

# SEMICONDUCTOR & FPD/SOLAR & GENERAL INDUSTRY APPLICATIONS

XD/RD/HD/DD/LD/GHD Series

Leader Of Vacuum Technology







## Message

It is my pleasure to welcome you to LOT Vacuum.

I am very glad to have the opportunity to greet our global customers and shareholders. We are truly grateful for the confidence you have placed in our products and services.

Having purchased the dry vacuum pump division of Leybold Vacuum Germany in 2002, LOT Vacuum was founded with the vision of supplying our products to the global semiconductor and display industries.

We have accomplished this vision in our 1st business leap by introducing 5 new series of dry screw pumps, installing over 8,500 units, and establishing LOT Vacuum as the leading dry screw vacuum pump supplier to the semiconductor and display industries.

Our accumulated technology development and expertise made us to prepare our 2nd leap. Since 2013, LOT Vacuum has been aggressively moving forward into the global market. We are combining our development, manufacturing, sales and customer service experience with strategic global alliances to enter new geographic markets. Additionally, we are launching our next generation products into the display, semiconductor, industrial, and general vacuum markets.

Through the constant innovation, we are creating an excellent foundation to mature and become a truly global vacuum solution company. We are continuously and aggressively making investments to prepare for future markets and are developing flexibility to respond to the demands of a rapidly changing market.

By taking this 2nd leap, LOT Vacuum will supply critical value to our customers and higher returns to our shareholders.

Again, we are grateful to all those who support LOT Vacuum with their investment capital, counsel, and expertise. We ask your continual support as we develop the vacuum technology and products that bring the highest level of competitiveness into the global market.

To your success in 2018,

CEO, Hank Oh

반갑습니다. 환영합니다.

이 자리를 빌어 (주)엘오티베큠을 아껴주시는 고객 여러분께 인사를 드리게 되어 매우 기쁘게 생각합니다.

(주)엘오티베큠은 대한민국 반도체 및 Display산업의 기반기술 확보라는 기치 아래 설립하였으며, 150년의 역사 와 전통을 자랑하는 독일의 Leybold Vacuum사로부터 진공 Dry Pump 사업부문을 인수하면서 그동안 축적된 모든 기술과 노하우에 대한 사업제휴를 통하여 첫 걸음을 내디뎠습니다.

여러분께 생소하실지 모르지만 에디슨이 백열전구를 발명 할 때 진공펌프가 없었으면 불가능 했을 것입니다. 아주 오래 전부터 진공은 우리 생활주변에서 쉽게 접하고 만나실 수 있습니다.

(주)엘오티베큠은 특화된 기술력으로 많은 산업현장이나 작업공정에 필수적으로 사용되는 진공펌프를 개발, 제조, 판매, A/S까지 전 영역에 거쳐 서비스를 하고 있으며 세계 유수의 기업들과 경쟁하는 국내 유일의 진공기업 입니다

급변하는 시장의 요구에 대한 탄력적인 대응과 미래의 시장에 대한 한 발 앞선 대비를 위하여 지속적이고 공격 적인 투자가 진행되고 있으며 다양한 고객의 Needs를 반영한 당사의 차세대 제품이 시장에 출시되고 있습니다. 특히 기존의 매출의 상당부분을 차지하였던 반도체용 진공펌프 외에 Display, 태양광, LED 및 일반산업용 진공 펌프를 개발하여 매출을 실현하고 있으며, 제 2의 도약을 위해 끊임없는 전사혁신활동을 통해 한 단계 성숙할 수 있는 토대를 만들고 있습니다.

(주)엘오티베큠의 발전을 위하여 물심양면으로 성원해주시는 여러분께 다시한번 깊은 감사의 말씀을 드리며, 전 세계시장에서 최고의 경쟁력을 갖춘 진공기업으로 부상할 수 있도록 앞으로도 지속적인 관심과 격려 부탁드립 니다.

감사합니다.

(주)엘오티베큠 대표이사 오 흥 식 */////* 

#### Milestones



# Since establishment in 2002, LOT has been trying to be a leader in Vacuum industry worldwide developing new technologies and innovation.

