

SDE Series

01
FEATURE

Apply screw type rotor with higher performance against by-product.
High corrosion resistance from structural materials and temperature control.

02
FEATURE

Energy-saving by optimal parameters

03
FEATURE

Various lineups according to pumping speed.
Provide a wide range of process with a variety of settings.



Harsh Process Application Example

Metal-Etch

- ▶ Al-Etch
- ▶ W-Etch

PE-CVD

- ▶ SiN
- ▶ SiON

SA-CVD

- ▶ TEOS
- ▶ SiN
- ▶ SiO

Metal-CVD

- ▶ WSi
- ▶ HfO
- ▶ AlO

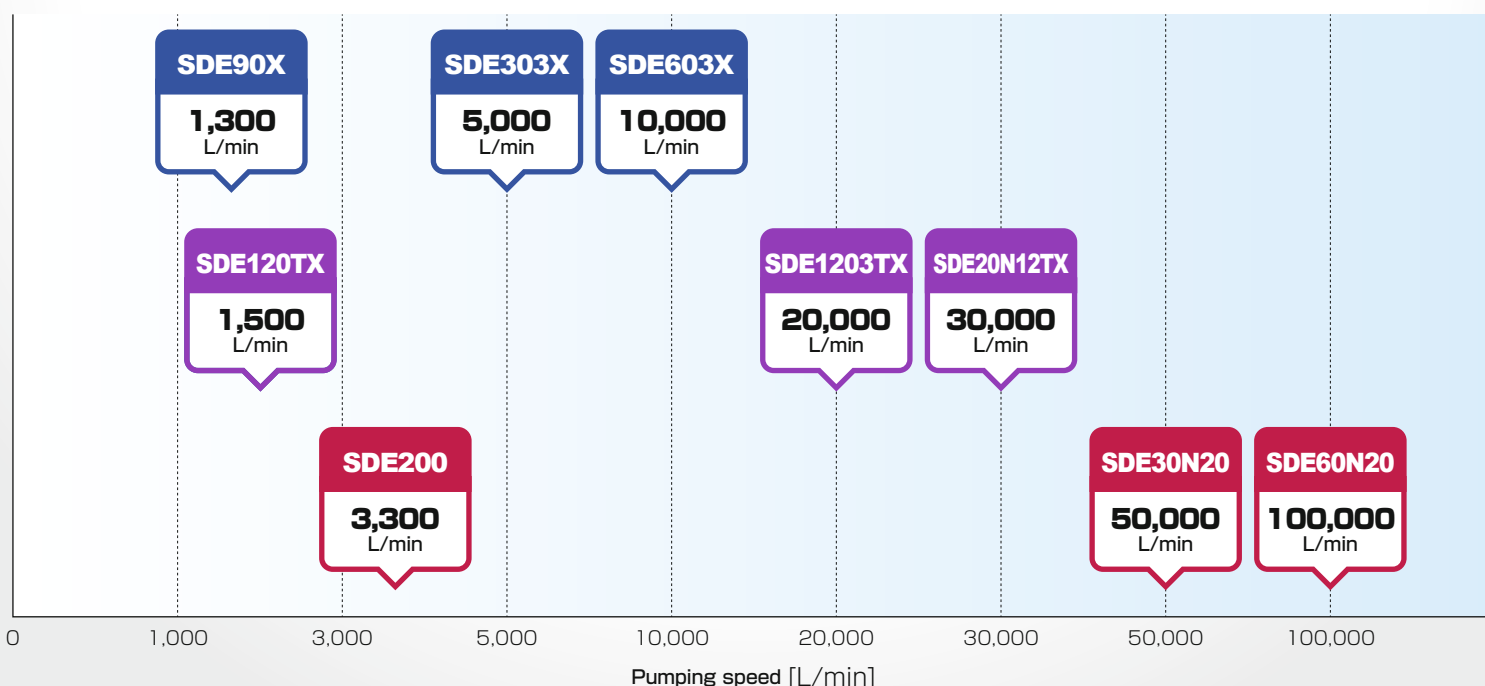
LP-CVD

- ▶ DSC-SiN
- ▶ HCD-SiN
- ▶ Poly

ALD

- ▶ ALD-TiN
- ▶ ALD-SiON
- ▶ ALD-SiO

Lineup by Pumping Speed



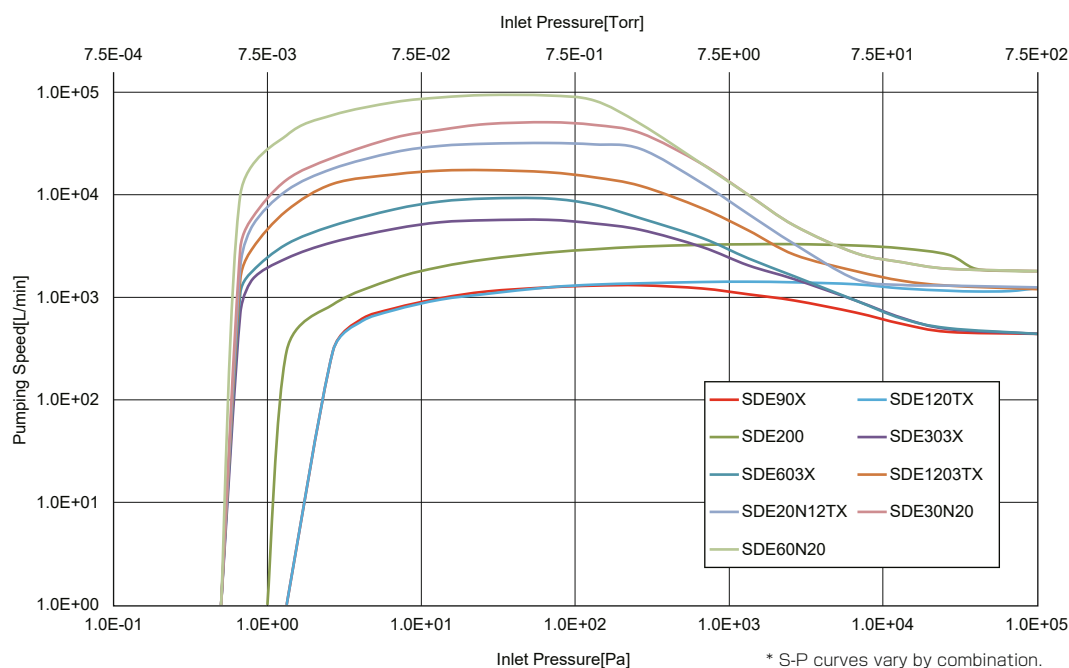
Major Products

Spec. / Products		SDE90X	SDE120TX	SDE200	SDE303X	SDE603X	SDE1203TX	SDE20N12TX	SDE30N20	SDE60N20
Max. pumping speed *1 [L/min]		1,300	1,500	3,300	5,000	10,000	20,000	30,000	50,000	100,000
Ultimate pressure [Pa] *1		1.3			0.5					
Supply voltage (50/60Hz)		3Phase AC200-220V, 380-480V								
Power consumption (kW) *2		1.3	2.8	2.7	1.5	1.6	3.2	3.3		3.7
Dimensions [mm] *3	L	690		930	900			1000	1000	1080
	W	370		400	400			450	450	515
	H	501		500	905			1000	950	950

*1) Without N₂ purge. *2) Approx. value at ultimate pressure. *3) Package size.

* Contact us about international standard compliance. Spec. & name of products are subject to change without prior notice. * Contact us about applicable gas.

S-P Curve



* S-P curves vary by combination.

Option



Dry Pump temperature selection for each process.



Select booster pump / pipe heating specification.



Supplemental choice of foreline & exhaust-line against by-product.



Operational status can be monitored by Centralized Monitoring System (CMS).



The total exhaust system of which equipped with abatement (heater, plasma, or combustion model).

Contact

Kashiyama Industries, Ltd.

