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UNISEM IS PURSUING STATE-OF-THE-ART EQUIPMENT
FOR SEMICONDUCTOR, LCD, LED, SOLAR CELL AND
FUTURE ENVIRONMENT

UNISEM

UNISEM IS PERSISTENTLY AIMING AT THE TOP

About UNISEM Co., Ltd.

Founded in 1988, Unisem specialized in sophisticated semiconductor equipment, such as gas scrubber and chiller unit, entered into the semiconductor industry.

As Unisem had continued its R&D to successfully come up with a gas scrubber since 1996, Unisem developed Heat-wet scrubber which abates toxic gases for wafer fabrication process first time in Korea. Then, Unisem have had biggest market share in local scrubber market and progressively expand global market share. Recently, Unisem developed huge capacity Burn-Wet scrubber and Catalyst scrubber for protecting environmental pollution.

With investing research and development continuously, Unisem develop a wide range of "Chiller unit" for semiconductor field as well. Through sustained research and development efforts coupled with technological progress, Unisem maintains ISO-9001 certification and certified with SEMI-S2. Unisem prides itself on manufacturing semiconductor equipment with its own technologies and can provide solutions to future environment.

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GAS SCRUBBER Gas Abatement System

Triton Dual, IGNIS, ARENS

Burn wet type + Burn box type

Heat-wet type

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Intergrated type

Proximity type

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Heat Exchanger type

Low temp type, Display Type

Global Sales Network

History of UNISEM

Beginning 1988 ~ 1999

- 1988 Company establishment
- 1993 Launching Gas Scrubber business(Refines Environmental Pollutants)
- 1998 Launching Chiller business (Controls Proper Temperature)
- 1999 Enlisted on Korean stock market(KOSDAQ)

Growing 2000 ~ 2009

- 2000 Established UNISEM America (Austin)
- 2007 Certificated "ISO 27001" Information Protection System
- 2009 Established UNISEM Taiwan
- 2009 Established UNISEM China
- 2009 Receive the presidential citation for industrial safety

Present 2010~Present

- 2013 Established Smart ID Korea
- 2014 Certificated ISO14001, OHSAS18001, KOSHA18001
- 2014 Award Gold Tower Order of Industrial Service Merit
- 2015 The 52th Award "30 Million Export Prize" from Korean government
- 2016 Selected as one of the top best 100 employers
Established IOT Department
- 2017 Confirmed achieve uninjury record 19times

Overseas Sales Branch : U.S.A., Taiwan, China, Japan, Singapore/Malaysia

GAS ABATEMENT SYSTEM

Burn Wet Type



Plasma Type



Heat Wet Type



Burn Box Type



Heat Cooling Type



BURN WET TYPE

G A S S C R U B B E R

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ECOBRID1000



ECOBRID2000

SYSTEM FEATURES

1. Type : Fuel (LNG, LPG, H₂) Burn+Heat(Eco Friendly Concept)
2. Enhanced abatement ability for NO_x, THC, bad smell, etc.(NO_x Free)
3. Reduced energy consumption more 15% than Burn-Wet type scrubber
4. High abatement efficiency for PFC gases
5. Saving of LNG usage by applying thermal Heater
6. Applied dry system to minimize moisture vapor exhaust & enhanced find dust collection
7. Excellent safety Interlock system & explosion proof design
8. Relatively lower operation cost by applying energy saving system
9. Simple operation & easy maintenance
10. Effective corrosion resistance structure

TARGET ABATEMENT GAS

1. PFCs : NF₃, C₂F₆, SF₆, CF₄, C₃F₈, etc
2. Flammable gases : SiH₄, PH₃, TEOS, H₂, DCS, etc
3. Water soluble gases : Cl₂, HCl, HF, NH₃, etc

