Wilson Walton International

SACRIFICIAL ANODES

Cathodic Protection Specialist

Manufacturing complying with International Standards

GENERAL INFORMATION

WWI ZINCOLINE® is a registered trademark of WILSON WALTON INTERNATIONAL, S.A.

FEATURE

WWI ZINCOLINE® *anodes are cast with high purity zinc supplemented by alloying necessary to ensure excellent control of protection and a long working life.*

MATERIALS

Wilson Walton's ZINCOLINE® *anodes melt according to the Standards developed and patented by* ***WWI Spain,*** *while meeting* ***WWI ZINCOLINE®*** *Specifications, which are more demanding than US Military Specification A 18001J (U.S. MIL-A-18001J, H, K) or ASTM B418 TYPE I, one of the world's most demanding, the trade standard in general use by quality anode founders worldwide. It is a reliable material which has demonstrated good service over many years of experience. It suitable for the full range of Marine Cathodic Protection applications.*

Wilson Walton's *anodes are manufactured under conditions of a stringent quality control conforming to ISO 9001:2015. All alloy cast are made from Special High Grade high purity alloys ingots of grade 99.995% minimum, alloyed to ensure even corrosion pattern, reliable electrical efficiency and a long working life.* ***WWI ZINCOLINE®*** *has an electrical capacity of 780 Ah/Kg. and a solution potential of -1050mV measured against a silver/silver chloride reference cell.*

Before any metal is cast into anodes, a sample is drawn from the furnace to check the chemical analysis of the melt on an emission spectrograph which gives an instant read-out of the compositions of the alloy. This must comply precisely with the requirements of the relevant specification before casting may commence. Detailed records are maintained at each foundry, recording the details of every melt to ensure full material traceability and reliability, and consistency of anode performance. All anodes supplied for marine applications can be supplied with Material Test Certificate.

APPLICATIONS

WWI ZINCOLINE® *anodes are particular suitable for ballast tank, ship hull, oil wells and subsea pipelines. For applications at temperatures above 50°C, please consult.*

ELECTROCHEMICAL CHARACTERISTICS

CHEMICAL ANALYSIS, PERCENTAGE BY WEIGHT, AS FOLOWS ANÁLISIS QUÍMICO, PORCENTAJE POR PESO	
Cu	0.005 max.
Al	0.10 - 0.50
Fe	0.005 max.
Cd	0.025 - 0.07
Pb	0.006 max.
Otras (total) *Others (total)*	Otras (total) *Others (total)*
Zn	Resto / *Rest*
COMPORTAMIENTO EN AGUA DE MAR / *BEHAVIOR EN SEA WATER*	
Capacidad / *Capacity*	780 Ah/Kg. minimun
Eficiencia / *Efficiency*	95%
Potencial / *Potential*	-1050 mV. Ag/AgCl
Densidad / *Density*	7000 Kg/m³

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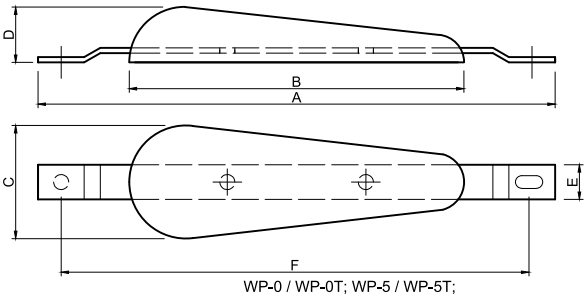
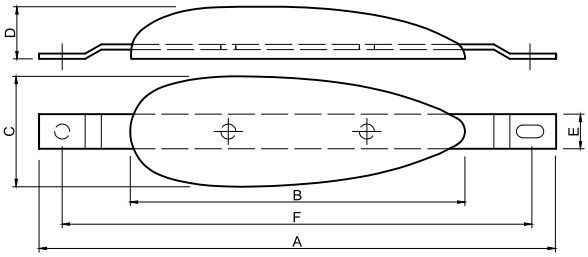


