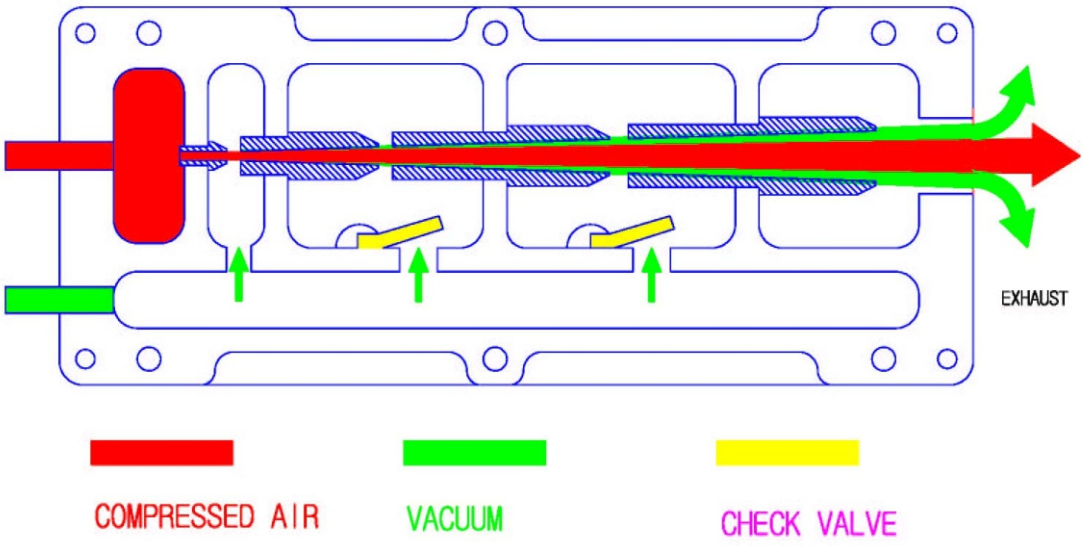
The principle of DRMC vacuum generator

DRMC Vacuum generator are compressed air-driven vacuum generators. The unique construction makes maximum use of the compressed air and therefore consumes less energy. Large vacuum fl -ows and high levels of vacuum are characteristic of DRMC' s vacuum generators.

DRMC' s Vacuum generators are compressed air-driven multi stage air ejectors with considerably higher performance than conventional single stage ejectors.
The expansion of compressed air is controlled so as to produce maximum energy at minimum pres -sure. The multi stage principle gives very high efficiency and combines large flow with a deep vac -uum.



The advantages of DRMC

- Operates just with compressed air
- Low noise levels
- No vibration
- No spark formation
- No heat emission
- No oil mist
- Low energy consumption
- Easy to install
- Fast response
- Compact size and light weight
- Minimal maintenance
- Reliable

TABLES

Pressure

Pa (N/m²)	Bar	Kgf / cm²	Torr	Psi (lbf / in²)
1	0.00001	10.1972×10^{-6}	7.50062×10^{-3}	0.145038×10^{-3}
100000	1	1.01972	750.062	14.5038
98066.5	0.980665	1	735.559	14.2233
133.322	1.33322×10^{-3}	1.35951×10^{-3}	1	19.3368×10^{-3}
6894.76	68.9476×10^{-3}	0.145038×10^{-3}	51.7149	1