11		
4 10		
2009.	Dec.	Awarded 10 Million Dollar Export Tower on Trade Day
	Apr.	Registered trademark (EcoSL, EcoScrew)
	Jul.	Designated as a business practicing yielding negotiation for winwin
		approach between labor and management
2010.	Jun	Designated as promising export small & medium business
	Dec.	Awarded excellence award for 10 year joint growth (Samsung Electronics)
2011.	Jun.	Enhanced infrastructure through the re-implementation of BPR/ERP
	Nov.	Designated as KB Hidden Star 500 by KB Bank
	Dec.	Re-certified as Venture Business (Korea Technology Finance Corporation (KIBO))
2012.	June.	Designated as Compromise Trade Company of National Defense Industry.
17-2-27-4-34	Aug.	Designated as Advanced Technology Product by The Ministry of Knowledge Economy.
	Sep.	Selected Excellent Enterprise for G-Labor and Management.
	Sep.	Relocated R&D Center to The Silicon Park. (Anseong → Pangyo)
	Oct.	Won Ministry of Knowledge and Economy Award at Korea Semiconductor Association.
		(R&D Center)
2042	1	Palacated and Puille Coming Control (Consoni de Pareston)
2013.		Relocated and Built a Service Center. (Gyeoggi-do, Dongtan)  Applied for an Europe Patent. (Roots & Screw Rotor)
	May.	Established LOT China Branch. (Shaanxi, Xi'an)
	Sep. Nov.	Designated as Excellent Enterprise to Work at Gyenggi-do.
	Dec.	Certificated by Safety and Health Management System. (KOSHA18001, OHSAS18001)
	Dec.	Certificated by Safety and Fleath Management System. (NOSFIX 1880), OF ISAS 1880 1)
2014.	May.	Designated as World Class 300.
2015.	Aug.	Designated as World Class 300 Project R&D
2016.	Jul.	Designated as \$100Mil Venture Enterprise (Small and Middle Business Administration)
	Aug.	Certificated as Excellent Enterprise for labor and management win-win approach
	Nov.	Awarded the Entrepreneur of the Year Award (CEO, Hank Oh)
2017.	Oct	Awarded the Prime Minister Award - Industry Field (CEO, Jeff Kim)
	Dec.	Awarded the Presidential Award - Industry Field (CEO, Hank Oh)
0040	31	01111
2018.		Selected for a government project of Smart Factory
	Jul.	Established LOT Vietnam Branch
	Oct.	Established LOT China Chengdu Branch
2019.	Jun.	Established Osan Headquarter with Opening Ceremony
7	Oct.	Awarded Ministry of Trade, Industry and Energy award-Semiconductor Field
	Nov.	Established LOT China Changzhou Branch
	Dec.	Awarded Leading Work Innovation Company award-Ministry of Employment and Labor





### **Visions**

LOT Vacuum

Be the world's best company pursuing the customer's satisfaction.









#### **Business Area**

LOT Vacuum is selling Dry vacuum pumps and providing repair service.

#### DEVELOPMENT

- New Product Development
- New Technology Development
- Technical Government Joint Project

#### SALES

- World Wide Pump Sales
- Accessory Sales (Valve, Rack, Bellows, etc.)



#### MANUFACTURING

- Major Part Machining (Housing, Rotor)
- Product Manufacturing
- Quality Management

#### REPAIR

- Dura Dry Repair Service
- On-site Trouble Shooting
- Product Life Cycle Management

#### **Patents**

LOT Vacuum, a company leading innovative technology in Korea, has 24 Patents world wide. Focusing on Continuous Investment to R&D Group.











### Certification

ISO9001 (Quality Management Certication)
ISO14001 (Environmental Management System)

ISO27001 (Information Security Management System)
KOSHA18001, OHASA18001 (Safety and Health Management System)













# Revolution<sup>2</sup>

# Simple

Less complexity over conventional dry pumps

# Low CoO Technology

Extended sevice intervals in all semiconductor and display processes

# Robust

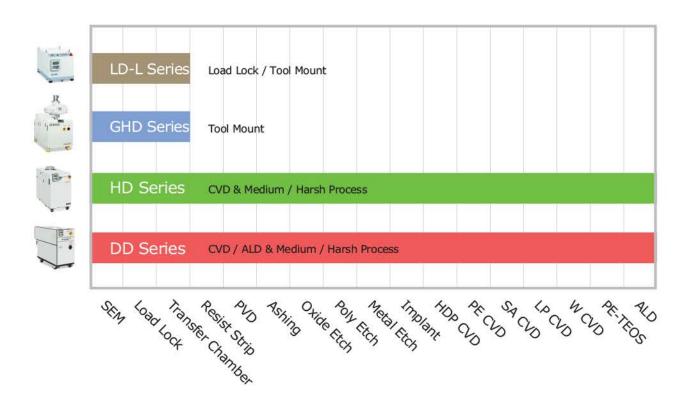
10 times stronger particle handling efficiency than conventional designs

# Reliable

Designed for the highest reliability standards



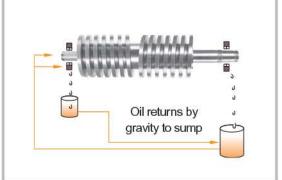
# Leader of Vacuum Technology for all Semiconductor and FPD/Solar Applications



