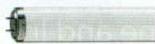


# 79

## Electrical Equipment

Lamps  P. 79-1 ~ 4	Pilot Lamps  P. 79-4 ~ 8	Reflector Lamps  P. 79-8 ~ 9	Sodium Lamps/Halogen Lamps  P. 79-9 ~ 10
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Flashlights  P. 79-33 ~ 38	Batteries  P. 79-38 ~ 40	Plug & Receptacles  P. 79-41 ~ 47	Switches  P. 79-48 ~ 51
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## 1. Lamps

### Introduction for Ordering Lamps

Due to the wide variety of lamps available and in order to assist the purchase of lamps required for each individual purpose, below listed are standard illustrations of designations for bulbs, filaments and bases. Each lamp/bulb can be either specified under its full name or abbreviation.

#### A. Bulb Designations

Bulbs are available in the shapes shown below and each shape is designed for a particular purpose. Soft glass is normally used but hard glass is used for high wattages and outdoor applications. In order to increase the effective illumination the insides of the bulbs receive various coatings, including reflecting aluminium mirrors. Coloured bulbs are also available for special applications.

Type	Name	Abbreviation	Application
	Ordinary Shape	A	General household factory or ships illumination.
	Ball Tubular Shape	BT	Used for mercury or high sodium lamp.
	Flame Shape	C	Ornamental, Decrative Lighting
	Globe (ball) Shape	G	Ornamental, Decrative Lighting
	Pear Shaped Straight Neck	PS	Used for illuminations requiring 80 Watt and more.
	Parabolic Shape	PAR	Outdoor Spot or Flood Lighting
	Reflection Shape	R	Deck Flood Light etc.
	Straight Shape	S	Low Watt Illumination
	Tubular Shape	T	General Household Factory or Ships Low Watt Illumination
	Tubular (Fluorescent) Shape	T	Fluorescent Lighting

#### B. Lamp Base Designations

A wide range of bases are provided for above lamps. In addition to the screw bases used for most incandescent lamps, there are also bayonet, pin, lug and other bases. Fluorescent lamps use single-pin, bipin and double-contact recessed bases.



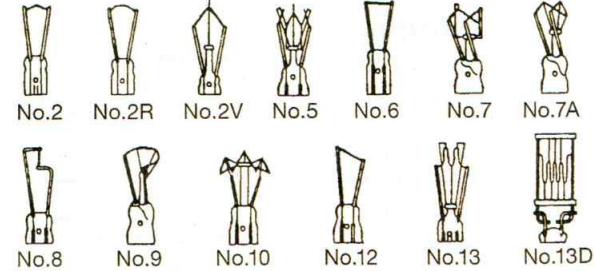
Edison Screw Size Table

Size	Base				Socket			
	O.D.d		Valley d <sub>1</sub>		Valley D		I.D. D <sub>1</sub>	
	Mini	Maxi	Mini	Maxi	Mini	Maxi	Mini	Maxi
E10	9.31	9.53	8.29	8.51	9.59	9.74	8.57	8.72
E12	11.60	11.81	10.33	10.54	11.94	12.09	10.67	10.82
E14	13.61	13.89	12.01	12.29	13.97	14.16	12.37	12.56
E17	16.28	16.53	14.91	15.16	16.68	16.83	15.31	15.46
E26	26.04	26.34	24.36	24.66	26.45	26.75	24.77	25.07
E27	26.15	26.45	23.96	24.26	26.55	26.85	24.36	24.66
E39	39.05	39.50	36.55	37.00	39.61	40.06	37.07	37.52
E40	39.05	39.50	35.45	35.90	39.60	40.05	36.00	36.45

#### Caution !

1. E-39 based lamp can not screw into an E-40 socket while an E-40 based lamp can screw into an E-39 socket. Please see the table above and compare figures of E-39 and E-40. (d<sub>1</sub> of E-39 is larger than that of E-40.)
2. E-26, E-27 based lamp can screw into an E-26, E-27 socket alternatively. Can be presumed to be the same size.

#### C. Filament Designations



#### Frosted Lamps

##### Vibration Service Medium Screw Base

Lámparas Mate, Base de Bayoneta de Doble Contacto Servicio de Vibración  
艷消耐振電球（ねじ込み式） 亞光防震灯泡（螺口式）

Inside frosted, medium screw base, "Vibration service" lamps for ships use. When ordering, specify the voltage and the number of watts required from the lamps listed below.



##### How to order: CODE

Lamp, frosted, vibration service, E-26, VOLTAGE, WATTAGE

Unit Per Pcs.

Frosted Medium Screw Base (E-26)					
110-120 Volts			220-240 Volts		
CODE	Watts	Pieces Per Package	CODE	Watts	Pieces per Package
79 01 01	15	25	79 01 21	15	25
02	20	25	22	20	25
03	25	25	23	25	25
04	30	25	24	30	25
05	40	25	25	40	25

(to be continued)

Unit Per Pcs.

Frosted Medium Screw Base (E-26)					
110-120 Volts			220-240 Volts		
CODE	Watts	Pieces Per Package	CODE	Watts	Pieces per Package
79 01 06	60	25	79 01 26	60	25
07	75	25	27	75	25
08	100	25	28	100	25
09	150	25	29	150	25
10	200	25	30	200	25

## Frosted Lamps

### Vibration Service Double Contact Bayonet Base

Lámparas Mate, Base de Bayoneta de Doble Contacto Servicio de Vibración  
艶消耐振電球（差し込み式） 亜光防震灯泡（插入式）



Inside frosted, double contact, bayonet base B-22 "Vibration service" lamps for ships use.

#### How to order: CODE

Lamp, frosted, vibration service, B-22, VOLTAGE, WATTAGE

Unit Per Pcs.

Frosted Bayonet Base (B-22)					
110-120 Volts			220-240 Volts		
CODE	Watts	Pieces Per Package	CODE	Watts	Pieces per Package
79 01 41	15	25	79 01 61	15	25
42	20	25	62	20	25
43	25	25	63	25	25
44	30	25	64	30	25
45	40	25	65	40	25
79 01 46	60	25	79 01 66	60	25
47	75	25	67	75	25
48	100	25	68	100	25
49	150	25	69	150	25
50	200	25	70	200	25

## Clear Lamps

### Vibration Service Medium Screw Base

Lámparas Clara, Base Roscada, Servicio de Vibración  
透明耐振電球（ねじ込み式） 透明灯泡



Clear, medium screw base, "Vibration service" lamps for ships use.

#### How to order: CODE

Lamp, clear, vibration service, E-26, VOLTAGE, WATTAGE

Unit Per Pcs.

Clear Medium Screw Base (E-26)					
110-120 Volts			220-240 Volts		
CODE	Watts	Pieces Per Package	CODE	Watts	Pieces per Package
79 01 81	20	25	79 01 91	20	25
82	25	25	92	25	25
83	30	25	93	30	25
84	40	25	94	40	25
85	60	25	95	60	25
79 01 86	75	25	79 01 96	75	25
87	100	25	97	100	25
88	150	25	98	150	25
89	200	25	99	200	25

## Clear Lamps

### Vibration Service Double Contact Bayonet Base

Lámparas Claras, Base Bayoneta de Doble Contacto Servicio de Vibración  
透明耐振電球（差し込み式） 透明灯泡



Clear, double contact, bayonet base, B-22 "Vibration service" lamps for ships use.

#### How to order: CODE

Lamp, clear, vibration service, B-22, VOLTAGE, WATTAGE

Unit Per Pcs.

Clear Bayonet Base (B-22)					
110-120 Volts			220-240 Volts		
CODE	Watts	Pieces Per Package	CODE	Watts	Pieces per Package
79 02 01	20	25	79 02 16	20	25
02	25	25	17	25	25
03	30	25	18	30	25
04	40	25	19	40	25
05	60	25	20	60	25
79 02 06	75	25	79 02 21	75	25
07	100	25	22	100	25
08	150	25	23	150	25
09	200	25	24	200	25

## Clear Mogul Screw (GES) Lamps

### Standard Type (E-39)

Lámparas Claras, Base Roscada Goliat (GES) Tipo Estándar  
モーガル標準透明電球 标准透明螺丝灯泡



Pear shaped lamp with a standard mogul base (E-39). A clear lamp for high watt illumination. GES denotes Goliath Edison Screw.

#### How to order: CODE

Lamp, clear, E-39, VOLTAGE, WATTAGE

Unit Per Pcs.

Standard Clear Mogul Screw Base (E-39)					
110-120 Volts			220-240 Volts		
CODE	Watts	Pieces Per Package	CODE	Watts	Pieces per Package
79 02 31	300	10	79 02 36	300	10
32	500	10	37	500	10
33	1,000	10	38	1,000	10

## Clear Mogul Screw (GES) Lamps

### (E-40)

Focos Claros Base Roscada de Mogul (GES)  
モーガル透明電球 标准透明螺丝灯泡



Pear shaped with mogul base (E-40). Clear lamp bulb for high watt illumination.

#### How to order: CODE

Lamp, clear, E-40, VOLTAGE, WATTAGE

Unit Per Pcs.

Clear Mogul Screw Base (E-40)					
110-120 Volts			220-240 Volts		
CODE	Watts	Pieces Per Package	CODE	Watts	Pieces per Package
79 02 41	300	10	79 02 46	300	10
42	500	10	47	500	10
43	1,000	10	48	1,000	10

## LED Lamps

Lámparas LED L E D電球 LED 灯泡



More cost effective innovative lamp compared to conventional incandescent lamps or fluorescent lamps. LED (Light-Emitting Diodes) lamps keep lighting lifespan for several times longer and significantly more efficient than conventional incandescent lamps. Also, it consumes less energy about 90% than conventional incandescent lamps and effects to reduce of carbon dioxide.

CODE	Equivalent Watt	Actual Watt	Lighting Colour	Volt	Base Size	Unit Per Pcs.
79 02 51			Day Light	100V	E-26	
52	40	4.1	Incandescent			
55			Cool White			
79 02 53			Day Light	220V	E-27	
54	60	7.5	Incandescent			
56			Cool White			
79 02 57			Day Light	220V	E-27	
58	100	10	Incandescent			
59			Cool White			
79 02 60			Day Light	220V	E-27	
61	40	4	Incandescent			
62			Cool White			
79 02 63			Day Light	220V	E-27	
64	60	8	Incandescent			
65			Cool White			
79 02 66			Day Light	220V	E-27	
67	100	12	Incandescent			
68			Cool White			

## LED Globe Lamps

Lámparas LED Globo LED ボール電球 LED 球形灯

A spherical shape LED lamp commonly used for decorative lighting. Energy-efficient, long-lasting, and available in various sizes.



### How to order: CODE

LED globe lamp, BASE SIZE, BODY DIAM x LENGTH mm, VOLTAGE, WATTAGE

CODE	Equivalent Watt	Actual Watt	Voltage	Size D x L	Unit Per Pcs.
<b>Base E-14, Lighting Colour 3000K</b>					
79 02 10	25	3	12-60V DC	45 x 75 mm	
11	25	3	85-265V AC	45 x 75 mm	
12	40	5	85-265V AC	45 x 75 mm	
<b>Base Ba-15d, Lighting Colour 3000K</b>					
79 02 13	25	3	12-60V DC	45 x 75 mm	
<b>Base B-22, Lighting Colour 3000K</b>					
79 02 14	25	3	12-60V DC	45 x 75 mm	
<b>Base E-27, Lighting Colour 3000K</b>					
79 02 25	25	3	12-60V DC	45 x 75 mm	
26	25	3	85-265V AC	45 x 75 mm	
27	40	5	85-265V AC	45 x 75 mm	
28	60	7	85-265V AC	45 x 75 mm	

## Coloured Lamps

Lámpara Coloreadas 色電球 螺丝口彩色灯泡

Available in red, green and yellow colours. Other colours must be made to order.



### How to order: CODE

Coloured lamp, VOLTAGE, BASE SIZE, WATTAGE, KIND of COLOUR

		E-26 Screw Base		B-22 Bayonet Base		Unit Per Pcs.	
		110-120V	220-240V	110-120V	220-240V		
CODE	Watts	CODE	Watts	CODE	Watts	CODE	Watts
						Red	
79 03 01	20	79 03 16	20	79 03 31	20	79 03 46	20
02	40		17	40	32	47	40
03	60		18	60	33	48	60
						Green	
79 03 06	20	79 03 21	20	79 03 36	20	79 03 51	20
07	40		22	40	37	52	40
08	60		23	60	38	53	60
						Yellow	
79 03 11	20	79 03 26	20	79 03 41	20	79 03 56	20
12	40		27	40	42	57	40
13	60		28	60	43	58	60

## Navigation Lamps

Lámparas de Navegación ナビゲーションランプ 螺丝口航行灯泡

Specially designed for use with navigation lights. Made of electrolysis glass with specially constructed filament to withstand varying voltage. Can also be used with direct current. Low voltage bulbs can be used with battery (emergency) supplied power.



### How to order: CODE

Lamp, navigation, BASE SIZE, VOLTAGE, WATTAGE

		24V		110-115V		220V		Unit Per Pcs.	
CODE	Watts	CODE	Watts	CODE	Watts	CODE	Watts		
								E-26 Screw Base	
79 04 01	40		79 04 03	40		79 04 05	40		
02	60		04	60		06	60		
								B-22 Bayonet Base	
79 04 11	40		79 04 13	40		79 04 15	40		
12	60		14	60		16	60		

## Tubular Navigation Lamps

Lámparas Tubulares de Navegación

チューブラナビゲーションランプ 管状航行灯

Tubular glass bulbs with a specially constructed filament designed for navigational use.



### How to order: CODE

Lamp, navigation, tubular, BASE SIZE, VOLTAGE, WATTAGE

		Unit Per Pcs.		E-27	
CODE	Volt	Watts (or cd)	Diam mm	Length mm	
79 04 07	24 V	26 cd			
79 04 08		26 cd			
21	110 V	40 W			
22		60 W			
09		65 cd			
79 04 10		26 cd			
23	220 V	40 W			
24		60 W			
17		65 cd			
			38	100	

(to be continued)

Unit Per Pc.				
CODE	Volt	Watts (or cd)	Diam mm	Length mm
<b>BAY15d (B.C. Indexing Candelabra Base)</b>				
79 04 18	12 V	10 W (12cd)	25	70
19		18 cd		
20		25 W (30cd)		
79 04 25	24 V	10 W (12cd)	38	100
30		18 cd		
35		25 W		
79 04 36	110 V	40 cd	40	60
79 04 37	220 V	40 cd		

B-22d (D.C. Medium Bayonet Base)				
CODE	Volt	Watts (or cd)	Diam mm	Length mm
79 04 38	24 V	13 cd	38	100
39		26 cd		
40		35 cd		
41		65 cd		
79 04 42	110 V	13 cd		
43		26 cd		
26		40 W		
27		60 W		
79 04 45	220 V	13 cd		
46		26 cd		
47		35 cd		
28		40 W		
29		60 W		
48		65 cd		

P-28s (Medium Prefocus Base)				
CODE	Volt	Watts (or cd)	Diam mm	Length mm
79 04 49	24 V	40 W (60 cd)	38	108
79 04 50	48 V	65 W (60 cd)		
79 04 31	110 V	40 W		
32		60 W (60 cd)		
79 04 33	220 V	40 W		
34		65 W (60 cd)		

## LED Tubular Navigation Lamps

Luces de navegación tubulares LED

管形 LED ナビゲーション電球 LED 管状导航灯

Tubular shape LED lamps, energy-efficient, long-lasting, designed for navigational use.



79 04 87	LED Tubular Navigation Lamp, 5W, Base P28s, 85-265V, size 32 x 110mm, Equivalent 60-65W	Pc.
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## Emergency Battery Lamps

Lámparas para Batería de Emergencia

非常用灯用電球 螺丝口应急电池灯泡

Low voltage emergency lamps powered by batteries. To be used as a lighting source in case of an emergency or "black out".



**How to order: CODE**

Lamp, emergency, battery, BASE SIZE, VOLTAGE, WATTAGE

## E-26 Screw Base

Unit Per Pc.				
12 Volt			24 Volt	
CODE	Watts	Size mm	CODE	Watts
79 04 51	10	55 98	79 04 61	10 55 98
52	20	55 98	62	20 55 98
53	30	55 105	63	30 55 105
54	40	55 105	64	40 55 105
55	60	60 110	65	60 60 110
79 04 56	100	70 136	79 04 66	100 70 136

(to be continued)

## E-22 Bayonet Base

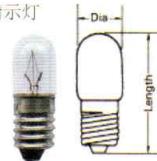
Unit Per Pc.

12 Volt				24 Volt			
CODE	Watts	Size mm		CODE	Watts	Size mm	
		A	B			A	B
79 04 71	10	55	98	79 04 81	10	55	98
72	20	55	98	82	20	55	98
73	30	55	105	83	30	55	105
74	40	55	105	84	40	55	105
75	60	60	110	85	60	60	110
79 04 76	100	70	136	79 04 86	100	70	136

## 2. Pilot Lamps

Lámpara Piloto o Lámpara Tubular パイロット球 指示灯

As we carry quite a large assortment of pilot lamps, specify type of glass, base, length and other details such as voltage, wattage, ampere, etc.



### A. Tubular Pilot Lamps

#### 1. Screw Base

**How to order: CODE**

Pilot lamp, tubular, BASE SIZE, BODY DIAM x LENGTH mm, VOLTAGE, WATTAGE

Unit Per Pc.					
CODE	Voltage	Watt or Ampere	CODE	Voltage	Watt or Ampere
<b>Base E-10, Clear, Dia. 10 x Length 28 mm (Part 1)</b>					
79 05 01	6.3 V	0.15 A	79 05 07	30 V	0.11 A
02	8 V	0.15 A	12	48 V	2 W
03	12 V	0.11 A	08	48 V	3 W
04	18 V	0.11 A	09	60 V	3 W
05	24 V	0.11 A	10	110 V	5 W
79 05 06	28 V	0.11 A	79 05 11	220 V	5 W
<b>Base E-10, Clear, Dia. 10 x Length 28 mm (Part 2)</b>					
79 05 13	4 V	0.15 A	79 05 58	28 V	0.04 A
14	6.3 V	0.25 A	59	28 V	1 W
15	8 V	0.25 A	60	28 V	3 W
28	12 V	0.15 A	65	30 V	2 W
29	12 V	2 W	66	48 V	5 W
79 05 30	18 V	2 W	79 05 67	60 V	2 W
39	24 V	1 W	72	110 V	3 W
40	24 V	2 W	73	220 V	3 W
57	24 V	3 W			

#### Base E-12, Clear, Dia. 13 x Length 33 mm (Part 1)

79 05 16	6.3 V	0.15 A	79 05 22	30 V	0.11 A
17	8 V	0.15 A	27	48 V	2 W
18	12 V	0.11 A	23	48 V	3 W
19	18 V	0.11 A	24	60 V	5 W
20	24 V	0.11 A	25	110 V	5 W
79 05 21	28 V	0.11A	79 05 26	220 V	5 W

#### Base E-12, Clear, Dia. 13 x Length 33 mm (Part 2)

79 05 74	24 V	2 W	79 05 83	115 V	5 W
75	24 V	3 W	89	220 V	3 W
81	28 V	2 W	90	220 V	10 W
82	30 V	2 W			
79 05 31	6.3 V	0.15 A	79 05 35	28 V	0.11 A

#### Base E-12, Clear, Dia. 15 x Length 45 mm (Part 1)

79 05 31	6.3 V	0.15 A	79 05 35	28 V	0.11 A
32	12 V	0.11 A	36	30 V	0.11 A
33	18 V	0.11 A	37	110 V	5 W
34	24 V	0.11 A	38	220 V	5 W
79 05 91	24 V	3 W	79 05 95	48 V	5 W

#### Base E-12, Clear, Dia. 15 x Length 45 mm (Part 2)

79 05 91	24 V	3 W	79 05 95	48 V	5 W
92	24 V	5 W	96	110 V	10 W
93	28 V	5 W	97	220 V	10 W
94	30 V	5 W			
79 05 31	6.3 V	0.15 A	79 05 35	28 V	0.11 A

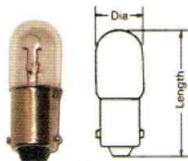
(to be continued)

Unit Per Pcs.					
CODE	Voltage	Watt or Ampere	CODE	Voltage	Watt or Ampere
<b>Base E-12, Clear, Dia. 20 x Length 48 mm (Part 1)</b>					
79 05 41	12 V	5 W	79 05 49	48 V	5 W
42	18 V	0.11 A	50	60 V	5 W
43	18 V	5 W	51	110 V	5 W
44	24 V	0.11 A	52	110 V	10 W
45	24 V	3 W	53	110 V	20 W
79 05 46	24 V	5 W	79 05 54	220 V	5 W
47	28 V	5 W	55	220 V	10 W
48	30 V	5 W	56	220 V	20 W
<b>Base E-12, Clear, Dia. 20 x Length 48 mm (Part 2)</b>					
79 06 13	6 V	5 W	79 06 30	24 V	10 W
14	8 V	5 W	35	24 V	20 W
15	12 V	3 W	36	50 V	5 W
27	12 V	10 W	37	115 V	10 W
28	12 V	20 W	38	115 V	20 W
79 06 29	18 V	3 W			
<b>Base E-12, Clear, Dia. 20 x Length 70 mm</b>					
79 05 61	110 V	10 W	79 05 63	220 V	10 W
62	110 V	15 W	64	220 V	15 W
<b>Base E-14, Clear, Dia. 15 x Length 48 mm</b>					
79 05 68	24 V	5 W	79 05 70	220 V	10 W
69	110 V	10 W	71	220 V	15 W
<b>Base E-26, Clear, Dia. 26 x Length 60 mm</b>					
79 05 76	24 V	5 W	79 05 79	220 V	10 W
77	110 V	10 W	80	220 V	15 W
78	110 V	15 W			
<b>Base E-26, Clear, Dia. 26 x Length 70 mm</b>					
79 05 84	24 V	5 W	79 05 87	220 V	10 W
85	110 V	10 W	88	220 V	15 W
86	110 V	15 W			

## 2. Bayonet Base

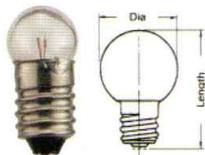
### How to order: CODE

Pilot lamp, tubular, BASE SIZE, BODY DIAM x LENGTH mm, VOLTAGE, WATTAGE



Unit Per Pcs.					
CODE	Voltage	Watt or Ampere	CODE	Voltage	Watt or Ampere
<b>Base BA-9s, Clear, Dia. 9 x Length 23 mm</b>					
79 06 39	12 V	3 W	79 06 48	30 V	2 W
40	24 V	50 mA	49	30 V	100 mA
46	24 V	80 mA	50	36 V	2 W
47	24 V	3 W	59	60 V	20 mA
<b>Base BA-9s, Clear, Dia. 10 x Length 28 mm (Part 1)</b>					
79 06 01	6.3 V	0.15 A	79 06 07	30 V	0.11 A
02	8 V	0.15 A	12	48 V	2 W
03	12 V	0.11 A	08	48 V	3 W
04	18 V	0.11 A	09	60 V	3 W
05	24 V	0.11 A	10	110 V	5 W
79 06 06	28 V	0.11 A	79 06 11	220 V	5 W
<b>Base BA-9s, Clear, Dia. 10 x Length 28 mm (Part 2)</b>					
79 06 60	6.3 V	0.25 A	79 06 92	28 V	0.04 A
70	8 V	0.25 A	93	28 V	1 W
77	12 V	0.15 A	94	30 V	1 W
78	12 V	2 W	95	30 V	2 W
79	18 V	1 W	96	48 V	5 W
79 06 80	24 V	1 W	79 06 97	60 V	2 W
90	24 V	2 W	98	110 V	3 W
91	24 V	3 W	99	220 V	3 W

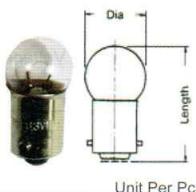
(to be continued)