▲1 torr = 1mm H G a 0℃
▲1mm column of water = 9.81 pa

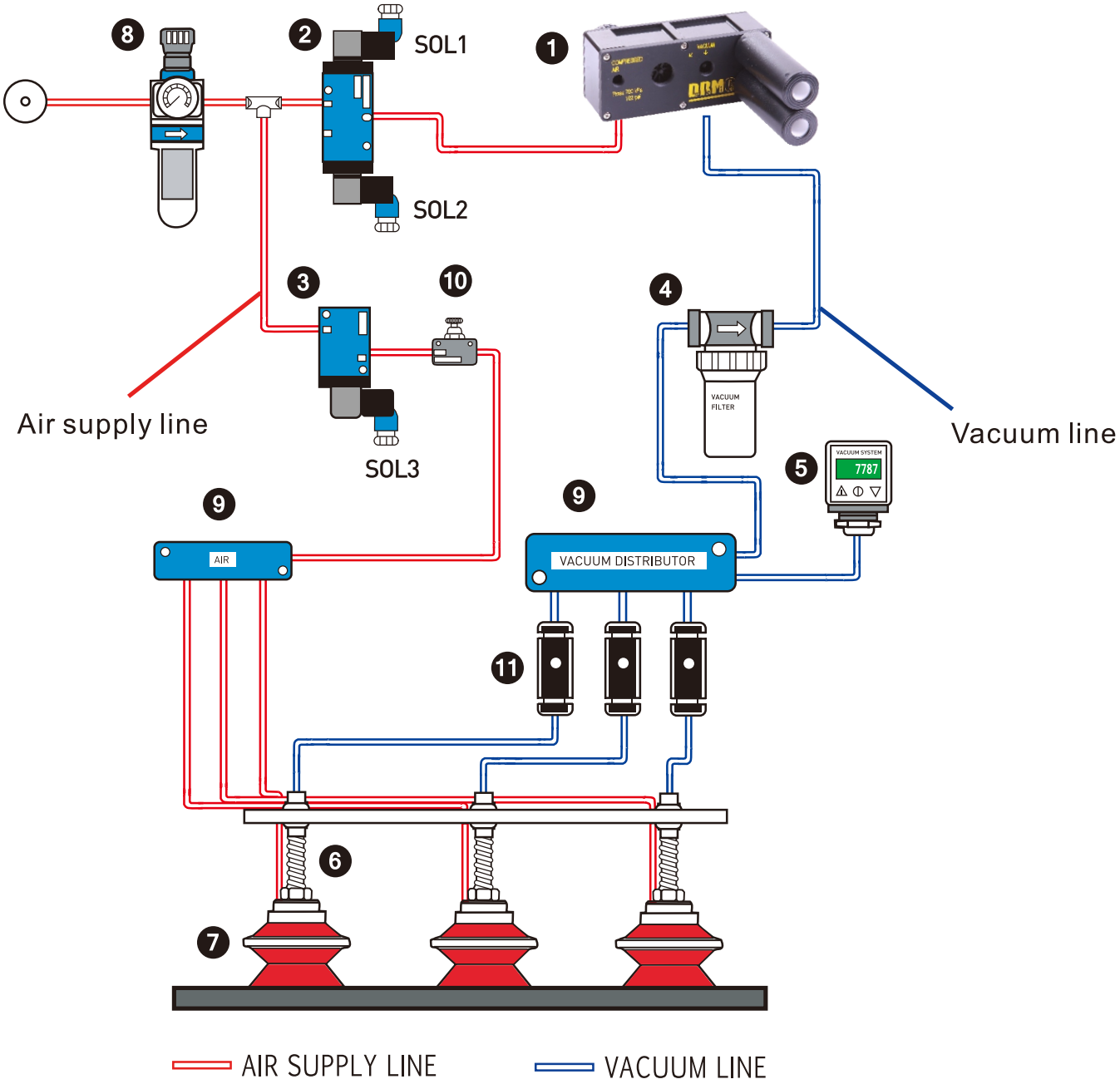
Pressure Above atmospheric

KPa	Bar	Psi	Kgf/cm²
1,013	10.13	146.9	10.3
1,000	10	145	10.2
900	9	130.5	9.2
800	8	116	8.2
700	7	101.5	7.1
600	6	87	6.1
500	5	72.5	5.1
400	4	58	4.1
300	3	43.5	3.1
200	2	29	2
100	1	14.5	1
0	0	0	0

Pressure Bellow atmospheric

	KPa	Mbar	Torr	-KPa	-MmHg	-InHg	%Vacuum
Sea level	101.3	1,013	760	0	0	0	0
	90	900	675	10	75	3	10
	80	800	600	20	150	6	20
	70	700	525	30	225	9	30
	60	600	450	40	300	12	40
	50	500	375	50	375	15	50
	40	400	300	60	450	18	60
	30	300	225	70	525	21	70
	20	200	150	80	600	24	80
	10	100	75	90	675	27	90
Absolute vacuum	0	0	0	101.3	760	30	100

Vacuum Pump Flow Diagram



1. DRMC Vacuum pump
2.Main Line Solenoid Valve
3.Vacuum Release Valve
4.Vacuum Filter
5.Vacuum Switch
6.Level Spring
7.Vacuum Pad
8.FR Unit
9.Manifold
10.Needle Valve
11.Vacuum Check Valve

SVF80 Series

SPECIFICATION

Max.Vacuum level	: -88Kpa(-660mmHg)
Supply Air pressure	: 4 - 5.5bar, Max. 6bar
Supply Air type	: Dry Compressed Air
Working temperature range	: -20℃ to +80℃
Noise level	: 50-60dBA
Material	: AL, Glass Filled Nylon, ABS
Sealing Material	: NBR

CHARACTERISTIC

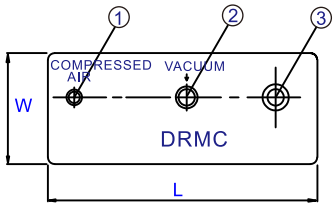
Model	Max.vacuum -Kpa(-mmHg)	Max.vacuum flow (L/min)	Air consumption (L/min)	Capacity equivalent to electricity motor pump size
SVF80-10	88(660)	142	75 - 94	0.2 kw
SVF80-20	88(660)	270	150 - 188	0.4 kw

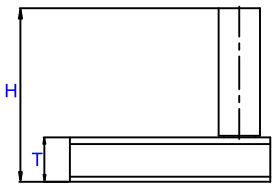
DIMENSIONAL INFORMATION

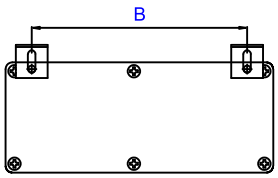
Model	Size(mm)				
	L	W	T	H	B
SVF80-10	115	50	38	110	55
SVF80-20	115	50	38	110	55

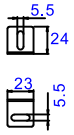
Accessories
- Silencer 1pcs
- Bracket 2pcs
- Bolt 2pcs

① Compressed Air G1/8"
② Vacuum G1/4"
③ Exhaust G3/8"







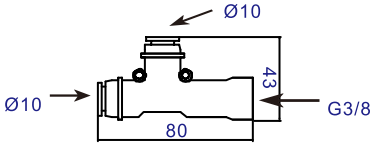


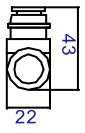
ST80-10 (Tube type)

SPECIFICATION

Max.Vacuum level	: -88Kpa(-660mmHg)
Supply Air pressure	: 3.5 - 5bar, Max. 6bar
Supply Air type	: Dry Compressed Air
Vacuum flow	: 28 L/min
Air consumption	: 75-94 L/min
Working temperature range	: -20℃ to +80℃
Noise level	: 50-57dBA
Material	: PBT

