Victor

Lighting

Making Hazardous Environments Work

CABLE JOINTS, CABLE TERMINATIONS, CABLE GLANDS, CABLE CLEATS
FEEDER PILLARS, FUSE LINKS, ARC FLASH, CABLE ROLLERS, CUT-OUTS

11KV 33KV CABLE JOINTS & CABLE TERMINATIONS
FURSE EARTHING
www.cablejoints.co.uk
Thorne and Derrick UK
Tel 0044 191 490 1547 Fax 0044 191 477 5371
Tel 0044 117 977 4647 Fax 0044 117 9775582

Our Vision

We aim to be the first choice supplier of lighting equipment to hazardous and industrial markets worldwide.

Victor

Lighting

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Trident
VL125

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VL126
Emergency
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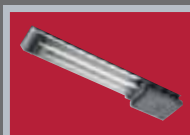
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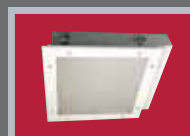
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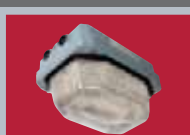
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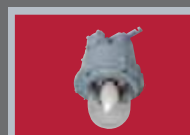
Titan
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Floodlight
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ZONE 2

INDUSTRIAL

Founded in 1929, Victor has over 75 years of experience in manufacturing hazardous area equipment to the highest standards of quality and reliability.

A division of Hubbell Ltd, Victor Lighting is part of the Hubbell Harsh and Hazardous group and is based in Glasgow, Scotland.

Victor has developed a range of unique technologies that are used to create innovative lighting solutions. These are installed and relied upon in the most arduous environments throughout the world.

This hazardous area catalogue features a range of world class light fittings that are designed in accordance with IEC electrical standards. This product range will fulfil all lighting requirements in hazardous or industrial environments and in both onshore, and offshore installations.

The entire Victor Lighting hazardous area range is certified to comply with the latest ATEX directive. In addition a number of products are certified as part of the IECEx scheme and under Russian (GOST), Thai (TIS) and Chinese (GB) standards.

For further information on hazardous areas, their classification and the appropriate safety standards, please refer to the International Reference Guide to Hazardous Areas Section (page 110) of this catalogue.

Victor Lighting is committed to quality, sustainable development and the environment. Victor is certified by Lloyds to ISO 9001:2008, in addition the company has implemented the requirements of the WEEE and RoHS directives.

HUBBELL®

BSI
UKAS
QUALITY
MANAGEMENT
003

FM 09410

Victor

Lighting

LiteGuide™ Lighting Design Software

Victor Lighting has created a design program to assist in the development of your installation's lighting design. This easy to use package allows new designs to be developed rapidly, removing the need to use time consuming and complicated photometric tables. This package is available free of charge, no licence is required to run LiteGuide™.

LiteGuide™ allows you to:

- Design lighting layouts from the very basic to the extremely complex
- Account for shadowing and effects of reflection
- Incorporate interior and exterior components in a single scheme
- Use shortcut icons to:
    - Turn individual fittings on/off or assess in emergency mode
    - Move, change or delete luminaires easily
    - Re-size icons to suite the scale of your project
- Use scrolling wheel mouse to zoom in/out
- Import and export to CAD packages (DXF format)
- Print to a pdf or hardcopy (A0 to A4 sizes)

LiteGuide™ also includes quantity estimators for interior, exterior and aisle lighting schemes to allow for quick and easy budgeting.

To obtain a copy of LiteGuide™, please visit the Victor Lighting website. Here you can register and download the latest version.

www.victor-lighting.com

UNRIVALLED UV PROTECTION

Reflector acts as a solar shield to reduce the degradation effects of UV rays.

CASSETTE RELAMPING

Unique lamp cassette design allows for quick and easy lamp replacement, reducing maintenance costs and potential exposed lamp breakages.

SMALL GASKET AREA

The Trident has the smallest gasket area of any Zone 1 fluorscent luminaire, irrespective of lamp wattage.

This design ensures high levels of ingress protection.

LAMP-IN-LID TECHNOLOGY

Easily convert from standard non emergency (VL125) into an emergency (VL126) version.

Emergency operation is uneffected by a failure of mains lamp due to the dedicated 11W lamp.

HIGH FREQUENCY Ex m BALLAST

End of Life (EOL) Protection - ballast certified to IEC 60079-7.

Over-voltage and harmonic distortion protection.

SPIGOT ENTRY VERSION

The Trident is available as a dedicated spigot entry version with internal cable entry.

(18W and 36W versions)

TRIDENT VL125

Spigot entry version

End of Life Protection

FEATURES AND BENEFITS

Unique three part construction = easy maintenance • Excellent ingress protection • Cassette relamping • Convert standard to emergency

CERTIFICATION & APPROVALS

IECEx Certificate IECEx SIR 03.0004
ATEX Certificate SIRA03ATEX3206

2 x 18W and 2 x 36W Varients
⟨Ex⟩ II 2 GD Ex em IIC T4 -45°C to +55°C*

2 x 58W Varient
⟨Ex⟩ II 2 GD Ex em IIC T4 -45°C to +50°C*

Ingress protection to IP66, IP67
IP68 (on application)

GOST-R Approved
TIS Approved
GB (China) Approved

*For operation below -20°C
please contact technical sales

DIMENSIONS

2 x Ø9.6

A   B

181

119

350

2 x 20mm Dia. holes for cable entry, supplied with 1 Ex e blanking plug & 1 traveling plug.

Fixing centres suitable for M8 bolts

Fitting wattage	Overall length Dim A	Fixing centres Dim B
2x18W	995	400
2x36W	1605	700
2x58W	1905	700

Dimensions in millimetres

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W, 2 x 36W, 2 x 58W.

POWER SUPPLY

110V-254V, 50/60Hz AC/DC (2 x 18W)
220V-254V, 50/60Hz AC/DC (2 x 36W and 2 x 58W)
110V-130V, 50/60Hz AC/DC (2 x 36W)

POWER FACTOR

Better than 0.95.

TERMINALS

4 core up to 4 mm^2 conductors with looping.
Through wiring is available as an option.

Terminals for live constant, live switched, neutral & earth are provided. External earth terminal is an option.

CABLE ENTRIES

Two x 20mm clearance holes supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE CLASSIFICATION

Gas environments: T4.
Dust environments: T100°C.

AMBIENT TEMPERATURE RANGE

-45°C to +55°C (18W & 36W versions)
-45°C to +50°C (58W version)

MATERIALS

Enclosure	Polycarbonate moulding.
Lamp Envelope	Polycarbonate.
Reflector	Epoxy powder coated stainless steel.
Gasket	Silicone.
External Fasteners	Stainless steel.

WEIGHT

Variant	2x18W Lamps	2x36W Lamps	2x58W Lamps
Standard	3.8Kg	5.4Kg	6.2Kg
Through-Wired	4.4Kg	6.0Kg	6.8Kg
Pole-Mount	4.1Kg	5.7Kg	6.5Kg

SUSPENSION

Standard mounting is direct to the external reflector.

Optional ceiling, wall, pole mounting brackets, and eye bolts are available on request.

Direct spigot mounting option for up to 42mm diameter is available for the 18W and 36W versions.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
TRIE/218/BI	2x18W	Bi-Pin
TRIE/236/BI	2x36W	Bi-Pin
TRIE/258/BI	2x58W	Bi-Pin

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage (110/130V) - 36W only
/25	25mm Entries
/T	Through wiring
/SC	Screwed connection terminal block (6mm^2 conductors)
/M20	M20 Threaded entry pad c/w earth lead to T/Block
/M25	M25 Threaded entry pad c/w earth lead to T/Block
/SE	Spigot entry version (18W & 36W)
/ZR	Powder coated zintec reflector
/IEC	Supplied with IECEx certification label

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Ceiling mount bracket assembly
SEXCE-00001

M8 eye bolt
SEXCE-00008

Wall bracket
SEXCE-00009

Wall mounting outreach bracket
(for use with /SE version)
NPRO4-0007

Wall mounting outreach bracket
(for use with standard 18W version)
NPRO4-0008

Wall mounting outreach bracket
(for use with standard 36W version)
NPRO4-0012

Conversion Kit: Converts VL125 to a
VL126 EM Luminaire
STRIE-00001

End of Life
Protection

3 Hour
Operation

Spigot entry version

FEATURES AND BENEFITS

Dedicated emergency lamp with battery backup • Proven ingress protection • Over voltage and harmonic distortion protection

CERTIFICATION & APPROVALS

IECEx Certificate IECEx SIR 03.0004
ATEX Certificate SIRA03ATEX3206

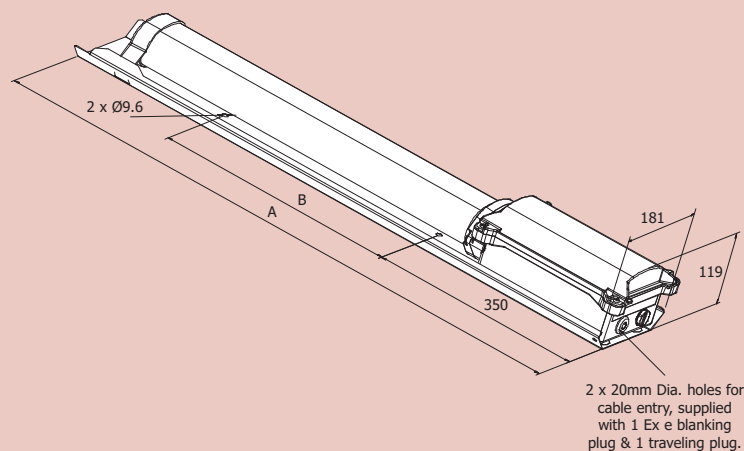2 x 18W and 2 x 36W Varients
Ex II 2 GD Ex em IIC T4 -15°C to
+55°C

2 x 58W Varient
Ex II 2 GD Ex em IIC T4 -15°C to
+50°C

Ingress protection to IP66, IP67
IP68 (on application)

GOST-R Approved
TIS Approved
GB (China) Approved

DIMENSIONS
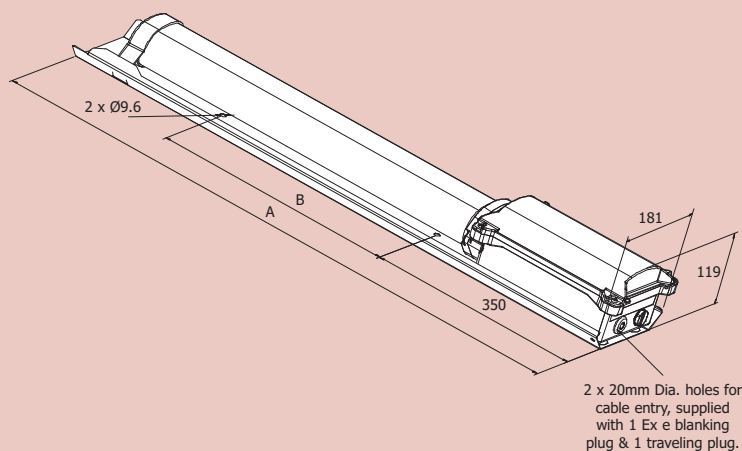
2 x Ø9.6

A   B

181

119

350

2 x 20mm Dia. holes for
cable entry, supplied
with 1 Ex e blanking
plug & 1 traveling plug.

Fixing centres suitable for M8 bolts

Fitting wattage	Overall length Dim A	Fixing centres Dim B
2x18W	995	400
2x36W	1605	700
2x58W	1905	700

Dimensions in millimetres

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W,
2 x 36W, 2 x 58W

POWER SUPPLY

220V-254V, 50/60Hz AC/DC (2 x 18W, 2 x 36W and 2 x 58W)
110V-130V, 50/60Hz AC/DC (2 x 18W and 2 x 36W)

POWER FACTOR

Better than 0.95.

EMERGENCY OPERATION

11W lamp emergency light output is 11%.
Duration is typically 3 hours.

BATTERY

5 cell - 4Ah, 6V internal Ni-Cad.

TERMINALS

4 core up to 4 mm^2 conductors with looping. Through wiring is available as an option.

Terminals for live constant, live switched, neutral & earth are provided. External earth terminal is an option.

CABLE ENTRIES

Two x 20mm clearance holes supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE CLASSIFICATION

Gas environments: T4.
Dust environments: T100°C.

AMBIENT TEMPERATURE RANGE

-15°C to +55°C (18W & 36W versions)
-15°C to +50°C (58W version)

MATERIALS

Enclosure	Polycarbonate moulding.
Lamp Envelope	Polycarbonate.
Reflector	Epoxy powder coated stainless steel.
Gasket	Silicone
External Fasteners	Stainless steel.

WEIGHT

Variant	2x18W Lamps	2x36W Lamps	2x58W Lamps
Standard	5.4Kg	7.0Kg	7.8Kg
Through-Wired	6.0Kg	7.6Kg	8.4Kg
Pole-Mount	5.7Kg	7.3Kg	8.1Kg

SUSPENSION

Standard mounting is direct to the external reflector.

Optional ceiling, wall, pole mounting brackets, and eye bolts are available on request.

Direct spigot mounting option for up to 42mm diameter is available for the 18W and 36W versions.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
TRIE/218/BI/EM	2x18W	Bi-Pin
TRIE/236/BI/EM	2x36W	Bi-Pin
TRIE/258/BI/EM	2x58W	Bi-Pin

An 11W compact fluorescent emergency lamp is factory fitted

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage (110/130V) - 18W/36W only
/25	25mm Entries
/T	Through wiring
/SC	Screwed connection terminal block (6mm^2 conductors)
/M20	M20 Threaded entry pad c/w earth lead to T/Block
/M25	M25 Threaded entry pad c/w earth lead to T/Block
/SE	Spigot entry version (18W & 36W)
/BCM	Battery control management system
/ZR	Powder coated zintec reflector
/IEC	Supplied with IECEx certification label

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Ceiling mount bracket assembly
SEXCE-00001

M8 eye bolt
SEXCE-00008

Wall bracket
SEXCE-00009

Wall mounting outreach bracket
(for use with /SE version)
NPRO4-0007

Wall mounting outreach bracket
(for use with standard 18W version)
NPRO4-0008

Wall mounting outreach bracket
(for use with standard 36W version)
NPRO4-0012

TRIDENT

POLE MOUNT BRACKET

SPOL4-100004 (38-42mm dia)
SPOL4-100005 (48-52mm dia)
SPOL4-100006 (58-62mm dia)

M6 Full Nut
M6 Spring Washer

M6 x 30mm Lg
Hex Head Screw

M8 x 20mm Lg
Pan Head Screw
M8 Full Nut
M8 Spring Washer

DEPENDANT ON POLE DIAMETER
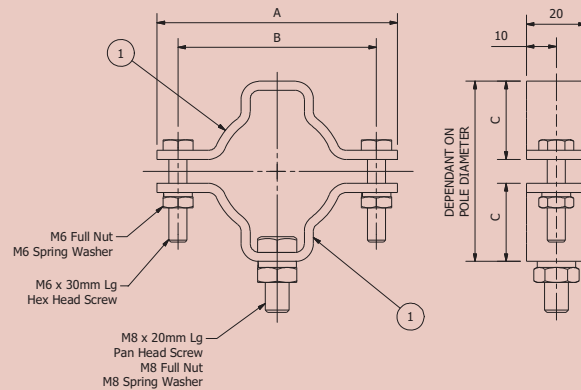
PART DETAILS					
Part I.D.	Part Code	Part Description	A	B	C
1	SPOL4-100004	POLE MTG 38-42 DIA ASSY	80mm	66mm	26mm
1	SPOL4-100005	POLE MTG 48-52 DIA ASSY	90mm	76mm	32mm
1	SPOL4-100006	POLE MTG 58-62 DIA ASSY	94mm	80mm	38mm

WALL MOUNTING OUTREACH BRACKET

(42mm diameter)

NPRO4-0007(for use with /SE version)
NPRO4-0008 (for std. 18W version) in conjunction with SPOL4-100004
NPRO4-0012 (for std. 36W version) in conjunction with SPOL4-100004

PIPE WALL THICKNESS 2.75/4.0

4 HOLES 14ø

407.5
120
200
42ø ±0.5
80 CRS
37
3
120

15°
250
100 I/RAD
75°
332
34
25
76

WALL BRACKET DRILLED TOP & BOTTOM TO ACCEPT PIPE. PIPE FULLY WELDED TO BRACKET IN POSITION SHOWN.