Unit Per Pcs.																				
CODE	Voltage	Watt or Ampere	CODE	Voltage	Watt or Ampere															
<b>Base BA-15d, Clear, Dia. 20 x Length 48 mm (Part 1)</b>																				
79 06 16	18 V	0.11 A	79 06 22	110 V	10 W															
17	18 V	5 W	23	110 V	20 W															
18	24 V	0.11 A	24	220 V	5 W															
19	24 V	3 W	25	220 V	10 W															
20	24 V	5 W	26	220 V	20 W															
79 06 21	110 V	5 W																		
<b>Base BA-15d, Clear, Dia. 20 x Length 48 mm (Part 2)</b>																				
79 07 36	6 V	10 W	79 07 43	24 V	15 W															
37	12 V	5 W	44	24 V	20 W															
38	12 V	10 W	45	110 V	15 W															
39	12 V	20 W	46	115 V	5 W															
40	18 V	2 W	47	115 V	10 W															
79 07 41	18 V	3 W	79 07 48	115 V	20 W															
42	24 V	10 W																		
<b>Base BA-15d, Clear, Dia. 25 x Length 70 mm</b>																				
79 06 31	110 V	10 W	79 06 33	220 V	10 W															
32	110 V	15 W	34	220 V	15 W															
<b>Base BA-15d, Clear, Dia. 25 x Length 70 mm</b>																				
79 07 76	24 V	40 W	79 07 78	110 V	40 W															
77	110 V	15 W	79	220 V	25 W															
<b>Base BA-22d, Clear, Dia. 20 x Length 70 mm</b>																				
79 06 41	24 V	5 W	79 06 44	220 V	10 W															
42	110 V	10 W	45	220 V	15 W															
43	110 V	15 W																		
<b>B. Globular Pilot Lamps</b>																				
<b>1. Screw Base</b>																				
																				
<b>How to order: CODE</b>																				
Pilot lamp, globular, BASE SIZE, BODY DIAM x LENGTH mm, VOLTAGE, WATTAGE																				
<table border="1"> <thead> <tr> <th>CODE</th> <th>Voltage</th> <th>Watt or Ampere</th> </tr> </thead> <tbody> <tr> <td>79 06 51</td> <td>6.3 V</td> <td>1 W</td> </tr> <tr> <td>52</td> <td>12 V</td> <td>2 W</td> </tr> <tr> <td>57</td> <td>12 V</td> <td>0.11 A</td> </tr> <tr> <td>53</td> <td>18 V</td> <td>2 W</td> </tr> </tbody> </table>						CODE	Voltage	Watt or Ampere	79 06 51	6.3 V	1 W	52	12 V	2 W	57	12 V	0.11 A	53	18 V	2 W
CODE	Voltage	Watt or Ampere																		
79 06 51	6.3 V	1 W																		
52	12 V	2 W																		
57	12 V	0.11 A																		
53	18 V	2 W																		
<b>Base E-10, Clear, Dia. 11 x Length 23.5 mm (Part 1)</b>																				
79 06 51	6.3 V	1 W	79 06 58	18 V	0.11 A															
52	12 V	2 W	54	24 V	0.11 A															
57	12 V	0.11 A	55	24 V	1 W															
53	18 V	2 W	56	30 V	1 W															
<b>Base E-10, Clear, Dia. 11 x Length 23.5 mm (Part 2)</b>																				
79 07 80	12 V	3 W	79 07 83	24 V	5 W															
81	12 V	5 W	84	30 V	2 W															
82	24 V	2 W																		
<b>Base E-12, Clear, Dia. 19 x Length 35 mm</b>																				
79 06 61	24 V	3 W	79 06 65	110 V	5 W															
62	24 V	5 W	66	115 V	5 W															
63	24 V	10 W	67	220 V	5 W															
64	100 V	5 W																		
<b>Base E-12, Clear, Dia. 25 x Length 40 mm</b>																				
79 07 85	6.3 V	3 W	79 07 89	115 V	5 W															
86	28 V	6 W	90	115 V	10 W															
87	110 V	5 W	91	220 V	5 W															
88	110 V	10 W																		
<b>Base E-26, Frost, Dia. 35 x Length 72 mm</b>																				
79 06 68	220 V	30 W	79 06 69	220 V	40 W															

## 2. Bayonet Base

### How to order: CODE

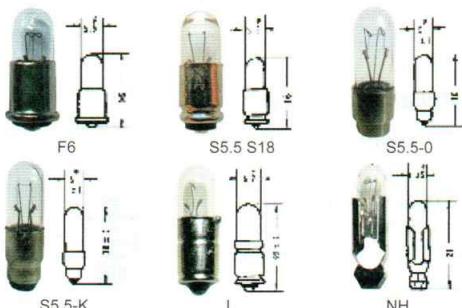
Pilot lamp, globular, BASE SIZE, BODY DIAM x LENGTH mm, VOLTAGE, WATTAGE



Unit Per Pcs.

CODE	Voltage	Watt or Ampere	CODE	Voltage	Watt or Ampere
<b>Base BA-9s, Clear, Dia. 11 x Length 23.5 mm (Part 1)</b>					
79 06 71	6.3 V	1 W	79 06 74	24 V	0.11 A
72	12 V	2 W	75	24 V	1 W
73	18 V	5 W	76	30 V	1 W
<b>Base BA-9s, Clear, Dia. 11 x Length 23.5 mm (Part 2)</b>					
79 07 92	12 V	3 W	79 07 95	24 V	3 W
93	18 V	2 W	96	30 V	2 W
94	24 V	2 W			
<b>Base BA-15d, Clear, Dia. 19 x Length 35 mm (Part 1)</b>					
79 06 81	6 V	8 W	79 06 86	100 V	5 W
82	12 V	10 W	87	110 V	5 W
83	24 V	3 W	88	115 V	5 W
84	24 V	5 W	89	220 V	5 W
85	24 V	10 W			
<b>Base BA-15d, Clear, Dia. 19 x Length 35 mm (Part 2)</b>					
79 07 97	12 V	20 W	79 07 99	220 V	10 W
98	24 V	20 W			

## C. Miniature Pilot Lamps



### How to order: CODE

Pilot miniature lamp, TYPE, VOLTAGE, WATTAGE or AMPERE

CODE	Voltage	Watt or Ampere	Type	Size mm Diam. x Length	Unit Per Pcs.
79 07 01	6	0.1 A	F6		
02	6	0.2 A	"		
03	14	0.05 A	"		
04	14	0.08 A	"	5.5 x 16	
05	18	1 W	"		
06	28	0.025 A	"		
07	28	0.04 A	"		
79 07 11	6	0.2 A	S5.5-S18		
12	14	0.08 A	"	5.5 x 16	
13	28	0.04 A	"		
79 07 16	14	0.05 A	S5.5-O		
17	18	0.05 A	"		
18	28	0.04 A	"	5 x 16	
79 07 21	6	0.6 W	S5.5-K		
22	12	0.6 W	"		
23	18	0.6 W	"		
24	24	0.6 W	"	5 x 18	
25	28	0.6 W	"		
79 07 30	15	15 mA	L		
31	15	20 mA	"		
32	30	30 mA	"		
79 07 35	28	22 mA	NH	4.85 x 21	

## LED Pilot Lamps

Pilotos LED LED バイロット球 LED 指示灯

A compact, energy-efficient light used as an indicator or signal, providing a bright and long-lasting illumination. Commonly employed in various applications such as control panels, machinery, automotive dashboards.



### How to order: CODE

Pilot lamp, LED, tubular, BASE SIZE, BODY DIAM x LENGTH mm, VOLTAGE, WATTAGE

CODE	Equivalent Watt	Actual Watt	Voltage	Size D x L
<b>Base E-14, Clear, Tubular Type, Lighting Colour 3000K</b>				
79 09 05	5	0.8	10-30V AC/DC	17 x 52 mm
10	15	2	10-30V AC/DC	28 x 60 mm
15	25	3	10-30V AC/DC	28 x 60 mm
79 09 27	7	1	85-265V AC	17 x 52 mm
28	15	2	85-265V AC	28 x 60 mm
29	25	3	85-265V AC	28 x 60 mm
30	40	5	85-265V AC	28 x 60 mm
<b>Base Ba-15d, Clear, Tubular Type, Lighting Colour 3000K</b>				
79 09 37	5	0.8	10-30V AC/DC	17 x 47 mm
38	15	2	10-30V AC/DC	28 x 58 mm
39	25	3	10-30V AC/DC	28 x 58 mm
79 09 40	7	1	85-265V AC	17 x 47 mm
47	15	2	85-265V AC	21 x 60 mm
48	25	3	85-265V AC	21 x 60 mm
<b>Base E-27, Clear, Tubular Type, Lighting Colour 3000K</b>				
79 09 49	15	2	85-265V AC	28 x 60 mm
50	25	3	85-265V AC	28 x 60 mm
63	40	5	85-265V AC	28 x 60 mm

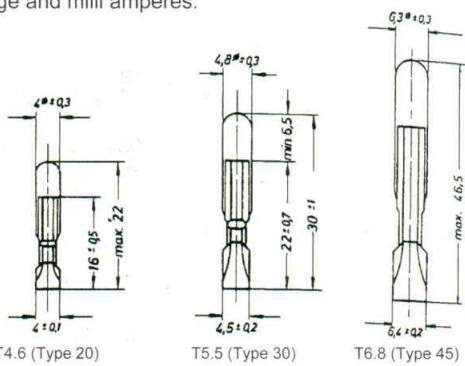
## Telephone Switch Board Lamps

### (Taunus Lamps)

Lámparas de Comunicación Telefónica

電話交換機用ランプ 电话配電盤灯

A wide range of models are available, the standard models are listed below. When ordering, please specify lamp type, voltage and milli amperes.



### How to order: CODE

Taunus lamp, TYPE, VOLTAGE, mA

CODE	Type	Voltage	Current mA	Unit Per Pcs.	
				Size mm Diam. x Length	
79 08 21	T4.5	6	20	4.5 x 16	
22			40		
79 08 23		12	20		
24			40		
79 08 25		24	20		
26	T4.6 (20)		40	4.6 x 22	
27			50		
79 08 28		30	40		
79 08 29		6	20		
30			40		
79 08 31	T5.5K	12	20	5.5 x 22	
32			40		
79 07 50		24	20		
51			40		
79 08 33			50		
79 07 52	T5.5K (30)	30	20	5.5 x 30	
53			40		
79 08 34		36	20		
79 08 35		48	20		
79 08 36		60	20		
79 08 37	T6.8 (45)	6	40	6.8 x 44	
79 08 38		12	50		
79 08 39		24	20		
40			50		
79 08 41		30	50		
79 08 42	T6.8 (45)	6	40	6.8 x 44	
43			200		
79 08 44		12	20		
45			40		
46			100		
79 07 56	T6.8 (45)	24	20	6.8 x 44	
79 08 47			40		
79 07 57			50		
79 08 48			80		
79 08 49		28	40		
50	T6.8 (45)		50	6.8 x 44	
79 07 58		30	20		
59			40		
60			50		
79 08 51		36	20		
52	T6.8 (45)		40	6.8 x 44	
53			50		
79 08 54		48	20		
55			25		
56			40		
57			50		
79 08 58	T6.8 (45)	60	20	6.8 x 44	
79 08 59		6	20		
60			40		
79 08 61		12	20		
62			50		
63			100		
79 07 66	T6.8 (45)	24	20	6.8 x 44	
79 08 64			25		
79 07 67			40		
68			50		
69			60		
70			90		
79 08 65	T6.8 (45)	28	25	6.8 x 44	
66			45		
79 07 71		30	40		
79 08 67			50		
79 07 72			90		
73			120		
79 08 68	T6.8 (45)	36	20	6.8 x 44	
69			40		
70			50		
79 08 71		48	20		
72			50		
79 08 73		60	20	6.8 x 44	
74			40		

## Single LED Indicator Lamps

Indicadores Luminosos LED Simples

LED インディケーターランプ 单 LED 指示灯



Midget Flanged T1 3/4      Midget Grooved T1 3/4      Bayonet Ba9s      Edison E10

T1 3/4, 6 x 16 mm, 24-28 volts

Unit Per Pcs.

CODE	Colour	CODE	Colour
<b>Midget Flanged</b>		<b>Midget Grooved</b>	
79 05 98	Red	79 07 10	Red
99	Blue	14	Blue
79 06 00	Green	15	Green
79 07 08	Yellow	19	Yellow
09	White	20	White

Bayonet Ba9s, 10 x 24 mm

Unit Per Pcs.

CODE	Colour	CODE	Colour	CODE	Colour
<b>6 volts</b>		<b>12 volts</b>		<b>24 - 28 volts</b>	
79 07 26	Red	79 07 34	Red	79 07 62	Red
27	Blue	49	Blue	63	Blue
28	Green	54	Green	64	Green
29	Yellow	55	Yellow	65	Yellow
33	White	61	White	74	White

Edison E10, 10 x 24 mm

Unit Per Pcs.

CODE	Colour	CODE	Colour	CODE	Colour
<b>6 volts</b>		<b>12 volts</b>		<b>24 - 28 volts</b>	
79 07 75	Red	79 08 15	Red	79 08 87	Red
79 08 00	Blue	20	Blue	88	Blue
05	Green	75	Green	89	Green
10	Yellow	85	Yellow	90	Yellow
14	White	86	White	91	White

## Indicator Lamps

BA7s Base

Lámpara Indicadora BA7s Base

インディケーターランプ 指示燈



Unit Per Pcs.

CODE	Volts	mA	Watts	Size mm Diam. x Length
79 08 76	6	100	0.6	T6.8 x 20mm
79 08 77	12	170	2	
79 08 78		50	1.2	
79 08 79	24		3	
79 08 80		50		
79 08 81	12	100	1.2	T6.8 x 23mm
79 08 82	30		2	
79 08 83	36	50	1.8	
79 08 84	60	20		

## LED Panel Indicating Lights

Luces indicadoras de panel LED

LED パネル表示ライト LED 面板显示灯

Using a LED lighting structure increases the safety of operations, and the panel indicator lights are armed with valuable reflector optics to illuminate and intensify visibility. LED light will eliminate the downtime necessary for repairs or replacements



as it does not require as much maintenance as other lighting options. Simple push-in installation mounts in any thickness material. Available in five colors: white, red, green, yellow and blue.

#### Fitting φ22mm, 24V AC/DC

Unit Per Pcs.

CODE	Colour	Current mA	Dia X Length mm
79 08 92	White		
93	Red		
94	Green		
95	Yellow		
96	Blue		
		20	29 X 52

#### Fitting φ22mm, 110V AC

Unit Per Pcs.

CODE	Colour	Current mA	Dia X Length mm
79 08 97	White		
98	Red		
99	Green		
79 09 00	Yellow		
57	Blue		
		20	29 X 52

#### Fitting φ22mm, 230V AC

Unit Per Pcs.

CODE	Colour	Current mA	Dia X Length mm
79 09 58	White		
59	Red		
60	Green		
61	Yellow		
62	Blue		
		20	29 X 52

### Pygmy Lamps

Lámparas pigmeas ピグミーランプ 侏儒灯



A compact size incandescent lamps, perfect for display cabinets, side lamps, fridges, sewing machines or any other appliance which requires small lamps.

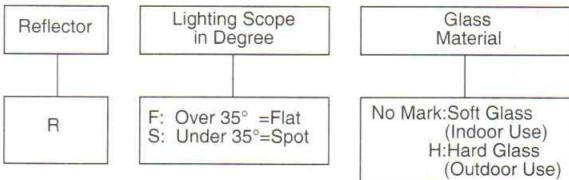
CODE	Watts	Volts	Base
79 09 81	25W	24V	E-14
82	25W	24V	B-15D

### 3. Reflector Lamps

#### Reflector Lamps

Lámparas Reflectoras リフレクターランプ 室内反光型反射灯

How to understand the Reflector Lamp Denotation



#### Flat Reflector Lamps

for Indoor Use (RF)

Lámparas Reflectoras Planas para Uso Interior (RF)

"RF" 屋内散光形ランプ 螺口平面散光灯泡 -RF

To be used only for indoor lighting. Preferably to be used for wide area lighting. When ordering, specify the voltage, number of watts, and screw base.



#### How to order: CODE

Reflector lamp, RF, flat indoor use, VOLTAGE, WATTAGE

Type "RF"

Unit Per Pcs.

100-110 Volts			220-230 Volts		
CODE	Watts	Screw Base	CODE	Watts	Screw Base
79 09 01	100	E-26	79 09 06	100	E-26
02	150	"	07	150	"
03	200	"	08	200	"
04	300	"	09	300	"

### Spot Reflector Lamps

for Indoor Use (RS)



Lámparas Reflectoras para Uso Interior (RS)

RS 屋内集光型ランプ 螺口平面散光灯泡 -RS

To be used only for indoor lighting. Especially useful in dark spots. When ordering, specify the voltage, number of watts, and the base type and size.

#### How to order: CODE

Reflector lamp, RS, spot indoor use, VOLTAGE, WATTAGE

Type "RS"

Unit Per Pcs.

100-110 Volts			220-230 Volts		
CODE	Watts	Screw Base	CODE	Watts	Screw Base
79 09 11	100	E-26	79 09 16	100	E-26
12	150	"	17	150	"
13	200	"	18	200	"
14	300	"	19	300	"

### Flat Reflector Lamps

for Outdoor Use (RF-H)



Lámparas Reflectoras Planas para Uso Exterior (RF-H)

"RF-H" 屋外散光形ランプ 螺口室外反光灯泡 RF-H

Specially designed for outdoor use. Requires no shade or covering. Preferably used for wide area lighting on deck or in the engine room. Made of hardened heat resisting glass. When ordering, specify the voltage, number of watts, and screw base size.

#### How to order: CODE

Reflector lamp, RF-H, flat outdoor use, VOLTAGE, WATTAGE

Type "RF-H"

Unit Per Pcs.

100-110 Volts			220-230 Volts		
CODE	Watts	Screw Base	CODE	Watts	Screw Base
79 09 21	100	E-26	79 09 31	100	E-26
22	150	"	32	150	"
23	200	"	33	200	"
79 09 24	300	E-39	79 09 34	300	E-39
25	500	"	35	500	"
26	1,000	"	36	1,000	"

### Spot Reflector Lamps

for Outdoor Use (RS-H)



Lámparas Reflectoras para Uso Exterior (RS-H)

RS-H 屋外集光型ランプ 螺口室外聚光灯泡 (RS-H)

Specially designed for outdoor use. Requires no shade or covering. Spotlight type made of hardened heat-resisting glass.

#### How to order: CODE

Reflector lamp, RS-H, spot outdoor use, VOLTAGE, WATTAGE

Type "RS-H"  
Unit Per P.C.

100-110 Volts			220-230 Volts		
CODE	Watts	Screw Base	CODE	Watts	Screw Base
79 09 41	100	E-26	79 09 51	100	E-26
42	150	"	52	150	"
43	200	"	53	200	"
79 09 44	300	E-39	79 09 54	300	E-39
45	500	"	55	500	"
46	1,000	"	56	1,000	"

## Infrared Ray Lamps

Lámparas de Rayo Infrarrojo

赤外線乾燥用電球 红外线灯泡

This unit is designed for use where heat is required. For example, drying of electric motors, paints, etc. When ordering, specify the voltage, the number of watts, and the screw base required.

Denotes : IR – Infrared Ray  
R – Reflector  
H – Hard Glass

### How to order: CODE

Infrared ray lamp, IR-RH, VOLTAGE, WATTAGE

100-110 Volts			220-230 Volts		
CODE	Watts	Screw Base	CODE	Watts	Screw Base
79 09 71	250	E-26	79 09 76	250	E-26
72	375	E-26	77	375	E-26
73	500	E-26	78	500	E-26
74	500	E-39	79	500	E-39



## 4. Sodium Lamps / Halogen Lamps

### High Pressure Sodium Lamps

Lámparas de Sodio Alta Presión

高压ナトリウムランプ 球管形高压钠灯

A high pressure sodium lamp which gives superior colour rendition characteristics, has a rated life of 24,000 hours, a 2100°K colour temperature factor and a very high lumen output almost twice that of comparable mercury vapour lamps. For use with a high pressure sodium lamp ballast.

BT-Bulb	BT-F-Bulb	T-Bulb	R-Bulb
NH Type	NHF Type	NHT Type	NHR Type

Denotes : BT – Ball Tubular  
T – Tubular  
F – Diffusion  
R – Reflector  
N – No external ignitor is required  
H – Hard Bulb

### How to order: CODE

High pressure sodium lamp, TYPE of BULB, TYPE, WATTAGE

CODE	Type	Wattage	Screw Base	Glass φmm	Overall Length mm
<b>BT-Bulb</b>					
79 12 01 02	NH	700	700	E-39	150
<b>BT-F-Bulb</b>					
79 12 06 07	NH	700 F	700	E-39	150
<b>T-Bulb</b>					
79 12 11 12 13 14 15	NHT	150 250 400 700 1000	150 250 400 700 1,000	E-39	48 48 48 55 55
<b>R-Bulb</b>					
79 12 18 19 20	NHR	150 250 400	150 250 400	E-39	165 165 180

### High Pressure Sodium Lamp Ballasts

Reactancias para Lámparas de Sodio Alta Presión

高压ナトリウム安定器 高压钠蒸汽灯镇流器

These ballasts incorporate a high-voltage pulse generator for starting the lamp. The pulse generation does not effect the lamp during arcing. An emergency thermostat is built in to cut off the power automatically in the event of any fault. As a wide range of products with respective specifications are available, when ordering, please specify the following details.



### Guide of How to order

CODE .....	79 12 21
Name .....	Sodium lamp ballast
Lamp Type .....	BT
Input Voltage .....	100 V
Lamp Wattage .....	700 W
Lamp Ampere .....	7.9 amp.
Frequency .....	50/60 Hz
Lamp Dimension .....	150 mm diam x 375 mm L
Lamp Base .....	E-39
Etc .....	If any

### Electronic Superimposed Ignitors for HS Lamps 400 W

Arrancadores de superposición electrónicos

電子多層イグナイター 电子叠加点火器

A standard version compact shape for high pressure sodium lamps (HS).

Phasing of the ignition voltage: 60–90 °el and 240–270 °el.

Max. permitted casing temperature: 105 °C.

Fastening: male nipple with pre-assembled washer and nut.

For luminaires of protection class I and II.

For luminaires of protection class I (140594, 147707).



Aluminium Casing Z 400M



Plastic Casing Z 400MK

Z 400M: Aluminium casing with screw terminals 0.75-4 mm<sup>2</sup>

Z 400MK: Plastic casing with screw terminals 0.75-4 mm<sup>2</sup>

Unit Per Pcs.						
CODE	Type	Voltage	Max. Lamp Current	Ignition Voltage	Load Capacity	Weight
79 12 22	Z 400M	220-240V	5A	4-5 kV	20-50 pF	140 grm
79 12 23	Z 400MK					130 grm

Name of Mfr.: Vossloh-Schwabe Deutschland GmbH

## Illumination Halogen Lamps

### E-11 Screw Base

Lámparas Halógenas para Iluminación - Base Roscada

照明用ハロゲンランプ 螺口卤素灯泡

1/20 smaller than corresponding general lighting use incandescents and provides 2,000 hrs. of service without fading.



### How to order: CODE

Illumination halogen lamp, E-11 screw base, VOLTAGE, WATTAGE

Unit Per Pcs.					
CODE	Watts	Volt	Glass Type	Overall Length mm	Screw Base
79 12 51	75	110	T11	65	
52	100	110	T11	65	
53	150	110	T13	70	
54	250	110	T13	76	
55	500	110	T13	90	
79 12 56	500	220	T13	90	

E-11

## Tungsten Halogen Lamps

### R7S Cap Base

Lámparas Halógeno Tungsteno

タンゲステンハロゲンランプ 灯口钨卤素灯泡

Compact in size, 500W-1/10, 1,500W-1/20 of corresponding general lighting use incandescents. Used for floodlighting, spotlighting, lighting for factories, gymnasiums, photocopying, etc.