WP-0 / WP-0T; WP-5 / WP-5T;
WP-10Z / WP-10ZT

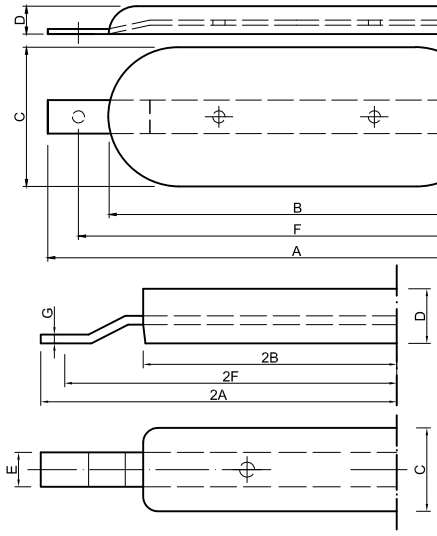


WP-1 / WP-1T; WP-2 / WP-2T;
WELD or BOLTED ON TYPE

HULL

TYPE (mm)	WP-0 WP-0T	WP-1 WP-1T	WP-2 WP-2T	WP-5 WP-5T	W-10Z W-10ZT
A	203	341	391	448	400
B	124	178	231	290	280
C	40	60	76	98	150
D	25	30	35	48	72
E	20	20	30	30	30
F	168	300	341	408	344
G.W. (Kg)	0,55	1,50	2,55	5,00	10,00

F: IF REQUIRED

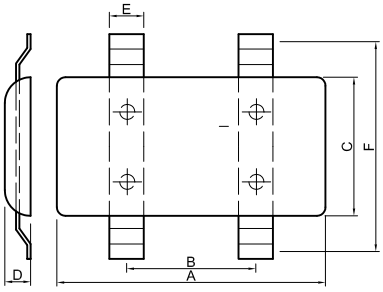


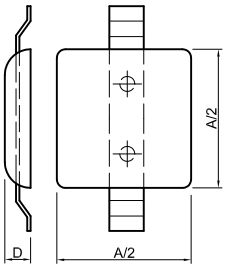
WWI-A3; 6Z /6ZT; W6Z/ W6ZT; 11-Z / 11-ZT;
W-11Z / W-11ZT; W-14Z / W-14ZT; W-17Z /
W-17ZT; 22-Z / 22-ZT; W-24Z / W-24ZT
WELDED or SCREWED

HULL

TYPE (mm)	WWI-A3/ WWI-A3T	6Z 6ZT	W6Z W6ZT	11-Z 11-ZT	W-11Z W-11ZT	W-14Z W-14ZT	22-Z 22-ZT	W-17Z W-17ZT	W-24Z W-24ZT
A	207	350	350	350	536	645	650	660	1042
B	154	220	220	220	405	540	546	546	915
C	77	150	150	150	152	127	127	127	127
D	33	30	30	30	35	51	47	63.5	50
E	30	40	40	40	40	50	47	50	50
F	195	314	314	470	470	592	582	592	992
G.W. (Kg)	5,50	6,00	7,10	11,00	11,90	22,40	23,00	27,00	36,50

F: IF REQUIRED



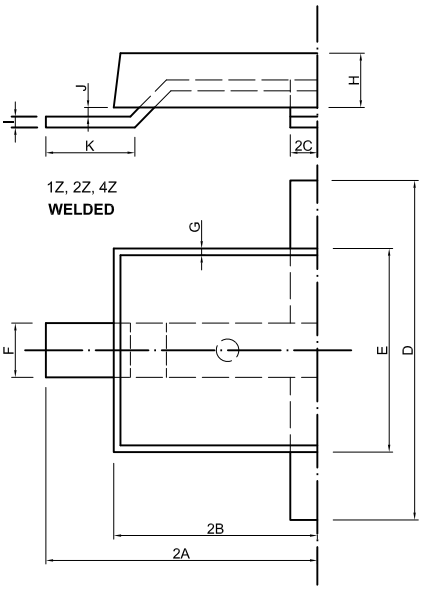


WN-10 / WN-10T;
WN-10/2 / WN-10/2T
WELDED

HULL

TYPE (mm)	WN-10/2 WN-10/2T	WN-10 WN-10T
A	156	312
B	156	150
C	161	161
D	30	30
E	30	30
F	218	218
G.W. (Kg)	5,30	10,60

F: DRILL DISTANCE



1Z, 2Z, 4Z
WELDED

NAVY

TYPE (mm)	1Z	2Z	4Z
A	150	200	55
B	40	150	100
C		20	
D		250	
E	100	150	80
F	40	40	20
G	5	5	5
H	40	40	20
I		8	
J		7	
K		65	
G.W. (Kg)	5,56	13,20	0,89