ITEM		SPECIFICATION		REMARKS
Class	Details	ECOBRID1000(SINGLE)	ECOBRID2000(DUAL)	
General	Dimension (mm)	750x850x1850(WxDxH)	1200x1000x1850(WxDxH)	
	Flame Temperature (°C)	1200~1500°C	1200~1500 °C	
	Capacity	300LPM	600LPM	Except Scrubber Utility
	Electric Power	208V, 20A, 3P	208V,30A, 3P	
	Weight	600Kg	850 Kg	
Utility	Inlet Port	NW40 x 4port(Standard)	NW40 x 4port(Standard)	User Option
	Air	200~250LPM	360 ~ 400LPM	1/2" 1Port, 4~6Kg/critl
	N ₂	15~25LPM	20 ~ 30LPM	1/2" 1Port, 4~6Kg/critl
	O ₂	10~20LPM	20 ~ 30LPM	1/2" 1Port, 4~6Kg/critl
	LNG	8~14LPM	16 ~ 24LPM	1/2" 1Port, 5psi
	PCW	Supply & Return	Supply & Return	1/2" 2Port, 2~4Kg/critl
	CW	3 ~ 5LPM	3 ~ 5 LPM	1/2" 1Port, 2~4Kg/critl
	NaOH	-10 mmH ₂ O	0.32 Liter/Hr	1/2", 1Port(User Option)
	Cabinet Exhaust	-50 mmH ₂ O	-10 mmH ₂ O	SUS304, NW100(90A) 1Port
	Acid Exhaust	Pump drain	-50 mmH ₂ O	SUS304, NW100(100A) 1Port
	Drain	Pump drain	Pump drain	PVC, 3/4"1Port

BURN WET TYPE

G A S S C R U B B E R

UNISEM



TRITON



TRITON DUAL

SYSTEM FEATURES

1. Type : Fuel (LNG, LPG, H₂) **Wet-Burn-Wet**
2. Pre-Wet System : PM cycle extension by 1st water treatment
3. Flame Mode By Process Step : Energy Saving
4. Scraper System : Anti Powder stuck
5. Build an excellent interlock system
6. Easy operation and maintenance (Easy PM, Cylinder structure)
7. Corrosion resistance by internal Teflon coating
8. Extension Metal & DIFF 'process PM cycle extension
9. S-Mark Certification

TARGET ABATEMENT GAS

1. Flammable gases : SiH₄, PH₃, TEOS, H₂, DCS, etc.
2. Water soluble gases : WF₆, Cl₂, HCl, HF, NH₃, etc.
3. PFCs : NF₃ etc.

ITEM		SPECIFICATION		REMARKS
Class	Details	TRITON	TRITON(D)	
General	Dimension (mm)	900 x 1050 x 1850(WxDxH)	1800 x 1200 x 1888(WxDxH)	
	Flame Temperature (°C)	1200 ~ 1600 °C	1200 ~ 1600 °C	
	Max. Capacity	300LPM	500LPM	
	Inlet Port	NW40 x 4Port	NW40 x 4Port	User Option
Utility	Electric Power	3P, 208V AC	3P, 208V AC	
	LNG	6~10 LPM	12~20 LPM	1/2", VCR, 1Port, 5psi
	O ₂	5~15 LPM	10~30 LPM	1/2", SWG, 1Port, 4~6 kg-f/oil
	Air	160~180 LPM	320~440 LPM	1/2", SWG, 1Port, 4~6 kg-f/oil
	N ₂	30~40 LPM	40~80 LPM	1/2", SWG, 1Port, 4~6 kg-f/oil
		60~100 LPM (HOT N ₂)	120~200 LPM (HOT N ₂)	
	CW	3~4 LPM	6~8 LPM	1/2", SWG, 1Port, 2~4 kg-f/oil
	PCW	Supply & Return	Supply & Return	3/4", SWG, 2Port, 2~4 kg-f/oil
	Cabinet Exhaust	< -10 mmH ₂ O	< -10 mmH ₂ O	NW100(Φ101.6), 1Port
	Acid Exhaust	< -50 mmH ₂ O	< -50 mmH ₂ O	NW100(Φ114.3), 2Port
	Drain	Pump Drain / Gravity Drain	Pump Drain / Gravity Drain	User Option

BURN WET TYPE

G A S S C R U B B E R

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IGNIS



VULCAN1000

VULCAN2000

UN2005A-PL

SYSTEM FEATURES

1. Type : Fuel (LNG, LPG, H₂) Burn -Wet
2. High abatement efficiency for PFC
3. Excellent safety Interlock system & adopted explosion proof design
4. Relatively lower operation cost by applying energy saving system
5. Simple operation & easy maintenance
6. Effective corrosion resistance structure
7. CE & SEMI-S2 certified

TARGET ABATEMENT GAS

1. PFCs : NF₃, C₂F₆, SF₆, CF₄, C₃F₈, etc.
2. Flammable gases : SiH₄, PH₃, TEOS, H₂, DCS, etc.
3. Water soluble gases : Cl₂, HCl, HF, NH₃, etc.

