

Cryopump CRYO-U Series

Line up of cryopump and standard specifications



* The refrigerator window is closed.

Features

- Ultra-clean vacuum
- Pumping all gases
- Lower operating cost
- Mounted in any orientation
- Compact and light weight
- Quiet, easy to operate
- Higher pumping speed
- No liquid helium or nitrogen

Applications

- Vacuum evaporation system
- Nuclear fusion facilities
- Sputtering system
- Surface analysis equipment
- Ion implantation system
- Space chamber
- Semiconductor manufacturing system
- Accelerator
- Equipment which require clean high and ultra-high vacuum

CRYO-U4H



CRYO-U6H



CRYO-U8H



CRYO-U8H-U



Item	Model		CRYO-U4H	CRYO-U6H	CRYO-U8H	CRYO-U8H-U	
Pumping speed (20 °C)	Nitrogen	L/s	450	750	1,700	1,700	
	Hydrogen		500	1,100	2,700	2,700	
	Argon		370	620	1,400	1,400	
	Water		1,100	2,100	4,000	4,000	
Ultimate pressure	Pa		10 ⁻⁷	10 ⁻⁷	10 ⁻⁷	10 ⁻⁷	
Maximum throughput	Argon	Pa · L/s	1.3 × 10 ³	1.1 × 10 ³	1.2 × 10 ³	1.2 × 10 ³	
	Hydrogen			1.1 × 10 ²	2.4 × 10 ²	2.4 × 10 ²	
Pumping capacity	Argon	Pa · L	1.0 × 10 ⁷	5.6 × 10 ⁷	1.0 × 10 ⁸	1.0 × 10 ⁸	
	Hydrogen		1.5 × 10 ⁵	3.1 × 10 ⁵	1.0 × 10 ⁶	1.0 × 10 ⁶	
Cooling down time	min (Hz)		45/40 (50/60)	80/70 (50/60)	100/90 (50/60)	100/90 (50/60)	
Mounting flange	ISO100		UVG150, UFC203	UVG200, 6 ^B ANSI, UFC253	UVG200, 6 ^B ANSI	UVG200, 6 ^B ANSI	
Compressor unit	C10		C10	C10	C10	C10	
Weight	kg		14.5	19	25	24	

Cryopump CRYO-U Series



Item	Model		CRYO-U8HSP	CRYO-U10H	CRYO-U12H
Pumping speed (20 °C)	Nitrogen	L/s	1,700	2,400	4,000
	Hydrogen		3,200	3,600	6,000
	Argon		1,400	2,000	3,300
	Water		4,000	6,900	9,500
Ultimate pressure	Pa		10 ⁻⁷	10 ⁻⁷	10 ⁻⁷
Maximum throughput	Argon	Pa · L/s	1.2 × 10 ³	1.3 × 10 ³	2.0 × 10 ³
	Hydrogen		2.4 × 10 ²	1.5 × 10 ²	4.1 × 10 ²
Pumping capacity	Argon	Pa · L	2.5 × 10 ⁸	1.0 × 10 ⁸	2.1 × 10 ⁸
	Hydrogen		1.0 × 10 ⁶	6.7 × 10 ⁵	9.8 × 10 ⁵
Cooling down time	min (Hz)		110/100 (50/60)	110/100 (50/60)	85/75 (50/60)
Mounting flange			UVG200, 6 ^B ANSI, UFC253	UVG250	UVG300, 10 ^B ANSI
Compressor unit			C10	C15R	C30VR
Weight	kg		34	29	40



Item	Model		CRYO-U12HSP	CRYO-U16	CRYO-U16P
Pumping speed (20 °C)	Nitrogen	L/s	4,100	5,000	5,000
	Hydrogen		6,000	10,000	10,000
	Argon		3,400	4,200	4,200
	Water		9,500	16,000	16,000
Ultimate pressure	Pa		10 ⁻⁷	10 ⁻⁷	10 ⁻⁷
Maximum throughput	Argon	Pa · L/s	2.0 × 10 ³	1.4 × 10 ³	1.6 × 10 ³
	Hydrogen		4.1 × 10 ²	4.1 × 10 ²	4.5 × 10 ²
Pumping capacity	Argon	Pa · L	4.4 × 10 ⁸	4.3 × 10 ⁸	4.3 × 10 ⁸
	Hydrogen		1.6 × 10 ⁶	2.4 × 10 ⁶	2.4 × 10 ⁶
Cooling down time	min (Hz)		90/80 (50/60)	110/100 (50/60)	120/100 (50/60)
Mounting flange			UVG300, 10 ^B ANSI	UVG400	UVG400
Compressor unit			C30VR	C30VR	C30VR
Weight	kg		42	61	61

CRYO-U20P



CRYO-U22H



CRYO-U30H



Item	Model	CRYO-U20P	CRYO-U22H	CRYO-U30H
Pumping speed (20 °C)	Nitrogen	L/s	10,000	17,000
	Hydrogen		18,000	25,000
	Argon		8,400	14,000
	Water		29,000	39,000
Ultimate pressure	Pa	10 ⁻⁷	10 ⁻⁷	10 ⁻⁷
Maximum throughput	Argon	Pa · L/s	1.1 × 10 ³	4.1 × 10 ³
	Hydrogen		5.0 × 10 ²	1.3 × 10 ³
Pumping capacity	Argon	Pa · L	5.8 × 10 ⁸	8.1 × 10 ⁸
	Hydrogen		4.6 × 10 ⁶	8.5 × 10 ⁶
Cooling down time	min (Hz)	180/160 (50/60)	150/135 (50/60)	240/200 (50/60)
Mounting flange		UVG500	UVG550	UVG750
Compressor unit		C30VR	C30VR x 2	C30VR x 2
Weight	kg	69	125	175

CRYO-TORR series



Terms

• Maximum throughput

Upper limit of the gas throughput at which the temperature of the 15 K cryopanel increases to 20 K when the cryopump is pumping continuously.

• Pumping capacity

Argon: quantity pumped by condensation on the 15 K cryopanel until the condensed layer makes contact to the 80 K shield or 80 K baffle and the cryopump any more argon.
Hydrogen: The hydrogen quantity pumped by absorption on the adsorbent until the pumping speed for hydrogen is reduced to 80 % of its initial speed.

• Cooling down time

The cooling down time until the 15 K cryopanel cools down to 20 K when the cryopump is started from the rough pressure of 40 Pa (0.3 Torr).

Item	Model	CRYO-TORR8	CRYO-TORR10
Pumping speed (20 °C)	Nitrogen	L/s	1,500
	Hydrogen		2,500
	Argon		1,200
	Water		4,000
Ultimate pressure	Pa	10 ⁻⁷	
Maximum throughput	Argon	Pa · L/s	1.2 × 10 ³
	Hydrogen		(8.9)
Pumping capacity	Argon	Pa · L	1.0 × 10 ⁸
	Hydrogen		6.1 × 10 ⁵ *1
	Hydrogen		1.2 × 10 ⁶ *2
Cooling down time	min (Hz)	90 (60)	45 (60)
Mounting flange		6 ^B ANSI	10 ^B ANSI
Weight	kg	20.4	39

Hydrogen capacity at the below adsorption equilibrium pressure.

*1 5 × 10⁻⁸ Torr

*2 5 × 10⁻⁶ Torr