1Z & 4Z TAPE ONE

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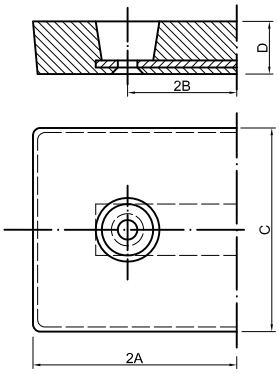
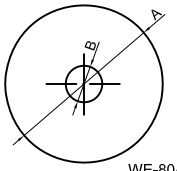
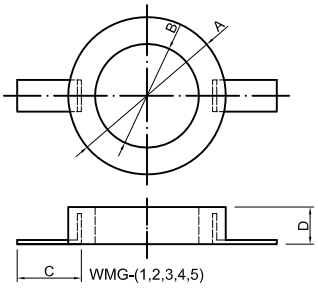


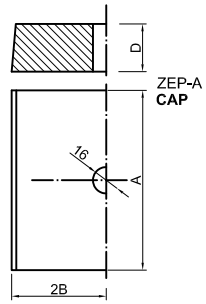
ZHC-23; ZHC-47
CAP



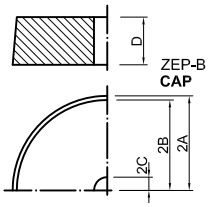
WE-80/120Z



WMG-(1,2,3,4,5)



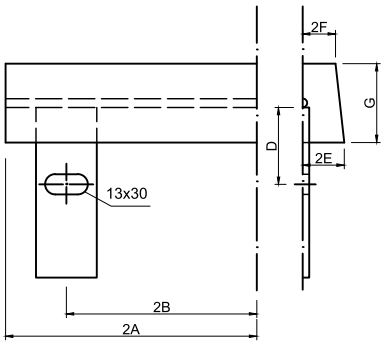
ZEP-A
CAP



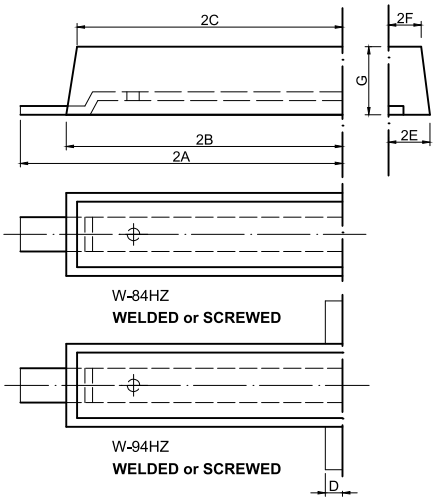
ZEP-B
CAP

COOLER, SEACOCKS & NAVY

TYPE (mm)	A	B	C	D	G.W. (Kg)
ZHC-23	152	76	152	32	10,40
ZHC-47	160	76	152	65	20,00
ZEP-A	150	75	150	25	4,30
ZEP-B	38	36	10	25	4,30
WMG-1	150	90	40	20	1,70
WMG-2	180	120	40	20	2,10
WMG-3	210	150	50	20	2,50
WMG-4	245	185	50	20	3,00
WMG-5	320	260	50	20	4,00
WE-80Z	80	14		10	0,35
WE-120Z	120	20		16	1,25



WZ-151O; WZ-151P; WZ-151Q
SCREW-NUT

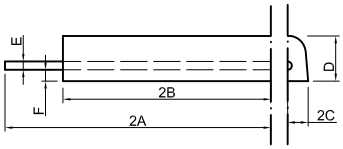


W-84HZ
WELDED or SCREWED

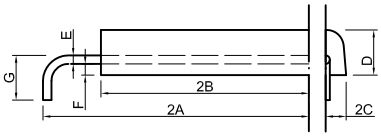
W-94HZ
WELDED or SCREWED

TANK, OFFSHORE & LANDBASED STRUCTURES

TYPE (mm)	W-84HZ	W-94HZ	WZ-151O	WZ-151P	WZ-151Q
A	584	837,5	187,5	150	115
B	435	685,5	150	105	70
C	430	675,5			
D		25	50	50	50
E	57	57	32,5	32,5	32,5
F	52,5	52,5	31,5	31,5	31,5
G	93,5	93,5	70	70	70
FLAT BAR	12x50	12x50	10x50	10x50	10x50
G.W. (Kg)	61,50	105,00	11,00	9,00	7,00



