

CIS ELEKTROTECHNIK GMBH  
SPECIALIST FOR ELECTRICAL MARINE EQUIPMENT  
SINCE 1993

WELLSEEDAMM 13  
D-24145 KIEL-WELLSEE  
TEL.: +49-431 71 97 003  
FAX: +49-431 71 97 004  
E-MAIL: [INFO@CIS-SHIP.COM](mailto:INFO@CIS-SHIP.COM)  
[WWW.CIS-SHIP.COM](http://WWW.CIS-SHIP.COM)



AUSRÜSTUNGEN FÜR  
SCHIFFBAU UND INDUSTRIE

VERTRETUNGEN

SERVICE

ERSATZTEILE

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EQUIPMENT FOR  
MARINE AND INDUSTRIAL APPLICATION

REPRESENTATIONS

SERVICE

SPARE PARTS



CIS ELEKTROTECHNIK GMBH

## CIS Elektrotechnik GmbH

was founded in 1993 and specialises in the supply of electrical marine equipment for shipyards, shipowner and subcontractors.



### CIS main activities are:

CIS Propellershaft-Earthing-System  
Transformers  
Filters and Reactors  
ICCP and Antifouling Systems  
Ex Marine Lighting and Equipment  
Ventilators (portable)  
Reefer Container Sockets  
Electronic Ballast  
Emergency Lighting  
Marine Heaters  
Spare Parts

### CIS has representations and cooperations

in Europe, USA and Asia. Through the various activities CIS is in the position to operate worldwide. Flexible co-operation with our customers and suppliers is a good basis for successful products and high quality. In addition CIS can offer commissioning, service and spare parts. Since 1994 CIS participate at the SMM fair in Hamburg and other International Marine Exhibitions.



ESL Socket Module Reefer Assemblies for Refrigerated Containers



NFECE After Sales Service, Spare Parts for Reefer Container Sockets in Europe



### CIS PROPELLERSHAFT-EARTHING-SYSTEM "PES"

- The high efficiency Propellershaft-Earthing-System "PES" can prevent the micro pitting marks at the propeller, on the sliding surface of crankshaft journals and main bearings of the engines to be assumed as spark erosion. The system serves for a short circuit between the rotating propeller shaft and ship's hull. Option: Continuous Cleaning Device, Digital Indicator „DRI" to transmit the mV from crankshaft to ships automation system.





MARKETING & SALES

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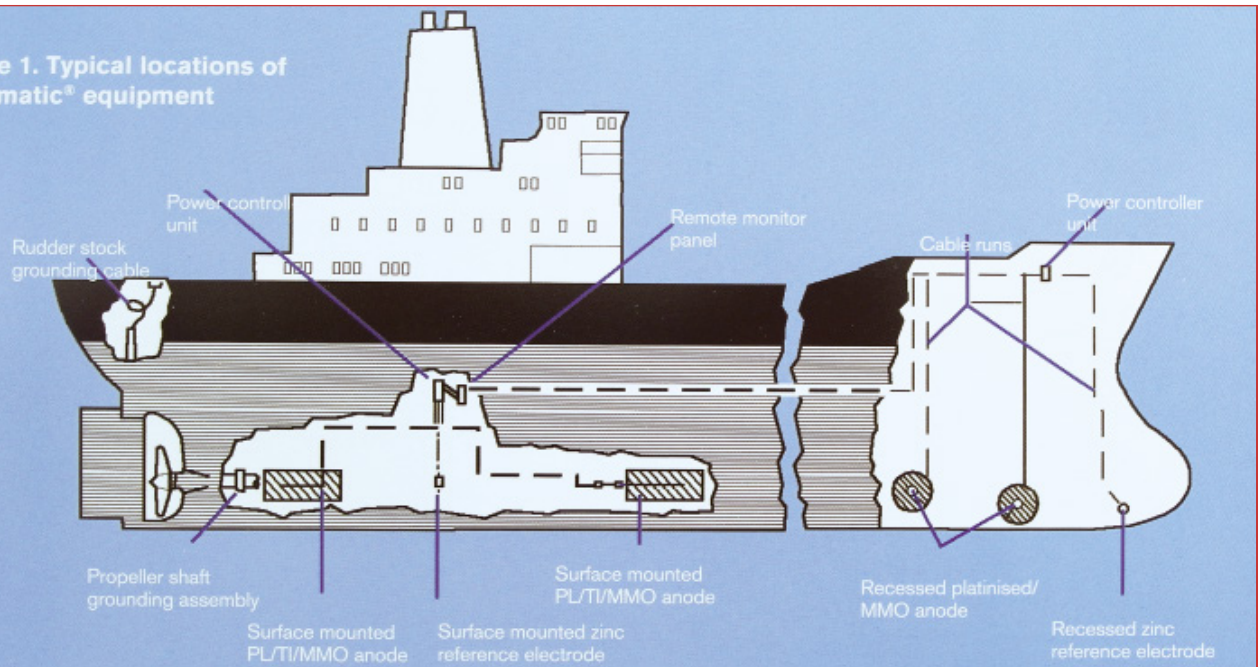
COMMISSIONING