🌐 <https://www.kashiyama.com/>

Head Office

Japan ☎ (+81)267-67-9009

FAX (+81)267-67-9015

✉ sales@kashiyama.co.jp

USA ☎ (+1)510-979-0070

✉ sales@kashiyama.com

Korea ☎ (+82)31-678-1500

China ☎ (+86)21-3895-4599

Taiwan ☎ (+886)4-2462-9599

SDL Series

01
FEATURE

Available to large size wafer & FPD

Large capacity available by combination.
Larger than 150kL/min also available on demand.

02
FEATURE

Shorter cycle-time

Large capacity around atm. pressure can achieve high speed pumping best for large L/L chamber.



Major products

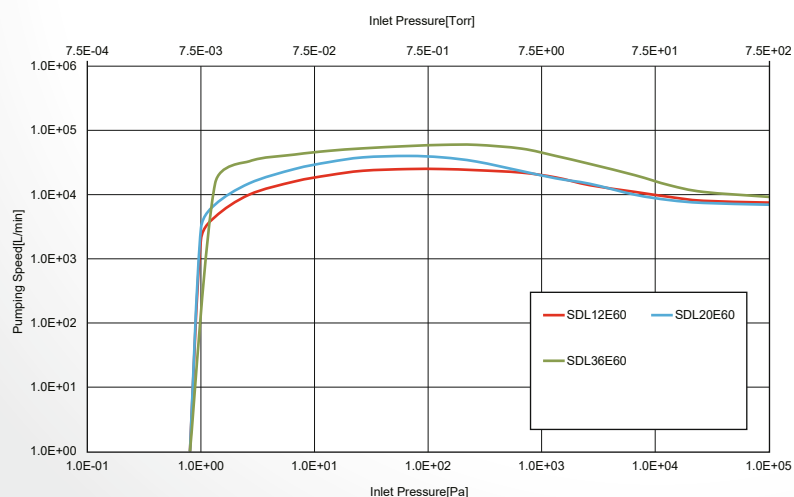
i Pumps for solvent evacuation are also lined-up

Spec. / Products	SDL12E50/60	SDL20E60	SDL36E60
Max. pumping speed [L/min] *1	25,000	40,000	60,000
Ultimate pressure [Pa] *1	0.8		
Supply voltage (50/60Hz)	3Phase AC200-220V, 380-480V		
Dimensions [mm] L×W×H	1020×520×1050	1370×850×1295	
Mass [kg]	645	800	920

*1) Without N₂ purge.

* Contact us about international standard compliance. Spec. & name of products are subject to change without prior notice.

S-P Curve



Contact

Kashiyama Industries, Ltd.

🌐 <https://www.kashiyama.com/>

Head Office

Japan ☎ (+81)267-67-9009
 📠 (+81)267-67-9015
 ✉ sales@kashiyama.co.jp

USA ☎ (+1)510-979-0070
 ✉ sales@kashiyama.com

Korea ☎ (+82)31-678-1500

China ☎ (+86)21-3895-4599

Taiwan ☎ (+886)4-2462-9599

MU-X Series

Power Consumption 0.35kW

Extremely Small Footprint

01
FEATURE

Roots dry pump achieved smallest energy consumption & footprint in the category.

02
FEATURE

Applicable for various tools.

03
FEATURE

Over 20,000 units shipment record and ultra long-term operation record.