NPRO4-0007

PIPE WALL THICKNESS 2.75 / 4.0

4 HOLES 14ø

120
200
42ø ±0.5
80
3
120

15°
18W = 650
36W = 1100
100 RAD
34
25
76

WALL BRACKET DRILLED TOP & BOTTOM TO ACCEPT PIPE. PIPE FULLY WELDED TO BRACKET IN POSITION SHOWN.
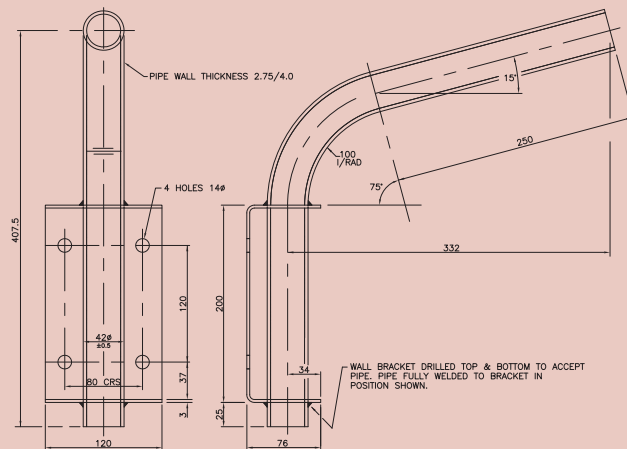
NPRO4-0008/0012

CEILING MOUNT BRACKET

SEXCE-00001

M8 EYE BOLT

SEXCE-00008

M8x1.25p
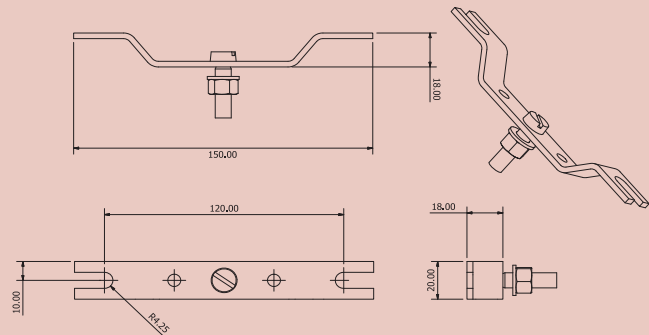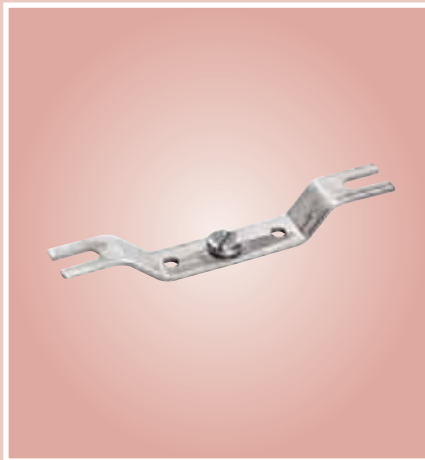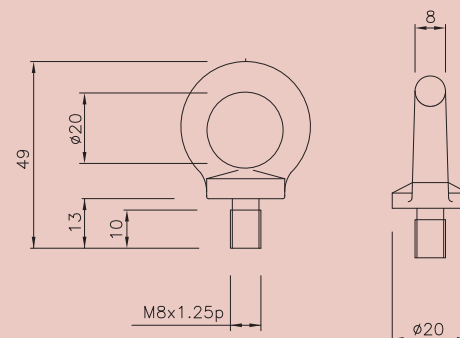
WALL MOUNT BRACKET

SEXCE-00009

EXCALIBUR VL19E
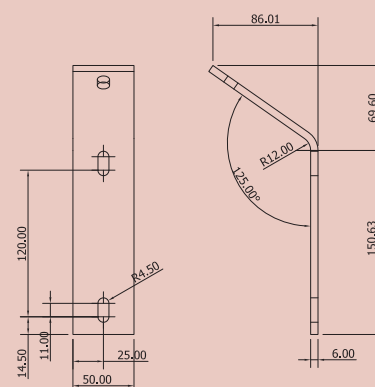
End of Life Protection

FEATURES AND BENEFITS

Proven track record offshore • Excellent ingress protection • Cassette relamping for easy maintenance • End of Life protection

CERTIFICATION & APPROVALS

ATEX Certificate BAS00ATEX2190

⟨Ex⟩ II 2 GD Ex em II T4 T100°C

Ambient temperature range:
-35°C to +55°C*

Ingress protection to IP66 and IP67

GOST-R Approved
TIS Approved

*For opperations below -20°C
please contact technical sales
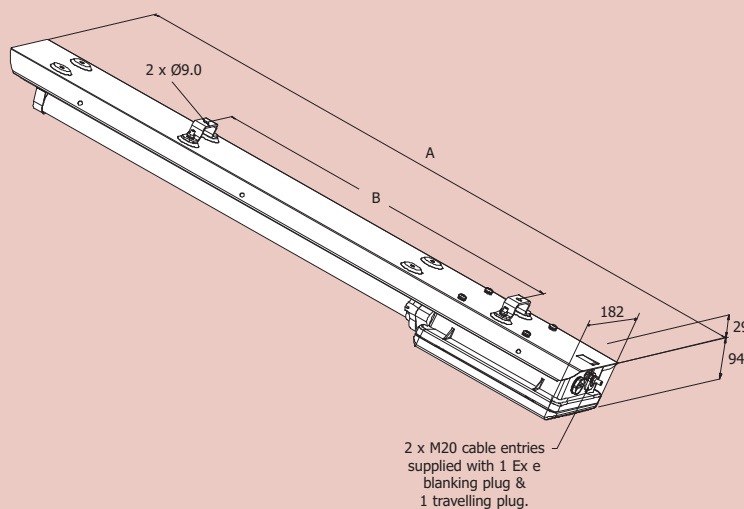
DIMENSIONS

2 x Ø9.0

A

B

182

29

94

2 x M20 cable entries
supplied with 1 Ex e
blanking plug &
1 travelling plug.

Fitting wattage	Overall length Dim A	Fixing centres Dim B
18W	1023	633
36W	1633	1243

Dimensions in millimetres

TECHNICAL SPECIFICATION

LAMP TYPES

Mono pin - T8, Ø26mm. 18W and 36W 'cold start' with Fa6 caps.
Bi-pin - T8, Ø26mm. 18W and 36W with G13 caps.

POWER SUPPLY

18W High voltage 110V-254V AC/DC 50/60Hz.
36W High voltage 220V-254V AC/DC 50/60Hz.
36W Low voltage 110V-130V AC/DC 50/60Hz. (/120)

POWER FACTOR

Better than 0.95.

TERMINALS

4 core up to 4 mm^2 conductors with looping.

Through wiring is available as an option.

Terminals for live constant, live switched, neutral & earth are provided. Internal earth is on gland entry plate, external earth terminal is supplied as standard with an M6 brass stud.

CABLE ENTRIES

Two x M20 threaded entries, supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE CLASSIFICATION

Gas environments: T4.
Dust environments: T100°C.

AMBIENT TEMPERATURE

-35°C to +55°C.

MATERIALS

Control Gear Housing	Polycarbonate with silicone rubber gaskets.
Lamp Envelope	Polycarbonate end mouldings and extruded tube.
Reflector	Epoxy powder coated stainless steel.
External Fasteners	Stainless steel.

WEIGHT

18W luminaire - 6.3kg.
36W luminaire - 7.8kg.

SUSPENSION

Standard via two saddle brackets (fixing centres 633mm - 18W & 1243mm - 36W). Other fixings available upon request.

Optional ceiling, wall, pole mounting brackets, and eye bolts are also available on request.

The luminaire may be mounted in any orientation.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
EXCE/218/BI	2x18W	Bi-Pin
EXCE/236/BI	2x36W	Bi-Pin
EXCE/218/MO	2x18W	Mono-Pin
EXCE/236/MO	2x36W	Mono-Pin

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage 110/130V (36W only)
/M25	25mm Entries
/T	Through wiring
/SC	Screwed connection terminal block (6mm^2 conductors)

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Ceiling mount bracket assembly
SEXCE-00001

M8 eye bolt
SEXCE-00008

Wall bracket
SEXCE-00009

Wire guard s/s (600mm)
SEXCE-00011

Wire guard s/s (1200mm)
SEXCE-00010

EXCALIBUR VL24E

End of Life Protection

3 Hour Operation

Features and Benefits

Battery back up for emergency operation • Available with battery control management • Mono or Bi-pin lamp option

CERTIFICATION & APPROVALS

ATEX Certificate BAS00ATEX2191

⟨Ex⟩ II 2 GD Ex emd IIC T4 T100°C

Ambient temperature range:
-10°C to +55°C

Ingress protection to IP66 and IP67

GOST-R Approved
TIS Approved

DIMENSIONS

2 x Ø9.0

A

B

182

29

113

Overall width including battery 215

2 x M20 cable entries
supplied with 1 Exe
blanking plug &
1 travelling plug.

Fitting wattage	Overall length Dim A	Fixing centres Dim B
18W	1023	633
36W	1633	1243

Dimensions in millimetres

TECHNICAL SPECIFICATION

LAMP TYPES

Mono pin - T8, Ø26mm. 18W and 36W 'cold start' with Fa6 caps.
Bi-pin - T8, Ø26mm. 18W and 36W with G13 caps.

EMERGENCY OPERATION

Typically 3 hours duration for 18W and 36W versions
at 25°C ambient.

18W - 35% of one lamp.   36W - 30% of one lamp

BATTERY

12V 4Ah external Ni-Cad

POWER SUPPLY

Standard voltage 220V-254V AC 50/60Hz.
Low voltage 110V-130V AC 50/60Hz. (/120)

POWER FACTOR

Better than 0.95.

TERMINALS

4 core up to 4 mm^2 conductors with looping.
Through wiring is available as an option.
Terminals for live constant, live switched, neutral & earth are
provided. Internal earth is on gland entry plate, external earth
terminal is supplied as standard with an M6 brass stud.

WEIGHT

18W luminaire - 10.5kg.   36W luminaire - 12.0kg.

CABLE ENTRIES

Two x M20 threaded entries supplied with 1 x transit plug
and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for
the luminaire.

TEMPERATURE CLASSIFICATION

Gas environments: T4.
Dust environments: T100°C.

AMBIENT TEMPERATURE

-10°C to +55°C.

MATERIALS

Control Gear Housing	Polycarbonate with silicone rubber gaskets.
Lamp Envelope	Polycarbonate end mouldings and extruded tube.
Reflector/Battery Tube	Epoxy powder coated stainless steel.
External Fasteners	Stainless steel.

SUSPENSION

Standard via two saddle brackets (fixing centres 633mm - 18W
& 1243mm - 36W). Other fixings available upon request.

Optional ceiling, wall, pole mounting brackets, and eye bolts are
also available on request.

The luminaire may be mounted in any orientation.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
EXCE/218/BI/EM	2x18W	Bi-Pin
EXCE/236/BI/EM	2x36W	Bi-Pin
EXCE/218/MO/EM	2x18W	Mono-Pin
EXCE/236/MO/EM	2x36W	Mono-Pin

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage (110/130V)
/M25	M25 Entries
/T	Through wiring
/SC	Screwed connection terminal block (6mm^2 conductors)
/RI	Remote inhibition
/BCM	Battery control management with remote inhibition

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Ceiling mount bracket assembly
SEXCE-00001

M8 eye bolt
SEXCE-00008

Wall bracket
SEXCE-00009

Wire guard s/s (600mm)
SEXCE-00011

Wire guard s/s (1200mm)
SEXCE-00010

To calculate photometric values for lighting design, please use the free Victor LiteGuide™ software package.
To request your copy, please contact your local Victor agent or download a copy from the website.
Design is subject to alteration without notice. Please refer to the website www.victor-lighting.com for the latest details.
All products are sold subject to our conditions of sale, available on request.

PATHFINDER VL114

3 Hour Operation

11W Emergency version

Hanging exit sign

Adhesive exit sign

FEATURES AND BENEFITS

Lightweight yet robust construction • Mount in any orientation • Ideal for over-door lighting • Supplied complete with lamps

CERTIFICATION & APPROVALS

IECEx Certificate IECEx SIR 05.0004
ATEX Certificate SIRA03ATEX3556 T100°C

VL114 Standard Luminaire
⟨Ex⟩ II 2 GD Ex em II

Ambient Temperature Range
2x18W T4 -45°C to +30°C*
T3 -45°C to +40°C*
T3 -45°C to +40°C*
1x11W T3 -45°C to +40°C*

VL114 Emergency 1 x 11W Luminaire
⟨Ex⟩ II 2 GD Ex em II

Ambient Temperature Range
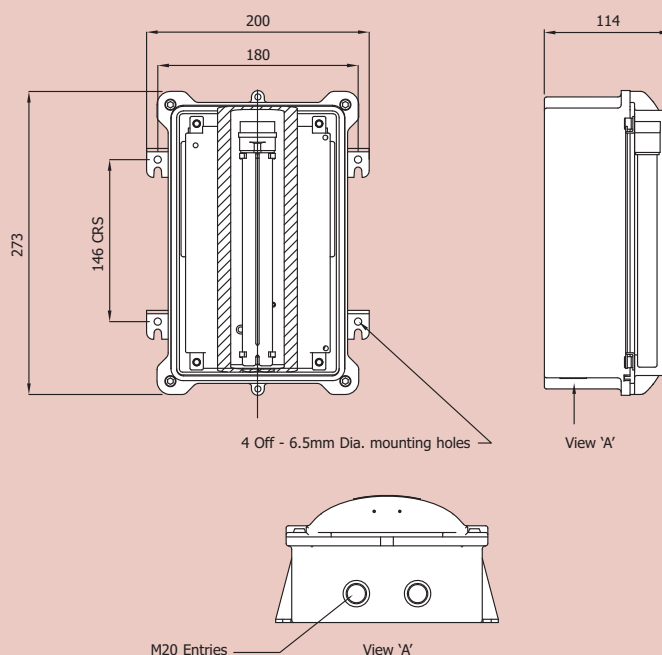Non-Maintained T4 -15°C to +60°C
T5 -15°C to +40°C
T6 -15°C to +25°C
Maintained T3 -15°C to +40°C

Ingress protection to IP66, IP67
IP68 (on application)

GOST-R Approved
GB (China) Approved

*For opperations below -20°C
please contact technical sales

DIMENSIONS

200
180
273
146 CRS

4 Off - 6.5mm Dia. mounting holes

114

View 'A'

M20 Entries   View 'A'

Dimensions in millimeters

TECHNICAL SPECIFICATION

LAMP TYPES

11W and 18W compact fluorescent lamps are factory fitted.

POWER SUPPLY

VL114S	220V-254V, 50/60Hz only (1x11W)
VL114S	110V-254V, 59/60Hz (2x18W)
VL114E	220V-254V, 50/60Hzonly (1x11W)

POWER FACTOR

Better than 0.95.

EMERGENCY OPERATION

11W non-maintained emergency light output is 11%.
Duration is typically 3 hours.

BATTERY

5 cell - 4Ah, 6V internal Ni-Cad.

TERMINALS

3 core up to 4 mm^2 conductors with looping.

Terminals for live constant, live switched, neutral & earth
are provided.

CABLE ENTRIES

Two x 20mm clearance holes supplied with 1 x transit plug
and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for
the luminaire.

TEMPERATURE

Gas environments are dependant on gas and ambient temperature
Non-Maintained : T4, T5 & T6. Maintained : T3
Dust environments : 100°C

AMBIENT TEMPERATURE

VL114E	-15°C to +60°C
VL114S	-45°C to +60°C

MATERIALS

Enclosure	Polycarbonate moulding.
Gasket	Silicone.
External Fasteners	Stainless steel.

WEIGHT

VL114E 2.5kg   VL114S 1.8kg

SUSPENSION

Standard mounting is direct to the main housing.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
PATE/111/CF	1x11W	Compact Fluorescent
PATE/218/CF	2x18W	Compact Fluorescent
PATE/111/CF/EM*	1x11W	Compact Fluorescent

*Non maintained as standard

All Pathfinder models are supplied complete with lamps.

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage 110/130V (for VL114E non maintained only)
/25	25mm Entries
/MEM	Maintained emergency (220-254V only)
/M20	M20 Threaded entry pad c/w earth lead to T/Block
/M25	M25 Threaded entry pad c/w earth lead to T/Block
/IEC	Supplied with IECEx certification label

ACCESSORIES

Lamp assembly (11watt)
SPATE-00004

Lamp assembly (18watt)
SPATE-00001

Exit sign, rigid plastic, chain hanging
(no direction)
SPATE-00005

Exit sign, rigid plastic, chain hanging (up arrow)
SPATE-00006

Exit sign, rigid plastic, chain hanging
(down arrow)
SPATE-00007

Exit sign, rigid plastic, chain hanging
(right arrow)
SPATE-00008

Exit sign, rigid plastic, chain hanging
(left arrow)
SPATE-00009

Exit sign, rigid plastic, chain hanging (double
sided arrow left & arrow right)
SPATE-00011

Exit sign, adhesive (up, down, left and right)
SPATE-00012

To calculate photometric values for lighting design, please use the free Victor LiteGuide™ software package.
To request your copy, please contact your local Victor agent or download a copy from the website.
Design is subject to alteration without notice. Please refer to the website www.victor-lighting.com for the latest details.
All products are sold subject to our conditions of sale, available on request.