ITEM		SPECIFICATION				REMARKS
Class	Details	IGNIS(D)	VULCAN1000 (SINGLE)	VULCAN2000 (DUAL)	UN2005A-PL	
General	Max. Capacity	3000 LPM	600LPM	1200LPM	1500LPM	
	Flame Temp. (°C)	1200~1600 °C	1200~1600°C	1200~1600°C	Max. 1200°C	
	Main Inlet	NW40 x 2Port, NW50 x 2Port	NW40 x 4port	NW40 x 4port	NW50 x 2port	
	By-pass Inlet	NW40 x 2Port, NW50 x 2Port	NW40 x 4port	NW40 x 4port	NW50 x 2port	
	Dimension(mm)	1900x1300x1918(WxDxH)	900 x 800 x 1800(WxDxH)	1400 x 1000 x 1800(WxDxH)	1200 x 1100 x 1700(WxDxH)	
Utility	Electric Power	3P, 208V AC, 30A	1P, 208V AC, 30A	1P, 208V AC, 30A	1P, 208V AC, 30A	
	Fuel (LNG)	20~40 LPM	10~14 LPM, ½" 1Port(VCR)	20~28 LPM, ½" 1Port(VCR)	30~35 LPM, ½", VCR, 1Port, 5 psi	
	CDA	640~740 LPM, 3/4", 1Port (SWG)	160~180 LPM, ½" 1Port(SWG)	320~360 LPM, ½" 1Port(SWG)	330~370 LPM, 3/4", SWG, 1Port, 5~6 kgf/cm ²	
	O ₂	30~50 LPM, 1/2", 1Port (SWG)	10~15 LPM, ½" 1Port(SWG)	20~30 LPM, ½" 1Port(SWG)	20~30 LPM, 1/2", SWG, 1Port, 5~6 kgf/cm ²	
	N ₂	24~32 LPM, 1/2", 1Port (SWG)	30~40 LPM, ½" 1Port(SWG)	60~80 LPM, ½" 1Port(SWG)	40~50 LPM, 1/2", SWG, 1Port, 5~6 kgf/cm ²	
	CW	8~10 LPM, 1/2", 1Port (SWG)	6~8 LPM, ½" 1Port(SWG)	12~16 LPM, ½" 1Port(SWG)	12~14 LPM, 1/2", SWG, 1Port, 2~4 kgf/cm ²	
	PCW (Supply/Return)	Supply & Return 3/4", 2Port (SWG)	Supply, ½" 1Port(SWG)	Supply, ½" SWG 1P	1/2", SWG, 2Port, 2~4 kgf/cm ²	
	NaOH	-	Supply, ½" 1Port	Supply, ½" 1Port	-	Option
	Cabinet Exhaust	< -10 mmH ₂ O	< 759 torr, 3 ½" 1P	< 759 torr, 3 ½" 1P	< -10 mmH ₂ O, NW100 x1Port, MF Flange	NW100(Φ101.6), 1Port
	Acid Exhaust	< -50 mmH ₂ O	< 757 torr, 4" 1P	< 757 torr, 4" 2P	< -50 mmH ₂ O(3cal/m ³), NW100 x1Port, MF Flange	NW100(Φ114.3), 2Port
	Drain	Pump Drain / Gravity Drain	Pump Drain, ½" PVC 1P	Pump Drain, 3/4" PVC X 1 Port	Gravity Drain, PVC 50A(2") 1Port	User Option

BURN BOX TYPE

G A S S C R U B B E R

UNISEM



NECA4000

SYSTEM FEATURES

1. Type : Fuel(LNG,LPG,H₂) Burn Box
2. High abatement efficiency for PFC, THC, NO_x gases
3. Applied dry system to minimize moisture vapor exhaust
4. Excellent safety interlock system
5. Relatively lower operation cost by applying energy saving system & **No water consumption**
6. Simple operation & easy maintenance
7. High corrosion resistance structure
8. SEMI-S2 certified