### How to order: CODE

Tungsten halogen lamp, R7S cap base, VOLTAGE, WATTAGE

Unit Per Pcs.					
CODE	Watts	Volt	Size mm		Base Type
			Glass Diam.	Overall Length	
79 12 61	300	110	9	117	
62	500	110	11	117	
66	1,000	110	11	189	
79 12 63	500	220	11	117	R7S
67	1,000	220	11	189	
64	1,000	220	11	208	
65	1,000	220	11	248	

R7S

## Tubular Shape Halogen Lamps

### E-39 Screw Base

Lámparas Halógenas con figura Tubular - Base Roscada

外球付ハロゲンランプ 管状卤素灯泡

Designed for use with an E-39 screw base lamp holder.



### How to order: CODE

Halogen lamp, tubular shape, E-39, VOLTAGE, WATTAGE

Unit Per Pcs.					
CODE	Watts	Volt	Size mm		
			Glass Dia.	Overall Length	
79 12 71	500	100-120V	38	205	E-39
79 12 72	500	200-240V	38	215	
73	1,000	"	38	255	



Unit Per Pcs.

## Sealed Beam Lamps

Lámparas Selladas Halógena シールドビームランプ 密封光束灯泡

Designed for maximum safe vision under all weather conditions. Not only gives greater illumination distance but also prevents reflection from moisture particles in the air. "PAR" denotes parabolic shape.

Unit Per Pcs.					
CODE	Watts	Volt	Size mm		
			Glass Dia.	Overall Length	
79 12 91	50	24	145	103	3
92	75	24	178	138	
93	80	24	145	103	

## 5. Fluorescent Lamps

### Fluorescent Lamps

Lámparas Fluorescentes - Tipo Estándar 蛍光ランプ 荧光灯



How to understand Fluorescent Lamp Denotations:

Type	Watts	Glass Diam.
FL : Straight FCL: Circle FLR: Straight & Rapid Start	4, 6, 8, 10, 15, 20, 30, 38, 40,	S : 32.5 mm SS: 25.5 mm or 28.0 mm

Length

No Mark: 580 mm  
EL : 588.7 mm

Colour

D : Day Light  
W : Cool White  
WW : Warm White

Note: S &amp; SS marked FL lamps have the same luminosity as the conventional diameter of FL lamps.

## Fluorescent Lamps

Lámparas Fluorescentes - Tipo Estándar 蛍光ランプ 荧光灯

Fluorescent tube lamps requiring glow starters. Available in three colours of cool white, warm white and daylight. Specify which colour when ordering.



### Cool White Colour

### How to order: CODE

Fluorescent lamp, cool white, TYPE, WATTAGE

CODE	Type	Watts	$\Phi$ mm D	L mm A	Unit Per Pcs.	
					Type of Starter	
79 14 01	FL-4W	4		134.5		
02	FL-6W	6	15.5	210.5	FG-7E	
03	FL-8W	8		287.0	or	
79 14 04	FL-10W	10	25.5	330.0	FG-7P	
05	FL-15W	15		436.0		
79 14 06	FL-20	20	38.0			
79 14 07	FL-20SW	20		32.5		
08	FL-20S/18	18				
79 14 09	FL-20SS-W/18	18	28.0			
79 14 10	FL-20/EL	20	38.0			
11	FL-20S/EL	20	32.5			
12	FL-20-SSCW/18-24	18	25.5			
79 14 14	FL-30SW	30	32.5	630.0	FG-1P	
79 14 15	FL-40	40	38.0			
79 14 16	FL-40SW	40		32.5		
17	FL-40S/38	38				
79 14 18	FL-40SS-W/37	37	28.0			

### Daylight Colour

CODE	Type	Watts	Unit Per Pcs.	
			Size mm	Packed in
79 14 46	FLR-20SD	20	32.5	580
47	FLR-20	20	38.0	580
79 14 48	FLR-40SD	40	32.5	1,198
49	FLR-40	40	38.0	1,198

### LED Fluorescent Lamps T8

Lámparas Fluorescentes LED LED 荧光灯



Innovative LED fluorescent lamps, compatible with most of magnetic ballasts (CCGs) with grow start and rapid start type as direct replacement with traditional fluorescent lamps. Energy saving up to 61%, instant 100% light without flickering.

In case of Inverter Type such as FHF or electronic ballasts(ECGS), retrofit is required and wiring must be changed for direct connection.

### Daylight Colour

#### How to order: CODE

Fluorescent lamp, daylight colour, TYPE, WATTAGE

CODE	Type	Watts	$\Phi$ mm D	L mm A	Unit Per Pcs.	
					Type of Starter	
79 14 21	FL-4D	4		134.5		
22	FL-6D	6	15.5	210.5	FG-7E	
23	FL-8D	8		287.0	or	
79 14 24	FL-10D	10	25.5	330.0	FG-7P	
25	FL-15D	15		436.0		
79 14 26	FL-20	20	38.0			
79 14 27	FL-20SD	20		32.5		
28	FL-20S/18	18				
79 14 29	FL-20SS-D/18	18	28.0			
79 14 30	FL-20/EL	20	38.0			
31	FL-20S/EL	20	32.5			
32	FL-20-SSCW/18-24	18	27.0			
79 14 34	FL-30SD	30	32.5	630.0	FG-1P	
79 14 35	FL-40	40	38.0			
79 14 36	FL-40SD	40		32.5		
37	FL-40S/38	38				
79 14 38	FL-40SS-D/37	37	28.0			

### Rapid Start Fluorescent Lamps

#### (Rapid Start FL Lamps)

Lámparas Fluorescentes Encendido Rápido

ラピッドスタート型蛍光ランプ 快亮型日光灯管

Rapid start lamps use a rapid start circuit ballast to start within one to two seconds. Does not require a glow starter.



Please specify which colour is required when ordering.

### Cool White Colour

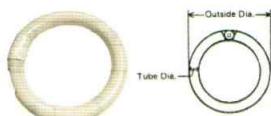
CODE	Type	Watts	Size mm		Packed in
			Diam.	Length	
79 14 41	FLR-20SW	20	32.5	580	25
42	FLR-20	20	38.0	580	25
79 14 43	FLR-40SW	40	32.5	1,198	25
44	FLR-40	40	38.0	1,198	25

### Daylight Colour

#### How to order: CODE

Fluorescent lamp, circle, cool white, SIZE, WATTAGE

CODE	Size	Watts	Unit Per Pcs.	
			Glass x Circle Diam. O.D.	Starter Type
79 14 65	FCL-20W/18	18	29 x 205	FG-1P or 1E
66	FCL-30W/28	28	29 x 225	FG-1P or 1E
67	FCL-32W/30	30	29 x 299	FG-5P
68	FCL-40W/38	38	29 x 373	FG-4P
79 14 69	European	40	29 x 400	FG-4P
70	U.S.A	40	1-1/8" x 16"	FG-4P



### Daylight Colour

#### How to order: CODE

Fluorescent lamp, circle, day light, SIZE, WATTAGE

CODE	Size	Watts	Glass x Circle Diam. O.D.	Starter Type	Unit Per Pc.
79 14 51	FCL-20D/18	18	29 x 205	FG-1P or 1E	
52	FCL-30D/28	28	29 x 225	FG-1P or 1E	
53	FCL-32D/30	30	29 x 299	FG-5P	
54	FCL-40D/38	38	29 x 373	FG-4P	
79 14 55	European	40	29 x 400	FG-4P	
56	U.S.A	40	1-1/8" x 16"	FG-4P	

## Circle Fluorescent Lamps

### Rapid Start

Lámparas Circulares Fluorescentes - Encendido Rápido  
ラピッドスタートサークライン蛍光灯 快亮环型日光灯管

Same as the lamps above but these require a rapid start fixture.



CODE	Size	Watts	Glass x Circle Diam. O.D. mm	Unit Per Pc.
79 14 61	FCR-20	18	29 x 205	
62	FCR-30	28	29 x 225	
60	FCR-32	30	29 x 299	
63	FCR-40	38	29 x 373	

## Energy Saving Lamps

Lámparas de ahorro energético 省エネ型電球 节能灯

Suitable for when functionality precedes form and high number of lumen is required.



### Compact Fluorescent Lamp, 2700°K Used without ballast

#### 130V AC

CODE	Watts	Cap	Type	D x I mm	Unit Per Pc.
79 14 96	7			40 x 120	
97	9	E14	T4-2U	40 x 135	
98	11			40 x 140	
79 14 99	5			40 x 120	
79 15 00	9	E27	T4-2U	40 x 135	
09	11			40 x 140	
79 15 10	15			48 x 133	
11	20	E27	T4-3U	48 x 155	
12	23			48 x 160	

#### 240V AC

CODE	Watts	Cap	Type	D x I mm	Unit Per Pc.
79 15 13	9	B22	T4-2U	40 x 135	
79 15 14	5			40 x 120	
15	7	E14	T4-2U	40 x 125	
16	9			40 x 135	
17	11			40 x 140	
79 15 18	5			40 x 120	
19	7	E27	T4-2U	40 x 125	
20	9			40 x 135	
23	11			40 x 140	
79 15 24	15	E27	T4-3U	48 x 133	
30	20			48 x 155	

### 6200°K Daylight Used without Ballast

#### 130V AC

CODE	Watts	Cap	Type	D x I mm	Unit Per Pc.
79 15 31	7			40 x 125	
34	9	E14	T4-2U	40 x 135	
39	11			40 x 140	
79 15 40	5			40 x 120	
41	7	E27	T4-2U	40 x 125	
42	9			40 x 135	
43	11			40 x 140	
79 15 44	15	E27	T4-3U	48 x 133	
45	20			48 x 155	
79 15 46	23	B27	T4-2U	48 x 160	

## 230V AC

CODE	Watts	Cap	Type	D x I mm	Unit Per Pc.	
79 15 47	9			40 x 135		
48	11	E14	T4-2U	40 x 140		
79 15 49	5			40 x 120		
50	7	E27	T4-2U	40 x 125		
59	9			40 x 135		
60	11			40 x 140		
79	15 80	20	E27	T4-3U	48 x 155	
99	23			48 x 160		

## Compact Fluorescent Light Bulbs

Bombilla Fluorescente Compacta 電球形蛍光ランプ 小型螢光燈泡

A compact fluorescent lamp can be replaced an incandescent lamp using less power and having a longer rated life. All bulbs has E-26 screw base.



CODE	100V	220V	Equivalent Watt	Colour	Size mm Diam x L
<b>Pear Shape - E-26 Screw Base</b>					
79 15 61	79 15 64		40 watt	Incandescent Cool White Daylight	60 x 116
62	65				
63	66				
79 15 67	79 15 70		60 watt	Incandescent Cool White Daylight	60 x 109
68	71				
69	72				
79 15 73	79 15 76		100 watt	Incandescent Cool White Daylight	65 x 133
74	77				
75	78				
<b>Globeless - E-26 Screw Base</b>					
79 15 81	79 15 84		40 watt	Incandescent Cool White Daylight	40 x 89
82	85				
83	86				
79 15 87	79 15 90		60 watt	Incandescent Cool White Daylight	40 x 112
88	91				
89	92				
79 15 93	79 15 96		100 watt	Incandescent Cool White Daylight	48 x 130
94	97				
95	98				

## Single Pin End Fluorescent Lamps

Lámparas Fluorescentes de Conector Simple

シングルピン蛍光ランプ 单栓端日光灯

Fluorescent lamps of 20W or 40W for starter less ignition, to be operated by means of special explosion-proof ballasts on A.C. mains; the lamps are designed specifically for application in areas where an explosion hazard exists. "TL"X instant-start lamps, stabilized by special ballasts, are provided with an internal ignition strip connected to one of the electrodes. Since the electrodes are not pre-heated, only one electrical contact is required at each lamp-end. To exclude all possible sparking effects during ignition, the caps and, in particular, the long, thick lamp-pins are constructed so as to ensure maximum contact with the appropriate lamp holders.

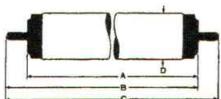


### Application

In "flameproof" and "increased safety" luminaries designed in accordance with IEC 79/1, 79/7, EN 50018 and 50019, VDE 170/171 and similar specifications, both for indoor and outdoor applications :

## Dimensions

	20W	40W	mm
A	574	1,184	
B	593	1,202	
C	611	1,221	
D	41	41	



## Specifications

Type	Nominal		Colour	Luminous	Weight
	Length	Diam.		lm	grm
"TL" X 20W/33	574 mm	41 mm	Cool	940	150
"TL" X 40W/33	1,184 mm	41 mm	White	2,300	292
79 14 79	Lamp Fluorescent, single pin end, type "TL" X20W/33, 38 x 574 mm		Pc.		
79 14 80	Lamp Fluorescent, single pin end, type "TL" X40W/33, 41 x 1,184 mm		Pc.		

## Germicidal Lamps

Lámparas Germicidas 殺菌灯 杀菌灯

Specially designed low voltage mercury vapour lamps which radiate ultraviolet rays of 250 - 260 mm. This short wave ray is a very effective bactericide for medical and sanitary purposes, such as the germicide of food stuff in the refrigerator, table ware, cooking utensils in the galley, and barber tools, room air, etc.

This lamp comes in the same type and sizes as common fluorescent tube lamps and can be used within the same fixture.

5 sizes are available. Specify when ordering.

Unit Per Pcs.

CODE	Model	Wattage	Size mm		Cap	Glow Starter
			Φ	L		
79 14 91	GL- 4	4	15.5	134.5	G 5	FG7P (7E)
92	GL- 6	6	15.5	210.5	G 5	FG7P (7E)
93	GL- 8	8	15.5	287.0	G 5	FG7P (7E)
94	GL-10	10	25.5	330.0	G13	FG7P (7E)
95	GL-15	15	25.5	436.0	G13	FG1P (7E)
79 14 90	GL-30	30	25.5	893.0	G13	FG-4P

## Caution!

Do not stare directly at the lamp when it is on as GERMICIDAL rays are injurious to the eyes. Wear ordinary safety goggles.

## Starters for Fluorescent Lamps

Cebadores para Lámparas Fluorescentes 荧光ランプスターター 启辉器

Each fluorescent lamp requires a starter for the purpose of preheating before lighting. When ordering, specify type "E" or "P" as well as the wattage of the lamps.



## Starter Application Table

Type	Applicable Fluorescent Lamps
FG-7E or FG-7P	FL4, FL-6, FL-8, FL-10 GL-6, GL-10
FG-1E or FG-1P	FL15, FL-20SS/18, FL-20S, FL-20, FL-20SS, FL-20S/EL, FL-20EL FL-30S, FCL-20, FCL-30, GL-15

(to be continued)

FG-4P	FL-40S, FL40, FCL-40
FG-5P	FCL-40
FS-2	Single: FL-4, FL-6, FL-8 Series: FL4 – FL22
FS-U	Single: FL4 – FL13, FL15 – FL80

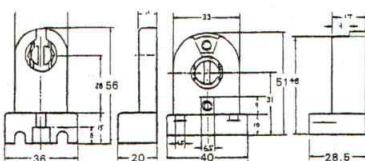
CODE	Type	Base Type	Size mm
			Diam. x Length
79 15 01	FG-7E	E-17	17 x 40
02	FG-1E	E-17	17 x 40
03	FG-7P	P-21	21 x 38
04	FG-1P	P-21	21 x 38
05	FG-4P	P-21	21 x 38
79 15 06	FG-5P	P-21	21 x 38
79 15 07	FS-2	P-21	21 x 38
79 15 08	FS-U	P-21	21 x 38

## Fluorescent Lamp Holders

Porta-lámparas Fluorescentes 荧光燈用ソケット 旋转弹簧荧光灯脚座

There are many types of lamp holders available. The most common types are illustrated and listed below with their respective specifications.

## A. Spring Loaded Rotor Type



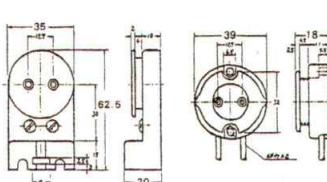
## How to order: CODE

FL lamp holder, spring loaded rotor type, ELECTRICITY RATING, SIZE

Unit Per Pcs.

CODE	Electricity Rating	Size mm			Material
		W	H	D	
79 15 21	250 V x 1 Amp.	36	56	20	Phenol
22	250 V x 3 Amp.	40	51	28.5	Resin

## B. Spring Loaded Support Type



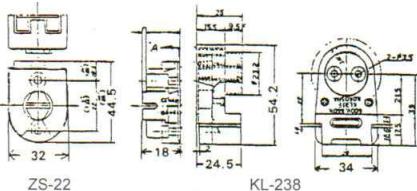
## How to order: CODE

FL lamp holder, spring loaded support type, 250 volt, 1 amp, SIZE

Unit Per Pcs.

CODE	Electricity Rating	Size mm			Material
		W	H	D	
79 15 25	250 V x 1 Amp.	35	62.5	20	Phenol
26	250 V x 1 Amp.	39	39	18	Resin

### C. KOKOSHA Spring Loaded Support Type



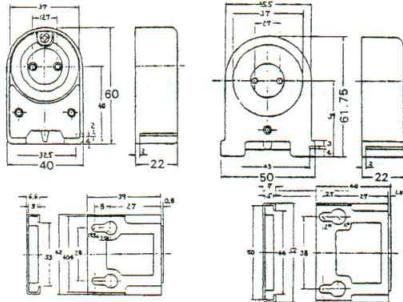
#### How to order: CODE

FL lamp holder, KOKOSHA spring loaded support type, MODEL

Unit Per Pc.

CODE	Model	Electricity Rating	Size mm			Material
			W	H	D	
79 15 28	ZS-22	300 V x 1 Amp.	32	44.5	18	Phenol
29	KL-238	600 V x 660 W	34	54.2	24.5	Resin

### D. Turret Type



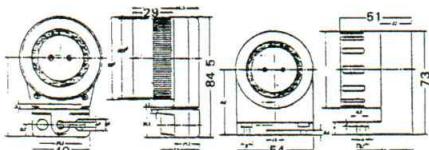
#### How to order: CODE

FL lamp holder, turret type, 300 volt, 1 amp, SIZE

Unit Per Pc.

CODE	Electricity Rating	Size mm			Material
		W	H	D	
79 15 32	300 V x 1 Amp.	40	60	22	Phenol
33	300 V x 1 Amp.	50	61.75	22	Resin

### E. Waterproof Type



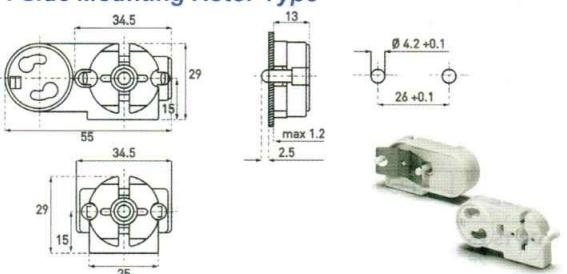
#### How to order: CODE

FL lamp holder, waterproof type, ELECTRICITY RATING, SIZE

Unit Per Pc.

CODE	Electricity Rating	Application	Size mm			Material
			W	H	D	
79 15 35	300V x 1 Amp.	20 ~	40	84.5	29	Phenol
36	300V x 3 Amp.	40W	54	73	51	Resin

### F. Side Mounting Rotor Type



### How to order: CODE

FL lamp holder, With or Without Starter holder, side mounting complete with spring plate type, 250 volt, 2 amp, SIZE

CODE	Type	Electricity Rating	Application	Unit Per Pc.		
				W	H	D
79 15 37	With Starter Holder	250V x 2A	T8 / T12	55	29	13
38	Without Starter Holder	250V x 2A	T8 / T12	25	29	13

### Ballasts for Fluorescent Lamp

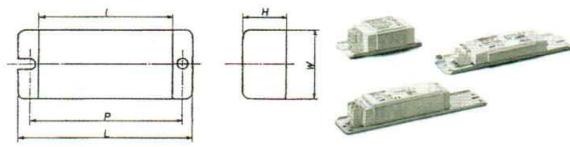
#### for Marine Use

(Ref. JIS F8431-1985)

Preactancias para Lámpara Fluorescente Uso Marino

船用螢光燈安定器 船用荧光灯镇流器

Low power factor ballasts for marine fluorescent lamps supplied from 100V, 115V or 220V AC 60Hz and used on board at an ambient temperature of 50°C or less.



#### Principal Dimensions of Ballast

Class	Watts	P	Unit: mm		
			L	I	H
FBM-C	6	55 ± 2	63 or less	48 or less	35 or less
	8	85 ± 2	100 or less	75 or less	35 or less
	10	85 ± 2	100 or less	80 or less	40 or less
	15	110 ± 2	130 or less	95 or less	40 or less
	20	110 ± 2	130 or less	95 or less	40 or less
	30	115 ± 2	140 or less	105 or less	50 or less
	40	115 ± 2	140 or less	110 or less	50 or less
FBM-T	40	160 ± 2	215 or less	185 or less	50 or less

#### How to order: CODE

FL lamp ballast, CLASS, WATTAGE

CODE	Class	Watts	Rated Input Voltage V	Rated frequency Hz	Rated Input Current A	Applicable Fluorescent Lamp	
						Type	Current A
79 15 51		6				0.147	FL6 0.147
79 15 52		8				0.170	FL8 0.170
79 15 53	FBM-C	10	100			0.230	FL10 0.230
79 15 54		15		60		0.300	FL15S 0.300
79 15 55		20	115			0.360	FL20 0.375
79 15 56		30				0.610	FL30 0.620
79 15 57	FBM-T	40				0.970/0.840	FL40 0.435
79 15 58		40	220	60	0.420	FL40	0.435

Remarks: Letters FBM of class symbol denote the ballast for marine fluorescent lamp and the last letter C denotes the choke coil type and T, the transformer type.

## 6. Lighting Fixtures

### Lighting Fixtures

Proyectores 投光器 投光器

#### For Reflector Lamp

Proyectores para bombillas reflectoras

リフレクター電球用投光器 用于反射灯泡的泛光灯

Can be used with a reflector lamp such as RF, RS, as cargo lights. Available in flanged base and screw clamp types. Body and base are made of brass, and shade and guard are made of stainless steel. Class of Protection is IP-56.



Flanged Base



Screw Clamp

#### How to order: CODE

Lighting fixture, reflector lamp, TYPE of FITTING, LAMP BASE, APPLICABLE LAMP

Unit Per Pc.

CODE	Fitting	Lamp Base	Applicable Lamp	Weight kg
79 18 01	Flanged - Base	E-26	RF&RS-100, 150, 200 W	3.2
02		E-39	RF&RS-300, 500 W	4.5
79 18 03	Screw - Clamp	E-26	RF&RS-100, 150, 200 W	3.6
04		E-39	RF&RS-300, 500 W	4.9

#### Flood Type

Proyectores Intensivos y Extensivos

投光照明器具 投射式照明器材

Vibration-proof flood lighting fixture. Can be used with high pressure sodium lamps. Aluminium reflector with steel frame. Ballasts are sold separately.

Mirror Reflector  
(Narrow Beam)Diamond Cut Reflector  
(Wide Beam)

Unit Per Pc.

CODE	Type of Reflector	Beam Angle	Base Size	Applicable Lamp	Weight kg
79 18 16	Mirror	Narrow 20°	E-39	Incandescent lamp KF 1000W High Pressure Sodium lamp NH700W/1000W	20.0
79 18 17	Diamond Cut	Wide 55°			20.0

### LED Flood Lights - IP65

Aparatos de iluminación LED LED 投光器 LED 泛光灯

Energy saving LED flood lighting fixtures, designed as a replacement of traditional high output floodlights. Made of aluminium base, waterproof (IP65), wide beam angle 120°, Lifespan for 30,000 hours.



