PM Pump, 3-Stage, 4-vacuum cartridge, Silencer	PM303x4	PM303x4
PM Pump, 3-Stage "L" cartridge, 1-vacuum cartridge, Silencer	PM303x1	PM303x1
PM Pump, 3-Stage "L" cartridge, 2-vacuum cartridge, Silencer	PM303x2	PM303x2
PM Pump, 3-Stage "L" cartridge, 3-vacuum cartridge, Silencer	PM303x3	PM303x3
PM Pump, 3-Stage "L" cartridge, 4-vacuum cartridge, Silencer	PM303x4	PM303x4
2. Body type	Description	Symbol
Vacuum port on side		A
Vacuum ports on top and side		B
3. Vacuum port	Description	Symbol
Vacuum port G3/4"		34
Vacuum port G1"		01
- Body type "B" is available only with vacuum port G3/4"		
4. Mounting bracket	Description	Symbol
No mounting bracket		Blank
4 points support		B1
2 points support		B2
5. Air saving kit	Description	Symbol
No air saving kit		Blank
Air saving kit without air control valve		AS
Air saving kit integrated with air control valve		ASV
6. Air control valve	Description	Symbol
No air control valve		Blank
Air control valve, AC110V		A1
Air control valve, AC220V		A2
Air control valve, DC24V		A3
Double solenoid valve, AC110V		D1
Double solenoid valve, AC220V		D2
Double solenoid valve, DC24V		D3
7. Vacuum release valve	Description	Symbol
No vacuum release valve		Blank
Vacuum release valve, AC110V		R1
Vacuum release valve, AC220V		R2
Vacuum release valve, DC24V		R3
8. Valve solenoid terminal	Description	Symbol
Solenoid Terminal, DIN, No LW		DN
Solenoid Terminal, DIN, Lamp, No LW		DL
Solenoid Terminal, Conn, Lamp & 0.3m LW: Only available with DC24V		GL
Solenoid Terminal, DIN, 2 in 1 BUS cable: Not available with Double Solenoid Valve		2B
Solenoid Terminal, DIN, 3 in 1 BUS cable: Not available with Double Solenoid Valve		3B
Solenoid Terminal, DIN, 4 in 1 BUS cable: available with Double Solenoid Valve		4B
-3B and 4B are available only with DC24V and S2 or S2P vacuum switch		

Build an Ordering No.

9. Vacuum switch	Description	Symbol
No vacuum switch		Blank
Digital switch, No analog supply, M8-4pins, NPN		S2
Digital switch, No analog supply, M8-4pins, PNP		S2P
Digital switch, No analog supply, Grommet, NPN		SG2
Digital switch, No analog supply, Grommet, PNP		SG2P
Digital switch, Analog supply, Grommet, NPN		SG3
Digital switch, Analog supply, Grommet, PNP		SG3P
10. Non-return valve	Description	Symbol
No non-return valve		Blank
Non-return valve: No need with Air saving kit		N
11. Sealing material	Description	Symbol
NBR		Blank
VITON		V
EPDM		E

Spare Parts – Basic pumps

Part No.	Description	Weight (g)
PM303x1-A-34	PM Pump, 3-Stage, 1-vacuum cartridge, G3/4" vacuum port on side, Silencer	1,528
PM303x2-A-34	PM Pump, 3-Stage, 2-vacuum cartridge, G3/4" vacuum port on side, Silencer	1,523
PM303x3-A-34	PM Pump, 3-Stage, 3-vacuum cartridge, G3/4" vacuum port on side, Silencer	1,519
PM303x4-A-34	PM Pump, 3-Stage, 4-vacuum cartridge, G3/4" vacuum port on side, Silencer	1,516
PML303x1-A-34	PM Pump, 3-Stage "L" cartridge, 1-vacuum cartridge, G3/4" vacuum port on side, Silencer	1,527
PML303x2-A-34	PM Pump, 3-Stage "L" cartridge, 2-vacuum cartridge, G3/4" vacuum port on side, Silencer	1,523
PML303x3-A-34	PM Pump, 3-Stage "L" cartridge, 3-vacuum cartridge, G3/4" vacuum port on side, Silencer	1,519
PML303x4-A-34	PM Pump, 3-Stage "L" cartridge, 4-vacuum cartridge, G3/4" vacuum port on side, Silencer	1,515
PM303x1-B-34	PM Pump, 3-Stage, 1-vacuum cartridge, G3/4" vacuum ports on top & side, Silencer	1,499
PM303x2-B-34	PM Pump, 3-Stage, 2-vacuum cartridge, G3/4" vacuum ports on top & side, Silencer	1,495
PM303x3-B-34	PM Pump, 3-Stage, 3-vacuum cartridge, G3/4" vacuum ports on top & side, Silencer	1,490
PM303x4-B-34	PM Pump, 3-Stage, 4-vacuum cartridge, G3/4" vacuum ports on top & side, Silencer	1,486
PML303x1-B-34	PM Pump, 3-Stage "L" cartridge, 1-vacuum cartridge, G3/4" vacuum ports on top & side, Silencer	1,498
PML303x2-B-34	PM Pump, 3-Stage "L" cartridge, 2-vacuum cartridge, G3/4" vacuum ports on top & side, Silencer	1,494
PML303x3-B-34	PM Pump, 3-Stage "L" cartridge, 3-vacuum cartridge, G3/4" vacuum ports on top & side, Silencer	1,489
PML303x4-B-34	PM Pump, 3-Stage "L" cartridge, 4-vacuum cartridge, G3/4" vacuum ports on top & side, Silencer	1,484
PM303x1-A-01	PM Pump, 3-Stage, 1-vacuum cartridge, G1" vacuum port on side, Silencer	1,516
PM303x2-A-01	PM Pump, 3-Stage, 2-vacuum cartridge, G1" vacuum port on side, Silencer	1,513
PM303x3-A-01	PM Pump, 3-Stage, 3-vacuum cartridge, G1" vacuum port on side, Silencer	1,509
PM303x4-A-01	PM Pump, 3-Stage, 4-vacuum cartridge, G1" vacuum port on side, Silencer	1,504
PML303x1-A-01	PM Pump, 3-Stage "L" cartridge, 1-vacuum cartridge, G1" vacuum port on side, Silencer	1,516
PML303x2-A-01	PM Pump, 3-Stage "L" cartridge, 2-vacuum cartridge, G1" vacuum port on side, Silencer	1,512
PML303x3-A-01	PM Pump, 3-Stage "L" cartridge, 3-vacuum cartridge, G1" vacuum port on side, Silencer	1,507
PML303x4-A-01	PM Pump, 3-Stage "L" cartridge, 4-vacuum cartridge, G1" vacuum port on side, Silencer	1,502

Spare Parts – Cartridges & Silencer

Part No.	Description	Weight (g)
VC303	Midli Vacuum Cartridge, 3-Stage for PM303	24.08
VCL303	Midli Vacuum Cartridge, "L" Series, 3-Stage for PML303	24.72
VTS-34	Free flow silencer, G3/4"	52.37