TARGET ABATEMENT GAS

1. PFCs : NF₃, C₂F₆, SF₆, CF₄, C₃F₈, etc.
2. Flammable gases : SiH₄, PH₃, TEOS, H₂, DCS, etc.

ITEM		SPECIFICATION	REMARKS
Class	Details	NECA4000	
General	Heater Temp. (°C)	1200~1600°C	
	Max. Capacity	2500LPM	NF ₃ Abatement
	Dimension (WxDxH)	1500mm x 1000mm x 1850mm	
	In-Let Port	NW50 x 6 Port, KF FLANGE Type	Option
	By-Pass Port	NW50 x 6 Port, KF FLANGE Type	Option
Utility	Electric Power	3P, 208V AC, 30A	
	LNG	25~40 LPM, ½", VCR, 1Port, 1~2 kgf/cm ²	
	CDA	120~140 LPM, ½", SWG, 1Port, 4~6 kgf/cm ²	
	N ₂	15~20 LPM, ½", SWG, 1Port, 4~6 kgf/cm ²	
	Emergency N ₂	1200LPM ↑, ¾", SWG, 1Port, 4~6 kgf/cm ²	
	PCW	Supply	½", SWG, 1Port, 2~4 kgf/cm ²
		Return	½", SWG, 1Port
	Outer Air Inlet	60cm ³ /min ↑, Φ 350 x 1port, Pipe Welding Type	SUS 304
	Cabinet Exhaust	< - 0.1 kPa, 3 1/2" (Φ101.6) x 1port, Pipe Welding Type	SUS 304
	Toxic Exhaust	>60cm ³ /min, < - 1.0 kPa, 10" (Φ267.4) x 1port, JIS 5K Bolted"	SUS 304

HEAT WET TYPE

G A S S C R U B B E R

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MAGMA1000



MAGMA3000

SYSTEM FEATURES

1. Type : Electric Heat-Wet
2. Perfect abatement efficiency for flammable & water soluble gases
3. Excellent safety interlock system
4. Relatively lower utility and operation cost
5. Simple operation & easy maintenance
(Heater, Cylinder structure)
6. High corrosion resistance structure
(Teflon Insert Lining)
7. SEMI-S2 certificated

TARGET ABATEMENT GAS

1. Flammable gases : SiH_4 , PH_3 , TEOS , H_2 , DCS , etc.
2. Water Soluble gases : Cl_2 , HCl , HF , NH_3 , etc.
3. PFCs : NF_3

ITEM		SPECIFICATION		REMARKS
Class	Details	MAGMA1000	MAGMA3000	
General	Heater Temp. (°C)	800°C ~ 900°C	800°C ~ 900°C	
	Max. Capacity	500 LPM	1500LPM	
	Scrubber In-let	NW50 x 2port	NW80 x 1port	Option
	Dimension(mm)	800 x 1150 x 1600(WxDxH)	1200 x 1300 x 1850(WxDxH)	
Utility	Electric Power	3P, 208V AC, 100A	3P, 208V AC, 100A	
	CDA	100~120 LPM, 3/8" 1Port, 4~5kgf/cm ²	300LPM, 1/2" 1port	
	N ₂	1~2 LPM, 1/4" 1Port, 4~5kgf/cm ²	2 LPM, 3/8" 1port	
	CW	10~12 LPM, 1/2" 1Port, 2~3kgf/cm ²	20~30 LPM, 3/4" 1port	
	PCW(Supply/Return)	5LPM, 3/8" 1port, 2~3kgf/cm ²	5LPM, 3/8" 1port, 2~3kgf/cm ²	
	Cabinet Exhaust	< -15 mmH ₂ O, NW100 x1port	< -15mmH ₂ O, NW160 x1Port	
	Toxic Exhaust	< -50 mmH ₂ O, NW100 x1port	< -50mmH ₂ O, NW160 x1Port	
	Drain	Gravity(PVC 50A) / Pump Drain(PVC 3/4")	Gravity(PVC 50A) / Pump Drain(PVC 3/4")	Option

PLASMA TYPE

G A S S C R U B B E R

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ATOM1000



ATOM1000L

SYSTEM FEATURES

1. Type : Plasma-Wet
2. Thermal or Equilibrium Plasma
3. High abatement efficiency for PFC gases(99%)
4. Excellent safety interlock system
5. Low utility consumption(water, power)
6. High corrosion resistance structure
7. Relatively lower utility & operation cost (Applied low power torch)
8. Simple operation and easy maintenance
9. Third party certified.

TARGET ABATEMENT GAS

1. PFC gases : NF_3 , SF_6 , CF_4 , C_2F_6 , C_3F_8 , etc.
2. Flammable gases : SiH_4 , DCS, TEOS, H_2 , PH_3 , etc.
3. Water Soluble gases : BCl_3 , Cl_2 , HF, HCl, NH_3 , etc.