RECESSIBLE TYPE VL77C

End of Life Protection

Single screw height adjustment

Adjust to ensure ceiling integrity

FEATURES AND BENEFITS

Suitable for M300 and plasterboard ceilings • Automatic lamp de-energisation on opening • Resistant to voltage fluctuations

CERTIFICATION & APPROVALS

ATEX Certificate Baseefa05ATEX0236

⟨Ex⟩ II 2 GD Ex eqm II T4 Tamb 55°C

Ambient temperature range:
-40°C to +45°C* (insulated)
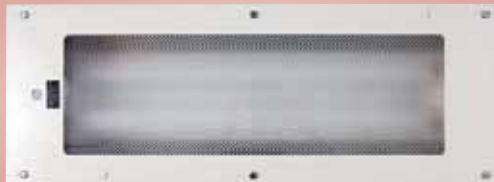-40°C to +55°C* (non-insulated)

Ingress protection to IP65

GOST-R Approved

SOLAS B15 Fire rated

*For opperations below -20°C
please contact technical sales

Standard Clear Diffuser

Prismatic Diffuser (/PD)

Low Glare Louvre (/LG)

TECHNICAL SPECIFICATION

LAMP TYPES

18W & 36W bi-pin fluorescent (T8)
Available in the following configurations: 2 x 18W, 2 x 36W.

POWER SUPPLY

220-254V AC/DC.
220-300V DC 50-60Hz.

TERMINALS

3 core up to 4 mm^2 conductors with looping.
Through wiring facility as standard.
Terminals for live constant, neutral & earth are provided. External earth terminal as standard.

CABLE ENTRIES

4 x 20mm entries, two at each end (not suitable for looping both ends). Supplied with 1 x transit plug and 3 x Ex blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE

Gas environments: T4.
Dust environments: T95ºC.

AMBIENT TEMPERATURE RANGE

-40ºC to +45ºC (insulated)
-40ºC to +55ºC (non-insulated)

MATERIALS

Enclosure	White polyester painted zinc coated steel body & frame.
Diffuser	Clear polycarbonate.
Reflector	White polyester painted zinc coated steel.
Gasket	Silicone rubber.

WEIGHT

2 x 18W - 16Kg.
2 x 36W - 23Kg.

SUSPENSION

Standard mounting is fixed side brackets with swing out arms, with provision for drop rod mounting.

For details of appropriate ceiling types and dimensions see pages 24 and 25.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
V77E/218/BI	2x18W	Bi-Pin
V77E/236/BI	2x36W	Bi-Pin

ACCESSORIES

There are no accessories for this product

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage (110/130V)
/25	25mm Entries
/EL	Extra live termination facility (compatible with 4-core switched emergency circuits)
/LG	Low glare louvre
/PD	Prismatic diffuser
/PC	Plasterboard (solid) ceiling
/SC	Screwed connection terminal block (6mm^2 conductors)

End of Life Protection

90 Min Operation

3 Hour Operation

Single screw height adjustment

FEATURES AND BENEFITS

Back up battery for emergency operation • Battery management, monotoring and self test • End of Life protection

CERTIFICATION & APPROVALS

ATEX Certificate Baseefa05ATEX0236

⟨Ex⟩ II 2 GD Ex eqm II T4 Tamb 55°C

Ambient temperature range:
-20°C to +45°C (insulated)
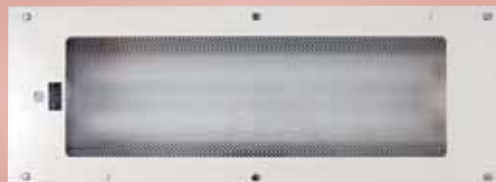-20°C to +55°C (non-insulated)

Ingress protection to IP65

GOST-R Approved

SOLAS B15 Fire rated

Standard Clear Diffuser

Prismatic Diffuser (/PD)

Low Glare Louvre (/LG)

TECHNICAL SPECIFICATION

LAMP TYPES

18W & 36W bi-pin fluorescent (T8).
Available in the following configurations: 2 x 18W, 2 x 36W

POWER SUPPLY

220-254V AC/DC.

EMERGENCY OPERATION

90 minutes to EN60598-2-22, 3 hour option (/3H).
50% of one lamp (18W).
25% of one lamp (36W).

BATTERY

6V, 4Ah Internal Ni-Cad.

TERMINALS

4 core up to 4 mm^2 conductors with looping.

Through wiring facility as standard.

Terminals for live constant, live switched, neutral & earth are provided. External earth terminal as standard.

CABLE ENTRIES

4 x 20mm entries, two at each end (not suitable for looping both ends). Supplied with 1 x transit plug and 3 x Ex blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE

Gas Environments - T4.
Dust Environments - T95°C.

AMBIENT TEMPERATURE RANGE

-20°C to +45°C (insulated)
-20°C to +55°C (non-insulated)

MATERIALS

Enclosure	White polyester painted zinc coated steel body & frame.
Diffuser	Clear polycarbonate.
Reflector	White polyester painted zinc coated steel.
Gasket	Silicone rubber.

WEIGHT

2 x 18W - 19Kg.
2 x 36W - 26Kg.

SUSPENSION

Standard mounting is fixed side brackets with swing out arms, with provision for drop rod mounting.

For details of appropriate ceiling types and dimensions see pages 24 and 25.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
V78E/218/BI/EM	2x18W	Bi-Pin
V78E/236/BI/EM	2x36W	Bi-Pin

ACCESSORIES

There are no accessories for this product

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage (110/130V)
/25	25mm Entries
/LG	Low glare louvre
/PD	Prismatic diffuser
/PC	Solid ceiling
/3H	3 hour battery duration (Light output - 30% 18W, 25% 36W)
/HEO	High emergency output (36W only, 90 min duration - 45% of emergency lamp)
/NST	High frequency non self testing ballast (reccomended for sleeping quarters)
/SC	Screwed connection terminal block (6mm^2 conductors)

Typical aperture:

Tile length x 800mm (18W)

Tile length x 1315mm (36W)

View of plank ceiling with recessed luminaire

Typical 275 x 25mm tile mounting system

DIMENSIONS

18W - 700
36W - 1315

235

Ø9,60

A (1:8)

18W - 720
36W - 1335

133

18W - 600
36W - 1215

193

A

77

17

162

25

621

260

235

208

2 x 21mm cable entry
holes at each end,
complete with
3 blanking plugs &
1 transit plug.

18W - 820
36W - 1435

18W - 750
36W - 1365

35

309

275

31

3 sided 25mm skirt

Dimensions in millimetres

Typical aperture:

300mm x 740/750mm (18W)

300mm x 1355/1356mm (36W)

View of solid ceiling with recessed luminaire

Typical solid ceiling/panel mounting system

18W - 770
36W - 1385

18W - 700
36W - 1315

310

235

Ø9.60

A (1:8)

Swing out arms

18W - 720
36W - 1335

133

18W - 600
36W - 1215

193

94

24

34

Mounting height using swing out arms
Min. - 34mm
Max. - 70mm

162

10

621

260

208

2 x 21mm cable entry
holes at each end,
complete with
3 blanking plugs &
1 transit plug.

18W - 775
36W - 1390

315

Dimensions in millimetres

End of Life Protection

FEATURES AND BENEFITS

Suitable for modular ceiling types • Simple and easy access for re-lamping • Automatic lamp de-energisation upon opening

CERTIFICATION & APPROVALS

ATEX Certificate Baseefa05ATEX0237X

⟨Ex⟩ II 2 GD Ex eqm II T4

Ambient temperature range:
-20°C to +40°C

Ingress protection to IP65

GOST-R Approved

SOLAS B15 Fire rated

/LG - Low glare louvre

TECHNICAL SPECIFICATION

LAMP TYPES

18W & 36W bi-pin fluorescent (T8)
Available in the following configurations: 2 x 18W, 2 x 36W,
4 x 18W, 4 x 36W.

POWER SUPPLY

220-254V AC/DC.
220-300V DC 50-60Hz.

TERMINALS

3 core up to 4 mm^2 conductors with looping.
Through wiring facility as standard. Terminals for live constant,
neutral & earth are provided.
External earth terminal.

CABLE ENTRIES

3 x 20mm holes located on the rear panel, two at one end, one
at the other end. Supplied with 1 x transit plug and 2 x Ex
blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for
the luminaire.

TEMPERATURE

Gas Environments - T4.
Dust Environments - T70°C.

AMBIENT TEMPERATURE RANGE

-20°C to +40°C.

MATERIALS

Enclosure	White polyester painted zinc coated steel body & aluminium frame.
Diffuser	Clear polycarbonate with prismatic diffuser.
Reflector	White polyester painted zinc coated steel.
Gasket	EPDM rubber.
External Fasteners	Stainless steel.

WEIGHT

2 x 18W - 12.5Kg.
2 x 36W - 16.0Kg.
4 x 18W - 16.0Kg.
4 x 36W - 20.0Kg.

SUSPENSION

Standard mounting is fixed cantilever side brackets, there is also
a provision for drop rod mounting.

**For details of appropriate ceiling types and dimensions
see pages 30 and 31.**

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
104E/218/BI*	2x18W	Bi-Pin
104E/418/BI	4x18W	Bi-Pin
104E/236/BI*	2x36W	Bi-Pin
104E/436/BI	4x36W	Bi-Pin

* Only available in 600mm x 600mm (2 x 18W) and
  600mm x 1200mm (2 x 36W) body.

The standard VL104 is supplied with a 3mm clear outer panel
and prismatic diffuser.

ACCESSORIES

There are no accessories for this product

OPTIONS - SUFFIX TO CATALOGUE REF.

/MET	Modular - Exposed "T" ceiling
/MST	Modular - Spring "T" ceiling
/120	Specific voltage (110/130V)
/25	25mm Entries
/EL	Extra live termination facility (compatible with 4-core switched emergency circuits)
/LG	Low glare louvre
/SC	Screwed connection terminal block (6mm^2 conductors)

RECESSIBLE VL104 Em

End of Life Protection

90 Min Operation

3 Hour Operation

FEATURES AND BENEFITS

Back up battery for emergency operation • Suitable for modular ceiling types • Battery management technology

CERTIFICATION & APPROVALS

ATEX Certificate Baseefa05ATEX0237X

⟨Ex⟩ II 2 GD Ex eqm II T4

Ambient temperature range:
-20°C to +40°C

Ingress protection to IP65

GOST-R Approved

SOLAS B15 Fire rated

/LG - Low glare louvre

TECHNICAL SPECIFICATION

LAMP TYPES

18W & 36W bi-pin fluorescent (T8)
Available in the following configurations: 2 x 18W, 2 x 36W,
4 x 18W & 4 x 36W.

POWER SUPPLY

220-254V AC/DC.

EMERGENCY OPERATION

90 minutes to EN60598-2-22 3 hour option (/3H).
50% of one lamp (18W).
25% of one lamp (36W).

BATTERY

6V, 4Ah Internal Ni-Cad.

TERMINALS

4 core up to 4 mm^2 conductors with looping.

Through wiring facility as standard.

Terminals for live constant, live switched, neutral & earth are
provided. External earth terminal.

CABLE ENTRIES

3 x 20mm holes located on the rear panel, two at one end, one
at the other end. Supplied with 1 x transit plug and 2 x Ex
blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for
the luminaire.

TEMPERATURE

Gas Environments - T4.
Dust Environments - T70°C.

AMBIENT TEMP RANGE

- 20°C to +40°C.

MATERIALS

Enclosure	White polyester painted zinc coated steel body & aluminium frame.
Diffuser	Clear polycarbonate with prismatic diffuser.
Reflector	White polyester painted zinc coated steel.
Gasket	EPDM rubber.
External Fasteners	Stainless steel.

WEIGHT

2 x 18W - 14.5Kg	4 x 18W - 18.0Kg
2 x 36W - 18.0Kg	4 x 36W - 22.0Kg

SUSPENSION

Standard mounting is fixed cantilever side brackets, there is also
a provision for drop rod mounting.

**For details of appropriate ceiling types and dimensions
see pages 30 and 31.**

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
104E/218/BI/EM*	2x18W	Bi-Pin
104E/418/BI/EM	4x18W	Bi-Pin
104E/236/BI/EM*	2x36W	Bi-Pin
104E/436/BI/EM	4x36W	Bi-Pin

* Only available in 600mm x 600mm (2 x 18W) and
  600mm x 1200mm (2 x 36W) body

The standard VL104 is supplied with a 3mm clear outer panel
and prismatic diffuser.

ACCESSORIES

There are no accessories for this product

OPTIONS - SUFFIX TO CATALOGUE REF.

/MET	Modular - Exposed "T" ceiling
/MST	Modular - Spring "T" ceiling
/120	Specific voltage (110/130V)
/25	25mm Entries
/LG	Low glare louvre
/3H	3 hour battery duration (Light output - 30% 18W, 25% 36W)
/HEO	High emergency output (36W only, 90 min duration - 45% of emergency lamp)
/NST	High frequency non self testing ballast (recommended for sleeping quarters)
/SC	Screwed connection terminal block (6mm^2 conductors)
/2L	Two lamp emergency operation
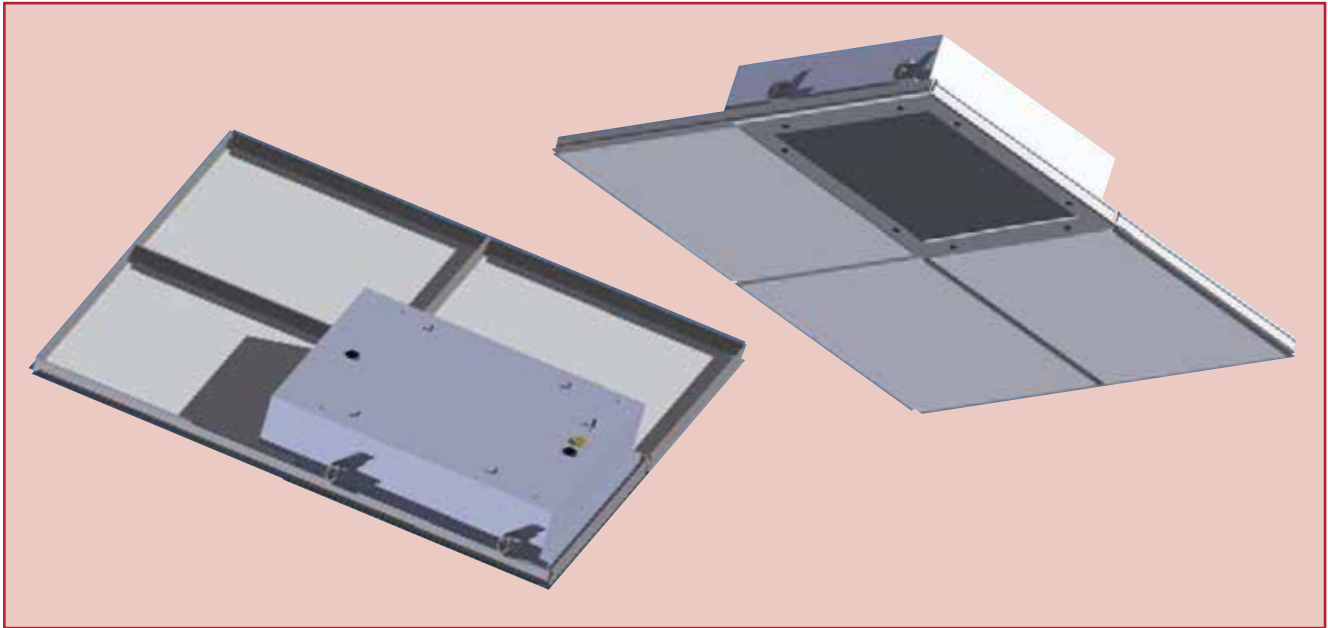
View of Exposed "T" Ceiling with recessed luminaire, typical 600mm x 600mm tile grid mounting system (/MET).
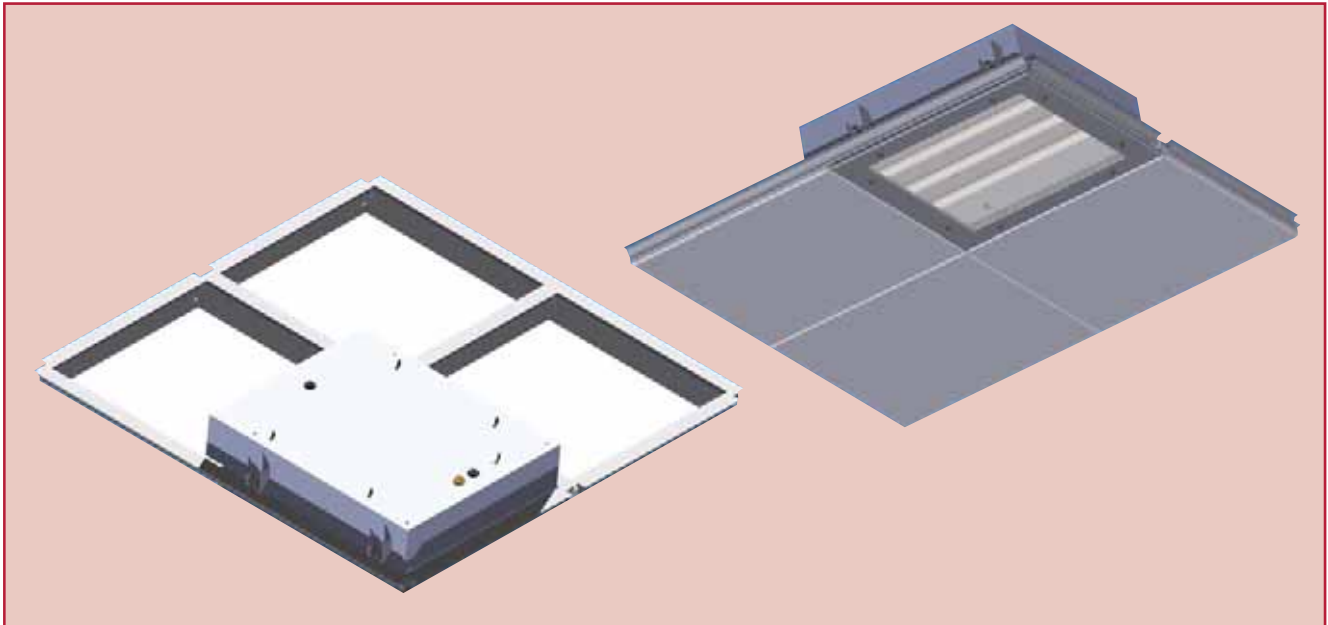
View of Spring "T" Ceiling with recessed luminaire, typical 600mm x 600mm tile grid mounting system (/MST).