#### BENEFITS OF DURADRY SCREW TECHNOLOGY

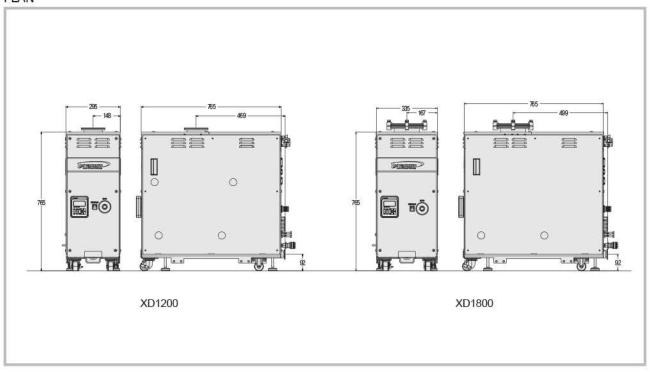


- Wide range of temperature control
- Simply supported bearings
- Piston ring shaft sealing mechanism
- Highest pumping speed
- Easy maintenance
- Increased reliability
- 30% reduction in CoO



- Short gas path
- Minimum particle deposition
- Oil-cooled rotors
- Oil lubricated bearings
- Longer bearing lifetime





	Unit	XD1200	XD1800
Design and the second	m³/hr	1,200	1,800
Pumping speed	ℓ /min	20,000	30,000
We	Torr	≤ 5.0×10	D-3
Ultimate pressure with module purge	Pa	≤ 6.6×10	0+1
Maximum exhaust pressure	bar (psig)	1.5 (7.2)	
Nitrogen supply pressure	bar (psig)	4 ~ 8 (43 ~	· 100)
nternal purge-gas pressure	bar (psig)	3 (29)	
Nitrogen consumption (ETCH)	slm	30	50
Nitrogen consumption (CVD)	slm	30	50
Nitrogen connection	inch	1/4" Lok Fi	tting
Cooling water consumption	ℓ /min	2 ~ 11,4	1
Cooling water supply temp	°C (°F)	15 ~ 25 (59	~ 77)
Cooling water supply pressure (with ∆P≥1bar)	bar (psig)	3,5 ~ 6 (36	~ 73)
Cooling water connection	inch	3/8" Quick Co	nnector
Intake port	mm	DN 100 ISO-K	DN 160 ISO-K
Exhaust port	mm	NW25	
Dimension (W×L×H)	mm <sup>3</sup>	295×765×765	335×765×765
Weight	kg (lbs)	273	248
Maximum ambient temperature	°C (°F)	40 (104)	)
Minimum ambient temperature	°C (°F)	10 (50)	
Power consumption at ultimate pressure (DP+BP)	kW	1.4	2,0
Rated motor power (DP+BP)	kW	7.0	7,0
Constructions Madi Vollege mater	VIO III-	200~230, 380~480V (±	10%) / 3Ø / 60Hz
Supply voltage-Multi-Voltage motor	V/Ø/Hz	200~230, 380~460V (±	5%) / 3Ø / 50Hz
Oil charge volume (DP+BP)	Q	1,99	1,65

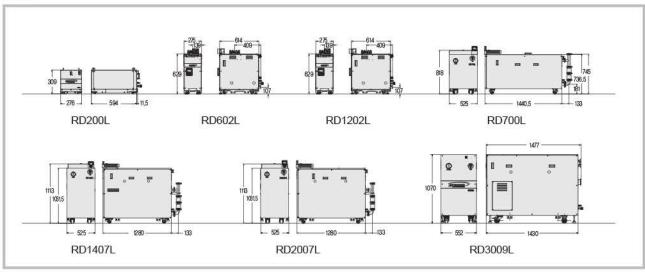
<sup>※</sup> Option 설정 가능 – power consumption은 평균값 ※ Option can be set, power consumption → average ※ Ultimate pressure with module purge – based on normal concept, varies by each temperature concept



- Multi-Stage Roots Type
- Large-Volume LoadLock Model for FPD/Solar Business
- High Exhausting Speed in Atm. Zone
  - Improved Tact time and Throughput
- Low Cost of Ownership
   N2, Power, Water, Footprint, Volume, Weight
   Designed for Less Noise and Less Vibration



