

No.1 Share in Japan

ORION[®]

ISO Quality Policy

Orion strives to offer products that delight its customers.

Clean Air System

(Heavy Duty Models)

New Heavy Duty Dryer and Filter Series

ORION'S Answer to Clean Air AND Energy Savings



DSF2900A-SUS

New Model Filter (Stainless Steel Construction)

4 Types, 20 Models (29 ~ 61 m³/min)

New Model Air Dryer (Energy Saving Operation)

3 Water Cooled Models (29 ~ 53 m³/min)2 Air Cooled Models (23 ~ 31 m³/min)

CRX Water Cooled Models

New Models

Refrigerated Air Dryers Heavy Duty CRX Series

Compatible Air Compressor : ~300 kW class

Employing Refrigeration Compressor Capacity Control (Dual-Drive Eco System)

- Multi Compressor Controlled Operation for Energy Savings
 - * CRX3100A-E model and above

Electronic Controller for Improved Functionality

- Digital Display Shows Dew Point and Other Respective Functions
- Warning Alarms (Preliminary Alarms) Allow for User Prevention of Air Trouble

Stainless Steel Internal Piping for Cleaner Air

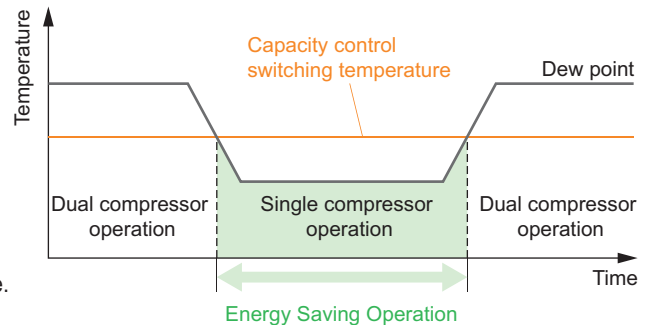
- ORION Stainless Steel Filter Models Also Available for Installation in the Air Line Before and After the CRX Unit



CRX4100A-WE

ORION's Dual-Drive Eco System Capacity Control Explained:

- Dual refrigeration compressors, one or both automatically activated depending on air load
- For lighter air loads when the actual dew point temperature goes below the set capacity control temperature, the unit will switch into single refrigeration compressor mode.
- The CRX aims for greater power savings by controlling refrigeration compressor operation, which is where most energy consumption takes place.



Electronic Controller (Control Panel) Features



Digital display of dew point temperature, alarm information, accumulated running time

- Concise alarm information from combined use of error code display and alarm indicator light

Advanced functions including automatic capacity control switching and a dew point temperature alarm

- Automatic temperature based switching between single or dual compressors (energy saving setting) and a user programmable dew point alarm.

Comes standard with external signal terminals [remote operation control signal, operating signal, failure alarm, warning alarm].

- Remote monitoring of CRX operating conditions, drops in dehumidifying capacity, etc.
- Warning alarm notification for rise in dew point
 - * Operation will continue and the CRX unit will not shut down during warning alarm conditions.

Includes filter change warning alarm

- A blinking lamp on the control panel indicates when filter units installed before or after the CRX unit require filter element changes.
- Air quality can be maintained to match the user's needs by timely replacement of filter elements.
 - * Replacing the filter element in the Super Drain Filter (DSF) installed before the CRX unit is important for maintaining CRX unit performance.

Local/Remote Operation Switch

- User selectable operation control

Built-in Pressure Gauges (air pressure, evaporation pressure, condensation pressure)

- Check conditions easily during normal operation, inspection, and maintenance.
- Multiple gauges in a single, easy to see location on the control panel for quick and convenient regular inspections.