View of Solid Ceiling with recessed luminaire.

4 holes Ø7.8 for drop mounting
supplied plugged.

572

500

116

48.5

35

6

18W - 564
36W - 1254

18W - 500
36W - 1100

120.5

104

3 x 21mm holes for cable entry
supplied with 2 Ex blanking
plugs & 1 transit plug.

18W - 624 x 624
36W - 1224 x 624

44

Adjustable cams for mounting on "T" grid.

Dimensions in millimetres
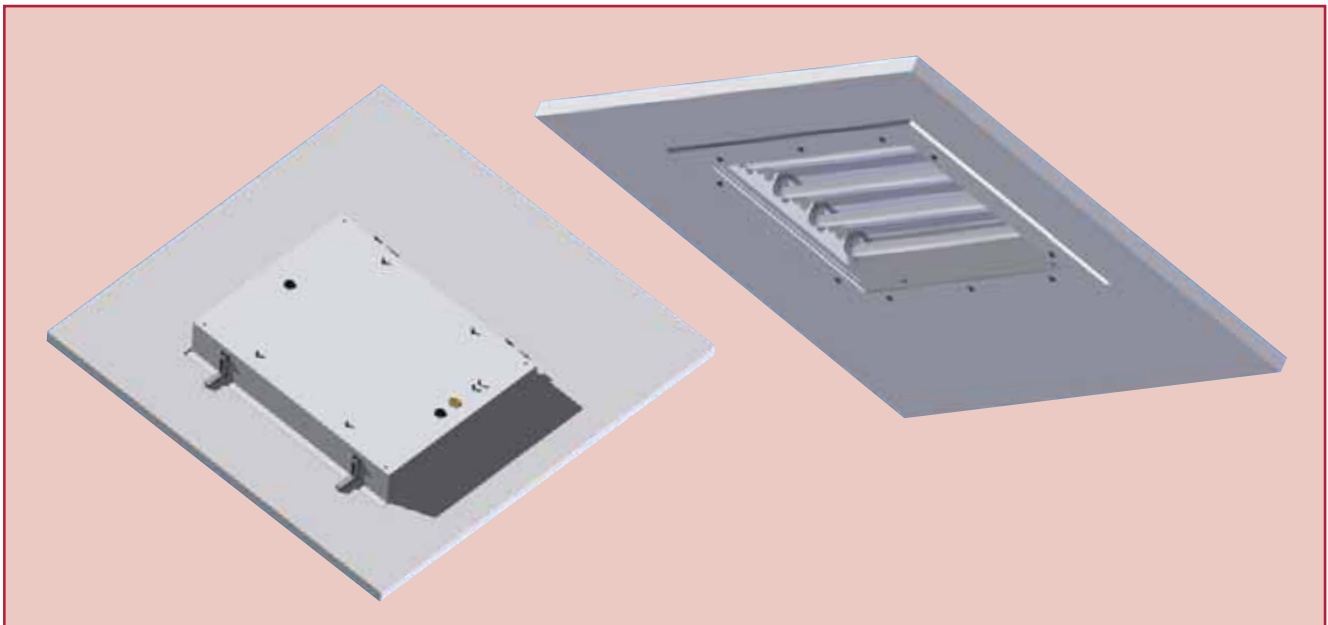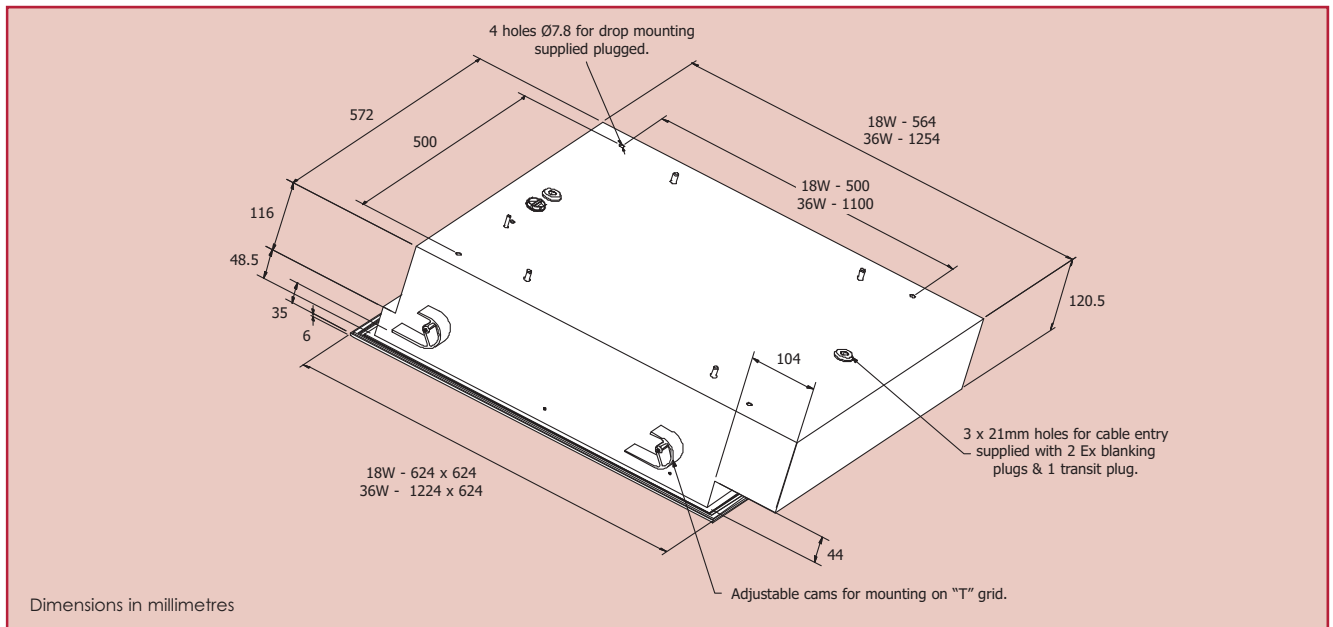
Exposed "T" Ceiling (/MET) dimensions.

547

500

164.5

120.5

104

18W - 651
36W - 1261

18W - 500
36W - 1100

4 Holes Ø7.8

3 x 21mm holes for cable entry
supplied with 2 Ex blanking
plugs & 1 transit plug.

18W - 547
36W - 1157

18W - 599
36W - 1199

599

4 Rotating mounting cams for
mounting on "T" grid supports

Dimensions in millimetres
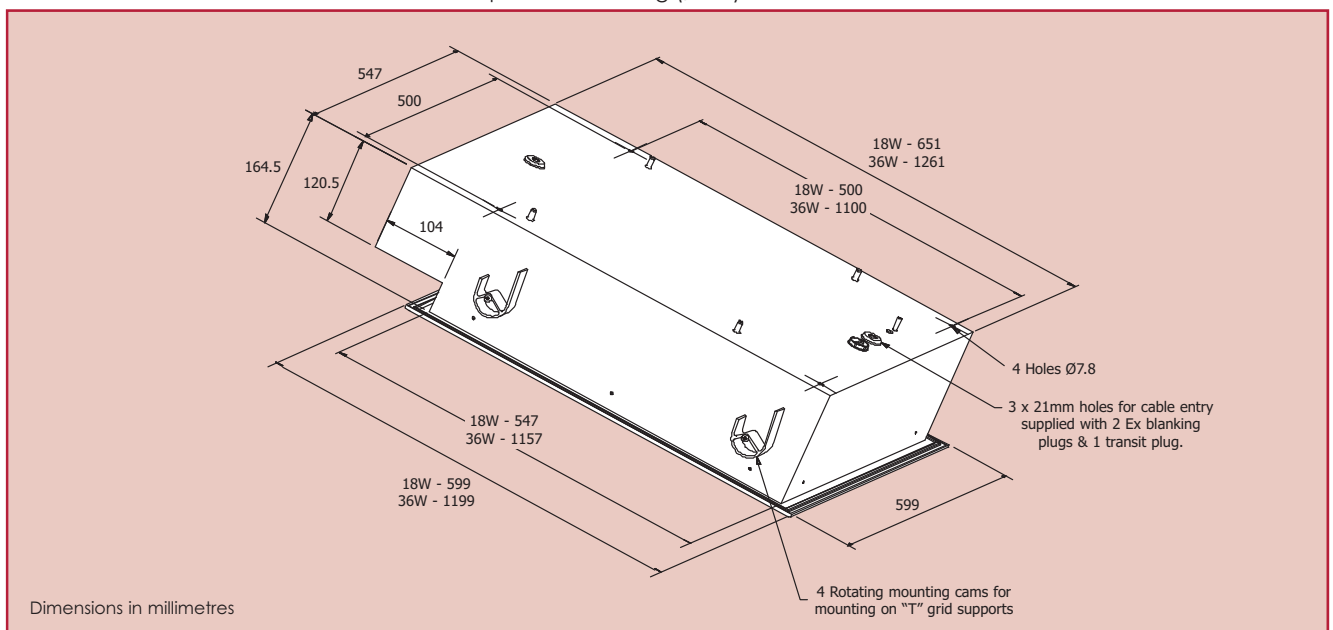
Spring "T" Ceiling (/MST) dimensions.

4 Holes Ø7.8

530

500

109.5

34.5

60 NOM

18W - 702
36W - 1311

18W - 650
36W - 1250

3 x 21mm holes for cable entry
supplied with 2 Ex blanking
plugs & 1 transit plug.

18W - 470
36W - 1080

72

572

18W - 774
36W - 1374

644

Overall height (including cover) 144mm
Overall height (excluding cover) 138.5mm

Dimensions in millimetres

Solid Ceiling dimensions.

VISCOUNT VL51A
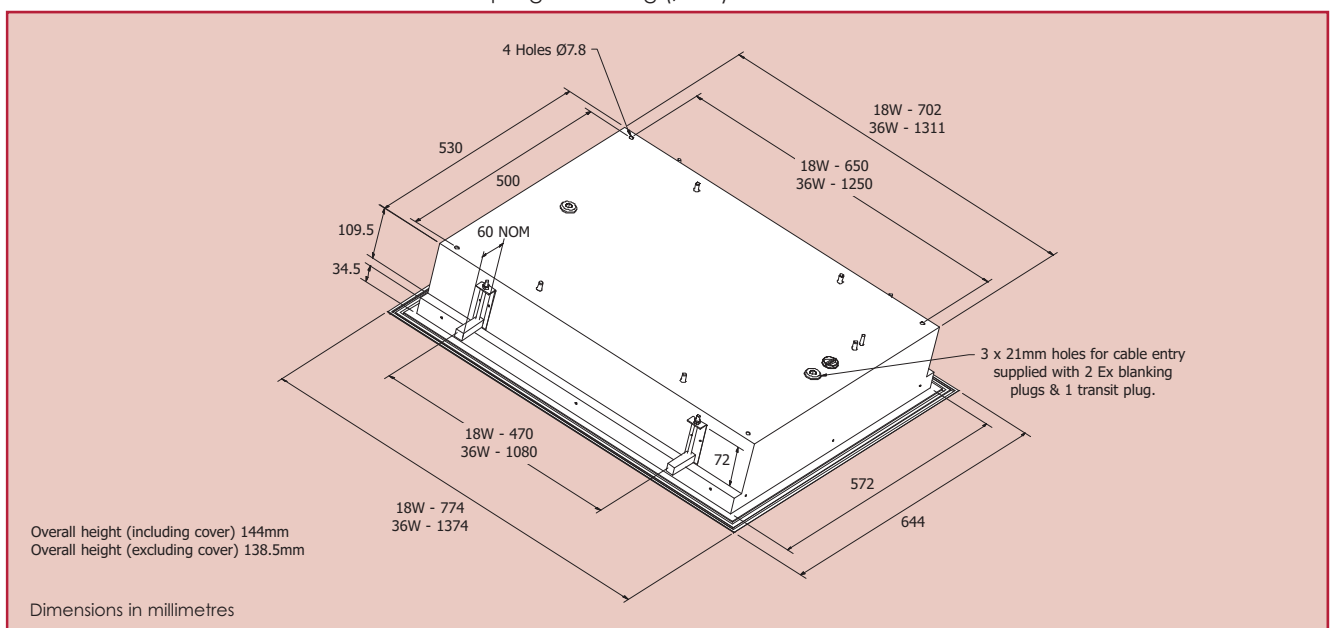
End of Life Protection
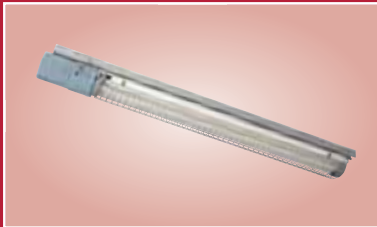
VL51 with wire guard

FEATURES AND BENEFITS

Cool running - suitable for high ambient areas • Standard uni-strut mounting • Efficient high frequency control gear

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CERTIFICATION & APPROVALS

ATEX Certificate SIRA00ATEX1021X

⟨Ex⟩ II 2 GD Ex d IIC (8W & 18W)
⟨Ex⟩ II 2 GD Ex d IIB (36W)

Refer to ordering reference table for T Class and ambient

Ingress protection to IP66, IP67 IP68 (on application)

GOST-R Approved
TIS Approved

DIMENSIONS

A

50

Required for the removal of lampglass assembly

Lampglass assembly

Ballast housing

169

182

External earth

Fitting wattage	Overall length Dim A
18W	916
36W	1516
58W	1816

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
VISD/218/BI	2x18W	Bi-Pin	T8	T6	85	-20°C to +55°C
VISD/136/BI	1x36W	Bi-Pin	T8	T6	85	-20°C to +53°C
			T8	T5	100	-20°C to +55°C
VISD/236/BI	2x36W	Bi-Pin	T8	T6	85	-20°C to +53°C
			T8	T5	100	-20°C to +55°C
VISD/158/BI	1x58W	Bi-Pin	T8	T6	85	-20°C to +49°C
			T8	T5	100	-20°C to +55°C
VISD/258/BI	2x58W	Bi-Pin	T8	T6	85	-20°C to +49°C
			T8	T5	100	-20°C to +55°C

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W,
2 x 36W, 2 x 58W.

POWER SUPPLY

110V-254V, 50/60Hz AC/DC (2 x 18W)
220V-254V, 50/60Hz AC/DC (2 x 36W and 2 x 58W)
110V-130V, 50/60Hz AC/DC (2 x 36W)

POWER FACTOR

Greater than 0.95

TERMINALS

3 core up to 4 mm^2 conductors with looping.

Terminals for live constant, neutral & earth are provided.

Internally earthed, external earth terminal also as standard.

CABLE ENTRIES

Two M20 x 1.5 entries as Standard with an option for two M25 x 1.5 entries. Other cable entries available on request.

Supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE

Refer to table above.

AMBIENT TEMPERATURE

Refer to table above.

MATERIALS

Main body   LM6 aluminium alloy.
Lampglass   Borosilicate glass overtube.
Reflector   Stainless steel.

WEIGHT

2 x 18W Lamps - 9Kg   1 x 36W Lamp - 13Kg
2 x 36W Lamps - 13Kg   1 x 58W Lamp - 15Kg
2 x 58W Lamps - 15Kg

SUSPENSION

Standard support channel supplied will accept Ø10mm fasteners with variable fixing points and compatible with existing cable support systems.