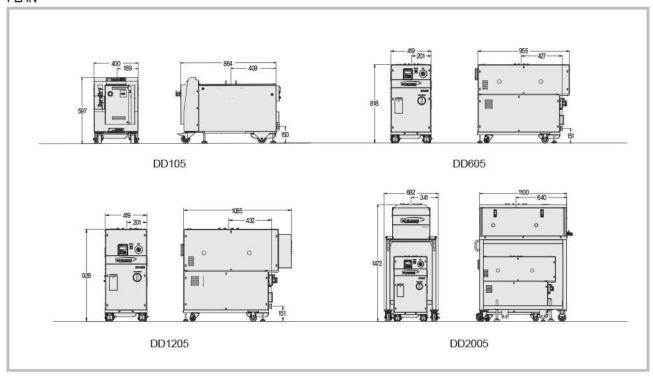
#### **PLAN**



	Unit	RD200L	RD602L	RD1202L	RD700L	RD707L	RD1407L	RD2007L	RD3009L		
Pumping speed	m³/hr	190	600	1,100	650	900	2,000	3,000	3,600		
	ℓ/min	3,100	10,000	18,000	11,000	15,000	33,000	50,000	60,000		
Ultimate pressure	Torr	≤ 8,0×10 <sup>-3</sup>	≤ 5,0	)×10−³	≤ 5,0×10 <sup>-2</sup>		≤ 5.0	0×10 <sup>-3</sup>			
	Pa	≤ 1,0×10 <sup>+0</sup>	≤ 6,6	6×10 <sup>-1</sup>	≤ 6.6×10 <sup>+0</sup>		≤ 6.6	6×10 <sup>-1</sup>			
Maximum exhaust pressure	bar (psig)				1,5	7.2)					
Nitrogen supply pressure (Option)	bar (psig)				15	-					
Internal purge-gas pressure (Option)	bar (psig)				9 <del>.</del>	-					
Nitrogen consumption (ETCH)(Option)	slm		X <del>**</del>								
Nitrogen consumption (CVD)(Option)	slm				1.5	-					
Nitrogen connection (Option)	inch				-	+					
Cooling water consumption	ℓ /min		≥ 3				≥ 6				
Cooling water supply temp	℃ (℉)				15 ~ 25 (	(59 ~ 77)					
Cooling water supply pressure (with $\Delta P \ge 1$ bar)	bar (psig)				$3.5 \sim 9$ (	36 ~ 73)					
Cooling water connection	inch	1/4" Quick Connector			3/8"	Quick Conne	ector				
Intake port	mm	50 ISO-K		100	ISO-K		160 ISO-F	200 ISO-F	250 ISO-F		
Exhaust port	mm	25 ISO-KF	40 IS	O-KF		50 IS	O-KF		63 ISO-K		
Dimension (W×L×H)	mm <sup>3</sup>	276×594×308	277×6	14×628	525×1,440×818	50	25×1,280×1,1	113	552×1,428×1,070		
Weight	kg (lbs)	95 (209)	165	(364)	570 (1,257)	700 (1,543)	810 (1,786)	850 (1,874)	1,200 (2,645)		
Maximum ambient temperature	℃ (℉)				40 (	104)					
Minimum ambient temperature	℃ (℉)	10 (50)									
Power consumption at ultimate pressure	kW	0.4	0.7	1.0	7.0	7.6	7.8	8.0	15.0		
Rated motor power	kW	3.0	6	0.0	15.0		19.0		44.0		
Supply voltage-Multi-Voltage motor	V/Ø/Hz			220,	380, 440V / 3	3Phase / 50,	60Hz				
Oil charge volume	Q	0,28	0.	.55	2,70	3,60	4.	.50	5.10		

<sup>※</sup> Process Version - Adding N₂ Purge

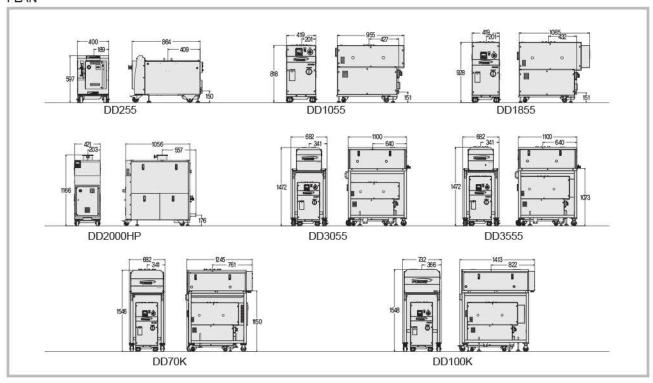




	Unit	DD105	DD605	DD1205	DD2005					
Bankar array	m³/hr	100	480	900	1,800					
Pumping speed	ℓ /min	1,700	8,000	15,000	30,000					
I litimata procesura with modulo pruras	Torr		≤ 5,0	0×10 <sup>-3</sup>						
Ultimate pressure with module purge	Pa		≤ 6.	6×10 <sup>-1</sup>						
Maximum exhaust pressure	bar (psig)		1,5	(7.2)						
Nitrogen supply pressure	bar (psig)	4 ~ 8 (43 ~ 100)								
Internal purge—gas pressure	bar (psig)		3	(29)						
Nitrogen consumption (ETCH)	slm		1	13						
Nitrogen consumption (CVD)	slm			50						
Nitrogen connection	inch		1/4" Lo	ok Fitting						
Cooling water consumption	ℓ /min		1.8	~ 7.6						
Cooling water supply temp	°C (°F)		15 ~ 30	(59 ~ 86)						
Cooling water supply pressure (with ∆P≥1bar)	bar (psig)		3.5 ∼ 9	(36 ~ 116)						
Cooling water connection	inch		3/8" Lo	ok Fitting						
Intake port	mm	DN 63 ISO-K	DN 100 ISO-K	DN 160 ISO-K	DN 200 ISO-K					
Exhaust port	mm		DN	40 KF						
Dimension (W×L×H)	mm³	400×864×597	419×955×818	419×1,085×928	682×1,100×1,47					
Weight	kg (lbs)	278 (613)	435 (959)	578 (1,274)	965 (2,127)					
Maximum ambient temperature	°C (°F)		40	(104)						
Minimum ambient temperature	°C (°F)		10	(50)						
Power consumption at ultimate pressure (DP+BP)	kW	5.0	5.4	5.6	6.1					
Rated motor power (DP+BP)	kW	5,0	7.0	9.0	14.0					
Supply voltage-Multi-Voltage motor	V/Ø/Hz		200, 208, 230, 460, 48	0V (±10%) / 3Ø / 60Hz						
Supply vollage infullity vollage molet	V/W/NZ		200, 208, 380, 415\	(±5%) / 3Ø / 50Hz						
Oil charge volume (DP+BP)	Q	1,10	1,90	2,80	3.70					

