

Shimadzu Mag-Lev—LM/LMC Series



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Shimadzu's unique line of turbo molecular pumps combines the advantages of the high pumping speed associated with the turbo pump and the high foreline pressure acceptance of the drag pump. This unique blending of technologies results in a pump with much higher compression ratios than conventional turbo pumps, up to 10^{11} for N_2 ; and for some versions extends the fore-vacuum tolerance up to 30 Torr. Their complete lack of hydrocarbon vapor, their reliability, their ability to accept particulate-laden gases, and their corrosion resistance are necessary requirements in the semiconductor process industry.

Features:

- › Lubricant-free, magnetically levitated rotor bearings make them completely oil-free when backed by a dry pump
- › High foreline pressure tolerance gives them the ability to work with lower cost dry mechanical pumps
- › Low pump profile designs for easy mounting
- › High compression ratios for all gases
- › Interactive rotor balancing ensures maximum uptime
- › Self-tuning cables and frequency converters for ease of use
- › Use extensively in applications requiring oil-free, ultra-clean, and ultrahigh vacuums (corrosion-resistant version can also be used in corrosive gas production environments)
- › Chemical series available for corrosive applications (LMC models)

Applications:

- › Mass spectrometry
- › SIMS
- › Electron microscopy
- › Surface science and analysis
- › Special ultra-clean leak detection
- › Particle accelerators
- › Space simulation experiments
- › Oxygen plasma etching processes
- › Implant tools for semiconductor processes

Remanufactured Vacuum Pumps



View a list of remanufactured vacuum pumps available from The Kurt J. Lesker Company's Remanufactured Vacuum Pump Division.

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Vacuum Pump Repair & Services



Our factory-trained vacuum pump service technicians are equipped to handle the maintenance and repair of virtually any brand and type of vacuum pump.

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Specifications Table

Pump Model	Pumping Speed L/sec (cfm)	Compression Ratios	Ult. Pressure Torr (mBar)	Inlet Flange	Foreline Flange	Max. Foreline Press. Torr (mbar)	Backing Pump Min. Speed - CFM (m3/hr)	Orientation	Cooling Method	Weight lbs (kg)
203LM/LMC	190	$N_2: 1.0 \times 10^9$ $He: 6.0 \times 10^4$ $H_2: 4.0 \times 10^3$	1×10^{-10} (1.3×10^{-10})	ISO100-K or 6" CF (DN100CF)	KF25	4 (5.3)	7 (12)	Any (360°)	Water	19.8 (9)
303LM/LMC	320	$N_2: 1.0 \times 10^9$ $He: 8.0 \times 10^4$ $H_2: 1.0 \times 10^4$	1×10^{-10} (1.3×10^{-10})	ISO100-K or 6" CF (DN100CF)	KF25	4 (5.3)	7 (12)	Any (360°)	Water	30.8 (14)
403LM/LMC	420	$N_2: 1.0 \times 10^9$ $He: 8.0 \times 10^4$ $H_2: 1.0 \times 10^4$	1×10^{-10} (1.3×10^{-10})	ISO160-K or 8" CF (DN160CF)	KF25	4 (5.3)	7 (12)	Any (360°)	Water	30.8 (14)
803LM/LMC	800	$N_2: 1.0 \times 10^9$ $He: 8.0 \times 10^4$ $H_2: 4.0 \times 10^3$	1×10^{-11} (1.3×10^{-11})	ISO160-K or 8" CF (DN160CF)	KF40	3 (4)	17.6 (29.9)	Any (360°)	Water	68.2 (31)