ST80-10





MVF90 Series

SPECIFICATION

Max.Vacuum level	: -92Kpa(-690mmHg)
Supply Air pressure	: 4 - 6bar, Max. 6.5bar
Supply Air type	: Dry Compressed Air
Working temperature range	: -20℃ to +80℃
Noise level	: 50-60dBA
Material	: AL, ABS, Glass Filled Nylon
Sealing Material	: NBR(standard)
	Option: silicon, viton

CHARACTERISTIC

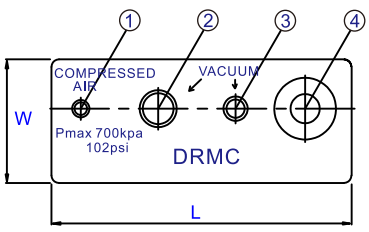
Model	Max.vacuum -Kpa(-mmHg)	Max.vacuum flow (L/min)	Air consumption (L/min)	Capacity equivalent to electricity motor pump size
MVF90-10	92(690)	355	75 - 94	0.25 kw
MVF90-20	92(690)	497	150 - 188	0.5 kw
MVF90-30	92(690)	746	225 - 282	0.75 kw
MVF90-40	92(690)	902	300 - 376	1 kw

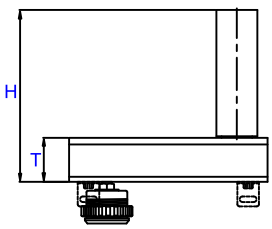
DIMENSIONAL INFORMATION

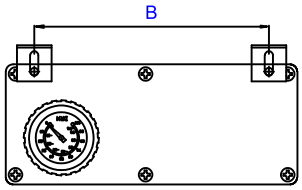
Model	Size(mm)				
	L	W	T	H	B
MVF90-10	194	80	43	166	159
MVF90-20	194	80	43	166	159
MVF90-30	194	80	43	166	159
MVF90-40	194	80	64	187	159

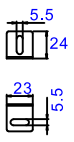
Accessories
- Vacuum Gauge 1pcs
- Silencer 1pcs
- Bracket 2pcs
- Bolt 2pcs

① Compressed Air G1/4"
② Vacuum G3/4"
③ Vacuum G3/8"
④ Exhaust G3/4"





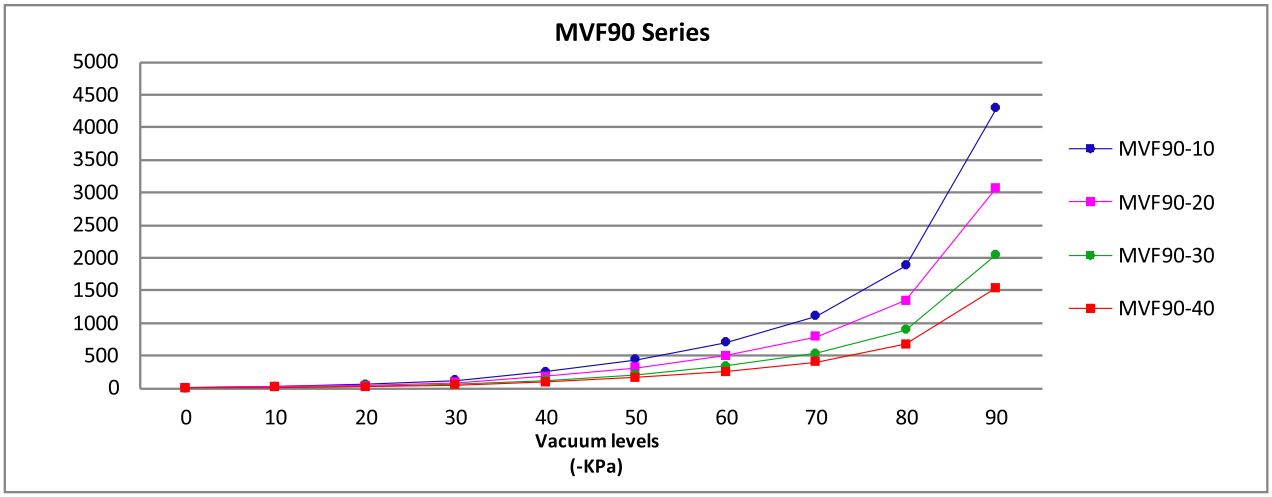




MVF90 Series flow

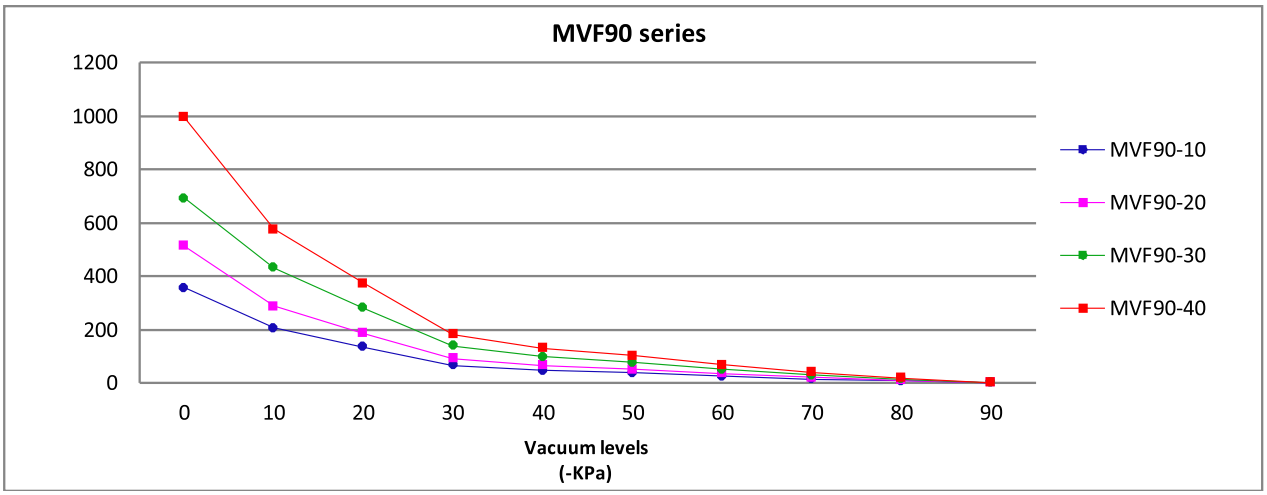
Time in seconds to evacuate to vacuum level (Sec/1000L)