ITEM		SPECIFICATION		REMARKS
Class	Details	ATOM1000	ATOM1000L	
General	Max. Capacity	400LPM	1500 LPM	
	Dimension(mm)	850 x 1052 x 1752(WxDxH)	1300 x 1000 x 1800	
	In-Let Port	NW40 x 4port	NW50 *2P	Option
	By-Pass Port	NW40 x 4port	NW50 1P, KF FLANGE Type	
Utility	Electric Power	3P, 208V AC, 100A	3P, 208V AC, 100A, 50Hz	
	CDA	30~50LPM, 3/8" 1Port, 4~5kgf/cm ²	60~80 LPM	
	N ₂	50~60LPM, 3/8" 1Port, 4~5kgf/cm ²	60~80 LPM	
	CW	10~12 LPM, 1/2" 1Port, 2~4kgf/cm ²	12~14 LPM	
	PCW	Supply	Supply / Return	
		Return	(10~12 LPM)	
	Cabinet Exhaust	< -10 mmH ₂ O, NW100(Φ101.6) x 1Port	< -10 mmH ₂ O (> 8 m ³ / min)	
	Acid Exhaust	< -50 mmH ₂ O, NW100(Φ114.3) x 1Port	< -50 mmH ₂ O (> 3 m ³ / min)	
	Drain	Pump Drain	PVC 3/4"(20A) Welding Type	
		Over Flow	PVC 1 1/2"(40A) Welding Type	

CHILLER

TEMPERATURE CONTROL SYSTEM

Intergrated Type

Chiller



R-C01000

Heat exchanger



P-C01000

Proximity Type

Chiller



CUBE2500

Heat Exchanger



P-TOM

Low Temp Type



LOW TEMP CHILLER

Refrigerant Type



RCS2500A

RCD2050A

RCS6000A

RCS2500S

Combination Type

Refrigerant + Heat Exchanger



RPM7500A

RPD13000A

RPT13000A

Heat Exchanger Type



PCS8000A

PCS12000AA

PCD12000A

Thermoelement Type



ECS8000A

INTEGRATED TYPE

C H I L L E R

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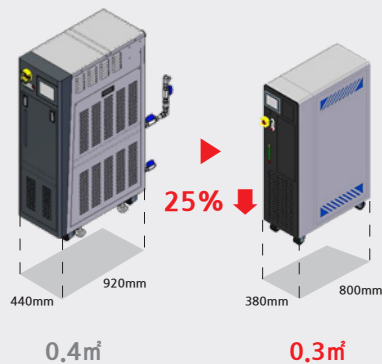
R-CO1000

COMPRESSOR CHILLER



COMPACT DESIGN

- Optimized dimension for fab.



ENERGY SAVING

- Electric Power consumption : **Max. 78% Reduction**

Inverter compressor & pump application

NORMAL COMPRESSOR TYPE 4.5 kWh

NORMAL PUMP TYPE 2.2 kWh

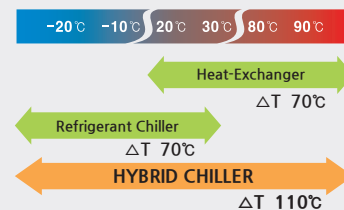
INVERTER COMP. 1.0kWh

INVERTER PUMP. 0.6kWh

HIGH PERFORMANCE

- Wide Temp. Range : **ΔT 110°C**

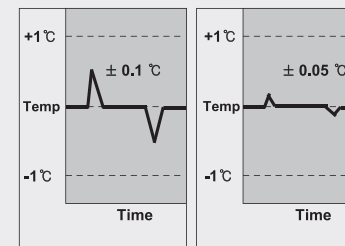
Expanding temperature range by hybrid type application



- Temperature stability : **Max. 30% Improve**

NORMAL TYPE 500ms

R-CO1000 25ms



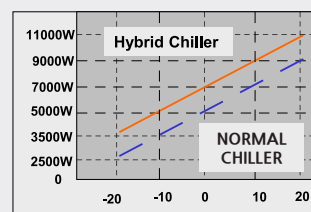
NORMAL TYPE

R-CO1000

- Increase Cooling Capacity :

Max. 11kW (at 20°C)