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage (110/130V) - 2 x 36W & 58W only
/M25	M25 Entries
/ZR	Powder coated zintec reflector
/3-4" NPT	3/4 inch NPT cable entry
/IIC	Suitable for IIC gas areas (18W only)

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Ceiling mount bracket assembly
SEXCE-00001

Wall bracket
SEXCE-00009

Wire guard - 18W
SVISD-00008

Wire guard - 36W
SVISD-00009

Wire guard - 58W
SVISD-00010

VISCOUNT VL52A

End of Life Protection

3 Hour Operation

FEATURES AND BENEFITS

Battery back up for emergency operation (3 hours) • Cool running - suitable for high ambient areas • Standard uni-strut fixing

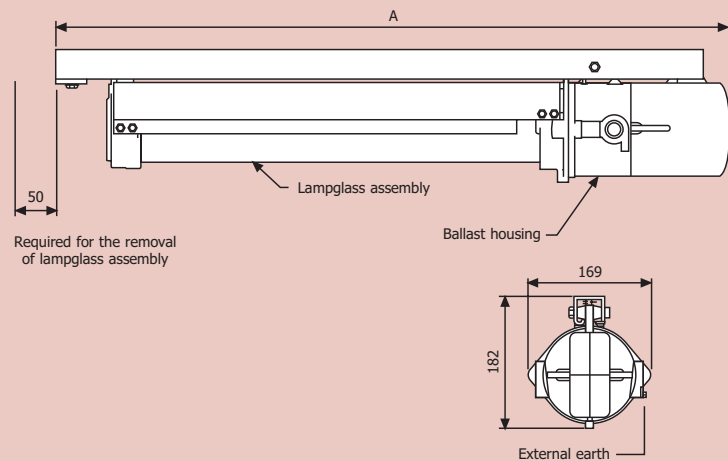## CERTIFICATION & APPROVALS

ATEX Certificate SIRA00ATEX1021X

⟨Ex⟩ II 2 GD Ex d IIC (8W & 18W)
⟨Ex⟩ II 2 GD Ex d IIB

Refer to ordering reference table for T Class and ambient

Ingress protection to IP66, IP67 IP68 (on application)

GOST-R Approved
TIS Approved

DIMENSIONS

A

50

Ballast housing

Lampglass assembly

Required for the removal of lampglass assembly

169

182

Battery

External earth
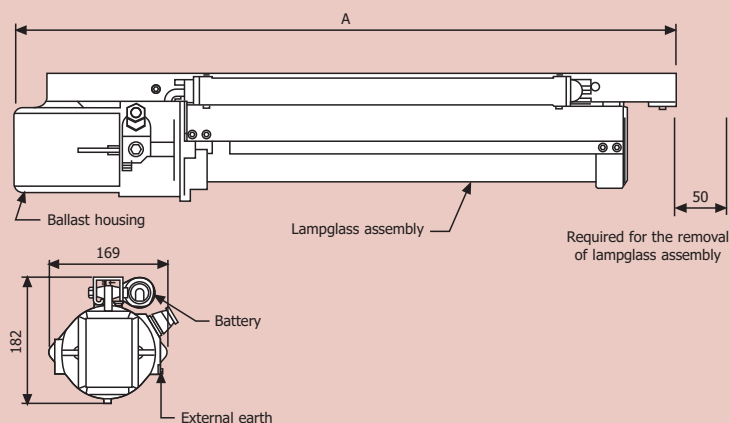
Fitting wattage	Overall length Dim A
18W	916
36W	1516
58W	1816

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
VISD/218/BI/EM	2x18W	Bi-Pin	T8	T6	85	-20°C to +55°C
VISD/236/BI/EM	2x36W	Bi-Pin	T8	T6	85	-20°C to +52°C
			T8	T5	100	-20°C to +55°C
VISD/258/BI/EM	2x58W	Bi-Pin	T8	T6	85	-20°C to +48°C

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W,
2 x 36W, 2 x 58W.

POWER SUPPLY

220V-254V, 50/60HZ AC
110V-130V, 50/60HZ AC

EMERGENCY OPERATION

Typically 3 hours duration at 25ºC
32% of one lamp (18W).
14% of one lamp (36W).
9% of one lamp (58W).

BATTERY

6V, 4Ah external Ni-Cad.

POWER FACTOR

Greater than 0.95

TERMINALS

4 core up to 4 mm^2 conductors with looping.
Terminals for live constant, live switched, neutral & earth are
provided.Internally earthed, external earth terminal also
as standard.

CABLE ENTRIES

Two M20 x 1.5 entries as Standard with an option for two M25 x
1.5 entries. Other cable entries available on request.
Supplied with 1 x transit plug and 1 x Ex blanking plug.
Cable entry devices (ie. glands) must maintain the IP rating for
the luminaire.

AMBIENT TEMPERATURE

Refer to table above.

MATERIALS

Main body	LM6 aluminium alloy.
Lampglass	Borosilicate glass overtube.
Reflector	Stainless steel.

WEIGHT

2 x 18W Lamps - 9Kg
2 x 36W Lamps - 16Kg
2 x 58W Lamps - 18Kg

SUSPENSION

Standard support channel supplied will accept Ø10mm
fasteners with variable fixing points and compatible with existing
cable support systems.

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	Specific voltage (110/130V)
/M25	M25 Entries
/ZR	Powder coated zintec reflector
/3-4" NPT	3/4 inch NPT cable entry
/IIC	Suitable for IIC gas areas (18W only)

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Ceiling mount bracket assembly
SEXCE-00001

Wall bracket
SEXCE-00009

Wire guard - 18W
SVISD-00008

Wire guard - 36W
SVISD-00009

Wire guard - 58W
SVISD-00010

VISCOUNT 8W

End of Life
Protection

3 Hour
Operation

Adhesive exit sign

FEATURES AND BENEFITS

Ideal for escape route and over-door illumination • Optional battery back-up • Maintained, non maintained or switched emergency operation

CERTIFICATION & APPROVALS
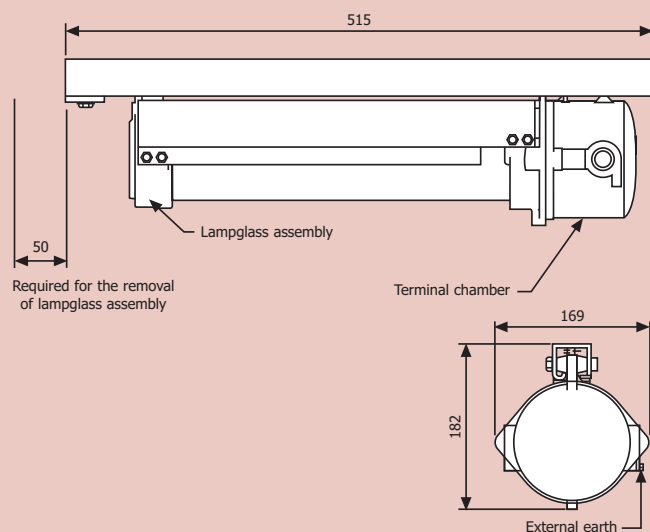
ATEX Certificate SIRA00ATEX1021X

⟨Ex⟩ II 2 GD Ex d IIB (36W)

Ex d IIB T6 (Ta = -20°C to +55°C)

Ingress protection to IP66, IP67
IP68 (on application)

GOST-R Approved
TIS Approved

DIMENSIONS

515

50

Required for the removal
of lampglass assembly

Lampglass assembly

Terminal chamber

169

182

External earth

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
VISD/108/BI	1x8W	Bi-Pin	T5	T6	85	-20°C to +55°C
VISD/208/BI	2x8W	Bi-Pin	T5	T6	85	-20°C to +55°C
VISD/108/BI/EM*	1x8W	Bi-Pin	T5	T6	85	-20°C to +55°C

* Maintained as standard

TECHNICAL SPECIFICATION

LAMP TYPES

T5 Bi-pin fluorescent 8W.

POWER SUPPLY

220 - 254V 50/60Hz AC (non emergency)
220 - 240V 50/60Hz AC (emergency)

EMERGENCY OPERATION

3 hours duration at 25°C
30% of total light output.

BATTERY

2.4V 4Ah internal Ni-Cad.

POWER FACTOR

Greater than 0.95

TERMINALS

4 core up to 4 mm^2 conductors with looping. Terminals for live constant, live switched, neutral & earth are provided. Internally earthed, external earth terminal also as standard.

CABLE ENTRIES

Two M20 x 1.5 entries as Standard with an option for two M25 x 1.5 entries. Other cable entries available on request.
Supplied with 1 x transit plug and 1 x Ex blanking plug.
Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE

Gas environments: T6.
Dust environments: T85°C

AMBIENT TEMPERATURE

-20°C to +55°C

MATERIALS

Main body — LM6 aluminium alloy.
Lampglass — Borosilicate glass overtube.
Reflector — Stainless steel.

WEIGHT

1 x 8W Lamp - 5kg
2 x 8W Lamp - 5kg
1 x 8W Lamp Emergency- 5.5kg

SUSPENSION

Standard support channel supplied will accept Ø 10mm fasteners with variable fixing points and compatible with existing cable support systems.

OPTIONS - SUFFIX TO CATALOGUE REF.

/M25	M25 Entries
/NM	Non-maintained emergency version (1x8W emergency only)
/ZR	Powder coated zintec reflector
/3-4" NPT	3/4 inch NPT cable entry
/IIC	Suitable for IIC gas areas

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Ceiling mount bracket assembly
SEXCE-00001

Wall bracket
SEXCE-00009

Wire guard
SVISD-00007

Exit sign chain hanging (no direction)
SPATE-00005

Exit sign chain hanging (up arrow)
SPATE-00006

Exit sign chain hanging (down arrow)
SPATE-00007

Exit sign chain hanging (right arrow)
SPATE-00008

Exit sign chain hanging (left arrow)
SPATE-00009

Exit sign, rigid plastic, chain hanging (double sided arrow left & arrow right)
SPATE-00011

Exit sign, adhesive (up, down, left and right)
SPATE-00012

To calculate photometric values for lighting design, please use the free Victor LiteGuide™ software package.
To request your copy, please contact your local Victor agent or download a copy from the website.
Design is subject to alteration without notice. Please refer to the website www.victor-lighting.com for the latest details.
All products are sold subject to our conditions of sale, available on request.

90 Min Operation

VL34 with wire guard

FEATURES AND BENEFITS

Meets CAA (CAP 437) for helicopter landing area lighting • Maintenance free (> 80,000 hours operation) • Emergency version available

CERTIFICATION & APPROVALS

IECEx Certificate IECEx BAS.08.0038X
ATEX Certificate Baseefa08ATEX0102X

Non Emergency:
⟨Ex⟩ II 2 GD
Ex e mb IIC T4 Gb
Ex tb IIC T100°C Db

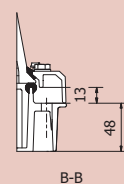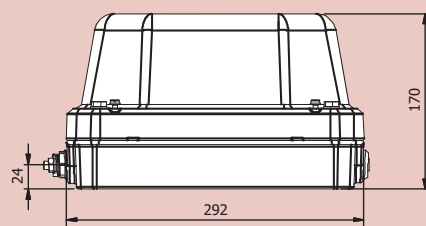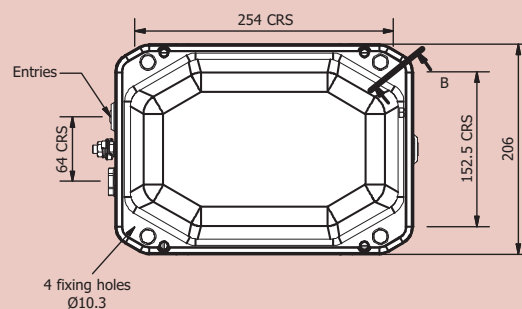Emergency:
⟨Ex⟩ II 2 GD
Ex e ib mb IIC T4 Gb
Ex tb IIC T100°C Db

Ambient temperature range:
-45°C TO +55°C

Ingress protection to IP66 and IP67

Meets current CAA (CAP 437)
and ICAO guidelines for
helicopter landing area lighting

DIMENSIONS

254 CRS

Entries

64 CRS

B

152.5 CRS

206

4 fixing holes
Ø10.3

170

24

292

13

48

B-B

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	T Class	Ambient °C
VANE/801/LE/HE	8 x 1W	Green Light Emitting Diode (LED)	T4	-45°C to +55°C
VANE/801/LE/HE/EM	8 x 1W	Green Light Emitting Diode (LED)	T4	(-45°C*) -20°C to +55°C

* Requires /LT suffix

TECHNICAL SPECIFICATION

LAMP TYPES

8 x 1W light emitting diodes (LED)

POWER SUPPLY

110-254V, AC/DC 50/60 Hz.

TERMINALS

3 core up to 4 mm^2 conductors with looping.

Through wiring facility as standard. Terminals for live constant, live switched (emergency version only), neutral & earth are provided.

External earth terminal as standard.

CABLE ENTRIES

3 x M20 entries, two at one end & one at the other end.

Supplied with 1 x transit plug and 2 x Ex blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE

Gas Environments - T4.
Dust Environments - T100°C.

AMBIENT TEMPERATURE RANGE

-45°C to +55°C (non-emergency).
-20°C to +55°C (standard emergency).
-45°C to +55°C (low temperature emergency).

MATERIALS

Main body	LM6 die cast aluminium, with epoxy paint finish.
Lampglass	Clear borosilicate (diffused pattern).
Gaskets	Silicone.
Wire guard	10 SWG zinc plated wire epoxy powder coated.
External fastners	Stainless steel.

WEIGHT

Non-emergency - 5.9kg   Emergency - 6.8kg.

SUSPENSION

Four Ø10.3 fixing holes are provided.

EMERGENCY OPERATION

90 minutes, 100% light output.

BATTERY

4.8V 4 Ah internal Ni-Cad.

OPTIONS - SUFFIX TO CATALOGUE REF.

/LT   Low temp -45°C to +55°C
             (Emergency version only)

ACCESSORIES

Wireguard
SVANE-00001

Wireguard with integrated bird spike
SVANE-00008

90 Min
Operation

VL35 with wire guard

FEATURES AND BENEFITS

LED Bulkhead luminaire • Range of coloured LED's • Maintenance free (> 80,000 hours operation) • Emergency version available

CERTIFICATION & APPROVALS

IECEx Certificate IECEx BAS.08.0038X
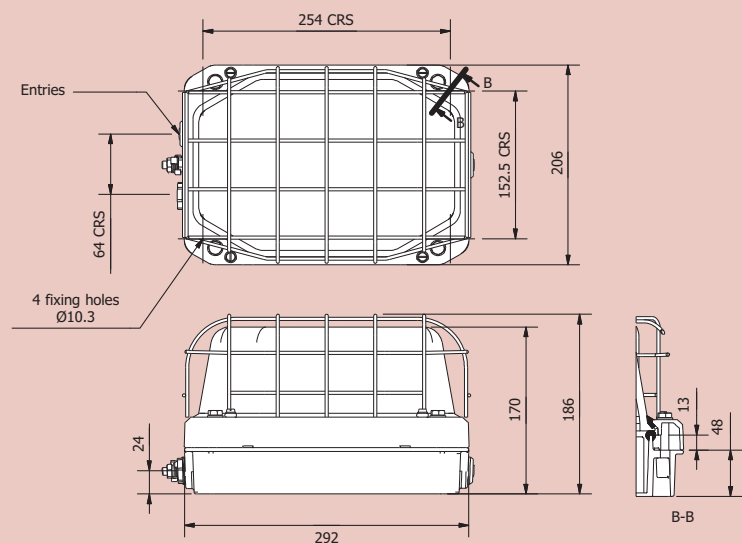**ATEX** Certificate Baseefa08ATEX0102X

Non Emergency:
Ⓔx II 2 GD
Ex e mb IIC T4 Gb
Ex tb IIC T100°C Db

Emergency:
Ⓔx II 2 GD
Ex e ib mb IIC T4 Gb
Ex tb IIC T100°C Db

Ambient temperature range:
-45°C TO +55°C

Ingress protection to IP66 and IP67

DIMENSIONS

254 CRS

Entries

B
B

152.5 CRS

206

64 CRS

4 fixing holes
Ø10.3

170

186

24

292

13

48

B-B

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	T Class	Ambient °C
VANE/801/LE	8 x 1W	White Light Emitting Diode (LED)	T4	-45°C to +55°C
VANE/801/LE/EM	8 x 1W	White Light Emitting Diode (LED)	T4	(-45°C*) -20°C to +55°C

* Requires /LT suffix

TECHNICAL SPECIFICATION

LAMP TYPES

8 x 1W light emitting diodes (LED)

POWER SUPPLY

110-254V, AC/DC 50/60 Hz.

TERMINALS

3 core up to 4 mm^2 conductors with looping.