Pump Model	Inlet Flange	Manual	PartNo	Price	Add To Cart
1003LM/LMC 0080	N ₂ : 1.0 x 10 ⁹ He: 8.0 x 10 ⁴ H ₂ : 4.0 x 10 ³	ISO200-F or 10" CF (DN200CF) KF40	5 (6.6)	17.6 (29.9)	Any (360°) Water 70.4 (32)
2003LM/LMC 2000	N ₂ : 1.0 x 10 ⁹ He: 7.0 x 10 ⁶ H ₂ : 1.4 x 10 ⁴	ISO250-F or 12" CF (DN250CF) KF40	2 (2.6)	17.6 (29.9)	Any (360°) Water 121 (55)
3203LM/LMC 3200	N ₂ : 1.0 x 10 ⁹ He: 3.0 x 10 ⁵ H ₂ : 1.0 x 10 ⁴	ISO320-F KF40	2 (2.6)	53 (90.1)	Any (360°) Water 155 (70)

Charts

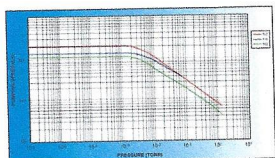
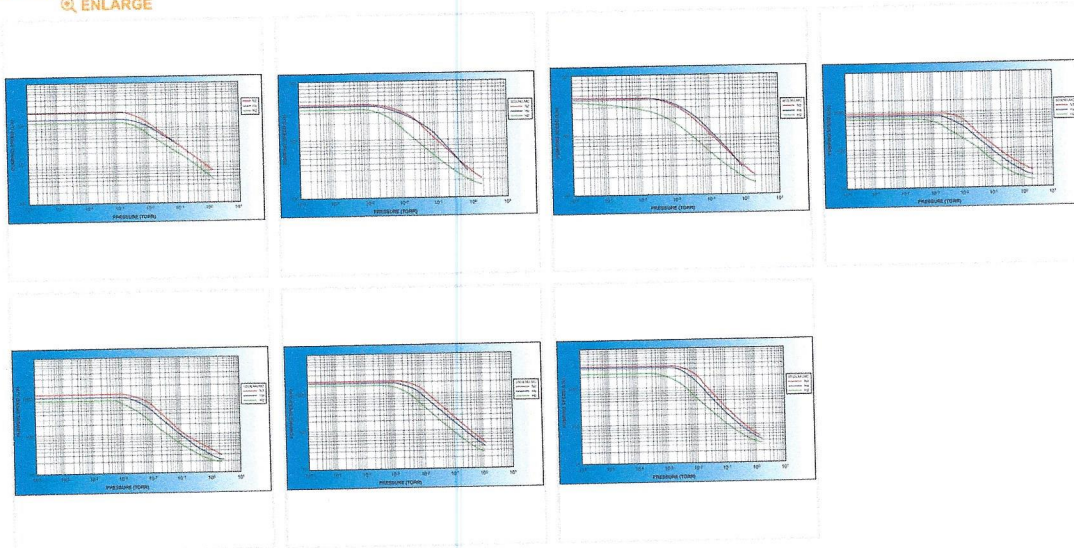


Chart: Shimadzu 203LM

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Ordering Table

Pump Model	Inlet Flange	Manual	PartNo	Price	Add To Cart
TMP203LM	DN100CF (6.00" OD)		SM8144541	\$12,333.00	
TMP203LM	ISO100-K		SM8144543	\$12,333.00	
TMP203LMC	DN100CF (6.00" OD)		SM8144551	\$15,166.00	
TMP203LMC	ISO100-K		SM8144553	\$15,166.00	
TMP303LM	DN100CF (6.00" OD)		SM8143541	\$14,500.00	
TMP303LM	ISO100-K		SM8143543	\$14,500.00	
TMP303LMC	DN100CF (6.00" OD)		SM8143551	\$17,167.00	
TMP303LMC	ISO100-K		SM8143553	\$17,167.00	
TMP403LM	DN160CF (8.00" OD)		SM8145541	\$15,500.00	
TMP403LM	ISO160-K		SM8145543	\$15,500.00	
TMP403LMC	DN160CF (8.00" OD)		SM8145551	\$18,166.00	
TMP403LMC	ISO160-K		SM8145553	\$18,167.00	
TMP803LM	DN160CF (8.00" OD)		SM1828241	\$17,166.00	
TMP803LM	ISO160-K		SM1828245	\$17,166.00	