Unit Per Set

CODE	Voltage	Watt	Colour	Dimensions H x W x D (mm)	Weight
79 20 19	AC100 - 240V	30W	Cool White Day Light	230x195x52	1.2 Kg
20		50W	Cool White Day Light	285x240x68	1.6 Kg
79 18 18		70W	Cool White Day Light	337x290x73	2.5 Kg
19		100W	Cool White Day Light	337x290x77	3.0 Kg
79 20 30		150W	Cool White Day Light	425x325x77	3.5 Kg
33		200W	Cool White Day Light	425x325x100	5.4 Kg
79 18 20		300W	Cool White Day Light	435x393x100	7.1 Kg
25					

### LED Floodlights - IP 66

Proyectores LED IP66 LED 投光器 IP66 LED 泛光灯 IP66

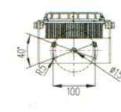
The versatile floodlight made of marine grade aluminum alloy with powder coating and comes with 4mm tempered glass front cover. Reliable AC driver on board to enhance service life. Rapid heat-dispersing design prolongs lamp life and optimizes lumen output. Long service life of 100,000 hours @ 50°C. JIS and IEC safety and EMC compliance. Ingress Protection: 66. Interchangeable modules. Wide or Narrow beam angle available. Triac dimming compatible (220-240VAC & 100V-120VAC only).

Application: Decks, Marinas, Docks, Ports, Warehouses. ABS and IEC60533 certified. Additional optional SUS316 Stainless steel protection guard for 1 module series.

#### 1x Wide Angle Module



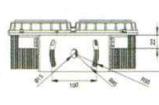
##### Ideal Replacement:



#### 2x Wide Angle Module



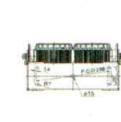
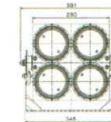
##### Ideal Replacement:



#### 4x Lights, Wide Angle Module



##### Ideal Replacement:



CODE	Module	Voltage	Power	CCT	System Lumen	Weight kg	Unit Per Pc.
79 18 05	1	220-240V AC	56W	5,000K	5,400 lm	1.9	
79 18 06		100-120V AC			4,500 lm		
79 18 07		20- 32V DC			4,600 lm		
79 18 08	2	220-240V AC	112W	5,000K	11,000 lm	3.5	
79 18 09		100-120V AC			9,000 lm		
79 18 10		20- 32V DC			9,800 lm		
79 18 15	4	220-240V AC	224W	5,000K	22,000 lm	9.3	
79 18 30		100-120V AC			18,000 lm		

CODE	Module	Beam Angle (50%)	Beam Angle (10%)	Voltage	Power	CCT	System Lumen	Weight kg	Unit Per Pc.
79 18 38	1	17°	32°	90W	5,000K		11,400 lm	4.35	
79 18 39		45°	87°				10,800 lm		
79 18 40		105°	148°				11,700 lm		
79 18 48	2	17°	32°	180W	5,000K		22,800 lm	8.6	
79 18 49		45°	87°				21,600 lm		
79 18 50		105°	148°				23,400 lm		
79 18 56	4	17°	32°	360W	5,000K		45,600 lm	17	
79 18 59		45°	87°				43,200 lm		
79 18 60		105°	148°				46,800 lm		

## LED Floodlights with Beam Angle

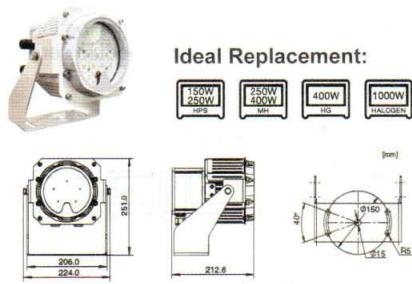
Proyector LED con ángulo de haz IP66

ビーム角付 LED 投光器 IP66 LED 泛光灯, 光束角 IP66

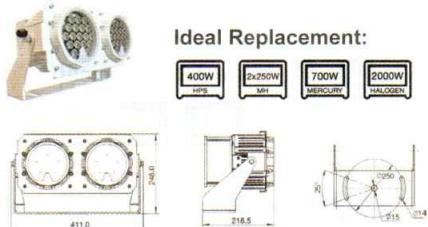
Long service life of >50,000 hours L70 @ 50°C. JIS and IEC safety and EMC compliance. Ingress Protection: 66 (Housing), 67 (Junction Box). ABS and IEC60533 certified. Flood, Medium and Narrow beam angles available.

Application: Decks, Marinas, Docks, Ports, Warehouses. Additional optional SUS316 Stainless steel protection guard for 1 module series.

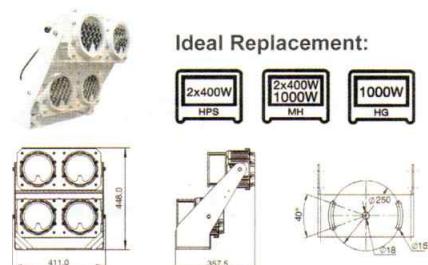
### 1x Wide Angle Module



### 2x Wide Angle Module



### 4x Wide Angle Module



## LED Floodlights - IP67

Proyectores LED IP67 LED 投光器 IP67

LED 泛光灯 IP67



### AC 85 - 265V Type

High watertight LED floodlight (IP67) made of Stainless steel. Lifespan for 50,000 hours.

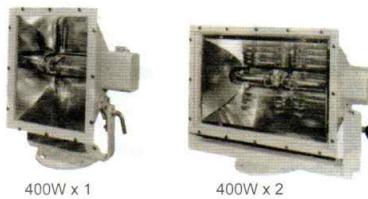
CODE	Voltage	Power	Colour	Dimension HWD mm	System Lumen	Weight kg	Unit Per Pc.
79 18 68		30W		340 x 390 x 145	3,000	6.0	
79 18 69	AC 85 - 265V	50W	Daylight	365 x 495 x 145	5,000	10.6	
79 18 70		100W		490 x 624 x 145	10,000	16.7	

## High Pressure Sodium Lamp Flood Lighting Fixtures

Proyectores de Lámpara de Sodio Alta Presión

角型ナトリウム投光照明器具 方形高压钠灯投光器

This floodlight of H.P. sodium light illuminates a larger area than the circular type of incandescent projector. Also used for funnel lighting and very efficient for use in dense fog. Vibration proof, water proof and airtight. Furnished without lamps. Accompanying ballast is another order.



### How to order: CODE

Flood lighting fixture, high pressure sodium lamp, WATTAGE and NUMBER of LAMPS, VOLTAGE

	CODE	79 18 21	79 18 22	79 18 23	79 18 24	Unit Per Set
Lamp	Watt x Nos.	400W x 1		400W x 2		
	Luminous-flux. (lm)	47,000		47,000 x 2		
AC Voltage	110 V	220 V	110 V	220 V		
Dimensions mm	W x D x H 430 x 285 x 543		W x D x H 740 x 285 x 543			
Height of Light Source		332 mm				
Base	Out Dia.	240 mm				
Flange	Bolt Circle	200 mm				
Material	Body	Stainless Steel				
	Bracket	Mild Steel				
Weight	19 kg		30 kg			

## High-Brightness LED Flood Lighting Fixtures

Aparatos de iluminación LED de alta luminosidad

高輝度 LED 投光器 高亮度 LED 泛光灯

A vibration-proof, shock resistance and robust flood lighting with High-brightness LED. 1/6 of power consumption compared with incandescent lamp, and no mercury used as compliance with ROHS.



SLD-120



SLD-150



SLD-240

### How to order: CODE

LED Flood lighting fixture, high-brightness, WATTAGE and NUMBER of LAMPS, VOLTAGE

	Unit Per Set		
CODE	79 18 35	79 18 36	79 18 37
Model	SLD-120	SLD-150	SLD-240
Lamp (Watt x Nos.)	13W x 6	3W x 12	13W x 12
Max. Luminous flux	More than 76,000 cd	More than 400,000 cd	More than 265,000 cd
Protection Class	IP56		
Power Source	AC100V – 220V		
Material	Body	Aluminium	
	Bracket	Aluminium	
Dimensions mm (W x H x D mm)	256x254x41	333x282x141	508x335x133
Weight kg	4.7 kg	7.5 kg	10.5 kg

Name of Mfr: Shonan Kosakusyo Co, Ltd.

## Rechargeable LED Portable Floodlight

Proyector portátil LED recargable

充電式 LED ポータブル投光器

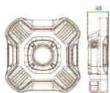
可充电 LED 便携式泛光灯

The aluminium alloy LED front frame comes with polycarbonate diffuser and ABS plastic housing. High performance COB LED with rechargeable lithium ion battery. Long service life of 50,000 hours LED lifespan, battery life up to 500 charges. USB power bank functions for emergency charging of mobile devices. Swivel stand can rotate 180°. 5/7 step dimming available. Vibration and impact resistant. RoHS safety compliant. Ingress Protection: 54.

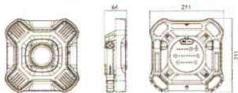


Application: Decks, Marinas, Docks, Ports, Warehouses.

20W power



40W Power



Unit Per Pcs.

CODE	Main Voltage	Power	CCT	System Lumen	Weight kg
79 18 78	100-240V AC	20W	5,000 K	2,600 lm	0.7
79 18 79	100-240V AC	40W	5,000 K	5,000 lm	1.5

## Explosion Proof LED Floodlights

Proyectores LED antideflagrantes

防爆 LED 投光器 防爆 LED 泛光灯

Made of marine grade seawater resistant aluminium alloy body with anti-corrosion power coating and SUS316 stainless steel mounting bracket, protection guard and external fasteners. Ultra long Service life of 100,000 hours at 40°C. JIS and IEC safety and EMC compliance. ATEX and IECEX approvals certified by CSA and SIRA for Zones 1/2 & 21/22 applications.

EX class – II 2G Ex db be op is IIC T6/T5/T4 Gb & II 2D Ex tb op is IIIC T80°C/T100°C/T135°C Db. Ingress Protection: 66, 67.

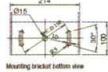
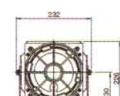
Available in both narrow and wide beam angles.

### 1 module



#### Ideal Replacement:

150W (MH),  
250W (Mercury),  
500W (Halogen)

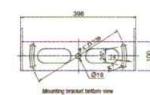
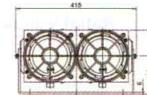


### 2 modules



#### Ideal Replacement:

250W (MH),  
400W (Mercury),  
1,000W (Halogen)

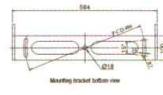
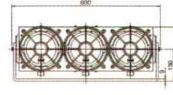


### 3 modules



#### Ideal Replacement:

150W (HPS),  
400W (MH),  
1,500W (Halogen)



CODE	Module	Main Voltage	Beam Angle	Power	CCT	System Lumen	Weight kg
79 18 45	1	100V-120V AC / 220-240V AC	108°	78W	5,000K	6,000 lm	5.8
79 18 65			36°			5,680 lm	6.0
79 18 75	2	100V-120V AC / 220-240V AC	108°	156W	5,000K	12,000 lm	11.5
79 18 80			36°			11,800 lm	11.7
79 18 85	3	100V-120V AC / 220-240V AC	108°	234W	5,000K	17,100 lm	17.0
79 19 25			36°			16,900 lm	17.3

## Marine Non-Watertight Fluorescent Ceiling Lights

Luminaria Fluorescente no Estanca

船用萤光灯井灯 (非防水) 船用天花板日光灯 (无防水)

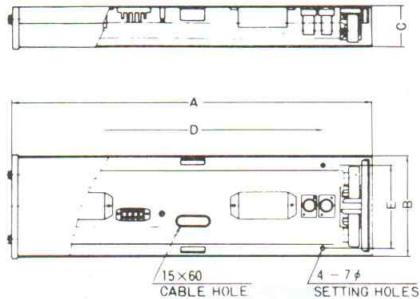
### (Ref. JIS F 8436-1983)

Mainly used for lighting living quarters in ships at an ambient temperature of 40°C or less. Made of a steel plate with melamine resin baked finish and milky white acrylic diffuser. Glow starting with high or low power factor ballast. One, two and three lamp types, as well as surface and recessed types are available.



When ordering, please specify the voltage and frequency required.

### Surface Mounting with Diffuser



#### How to order: CODE

FL ceiling light, non-watertight, surface mounting with diffuser, TYPE, VOLTAGE, WATTAGE, NUMBER of LAMPS

CODE	Type	Lamps	Dimensions mm					Unit Per Pc.
			A	B	C	D	E	

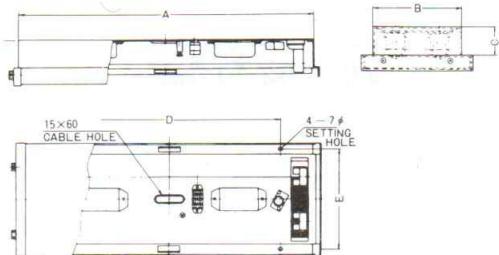
#### Rated Voltage 100, 115

79 18 41	KQB201	20W x 1	660	180	55	480	140	
42	KQB401	40W x 1	1,280	180	55	550	140	
79 18 43	KQB202	20W x 2	660	180	55	480	140	
44	KQB402	40W x 2	1,280	180	55	550	140	
79 19 01	KQB203	20W x 3	660	300	55	480	250	

#### Rated Voltage 220

79 19 02	KQB201	20W x 1	660	180	55	480	140	
03	KQB202	20W x 2	660	180	55	480	140	
04	KQB203	20W x 3	660	300	55	480	250	
79 18 46	KQB401	40W x 1	1,280	180	55	550	140	
47	KQB402	40W x 2	1,280	180	55	550	140	

### Recessed Fitting with Diffuser



#### How to order: CODE

FL ceiling light, non-watertight, recessed fitting with diffuser, TYPE, VOLTAGE, WATTAGE, NUMBER of LAMPS

CODE	Type	Lamps	Dimensions mm					Unit Per Pc.
			A	B	C	D	E	

#### Rated Voltage 100, 115

79 18 51	KQA201	20W x 1	642	140	55	500	160	
52	KQA401	40W x 1	1,250	140	70	500	160	
79 18 53	KQA202	20W x 2	642	140	55	500	160	
54	KQA402	40W x 2	1,250	140	70	500	160	

#### Rated Voltage 220

79 18 55	KQA203	20W x 3	642	260	55	500	280	
79 19 05	KQA201	20W x 1	642	140	55	500	160	
06	KQA202	20W x 2	642	140	55	500	160	
07	KQA203	20W x 3	642	260	55	500	280	
79 18 57	KQA401	40W x 1	1,250	140	70	500	160	
58	KQA402	40W x 2	1,250	140	70	500	160	

### Marine Watertight Fluorescent Ceiling Lights

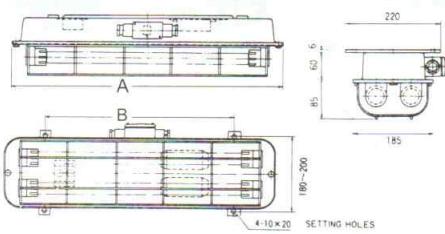
Luminaria Fluorescente Estanca

船用萤光天井灯（防水） 船用天花板日光灯（防水）

(Ref. JIS F8437-1983)

Mainly used for the lighting of machinery room, galleys, bath rooms, outdoor passageways, in ships at an ambient temperature of 45°C or less. When ordering, please specify the voltage and frequency required.

### Surface Mounting Drip-proof Fitting with Guard



#### How to order: CODE

FL ceiling light, drip-proof, surface mounting with guard, TYPE, VOLTAGE, WATTAGE, NUMBER of LAMPS

CODE	Model	Lamps	Dimensions mm		Unit Per Pc.
			A	B	

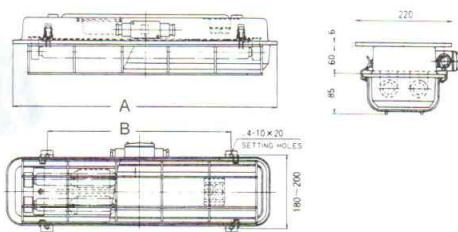
#### Rated Voltage 100, 115

79 18 61	KGW201	20W x 1	715	500	
62	KGW202	20W x 2	715	500	
79 18 63	KGW401	40W x 1	1,335	1,100	
64	KGW402	40W x 2	1,335	1,100	

#### Rated Voltage 220

79 19 08	KGW201	20W x 1	715	500	
09	KGW202	20W x 2	715	500	
79 18 66	KGW401	40W x 1	1,335	1,100	
67	KGW402	40W x 2	1,335	1,100	

### Watertight Fitting with Diffuser & Guard



#### How to order: CODE

FL ceiling light, watertight, surface mounting with diffuser and guard, TYPE, VOLTAGE, WATTAGE, NUMBER of LAMPS

CODE	Model	Lamps	Dimensions mm		Unit Per Pc.
			A	B	

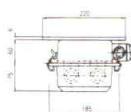
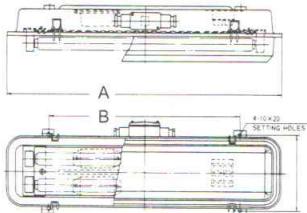
#### Rated Voltage 100, 115

79 18 71	KAW201	20W x 1	715	500	
72	KAW202	20W x 2	715	500	
79 18 73	KAW401	40W x 1	1,335	1,100	
74	KAW402	40W x 2	1,335	1,100	

#### Rated Voltage 220

79 19 10	KAW201	20W x 1	715	500	
11	KAW202	20W x 2	715	500	
79 18 76	KAW401	40W x 1	1,335	1,100	
77	KAW402	40W x 2	1,335	1,100	

## Watertight Fitting with Diffuser



### How to order: CODE

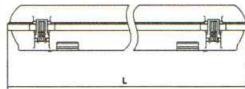
FL ceiling light, watertight, surface mounting with diffuser, TYPE, VOLTAGE, WATTAGE, NUMBER OF LAMPS

CODE	Model	Lamps	Dimensions mm		Unit Per Pc.
			A	B	
<b>Rated Voltage 100, 115</b>					
79 18 81	KEW201	20W x 1	715	500	
82	KEW202	20W x 2	715	500	
79 18 83	KEW401	40W x 1	1,335	1,100	
84	KEW402	40W x 2	1,335	1,100	
<b>Rated Voltage 220</b>					
79 19 12	KEW201	20W x 1	715	500	
13	KEW202	20W x 2	715	500	
79 18 86	KEW401	40W x 1	1,335	1,100	
87	KEW402	40W x 2	1,335	1,100	

## LED Watertight Fixtures with Diffuser

Luminarias estancas LED con difusor

ディフューザー付 LED 防水器具 带扩散器的 LED 防水灯具



Innovative LED Watertight Fixture, IP65 Waterproof. High impact resistant polycarbonate body and diffuser.

### How to order: CODE

LED ceiling light, watertight, surface mounting with diffuser, TYPE, VOLTAGE, WATTAGE, COLOUR

CODE	Voltage	Lamps	Colour	Dimensions L x W x H (mm)		Unit Per Pc.	
				1	2		
79 18 88 89	100-240V	11.5W x 1	Cool White	655	89	92	
		11.5W x 1	Daylight	655	89	92	
		11.5W x 2	Cool White	655	130	92	
		11.5W x 2	Daylight	655	130	92	
79 18 90 94		23W x 1	Cool White	1,265	89	92	
		23W x 1	Daylight	1,265	89	92	
79 18 95 99		23W x 2	Cool White	1,265	130	92	
		23W x 2	Daylight	1,265	130	92	
79 19 00 14							

## LED Watertight Luminaires

Luminarias estancas LED LED 防水照明器具 LED 防水灯具

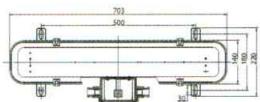
### LWJ Series (JIS Type)

Triac dimming compatible, with specially designed polycarbonate diffuser to optimize LED light transmission. Including built-in high thermal efficient linear module that allows for operation at



ambient temperature of up to 45°C without compromising long service life of 50,000 hours L70 @ 45°C. JIS and IEC safety and EMC compliance. ABS and IEC60533 certified. Surface Mounted. Diffuser material: Poly Carbonate, Housing Material: SUS316 Stainless Steel or Zinc coated steel, Power coated green. Flexible wiring, Heat resistant up to 105°C. Protection Class: IP65.

### 2FT 10W or 20W Type



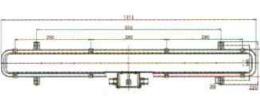
#### Ideal Replacement

1 X 18W	LWJ21 for 1X18W
2 X 18W	LWJ22 for 2X18W

Unit Per Pc.

CODE	Main Voltage	Power	System Lumen	Dimensions LxWxH mm	Weight Kg
<b>Housing: Zinc Coated Steel</b>					
79 19 15	220-240V AC	1×10W	1,000 lm	703×220×106.5	3.1
79 19 16		2×10W	2,000 lm		3.3
<b>Housing: SUS 316</b>					
79 19 17	220-240V AC	1×20W	1,000 lm	703×220×106.5	3.2
79 19 18		2×20W	2,000 lm		3.4

### 4FT 20W or 40W Type



#### Ideal Replacement

1 X 36W	LWJ41 for 1X36W
2 X 36W	LWJ42 for 2X36W

Unit Per Pc.

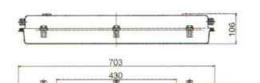
CODE	Main Voltage	Power	System Lumen	Dimensions LxWxH mm	Weight Kg
<b>Housing: Zinc Coated Steel</b>					
79 19 19	220-240V AC	1×10W	2,000 lm	1,313×220×106.5	5.1
79 19 20		2×10W	4,000 lm		5.5

### LWS Series (IEC type)

Superior thermal design to allow for operation at high ambient temperature up to 45°C. Long service life of 50,000 hours @ 45°C (Ta). Polycarbonate diffuser to optimize LED light transmission. JIS and IEC safety and EMC compliance. ABS and IEC60533 certified. Surface Mounted. Diffuser material: Poly Carbonate, Housing Material: SUS316 Stainless Steel or Zinc coated steel, Power coated white. With Metal Bracket. Flexible wiring, Heat resistant up to 105°C. Protection Class: IP67. Available with battery backup system and emergency lighting.



### 2FT 10W or 20W Type



#### Ideal Replacement

1 X 18W	LWS21 for 1X18W
2 X 18W	LWS22 for 2X18W

Unit Per Pc.

CODE	Main Voltage	Power	System Lumen	Dimensions LxWxH mm	Weight Kg
<b>Housing: Zinc Coated Steel</b>					
79 19 67	220-240V AC	1×10W	1,000 lm	703×220×106	2.6
79 19 68		2×10W	2,000 lm		2.7
<b>Housing: SUS 316</b>					
79 19 69	220-240V AC	1×10W	1,000 lm	703×220×106	2.7
79 19 70		2×10W	2,000 lm		2.8



**No-guard Type**

Unit Per Pcs.

CODE	Lamps	Dimensions mm			Fitting Size mm
		A	B	C	

**Rated Voltage, 100**

79 19 21	20W x 1	768	188	156	500	150
22	20W x 2	768	188	156	500	150
79 19 23	40W x 1	1,386	188	156	500	150
24	40W x 2	1,386	188	156	500	150

**Rated Voltage, 220**

79 19 26	20W x 1	768	188	156	500	150
27	20W x 2	768	188	156	500	150
79 19 28	40W x 1	1,386	188	156	500	150
29	40W x 2	1,386	188	156	500	150

**With Guard Type**

CODE	Lamps	Dimensions mm			Fitting Size mm
		A	B	C	

**Rated Voltage, 100**

79 19 31	20W x 1	768	188	161	500	150
32	20W x 2	768	188	161	500	150
79 19 33	40W x 1	1,386	188	161	500	150
34	40W x 2	1,386	188	161	500	150

**Rated Voltage, 220**

79 19 36	20W x 1	768	188	161	500	150
37	20W x 2	768	188	161	500	150
79 19 38	40W x 1	1,386	188	161	500	150
39	40W x 2	1,386	188	161	500	150

**LED Recessed Luminaires**

Lámparas LED empotradas

埋込み型 LED 荧光灯器具

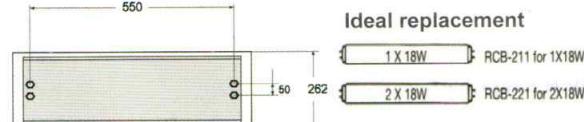
嵌入式 LED 荧光灯灯具

Triac dimming compatible, and integrated with LED linear module(s) to provide high illumination performance.