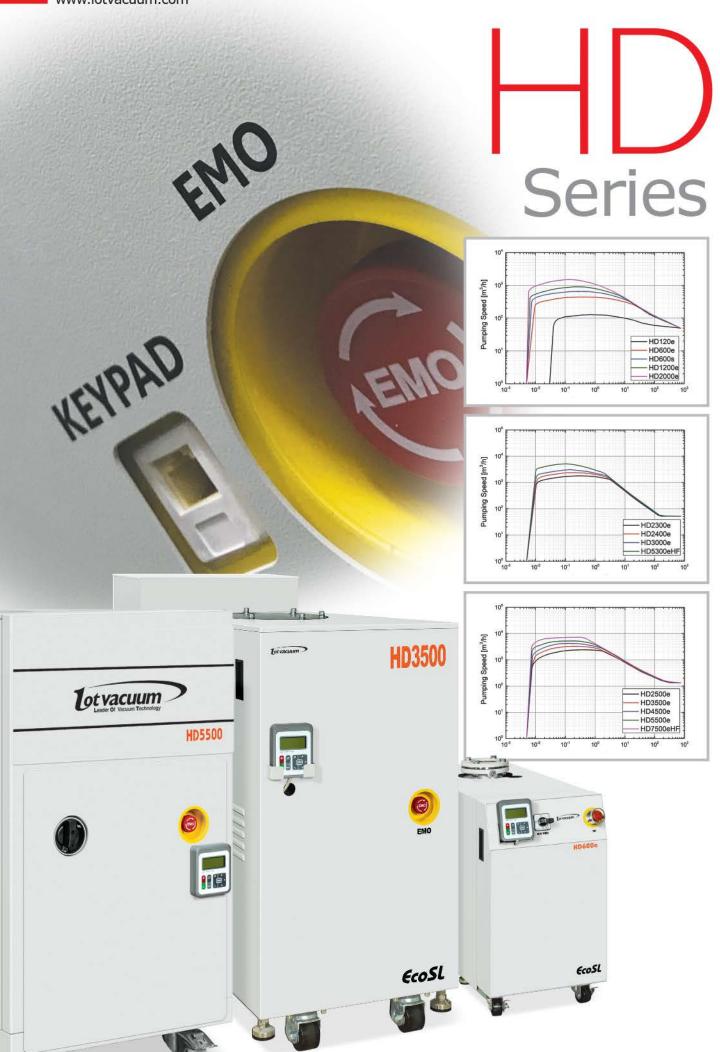
<sup>※</sup> Option 설정 가능 – power consumption은 평균값 ※ Option can be set, power consumption → average ※ Ultimate pressure with module purge – based on normal concept, varies by each temperature concept





	Unit	DD255	DD1055	DD1855	DD2000HP	DD3055	DD3555	DD70K	DD100K			
Branes come	m³/hr	200	600	1,200	1,800	1,800	3,000	4,250	6,000			
Pumping speed	ℓ/min	3,400	10,000	20,000	30,000	30,000	50,000	70,000	100,000			
100 -1 30 11	Torr				≤ 5.0	)×10 <sup>-3</sup>						
Ultimate pressure with module purge	Pa				≤ 6.6	6×10 <sup>-1</sup>						
Maximum exhaust pressure	bar (psig)				1.5	(7.2)						
Nitrogen supply pressure	bar (psig)				4~8 (4	3 ~ 100)						
Internal purge-gas pressure	bar (psig)		3 (29)									
Nitrogen consumption (ETCH)	slm		13									
Nitrogen consumption (CVD)	slm		50									
Nitrogen connection	inch		1/4" Lok Fitting									
Cooling water consumption	ℓ/min				1.8	~ 7.6						
Cooling water supply temp	°C (°F)				15 ~ 30	(59 ~ 86)						
Cooling water supply pressure (with ∆P≥1bar)	bar (psig)				3.5 ~ 9 (	36 ~ 116)						
Cooling water connection	inch				3/8" Lo	k Fitting						
Intake port	mm	DN 63 ISO-K	DN 100 ISO-K	DN 160	) ISO-K	DN 200	) ISO-K	DN 250 ISO-K	DN 320 ISO-K			
Exhaust port	mm				DN 4	10 KF						
Dimension (W×L×H)	mm³	400×864×597	419×955×818	419×1,085×928	421×1,056×1,166	682×1,100×1,472	682×1,100×1,472	682×1,245×1,546	732×1,413×1,548			
Weight	kg (lbs)	278 (613)	435 (959)	577 (1,272)	612 (1,349)	870 (1,918)	1,012 (2,231)	1,357 (2,992)	1,457 (3,212)			
Maximum ambient temperature	℃ (℉)				40 (	(104)						
Minimum ambient temperature	°C (°F)				10	(50)						
Power consumption at ultimate pressure (DP+BP)	kW	5.0	5,3	5.5	5.8	6.0	6,2	7.0	7.2			
Rated motor power (DP+BP)	kW	5.0	7.0	9	0.0	14.0	16.0	20	0.0			
Supply voltage-Multi-Voltage motor	V/Ø/Hz		200, 208, 230, 460, 480V (±10%) / 3Ø / 60Hz 200, 208, 380, 415V (±5%) / 3Ø / 50Hz									
Oil charge volume (DP+BP)	Q	1,10	1,90	2.	80	3,70	4,60	6.	80			