Pump Model	Description	Inlet Flange	For Pump Model(s)	PartNo	PartNo	Price	Price	Add To Cart
TMP803LMC		DN160CF (8.00" OD)		SM1828251		\$19,833.00		
TMP803LMC		ISO160-K		SM1828255		\$19,833.00		
TMP1003LM		DN200CF (10.00" OD)		SM8141041		\$18,166.00		
TMP1003LM		ISO200-F		SM8141045		\$18,165.00		
TMP1003LMC		DN200CF (10.00" OD)		SM8141051		\$20,833.00		
TMP1003LMC		ISO200-F		SM8141055		\$20,833.00		
TMP3203LM		ISO320-F		SM7843043		\$33,833.00		
TMP3203LMC		ISO320-F		SM7843053		\$36,500.00		
Pump Model		Inlet Flange	Manual	PartNo		Price		Add To Cart

Can't Find The Pump You're Looking For?



Let our new **Pump Selection Guide** help! With over 450 vacuum pumps to choose from, the KJLC® **Vacuum Pump Selection Guide** is designed to help you find one that meets your vacuum requirements. You can narrow down our pump offering by simply choosing from a list of different search criteria. For more information please e-mail salesus@lesker.com.

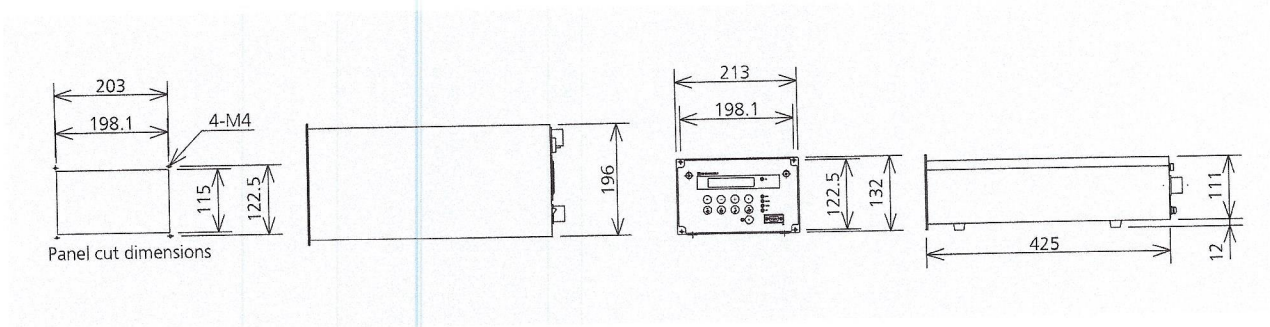
Accessories Table

Description	For Pump Model(s)	PartNo	Price	Add To Cart
Baking Heater (115V/100W)	LM/LMC 203	SM0014101	P.O.R.	
Baking Heater (115V/100W)	LM/LMC 303-403	SM0014111	P.O.R.	
Baking Heater (208V/200W)	LM/LMC 803-1003	SM7456918	P.O.R.	
Baking Heater (208V/600W)	LM/LMC 2003-3203	SM7456915	P.O.R.	
Interconnect Cable for Power Supply to Pump (10 m)	All LM/LMC Series Pumps	SM1620010	\$1,833.00	
Interconnect Cable for Power Supply to Pump (15 m)	All LM/LMC Series Pumps	SM1620015	\$2,300.00	
Interconnect Cable for Power Supply to Pump (3 m)	All LM/LMC Series Pumps	SM1620003	\$1,083.00	
Interconnect Cable for Power Supply to Pump (5 m)	All LM/LMC Series Pumps	SM1620005	\$1,350.00	
Motor Power Cable (10 m)	LM/LMC 803-3203	SM7640910	\$1,233.00	
Motor Power Cable (15 m)	LM/LMC 803-3203	SM7640915	\$805.00	
Motor Power Cable (20 m)	LM/LMC 803-3203	SM7640920	\$1,233.00	
Motor Power Cable (3 m)	LM/LMC 803-3203	SM7640903	\$250.00	
Motor Power Cable (5 m)	LM/LMC 803-3203	SM7640905	\$300.00	
Power Supply for EI-R04M (200-240 VAC, 1-Øm 50/60 Hz)	TMP 803, 1003, 2003, 3203	SM7898202	\$5,583.00	
Power Supply for EI-S04M (110-120 VAC, 1-Øm 50/60 Hz)	TMP 203, 303, 403	SM1804401	\$5,583.00	
Power Supply for EI-S04M (200-240 VAC, 1-Øm 50/60 Hz)	TMP 203, 303, 403	SM1804402	P.O.R.	
Description	For Pump Model(s)	PartNo	Price	Add To Cart