High performance of compressor



No	Item	Channel 1
1	Temperature Range	-20°C ~ +80°C
2	Temperature Stability	±0.1°C (at Idle Process)
3	Cooling Capacity	4,000W (at +20°C)
4	Temperature Control Mode	Supply / Return
5	Temperature Control & Display	PID Control & Touch Screen
6	Remote Interface	RS485, RS422, RS232C, Analog, D/Net (User Option)
7	Electric Power	3Φ, AC200/208V, 50/60Hz (Breaker 30A)
8	Reservoir Volume	20.0 l
9	Compressor	1.2 ~ 4.5 kW (Inverter Control)
10	Circulation Pump	0.75 ~ 2.2 kW (Inverter Control)
11	Coolant	FC-3283
12	Coolant Flow Rate	20LPM (at 0.5 Mpa)
13	PCW Flow Rate	20±2°C, 10LPM, 3kg/cm²
14	Connection Size	Coolant 3/4"
15		PCW 1/2"
16	Dimension	380W x 800D x 1,400H (mm)

INTEGRATED TYPE

C H I L L E R

UNISEM

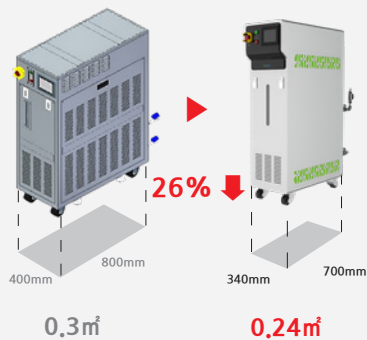
P-CO1000

HEAT-EXCHANGER



COMPACT DESIGN

- Optimized dimension for fab.



ENERGY SAVING

- Reduce brine vaporization : **Max. 90%**

Seperated Tank concept for Heating zone and Reservoir

NORMAL TYPE	3,0cc / 1day
P-CO1000	0,3cc / 1day

- Lower Electric consumption : **Max. 37% Reduction**

Inverter control application

NORMAL TYPE	3,2kW
P-CO1000	2,2kW

- Lower operation cost : **Max. 30% Reduced**

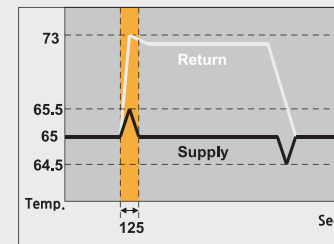
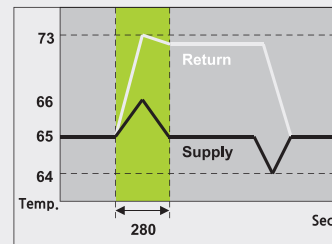
Minimize brine usage.

NORMAL TYPE	100%
P-CO1000	70%

HIGH PERFORMANCE

- Response time : **Max. 55% Reduction**

Seperated tank System can precise temperature control.



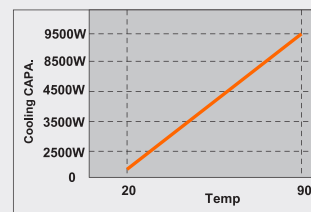
- Temperature rise time : **Max. 24% Reduction**

Relative small amount fluid can reduce temperature rising time.

NORMAL TYPE	360sec
P-CO1000	276sec

- Cooling Capacity : **Max. 9.5kW**

Improve Control cycle & precision by high Performance Controller.



No	Item	Channel 1
1	Temperature Range	+25℃ ~ +90℃
2	Temperature Stability	±0.1℃ (at Idle Condition)
3	Cooling Capacity	12,000W (at +50℃, Supply Control)
4	Temperature Control Mode	Supply / Return
5	Temperature Control & Display	PID Control & Touch Screen
6	Remote Interface	User Option (Interface Module)
7	Electric Power	3Φ, AC208V, 50/60Hz (Breaker 30A)
8	Reservoir Volume	20.0 Liters
9	Compressor	-
10	Pump	0.75 ~ 2.2 kW (Inverter Control)
11	Heater	5.0 kW
12	Coolant	Galden, Fluorinert, EG/DI, DI Water
13	PCW Flow Rate	20±2℃, 10LPM, 3kg/cfl
14	Flow Rate	Coolant 30 LPM (at 0.5 Mpa)
15		PCW 20±2℃, 10LPM, 3kg/cfl
16	Connection Size	Coolant 3/4 "
17		PCW 1/2 "
18	Dimension, Weight	340W x 700D x 1,450H, 120 kg