Major Products

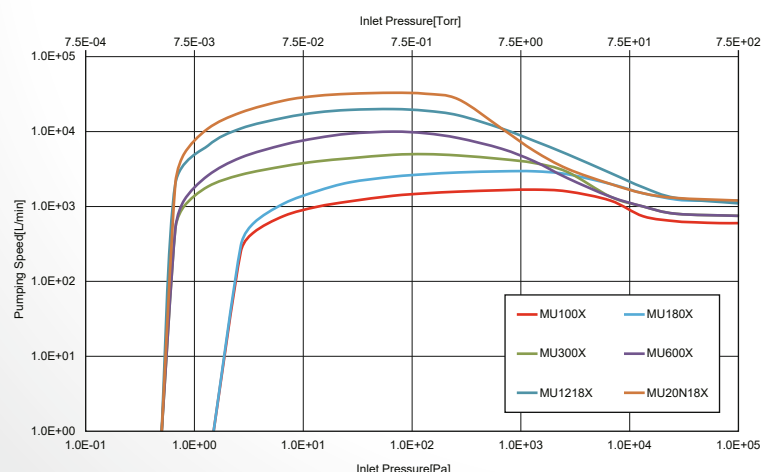
Spec. / Products	MU100X	MU180X	MU300X	MU600X	MU1218X	MU20N18X
Max. pumping speed [L/min] *1	1,660	3,000	5,000	10,000	20,000	30,000
Ultimate pressure [Pa] *1	1.5		0.5			
Supply voltage (50/60Hz)	3Phase AC200-220V *2					
Power consumption [kW] *3	0.35	0.5	0.55	0.6	0.9	1.0
Dimensions [mm] L×W×H *4	450×230×275	550×280×299	450×230×520	530×230×520	870×380×751	1000×450×950
Mass [kg]	60	95	100	120	270	410

*1) Without N₂ purge. *2) Contact us for other voltage options. *3) Approx. value at ultimate pressure. *4) Package size.

* Contact us about large capacity pumps.

* Contact us about international standard compliance. Spec. & name of products are subject to change without prior notice.

S-P Curve



Contact

Kashiyama Industries, Ltd.

🌐 <https://www.kashiyama.com/>

Head Office

Japan ☎ (+81)267-67-9009
 ☎ (+81)267-67-9015
 ✉ sales@kashiyama.co.jp

USA ☎ (+1)510-979-0070
 ✉ sales@kashiyama.com

Korea ☎ (+82)31-678-1500

China ☎ (+86)21-3895-4599

Taiwan ☎ (+886)4-2462-9599

- "More than" Low Power - MU-P/H Series

Kashiyama
Vacuum Solutions

High Temp., More Purge

Smallest Power Consumption for Process by roots

Process Durability

Power Consumption 0.7kW

01
FEATURE

Roots dry pump good in process durability and low power consumption.

02
FEATURE

Applicable to wide range of process from light to medium duty. *1

03
FEATURE

Hot N₂ purge available to enhance process durability. [MU-H Series]



Major Products

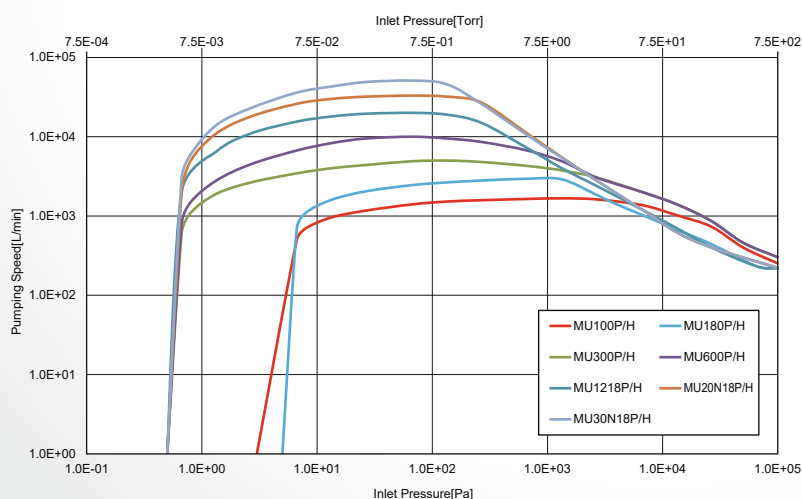
Spec. / Products	MU100P/H	MU180P/H	MU300P/H	MU600P/H	MU1218P/H	MU20N18P/H	MU30N18P/H
Max. pumping speed [L/min] *2	1,660	3,000	5,000	10,000	20,000	30,000	50,000
Ultimate pressure [Pa] *2	3.0	5.0	0.5				
Supply voltage (50/60Hz)	3Phase AC200-220V *3						
Power consumption [kW] *4	0.7	1.0	0.9	0.95	1.4	1.5	1.6
Dimensions [mm] L×W×H *5	630×350×360	715×360×408	630×350×520		870×380×751	1000×450×950	
Mass [kg]	70	130	110	130	280	410	410

*1) Contact us about application beforehand. *2) Without N₂ purge. *3) Contact us for other voltage options.