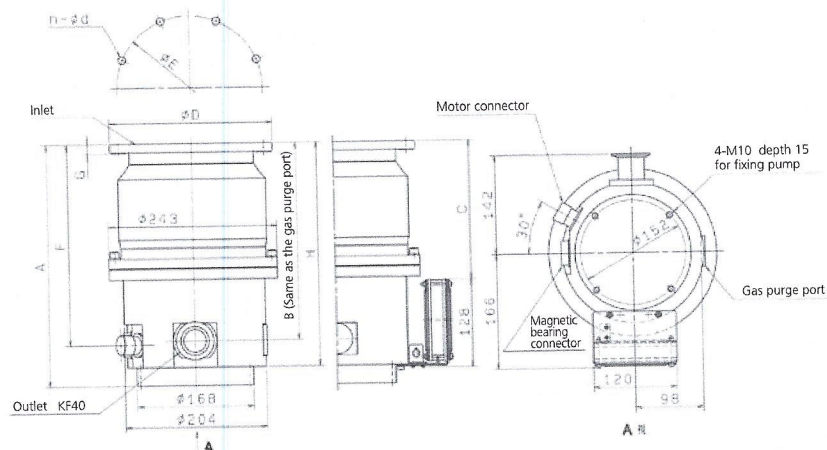
Kurt J. Lesker
Company
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	TMP-403LM	TMP-403LMC	TMP-803LM(0)	TMP-803LMC(0)	TMP-1003LM	TMP-1003LMC
	None	Coated	None	Coated	None	Coated
	EI-S04M		EI-R04M		EI-R04M	
	VG150 / ICF203 / ISO160B / ISO160C		VG150 / ICF203 / ISO160B		VG200 / ICF253 / ISO200B	
	KF25		KF40		KF40	
	Water cooled		Water cooled		Water cooled	
	10 ⁻⁸ Pa order	10 ⁻⁷ Pa order	10 ⁻⁹ Pa order	10 ⁻⁸ Pa order	10 ⁻⁹ Pa order	10 ⁻⁸ Pa order
	200 Pa		400 Pa		400 Pa	
	400 Pa		665 Pa		665 Pa	
	420 L/s		800 L/s		1080 L/s	
	360 L/s		800 L/s		930 L/s	
	340 L/s		700 L/s		790 L/s	
	1×10 ⁹		1×10 ⁹ min.		1×10 ⁹	
	8×10 ⁴		8×10 ⁴		8×10 ⁴	
	1×10 ⁴		4×10 ³		4×10 ³	
	45000 rpm		35000 rpm		35000rpm	
	Within 5 minutes		Within 5 minutes		Within 5 minutes	
	Arbitrary		Arbitrary		Arbitrary	
	120 °C or lower		120 °C or lower		120 °C or lower	
	Less than 0.012 μm (single amplitude)		Less than 0.01 μm (single amplitude)		Less than 0.01 μm (single amplitude)	
	20 to 30 mL/min		20 to 30 mL/min		20 to 30 mL/min	
	200 L/min or higher		500 L/min or higher		500 L/min or higher	
	Operation: 0 °C to 40 °C / Storage: -25 °C to 70 °C		Operation: 0 °C to 40 °C / Storage: -25 °C to 70 °C		Operation: 0 °C to 40 °C / Storage: -25 °C to 70 °C	
	3 mT		3 mT		3 mT	
	15 mT		15 mT		15 mT	
	1 to 3 L/min		1 to 3 L/min		1 to 3 L/min	
	0.2 to 0.5 MPa		0.2 to 0.5 MPa		0.2 to 0.5 MPa	
	5 to 30 °C		5 to 30 °C		5 to 30 °C	
	14 kg		33 kg		32 kg max.	