Long service life of &gt;50,000 hours

L70 @ 45°C. JIS and IEC safety and EMC compliance. Mounting Method: 4 mounting brackets, Hole cut out: 638 X 211mm (2FT), 1,247 x 211 (4FT). Diffuser material: PMMA (Polymethylmethacrylate) ice crystal, Housing material: Zinc coated steel, Powder coated white. Flexible wiring, Heat resistant up to 105°C. Protection Class: IP44 in conjunction with ceiling.

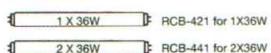
Available equipped type with "Battery backup system or "Emergency lighting", if required.

**2FT 12.5W or 25W Type****Ideal replacement**

CODE	Main Voltage	Power	System Lumen	Dimensions L x W x H mm	Weight Kg	Unit Per Set			
						CODE	Watt	Length	CODE
79 19 40	220-240V AC	1 x 12.5W	950 lm	662x262x75.6	3.7				79 19 45
41		2 x 12.5W	1,900 lm		4.0				79 19 66

**4FT 25W or 50W Type**

1190

**Ideal replacement**

Unit Per Set

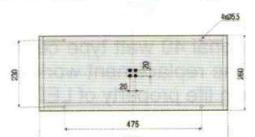
CODE	Main Voltage	Power	System Lumen	Dimensions L x W x H mm	Weight Kg
79 19 42	220-240V AC	1 x 24W	1,900 lm	1,272x262x75.6	6.9
43		2 x 24W	3,800 lm		7.5

**LED Surface Luminaires**

Luminarias LED de superficie LED 面照明器具 LED 表面灯具

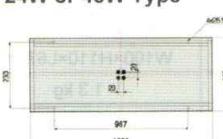
Triac dimming compatible, with specially designed polycarbonate diffuser to optimize LED lighting performance. Long service life of >50,000 hours L70 @ 45°C. JIS and IEC safety and EMC compliance. Mounting Method: 4 mounting holes, ø5.5mm. Diffuser material: Poly Carbonate. Housing Material: Zinc coated steel, Power coated white. Flexible wiring, Heat resistant up to 105°C.

Protection Class: IP20 in conjunction with ceiling. Available equipped type with "Battery backup system or "Emergency lighting", if required.

**2FT 12.5W or 25W Type****Ideal replacement**

Unit Per Set

CODE	Main Voltage	Power	System Lumen	Dimensions L x W x H mm	Weight Kg
79 19 46	220-240V AC	1 x 12.5W	950 lm	650 x 260 x 55	2.5
47		2 x 12.5W	1,900 lm		2.8

**4FT 24W or 48W Type****Ideal replacement**

Unit Per Set

CODE	Main Voltage	Power	System Lumen	Dimensions L x W x H mm	Weight Kg
79 19 48	220-240V AC	1 x 24W	1,900 lm	1,265 x 260 x 55	5.0
49		2 x 24W	3,800 lm		5.6

**Replacement LED Linear**

Unit Per Pcs.

CODE	Watt	Length	CODE	Watt	Length
79 19 44	12.5 W		79 19 45	24 W	
41	2 x 12.5W	2 FT			4 FT
79 19 50	10 W		79 19 66	20 W	

### When ordering shades or guards for lighting fixtures ;

Shape and size are different from manufacturers for the lighting fixtures. Please specify following necessary information for your suppliers.

Manufacturer's name .....  
Model / Type .....  
Part number .....

## LED Ceiling Lights

Plafones LED LED 照明器具 LED 吸顶灯

Energy saving LED fixture for living quarters (IP20). Housing/Body: PC milky cover, PC body.



Unit Per Pcs.

CODE	Voltage	Watt	Colour	Lumen Output	Dimensions L × W × H mm	Weight kg
79 20 09	100-240V AC	16W	Warm	1,400 lm	600 × 135 × 46	0.6
79 20 10		32W	White	2,800 lm	1,200 × 135 × 46	1.1

### Ceiling Lights

#### for LED Fluorescent Lamp

Luces para el techo con lámparas fluorescentes LED  
LED 萤光灯器具 LED 吸顶荧光灯

Energy saving LED fluorescent lamp fixture for vessel's engine room. The 24 watt type ceiling light create the illuminance as same as of conventional 40 watt type ceiling light, which save a lot of energy. The replacement work will be extremely reduced due to the long life property of LED.



Material: Housing—stainless steel and diffuser—polycarbonate. Please ask your local supplier for more details.

Unit Per Set

CODE	79 19 51	79 19 52
Lamp	10W x 2	24W x 1
Frequency	50 / 60 Hz	
Phase	Triple	Single
Voltage	110 - 240V	
Protection Degree	IP 67	IP 55 (Cable gland wiring type)
Size	W193×H116×L692mm	W100×H110×L670mm
Weight	3.2 kg	1.3 kg
Model as Reference	Aqua Signal No.1445203203	Toka Seiki ML-241

## LED Panel Lights

Panel de iluminación LED LED パネルライト LED 面板灯

Made of marine grade aluminium, comes with high-efficiency light guide. Easy installation with no external drivers needed, and super slim design for surface mounted application. High-efficiency constant current driver. Long service life of 50,000 hours L70 @ 40°C. Cabin entry: 2 plastic cable glands M20, and cable max. 13mm dia. JIS and IEC safety and EMC compliance.

\*Note: Replace whole unit when light not working.

### PL 353353 Series

353 × 353 mm

70% more energy-efficient compared to 1 × 18W fluorescent lighting system.



Ideal replacement



Weight: 2.7 kg

Unit Per Set

CODE	IP	Main Voltage	Power	OCT	Driving Current	System Lumen
79 19 53	22	100-240V AC	10W			850 lm
79 19 55	22	100-240V AC/24V DC	10W (AC) / 5W (DC)	4,000 K	350 mA	850 lm (AC) >120 lm (DC)

### PL 625257 Series

625 × 257 mm

70% more energy-efficient compared to 2 × 18W fluorescent lighting system.



Ideal replacement



Weight: 3.3 kg

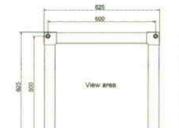
Unit Per Set

CODE	IP	Main Voltage	Power	OCT	Driving Current	System Lumen
79 19 57	22	100-240V AC	24W			1,700 lm
79 19 59	22	100-240V AC/24V DC	24W (AC) / 5W (DC)	4,000 K	800 mA	1,700 lm (AC) >120 lm (DC)

### PL 625625 Series

625 × 625 mm

70% more energy-efficient compared to 3 × 18W fluorescent lighting system.



Ideal replacement



Weight: 7.0 kg

Unit Per Set

CODE	IP	Main Voltage	Power	OCT	Driving Current	System Lumen
79 19 61	22	100-240V AC	47W			2,800 lm
79 19 63	22	100-240V AC/24V DC	47W (AC) / 5W (DC)	4,000 K	800 mA	2,800 lm (AC) >120 lm (DC)

### IP Rating Chart

The IP (International Protection, or Ingress Protection) Code consists of the letters IP followed by two digits, as defined in international standard IEC 60529.

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects.

**First Digit: Solid**

Level	Object size protected against	Effective against
0	Not protected	No protection against contact and ingress of objects.
1	>50 mm	Any large surface of the body, such as the back of the hand, but no protection against deliberate contact with a body part.
2	>12.5 mm	Fingers or similar objects.
3	>2.5 mm	Tools, thick wires, etc.
4	>1 mm	Most wires, screws, etc.
5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact.
6	Dust tight	No ingress of dust; complete protection against contact.

The second digit indicates the protection of the equipment inside the enclosure against harmful ingress of water.

**Second Digit: Liquid**

Level	Object size protected against	Effective against
0	Not protected	-
1	Dripping water	Dripping water (vertically falling drops) shall have no harmful effect.
2	Dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.
3	Spraying water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.
4	Splashing water	Water splashing against the enclosure from any direction shall have no harmful effect.
5	Water jets	Water projected by a nozzle (6.3mm) against enclosure from any direction shall have no harmful effects.
6	Powerful water jets	Water projected in powerful jets (12.5mm nozzle) against the enclosure from any direction shall have no harmful effects.
7	Immersion up to 1 m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion).
8	Immersion beyond 1 m	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer. Normally, this will mean that the equipment is hermetically sealed. However, with certain types of equipment, it can mean that water can enter but only in such a manner that it produces no harmful effects.

**LED Aisle Lights**

Luces LED para pasillos LED 通路灯 LED 通道灯

A long life, minimize the waste cost for replacement of fluorescent lamp, also respond to Restricting the



use of Hazardous Substance (RoHS). Thin-design and a self-powered ceiling, suitable for aisle light. Material: Metal frame – Aluminium, Rest frame: Polycarbonate. Operating temperature: -30 to +50°C.

Unit Per Pcs.

CODE	79 19 65
Model	CNL-01
Voltage	AC 100-240V
Wattage	19 W x 1
Power Factor	90Min (%)
Colour Temperature	6,000 K
Luminous Flux	1,900 lm
Dimension (L x W x H)	602 x 73 x 34 mm
Weight	1.0 kg

Name of Mfr.: Toka Seiki Co., Ltd.

**Explosion-Proof LED Ceiling Lights**

Plafones LED antideflagrantes

防爆型 LED 萤光灯器具 防爆 LED 吸顶灯



Energy saving Ex LED fixture for hazardous areas (T6), watertight (IP66). Type of protection: A-tex II 3G Ex nA IIC T6, Zone 2 and 22. Housing: Compressed fibreglass reinforced polyester. Diffuser: Injected polycarbonate transparent with UV protection. Closing clips: Stainless Steel.

CODE	Voltage	Watt	Colour	Dimensions L x W x H mm	Lumen Output	Weight Kg
79 19 30	AC 220-240V	18	Cool	665 x 145 x 101	2,200	1.9
79 19 35		32	White	1,289 x 145 x 101	4,800	3.2

**Explosion Proof LED Bulkhead Lights**

Luces de mamparo LED antideflagrantes

防爆 LED 壁付灯 防爆 LED 壁灯



Standard



Emergency

A compact, versatile, and robust light ideal for safely illuminating walkways, steps and entrances within hazardous areas. ATEX, IECEx and UKEX certified for safe use in Zones 1/21, all models in the range feature Wolf's patented DLO (Directional Linear Optics) technology, which means the beam can be directed exactly where needed, with no light overspill or wasted lumens, and there's no glare - even when installed at eye level.

The Emergency LED Bulkhead has all the features and benefits of the standard Bulkhead range, with the additional safety of an emergency back-up should power fail in the Hazardous Area. Different emergency mode durations are available and selectable on board by the installer.

CODE	79 19 89	79 19 90	79 19 91	79 19 92	Unit Per Set
Type	Standard		Emergency		
Model	LBXS-L-59	LBXS-L-65	LBXE-L-59	LBXN-L-59	
Input Voltage Range	88 - 140V AC; 180 - 277 V AC		100-140V AC; 200-277V AC		
Input Power (W)	24	16	32	6	
Frequency		50 - 60 Hz			
Power Factor		>0.95		>0.90	
Lumen Output (Max)*	1,629	1,086	1,629 (output dependent on duration setting 1, 2 or 4 hours)		
Colour Temperature		5,000K			
LED Module & Qty		1 x DLO (Directional Linear Optics)			
Lower Temp. Limit	-50°C		-40°C		
Upper Temp. Limit	59°C	65°C	59°C		
Certificate	ExVeritas 19 ATEX 0439X / IECEx EXV 19.0002X / ExVeritas 21 UKEX 0945X				
Weight	4 kg		5.5 kg		

Name of Mfr.: Wolf Safety Lamp Company

## Explosion Proof LED Linear Lights

Luces lineales LED antideflagrantes

防爆 LED リニアライト 防爆 LED 线性灯



ATEX, IECEx and UKEX certified for safe use in Zones 1 and 21 potentially explosive atmospheres. Ideal for illuminating hazardous area walkways, corridors, and long and large open areas, all products are IP66/67 rated, tough, reliable, and ideal for indoor or outdoor use in new installations and for replacing existing fluorescent or LED installations for improved performance and lower energy consumption. Available with Forward Facing Array LEDs or Directional Linear Optics LEDs for low glare.

The Emergency linear has all the features and benefits of the standard range with the additional safety of an emergency back-up should power fail in the Hazardous Area. Different emergency mode durations are available and selectable on board by the installer. Available with Forward Facing Array LEDs or Directional Linear Optics LEDs for low glare.

CODE	79 19 93	79 19 94	79 19 95	79 19 96	Unit Per Pcs.
Type	Standard				
Model	LMX2S-F-60	LMX2S-L-60	LMX4S-F-60	LMX4S-L-60	
Input Voltage Range	88 - 140V AC; 180 - 277 V AC				
Input Power (W)	23W	24W	46W	48W	
Beam Angles	115°	90°	115°	90°	
Frequency		50 - 60 Hz			
Power Factor		>0.90			
Enclosure Size	2 ft		4 ft		
Lumen Output (Max)*	2,629	1,988	5,258	3,976	
LED Module & Qty	1x FFA	1 x DLO	2 x FFA	2 x DLO	
Dust Surface Temp.	T80°C/ T90°C (dependent on model)				
Gas Temp. Class		T4			
Lower Temp. Limit		-50°C			
Upper Temp. Limit		60°C			
Approval	II 2 G Ex eb mb IIC T4 Gb II 2 D Ex tb IIIC T80°C...T90°C Db (dependent on model type)				
Certificate	ExVeritas 19 ATEX 0433X, IECEx EXV 19.0001X, ExVeritas 21 UKEX 0946X				
Weight	5 kg		9 kg		

Name of Mfr.: Wolf Safety Lamp Company

CODE	79 19 97	79 19 98	79 19 99	79 20 00	Unit Per Pcs.
Type		Emergency			
Model	LMX2E-F-60	LMX2E-L-60	LMX4E-F-60	LMX4E-L-60	
Input Voltage Range	100 - 140V AC; 200 - 277 V AC				
Input Power (W)	31W	32W	52W	56W	
Beam Angles	115°	90°	115°	90°	
Frequency		50 - 60 Hz			
Power Factor		>0.90			
Enclosure Size	2 ft		4 ft		
Lumen Output (Max)*	2,629	1,988	5,258	3,976	
LED Module & Qty	1x FFA	1 x DLO	2 x FFA	2 x DLO	
Dust Surface Temp.		T90°C			
Gas Temp. Class		T4			
Lower Temp. Limit		-40°C			
Upper Temp. Limit		60°C			
Approval	II 2 G D Ex eb mb IIC T4 Gb Ex tb IIIC T80°C..90°C Db				
Certificate	ExVeritas 19 ATEX 0433X, IECEx EXV 19.0001X, ExVeritas 21 UKEX 0946X				
Weight	6.5 kg		10.5 kg		

Name of Mfr.: Wolf Safety Lamp Company

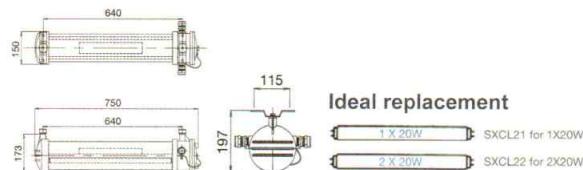
## Explosion-Proof LED Tubular Light

Tubo de luz LED antideflagrante

防爆型 LED チューブライト 防爆 LED 管状灯

Made of aluminium alloy housing with anti-corrosion powder coating with option for glass or polycarbonate diffuser. Long Service life of 100,000 hours. JIS and IEC safety and EMC compliance. ATEX and IECEx approvals certified by CSA and SIRA for Zones 1/2 & 21/22 applications. EX class – Ex db IIC T6 Gb and Ex tb IIIC T85°C Db. Ingress Protection: 66. Available equipped type with 3hrs battery back up for sustained emergency lighting using secondary LED light source. Maintained and non-maintained modes are supported.

### 2FT 12.5W or 25W Type



CODE	Main Voltage	Power	System Lumen	Dimensions L x W x H mm	Weight Kg	Unit Per Pcs.
Diffuser: Polycarbonate						
79 21 06	100 – 120V AC	1 x 12.5W	970 lm	750 x 173 x 197	5.6	
79 21 07		2 x 12.5W	1,940 lm		5.7	
79 21 08		1 x 12.5W	970 lm		5.6	
79 21 09		2 x 12.5W	1,940 lm		5.7	
Diffuser: Glass						
79 21 10	100 – 120V AC	1 x 12.5W	970 lm	750 x 173 x 197	8.7	
79 21 11		2 x 12.5W	1,940 lm		8.8	
79 21 12		1 x 12.5W	970 lm		8.7	
79 21 13		2 x 12.5W	1,940 lm		8.8	

**4FT 24W or 48W Type****Ideal replacement**

- |         |                  |
|---------|------------------|
| 1 X 40W | SXCL41 for 1X20W |
| 2 X 40W | SXCL42 for 2X20W |

Unit Per Pcs.

CODE	Main Voltage	Power	System Lumen	Dimensions L x W x H mm	Weight Kg
<b>Diffuser: Polycarbonate</b>					
79 21 14	100 – 120V AC	1 x 24W	1,940 lm		8.7
79 21 15	120V AC	2 x 24W	3,880 lm		8.9
79 21 16	220 – 240V AC	1 x 24W	1,940 lm		8.7
79 21 17	240V AC	2 x 24W	3,880 lm		8.9

**Diffuser: Glass**

CODE	Main Voltage	Power	System Lumen	Dimensions L x W x H mm	Weight Kg
79 21 18	100 – 120V AC	1 x 24W	1,940 lm		14.7
79 21 19	120V AC	2 x 24W	3,880 lm		14.9
79 21 23	220 – 240V AC	1 x 24W	1,940 lm		14.7
79 21 24	240V AC	2 x 24W	3,880 lm		14.9

**90 – 260V Type**

Energy saving Ex LED fixture for hazardous areas (T5), watertight (IP67)



Type of protection: A-TEX II 2G Ex de op is IIC T5 Gb, Zone 1, 2 (gas) and 21, 22 (dust)

Housing: Aluminium die casting, yellow epoxy powder coated.

Unit Per Pcs.

CODE	Main Voltage	Power	System Lumen	Dimensions L x W x H mm	Weight Kg
<b>Diffuser: Polycarbonate</b>					
79 21 39	90 – 260V AC	2 x 10W	2,160 lm	208 x 784	6.5
79 21 40	260V AC	2 x 18W	4,200 lm	208 x 1,390	9.2

**Cargo Lights**

Pantalla Bodega カーゴランプ 货灯

**Single Base Cargp Lights**

Lámparas Cargp de Base Única 簡易形カーゴランプ 轻型货灯

Ref. JIS F 8430

Drip proof single base cargo lights for marine use. Main body is made of painted steel plate.

**How to order: CODE**

Cargo light, single base, TYPE, WATTAGE

Unit Per Pcs.

CODE	Type	Lamp		Guard Diam. mm	Construction
		Watt	Number	Base	
79 20 03 04	No. 2	300 500	1	E39	400 Drip-proof

**Quadruple Base, Semi Portable Type**

Base cuádruple, tipo semiportátil

4 灯用カーゴライト 四个照明灯的货物照明灯

(Ref. JIS F8412-1983)

Drip proof, vibration proof, quadruple base cargo light. Main body made of steel sheet and painted for marine use.

**How to order: CODE**

Cargo light, quadruple base, semi portable type, No. 1 – 3, 60 watts, LAMP BASE

Unit Per Pcs.

CODE	Type	Lamp Watt	Lamp Number	Lamp Base	Guard Diam. mm	Construction
79 20 07 08	No. 1-3	60	4	E26	410	Drip Proof & Vibration Proof
				B22		

**Projector Type**

Proyector Estanco de Carga

二種カーゴライト 投影式装卸貨用照明灯

(Ref. JIS F8412-1983)

Waterproof single base projector type cargo lights for marine use. Main body made of painted steel plate.

**How to order: CODE**

Cargo light, projector type, TYPE, WATTAGE, LAMP BASE

Unit Per Pcs.

CODE	Type	Lamp Watt	Lamp Number	Lamp Base	Guard Diam. mm	Construction
79 20 11 12	No. 2-1	200	1	E26	350	Water Proof
				B22		
79 20 13 14	No. 2-2	300 500	1	E39	410	

**Boat Deck Lights****Water & Vibration Proof**

Luces para Cubierta de Bote Resistente al Agua y Vibración

ポートデッキランプ 小艇甲板灯

(Ref. JIS F8413-1983)

Water and vibration proof single base boat deck lights. Mainly used for illuminating a lifeboat during and immediately after the launching process. Main body made of painted steel sheet.

**How to order: CODE**

Boat deck light, water &amp; vibration proof, TYPE, WATTAGE, LAMP BASE

Unit Per Pcs.

CODE	Type	Lamp Watt	Lamp Number	Lamp Base	ΦD mm	Construction
79 20 21 22	No. 1	100 200	1	E-26	350	Water and Vibration Proof
				B-22		
79 20 23 24	No. 2	300 500	1	E-39	410	

**Boat Deck Lights****Watertight Sealed Beam Type**

Luces de cubierta, Estanques Tipo Viga Sellada

防水密閉ビームタイプ・ポートデッキランプ

船用甲板灯 水密密封光束型



Made of casting brass body with casting iron made fixing bed.

CODE	Type	Lamp		Height mm	Weight kg	Unit Per Pcs.	
		Volt	Watt			D	H
79 20 28	S1R	24 V	60 W	308	4.7		
29	S2R	24 V	75/55 W	308	4.7		

## LED Boat Deck Floodlight

Proyector LED para cubierta de barco

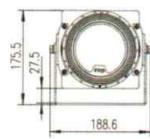
LED ポートデッキ投光器 LED 船甲板泛光灯

The versatile floodlight made of marine grade aluminum alloy with powder coating and comes with 4mm tempered glass front cover. Reliable driver on board to enhance service life. Rapid heat-dispersing design prolongs lamp life and optimizes lumen output. Long service life of 100,000 hours @ 50°C. JIS and IEC safety and EMC compliance. Ingress Protection: 66. ABS and IEC60533 certified. Interchangeable modules.

Application: Decks, Marinas, Docks, Ports, Warehouses.  
Weight: 1.9 kg



Ideal Replacement:



Unit Per Pcs.

CODE	Main Voltage	Power	CCT	System Lumen
79 20 05	20-32V DC	56W	5,000 K	4,900 lm

## Marine Floodlighting Projectors

Water & Vibration Proof

Proyectores Marinos - Resistente al Agua y Vibración  
船用プロジェクター 船用反射灯

(Ref. JIS F8417-1983)

Water and vibration proof single base flood lighting projector. Main body made of painted steel sheet. Mainly used on board ships.



Unit Per Pcs.

CODE	Type	Lamp			$\phi D$ mm
		Watt	Number	Base	
79 20 32	No. 2	500	1	E39	410

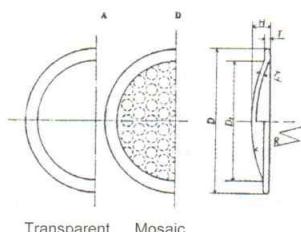
## Front Glasses for Marine Electric Light

Cristal para Proyectores

船用カーボランプ用前面ガラス 船用灯罩

(Ref. JIS F8403-1981)

Front glasses for cargo lights, flood-lighting projectors, boat deck lights and others. Available in two kinds of glass, transparent and mosaic.



Transparent Mosaic

CODE	Type	Size mm				Unit Per Pcs.
		D	D <sub>1</sub>	H	T	
79 20 36	A300	300	280	30	8	
37	D300	300	280	30	8	
38	A350	350	325	35	9	
39	D350	350	325	35	9	

Denotes A ..... Transparent Glass

D ..... Mosaic Glass

## Marine Pendant Lights

Water & Vibration Proof

Farol Techo - Resistente al Agua y Vibración 船用作業灯 吊式探照灯  
(Ref. JIS F8414-1990)

Marine pendant light, mainly used for illuminating a working area such as in engine rooms and stores in ships. Water and vibration proof.