Heavy Duty CRX Model Specifications

Item	Model		Water cooled			Air cooled	
			CRX2900A-W	CRX4100A-WE	CRX5300A-WE	CRX2300A	CRX3100A-E
Air Processing Conditions	Air Processing Capacity	m ³ /min	29	41	53	23	31
	Inlet air pressure	MPa	0.69			0.69	
	Inlet air temperature	°C	45			50	
	Outlet pressure dew point	°C	10			10	
	Cooling water temperature	°C	32			—	
	Cooling water flow rate	m ³ /h	4.8	5.2	5.4	—	
	Ambient temperature	°C	—			35	
Operating Ranges	Inlet air temperature	°C	10 ~ 60			10 ~ 60	
	Ambient temperature	°C	2 ~ 45			2 ~ 45	
	Compressed air pressure	MPa	0.29 ~ 0.98			0.29 ~ 0.98	
	Cooling water temperature	°C	2 ~ 34			—	
Outside Dimensions	H × D × W	mm	1500×1000×802	1500×1000×802	1500×1199×850	1500×1500×802	
Mass		kg	278	350	395	323	385
Air Connection	Flange		2 1/2 B (65A)	3B (80A)	4B (100A)	2 1/2 B (65A)	3B (80A)
Electrical Specifications	Power	V	3 phase, 380V, 50Hz			3 phase, 380V, 50Hz	
	Power consumption	kW	4.2	6.8	9.5	5.6	10.0
	Electric current	A	8.0	12.5	17.5	10.5	18.0
Recommended Pre Filter	Installed before CRX	Option	DSF2900A-SUS	DSF4100A-SUS	DSF5300A-SUS	DSF2900A-SUS	DSF3400A-SUS

- * Uses environmentally friendly R-407C refrigerant.
- * Special-order models available with an air pressure specification of 1.0 MPa.
- * Air processing capacity figures are based on ANR and adjusted to atmospheric pressure, 32°C, 75% RH.
- * Always install a Super Drain Filter (DSF) along the piping before the CRX unit.
- * Refer to the specifications sheet for further details.

Heavy Duty CRX Model Selection Coefficients

Air dryer processing capacity differs based on operating conditions. Confirm the installation location and operating requirements and choose the model that adequately meets your needs.

$$\text{Dryer processing air flow (m}^3\text{/min)} = \textcircled{1} \text{ standard air flow (m}^3\text{/min)} \times \textcircled{2} \text{ the temperature correction coefficient} \times \textcircled{3} \text{ the pressure correction coefficient}$$

① Standard air flow

Model	CRX2300A	CRX2900A-W	CRX3100A-E	CRX4100A-WE	CRX5300A-WE
Air Processing Capacity (m ³ /min)	23	29	31	41	53

② Temperature Correction Coefficient

Water Cooled Models

Inlet air °C	40			45			50			55			60		
Pressure dew point °C	5	10	15	5	10	15	5	10	15	5	10	15	5	10	15
	0.88	1.14	1.14	0.77	1.00	1.14	0.66	0.91	1.10	0.59	0.83	0.98	0.54	0.75	0.89

- * In water cooled models, use the coefficients above regardless of the temperature of the cooling water. Note however that the cooling water should be 2~34°C.

Air Cooled Models

Inlet air °C	40			45			50			55			60		
Ambient temperature °C \ Pressure dew point °C	5	10	15	5	10	15	5	10	15	5	10	15	5	10	15
30	0.85	1.15	1.37	0.83	1.12	1.35	0.78	1.06	1.27	0.67	0.88	1.04	0.62	0.80	0.92
32	0.82	1.12	1.34	0.80	1.09	1.31	0.76	1.03	1.24	0.64	0.85	1.01	0.60	0.75	0.89
35	0.79	1.09	1.30	0.77	1.06	1.28	0.73	1.00	1.21	0.62	0.81	0.98	0.57	0.70	0.86
40	0.60	0.81	0.98	0.58	0.80	0.96	0.55	0.75	0.91	0.47	0.62	0.75	0.44	0.56	0.66

③ Pressure Correction Coefficient

Air pressure MPa	0.29	0.39	0.49	0.59	0.69	0.79	0.89	0.98
Correction Coefficient	0.73	0.80	0.87	0.93	1.00	1.07	1.13	1.20

New Model

Heavy Duty Filter Series

4 Unit Types and 20 Models to Suit Your Needs

For Heavy Duty CRX Air Flow (29~61 m³/min)

Stainless Steel Vessel Standard (for both Cleanliness and Reduced Weight)