WT-50Z; WT-70Z; WT-90Z; WT-110Z
"E" TYPE STUD or M CLAMP



WZ-151 (AC, BC, CC, DC); WT-90ZC
PIT-GUARD

TANK

TYPE (mm)	WT-50Z	WT-70Z	WT-90Z	WT-110Z	WZ-151AC	WZ-151BC	WZ-151CC	WZ-151DC	WT-90ZC
A	838	838	838	838	150,5	225,5	248	415,5	X
B	609,5	609,5	609,5	609,5	121,5	191	208	365	609,5
C	31,75	38,25	41,25	47	32	32	32	32	32
D	57,1	68,5	78,5	91	73	73	73	73	73
ØE	13	13	13	13	13	13	13	13	13
F	19	23	25	32	32	32	32	32	32
G	–	–	–	–	180	180	180	180	Y
G.W. (Kg)	22,60	31,50	44,50	53,50	7,00	11,00	12,00	21,00	42,20

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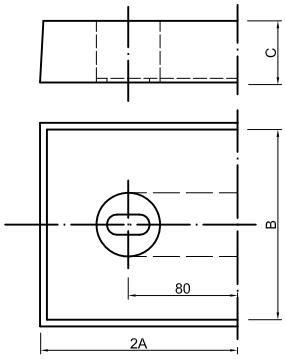
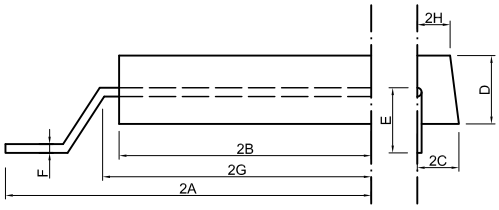


GZ-2; GZ-4; GZ-6
CUP / TO SCREW BASE RUBBER

HULL

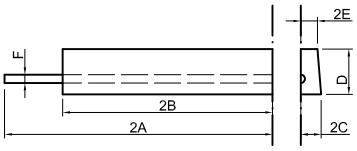
TYPE (mm)	GZ-2	GZ-4	GZ-6
A	74	100	150
B	70	100	148
C	26	30	21
D	160	160	160
G.W. (Kg)	1,60	3,60	6,25



WZ-115; WZ-151I; WZ-151J; WZ-151K; WZ-151L; WZ-151M; WT-50Z/M
WELDING

TANK & LANDBASED STRUCTURES

TYPE (mm)	WZ-115	W-151I	W-151J	W-151K	W-151L	W-151M	WT-50Z/M
A	378	355	390	427,5	575	513	838
B	168	115	150	187,5	425	272,5	610
C	24	31,5	31,5	31,5	32,5	31,5	31,5
D	48	70	70	70	70	70	57
E	50	50	50	50	50	50	50
ØF	13	13	13	13	13	13	13
G	218	415	450	487,5	485	573	660
H	19	25	25	25	25	25	25
G.W. (Kg)	5,50	7,00	9,00	11,00	15,00	16,00	22,50



WZ-110A; WZ-10B; WZ-151A; WZ-151B; WZ-151C; WZ-151D; WZ-151E; WZ-151F; WZ-151G; WZ-151H; WZ-151N; WT-50Z/USA
"E" TYPE STUD or "M" CLAMP

TANK & LANDBASED STRUCTURES

TYPE (mm)	WZ-110A	WZ-110B	WZ-151A	WZ-151B	WZ-151C	WZ-151D	WZ-151E	WZ-151F	WZ-151G	WZ-151H
A	225	267,5	373	400	408	419	453	485,5	628	990
B	125	167,5	145	150	180	191	225	257,5	400	762
C	24	24	31,5	31,5	31,5	31,5	31,5	31,5	32	31,5
D	48	48	70	70	70	70	70	70	73	70
ØE	19	19	25	25	25	25	25	25	25	25
F	13	13	13	13	13	13	13	13	13	13
G.W. (Kg)	4,00	5,00	8,20	9,00	10,20	10,60	12,50	15,00	24,00	44,00

TYPE (mm)	WZ-151N	WT-50Z/USA
A		838
B		610
C	31,5	25
D	70	50
E	25	20
F	13	13
G.W. (Kg)	19,50	22,50

NOTE: "T" DRILLING FLAT BAR WITH HOLE OF 13 mm PLUS A SLIDING DRILL OF 13x30 (mm).
DIMENSIONS OF FLAT BAR AND HOLES ARE CONFIGURED ON REQUEST.