COMMISSIONING

WORLDWIDE SERVICE

WORLDWIDE SERVICE

Figure 1. Typical locations of Aquamatic® equipment

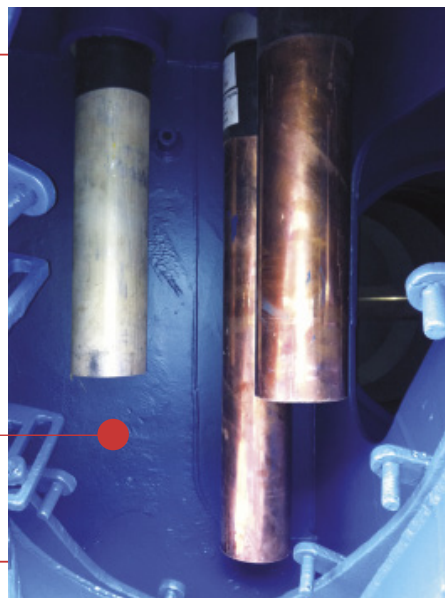


Cathodic Protection (ICCP and Sacrificial) Marine Growth Prevention Systems (MGPS)

## MARINE GROWTH PREVENTION SYSTEM (MGPS)

New systems, service as well as spare anodes (copper, aluminium and ferrous) are provided from us for new buildings, repair and retrofit.

Platinised Titanium Rod Anode for chlorine systems on request.





## TRANSFORMERS ●

- Transformers in the power range 1 kVA to 12,5 MVA
- Converter transformers with 2, 3 or more windings
- Cooling methods AN, AF, AFWF
- According to various standards and rules of IEC and classification societies as DNV, LR, BV, ABS, RINA, CCS, KR, NK, PRS



AQ Trafotek specialises in dry-type transformers for marine, offshore and heavy industry applications. The transformer product range spans from 1 kVA low voltage transformers up to 12,5 MVA cast resin transformers and voltages up to 17,5 kV. A wide range of different accessories can be selected including pre-magnetizing systems, starter units for fan motor or extra windings for auxiliary power. AQ Trafotek transformers are always engineered to application and built according to IEC 60076-11.

More than 1300 references in the shipbuilding marine and offshore industry.

### PRODUCT OFFERING:

- » Transformers for variable frequency drives
- » Charging transformers
- » Distribution transformers
- » Isolation transformers
- » Excitation transformers
- » Control transformers
- » Transformers for hybrid systems
- » Transformers with integrated LC filter

Cooling options AN, AN/AF, AF and AFWF  
Prepreg, VPI and cast resin technology



## ● Explosion Protected Light Fittings

LED Lamps · Floodlights  
Emergency Lighting · Tube Fluorescent Lamps  
High Pressure Lamps