How to order: CODE

Pendant light, water & vibration proof, TYPE, LAMP BASE, WATTAGE

CODE	Type	Lamp Base	Lamp Voltage	Lamp Watt	Glass Globe	Unit Per Pcs.
79 20 51	1	E-12	125	20	S 80A	
		B-15				
79 20 53	1M	E-12	250	60	S 90A	
		B-15				
79 20 55	2	E-26	250	100	S120A	
		B-22				
79 20 57	2M	E-26	250	200	S135A	
		B-22				
79 20 59	3	E-26	250	100	S120A	
60	3M					
79 20 61	4	E-26	250	200	S135A	
62	4M					

Remark: Main body material is metal casting but the letter "M" suffixed to type number denotes that of synthetic resins.

## Marine Watertight Type Wall Lights

Farol Pared Tipo Estanco 船用防水型壁付灯 防水船用墙壁灯

Watertight Wall Light Fixture mainly used for the illumination of passageways in exposed areas on board ships.



Type W



Type WB-1



Type WB-2

Unit Per Pcs.

CODE	Type	Watt	Applicable Glass Globe	Lamp Base	Main Body Material	Unit Per Pcs.
79 20 66	W	60	F175A	E-26	Cast Iron	
	WB-1	20	S57A	B-15	Synthetic Resin	
	WB-2	60	S90A	E-26	Synthetic Resin	

## LED Marine Wall Lights

Luces LED navales para paredes 船用 LED 壁付灯 船用 LED 壁灯

**BG Series: Cable wiring connected by side entry**

10W/12W/13W

Made of marine grade aluminium alloy with powder coating and PBT fiberglass reinforced body, polycarbonate diffuser and clear or red guard. Alternative to 100W incandescent bulb, and energy savings up to 90% compared to 100W incandescent bulb. Vibration-resistant. Long service life of

50,000 hours L70@45°C. JIS and IEC safety and EMC compliance. Ingress protection: 56. ABS and IEC60533 certified. Weight: 1.0 kg. Triac dimming compatible (220-240VAC & 100V-120VAC only). Please specify which guard is preferable, polycarbonate clear or polycarbonate red, when ordering.



Unit Per Pcs.

CODE	Voltage	Power	CCT	Beam Angle	System Lumen
<b>Guard: Polycarbonate Clear</b>					
79 20 40	24V DC	10W			950 lm
41	100-120V AC	12W	5,000K	160°	900 lm
42	220-240V AC	13W			900 lm
<b>Guard: Polycarbonate Red</b>					
79 20 43	24V DC	10W			950 lm
44	100-120V AC	12W	5,000K	160°	900 lm
45	220-240V AC	13W			900 lm

CCT denotes Correlated Colour Temperature.

### FG Series: Cable wiring connected by back entry, through wall

10W/12W/13W



Unit Per Pcs.

CODE	Voltage	Power	CCT	Beam Angle	System Lumen
<b>Guard: Polycarbonate Clear</b>					
79 20 46	24V DC	10W			950 lm
47	100-120V AC	12W	5,000K	160°	900 lm
48	220-240V AC	13W			900 lm
<b>Guard: Polycarbonate Red</b>					
79 20 49	24V DC	10W			950 lm
50	100-120V AC	12W	5,000K	160°	900 lm
63	220-240V AC	13W			900 lm

CCT denotes Correlated Colour Temperature.

30W

Alternative to 300W incandescent bulb, and energy savings of up to 90% compared to 300W incandescent bulb. Long service life of 30,000 hours L70 @ 40°C. JIS and IEC safety and EMC compliance. ABS and IEC60533 certified. Ingress protection: 56. Weight: 1.5 kg.



Unit Per Pcs.

CODE	Voltage	Power	CCT	Beam Angle	System Lumen
<b>Guard: Polycarbonate Clear</b>					
79 20 64	100-240V AC/DC	30W	5,000K	180°	2,900 lm
<b>Guard: Polycarbonate Red</b>					
79 20 65	100-240V AC/DC	30W	5,000K	180°	2,900 lm

CCT denotes Correlated Colour Temperature.

### LED Marine Pendant Lights

Luces LED navales colgantes 船用 LED 作業灯 船用 LED 作业灯

EG 10W/12W/13W



A complete solution with heat sink, driver and polycarbonate diffuser. Made of marine grade aluminium alloy with powder coating and PBT fiberglass reinforced body, polycarbonate diffuser and clear or red guard. Vibration-resistant. Energy savings of up to 90% compared to 100W incandescent bulb. Long service life of 50,000 hours L70 @ 45°C. JIS and IEC safety and EMC compliance. ABS and IEC60533 certified. Triac dimming compatible (220-240VAC & 100V-120VAC only). Weight: 1.0 kg. IP56.

Unit Per Pcs.

CODE	Voltage	Power	CCT	Beam Angle	System Lumen
<b>Guard: Polycarbonate Clear</b>					
79 20 69	24V DC	10W			950 lm
70	100-120V AC	12W	5,000K	160°	900 lm
92	220-240V AC	13W			900 lm
<b>Guard: Polycarbonate Red</b>					
79 20 93	24V DC	10W			950 lm
94	100-120V AC	12W	5,000K	160°	900 lm
95	220-240V AC	13W			900 lm

CCT denotes Correlated Colour Temperature.

EG30W

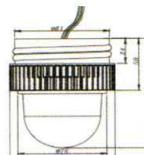
Alternative to 300W incandescent bulb, and energy savings of up to 90% compared to 300W incandescent bulb. Long service life of 30,000 hours L70 @ 40°C. JIS and IEC safety and EMC compliance. ABS and IEC60533 certified. Ingress protection: 56. Weight: 1.5 kg.

Unit Per Pcs.

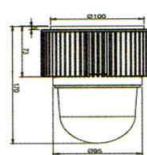
CODE	Voltage	Power	CCT	Beam Angle	System Lumen	Type
<b>Guard: Polycarbonate Clear</b>						
79 20 96	100-240V AC/DC	30W	5,000K	180°	2,900 lm	LMU03050PC
<b>Guard: Polycarbonate Red</b>						
79 20 97	100-240V AC/DC	30W	5,000K	180°	2,900 lm	LMU03050PR

CCT denotes Correlated Colour Temperature.

### Replacement LED Modules for LED Wall Light and Pendant Light



Equivalent to 100W Incandescent Bulb (10/12/13W)



Equivalent to 300W Incandescent Bulb (30W)

Unit Per Pcs.

CODE	Power
79 21 87	24V DC 10W
88	100-120V AC 12W
89	220-240V AC 13W
90	100-240V AC/DC 30W

## LED Watertight Cargo Lights

Luces de carga estancas LED

LED 防水型カーゴライト LED 防水貨物灯

Energy saving LED High Bay light, as replacement of traditional cargo lights. Made of aluminium base, waterproof (IP65), beam angle 90°, lifespan for 30.000 hours, with eye bolt mounting.



Unit Per Pcs.

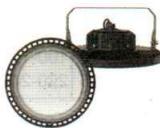
CODE	Main Voltage	Power	Colour	Dimensions D x H mm	System Lumen	Weight kg
79 20 15	85-265V	100W		275 x 115	10,000 lm	1.9
79 20 16	265V	150W	Daylight	310 x 120	15,000 lm	2.5
79 20 17	AC	200W		345 x 125	20,000 lm	3.1

## LED High Bay Lights

Iluminación LED para patios altos

LED 高天井照明 用于高天井的 LED 照明

The high bay LED light fixture provides high efficiency visibility. Aluminium construction ensures long life, waterproof (IP65) and high reliability with 50,000 working hours. Wide input voltage: AC 85-265V, 50/60Hz, compliance with ROHS and CE.



Unit Per Pcs.

CODE	Voltage	Power	Light Efficiency	Colour	System Lumen	Working lift
79 21 62	85-265V	150W	4,000K	Warm White		
79 21 63	AC	150W	6,500K	Daylight	6,000 lm	50,000 hours

## Explosion-Proof LED Pendant Light

Lámpara colgante LED antideflagrante

防爆タイプ LED ペンダントライト 防爆 LED 吊灯

### SXPL Series

Made of marine grade seawater resistant aluminium alloy body with anti-corrosion powder coating, borosilicate glass diffuser and stainless-steel protection guard and external fastener. Long Service life of 50,000 hours. JIS and IEC safety and EMC compliance. ATEX and IECEEx approvals certified by CSA and SIRA for Zones 1/2 & 21/22 applications. Ex Class – Ex db IIC T6 Gb and Ex tb IIIC T85°C Db.



Unit Per Pcs.

CODE	Main Voltage	Power	CCT	System Lumen
79 21 03	24V DC	10W		950 lm
79 21 04	100-120V AC	12W	5,000 K	900 lm
79 21 05	220V-240V AC	13W		

## Glass Globes

### for Marine Electric Light

Crital para Farol Marino 船用ガラスグローブ 船用灯灯罩

(Ref. JIS F8402-1982)

Glass globes used for marine electric lights with incandescent lamps.

Illustration	Type	Dimensions mm				Colour
		D	d	H	T/h	
<b>Flange Type</b>						
	90	105	90	150	6	A, AB, AG, AR, AYR
	175	190	175	60	4	A
	250 300 350	262 312 362	250 300 350	85 90 95	4 4 4	B
<b>Screw in Type</b>						
	57	59.9 - 60.3	57	75	22	
	80	83.4 - 83.7	80	90	26	A
	90	83.4 - 83.7	90	150	26	A, AB, AG, AR, AYR
	110	83.4 - 83.7	110	160	26	B
	120	123.0 - 123.4	120	175	26	A
	135	123.0 - 123.4	135	220	26	A
	230	123.0 - 123.4	230	157	26	B

1. Symbols of class denote the shape of fitting part of globes as follows:

F ... Flange type  
S ... Screw in type

2. Type is classified according to the outside diameter of the globe in mm.  
 3. Symbols of colour denote the following.  
 A ..... Colourless Transparency  
 B ..... Frosted  
 AB..... Transparent blue  
 AG .... Transparent green  
 AR..... Transparent red  
 AYR... Transparent yellow

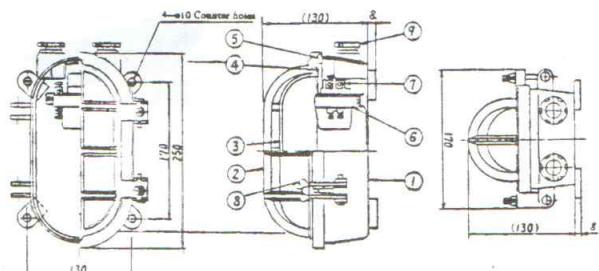
### How to order: CODE

Glass globe, TYPE of FITTING, TYPE

		Unit Per Pc.	
CODE	Type	CODE	Type
79 20 71	F90A	79 20 81	S57A
72	F90AB	82	S80A
73	F90AG	83	S90A
74	F90AR	84	S90AB
75	F90AYA	85	S90AG
79 20 76	F175A	79 20 86	S90AR
77	F250B	87	S90AYS
78	F300B	88	S110B
79	F350B	89	S120A
		90	S135A
		79 20 91	S230B

## Watertight Type Passage Lights

Luces para Pasillo Tipo Estanco 船用防水型通路燈 通道灯



(Ref. JIS F8441)

Watertight passage lights using incandescent lamps of 40 watts or less at 110V or less as a light source, mainly applied for weather decks aboard in a place of ambient temperature 40°C or less.

### Specification

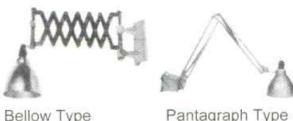
Material	1. Body	Cast Iron
	2. Guard	Cast Iron
	3. Globe	Glass
	4. Gasket	Synthetic Rubber
	5. Gasket	Synthetic Rubber
	6. Screw	Brass
Size mm	Overall	Length 250 mm
	Overall	Width 170 mm
	Overall	Depth 130 mm
Voltage	110 V	
Wattage	40 W	

79 21 01	Passage light, watertight, with guard, E-26 × 40W	Pc.
79 21 02	Passage light, watertight, without guard, E-26 × 40W	Pc.

## Chart Table Lights

### Wall Mounting

Luces de mesa Chart 壁付け海図台灯 图台灯



Bellow Type Pantagraph Type

		Unit Per Set	
CODE		79 21 20	79 21 21
Extended Type		Bellow Type	Pantagragh Type
Extended to		820 mm	880 mm
Unextended		225 mm	180 mm
Setting Hole		75 × 75 × 90 mm × 6	65 × 95 mm × 4
Shade Size		160Φ × 155H mm	160Φ × 145H mm
Material	Shade	Aluminium Plate	Steel Plate
	Arm	Brass Plate	Steel Plate
	Base	Cast Iron	Cast Iron
Lamp		40W or 60W	
Base		E-26	
Weight		3.9 kg	3.0 kg

## Flexible LED Chart Table Light

Lámpara LED flexible de sobremesa

LED チャートテーブルライト 灵活的 LED 图表台灯

Made of an Anodized aluminum body, the 53cm flexible gooseneck light features CREE XP-G LED light source. 3-step dimming. Push-pull focusing lens. Long LED Lifespan of 60,000 hours at L70. USB Type-C power input. Vibration resistant. JIS and IEC safety and EMC compliance. Ingress Protection: 20. Application: Bridges and Cabins Weight: 0.216 kg. Available equipped type with red diffuser.



79 21 22	Flexible LED chart table light, 100-240V AC, 2W 6,500 K, 200 lm	Pc.
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## Universal Table Lights

Luces Universales para Mesa 卓上燈 万向桌灯

Designed for lighting study areas. Lighter and easy to handle due to spring suspension. Can be fitted on a desk or wall by simply exchanging bases.

Available in incandescent lamp and fluorescent lamp types. FL type of 220V requires a special ballast.



Fitting Base



### How to order: CODE

Universal table light, TYPE of LAMP, WATTAGE, FITTING TYPE

Unit Per Set				
CODE	For	Watts	Maximum Height mm	Fitting Parts
79 21 25	Incandescent Lamp	100W	865	Clamp Bracket
79 21 26				Table Base
79 21 27				Wall Bracket
79 21 28	F.L. Lamp	20W × 1	840	Clamp Bracket
79 21 29				Table Base
79 21 30				Wall Bracket

## LED Downlights

Luces LED descendentes LED ダウンライト LED 筒灯



### DL Series Swint Downlight

Made of marine grade aluminium alloy with powder coating, and polycarbonate diffuser. Built-in with integrated driver for ease of installation, and vibration-resistant. Energy savings of up to 86% compared to 50W halogen. Superior heat sink designed to enhance the service life. Long service life of 50,000 hours L70 @ 40°C. JIS and IEC safety and EMC compliance. ABS and IEC60533 certified. Application: Cabins, Passageways, Galleys, Meeting rooms. Protection Class: IP44 in conjunction with ceiling. Note: Replace whole unit when light is not working.

**Ideal Replacement:** DL7A2S (7W) for CFL 50W

Unit Per Pcs.	
CODE	79 21 31
Model	LDAS074KA22W
Main Voltage	220–240V AC
Power	7W
CCT	4,000K
Beam Angle	105°
System Lumen	566 lm
Dimensions	Dia 97 × H 40.5 mm
Weight	0.2 kg

### DL Series Downlight



Made of marine grade aluminium alloy with powder coating, comes with polycarbonate diffuser. Triac dimming compatible (220-240 VAC only). Designed with reliable AC driver on board to enhance the service life. Vibration-resistant. Energy savings of up to 60% compared to compact fluorescent system. Long service life of 50,000 hours L70 @ 40°C. JIS and IEC safety and EMC compliance. ABS and IEC60533 certified. Application: Cabins, Passageways, Galleys, Meeting rooms. Protection Class: IP44 in conjunction with ceiling.

\*Note: Replace whole unit when light is not working.

### Ideal Replacement:

DLA12040 (12W) for 18W CFL

DLA15040 (15W) for 26W CFL

Unit Per Pcs.

CODE	Voltage	Power	CCT	Beam Angle	System Lumen
79 21 32	24V DC	15W	4,000K	85°	1,050 lm
35	100-120AV	15W			1,050 lm
33	220-240V AC	12W			820 lm
34	220-240V AC	15W			1,050 lm

## DLS Series

Fire-rated for 30, 60 and 90 minutes. Made of steel with powder coating, aluminium heatsink, Polymethyl methacrylate (PMMA) diffuser and polycarbonate bezel. Vibration-resistant. Energy savings of up to 55% compared to compact fluorescent system. Long service life of 50,000 hours L70 @ 40°C. JIS and IEC safety and EMC compliance. ABS certified. Application: Cabins, Passageways, Galleys, Meeting rooms. Protection Class: IP65 in conjunction with ceiling.



Note: Replace whole unit when light is not working.

**Ideal Replacement:** DLSS88A2 (8W) for 18W CFL

Unit Per Pcs.

CODE	79 21 38
Model	LDD08XKA22W
Main Voltage	220-240V AC
Power	8W
CCT	3,000/4,000/6,000K Selectable
Beam Angle	60°
System Lumen	900 lm
Dimensions	Dia 88 × H 30 mm
Weight	0.3 kg

## Bed Lamp Fixtures

Luces de Camarote 船用寝台灯 船用床头灯



### Incandescent Lamp Use

Chrome plate finished brass made base and body with frost glass globe.

Unit Per Pcs.

CODE	Lamp Base	Watt	Size mm
79 21 36	E-26	20	230 × 115 × 120
79 21 37	B-22		

## Fluorescent Lamp Use



Made of synthetic resin foundation covered with milky white polystyrene diffuser. When ordering, please specify power source voltage and applicable wattage of the fluorescent lamp.

### How to order: CODE

Bed lamp fixture, FL lamp, VOLTAGE, WATTAGE

Unit Per Set

CODE	Lamp	Size mm Width × Height × Depth
AC 110 volt		
79 21 41	8 W × 1	393 × 110 × 90
42	10 W × 1	393 × 110 × 90
43	15 W × 1	504 × 110 × 90
AC 220 volt		
79 21 45	8 W × 1	393 × 110 × 90
46	10 W × 1	393 × 110 × 90
47	15 W × 1	504 × 110 × 90

## LED Berth Lights

Luces LED para camarotes LED 寝台灯 LED 卧铺灯

Special design polycarbonate diffuser to optimize the LED light transmission.

Slim profile design that is easily mounted to provide illumination performance while using significantly less energy, and useful for lighting in Passageways, Cabins, Lounges, Dining rooms, and Accommodation areas. Long service life of 50,000 hours L70 @ 40°C. JIS and IEC safety and EMC compliance. 2 mounting holes Ø5.5mm.



Material: Diffuser- Polycarbonate, Housing- Galvanized steel, powder coated white.

Protection Class: IP20 in conjunction with ceiling.

\*Note: Replace whole unit when light is not working.

CODE	Main Voltage	Power	System Lumen	Unit Per Pc.	
				Dimensions L x W x H mm	Weight Kg
79 21 48	100-120V AC	4W	280 lm	230 × 70 × 31.6	0.25
49	220-240V AC				

### USB Charging Port Series

Lights includes dimming function with dimming knob and 2 USB ports with optional universal socket. Housing- Aluminum, powder coated white. 2 mounting holes, D4.2mm, L14.2mm.



CODE	Main Voltage	Power	System Lumen	Unit Per Pc.	
				Dimensions L x W x H mm	Weight Kg
79 21 53	100-120V AC	4W	370 lm	320 × 65 × 70	1.0
54	220-240V AC				

## 7. Hand Lamps

### Watertight Hand Lamps

Lámpara Portátil de Mano Estanca 防水手提灯 防水工作灯

Watertight hand portable lamp with S90A screw globe and cast iron body and guard. Handle grip is made of hard wood or hard rubber and a hanging hook is fixed. Suitable for 60 watt lamp either E-26 or B-22. 350 mm overall length. Lamp excepted.



CODE	Lamp Base	Lamp Watts	Applicable Glass Globe		Unit Per Pc.
			SAO-90		
79 21 51	E-26	60			
79 21 52	B-22				

### Non-Watertight Hand Lamps

Lámpara Portátil de Mano No Estanca 非防水手提灯 无防水工作灯

Plastic handle and iron guard hand lamp with hanging hook. 100 mm guard diameter and 265 mm overall length. Rated voltage 125V.



CODE	Lamp Base	Watts		Unit Per Pc.
		E-26	B-22	
79 21 66				
67				

### LED Safety Guide Hand Lamp

Lámpara LED de mano de guía de seguridad LED 作業用安全指示灯 LED 作业安全指示灯

A handy lamp used for indicating emergency with red high luminance LED light. Made of red colour polycarbonate resin, and 2 x AA battery operated.

\*Continuous Lighting: 160 hours  
\*Continuous Flashing: 100 hours  
\*Waterproof type



CODE	Description	Unit
79 21 68	LED Safety Guide Hand Lamp, red color waterproof	Pc.

### Explosion Proof Portable Hand Lamps

Lámparas Manuales Portátiles Anti-deflagrantes 防爆型ハンドランプ 携带式手提灯



This explosion proof portable hand lamp is specially designed for use in hazardous atmospheres containing explosive and combustible gases and vapours.

#### How to order: CODE

Portable hand lamp, explosion-proof, VOLTAGE, WATTAGE

CODE	Wattage	Voltage	Unit Per Pc.	
			Lamp Base	E-26
79 21 71	60W	110		
79 21 72		220		
79 21 73		110		
79 21 74	100W	220		

### LED Marine Portable Work Lights

Luces LED de trabajo portátiles navales 船用 LED 手提灯 船用 LED 手提灯



A complete solution with heat sink, driver and polycarbonate diffuser. Made of marine grade aluminium alloy with powder coating and polycarbonate body, diffuser and clear or red guard.

Vibration-resistant, and energy savings of up to 90% compared to 100W incandescent bulb. Long service life of 50,000 hours L70 @ 45°C. JIS and IEC safety and EMC compliance. ABS and IEC60533 certified. Beam Angle: 160°, System Lumen: 10W 950lm, 12W and 13W 900 lm, IP 56, Weight: 1.0 Kg. Triac dimming compatible (220-240VAC & 100V-120VAC only).

### 10W/12W/13W

CODE	Voltage	Power	CCT	Beam Angle	System Lumen	
					5,000K	160°
79 21 75	24V DC	10W			900 lm	
79 21 76	100-120V AC	12W			900 lm	
79 21 77	220-240V AC	13W			950 lm	

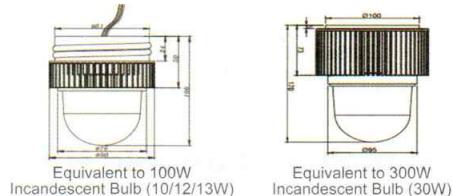
### 30W (100-240V AC/DC)

Alternative to 300W incandescent bulb, and energy savings of up to 90% compared to 300W incandescent bulb. Long service life of 30,000 hours L70 @ 40°C. ABS and IEC60533 certified. Beam Angle: 180°, System Lumen: 2,900lm, IP 56, Weight: 1.5 Kg.



Unit Per Pcs.						
CODE	Guard	Voltage	Power	CCT	Beam Angle	System Lumen
79 21 85	Clear	100-120V AC/DC	30W	5,000K	180°	2,900 lm
79 21 86	Red					

### Replacement LED Modules for Portable Work Light



Unit Per Pcs.