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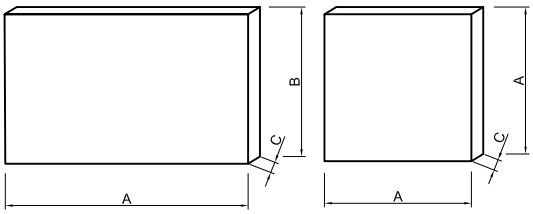
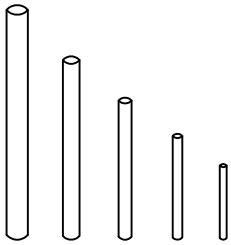


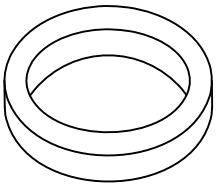
TO MACHINE

TYPE (mm)	PL200	PL245	PL250	PL300	PL333	PL450	PL935	PL950
A	200	245	250	300	300	450	950	950
B	150	245	250	150	300	250	310	950
C	12	10	10	20	30	30	50	25
G.W. (Kg) ZN	2,520	4,200	4,375	6,300	18,900	23,625	103,075	157,937
G.W. (Kg) AL	0,975	1,626	1,963	2,400	7,317	9,146	39,904	61,144



TO MACHINE

TYPE (mm)	R/12X430	R/13X300	R/22X430	R/25X250	R/25X350	R/30X250	R/30X350	R/30X430
G.W. (Kg) ZN / AL	0,680/0,263	0,557/0,215	2,288/0,885	1,718/0,665	2,405/0,931	2,474/0,957	3,463/1,340	4,255/1,647
TYPE (mm)	**R/31X300**	**R/32X430**	**R/35X250**	**R/40X250**	**R/45X250**	**R/50X250**	**R/63X245**	**R/70X250**
G.W. (Kg) ZN / AL	3,170/1,227	4,841/1,874	3,364/1,303	3,518/1,362	5,566/2,155	6,872/2,660	10,692/4,134	13,469/5,214



TYPE (mm)	CO24/18
	245x185x20
G.W. (Kg) ZN/AL	5,673/2,196

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GENERAL INFORMATION

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FEATURE

WWI ALOLINE® *alloys anodes are obtained on the basis of special aluminum alloy developed for* ***WWI*** *conjunction with the* ***British Aluminum Co, Ltd.***

Properly designed for specific applications, are characterized by having a light weight, high power capacity and stability.

MATERIALS

Wilson Walton's ALOLINE® *anodes comply with* ***BA-778-S®*** *developed in conjunction with British Aluminum and is equivalent to* ***GALVALUM III*** *and* ***NORSOK M503,*** *(the highest standard in the world), the trade standard in general use by quality anode founders worldwide. It is a reliable material which has demonstrated good service over many years of experience. It suitable for the full range of Marine Cathodic Protection applications.*

These materials are very stable in potential and efficiency, even for electrolyte conductivity and temperature various. In water with resistivity about 25Ohms.cm, supply about 2.830 Ah/Kg. alloy, keeping the potential of 2.700 Ah/Kg. respect to Ag/AgCI or 1.170mV with respect to the Cu/SO4Cu.

Wilson Walton's *anodes are manufactured under conditions of a stringent quality control conforming to ISO 9001:2015. All alloy cast are made from High Purity Virgin ingots of aluminum of grade 99.70% minimum.*

Before any metal is cast into anodes, a sample is drawn from the furnace to check the chemical analysis of the melt on an emission spectrograph which gives an instant read-out of the compositions of the alloy. This must comply precisely with the requirements of the relevant specification before casting may commence. Detailed records are maintained at each foundry, recording the details of every melt to ensure full material traceability and reliability, and consistency of anode performance. All anodes supplied for marine applications can be supplied with Material Test Certificate.

