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Equipment for improving circulating cooling water quality

Dielectric breakdown method electrolysis (patented)

DB Scale Separator

Module type (1 tank to 4 tanks can be linked)



Photo shows 2-tank type DBSS50A-22W

Features

- Depending on the heat load size, multiple electrolysis tanks in series can be selected
The number of tanks can be increased
- Split shipment makes installation and transport easier
- Reduced installation costs

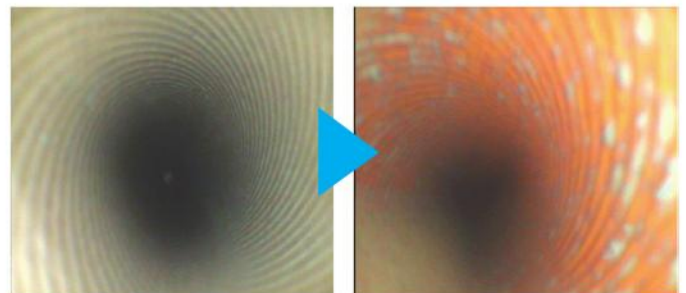
Effect

- Reduced cost (reduced power consumption)
- Scale removal saves energy and electric power
 - Improved heat exchange efficiency
 - Less maintenance work and costs
- Fewer heat exchanger and piping troubles
 - Scale and corrosive element removal
 - Reduced slime damage and algae, antibacterial
- Non-chemical
 - Reduced chemical and chemical wash expenses
 - Reduced environmental load

Example of removing scale



Removing scale adhered to inside of a heat exchanger in a pressure molding machine (three months after)
Circulating cooling water in a cooling tower was cyclically treated by using a DB Scale Separator.
The piping had been just after chemical cleaning, but scale was gradually removed by using a DB Scale Separator.



Removing scale adhered to inside of a heat exchanger in a turbo type refrigerating machine (10 months after)
Circulating cooling water in a cooling tower was cyclically treated by using a DB Scale Separator.
Scale adhered to copper piping was removed, and heat exchange efficiency improved.

Separating and removing scales and corrosive elements in water (removal volume guaranteed)

Removed amount of components ^{Note}

25 to 100 kg [55.116 to 220.5 lb]/365 days

Note: Removal amount of dissolved evaporative residues (scale and corrosive components) at treated inflow water's electrical conductivity being 80 mS/m. This would vary depending on water quality, load, and operating conditions etc.



Specifications

Item	Name	Device main unit (1 tank to 4 tanks)				Electrolysis tank for expansion	Junction terminal box
Model		DBSS50A-21W	DBSS50A-22W	DBSS50A-23W	DBSS50A-24W	DBSS50A-25W	DBSS50A-26W
Outer dimensions	mm [in]	700 × 600 × 1200 [27.6 × 23.6 × 47]	1200 × 600 × 1200 [47 × 23.6 × 47]	1700 × 600 × 1200 [67 × 23.6 × 47]	2200 × 600 × 1200 [87 × 23.6 × 47]	500 × 600 × 1200 [19.7 × 23.6 × 47]	235 × 78 × 190 [9.3 × 3.071 × 7.5]
Dry mass	kg [lb]	130 [286.6]	190 [418.9]	250 [551.2]	310 [683.4]	60 [132.277]	1 [2.205]
Electrolysis tank	Capacity ℓ	Total water capacity 160	Total water capacity 320	Total water capacity 480	Total water capacity 640	Total water capacity 160	—
	Breakdown ℓ	(Electrolysis tank 105, settling tank 55 = 160) × 1 tank	(Electrolysis tank 105, settling tank 55 = 160) × 2 tanks	(Electrolysis tank 105, settling tank 55 = 160) × 3 tanks	(Electrolysis tank 105, settling tank 55 = 160) × 4 tanks	Electrolysis tank 105, settling tank 55 = 160	—
Maximum processing flow rates		To 5 ℓ/min (0.3 m ³ /hr)	To 10 ℓ/min (0.6 m ³ /hr)	To 15 ℓ/min (0.9 m ³ /hr)	To 20 ℓ/min (1.2 m ³ /hr)	To 5 ℓ/min (0.3 m ³ /hr)	—
Scale and corrosive element removal volume ¹⁾²⁾	kg [lb]/365 days	To 25 [55.116]	To 50 [110.231]	To 75 [165.347]	To 100 [220.5]	—	—
Drained amount	ℓ/day	160	320	480	640	160	—
Main unit connection port	IN Connection port diameter	Rc 1/2-inch 15A				—	—
	Drain connection port diameter	Rc 1-1/2-inch 40A				—	—
	OUT connection port diameter	(1-1/4-inch 32A barb) x 1	(1-1/4-inch 32A barb) x 2	(1-1/4-inch 32A barb) x 3	(1-1/4-inch 32A barb) x 4	(1-1/4-inch 32A barb) x 1	—
Input current		Single phase 200 VAC 50/60 Hz				—	—
Consumption power	kW	0.3	0.5	0.5	0.6	—	—
Paint color		5Y7/1 beige				—	—
Protection level		IP-44 compliant (outdoor specifications)				—	IP-44 compliant (outdoor specifications)
Alarm output		① Electrode plate life * Alarm generation: Lights and device operates ② Valve abnormality (drain discharge, IN side supply water abnormality) ③ Power supply abnormality * Alarm generation: All devices stop				—	—
Supported cleaning towers		To 150RT	150 to 300RT	300 to 450RT	450 to 600RT	To 150RT	—