Highly Efficient Filter Element (Made in Japan)



MSF2900A-SUS

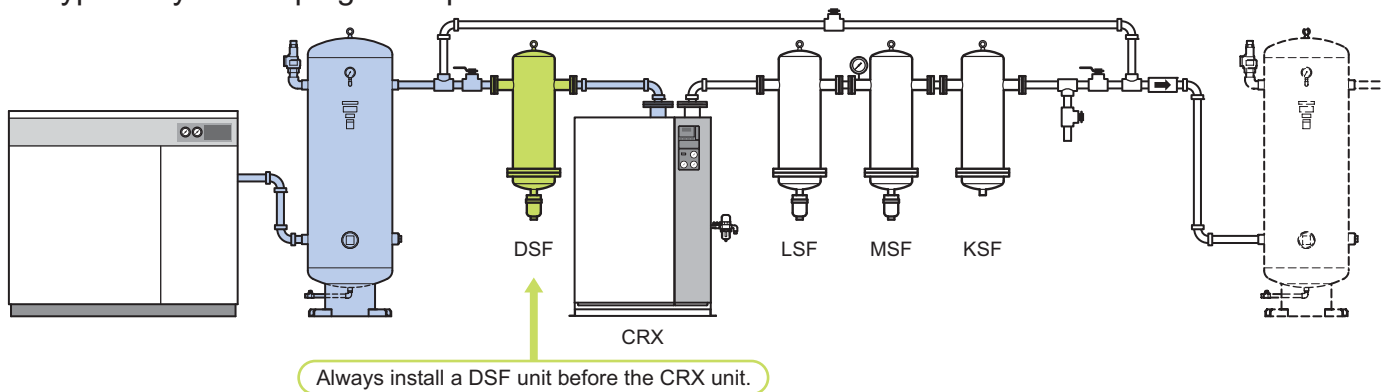
Super Drain Filter	DSF Series	Removes water droplets and solid particulate (5 μm and larger).
Super Line Filter	LSF Series	Removes solid particulate (1 μm and larger).
Super Mist Filter	MSF Series	Removes oil and solid particulate (0.01 μm and larger).
Super Activated Carbon Filter	KSF Series	Oil and odor removal (oil concentration at outlet: 0.003 wt ppm)

Filter Specifications

Model	DSF / LSF / MSF / KSF	2900A-SUS	3400A-SUS	4100A-SUS	5300A-SUS	6100A-SUS
Air processing capacity at 0.69MPa	m ³ /min	29.0	34.0	41.0	53.0	61.0
Body and housing		Stainless steel				
Operating Ranges	Pressure	MPa	0.05~0.98(DSF 0.2~0.98)			
	Inlet air temperature	°C	5~60			
	Ambient temperature	°C	2~60			
Performance Specifications	Filtration	DSF : 5 μm (Water droplet separation efficiency 99%) LSF : 1 μm / MSF : 0.01μm / KSF : Adsorption by activated carbon fiber				
	Output oil concentration	Wtppm	MSF : 0.01 / KSF : 0.003 *Subject to inlet air conditions			
When to replace filter element		One year or pressure loss 0.02 MPa for DSF, 0.035MPa for LSF/MSF whichever comes first.				
Main Dimensions (Height and mass are of DSF.)	Air connection (Flange)	2 1/2 B (65A)	3B (80A)	4B (100A)		
	Dimensions	590 × 377 × 1012	590 × 377 × 1169	640 × 442 × 1245		
	Mass	kg	27	32	48	
Filter Element	EDS / ELS / EMS / EKS	1300	2000	2000		
	Quantity	2	2	3		
Accessories	Auto drain trap	FD-10-A (DSF) FD-1D (LSF/MSF) None for KSF				
	Pressure differential gauge	DGX-50A (Comes standard only with MSF.)				

* Refer to the specifications sheet for further details.

Typical System Piping Example



For inquiries, please contact the following representative: _____



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Important:

This catalog contains product specifications as of February, 2011.

- Images in this catalog are printed images and actual product colors may differ from the colors herein.
- Product mechanisms, specifications, etc. listed in this catalog are subject to change without notice.