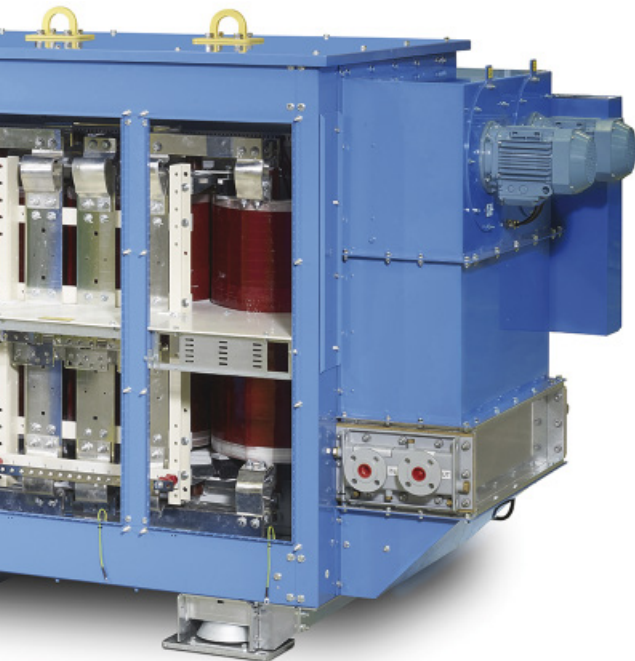


CIS ELEKTROTECHNIK GMBH



# AQ Trafotek

## DRY TYPE TRANSFORMERS



The new S type transformer can be produced from 150 to 400 kVA with AN cooling and up to 630 kVA with AF cooling. Protection class is IP23 or IP44. Windings of aluminium or copper.

The new S type transformer has got following advantages:

- High tolerance for short circuit forces and vibrations.
- Windings are replaceable by lifting off the upper yoke of the core.
- Thanks to painted core, good corrosion resistance and low noise (up to 7 dB lower compared to the old VPI models).
- Footprint up to 35 % smaller than in our previous models.
- As standard, primary and secondary terminals are located on same side of the transformer.



### PERFORMANCE-VENTILATOR TYPE: VAF-12E (AXIAL)

<b>Housing:</b>	dual wall polyethylene shell, blue
<b>Voltage:</b>	230 V AC 50/60 Hz
<b>Power:</b>	0,75 KW
<b>Blower:</b>	60 m <sup>3</sup> /min (3600 m <sup>3</sup> /h)
<b>Duct fit:</b>	both sides 300 mm
<b>Power supply:</b>	5 m with plug
<b>Dimension:</b>	533 x 355 x 430 mm
<b>Weight:</b>	16 kg



### HIGH-PERFORMANCE-VENTILATOR TYPE: VAF

High-Performance-Ventilators of type „VAF“ provides fresh air to any working and welding places. These Ventilators are able to work under toughest conditions and will bring advancement to each shipyard or vessel to blow out double bottom, tanks, stores also for hazardous areas. Complete range of Ventilators and Ex-Type on request. The fans are in operation by shipyards and shipping companies worldwide.



### EX-PROOF-VENTILATOR TYPE: EFI75XX (AXIAL)

<b>Housing:</b>	glass-reinforced anti static ABS housing, black
<b>Certification:</b>	ATEX Unit II 2G Ex de IIB T6
<b>Certification:</b>	ATEX Motor II 2G Ex d IIB
<b>Voltage:</b>	Available 115 V / 230 V, 50Hz/60 Hz
<b>Power:</b>	0,56 kw
<b>Blower:</b>	70,8 m <sup>3</sup> /min (4250 m <sup>3</sup> /h)
<b>Duct fit:</b>	both sides 300 mm
<b>Power supply:</b>	10 m power cord
<b>Dimension:</b>	406 x 381 x 406 mm
<b>Weight:</b>	20 kg



### DUCT TYPE CIS 300/5M, COLOUR BLACK LENGHT 5M / 150MM / -20°-+80°C

welded, tear-proof, polyester-tissue coated with PVC, with tensile steel spring encased in thick abrasion protection, fire resistant and antistatic. Additional final rings and hanging eyes at steel springs.

#### Type CIS-Coupler 300 mm

for easy connection of duct the coupler ist to install over the final rings of the duct. No metal coupler is needed. Fans and hoses can get connected to each other in an arbitrary order.



# SACRIFICIAL ANODES

## SACRIFICIAL ANODES

Table #1.  
**Aluminium Alloyed  
Flush Mounted  
Anodes**

	Type	A (mm)	B (mm)	C (mm)	D (mm)	Insert (mm)	NWT (kg)t	GWT (kg)
	W131	300	200	95	32	20x3	1.2	1.3
W130	350	270	150	32	40x6	2.6	3.2	
W111	500	400	150	32	40x6	4.0	5.0	
W114	650	550	130	50	40x6	8.0	9.2	
W117	650	550	130	65	50x6	10.1	11.6	
W119	650	550	130	75	50x6	12.6	14.1	
W118	650	550	130	95	50x6	16.5	18.0	
W124	1015	920	130	50	50x6	13.0	15.4	
W126	1015	920	130	75	50x6	21.0	23.4	
W128	1015	920	130	105	50x6	30.0	32.4	