Model	Vacuum levels (-kPa)									
	0	10	20	30	40	50	60	70	80	90
MVF90-10	0	19	50	110	246	430	690	1100	1870	4288
MVF90-20	0	14	36	79	176	307	493	786	1336	3063
MVF90-30	0	9	24	52	117	205	329	524	890	2042
MVF90-40	0	7	18	39	88	154	246	393	668	1531



Vacuum flow at different vacuum levels (L/Min)

Model	Vacuum levels (-kPa)									
	0	10	20	30	40	50	60	70	80	90
MVF90-10	355	205	133	65	46	36	24	14	6	0
MVF90-20	513	287	186	91	64	50	34	20	8	0
MVF90-30	690	431	279	137	97	76	50	29	13	0
MVF90-40	994	574	372	182	129	101	67	39	17	0



MVF90D Series

SPECIFICATION

Max.Vacuum level	: -92Kpa(-690mmHg)
Supply Air pressure	: 4 - 6bar, Max. 6.5bar
Supply Air type	: Dry Compressed Air
Working temperature range	: -20℃ to +80℃
Noise level	: 50-60dBA
Material	: AL, ABS, Glass Filled Nylon
Sealing Material	: NBR(standard)
	Option: silicon, viton

CHARACTERISTIC

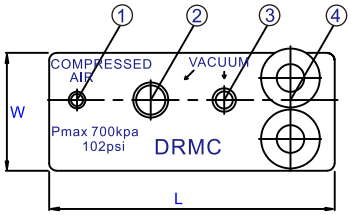
Model	Max.vacuum -Kpa(-mmHg)	Max.vacuum flow (L/min)	Air consumption (L/min)	Capacity equivalent to electricity motor pump size
MVF90D-20	92(690)	568	150 - 188	0.5 kw
MVF90D-30	92(690)	852	225 - 282	0.75 kw
MVF90D-40	92(690)	1100	300 - 376	1 kw
MVF90D-50	92(690)	1349	375 - 470	1.25 kw
MVF90D-60	92(690)	1527	450 - 564	1.5 kw

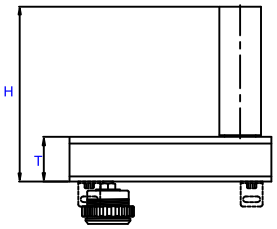
DIMENSIONAL INFORMATION

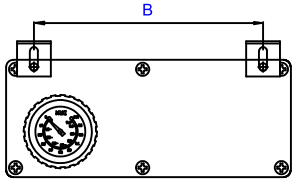
Model	Size(mm)				
	L	W	T	H	B
MVF90D-20	194	80	43	166	159
MVF90D-30	194	80	43	166	159
MVF90D-40	194	80	64	187	159
MVF90D-50	194	80	64	187	159
MVF90D-60	194	80	64	187	159

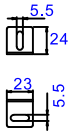
Accessories
- Vacuum Gauge 1pcs
- Silencer 2pcs
- Bracket 2pcs
- Bolt 2pcs

① Compressed Air G1/4"
② Vacuum G3/4"
③ Vacuum G3/8"
④ Exhaust G3/4"