CODE	Power
79 21 87	24V DC 10W
88	100-120V AC 12W
89	220-240V AC 13W
90	100-240 AC/DC 30W

### Rechargeable LED Portable Work Light

Luz de trabajo portátil LED recargable

充電式 LED ポータブル作業灯 可充电 LED 便携式工作灯

The heavy-duty COB LED features an aluminium alloy handle with polycarbonate diffuser and thermoplastic rubber at both ends for impact protection. Hanger hook and magnetic base for easy mounting. 2 steps dimming and torch mode via LED at the top. Service life of 50,000 hours LED lifespan, battery life up to 500 charges. Lithium-ion battery rechargeable by 5V 1A micro USB port. Vibration and impact resistant. RoHS safety compliant. Ingress Protection: 54. Application: Engine rooms, Low Visibility Areas, Decks, Warehouses, Yards.



79 21 55	Portable Work Light Rechargeable, 3W 100-240V AC, 5,000 K, 300 lm	Pc.
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### Watertight Fluorescent Hand Lamps (Line Lights)

Lámparas Manuales Fluorescentes (Luces de Linea)

作業用防水蛍光灯 防水工作日光灯

This polycarbonate cylindrical type fluorescent hand lamp with built-in ballast has the following advantages:



1. This line light will not break easily if it is hit or dropped.
2. It is waterproof.
3. If the fluorescent lamp is broken inside, this line light is not liable to ignite.
4. Since pieces of broken glass will not scatter, it will not cause damage to any apparatus.
5. This line light is cold-proof so that it can be used in any cold place.

#### Specifications

Voltage & Hz	100-110V/200V 50 or 60 Hz
Starter	Glow Start Type
Lamp	FL20
Ampere	0.36A
Average Life	7,500h
Size	964L x 74 mm
Weight	2 kg
Accessories	1. Cabtyre Cable 2.5 Mtrs 2. Watertight Plug

### How to order: CODE

FL hand lamp, watertight, VOLTAGE, WATTAGE

Unit Per Pcs.			
CODE	Wattage	Voltage	Starter
79 21 81	10W	100/110V	FG-1E
82	20W	100/110V	FG-1E
83	10W	200V	FG-1E
84	20W	200V	FG-1E

### Explosion-Proof LED Hand Lamps

Luces de trabajo LED antideflagrantes

防爆型 LED 作業灯 防爆 LED 工作灯

The Explosion proof LED portable lamp is ATEX Directive Certified for use in Zones 1 and 2 hazardous locations. Suitable for inspection and work in confined space applications, such as metal tanks. Wide voltage input from AC12-24V AC/DC and AC 90-260V,50/60Hz.



Unit Per Pcs.

CODE	79 21 64	79 21 65
Voltage & Hz	AC12-24V AC/DC	AC90-260V 50/60Hz
Output	1,200 Lumens (effective lumens)	
Light Source Power	LED 12W	
Areas of Class (Gases)	Zone 1 and 2, Gas Groups: IIA, IIB, and IIC	
Areas of Class (Dusts)	Zone 21 and 22, Dust Groups: IIIA, IIIB, and IIIC	
Temperature Class (Gases / Dusts)	T4 / 95°C	
Light Source Life	100,000 Hours	
Dimension	Φ63 x 405 mm	
Weight	640 g (without cable)	

Name of Mfr.: Fortune Protection Safety Ltd.

### 8. Warning Lights

#### Rotary Warning Lights

Luces Rotativas de Señales (Alarma) 標識用回転灯 警告用回转灯

All-polycarbonate plastic resin construction with single reflector, producing 180 - 215 flashes per minute horizontally 360°. Available globe colours are red and yellow. Size 180 mm (φ) x 206 mm (H).



#### How to order: CODE

Rotary warning light, VOLTAGE, WATTAGE, COLOUR

Unit Per Pcs.							
CODE	Colour	Rated Voltage	Lamp	Beam Intensity cd.	Flashhes Per Minute	Nt Wt. kg	
79 21 91	Red	DC12V	12V	30,000	200	1.3	
79 21 92	Yellow		40W				
79 21 93	Red		24V				
79 21 94	Yellow	DC24C	40W				
79 21 95	Red		100V	7,500	180/215 (50/60Hz)	1.2	
79 21 96	Yellow		30W				
79 21 97	Red	AC100V	200V				
79 21 98	Yellow		30W				

## 9. Flashlights

### Strong Flashlights

Linternas Fuertes ストロングライト 强力手电筒

All plastic light with a range of more than 300 meters.



Regular (6 Batteries)



Regular (4 Batteries)

#### How to order: CODE

Strong flashlight, NUMBER of BATTERIES, REMARK

Unit Per Pcs.

CODE	Number of Battery	Remarks
79 22 01	R20P (UM-1) x 6	Regular
02	R20P (UM-1) x 4	Regular

### Industrial Flashlights

Linternas Industriales 懐中電灯 手电筒

Industrial flashlights made of tough plastic.



Unit Per Pcs.

CODE	Battery	Remarks
79 22 12	R20P (UM-1) x 2	Industrial
13	R20P (UM-1) x 3	Industrial

### Industrial Quality LED Flashlights

Linternas LED de calidad industrial LED 懐中電灯 LED 手电筒

Extremely durable industrial grade switch with a super tough polycarbonate lens.

Power source : 2 x D cell Alkaline

Light source : LED

Light output : 50 Lumens

Beam distance : 75 meter



79 22 10 Flashlight, LED, industrial 2618 LED Pcs.

### Intrinsically Safe LED Flashlights

#### Razor Model 60160 & 60170

Linternas LED intrinsecamente seguras

本質安全防爆 LED 懐中電灯 本质安全防爆 LED 手电筒



#60160



#60170

A LED flashlight exhibits a piercing beam supported by its deep dish reflector, focuses light from high output LED. A Zone Zero safety classification makes it the safest of its kind.

Unit Per Pcs.

CODE	79 22 29	79 22 18
Model	Razor #60160	Razor #60170
Max. Output	High :325 lm/Low 125 lm	High :325 lm/Low 125 lm Downlight: 150 lm
Runtime	High 7 hours/Low 24 hours	High 7 hours / Low 24 hours Downlight: 20 hours
Batteries	3 x AA Cells	
Safety Rating	Intrinsically safe - Zone Zero rating	

Ingress Protection	X7
Safety Standard	ATEX/IECEx: Zone 0, Ex ia IIC T2 Ga, UL 913, Class I, II, III Div I & II A-G T2
Body Colour	High-Vis Yellow
Size & Weight	L: 181 x W: 50 x H: 50 mm, Weight: 227 grm

Name of Mfr.: KBS Innovations

### Safety Approved LED Flashlights

Linternas LED de seguridad aprobada

防爆型 LED 懐中電灯 防爆型 LED 手电筒

For use in hazardous atmospheres and switch guard prevents accidental lighting.



2217 LED



2224 LED

CODE	79 22 35	79 22 36
Model	2217 LED	2224 LED
Power Source	2 x 'D' cell Alkaline	3 x 'D' cell Alkaline
Beam Distance	100 mtr	88 mtr
Light Output	80 lumens	60 lumens
Runtime	200 hrs	250 hrs
Weight	0.17 kg	0.14 kg
Safety Approvals	UL protection method, Intrinsically safe, Divisions 1 & 2, Class I, II, III Div 1 Groups A-G, Class I, II, III Div 2 Groups A-G, Operating Temp T5	

Name of Mfr.: KBS Innovations

### ATEX Specification Models



2217 LED ATEX

CODE	79 22 37
Model	2217 LED ATEX
Power Source	2 x 'D' cell Alkaline
Beam Distance	100 mtr
Light Output	80 lumens 2,450 candelas
Runtime	200 hrs
Weight	0.14 kg
Safety Approvals	IECEx protection Methods: Ex ia IIB T3 Ga, Ex ia IIIB T145°C Da, -5°C ≤ +40°C UL protection Methods: Intrinsically Safe Division 1 and 2, Class I, II, III Div 1 Groups A-G, Class I, II, III Div 2 Groups A-G, T5, ATEX protection Methods: II 1GD Ex ia IIB T3 Ga, Ex ia IIIB T145°C Da -5°C ≤ Ta ≤ +40°C, Zone 0

Name of Mfr.: KBS Innovations



SF-12 LED



DS-12 LED

Unit Per Pc.

CODE	79 22 30	79 22 60
Model	SF-12	DS-12
Light Source	Cree XP-E LED	
Power Source	3 x 'C' cell Alkaline	
Beam Distance	93 mtr (low) 137 mtr (high)	100 mtr (low) 140 mtr (high)
Light Output	55 lumens (low) 124 lumens (high)	65 lumens (low) 130 lumens (high)
Runtime	80 hrs (low) 42 hrs 30min. (high)	98 hrs (low) 55 hrs (high)
Weight	190 gram	
Safety Approvals	UL - Class I Div 1 Group A,B,C,D, Class II D 1 Group E,F,G, Class III, Operating Temp T4 Atex - Ex II 1 G Ex ia IIC T4 IECEx - Ex II 1 G Ex ia IIC T4 CE & ROHS Approved	

Name of Mfr.: Day Sun Technology Ltd.

79

Electrical Equipment

## Intrinsically Safe LED Flashlights Zone 0, 1, 2

Linteras LED antideflagrante para zonas 0, 1 y 2

防爆型 LED 懐中電灯 ゾーン 0, 1, 2 対応

防爆 LED 手电筒, 用于 0、1 和 2 区

ATEX Directive certified for safe use in hazardous locations in zones 0, 1& 2 and zones 20, 21 & 22. Suitable for use in offshore oil and gas, marine vessels, refining and petrochemical industries.



EX-6180



EX-5380



EX-7180

Unit Per Pc.

CODE	79 22 05	79 22 06	79 22 07
Model	EX-6180	EX-5380	EX-7180
Power Source	2 x LR20(D) Primary Alkaline cells	2 x LR6 (AA) Alkaline Batteries	2 x LR3 (AAA) Alkaline Batteries
Beam Distance	80 mtr	81 mtr	35 mtr
Light Output	- Source Lumens: 148 lm - Effective Lumens: 124 lm	- Source Lumens: 174 lm - Effective Lumens: 110 lm	- Source Lumens: 68 lm - Effective Lumens: 53 lm
Power	3V 1.7W	3V 1.2W	3V 0.6W
Light Duration	15 hours	4.75 hours	4.4 hours
Dimension	Φ65 x 200 mm	Φ40 x 172 mm	Φ23 x 137 mm
Weight	176 g (without battery)	114 g (without battery)	31 g (without battery)

Name of Mfr.: Fortune Protection Safety Ltd.



## Accessory Parts for Flashlight

Accesorios para linternas フラッシュライト付属品 手电筒配件

The removable wand allows you to direct light beam when needed. Fits for all 2 and 3 D-cell flashlights, which slip on and off very easily. 6-1/2" in length, available in color red. Helmet clip is also available when required.

CODE	Description	Model
79 22 43	Slip on wand 8" for flashlight - Color Red	23863
79 22 49	Helmet Clip	10B-2261

Name of Mfr.: KBS Innovations

## Rechargeable LED Lanterns

Linternas LED recargables

充電式 LED ランタン 可充电 LED 灯笼

Powerful flood beam lantern illuminates work areas and only weights 860 grams. Articulating head, super tough nylon construction, waterproof for 24 hours at 1mtr. Wall mountable.



Unit Per Pc.

CODE	79 22 69
Model	Lighthawk Vision 600
Lamp	Advanced LED Technology
Power Source	4 CELL Lithium Ion Rechargeable Battery
Beam Distance	250 mtr
Light Output	600 lumens
Runtime	6.25 hours
Dimensions (mm)	L 241 x W 79 x H 130
Weight	0.86 kg

Name of Mfr.: KBS Innovations

## Intrinsically Safe Rechargeable LED Lanterns

Linternas LED recargables, intrínsecamente seguras

本質安全型 LED 充電式ランタン

本质安全型可充电 LED 灯



Intrinsically safe, super lightweight, full size, long range rechargeable lantern. Available in dual mode spot beam (high/low). Waterproof and submersible.

CODE	79 22 70
Model	Lighthawk GEN II
Lamp	Advanced LED Technology
Power Source	4 CELL Lithium Ion Rechargeable Battery
Beam Distance	447 mtr
Light Output	300 lumens on high / 125 lumens on low
Runtime	7 hours on high / 14 hours on low
Ingress Protection	IP 67
Safety Approvals	Intrinsically Safe, UL Protection Methods UL 913 CSA C22.2 No 157, Class I, II, III, Divisions 1 & 2, Groups C-G, T1, Meets NFPA 1901 14.1.11.2 2003 Edition
Dimensions (mm)	L 241 x W 79 x H 130
Weight	0.86 kg

Name of Mfr.: KBS Innovations

## Safety Approved LED Lanterns

Linternas LED antideflagrantes

防爆型 LED ランタン 防爆 LED 灯笼



For use in hazardous atmospheres, and waterproof IP 67 rating.

2206 LED

		Unit Per Pcs.
CODE	79 22 41	
Model	2206 LED	
Power Source	4 x 'D' cell Alkaline	
Beam Distance	165 mtr	
Light Output	90 lumens	
Runtime	150 hours	
Safety Approvals	UL protection methods, UL 913 CSA C22.2, Intrinsically Safe, Divisions 1 & 2, Class I, II, III Div 1 Groups A-G, Class I, II, III Div 2 Groups A-G, Operating Temp T5	
Weight	0.42 kg	

Name of Mfr.: KBS Innovations

## Rechargeable Flashlights

Linternas Recargables 充電式懐中電灯 充电式手电筒

Extra-bright beam with polished reflector. Battery replacement is unnecessary, as Cadnica batteries can be recharged hundreds of times. No danger of over-charging.



Unit Per Pcs.				
CODE	Volt	Continuous Operation	Charging Time	Flange Base Bulb Type
79 22 45		70 min.	10 hours	2.5 V 350 mA
47	100 V	60 min.	10 hours	6 V 550 mA
48		130 min.	16 hours	6 V 550 mA
79 22 46	220 V	70 min.	10 hours	2.4 V 600 mA

## Rechargeable Safety Hand Lamp Zone 0, 1, 2

Lámparas de mano recargables conformes a la normativa ATEX  
充電式 ATEX 規則適合ハンドランプ 符合 ATEX 标准的可充电手灯

Intrinsically Safe Hand Lamp is ATEX Directive certified for safe use in hazardous locations in zones 0, 1 & 2 and zones 20, 21&22. Suitable for use in offshore oil and gas, marine vessels, refinery and petrochemical industries. Compatible Charger input voltage AC 90-260V,50/60Hz



		Unit Per Pcs.
CODE	79 22 14	
Product Reference	EX-2480Z0	
Product Description	'ia' Intrinsically Safe	
Area of Class (Gases)	Zones 0, 1 & 2 Gas Groups IIA, IIB and IIC	
Temp. Class (Gases)	T4	
Area of Class (Dust)	Zones 20, 21 & 22 Dust Groups IIIA, IIIB and IIIC	
Temp. Class (Dusts)	135°C	
Ambient Temperature	-20°C to +40°C	
Ex Mark	I M1 Ex ia I Ma II 1G Ex ia op is IIC T4 Ga II 1D Ex ia IIIC T135°C Da	
Beam Type	Spot / Flood	
Light Source:	Type	High Power LED Bulb
	Watts	3 Watts
	Output	Up to 165 lm
	Duration	Up to 7 hours at high mode

Power Source	Type	Rechargeable Battery, Lithium-Ion
	Volts	3.2V 2,000 mAh
Ingress Protection		IP66
Weight (Excl. Cells)		190 grams
Name of Mfr.: Fortune Protection Safety Ltd.		

## Flashlight Bulbs

Bombillas de Linternas フラッシュライト球 手电筒电灯泡

Furnishable flange base and screw base. When ordering, specify the base type and voltage.

**How to order: CODE****Flashlight bulb, TYPE of BASE, VOLTAGE, AMPERE**

Unit Per Pcs.							
CODE	Volts	Amp	Base	CODE	Volts	Amp	Base
79 22 51	2.5	0.5		79 22 55	2.5	0.3	
52	3.8	0.5		56	2.5	0.5	
53	4.8	0.5	P-13.5S	57	3.8	0.3	
50	6.0	0.55		58	3.8	0.5	
54	7.2	0.55		59	6.0	0.5	E-9

## Safety Torches

**Compliant with ATEX Directive, Zone 1, 2**

Normativa ATEX para lámparas de seguridad

ATEX 規則適合安全灯 符合 ATEX 标准的安全灯

The ATEX safety torch is a reliable, simple and cost-effective portable torch. Available with a straight or right-angle body, and Vacuum or Xenon bulbs, it's CE marked to the ATEX directive and IECEx certified for safe use.



The Wolf ATEX torch range is sealed dust tight and protected from water immersion, with a certified IP67 enclosure.

Unit Per Pcs.						
CODE	79 22 61	79 22 62	79 22 63	79 22 64		
Model	TS-26B	TR-26B	TS-24B	TR-24B		
Shape	Straight	Angle	Straight	Angle		
Type of Protection		Increased safety, intrinsic safety				
Approval Code:	Ex eb ib IIB T4 Gb IP67 Ex tb IIIC T95°C Db	Ex eb ib IIB T4 Gb IP67 Ex tb IIIC T95°C Db				
Area of Classification (Gas)		Zones 1 & 2 Gas Groups IIA, IIB				
Temperature Class (Gas)		T6		T4		
Ambient Temperature (Gas)		-10°C to +40°C	-20°C to +40°C	-10°C to +40°C / +55°C*		
Area of Classification (Dust)		Zones 21 and 22 Dust Groups IIIA, IIIB, IIIC				
Temperature Class (Dust)		65°C		95°C		
Certificate	BAS02ATEX2220X / IECEx BAS 15.0033X					
Enclosure	Impact Resistant Thermoplastic, Electrostatic Non-hazardous					
Lens	Polycarbonate	Toughened Glass	Polycarbonate	Toughened Glass		
Beam Type	Medium spot					
Light Output	11 lumens		16 lumens			
Power Supply	R20 primary cells to IEC60086	R20/LR20 primary cells to IEC60086				
Volt	2 x 1.5V	2 x 1.5V				
Light Duration	Up to 5 hours		Up to 12 hours			
Ingress Protection	IP 67					
Weight (with cells)	350 g	390 g	450 g	490 g		
Name of Mfr.	The Wolf Safety Lamp Company Ltd.					

\* dependent on battery selection

## Rechargeable Safety Torches

Lámpara de Seguridad Recargable

充電式 ATEX 規制適合安全灯 充電式安全手電筒

An ATEX and IECEx certified rechargeable right angle safety torch, using the latest technology to give excellent performance, robustness and reliability for safe use



Unit Per Pc.

CODE	79 22 67	79 22 68
Product Reference	R-50	R-55
Product Description	Rechargeable Safety Torch, Right-Angle	
	Zone 1 LED	Zone 0 LED
Approval Code	I M2/II 2GD Ex ib I Mb/IIC T4 Gb (-40°C ≤ Ta ≤ +40°C) Ex ib IIIB T200°C Db IP67	I M1/II 1G2D Ex ia I Ma/IIC T4 Ga (-40°C ≤ Ta ≤ 50°C) Ex ia IIIB T200°C Db IP67
Type of Protection	'ib' intrinsic safety	'ia' intrinsic safety
Area of Class(Gases)	Zones 1 & 2	Zones 0, 1 & 2
	Gas Groups IIA, IIB and IIC	
Temp. Class(Gases)	T4	
Area of Class (Dust)	Zones 21 and 22	Zones 21 & 22
Max Surface Temp. (Dusts)	T200°C	
Ambient Temperature	-40°C to + 40°C	
Certificate	Baseefa05ATEX0069X / IECEx BAS06.0001X	
Enclosure	Impact Resistant Thermoplastic, Chemical Resistant, Static Dissipative	
Lens	Toughened Glass 4mm	
Beam Type	High Output Spot Beam	
Light Source:	Type	High Power LED
	Watts	3 Watts
	Output	High Power – Up to 243 lm Low Power – Up to 135 lm
	Life	25,000 hrs+
	Pt. no.	R-271
Power Source:	Type	Rechargeable Battery, Lithium-Ion
	Volts	7.4 V
	Capacity/Life	2.4Ah / Up to 500 Recharge Cycles
Light Duration	High Power – Up to 3.5hrs Low Power – Up to 6.5hrs	
Ingress Protection	IP67	
Weight (Excl. cells)	0.375 kg	
Compatible Chargers	RC-200L 12-24Vdc / RC-200H 100-254Vac	
Name of Mfr.	The Wolf Safety Lamp Company	

## Battery Charger for ATEX Rechargeable Torches

Cargadores de batería para linternas recargables ATEX

ATEX 充電式トーチ用充電器

电池充电器 用于 ATEX 充电式手电筒



For use with all torches in the rechargeable torch range.

Unit Per Pc.

CODE	Model	Voltage	Suitable For
79 22 71	RC-200H	90-264V AC	R-50 & R-55

Note: Recharge time requires 3 hours for full charge, and 1.5 hours for 90% charge.

## Personal Issue Safety Torches

Linterna de Seguridad Personal 小型防爆トーチ 小型安全手電筒

Mini and Micro torches are tough, reliable and compact enough to easily store in your pocket. Using the latest LED light source technology, light output is highly impressive, with the new M-70 Mini torch achieving up to 107 lumens (at source) from its 2 X AAA batteries. ATEX and IECEx certified for safe use in potentially explosive gas, vapour, mist or dust atmospheres where a T4 or T5 temperature class permits, all models are approved to Group I for use in mining applications.



Unit Per Pc.

CODE	79 22 76	79 22 78	79 22 79	79 22 77	79 22 80		
Product Reference	M-10	M-40	M-60	M-70	M-85		
Product Description	ATEX LED Micro Torch	ATEX LED Mini Torch	ATEX LED Mini Torch	ATEX LED Mini Torch	ATEX LED Midi Torch		
Approval Code	I M1/II 1G Ex ia I Ma/ IIC T4 Ga (-40°C < Ta < +50°C) II 2D Ex ib IIIB T95°C Db IP67	I M1/II 1G Ex ia I Ma/ IIC T4 Ga (-40°C < Ta < +50°C) II 2D Ex ib IIIB T125°C Db IP67	I M1/II 1G Ex ia I Ma/ IIC T4 Ga (-40°C < Ta < +50°C) II 2D Ex ib IIIB T130°C Db IP67	I M1/II 1G Ex ia I Ma/ IIC T4 Ga (-20°C < Ta < +40°C) II 1D Ex ia IIIC T200 160°C Da IP67	I M1/II 1G Ex ia op is I Ma/IIC T3/T4 Ga (-40°C ≤ Ta ≤ +40°C) II 1D Ex ia op is IIIB T200°C Da IP67		
Type of Protection	ia/lb						
Area of Classification (Gases)	Zones 0, 1 & 2						
Temperature class (gas)	T5	T4		T3/T4			
Area of Classification (Dust)	Zone 21 & 22			Zone 20, 21 & 22	Zone 20, 21 & 22		
Max Surface Temp. (Dust)	95°C	125°C	130°C	160°C	200°C		
Certification	Baseefa06ATEX0084X, IECEx BAS 06.0023X						
Beam Type	Medium Spot						
Light Source:	Type	1×5mm LED White (Nichia)	3×5mm LED White (Nichia)	1 × High Power Cree LED	High power LED		
	Output	30 cd	3 × 30 cd	Up to 139 lm	Up to 107 lm		
	Life	25,000 hrs +					
Power Source:	Pt. no.	M-102 (4 pack)	M-402 (3 pack)		M-202 (2 pack)		
	Type	LR44 primary cells to IEC60086	LR1 primary cells to IEC60086		LR03 primary cells to IEC60086		
	Volts	4 × 1.5V	3 × 1.5V		2 × 1.5V		
Light Duration	Up to 2 hrs	Up to 10 hrs	Up to 3 hrs	Up to 7 hrs	Up to 7 hrs		
Weight	25 g	60 g		50 g	190 g		
Ingress Protection	IP67						
Name of Mfr.:	The Wolf Safety Lamp Company Ltd.						

Name of Mfr.: Wolf Safety Lamp Company Ltd.