<sup>※</sup> Option 설정 가능 – power consumption은 평균값 ※ Option can be set, power consumption → average ※ Ultimate pressure with module purge – based on normal concept, varies by each temperature concept



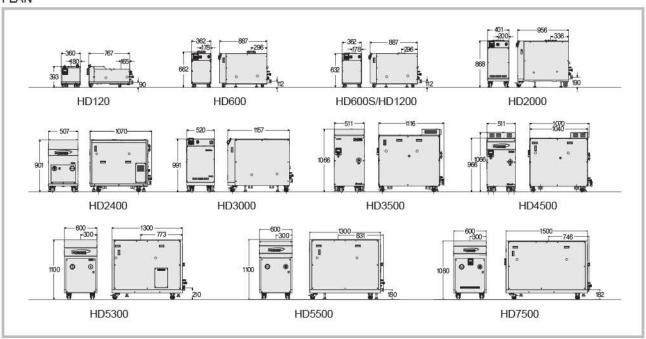
#### HYBRID SCREW ROTOR

- Easy Powder Handling
- Low compression ratio = Low gas temperature = Low deposition in pump

#### SHORT GAS PATH

■ Low reaction rate in pump COMPACT SIZE / ENERGY SAVING

#### **PLAN**



	Unit	HD120 HD120e	HD600 HD600e	HD600S HD600eS	HD1200 HD1200e	HD2000 HD2000e	HD2300e	HD2400e	HD3000e	HD5300e	HD2500e	HD3500e	HD4500e	HD5500e	HD7500e
Danis	m³/hr	120	450	600	1,200	1,800	1,800	2,400	3,000	5,100	2,400	3,200	4,200	5,200	7,200
Pumping speed	ℓ/min	2,000	7,500	10,000	20,000	30,000	30,000	40,000	50,000	85,000	40,000	53,000	70,000	86,000	125,000
I litimate avece us with mark to a vec	Torr	≤ 30×10 <sup>-2</sup>							5.0×10	-3					
Ultimate pressure with module purge	Pa	≤ 3,9×10 <sup>+0</sup>	9×10 <sup>+0</sup> < 6.6×10 <sup>-1</sup>												
Maximum exhaust pressure	bar (psig)		1,5 (7,2)												
Nitrogen supply pressure	bar (psig)							4 ~ 8 (4	3 ~ 100)						
Internal purge-gas pressure	bar (psig)							3 (	29)						
Nitrogen consumption (ETCH)	slm							19							
Nitrogen consumption (CVD)	slm					50							100		
Nitrogen connection	inch							1/4" Lo	k Fitting						
Cooling water consumption	ℓ/min							2 ~	11.4						
Cooling water supply temp	°C (°F)							15 ~ 25	(59 ~ 77)						
Cooling water supply pressure (with ∆P≥1bar)	bar (psig)							3.5 ~ 6	36 ~ 73)						
Cooling water connection	inch						3,	/8" Quick	Connect	or					
Intake port	mm	DN 6	3 KF	DN 100	ISO-K	DN 160	) ISO-K	DN 200	ISO-K	DN 250 180-K	DN 200	) ISO-K	DN	1 250 190	-K
Exhaust port	mm				DN 4	10 KF					DI	N 40 KF	DN 50 H	(F	
Dimension (W×L×H)	mm³	360×767×393	362×887×662	362×8	37×632	401 × 956× 958	510×1,157×992	507×999×902	520×1,157×992	600x1300x1,100	510 × 1,040 × 1,025	510×1,040×1,065	511×1,040×1,056	600×1,300×1,000	600×1,500×1,080
Weight	kg (lbs)	160 (353)	317 (699)	300	(661)	500 (1,102)	590 (1,301)	650 (1,433)	750 (1,653)	1,200 (2,645)	715 (1,576)	816 (1,803)	912 (2,011)	1,200 (2,645)	1,400 (3,086)
Maximum ambient temperature	℃(℉)							40 (	104)						
Minimum ambient temperature	°C (°F)		10 (50)												
Power consumption at ultimate pressure (DP+BP)	kW	26/23	3.3 / 3.0	28/25	29/26	3,3 / 2,9	3.1	3,2	3,3	4.0	6.3	6.3	6.8	8	.0
Rated motor power (DP+BP)	kW	4.0	6.6		8.0			9.0		16.0	14	.0	17.0	21	.0
Supply voltage-Multi-Voltage motor	V/Ø/Hz		200~230, 380~480V (±10%) / 3 Ø / 60Hz 200~230, 380~460V (±5%) / 3 Ø / 50Hz 200~230, 380~460V (±5%) / 3 Ø / 50Hz												
Oil charge volume (DP+BP)	Q	0.39	1,19	1,3	29	2,20		2,20		4.49	3.	32	3.92	5,32	5,50