APPLICATIONS

WWI ALOLINE® *anodes are particularly suitable for ballast tank, deep tank, ship hulls, facilities ports, pipelines, offshore structure, semi-submersibles, etc.*

ELECTROCHEMICAL CHARACTERISTICS

CHEMICAL ANALYSIS, PERCENTAGE BY WEIGHT, AS FOLOWS ANÁLISIS QUÍMICO, PORCENTAJE POR PESO	
Fe	0.09 max.
Si	0.10 max.
Cu	0.005 max.
Zn	3.5 - 5.5
In	0.015 - 0.040
Otras (total)/*Others (total)*	0.02 max.
Aluminium	Resto / *Rest*
COMPORTAMIENTO EN AGUA DE MAR / *BEHAVIOR EN SEA WATER*	
Capacidad / *Capacity*	2.700 Ah/Kg. minimun
Eficiencia / *Efficiency*	95%
Potencial / *Potential*	-1.100 mV Ag/AgCI
Densidad / *Density*	2710 Kg/

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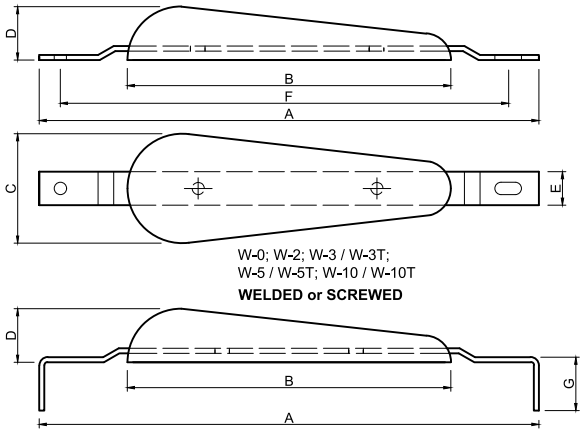


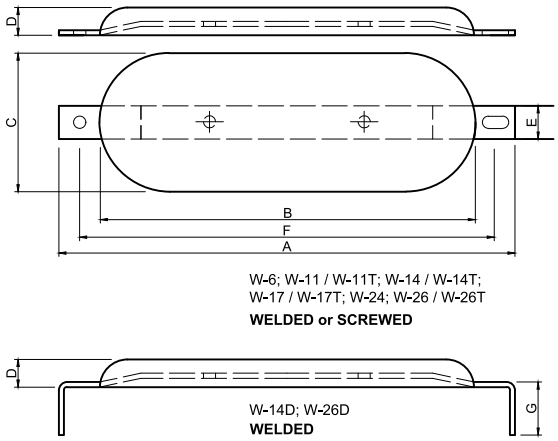
W-0; W-2; W-3 / W-3T;
W-5 / W-5T; W-10 / W-10T
WELDED or SCREWED

W-3D
WELDED

HULL

TYPE (mm)	W-0	W-2	W-3 W-3T	W-3D	W-5 W-5T	W-10 W-10T
A	203	295	330	448	410	390
B	120	220	230	290	275	310
C	48	85	90	98	115	150
D	30	30	48	48	58	70
E	10	20	30	30	30	30
F	141	239	277		309	360
G	3	4	4	50	4	4
G.W. (Kg)	1,35	1,50	1,62	1,62	2,42	4,46

F: IF REQUIRED



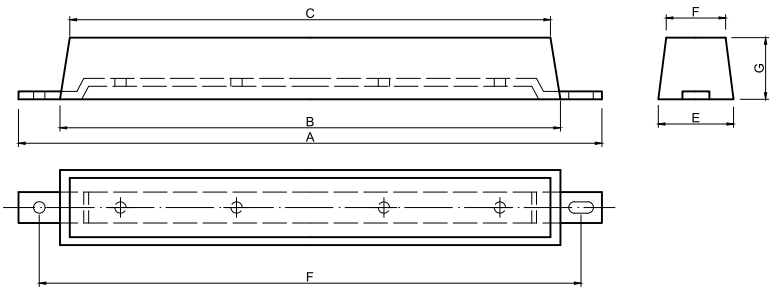
W-6; W-11 / W-11T; W-14 / W-14T;
W-17 / W-17T; W-24; W-26 / W-26T
WELDED or SCREWED

W-14D; W-26D
WELDED

HULL

TYPE (mm)	W-6	W-11 W-11T	W-14 W-14T	W-14D	W-17 W-17T	W-24	W-26 W-26T	W-26D
A	350	530	640	660	640	1042	1070	1092
B	220	405	550	550	550	915	915	915
C	150	152	152	127	152	130	228	130
D	30	35	50	50	35	50	76	75
E	40	40	50	45	50	50	50	50
F	253	485	592		604	979	992	
G	4	5	5	50	5	5	5	50
G.W. (Kg)	2,80	5,20	9,80	9,50	11,90	15,90	24,30	24,30