HEAT EXCHANGER TYPE

C H I L L E R

UNISEM



PCS12000AA

SYSTEM FEATURES

1. Application process : CVD
2. Maintaining stable temperature by PID control of heater & PCW Valve
3. Easy operation by touch screen
4. High reliable & durable by professional experience
5. Multiple application to communication protocol through interface board
6. Applied with various safety interlock system (Temperature, Pressure, etc)
7. Highly optimized design for coolant circulation system

Model	Type	Temp. Range	Cooling CAPA.	Dimension(mm) (W X D X H)
PCS12000AA	Single Channel	+40℃ ~ +140℃	12.0KW (+50℃)	380 X 840 X 1250
PCS300KA	Single Channel	+20℃ ~ +30℃	300.0KW (+25℃)	600 X 1200 X 1800
PCD4000A	Dual Channel	+30℃ ~ +90℃	4.0KW (+50℃)	440 X 800 X 1200
PCS8000A	Single Channel	+30℃ ~ +90℃	8.0KW (+50℃)	400 X 680 X 1060
PCD40000A	Dual Channel	+30℃ ~ +90℃	40.0KW (+50℃)	580 X 1100 X 1450
PCD12000A	Dual Channel	+30℃ ~ +90℃	12.0KW (+50℃)	440 X 840 X 1250



PCS300KA



PCD4000A



PCS8000A



PCD40000A



PCD12000A

PROXIMITY TYPE

C H I L L E R

UNISEM

P-TOM

HEAT EXCHANGER



COMPACT DESIGN

- Optimized dimension for fab.

Foot print :
340mm x 700mm

0.2m³

50% ↓

Foot print :
240mm x 425mm

0.1m³

ENERGY SAVING

- Electric Power consumption :
Max, 80% Reduction
- PCW : **Max, 80% Reduction**

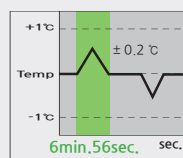
HIGH PERFORMANCE

- Temperature stability :
Max, 75% Improve

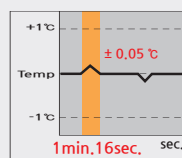
High performance controller and valve applicable

NORMAL HEAT-EXCHANGER ± 0.2 °C

P-TOM ± 0.05 °C



Normal Heat-Exchanger



P-TOM

CUBE

CHILLER



COMPACT DESIGN

- Optimized dimension for fab.

Foot print :
380mm x 800mm

0.3m³

20% ↓

Foot print :
500mm x 500mm

0.25m³

ENERGY SAVING

- Electric Power consumption :
Max, 45% Reduction
- Operation Cost :
Max, 80% Reduction

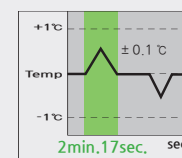
HIGH PERFORMANCE

- Response time : **Max, 45% Reduction**

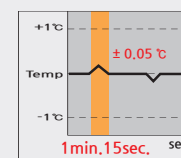
High performance controller applicable.

NORMAL CHILLER 2min, 17sec.

CUBE 1min, 15sec.



NORMAL CHILLER



CUBE(Direct)

No	Item	Channel 1
1	Temperature Range	+30°C ~ +90°C
2	Temperature Stability	±0.1°C (at. Idle Condition)
3	Cooling Capacity	8,000W (at +50°C, Supply Control)
4	Temperature Control Mode	Supply / Return
5	Temperature Control & Display	PID Control & Touch Screen
6	Remote Interface	User Option
7	Electric Power	3Φ, AC208V, 50/60Hz (Breaker 15A)
8	Reservoir Volume	6.0 Liters
9	Compressor	-
10	Pump	0.2 ~ 1.1 kW (Inverter Control)
11	Heater	2.4 kW
12	Coolant	Galden, Fluorinert
13	PCW Flow Rate	20±2°C, 10LPM, 3kg/øil
14	Flow Rate	Coolant 20 LPM (at 0.5 Mpa)
15		PCW 20±2°C, 10LPM, 3kg/øil
16	Connection Size	Coolant 1/2 "
17		PCW 1/2 "
18	Dimension, Weight	240W x 425D x 530H, 50 kg