*4) Approx. value at ultimate pressure. +0.2kW with Hot N₂ purge. *5) Package size.

* Contact us about international standard compliance. Spec. & name of products are subject to change without prior notice. * Contact us about large capacity pumps.

S-P Curve



Contact

Kashiyama Industries, Ltd.

🌐 <https://www.kashiyama.com/>

Head Office

Japan ☎ (+81)267-67-9009
 ☎ (+81)267-67-9015
 ✉ sales@kashiyama.co.jp

USA ☎ (+1)510-979-0070
 ✉ sales@kashiyama.com

Korea ☎ (+82)31-678-1500

China ☎ (+86)21-3895-4599

Taiwan ☎ (+886)4-2462-9599

NeoDry Series

01

FEATURE

Maintenance cycle;
Once in 3 years!
(Approx. when Air/N₂ is used)



02

FEATURE

No Tip-seal replacement,
No Performance deterioration,
No Particles!

03

FEATURE

No Oil smoke,
No chamber contamination!

04

FEATURE

Hassle free to replace
rotary/scroll pumps!

05

FEATURE

Condensation-prone gas,
like water vapor or solvent, available!

06

FEATURE

By virtue of inverter,
frequency does not
affect to performance!

07

FEATURE

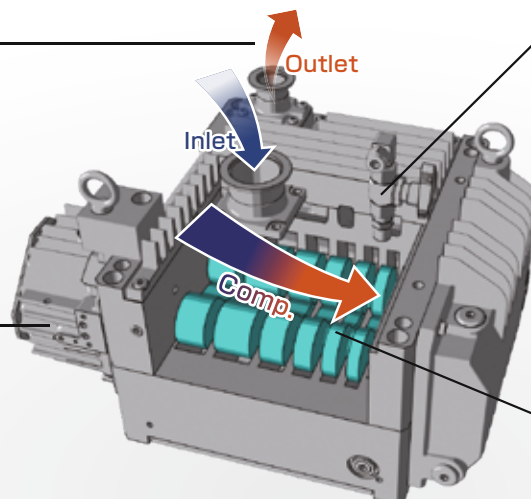
Low noise, low vibration!

Mechanism

Two multi-stage root-rotors rotate without contact,
compressing gas for exhaust.

No oil in pumping room: Dry pumping with
"Clean exhaust"

No cooling water:
"Air cooled"



"Gas ballast port" (optional) can
take gas to reduce partial pressure
of condensation-prone gas, and
prevent it from condensation inside.

Roots rotors rotate without contact
arising no particle.
**"No performance
deterioration and long life"**

Major Products

Spec. / Products	NeoDry7E	NeoDry15E	NeoDry30E	NeoDry36E	NeoDry60E	NeoDry300E
Max. pumping speed [L/min]	110	250	500	600	1,000	5,000
Ultimate pressure [Pa] (Without gas ballast)	5.0	1.0				0.3
Supply voltage (50/60Hz) *1	Single Phase, AC100 ~ 120V Single Phase, AC200 ~ 240V	Single Phase, AC100 ~ 120V Single Phase, AC200 ~ 240V 3Phase, AC200 ~ 240V			Single Phase, AC200 ~ 240V 3Phase, AC200 ~ 240V	
Gas ballast mechanism	Standard accessory	Optional (N ₂ available)				Standard accessory
Max allowable moisture [g/h] (With gas ballast)	120	250		350	600	
Noise [dB(A)] (Inlet closed)	≤56			≤58	≤60	≤72
Vibration [μmp-p] (Inlet closed)	≤8					
Mass [kg]	19	23	25	54	56	125
Inlet size	NW25		NW40			NW50
Outlet size	NW25					
Dimensions [mm] L×W×H *2	360×196×219	385×210×250	410×210×250	475×298×275	530×315×275	574×304×575

*1) Contact us for other voltage options. *2) Package size.