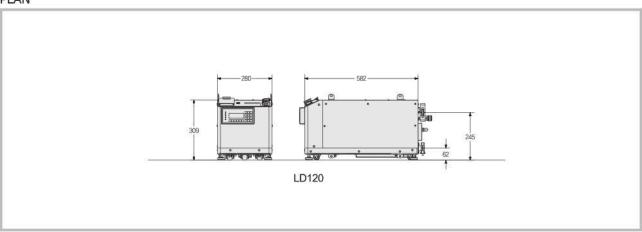
<sup>※</sup> Option 설정 가능 – power consumption은 평균값 ※ Option can be set, power consumption → average ※ Ultimate pressure with module purge – based on normal concept, varies by each temperature concept



#### HYBRID SCREW ROTOR

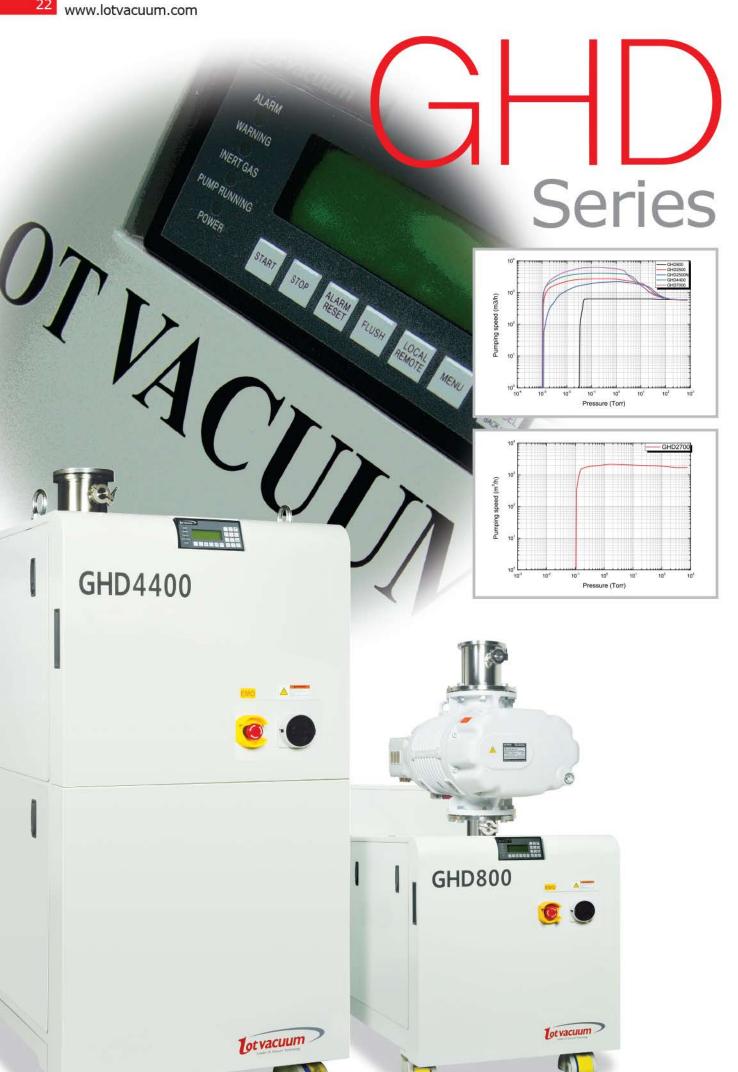
- Easy Powder Handling
- Low compression ratio = Low gas temperature = Low deposition in pump SHORT GAS PATH
- Low reaction rate in pump COMPACT SIZE / ENERGY SAVING