Through wiring facility as standard. Terminals for live constant, live switched (emergency version only), neutral & earth are provided.

External earth terminal as standard.

CABLE ENTRIES

3 x M20 entries, two at one end & one at the other end.

Supplied with 1 x transit plug and 2 x Ex blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE

Gas Environments - T4.
Dust Environments - T100°C.

AMBIENT TEMPERATURE RANGE

-45°C to +55°C (non-emergency).
-20°C to +55°C (standard emergency).
-45°C to +55°C (low temperature emergency).

MATERIALS

Main body	LM6 die cast aluminium, with epoxy paint finish.
Lampglass	Clear borosilicate (diffused pattern).
Gaskets	Silicone.
Wire guard	10 SWG zinc plated wire epoxy powder coated.
External fastners	Stainless steel.

WEIGHT

Non-emergency - 5.9kg   Emergency - 6.8Kg.

SUSPENSION

Four Ø10.3 fixing holes are provided.

EMERGENCY OPERATION

90 minutes, 100% light output.

BATTERY

4.8V 4 Ah internal Ni-Cad.

OPTIONS - SUFFIX TO CATALOGUE REF.

/LT	Low temp -45°C to +55°C (Emergency version only)
/RDE	Red LED's
/GDE	Green LED's
/BDE	Blue LED's
/ADE	Amber LED's

ACCESSORIES

Wireguard
SVANE-00001

Wireguard with integrated bird spike
SVANE-00008

TITAN VL38

VL 38 with external reflector

FEATURES AND BENEFITS

Extreme ambient temperature range • Maintenance free QL option • Extensive range of lamp types

CERTIFICATION & APPROVALS

ATEX Certificate SIRA01ATEX1049

〈Ex〉 II 2 GD Ex de II C T4*

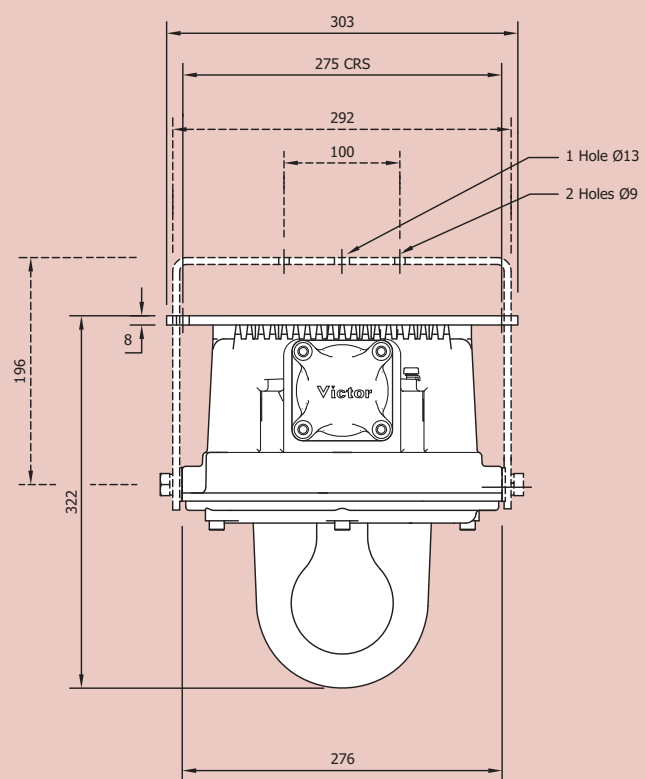Ambient temperature range:
-20°C to +68°C* (standard)
-50°C to +68°C* (low temperature)

Ingress protection to IP66 & IP67

GOST-R Approved

* Refer to matrix for lamp
'T' rating on pendant mounted versions.

DIMENSIONS

303
275 CRS
292
100
1 Hole Ø13
2 Holes Ø9
196
8
322
276

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
TI8D/050/HS	50W	HPS	E27	T4	110	(-50°C**) -20°C to +60°C
TI8D/050/MV	50W	Mercury Vapour	E27	T4	120	-20°C to +60°C
TI8D/070/HS	70W	HPS & Metal Halide	E27	T4	110	(-50°C**) -20°C to +60°C
TI8D/080/MV	80W	Mercury Vapour	E27	T4	120	-20°C to +60°C
TI8D/125/MV	125W	Mercury Vapour	E27	T4	123	-20°C to +48°C
TI8D/100/GL	100W	GLS	E27	T4	108	(-50°C**) -20°C to +68°C
TI8D/200/GL	200W	GLS	E27	T4	115	(-50°C**) -20°C to +55°C
TI8D/113/CF	1x10/13W	Compact Fluorescent	G24q	T4	85	-20°C to +60°C
TI8D/118/CF	1x18W	Compact Fluorescent	G24q	T4	85	-20°C to +60°C
TI8D/126/CF	1x26W	Compact Fluorescent	G24q	T4	85	-20°C to +60°C
TI8D/213/CF	2x10/13W	Compact Fluorescent	G24q	T4	85	-20°C to +60°C
TI8D/218/CF	2x18W	Compact Fluorescent	G24q	T4	85	-20°C to +60°C
TI8D/226/CF	2x26W	Compact Fluorescent	G24q	T4	85	-20°C to +60°C
TI8D/055/QL	55W	QL	QL	T4	93	-50°C to +63°C
TI8D/085/QL	85W	QL	QL	T4	97	-50°C to +57°C

** Requires /LT suffix.

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 50W & 70W
MBF - 50W, 80W & 125W
GLS - 200W Max (E27)
Compact Fluorescent - Single & Twin 10/13W, 18W & 26W
Philips QL - 55W & 85W

POWER SUPPLY

SON & MBF	220V, 230V, 240V & 254V, 50Hz or 60Hz
GLS	250V Max
Compact Fluorescent	220V - 250V 50/60Hz and 200V - 250V DC
QL Lamps	200V - 240V 50/60Hz AC/DC (standard) 110V - 130V 50/60Hz AC/DC (optional)

POWER FACTOR

Better than 0.85 for High Intensity Discharge Luminaire
Better than 0.95 for QL & Compact Fluorescent Luminaire

TERMINALS

3 core up to 6 mm^2 conductors with looping.
Terminals for live, neutral & earth are provided.
Internally earthed, external earth terminal as standard.

CABLE ENTRIES

Two M20 x 1.5 entries as Standard with an option for two M25 x 1.5 entries. Other cable entries available on request.
Supplied with 1 x transit plug and 1 x Ex blanking plug.
Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

MATERIALS

Main body	Marine grade aluminium alloy with full epoxy powder coating.
Lampglass	Borosilicate glass.

WEIGHT

HID & QL Luminaire 10.0 kg
GLS & Compact Fluorescent 7.5 kg

SUSPENSION

Mounting supplied with luminaire is for pendant operation suitable for two Ø 10mm fasteners on 275mm centres.
Optional stirrup mounting available for wall/directional applications.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/120	120V - QL lamps only
/M25	M25 Entries
/S	Stirrup version for universal mounting***
/SLC	Sealed lamp chamber - Maintenance free (QL version)
/LT	Low temperature version (-50°C)

*** T rating and ambient may vary for universal (stirrup) mounting. Please contact technical sales.

ACCESSORIES

Stirrup mount bracket
STI8D-00001

Wire Guard
STI8D-00002

External Reflector
STI8D-00003

Pole clamp
STI8D-00005
(For use with 40-60mm dia. pole)

TITAN VL39

VL 39 with external reflector

FEATURES AND BENEFITS

Wide ambient temperature range • Maintenance free QL option • Extensive range of lamp types

CERTIFICATION & APPROVALS

ATEX Certificate SIRA01ATEX1274
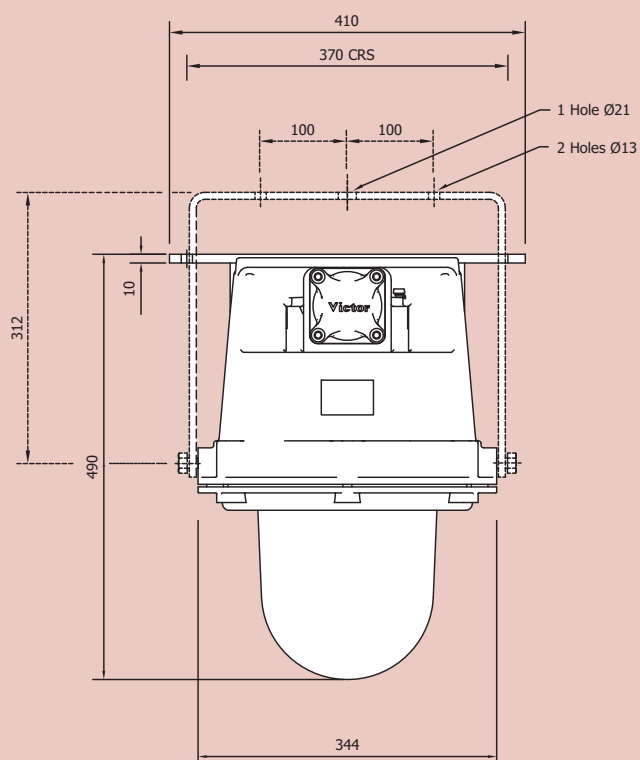
⟨Ex⟩ II 2 GD Ex de II C T4*

Ambient temperature range:
-20°C to +55°C* (standard)

Ingress protection to IP66 & IP67

GOST-R Approved
TIS Approved

* Refer to matrix for lamp
'T' rating on pendant mounted versions.

DIMENSIONS

410

370 CRS

100   100

1 Hole Ø21

2 Holes Ø13

312

10

490

344

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
TI9D/150/MS	150W	HPS & Metal Halide	E40	T3	145	-20°C to +50°C**
				T4	125	-20°C to +35°C**
TI9D/250/MS	250W	HPS & Metal Halide	E40	T3	145	-20°C to +50°C**
				T4	125	-20°C to +35°C**
TI9D/400/MS	400W	HPS & Metal Halide	E40	T3	170	-20°C to +40°C**
				T4	130	-20°C to +40°C**
TI9D/250/MV	250W	Mercury Vapour	E40	T3	145	-20°C to +50°C**
				T4	125	-20°C to +35°C**
TI9D/400/MV	400W	Mercury Vapour	E40	T3	170	-20°C to +40°C**
				T4	130	-20°C to +40°C**
TI9D/500/GL	500W	GLS	E40	T3	170	-20°C to +35°C**
				T4	130	-20°C to +30°C**
TI9D/165/QL	165W	QL	QL	T4	105	-20°C to +55°C**

** For low temperature versions (/LT) contact sales.

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 150W, 250W & 400W
MBI - 150W, 250W & 400W
MBF - 150W, 250W & 400W
GLS - 500W Max
Philips QL - 165W (not suitable for reflector lamps).

POWER SUPPLY

SON, MBI & MBF	220V, 230V, 240V & 250V, 50Hz or 60Hz
GLS	250V Max
QL Lamps	200V - 240V 50/60Hz AC/DC (standard)
	110V - 130V 50/60Hz AC/DC (optional)

POWER FACTOR

Better than 0.95 for QL, GLS
Better than 0.85 for High Intensity Discharge Luminaire.

TERMINALS

3 core up to 6 mm^2 conductors with looping.

Terminals for live, neutral & earth are provided.

Internally earthed, external earth terminal as standard.

CABLE ENTRIES

Two M20 x 1.5 entries as Standard with an option for two M25 x 1.5 entries. Other cable entries available on request.

Supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

MATERIALS

Main body	Marine grade aluminium alloy with full epoxy powder coating.
Lampglass	Borosilicate glass.

WEIGHT

HID 23.0 kg
QL Luminaire 20.0 kg
GLS 19.0 kg

SUSPENSION

Mounting supplied with luminaire is for pendant operation suitable for two M12 fasteners on 370mm centres.

Optional stirrup mounting available for wall/directional applications.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/M25	M25 Entries
/S	Stirrup version for universal mounting***
/SLC	Sealed lamp chamber - Maintenance free (QL version)
/120	120V - QL lamps only

*** T rating and ambient may vary for universal (stirrup) mounting. Please contact technical sales.

ACCESSORIES

Stirrup mount bracket
STI9D-00001

Wire guard
STI9D-00002

External reflector
STI9D-00003

Pole clamp
STI9D-00005
(For use with 70-80mm dia. pole)

/SE Spigot mount version

FEATURES AND BENEFITS

Extreme ambient temperature range • Simple mounting arrangement • Unique design eliminates exposed flame path reducing maintenance

CERTIFICATION & APPROVALS

IECEx Certificate IECEx SIR 04.0033
ATEX Certificate SIRA04ATEX1220
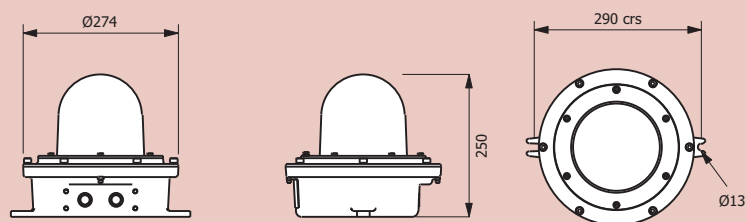
⟨Ex⟩ II 2 GD Ex de II C T4*

Ambient temperature range:
-50°C to +70°C*

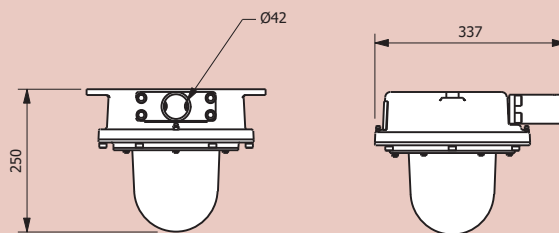Ingress protection to IP66 & IP67

GOST-R Approved

* Refer to matrix for lamp
'T' rating on pendant mounted versions.

DIMENSIONS

Ø274

290 crs

250

Ø13

Standard Configuration

Ø42

337

250

Pole mounted Configuration

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
TI7D/050/HS	50W	HPS	E27	T4	120	-50°C to +70°C
TI7D/050/MV	50W	Mercury Vapour	E27	T4	120	-20°C to +70°C
TI7D/070/HS	70W	HPS	E27	T4	120	-50°C to +70°C
TI7D/070/MH	70W	Metal Halide	E27	T4	120	-50°C to +70°C
TI7D/080/MV	80W	Mercury Vapour	E27	T4	128	-20°C to +68°C
TI7D/125/MV	125W	Mercury Vapour	E27	T4	130	-20°C to +50°C
TI7D/150/HS	150W	HPS	E27	T3	122	-50°C to +47°C
			E27	T4	100	-50°C to +25°C
TI7D/200/GL	200W	GLS	E27	T4	130	-50°C to +65°C

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 50W & 70W
SON/T - 150W (White SON - E27 Cap only)
MBI - 70W & 100W
MBF - 50W, 80W & 125W
GLS - 200W Max (E27)

POWER SUPPLY

SON, MBI & MBF   220V, 230V, 240V & 250V, 50Hz or 60Hz
GLS   250V max

POWER FACTOR

Better than 0.85 for High Intensity Discharge Luminaire

TERMINALS

3 core up to 6 mm^2 conductors with looping.

Terminals for live, neutral & earth are provided.

Internally earthed, external earth terminal as standard.

CABLE ENTRIES

Two M20 x 1.5 entries as standard. Pole-mount only has 1 x M20 entry. Other cable entries available on request.

Supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

MATERIALS

Main body   Marine grade aluminium alloy with full epoxy powder coating.
Lampglass   Borosilicate glass.

WEIGHT

HID 9.0kg
GLS 7.5kg

SUSPENSION

Mounting supplied with luminaire is for pendant operation suitable for two Ø10mm fasteners on 290mm centres.

Spigot mount is for direct mounting to poles up to Ø42mm via a single cable entry.

OPTIONS - SUFFIX TO CATALOGUE REF.

/220	220V
/230	230V
/254	254V
/60	60Hz
/SE	Spigot mounted
/IEC	Supplied with IECEx certification label

ACCESSORIES

There are no accessories for this product.

To calculate photometric values for lighting design, please use the free Victor LiteGuide™ software package.
To request your copy, please contact your local Victor agent or download a copy from the website.
Design is subject to alteration without notice. Please refer to the website www.victor-lighting.com for the latest details.
All products are sold subject to our conditions of sale, available on request.

Ex 'e' TERMINAL CHAMBER

Provides access to terminal block for
easy installation, simplifying
maintenance routines.

Hinged cover provides safe and easy access to lamp chamber.

The VL64 features captive cover bolts to ensure they are not lost during re-lamping and maintenance.

AIMING QUADRANT

Stainless steel aiming quadrant for accurate and consistent floodlight positioning.

EXCELLENT PHOTOMETRIC OUTPUT

Large surface area of cover glass ensures a high light output ratio (LOR) and optimum photometric performance.