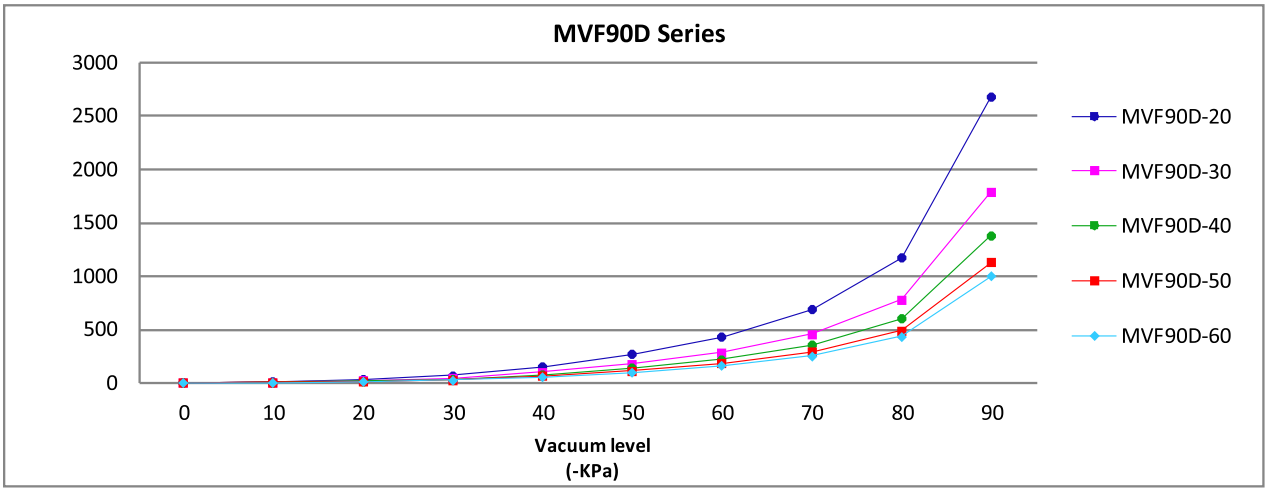




MVF90D Series flow

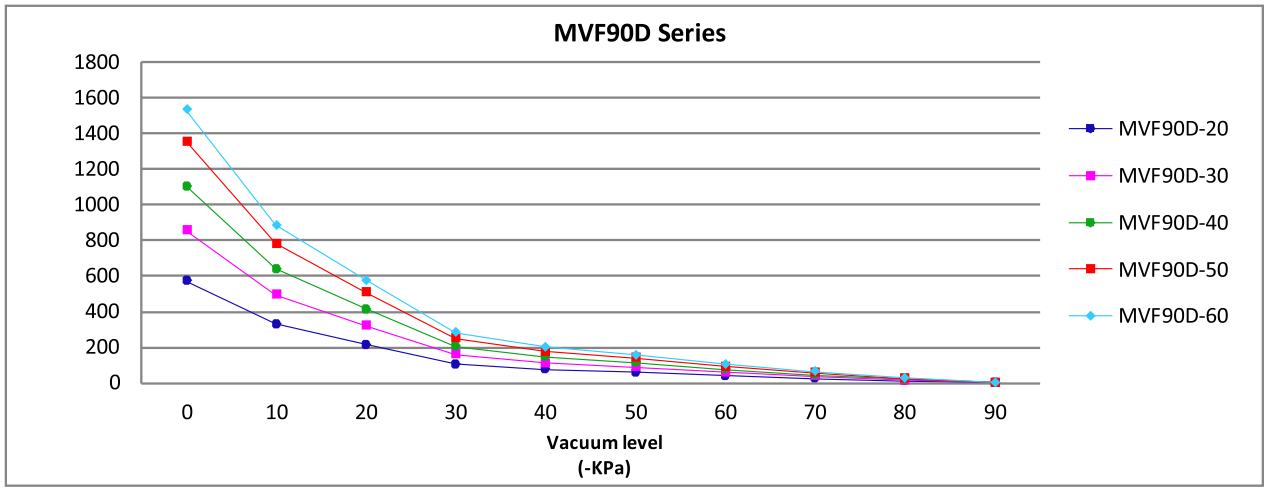
Time in seconds to evacuate to vacuum level (Sec/1000L)

Model	Vacuum level (-kPa)									
	0	10	20	30	40	50	60	70	80	90
MVF90D-20	0	12	31	69	154	269	431	688	1169	2680
MVF90D-30	0	8	21	46	103	179	288	458	779	1787
MVF90D-40	0	6	16	35	79	139	223	355	603	1383
MVF90D-50	0	5	13	29	65	113	182	289	492	1128
MVF90D-60	0	4	12	26	57	100	160	256	435	997



Vacuum flow at different Vacuum levels (L/Min)

Model	Vacuum level (-kPa)									
	0	10	20	30	40	50	60	70	80	90
MVF90D-20	568	328	213	104	74	58	38	22	10	0
MVF90D-30	852	492	319	156	110	86	58	34	14	0
MVF90D-40	1101	636	412	202	143	112	74	43	19	0
MVF90D-50	1349	779	505	247	175	137	91	53	23	0
MVF90D-60	1527	882	572	280	198	155	103	60	26	0



MVL Series

SPECIFICATION

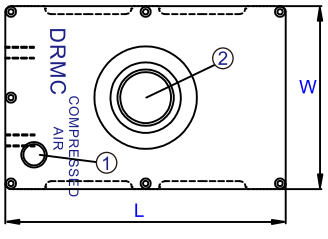
Max.Vacuum level	: -92Kpa(-690mmHg)
Supply Air pressure	: 4 - 6bar, Max. 6.5bar
Supply Air type	: Dry Compressed Air
Working temperature range	: -20℃ to +80℃
Noise level	: 50-60dBA
Material	: AL, ABS, Glass Filled Nylon
Sealing Material	: NBR(standard)
	Option: silicon, viton

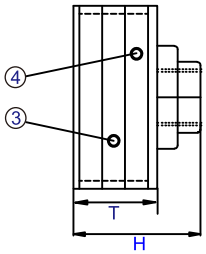
CHARACTERISTIC

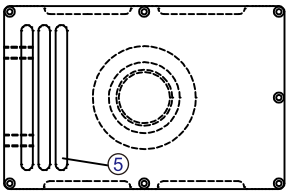
Model	Max.vacuum -Kpa(-mmHg)	Max.vacuum flow (L/min)	Air consumption (L/min)	Capacity equivalent to electricity motor pump size
MVL-200	92(690)	1988	600 - 752	2 kw
MVL-400	92(690)	3976	1200 - 1504	4 kw
MVL-600	92(690)	5964	1800 - 2256	6 kw
MVL-800	92(690)	7952	2400 - 3008	8 kw
MVL-1200	92(690)	11928	3600 - 4512	12 kw

DIMENSIONAL INFORMATION

Model	Size(mm)				Compressed Air port	Vacuum port
	L	W	T	H		
MVL-200	245	160	68	106	G 1/2"	G 1.5"
MVL-400	245	160	93	131	G 1/2"	G 1.5"
MVL-600	245	160	108	146	G 1/2"	G 1.5"
MVL-800	295	240	98	148	G 3/4"	G 2"
MVL-1200	295	245	113	163	G 3/4"	G 2"