## LED Flashlights

Lámpara de Destello LED LED ライト LED 手電筒

An advanced flashlight equipped with LED (Light-emitting Diodes) lightbulb which has better brightness and running time than conventional incandescent lights. Dry batteries are separate order. Casing is made from ABS plastic and drip-proof.



Unit Per Pcs.

CODE	Batteries	Weight grm
79 22 81	R6P (UM-3) x 2	80
82	R6P (UM-3) x 3	196
83	R20P (UM-1) x 2	190
84	R20P (UM-1) x 4	455

## Safety LED Torches

Linternas LED de seguridad 安全 LED トーチ

安全 LED 手电筒

The ATEX LED safety torch is an ATEX and IECEx certified primary cell LED safety torch which uses the latest technology to give excellent performance, robustness and reliability for safe use in Zones 0, 1 and 2 potentially explosive gas and Zones 20, 21 and 22 dust atmospheres.



Unit Per Pcs.

CODE	79 22 86	79 22 88
Model	TR-30+ Right Angle Primary Cell	TR-35+ Right Angle Primary Cell
Body Colour	Yellow	Yellow
Approval Code	I M2/II 2GD Ex ib op is I Mb/IIC T4 GbEx ib op is IIIB T130°C Db	I M1/II 1GD Ex ia op is I Ma/IIC T4 GaEx ia op is IIIB T130°C Da
Type of Protection	'ib' intrinsic safety	'ia' intrinsic safety
Area of Classification (gases)	Zones 1 & 2 Gas Groups IIA, IIB, IIC	Zones 0, 1 & 2 Gas Groups IIA, IIB, IIC
Temp Classification (Gases)	T4	
Area of Classification (Dust)	Zones 21 and 22 Dust Groups IIIA and IIIB	Zones 20, 21 & 22 Dust Groups IIIA and IIIB
Certificate	ATEX Baseefa 07ATEX0091X / IECEx BAS 06.0089X	
Light Output	Up to 130 lumens	
Power Supply	2 x LR20 Primary Cells	
Ingress Protection	IP67	
Weight (incl. cells)	0.5 kg	

Name of Mfr.: Wolf Safety Lamp Company

## LED Safety Lights

Luces LED de seguridad LED 防爆安全灯 LED 防爆安全灯



PX-2

PX-1

Unit Per Pcs.

CODE	79 22 92	79 22 94
Model	PX 2	PX 1
Light Source	1W CREE LED	3W CREE LED
Output	30 lumens	120 lumens
Area of Classification	ATEX Directive Zone 1 approved	
Body Material	PC (Polycarbonate)	
Protection Class	II 2G Ex ib e IIB T4 Gb II 2D Ex ib IIC T105°C Db IP68	
Battery	2 x AAA / Micro / 1.5 volt each	4 x AA / Mignon / 1.5 volt each
Size mm	22 dia x 142 length	39 dia x 167 length
Weight grm	20	80
Name of Mfr.:	Parat GmbH + Co. KG	
CODE	79 22 93	79 22 95
Model	DF1013	SF-7
Light Source	Osram 1W LED	Cree XP-E LED
Power Source	4 x AA Alkaline	4 x AA Alkaline
Beam Distance	122m	110 mtr(low) / 231 mtr(high)
Light Output	80 lumens	32 lumens(low) / 133 lumens(high)
Runtime	14 hrs 55 min.	69 hrs 10 min.(low) / 6 hrs(high)
Size	175 x 45 x 45 mm	174 x 47 x 47mm
Weight	105 grm	115 grm
Safety Approval	UL - Class I Div 1&2 Group A,B,C,D, Class II Div 1&2 Group E,F,G, Class III T4. Atex – Ex II 1 G Ex ia IIC T4 IECEx – Ex ia IIC T4 Ga / IECEx UL 11.0042X. CE & ROHS & REACH Approved	UL - Class I Div 1 Group A,B,C,D, Class II D 1 Group E,F,G, Class III T4 Atex – Ex II 1 G Ex ia IIC T4 IECEx – Ex ia IIC T4 Ga / IECEx UL 13.0013X CE & ROHS & REACH Approved

Name of Mfr.: Day Sun Technology Ltd.

## Pen Lights

Luces de bolígrafo ペンライト 钢笔灯

Rugged, compact, 135 lumens which fits comfortably in your pocket with strong light.



Anodized aluminium construction, rear push-button switch with momentary and continually-on modes, engineered to provide high output throughout entire runtime.

Unit Per Pcs.

CODE	79 22 96
Power Source	2 x AAA Batteries
Beam Distance	32 mtr
Light Output	135 lumens
Runtime	3 hours
Dimensions(mm)	L 130 x W 16
Weight	0.86 kg

Name of Mfr.: KBS Innovations

## Personal Safety Beacons

Baliza de seguridad personal 個人用安全ビーコン 个人安全信标

It is suitable for working in low light situations to signal the location of a worker, just attached to the back of a helmet or a harness. There are five colours available, so can be useful to identify teams with each different colour. It has long runtime with three settings, a steady flash mode, random flashing mode and steady mode, and can be seen from over 300 meter away. Three types of clips are available, Metal, plastic and magnet.



### How to order: CODE

Personal Safety Beacon, COLOUR OF LIGHT, TYPE OF CLIP

Unit Per Pcs.

CODE	79 22 97
Light Colours	Amber, Blue, Green, Red, White
Type of Clips	Metal Clip, Plastic Clip, Magnet
Power Source	2AAA alkaline batteries (included)
Light Visible	304.8 mtr
Safety Approvals	Waterproof IP67, Class 1, Div 1
Dimensions (mm)	L 68.6 x W 66 x H 38
Weight	0.96 kg

Name of Mfr.: KBS Innovations

## 10. Batteries

### Dry Batteries

Pilas Secas 乾電池 干电池

Dependable, long lasting and economical. Leak-proof, used for flashlights, transistor radios, transistor clocks, photo flasher, etc.



R20P  
(UM-1)



R14P  
(UM-2)



R6P  
(UM-3)



R03  
(UM-4)



6F22  
(S-006P)



FM-3K

Unit Per Pcs.

CODE	Type	ANSI	Volt	Size mm Dia x L	Application
79 24 01	R20P(UM-1)	D	1.5	34.2 x 61.5	Flashlight
02	R14P(UM-2)	C	1.5	26.2 x 50.0	Penlight
03	R6P(UM-3)	AA	1.5	14.5 x 50.5	Meter
10	R03(UM-4)	AAA	1.5	10.5 x 44.5	Remote Controller
04	R1(UM-5)	N	1.5	12.0 x 30.2	TR. Radio
79 24 05	6F22(S-006P)	-	9.0	26.5 x 17.5 x 48.5	Radio
06	FM-3K		1.5	89 x 47.5 x 135	Instrument

### Coin or Button Type Batteries

Batería Tipo Botón コイン・ボタン型電池 硬币或纽扣型电池

Small light weight batteries for wide range of applications; such as flashlights, digital cameras, watches.



Lithium Manganese Dioxide Battery



Silver Oxide Battery



Micro Alkaline Battery

### CR Coin Type

### Lithium Manganese Dioxide Batteries

Pila Tipo modeda de Litio Dióxido de Manganeso

リチウムコイン電池 紐扣式鋰電池

CODE	JIS Type	Size Diam x H mm	Volt	Applications
79 24 15	CR 1216	12.5 x 1.6		
12	CR 1220	12.5 x 2.0		
16	CR 1616	16.0 x 1.6		
17	CR 1620	16.0 x 2.0		
18	CR 2012	20.0 x 1.2		
79 24 19	CR 2016	20.0 x 1.6		
20	CR 2025	20.0 x 2.5		
13	CR 2032	20.0 x 3.2		
27	CR 2320	23.0 x 2.0		
			3.0	Camera/ Keylight

### Button Type

### Silver Oxide Batteries

Pila Tipo Botón de Óxido de Plata 酸化銀電池 氧化銀电池

Unit Per Pcs.

CODE	IEC Type	Size Diam x H mm	Volt	Applications
79 24 28	SR41	7.9 x 3.6		
29	SR43	11.6 x 4.2		
11	SR44 (G-13)	11.6 x 5.4		
30	SR48	7.9 x 5.4		
31	SR55 (SR1120)	11.6 x 2.05		
79 24 32	SR54 (SR1130)	11.6 x 3.05		
33	SR57	9.5 x 2.7		
79 24 34	4SR44	13.0 x 25.1	6.2	

### Micro Alkaline Batteries

Micropila Alcalina アルカリボタン電池 微型碱性电池

Unit Per Pcs.

CODE	IEC Type	Size Diam x H mm	Volt	Applications
79 24 36	LR41	7.9 x 3.6		
37	LR43	11.6 x 4.2		
14	LR44	11.6 x 5.4		
38	LR54 (LR1130)	11.6 x 3.05		
39	LR55 (LR1120)	11.6 x 2.05		
79 24 40	4LR44	13.0 x 25.1	6.0	

### Alkaline Batteries

Pilas Alkalinas アルカリバッテリー 碱性电池

Designed for applications where high-drainage occurs when using tape recorders, motor-drive appliances and photo flash, etc. Alkaline batteries are not rechargeable.



CODE	TYPE	Nominal Voltage	Size mm	
			Diam.	Length
79 24 21	LR20 (AM-1)		34.2	61.5
22	LR14 (AM-2)		26.2	50.0
23	LR 6 (AM-3)	1.5	14.5	50.5
24	LR03 (AM-4)		10.5	44.5
25	LR 1 (AM-5)		12.0	30.2
79 24 26	6LR61 (006P)	9	26.5	17.5 x 48.5

### Lantern Batteries

Pilas para Linterna

ランタンバッテリー 提灯电池

Weatherproof heavy duty 6 volt lantern battery. For use in lanterns, flashers and alarms.

Size: 67 x 67 x 100 mm



79 24 35	Battery lantern 6V	Pcs.
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## Special Dry Batteries

Pilas Secas Especiales 特殊乾電池 特殊干电池

The undermentioned batteries are for use with special instruments such as a Servomex Oxygen Analyser, T.D.S. Meter, and potentiometer, etc.



PP-7

PP-0

HP-1

Unit Per Pc.

CODE	Name	Voltage	Size mm		
			L	W	H
79 24 41	Dry Battery PP-7	9V	46.0	46.0	62.2
42	Dry Battery PP-9	9V	66.0	52.0	81.0
43	Dry Battery HP-1	12V	133.5	68.3	136.5

### Battery Conversion Table

IEC	Volt	ANSI/NEDA (U.S.A.)	EVEREADY	DURACELL	VERTA (German)	JIS (Japan)
<b>Manganese Dry Batteries</b>						
R20P		13C	1050	M13F	2020	R20P (UM-2)
M14P		14C	1035	M14F	2014	R14P (UM-2)
R 6P	1.5	15C	1015	M15F	2006	R 6P (UM-3)
R03		24F	912	M24F	239	R03 (UM-4)
R 1		910F	904	M910	245	R 1 (UM-5)
6F22	9	1604D	1222	M9VSHD	3022	6F22 (S-006P)

### Alkaline Primary Batteries

LR20		13A	E95	MN1300	4020	LR20 (AM-1)
LR14		14A	E93	MN1400	4014	LR14 (AM-2)
L4 6	1.5	15A	E91	MN1500	4006	LR 6 (AM-3)
LR03		24A	E92	MN2400	4003	LR03 (AM-4)
LR1		910A	E90	MN9100	4001	LR 1 (AM-5)

## Rechargeable Batteries

Pilas Recargables 充電式乾電池 充电式干电池

Rechargeable batteries can be brought back to life hundreds of times and are completely sealed and free from leakage. They have good temperature characteristics and superior voltage regulation at either high or low discharge currents. They are the same size as ordinary dry cells but can be employed at a minimum cost and maximum convenience for a wide variety of uses. Necessary recharging time is 14 – 16 hours.



### How to order: CODE

Rechargeable battery, IEC SIZE NO., VOLTAGE, UNIT

Unit Per Pc.

CODE	IEC Size No.	Nominal Voltage	Size mm		Nominal Capacity at 5 Hrs.	Unit
			Diam	L		
79 24 51	R20 52 53	1.2V	34.0	61.5	4,000mAH	Pc.
52			26.0	50.0	1,800	Pc.
53			14.5	50.5	500	Pc.
79 24 54	R20 55 56	1.2V	34.0	61.5	1,200mAH	2's/Pkt
55			26.0	50.0	1,200	2's/Pkt
56			14.5	50.5	500	4's/Pkt
79 24 57	6F22	9V	49×26×17.5	75	Pc.	

## Battery Chargers for Rechargeable Battery

Cargadores de Pila para Pila Recargable 乾電池充電器 充电式干电池

For rechargeable cadmium batteries of IEC size No. R20P (UM-1), R14P (UM-2), R6P (UM-3) and 6F22 (S-006P).



Unit Per Set

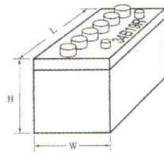
CODE	Input Voltage	Size mm	Weight grm
79 24 71	117		
79 24 72	220	73 × 193.5 × 58	390

## Wet Cell Batteries

Baterias (Acumuladores) 蓄電池 蓄电池

(Ref. JIS D5301-91)

Wet cell batteries for high or low capacity. Specially designed for marine use. 24 hours required for battery charging prior to delivery because the batteries are kept uncharged in stock.



### 12-Volt

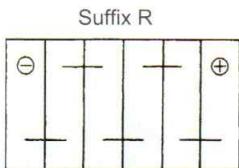
#### How to order: CODE

Battery, wet cell, 12 volt, TYPE, SIZE, AMPERE/5 Hours

Unit Per Set

CODE	Type	Size mm L x W x H	Capacity Amp./ 5Hr	Weight kg	Equivalent Old Type No.
79 25 22	26A 19R	187 × 127 × 162	21	7.5	12N24-3
	30A 19R	187 × 127 × 162	21	7.0	-
	34B 19R	187 × 127 × 203	27	9.5	NS 40ZA
	36B 20R	197 × 129 × 203	28	10.5	NS 40Z
	32C 24R	238 × 135 × 207	32	11.5	N 40
79 25 12	40B 19R	187 × 127 × 202	28	9.0	-
	46B 19R	187 × 127 × 227	36	9.5	-
	46B 24R	238 × 128 × 202	36	11.5	NS 60
	48D 26R	260 × 173 × 204	40	15.5	N 50
	55B 24R	238 × 128 × 202	36	12.5	NX100-S6G
79 25 15	55D 23R	232 × 173 × 202	48	15.0	-
	55D 26R	260 × 173 × 202	48	16.5	N 50Z
	65D 26R	260 × 173 × 204	52	17.0	NS 70
	65D 31R	306 × 173 × 204	56	19.5	N 70
	70B 24R	238 × 128 × 227	46	12.0	-
79 25 17	75D 23R	232 × 173 × 202	52	16.0	-
	75D 26R	260 × 173 × 201	52	17.0	F100-5
	80D 26R	260 × 173 × 201	55	18.5	NX110-5
	85D 23R	232 × 173 × 225	58	15.5	-
	95D 31R	305 × 173 × 202	64	20.5	NX120-7
79 25 40	95E 41R	410 × 176 × 213	80	25.5	N 100
	100E 41R	409 × 175 × 211	80	25.0	-
	110D 26R	260 × 173 × 225	64	18.5	-
	110E 41R	409 × 175 × 211	83	26.0	-
	115E 41R	410 × 176 × 213	88	29.0	NS 120
79 25 42	115F 51	505 × 182 × 213	96	32.0	N 120
	130F 51	504 × 182 × 212	96	29.5	F160-12
	144F 51	505 × 182 × 213	112	36.0	NS 150
	145G 51	508 × 222 × 213	120	40.0	N 150
	155G 51	507 × 222 × 212	120	35.0	-
79 25 50	190H 52	521 × 278 × 220	160	58.0	N 200
	210H 52	520 × 278 × 218	160	60.0	-

Note: Suffix R denotes the position of the + - of the battery terminal as shown below.



## No Suffix

**Maintenance-free Sealed Wet Cell Batteries**

Baterías (Acumuladores Sellados) de Mantenimiento Libre

メンテナスフリー蓄電池 不需维护的密封蓄电池

Needs no maintenance through its life. Each cell is sealed and filled with gelled electrolyte. 24 hours required for battery charging prior to delivery because the batteries are kept uncharged in stock.

**How to order: CODE**

Battery, maintenance-free, wet cell, 12 volt, AMPERE/5 hours,

SIZE

Unit Per Set

CODE	Capacity Amp./5hr	Size mm L x W x H	Weight kg	Model (JIS)
79 25 51	28	197 x 127 x 203	10.0	B20
52	30	197 x 129 x 202	9.5	-
53	36	238 x 129 x 203	12.5	B24
54	55	232 x 173 x 202	17.6	D23
55	58	260 x 173 x 202	18.6	D26
79 25 56	72	303 x 173 x 202	23.2	D31
57	80	410 x 176 x 213	28.1	E41
58	112	505 x 182 x 213	35.7	F51
59	140	508 x 222 x 213	43.0	G51
60	176	521 x 278 x 220	56.7	H52

**Lead-Acid Marine Batteries**

Baterías Marina de Ácido-Plomo 船用鉛蓄電池

船用铅蓄电池

Used on board as an electric source for communication, illumination, emergency equipment, automation, etc.



It is constructed so that it will function even when tilted at a 40° incline because the electrolytes will not spill out.

Unit Per Pcs.

CODE	Type	Voltage	Capacity Ampere Ah/20 hrs	Max. Size mm			Weight kg
				L	W	H	
79 26 31	SS400	2	400	285	170	400	30
32	SS300	2	300	195	170	400	25
33	SS200	4	200	270	170	400	30
34	PS9-6S	6	108	472	133	226	28
35	PS7-6S	6	84	472	133	226	25
79 26 36	PS5-6S	6	60	303	132	226	17

**Maintenance-Free Lead-Acid Marine Batteries**

Pilas navales de ácido plúmico que no necesitan mantenimiento

メインテナスフリー鉛蓄電池 免维护铅酸蓄电池

Maintenance free type Lead-Acid Battery where no topping up is required throughout the battery life. Used on board as an electric source for communication, illumination, emergency equipment, automation, etc.



Require 24 hours for recharging the battery. Recommended operating temperature is 5-30°C

CODE	Type	Voltage	Capacity Ampere Ah/10 hrs	Max. Size mm			Weight kg
				L	W	H	
79 25 92	MSE-150	2	150	106	170	354	12.5
93	MSE-200	2	200	106	170	354	15
94	MSE-300	2	300	150	170	354	21.5

**Battery Chargers**

Cargadores para Bateria バッテリーチャージャー 充电器

From among various types of battery chargers, the most common type is listed below. Larger or smaller sizes are also available on request.



Unit Per Pcs.

CODE		79 26 51	79 26 53	79 26 52	79 26 54
Output AC Power	Voltage	6 - 75 V	6 - 35 V	6 - 75 V	6 - 35 V
Ampere		15 A	20 A	15 A	20 A
Input DC Power		100 V		200 V	
Ampere		15.0 A	12.0 A	7.5 A	6.0 A
Ah Capacity		10-176 Ah			
Battery	Voltage & Numbers	6V : 1-9 12V : 1-4	6V : 1-6 12V : 1-3	6V : 1-9 12V : 1-4	6V : 1-6 12V : 1-3
Size mm		310 x 400 x 300			
Weight		29 kg	26 kg	29 kg	26 kg

**Battery Hydrometers**

Densímetro para Bateria バッテリー比重計 电池液体比重计

Graduated instrument for monitoring the acid content of batteries.



79 26 61	Hydrometer battery length 250 mm	Pcs.
62	Hydrometer battery length 380 mm	Pcs.

**Battery Syringes**

Jeringas para Bateria バッテリースポイド 电池注射器

P.V.C. tube with rubber bulb.  
Used for refilling battery solution.



79 26 66	Rubber battery syringe 380 mm	Pcs.
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**Battery Terminals**

Terminales de bateria バッテリーターミナル 电池端子

Electrical contacts used to connect a load or charger to a single cell or multiple cell battery. Ensure the correct electrical polarity as the diameters are slightly different.



CODE	Battery Type	Electrode	Type	Unit
79 26 71	B	+	Wing Nut & Bolt Type	Pcs.
72	B	-		
79 26 73	C - H	+	Pcs.	
74	C - H	-		

## 11. Plugs & Receptacles

### Watertight Plugs & Receptacles

Conformed to IEC 309-1 and 309-2

Enchufe y Caja de Contacto (Conforme a IEC 309-1 y 309-2)

IEC 基準適合型防水プラグ・レセプタクル

IEC 标准防水电源插头

Designed to meet IEC (International Electrotechnical Commission) standards and colour coding system. The configurations for plugs and receptacles are single-rated which assures proper mating of devices with the same voltage and amperage. So it is impossible to couple a plug and receptacle of different voltage and/or amperage ratings to avoid causing damage to the equipment or even personal injury. The receptacles with Interlock device eliminate the possibility of making or breaking the circuit under load or making a haphazard connection.

Rated Voltage : 500V

Rated Current : 16/20A

Protection Degree : IP56

#### Position of Ground Contact

Type	Frequency	Rated Operating Voltage	Position of Ground Contact	Colour
(2P+Earth)	50 and 60 Hz	100 to 130V	Clock face position	
		200 to 250V	4 6	Yellow Blue
(3P+Earth)	50 and 60 Hz	200 to 250V	9	Blue
		380 to 415V	6	Red
	60 Hz	440 to 460V	11	Red

#### Plug (Offset Angle) 500V 16/20A

PI2-2B (2P+Earth)



AC 100-130V AC 200-250V

PI2-3B (3P+Earth)



AC 200-250V AC380-415V/  
AC440-460V

#### Plug (Right Angle) 500V 16/20A

PI2-2B1 (2P+Earth)



AC 100-130V AC 200-250V

#### Receptacle 500V 16A

PI2-2 (2P+Earth)



AC 100-130V AC 200-250V

PI2-2-2 (2P+Earth)



AC 100-130V AC200-250V

RI2-3 (3P+Earth)



AC 200-250V AC 380-415V/  
AC 440-460V

#### Receptacle with Interlock Switch 500V 16/20A

RSIL2-2 (2P+Earth)



AC 100-130V AC 200-250V

RSIL2-3 (3P+Earth)



AC 200-250V AC380-415V/  
AC440-460V

#### Receptacle with Switch 250V 16A

RSIL2-22 (2P+Earth)



AC 100-130V AC 200-250V

Unit Per P.C.

CODE	No of Pole	Input Voltage	Model	Colour	Rated Capacity
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#### Plug – Offset Angle

79 27 51	2+Earth	AC100 - 130V	PI2-2B	Yellow	AC 500V 16/20A
79 27 52		AC200 - 250V		Blue	
79 27 53	3+Earth	AC200 - 250V	PI2-3B	Blue	
79 27 54		AC380 - 415V/ AC440 - 460V		Red	

#### Plug – Right Angle

79 27 55	2+Earth	AC100 - 130V	PI2-2B1	Yellow	AC 500V 16/20A
79 27 56		AC200 - 250V		Blue	

#### Receptacle

79 27 61	2+Earth	AC100 - 130V	RI2-2	Yellow	AC 500V 16A
79 27 62		AC200 - 250V		Blue	
79 27 65	2+Earth x 2	AC100 - 130V	RI2-2-2	Yellow	
79 27 66		AC200 - 250V		Blue	
79 27 63	3+Earth	AC200 - 250V	RI2-3	Blue	
79 27 64		AC380 - 415V/ AC440 - 460V		Red	

#### Receptacle with Interlock Switch

79 27 71	2+Earth	AC100 - 130V	RSIL2-2	Yellow	AC 500V 16/20A
79 27 72		AC200 - 250V		Blue	
79 27 73	3+Earth	AC200 - 250V	RSIL2-3	Blue	
79 27 74		AC380 - 415V/ AC440 - 460V		Red	

#### Receptacle with Switch

79 27 75	2+Earth	AC100 - 130V	RSI2-22	Yellow	AC 250V 16A
79 27 76		AC200 - 250V		Blue	