VL64 EQUAL PLUS

VL64 with wire guard

VL64 with anti-glare shield

FEATURES AND BENEFITS

Excellent photometric output • Integral control gear • Use with twin-arc tube lamps for >55,000 hours operation

CERTIFICATION & APPROVALS

IECEx Certificate IECEx BAS 07.0052
ATEX Certificate Baseefa058ATEX0228

⟨Ex⟩ II 2 GD Ex de IIB T*

Ambient temperature range:
-20°C ≤Tamb ≤+* °C

Ingress protection to IP66 and IP67

GOST-R Approved
TIS Approved

* Refer to matrix for lamp,
'T' rating.

DIMENSIONS

460

410

490

Stirrup mounting
bracket

220
(2 holes 13mm Dia.)

(Centre hole 21mm Dia.)

300
(2 holes 13mm Dia.)

370

2xM20 Entries

Exe Terminal
box

Aiming quadrant
for stirrup
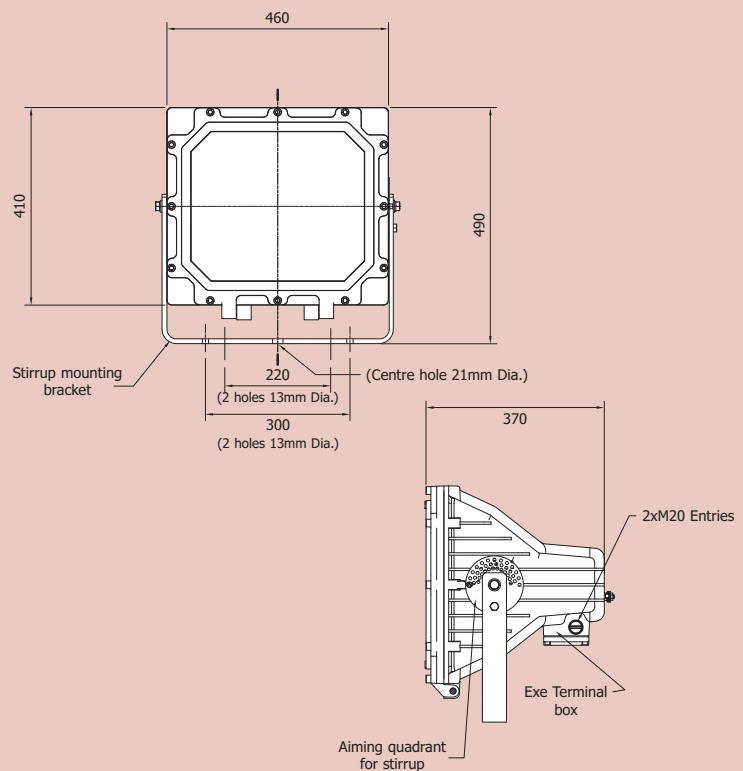
Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
64ED/150/MS	150W	HPS & Metal Halide	E40	T4	128	-20°C to +70°C
64ED/250/MS	250W	HPS & Metal Halide	E40	T3	145	-20°C to +70°C
				T4	175	-20°C to +55°C
64ED/400/MS	400W	HPS & Metal Halide	E40	T3	160	-20°C to +55°C
64ED/500/TH	500W	Tungsten Halogen	E40	T3	175	-20°C to +55°C

TECHNICAL SPECIFICATION

LAMP TYPES

SON/T - 150W, 200W, 400W
MBI-T - 150W, 200W, 400W
MBFU - 250W and 400W
Tungsten Halogen 500W

POWER SUPPLY

220V, 230V, 240V or 254V 50Hz Available via a multi-tapped ballast.
All luminares factory set to 240V 50Hz. 60Hz versions also available.

POWER FACTOR

Better than 0.85

TERMINALS

3 core up to 6 mm^2 conductors with looping.
Terminals for live, neutral & earth are provided. Internally earthed, external earth terminal as standard.

CABLE ENTRIES

Two entry terminal box with M20 x 1.5 tapping, other entries available on request.

Supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

MATERIALS

Main Body   LM6 aluminium with epoxy paint finish as standard.
Lampglass   Toughened soda lime glass plate.
External fasteners   Stainless steel.

WEIGHT

Discharge lamp versions - 31.0Kg.
Tungsten halogen lamp versions - 26.0Kg.

SUSPENSION

Stirrup bracket pre-drilled with 2 holes 13mm diameter.
Complete with locking and aiming quadrant.

BEAM PATTERNS

Narrow or wide beam patterns available.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/M25	M25 Entries
/N	Narrow beam reflector
/IEC	Supplied complete with IECEx certification label

ACCESSORIES

Pole mount bracket
S6428-0001

Anti-glare shield (cannot be used with wire guard)
S6428-0002

Wire guard (cannot be used with anti-glare shield)
S6428-0003

Combined Anti-glare shield and wire guard
S6428-0004

FLOODLIGHT VL65
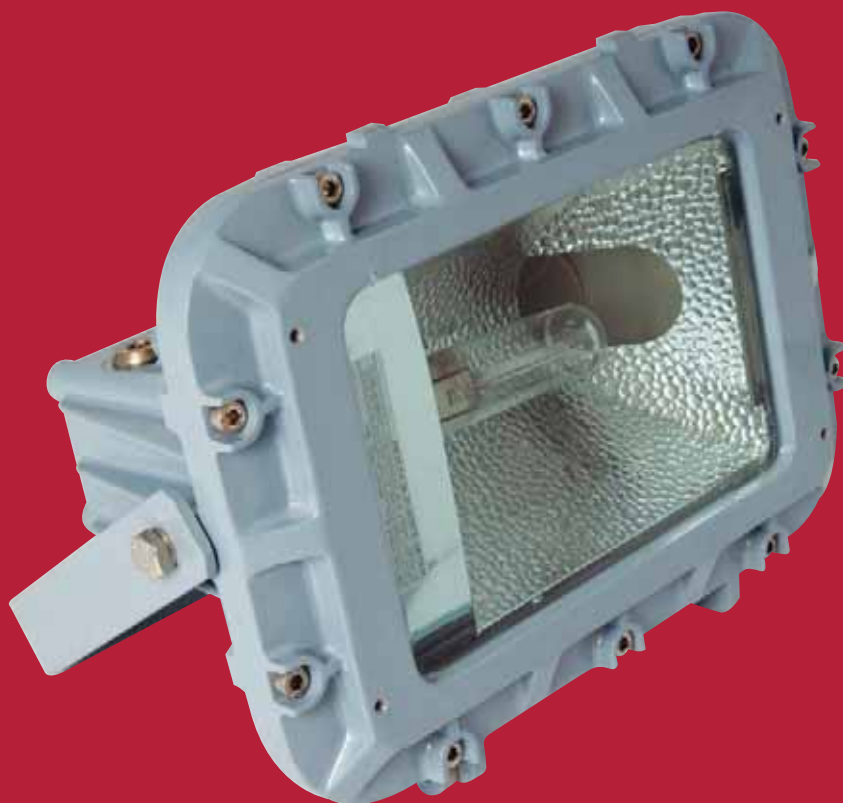
FEATURES AND BENEFITS

Compact mini flood with integral control unit • Ex 'e' terminal chamber • Captive cover bolts and hinged cover

CERTIFICATION & APPROVALS

ATEX Certificate SIRA04ATEX1062

⟨Ex⟩ II 2 GD Ex de IIB T3

Ambient temperature range:
-50°C to +55°C*

Ingress protection to IP66 and IP67

GOST-R Approved

* Refer to matrix for lamp,
'T' rating.

DIMENSIONS

387

206

315

267

2 Holes
Ø13

220

1 Hole
Ø21
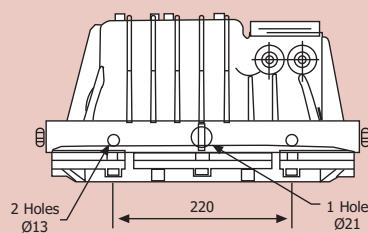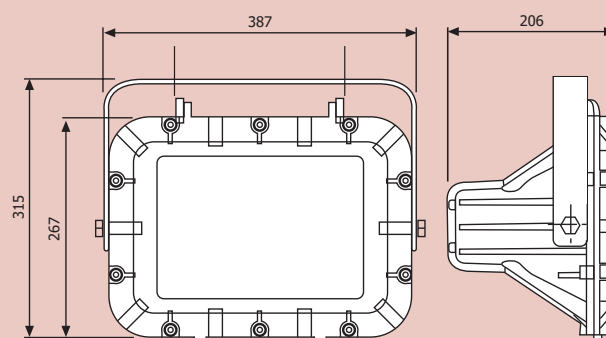
Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
V65D/050/HS	50W	HPS	E27	T3	200	-50°C to +55°C
V65D/050/MV	50W	Mercury Vapour	E27	T3	200	-50°C to +55°C
V65D/070/MS	70W	HPS/Metal Halide	E27	T3	200	-50°C to +55°C
V65D/080/MV	80W	Mercury Vapour	E27	T3	200	-50°C to +55°C
V65D/125/MV	125W	Mercury Vapour	E27	T3	200	-50°C to +55°C
V65D/250/TH	250W	Tungsten Halogen	E27	T3	200	-50°C to +30°C

TECHNICAL SPECIFICATION

LAMP TYPES

SON/T 50W & 70W
MBI or MBI-T 70W
MBFU 50W, 80W, 125W
Tungsten Halogen 250W max

POWER SUPPLY

220V, 230V, 240V and 254V 50Hz multi-tapped as standard.
Factory wired to 240V 50Hz.

Tungsten Halogen, 250V max.

60Hz versions also available.

POWER FACTOR

Better than 0.85

TERMINALS

3 core up to 6 mm^2 conductors with looping.
Terminals for live, neutral & earth are provided. Internally earthed, external earth terminal as standard.

CABLE ENTRIES

Two entry terminal box with M20 x 1.5 tapping as standard.
M25 available on request. Other tappings available on request.

Supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

MATERIALS

Main Body	LM6 aluminium with epoxy paint finish as standard.
Lampglass	Toughened soda lime glass plate.
External fasteners	Stainless steel.

WEIGHT

Discharge lamp versions - 13Kg
Tungsten halogen lamp versions - 10Kg

MOUNTINGS

Stirrup bracket pre-drilled with central hole of 21 mm diameter and two 13mm diameter holes on 220mm centres for fixing.
The luminaire can be mounted in any orientation.

BEAM PATTERNS

Narrow, medium or wide beam patterns available. MBFU lamps must be used in the forward lamp position for wide beam patterns.

OPTIONS - SUFFIX TO CATALOGUE REF.

| /60 | 60Hz |
/M25	M25 Entries
/N	Narrow beam reflector (Not available with Mercury Vapour lamps)
/M	Medium beam reflector (Not available with Mercury Vapour lamps)

ACCESSORIES

There are no accessories for this product.

MARQUIS II VL53

End of Life Protection

VL53 with stainless steel body

FEATURES AND BENEFITS

Lightweight and slimline construction • Simple to install and maintain • High frequency control gear • Single and twin lamp versions

CERTIFICATION & APPROVALS

IECEx Certificate IECEx SIR 06.0055X
ATEX Certificate SIRA06ATEX4191X

⟨Ex⟩ II 3 GD Ex nA II T4

Ambient temperature range:
-20°C to +45°C*

Ingress protection to IP65

TIS Approved

*Dependant on lamp type & voltage

DIMENSIONS

GRP Body

2x8.2mm Dia.

B

D

2x20mm Dia. cable entry clearance holes 1 each end.

C

A

Stainless Steel Body

B

D

3x20mm Dia. cable entry clearance holes. 2x1 end 1x opposite.

C

A

GRP Body			
	2x18W	1x36W / 2x36W	1x58W / 2x58W
A	702	1312	1612
B	500	800	1100
C	172	102 / 172	102 / 172
D	106	106	106
Stainless Steel Body			
	2x18W	1x36W / 2x36W	1x58W / 2x58W
A	700	1312	1612
B	500	800	1100
C	172	172	172
D	106	106	106

Dimensions in millimetres

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W,
2 x 36W, 2 x 58W.

POWER SUPPLY

220V-254V, 50/ 60Hz AC/DC
120V, 50/60Hz AC only (option)

POWER FACTOR

Greater than 0.95

TERMINALS

4 core up to 4 mm² conductors. Through wiring facility as standard. Terminals for live constant, live switched, neutral & earth are provided. Internal earth.

CABLE ENTRIES

Pre-drilled Ø20mm.

Supplied with 1 x transit plug and the required number of Ex blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE CLASSIFICATION

Gas environments: T4.
Dust environments: T85°C.

AMBIENT TEMPERATURE RANGE

220V-240V: -20°C to +45°C.
254V: -20°C to +35°C
110V-130V: -20°C to +30°C

MATERIALS

Body	Corrosion resistant glass reinforced polyester (GRP) or stainless steel.
Diffusers	Polycarbonate.
Clips	Stainless Steel (18Wx6, 36Wx8 & 58Wx10).
Gear Tray	Painted mild steel.

WEIGHT

GRP Body	Stainless Body
1 x 36W Lamp - 3.3Kg	1 x 36W Lamp - 6.6Kg
1 x 58W Lamp - 3.7Kg	1 x 58W Lamp - 7.2Kg
2 x 18W Lamps - 2.6Kg	2 x 18W Lamps - 5.6Kg
2 x 36W Lamps - 3.6Kg	2 x 36W Lamps - 8.2Kg
2 x 58W Lamps - 4.1Kg	2 x 58W Lamps - 9.1Kg

SUSPENSION

8mm clearance holes. Sealing washers are provided.
A range of mounting accessories are available, see below.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
MA2N/218/BI	2x18W	Bi-Pin
MA2N/136/BI	1x36W	Bi-Pin
MA2N/236/BI	2x36W	Bi-Pin
MA2N/158/BI	1x58W	Bi-Pin
MA2N/258/BI	2x58W	Bi-Pin

**A stainless steel body version is also available.
To order substitute MA2N with MS2N.**

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	120V (36W & 58W only)
/MF	Mains fuse
/EA	External earth (earth tag GRP body) (earth stud stainless body)
/CM	Fixed ceiling mount bracket (stainless body only)

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Offset ceiling bracket assembly
S3004-100001

C' form hook type ceiling bracket assembly
S3004-100003

Flush mounted wall bracket assembly
S3004-100004

18W wall mounting outreach bracket (use with S3004-100002)
NPRO4-0008

36W wall mounting outreach bracket (use with S3004-100002)
NPRO4-0012

58W wall mounting outreach bracket (use with S3004-100002)
NPRO4-0022

To calculate photometric values for lighting design, please use the free Victor LiteGuide™ software package.
To request your copy, please contact your local Victor agent or download a copy from the website.
Design is subject to alteration without notice. Please refer to the website www.victor-lighting.com for the latest details.
All products are sold subject to our conditions of sale, available on request.

MARQUIS II VL54

End of Life Protection

3 Hour Operation

VL54 with stainless steel body

FEATURES AND BENEFITS

Battery back up for three hour emergency operation • High frequency control gear 50/60Hz • Through wired as standard

CERTIFICATION & APPROVALS

IECEx Certificate IECEx SIR 06.0055X
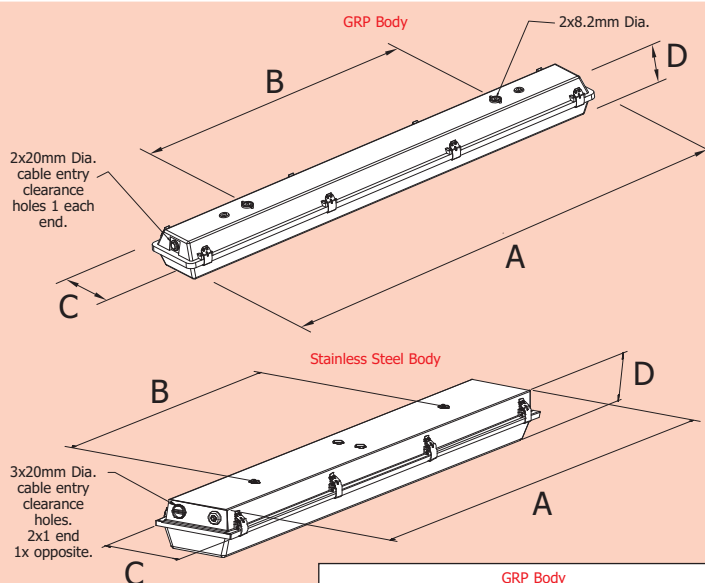**ATEX** Certificate SIRA06ATEX4191X

⟨Ex⟩ II 3 GD Ex nA II T4

Ambient temperature range:
-20°C to +40°C*

Ingress protection to IP65

TIS Approved

*Dependant on lamp type & voltage

DIMENSIONS

GRP Body — 2x8.2mm Dia.

2x20mm Dia. cable entry clearance holes 1 each end.

Stainless Steel Body

3x20mm Dia. cable entry clearance holes. 2x1 end 1x opposite.