F: IF REQUIRED



W-127 (A, B, C, D)
WELDED or SCREWED

LANDBASED STRUCTURES & ONSHORE

TYPE (mm)	W-127A	W-127B	W-127C	W-127D
A	653	893	965	1673
B	450	690	762	1525
C	374	614	686	1450
D				
E	172	172	172	172
F	146	146	146	146
G	152	152	152	152
FLAT BAR	12x50	12x50	12x50	12x50
G.W. (Kg)	29,30	45,70	56,70	111,20

F: IF REQUIRED

NOTE: "T" DRILLING FLAT BAR WITH HOLE OF 13 mm PLUS A SLIDING DRILL OF 13x30 (mm).
DIMENSIONS OF FLAT BAR AND HOLES ARE CONFIGURED ON REQUEST.

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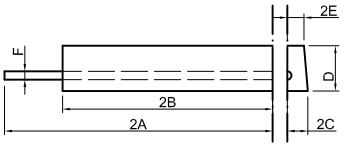
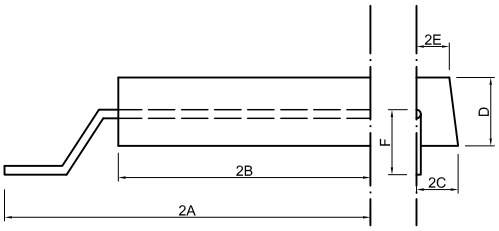


W-110; SERIES W-115, W-151;
W-156, W-155, W-154, W-153, W-152
W-196, W-195, W-194, W-193, W-192, W-191

"E" TYPE STUD or M CLAMP

TANK

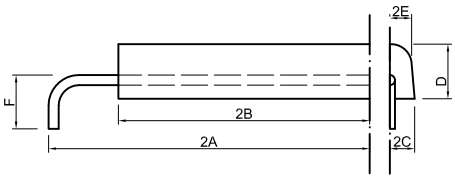
TYPE (mm)	A	B	C	D	E	F	G.W. (Kg)
W-110	609	381	24	48	19	13	4,90
W-115A	308	80	24	48	19	13	1,50
W-115B	380	152,5	24	48	19	13	3,90
W-115C			24	48	19	13	4,10
W-115D	445	217,5	24	48	19	13	10,20
W-151A			31,5	70	25	13	3,75
W-151B	285	185	31,5	70	25	13	4,50
W-151C			31,5	70	25	13	4,70
W-151D	512	412	31,5	70	25	13	6,00
W-151E	581	353	31,5	70	25	13	8,50
W-151F			31,5	70	25	13	9,00
W-151G			31,5	70	25	13	9,60
W-151H			31,5	70	25	13	11,00
W-151I	643	543	31,5	70	25	13	12,50
W-151J	730	500	31,5	70	25	13	14,50
W-156	380,5	152,5	32	73	25	13	4,10
W-155	533	305	32	73	25	13	7,80
W-154	609	381	32	73	25	13	13,60
W-153	735,5	507,5	32	73	25	13	15,60
W-152	864	636	32	73	25	13	19,55
W-196	382,5	152,5	37,5	96	42,5	13	6,20
W-195	530	300	37,5	96	42,5	13	12,20
W-194	605	375	37,5	96	42,5	13	15,20
W-193	732,5	502,5	32,5	90	45	13	20,40
W-192	725	630	32,5	90	45	13	25,60
W-191	995	845	32,5	90	45	13	33,00



W-151(K, L, P, N, O, M, Q)

WELDING

TYPE (mm)	A	B	C	D	E	F	G.W. (Kg)
W-151K	285	100	31,5	70	25	110	2,25
W-151L	372,5	137,5	31,5	70	25	110	4,00
W-151P	352,5	187,5	31,5	70	25	85	4,70
W-151N	425	240	31,5	70	25	110	6,00
W-151O	525	290	31,5	70	25	110	7,50
W-151M	540	375	31,5	70	25	85	9,00
W-151Q	560	375	31,5	70	25	110	9,40



W-151ANG; W-192

PIT-GUARD

(See 0114COMANDSZNAL/I, page 11)

TYPE (mm)	A	B	C	D	E	F	G.W. (Kg)
W-151ANG	680	630	45	96	37,5	180	19,50
W-192	812	762	45	96	37,5	180	27,50

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