* Contact us about international standard compliance. Spec. & name of products are subject to change without prior notice. * Contact us about applicable gas.

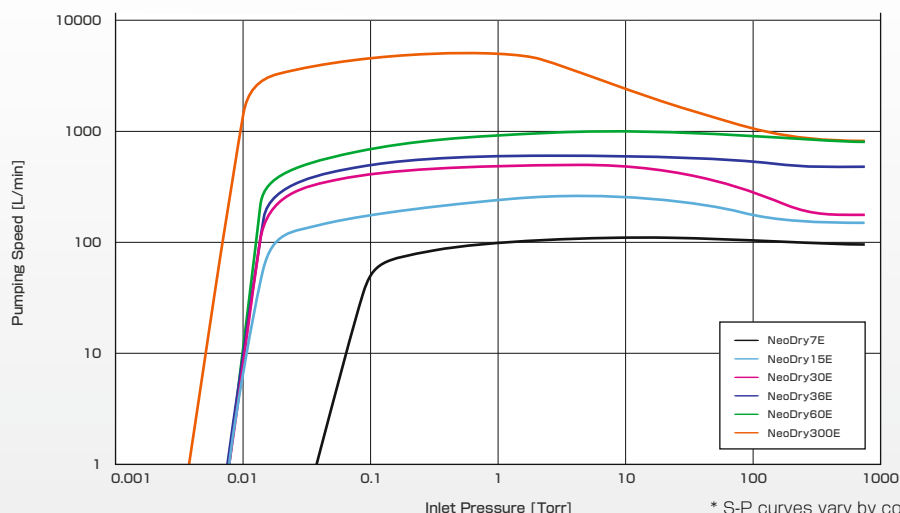
Application

- ▶ Vacuum Drying
- ▶ Vacuum Filling
- ▶ Accelerator
- ▶ Backing pump for Turbo
- ▶ Electrode Drying
- ▶ Suction Conveyance
- ▶ Mass Spectrograph
- ▶ Vapor Pumping
- ▶ Vacuum Degassing
- ▶ Vapor Deposition
- ▶ Centrifuge
- ▶ Solvent Pumping
- ▶ Vacuum Molding
- ▶ Gas Displacement
- ▶ Freeze Dryer
- ▶ He Pumping
- ▶ Vacuum Packing
- ▶ Electron Microscope
- ▶ Evaporator
- ▶ Plasma Cleaning etc.

Our Customers

- ▶ Hokkaido Univ.
- ▶ Nagoya Univ.
- ▶ J-PARC
- ▶ National Institute of Advanced Industrial Science and Technology
- ▶ Tohoku Univ.
- ▶ Kyoto Univ.
- ▶ SACL
- ▶ Institute for Molecular Science
- ▶ Gunma Univ.
- ▶ Osaka Univ.
- ▶ SPring-8
- ▶ National Institute for Materials Science
- ▶ Tsukuba Univ.
- ▶ Okayama Univ.
- ▶ Japan Atomic Energy Agency
- ▶ Nara Institute of Science and Technology
- ▶ Tokyo Univ.
- ▶ Hiroshima Univ.
- ▶ National Institute of Radiological Sciences
- ▶ High Energy Accelerator Research Organization etc.
- ▶ Shinshu Univ.
- ▶ Kyushu Univ.

S-P Curve



Contact

Kashiyama Industries, Ltd.

🌐 <https://www.kashiyama.com/>

Head Office

Japan ☎ (+81)267-67-9009
 ☎ (+81)267-67-9015
 ✉ sales@kashiyama.co.jp

USA ☎ (+1)510-979-0070
 ✉ sales@kashiyama.com

Korea ☎ (+82)31-678-1500

China ☎ (+86)21-3895-4599

Taiwan ☎ (+886)4-2462-9599