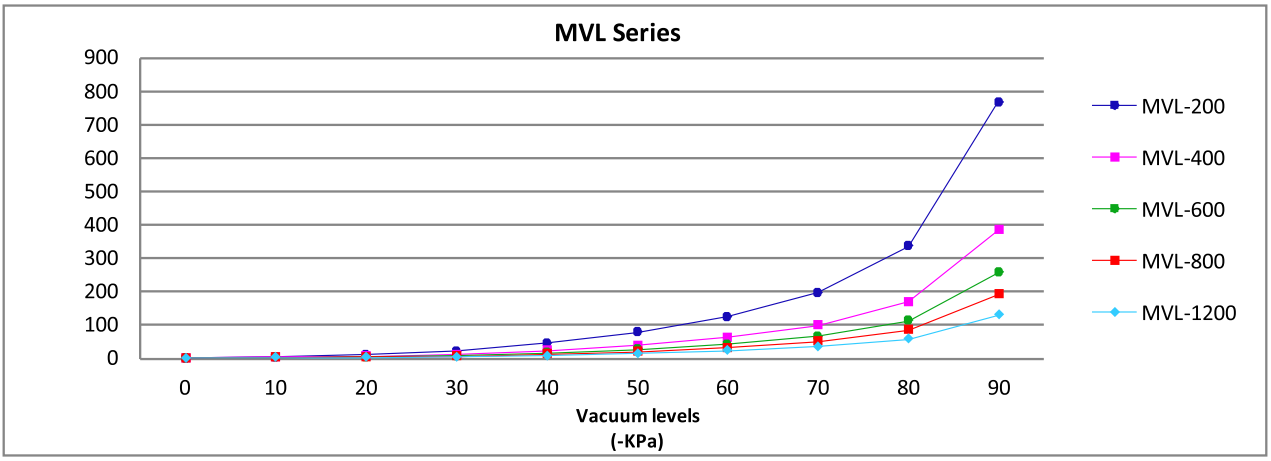
Accessories
- Vacuum Gauge 1pcs
- Pressure Gauge 1pcs

① Compressed Air
② Vacuum
③ Compressed air Gauge G1/8"
④ Vacuum Gauge G1/8"
⑤ Exhaust

MVL Series flow

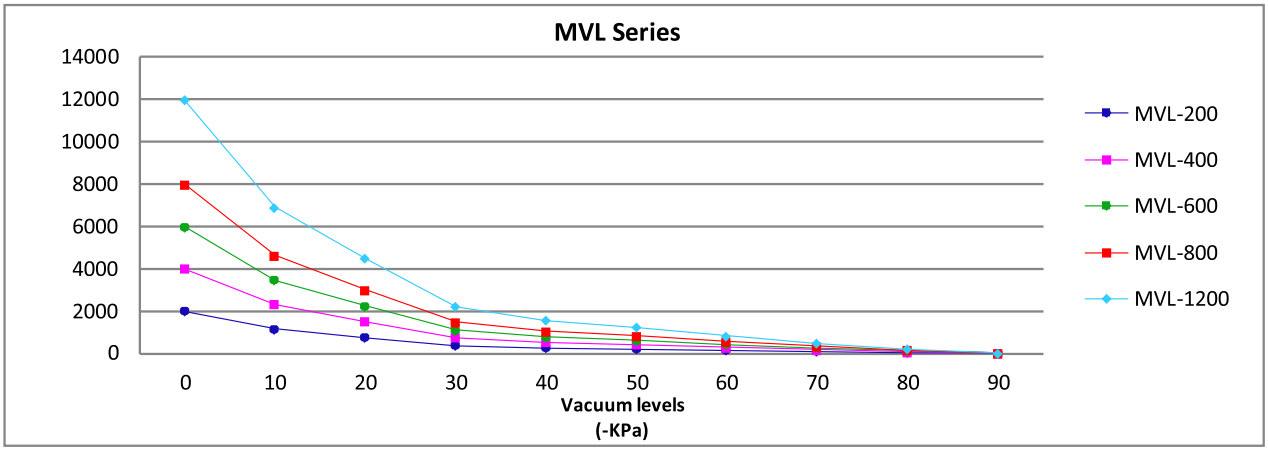
Time in seconds to evacuate to vacuum level (Sec/1000L)

Model	Vacuum level (-kPa)									
	0	10	20	30	40	50	60	70	80	90
MVL-200	0	3	9	20	44	77	123	196	334	766
MVL-400	0	2	4	10	22	38	62	98	167	383
MVL-600	0	1	3	7	15	26	41	65	111	255
MVL-800	0	1	2	5	11	19	31	49	83	191
MVL-1200	0	1	1	3	7	13	21	33	56	128



Vacuum flow at different Vacuum levels (L/Min)

Model	Vacuum level -kPa									
	0	10	20	30	40	50	60	70	80	90
MVL-200	1988	1148	745	364	258	202	134	78	34	0
MVL-400	3976	2296	1490	728	515	403	269	157	67	0
MVL-600	5964	3444	2234	1092	773	605	403	235	101	0
MVL-800	7952	4592	2979	1456	1030	806	538	314	134	0
MVL-1200	11928	6888	4469	2184	1546	1210	806	470	202	0



TMVF90 Series

SPECIFICATION

Max.Vacuum level	: -92Kpa(-690mmHg)
Supply Air pressure	: 4 - 6bar, Max. 6.5bar
Supply Air type	: Dry Compressed Air
Working temperature range	: -20℃ to +80℃
Noise level	: 50-60dBA
Material	: AL, Teflon
Sealing Material	: Viton

Remark

Althoough being operated at 150℃, it can de deformed when being at long time of working hours.