Note: Removal volume of dissolved solids (scales and corrosive elements) when the electroconductivity of the inflow of water for processing is 80 mS/m. Depends on water quality, load, and operation conditions. Along with draining, scale and corrosion-derived elements are automatically discharged outside of the machine.

Order codes

● Device main unit

- (1 tank) **DBSS50A - 21W**
- (2 tanks) **DBSS50A - 22W**
- (3 tanks) **DBSS50A - 23W**
- (4 tanks) **DBSS50A - 24W**

● Electrode unit (as a consumable component, requires regular replacement)

- (1 tank) **DBSS50ELEA - 3W × 1 set**
- (2 tanks) **DBSS50ELEA - 3W × 2 sets**
- (3 tanks) **DBSS50ELEA - 3W × 3 sets**
- (4 tanks) **DBSS50ELEA - 3W × 4 sets**

● Electrolysis tank for expansion

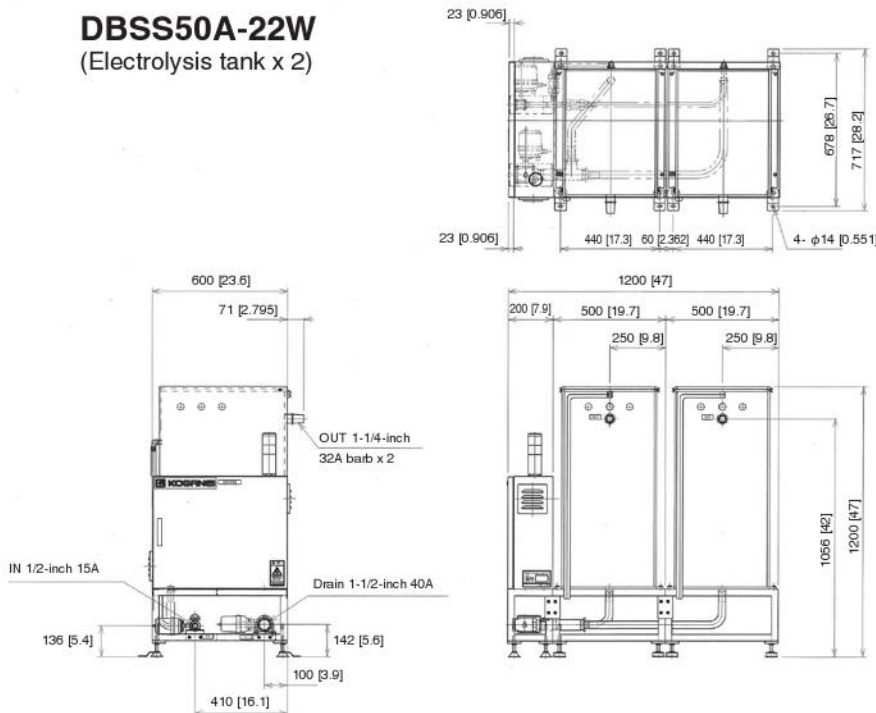
DBSS50A - 25W

● Junction terminal box

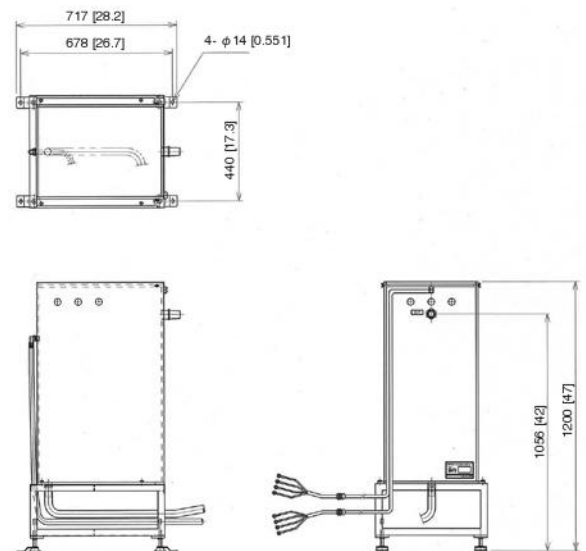
DBSS50A - 26W

Dimensions mm [in]

DBSS50A-22W (Electrolysis tank x 2)



DBSS50A-25W



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●Note that the specifications and external appearance are subject to change without notice.