Dimensions of Power Supply



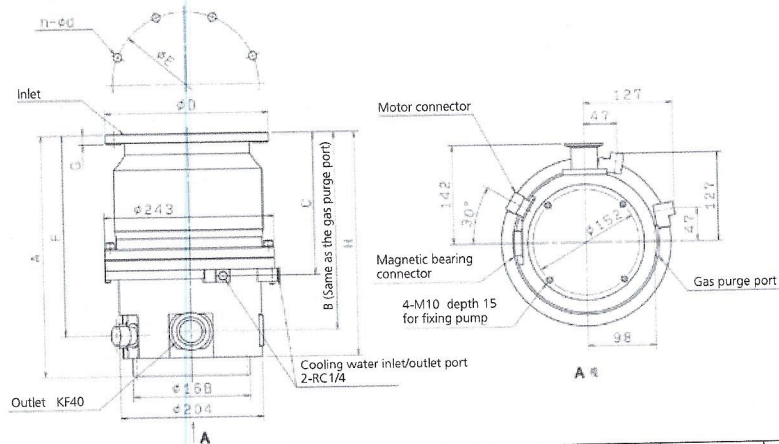
TMP-803M (0) and TMP-803MC (0)



Inlet flange	A	B	C	øD	øE	n-ød	F	G	H
ICF203	356	291	206	ø203	ø181	20-ø8.4	296	22	329
VG150	350	285	200	ø235	ø210	8-ø11	290	13.6	323
ISO160B	355	290	205	ø225	ø200	8-ø11	295	17.6	328

Unit: mm

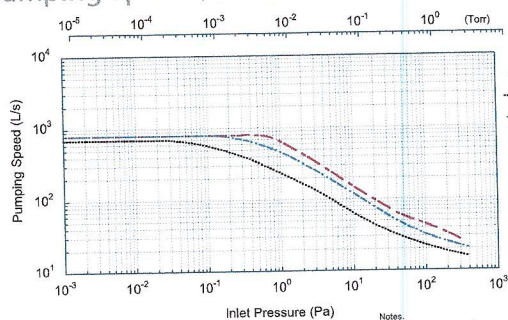
TMP-803LM (0) and TMP-803LMC (0)



Inlet flange	A	B	C	øD	øE	n-ød	F	G	H
ICF203	356	291	211	ø203	ø181	20-ø8.4	296	22	329
VG150	350	285	205	ø235	ø210	8-ø11	290	13.6	323
ISO160B	355	290	210	ø225	ø200	8-ø11	295	17.6	328

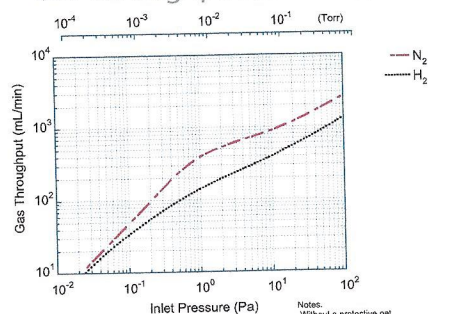
Unit: mm

Pumping Speed (TMP-803LM(0) / LMC(0))



Notes:
Without a protective net.
Backing Pump : 800L/min

Gas Throughput (TMP-803LM(0) / LMC(0))



Notes:
Without a protective net.
Backing Pump : 800L/min
mL/min : gas throughput in 20 °C, 1 atm