Table #3.  
**Zinc Alloyed  
Flush Mounted  
Anodes**

	Type	A (mm)	B (mm)	C (mm)	D (mm)	Insert (mm)	NWT (kg)t	GWT (kg)
	WP3	300	200	95	30	40x3	3.1	3.2
W6Z	350	270	150	32	40x6	6.5	7.1	
W11Z	500	400	150	32	40x6	10.8	11.8	
W14Z	650	550	130	50	40x6	21.3	22.5	
W17Z	650	550	130	65	50x6	25.0	26.5	
W18Z	650	550	130	95	50x6	42.6	44.1	
W19Z	650	550	130	75	50x6	33.0	34.5	
W24Z	1015	920	130	50	50x6	35.0	37.4	

Table #4.  
**Zinc Alloyed  
Flush Mounted  
Anodes  
(drop shape)**

	Type	A (mm)	B (mm)	C (mm)	D (mm)	Insert (mm)	NWT (kg)t	GWT (kg)
	WP1	260	180	60	32	20x3	1.0	1.1
WP2	300	220	75	38	20x3	2.15	2.3	
WP5	380	290	100	50	30x5	4.55	5.0	
W10Z	400	280	150	75	40x6	10.0	10.7	
W16Z	520	420	160	70	40x6	15.0	16.0	

Table #6.  
**"C" Clamp Mounted  
Slender Stand-Off  
Anodes  
(Pit Guard)**

	Type	Alloy	A (mm)	B (mm)	C (mm)	F Dia. (mm)	NWT (kg)
	AT2235	Aluminium	193	70	76	2.25	2.25
AT2235/1	Aluminium	386	70	76	4.5	4.5	
AT2235/2	Aluminium	344	70	76	4.0	4.0	
ZT2247	Zinc	332	70	76	10.0	10.0	

Table #7.  
**Standard Bolted  
Anodes**

	Type	A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	Aluminum Alloy	Zinc Alloy
							GWT (kg)	GWT (kg)
B4	200	100	40	110	50	1.8	1.8	4.20
B9E	300	150	40	160	50	4.6	4.6	11.0
B9F	300	150	50	160	50	5.5	5.5	13.8
B9H	300	150	60	160	50	6.5	6.5	16.5
B9G	300	150	65	160	50	7.0	7.0	18.0
B12E	300	200	40	160	50	6.6	6.6	15.2
B12F	300	200	50	160	50	7.5	7.5	18.8
B12H	300	200	60	160	50	9.7	9.7	25.0
B12G	300	200	65	160	50	10.7	10.7	26.8

Table #8.  
**Aluminium Alloyed  
Bolted Anodes**

	Type	A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	NWT (kg)	GWT (kg)
	MF 134 E	400	180	40	180	50	7.4	7.4
MF 134 F	400	180	50	180	50	9.3	9.3	9.7
MF 134 H	400	180	60	180	50	11.2	11.2	11.6
MF 134	400	180	70	180	50	13.0	13.0	13.4

Table #9.  
**Aluminium Alloyed  
Bolted Anodes**

	Type	A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	NWT (kg)	GWT (kg)
	RF-118	460	200	64	260	50	11.5	11.5
RF-155	540	200	65	340	50	15.1	15.1	15.4

Other types on request



# CIS ACTIVITIES

## REPRESENTATION / COOPERATIONS



CIS Propellershaft-Earthing-System



Impressed Current Cathodic Protection (ICCP),  
MGPS including Commissioning,  
Service, Sacrificial Anodes



Ex-proof Marine Lighting and Equipment



Ventilators (portable) for Shipbuilding  
and Industrial Application



Marine DC-Power Systems



ESL Socket Module Reefer Assemblies  
for Refrigerated Containers



NFEC After Sales Service, Spare Parts for Reefer  
Container Sockets in Europe



Electronic Ballast, Emergency Lighting



AQ Trafotek

Transformer Dry-Type and Water-Cooled

Navigation Lights and Control Systems

Marine Searchlights

Marine Heaters

Installation Material and E-Inventory  
also US-Standard

Spare Parts