CHARACTERISTIC

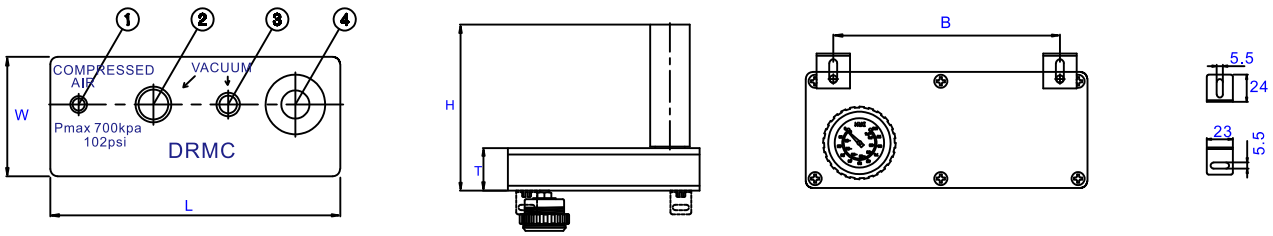
Model	Max.vacuum -Kpa(-mmHg)	Max.vacuum flow (L/min)	Air consumption (L/min)	Capacity equivalent to electricity motor pump size
TMVF90-10	92(690)	355	75 - 94	0.25 kw
TMVF90-20	92(690)	513	150 - 188	0.5 kw
TMVF90-30	92(690)	690	225 - 282	0.75 kw
TMVF90-40	92(690)	994	300 - 376	1 kw

DIMENSIONAL INFORMATION

Model	Size(mm)				
	L	W	T	H	B
TMVF90-10	194	80	43	166	159
TMVF90-20	194	80	43	166	159
TMVF90-30	194	80	43	166	159
TMVF90-40	194	80	64	187	159

Accessories
- Vacuum Gauge 1pcs
- Silencer 1pcs
- Bracket 2pcs
- Bolt 2pcs

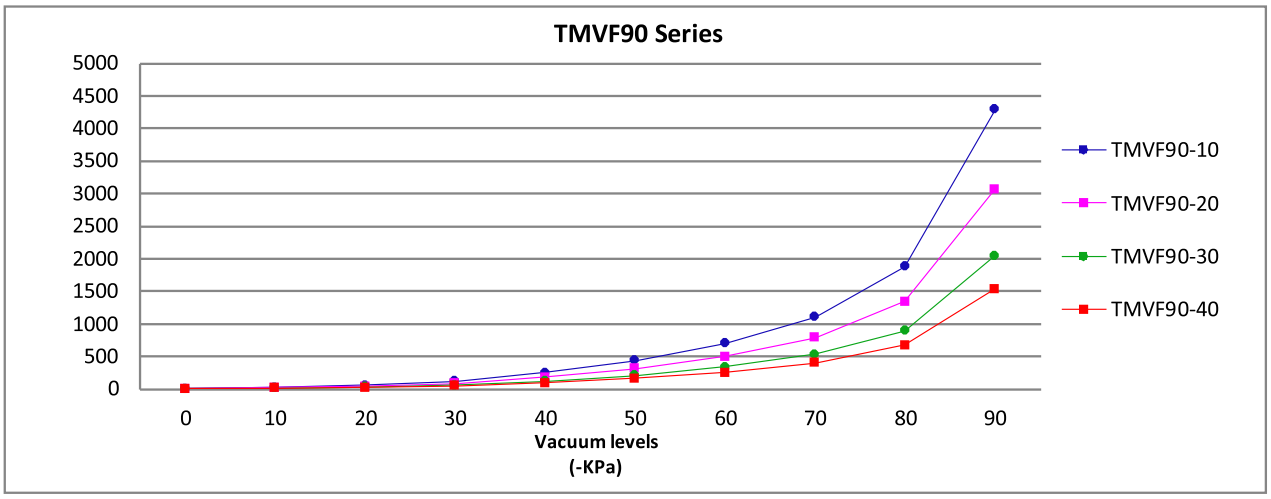
① Compressed Air G1/4"
② Vacuum G3/4"
③ Vacuum G3/8"
④ Exhaust G3/4"



TMVF90 Series flow

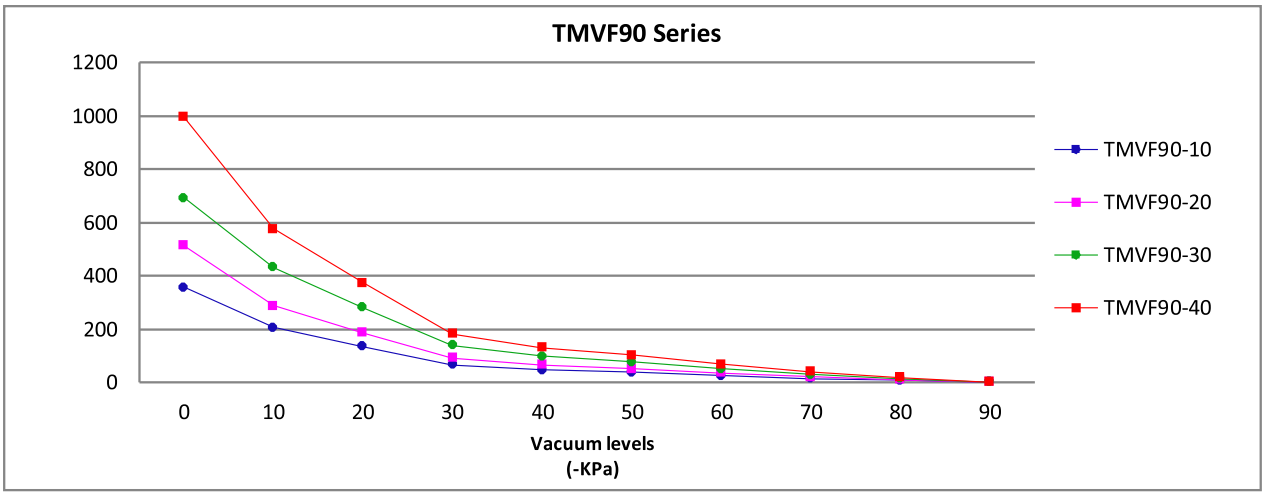
Time in seconds to evacuate to vacuum level (Sec/1000L)