#### **PLAN**



	Unit	LD120
D. maring annual	m³/hr	120
Pumping speed	ℓ/min	2,000
I Him at a second	Torr	< 1,0×10 <sup>-2</sup>
Ultimate pressure	Pa	< 1,3×10+0
Maximum exhaust pressure	bar (psig)	1.5 (7.2)
Nitrogen supply pressure	bar (psig)	-
Internal purge-gas pressure	bar (psig)	-
Nitrogen consumption (ETCH)	slm	-
Nitrogen consumption (CVD)	slm	: <del>-</del>
Nitrogen connection	inch	-
Cooling water consumption	l /min	≥ 4.0
Cooling water supply temp	°C (°F)	15 ~ 30 (59 ~ 86)
Cooling water supply pressure (with $\Delta P \ge 1$ bar)	bar (psig)	3.5 ~ 6 (36 ~ 73)
Cooling water connection	inch	3/8" Quick Connector
Intake port	mm	DN 50 KF
Exhaust port	mm	DN 25 KF
Dimension (W×L×H)	m³	280×582×309
Weight	kg (lbs)	102 (225)
Maximum ambient temperature	℃ (℉)	40 (104)
Minimum ambient temperature	°C (°F)	10 (50)
Power consumption at ultimate pressure (DP+BP)	kW	1.5
Rated motor power (DP+BP)	kW	3,0
Supply voltage-Multi-Voltage motor	V/Ø/Hz	200~230V,380V / 3Ø / 50, 60Hz
Oil charge volume (DP+BP)	Q	0,24

<sup>※</sup> Option 설정 가능 - power consumption은 평균값 ※ Option can be set, power consumption → average

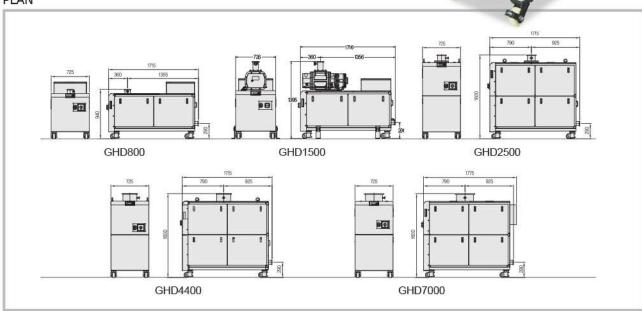


- Screw rotor dry vacuum pump
   No sealing Oil and sealing water for vacuum process
   Suitable design for large LCD & solar tools

- No contact point between rotor and rotor housing
   Various capacity from 640m³/hr to 6300m³/hr with blower
- Easy maintenance







	Unit	GHD800	GHD1500	GHD2500	GHD4400	GHD7000	GHD2700			
	m³/hr	640	1,500	2,600	4,200	6,300	2,200			
Pumping speed	ℓ /min	10,500	25,000	43,000	70,000	105,000	36,000			
Y NUT. AL.	Torr	≤ 5,0×10 <sup>-2</sup>	≤ 5,0×10 <sup>-2</sup> ≤ 5,0×10 <sup>-3</sup>							
Ultimate pressure with module purge	Pa	≤ 6.6×10 <sup>-0</sup>		≤ 6.6	5×10⁻¹		≤ 1,3×10 <sup>+1</sup>			
Maximum exhaust pressure	bar (psig)		1.5 (7.2)							
Nitrogen supply pressure	bar (psig)			4 ~ 8 (43 ~ 100)						
Internal purge-gas pressure	bar (psig)		3 (29)							
Nitrogen consumption (CVD)	slm		150 ~ 300							
Nitrogen connection	inch		3/8" Lok Fitting							
Cooling water consumption	ℓ /min		≥ 18							
Cooling water supply temp	°C (°F)			15 ~ 25	(59 ~ 77)					
Cooling water supply pressure (with ∆P≥1bar)	bar (psig)			3,5 ~ 6	(36 ~ 73)					
Cooling water connection	inch		1/	2" Quick Connect	or		JIS 10K Flange			
Intake port	mm	DN 100 ISO-K	DN 160 ISO-K	DN 160 ISO-K	DN 250 ISO-K	DN 320 ISO-K	150A JIS 10K			
Exhaust port	mm			DN 63 ISO-K			100A JIS 10K			
Dimension (W×L×H)	mm³	725×1715×940	726×1,716×1,395	725×1,715×1,600	725×1,715×1,600	725×1,775×1,600	1470×2,590×1,900			
Weight	kg (lbs)	1,250 (2,756)	1,500 (3,307)	1,650 (3,638)	1,950 (4,299)	2,000 (4,409)	3,500 (7,716)			
Maximum ambient temperature	°C (°F)			40 (	(104)					
Minimum ambient temperature	°C (°F)			10	(50)					
Power consumption at ultimate pressure	kW	15.0		16	5,5		45.0			
Rated motor power	kW	18,5	22,5	26,0	25	9,5	55.0			
Supply voltage-Multi-Voltage motor	V/Ø/Hz			220, 380, 440V /	3Phase / 50, 60H	Z				
Oil charge volume	Q	3,70	5,50	5.70	8.	45	5.00			



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