No	Item	Channel 1
1	Temperature Range	-20°C ~ +80°C
2	Temperature Stability	±0.1°C (at. Idle Condition)
3	Cooling Capacity (RF Power)	8,000W (at +20°C, Supply Control)
4	Temperature Control Mode	Coolant Supply / Return
5	Temperature Control & Display	PID Control & Touch Screen
6	Remote Interface	RS485, RS422, RS232C, Analog, D/Net (User Option)
7	Electric Power	3Φ, AC208V, 50/60Hz (Breaker 30A)
8	Reservoir Volume	6.5 Liters
9	Compressor	0.75 ~ 1.5 kW (Inverter Control)
10	Circulation Pump	0.75 ~ 2.2 kW (Inverter Control)
11	Coolant	FC-3283
12	Coolant Flow Rate	20LPM (at 0.5 Mpa)
13	PCW Flow Rate	20±2°C, 10LPM, 3kg/øil
14	Connection Size	Coolant 1/2 "
15		PCW 1/2 "
16	Dimension	Chiller 500W x 500D x 450H
17		Electric Cabinet 400W x 560D x 685H

MIXING SYSTEM TYPE

C H I L L E R

UNISEM

SECA

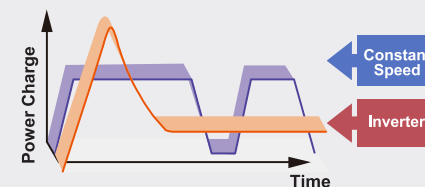
MIXING SYSTEM CHILLER



ENERGY SAVING

- Electric Power consumption : **Max 45% Reduction**

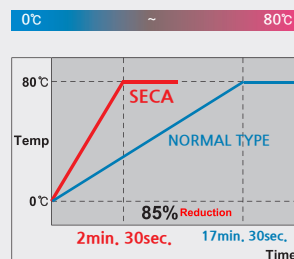
Reduce 45% of electric power consumption by inverter compressor



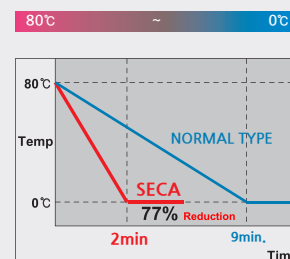
HIGH PERFORMANCE

Minimize Heating & Cooling time by mixing unit controller

- Heating Time : **Max 85% Reduction**



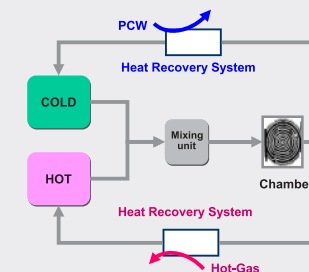
- Cooling Time : **Max 77% Reduction**



SYSTEM VIEW

- System Diagram

Reduce PCW and heating rate by heat recovery system.



No	ITEM	Channel 1 (BTM)	Channel 2 (TOP)	Mixing Unit
1	Temperature Range	-20°C ~ +60°C	+30°C ~ +40°C	+0°C ~ +80°C
2	Temperature Stability	±0.2°C	±0.2°C	±0.2°C
3	Cooling Capacity	6,200W (at -10°C)	4,500W (at +35°C)	8,000W (at +20°C)
4	Temperature Control Mode	Supply	Supply	Supply
5	Temperature Control & Display	PID Control & Touch Screen		
6	Remote Interface	RS422 / DIO		
7	Electric Power	3Φ, AC208V, 50/60Hz (Breaker 125A)		
8	Reservoir Volume	24.0 ℓ	24.0 ℓ	-
9	Compressor	10.0 kW (Inverter)	-	-
10	Pump	2.2 kW (Inverter)	1.5 kW (Inverter)	1.1 kW (Inverter)
11	Heater	-	3.0 kW	20.0 kW
12	Coolant	FC-3283	HT-200	FC-3283
13	PCW Flow Rate	20±2°C, 10LPM, 3kg/crit		
14	Flow rate	Coolant	25 LPM (at 0.7 Mpa)	25 LPM (at 0.5 Mpa)
15		PCW	20±2°C, 50LPM, 4kg/crit	-
16	Connection Size	Coolant	1/2 "	3/4 "
17		PCW	3/4 "	-
18	Dimension, Weight	500W x 1,200D x 1,700H (mm), 300kg		250 x 600 x 280 (mm), 50kg

LOW TEMP CHILLER TYPE

C

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UNISEM

GLOBAL SALES NETWORK