Model	Vacuum level (-kPa)									
	0	10	20	30	40	50	60	70	80	90
TMVF90-10	0	19	50	110	246	430	690	1100	1870	4288
TMVF90-20	0	14	36	79	176	307	493	786	1336	3063
TMVF90-30	0	9	24	52	117	205	329	524	890	2042
TMVF90-40	0	7	18	39	88	154	246	393	668	1531



Vacuum flow at different Vacuum levels

Model	Vacuum level (-kPa)									
	0	10	20	30	40	50	60	70	80	90
TMVF90-10	355	205	133	65	46	36	24	14	6	0
TMVF90-20	513	287	186	91	64	50	34	20	8	0
TMVF90-30	690	431	279	137	97	76	50	29	13	0
TMVF90-40	994	574	372	182	129	101	67	39	17	0



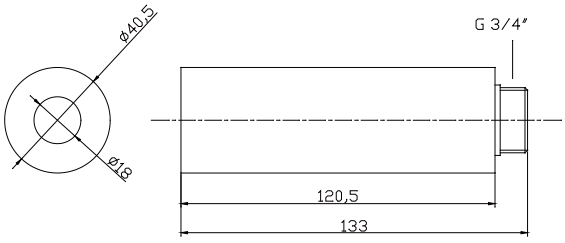
Vacuum Silencer

These silencers which are fitted to many of the vacuum generators as standard can be ordered separately as replacements. They significantly reduce noise levels on all exhaust applications.

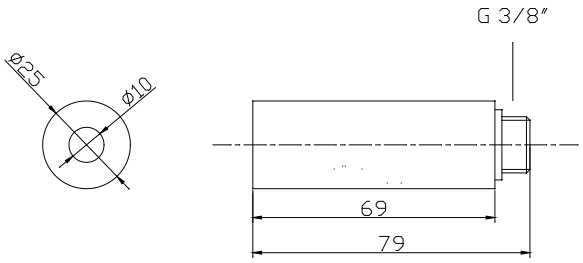
CHARACTERISTIC

Model	Spec	Material	Working temperature
SIS-001	G 3/4"	ABS、HDPE	-20℃ to 100℃
SIS-002	G 3/8"	ABS、HDPE	-20℃ to 100℃

DIMENSION



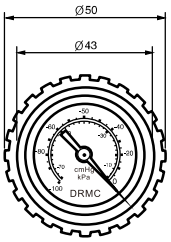
SIS-001



SIS-002

VACUUM GAUGE

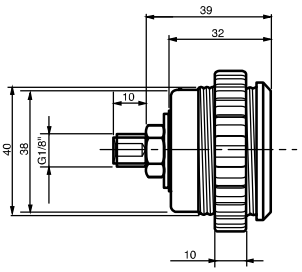
Vacuum level : 0 to -100Kpa (0 to -76cmHg)
Accuracy : ±1.6% Full scale
Material : Brass, ABS, PMMA
Weight : 60g



DG-40

PRESSURE GAUGE

Pressure level : 0 to 10bar (0 to 150psi)
Accuracy : ±1.6% Full scale
Material : Brass, ABS, PMMA
Weight : 60g



DG-40A

Vacuum Filter

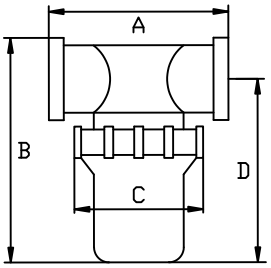
Pressure range : -100 to 0 Kpa
Removal efficiency : 40 - 120μm
Material : Nylon, PPA Nylon, PE
Working temperature : -20℃ to 80℃

To filter dust and other small particles from the vacuum flow. Reduces the risk of operation breakdown or stoppage in the generator. Replaceable filter element.

CHARACTERISTIC

Model	Thread size	A	B	C
FLTP - 3/8	NPT3/8"	92	136	122
FLTP - 1/2	NPT1/2"	92	136	122
FLTP - 3/4	NPT3/4"	92	136	122
FLTP - 10	NPT1"	117	161	142
FLTP - 15	NPT1.5"	131	206	176

DIMENSION



FLTP

Plastic Silencer

PSU

MODEL	Thread Size
PSU-M5	M5
PSU-01	1/8"
PSU-02	1/4"
PSU-03	3/8"
PSU-04	1/2"

PLUG

Thread (R)	Thread (G)
PLUG-M5	PLUG-G1/8"
PLUG-R1/8"	PLUG-G1/4"
PLUG-R1/4"	PLUG-G3/8"
PLUG-R3/8"	PLUG-G1/2"
PLUG-R1/2"	PLUG-G3/4"
PLUG-R3/4"	PLUG-G1"
PLUG-R1"	

Brass Silencer

BSL

MODEL	Thread Size
BSL-M5	M5
BSL-01	1/8"
BSL-02	1/4"
BSL-03	3/8"
BSL-04	1/2"

BSM

MODEL	Thread Size
BSM-M5	M5
BSM-01	1/8"
BSM-02	1/4"
BSM-03	3/8"
BSM-04	1/2"