Dimensions in millimetres

GRP Body	2x18W	1x36W / 2x36W	1x58W / 2x58W
A	702	1312	1612
B	500	800	1100
C	172	102 / 172	102 / 172
D	106	106	106

Stainless Steel Body	2x18W	1x36W / 2x36W	1x58W / 2x58W
A	700	1312	1612
B	500	800	1100
C	172	172	172
D	106	106	106

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W,
2 x 36W, 2 x 58W.

POWER SUPPLY

220V-254V, 50/60Hz
120V 50/60Hz (option)

POWER FACTOR

Greater than 0.95

EMERGENCY OPERATION

Typically 3 hours duration at 25°C
32% of one lamp (18W).
14% of one lamp (36W).
9% of one lamp (58W).

BATTERY

6V, 4Ah internal Ni-Cad.

CABLE ENTRIES

Pre-drilled Ø20mm.

Supplied with 1 x transit plug and the required number of
Ex blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for
the luminaire.

TERMINALS

4 core up to 4 mm^2 conductors. Through wiring facility as
standard. Terminals for live constant, live switched neutral &
earth are provided. Internal earth.

TEMPERATURE CLASSIFICATION

Gas environments: T4.   Dust environments: T85°C.

AMBIENT TEMPERATURE RANGE

220V-240V: -20°C to +40°C. 254V: -20°C to +35°C
110V-130V: -20°C to +30°C

MATERIALS

Body	Corrosion resistant glass reinforced polyester (GRP) or stainless steel.
Diffusers	Polycarbonate.
Clips	Stainless Steel (18Wx6, 36Wx8 & 58Wx10).
Gear Tray	Painted mild steel.

WEIGHT

GRP Body	Stainless Body
1 x 36W Lamp - 5.3Kg	1 x 36W Lamp - 8.3Kg
1 x 58W Lamp - 5.7Kg	1 x 58W Lamp - 8.7Kg
2 x 18W Lamps - 4.6Kg	2 x 18W Lamps - 7.6Kg
2 x 36W Lamps - 5.6Kg	2 x 36W Lamps - 8.6Kg
2 x 58W Lamps - 6.1Kg	2 x 58W Lamps - 9.1Kg

SUSPENSION

8mm clearance holes. Sealing washers are provided.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
MA2N/218/BI/EM	2x18W	Bi-Pin
MA2N/136/BI/EM	2x36W	Bi-Pin
MA2N/236/BI/EM	2x36W	Bi-Pin
MA2N/158/BI/EM	1x58W	Bi-Pin
MA2N/258/BI/EM	2x58W	Bi-Pin

**A stainless steel body version is also available.
To order substitute MA2N with MS2N.**

OPTIONS - SUFFIX TO CATALOGUE REF.

/120	120V (36W & 58W only) - NOTE : 120V versions have upper ambient of +30°C
/MF	Mains fuse
/NM	Non maintained version (single lamp versions only)
/EA	External earth (earth tag GRP body) (earth stud stainless body)
/CM	Fixed ceiling mount bracket (stainless body only)
/BCM	Battery controlled management

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Offset ceiling bracket assembly
S3004-100001

C' form hook type ceiling
bracket assembly
S3004-100003

Flush mounted wall bracket assembly
S3004-100004

18W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0008

36W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0012

58W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0022

MONARCH VL14

VL14 with external reflector

VL14 with wire guard

Glass retaining mechanism

FEATURES AND BENEFITS

Easy to install and maintain • Suitable for pendant or 45° mounting • Integrated glass retaining mechanism

CERTIFICATION & APPROVALS

ATEX Certificate SIRA01ATEX4227
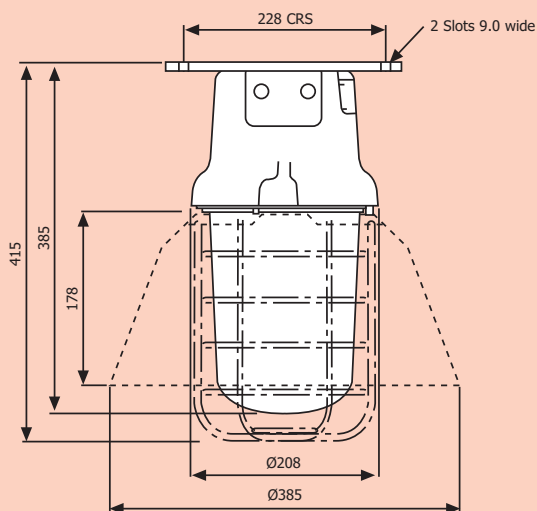
⟨Ex⟩ II 3 G Ex nR II T4 T135°C
& T5 T100°C

Ambient temperature range:
-20°C to +50°C*

Ingress protection to IP67

GOST-R Approved

* Refer to matrix for lamp,
'T' rating.

DIMENSIONS

228 CRS

2 Slots 9.0 wide

415

385

178

Ø208

Ø385

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
MONN/070/HS	70W	HPS	E27	T5	100	-20°C to +50°C
MONN/080/MV	80W	Mercury Vapour	E27	T5	100	-20°C to +40°C
MONN/100/GL	100W	GLS	E27	T4	135	-20°C to +45°C
MONN/125/MV	125W	Mercury Vapour	E27	T4	135	-20°C to +35°C
MONN/160/MB	160W	MBTF	E27	T4	135	-20°C to +40°C
MONN/200/GL	200W	GLS	E27	T4	135	-20°C to +40°C

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 70W (external ignitor type)
MBF - 50W, 80W and 125W
MBTF - 200W GLS (max), 60W

POWER SUPPLY

HID: 220V / 230V / 240V / 254V
GLS: 250V (MAX)
Maximum lampholder current rating: 4A.

POWER FACTOR

Better than 0.85.

TERMINALS

3 core up to 2.5 mm^2 conductors with looping. Through wiring facility as standard. Terminals for live, neutral & earth are provided. External earth is an option.

CABLE ENTRIES

3 x M20 cable entries.

Supplied with 1 x transit plug and 2 x Ex blanking plugs.

Cable entry devices (i.e. glands) must maintain both the restricted breathing properties and the IP rating of the luminaire.

AMBIENT TEMPERATURE

70W HPS	T5 -20°C to +50°C	Pendant
80W Mercury Vapour	T4 -20°C to +50°C	at 45°
125W Mercury Vapour	T4 -20°C to +35°C	inclination
100W GLS	T4 -20°C to +45°C	Pendant only
200W GLS/160W MBTF	T4 -20°C to +40°C	

MATERIALS

Main Body	LM6 aluminium - with epoxy paint finish.
Lamp glass	Borosilicate glass. (prismatic pattern).
External fasteners	Stainless steel.

WEIGHT

Discharge lamp versions - 6.3Kg.
GLS/MBTF versions - 4.8Kg.

SUSPENSION

Mounting strap suitable for two Ø8mm fasteners on 228mm centres.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/D	Zone 22 Dust applications

ACCESSORIES

Wire guard
SMONN-00001

Reflector
SMONN-00002

1

First secure the chosen mounting base to the desired wall, ceiling, pole or bulkhead. Mains cables can now be easily terminated into the base using the required cable glands to maintain the IP sealing.

2

Once the base is secure, hang the main body via the hook on the base. This will remain suspended leaving your hands free to complete the connections to the terminal block.

3

The main body can now be swung into place and secured using a screwdriver or nut driver. The terminal chamber is now sealed.

The Monarch II incorporates unique features designed to make installation and maintenance quicker and easier. The lamp chamber utilises the restricted breathing Ex nR concept and lamp access by means of the screwed cover glass, whilst the control gear area is separated from the lamp chamber by a barrier and is non sparking Ex nA, meaning that no special cable glands are required.

The luminaire makes use of the Swing-Barrel Nut System. This allows users to easily install the mounting base first and complete the mains wiring without the need to support the body and lamps during installation. This simple design saves on both time and labour costs during installation and maintenance activities. The Swing-Barrel Nut System can be tightened with an ordinary screwdriver or nut driver without the need for special tools.

The main body of the Monarch II also features a built in external attachment point, this allows the luminaire to be secured using a secondary safety cable.

4

Now safely screw the appropriate lamp into the body.

5

Finally attach the unique threaded lamp glass and turn until a secure seal is achieved.

Low wattage glass globe (up to 150W)

Enclosed spun reflector

FEATURES AND BENEFITS

Swing barrel nut system for simple installation • Easy access to terminals and control gear • Threaded lamp glass for rapid re-lamping

CERTIFICATION & APPROVALS

IECEx Certificate IECEx SIR 05.0004
ATEX Certificate Baseefa06ATEX0039X
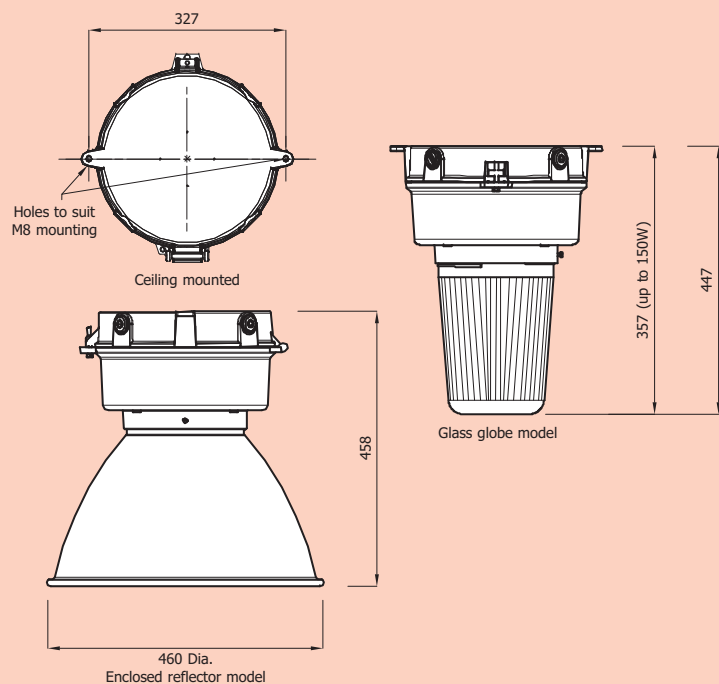
⟨Ex⟩ II 3 GD Ex nA nR II

Ambient temperature range:
-45°C to +55°C*

Ingress protection IP66

GOST-R Approved
TIS Approved

* Refer to matrix for lamp,
'T' rating.

DIMENSIONS

327

Holes to suit
M8 mounting

Ceiling mounted

458

460 Dia.
Enclosed reflector model

357 (up to 150W)

447

Glass globe model

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
MO2N/050/HS	50W	HPS	E27	T4	110	-45°C to +55°C
MO2N/070/HS	70W	HPS	E27	T4	110	-45°C to +55°C
MO2N/100/MS	100W	HPS/Metal Halide	E40	T4	110	-45°C to +55°C
MO2N/150/MS	150W	HPS/Metal Halide	E40	T4	110	-45°C to +55°C
MO2N/250/MS	250W	HPS/Metal Halide	E40	T4	130	-45°C to +50°C
MO2N/400/MS	400W	HPS/Metal Halide	E40	T3	160	-45°C to +45°C
MO2N/080/MV	80W	Mercury Vapour	E27	T3	135	-45°C to +45°C
MO2N/125/MV	125W	Mercury Vapour	E27	T3	135	-45°C to +45°C
MO2N/250/MV	250W	Mercury Vapour	E40	T3	135	-45°C to +40°C
MO2N/400/MV	400W	Mercury Vapour	E40	T3	180	-45°C to +35°C

TECHNICAL SPECIFICATION

LAMP TYPES

HPS, Metal Halide, Mercury Vapour. Refer to table above.

POWER SUPPLY

220, 230, 240V 50Hz (50, 80, 100 & 125W)
220, 230, 240, 254V 50Hz (70, 150, 250 & 400W)

TERMINALS

3 core up to 6 mm^2 conductors with looping. Terminals for live constant, neutral & earth are provided. External earth terminal as an option.

CABLE ENTRIES

Up to 4 x M20 cable entries.

Supplied with 1 x transit plug and 1 or 3 x Ex blanking plugs.

Wall mounted version supplied with 1 Ex blanking plug and ceiling mounted version is supplied with 3 Ex blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TEMPERATURE

Refer to matrix above for maximum ambient temperature for lamp, T rating & orientation.

MATERIALS

Main body and base	Painted alluminium alloy.
Lamp glass	Borosilicate glass.
Gasket	Silicone rubber.

WEIGHT

HPS - 7.5Kg (50W), 9.0Kg (100W)
HPS/Metal Halide - 8.0Kg (70W), 11.0Kg (150W), 15.0kg (250W), 15.5Kg (400W)
Mercury Vapour - 7.5Kg (80W), 8.0Kg (125W), 15.0Kg (250W), 15.5Kg (400W)

SUSPENSION

Mounting options include: ceiling and flush, wall mounted, stanchion and pendant mounted options.

Refer to page 64.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/M25	M25 cable entries
/WM	Wall mounted version
/ST	Stanchion mounted version
/PE	Pendant mounted version (single M25 entry from top)
/TI	Timed cut out ignitor
/ER	Enclosed spun reflector

ACCESSORIES

Wire guard for low wattage glass globe (up to 150W)
E0850-0042

Wire guard for high wattage glass globe (200W/400W)
E0850-0044

Wire guard for enclosed reflector
E0850-0043

Dome reflector
HEC20-0001

30° Angled reflector
HEC20-0002

MONARCH II

CEILING and FLUSH MOUNTING

353
327
345

WALL MOUNTING (/WM)

146
127
146
127
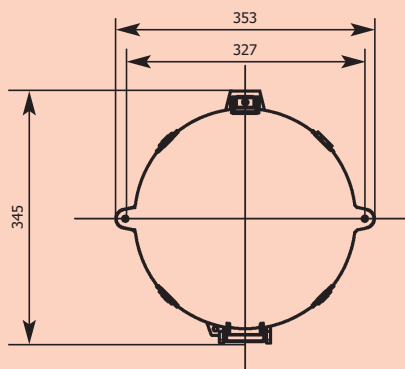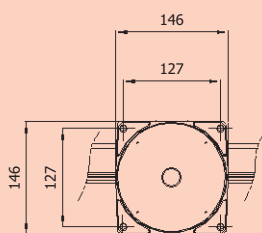
4 x Mounting holes
suitable for M6 screws

430
279
73
36
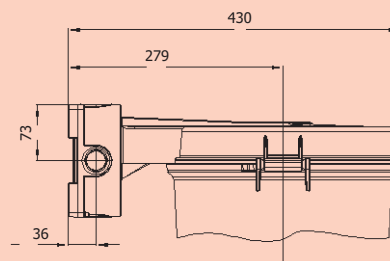
25° STANCHION MOUNTING (/ST)

25°
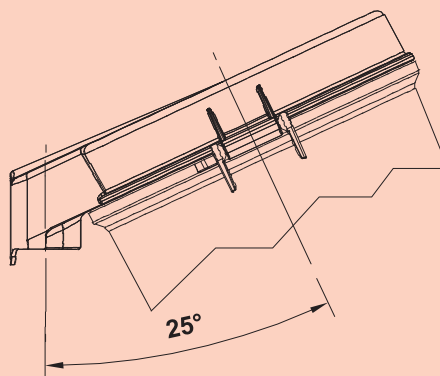
To suit pole diameter 70mm (1$^1/_2$″ NPT threaded)

PENDANT MOUNTING (/PE)

353
327
345
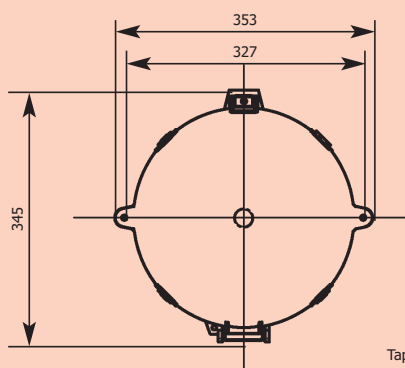
Tapped M25 hole for mounting
and cable entry

SEALED SPUN REFLECTOR (/ER)

458
164
294
460

DOME REFLECTOR (HEC20-0001)

164
140
428
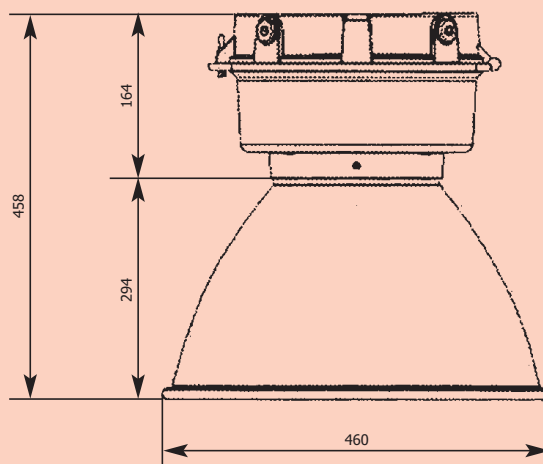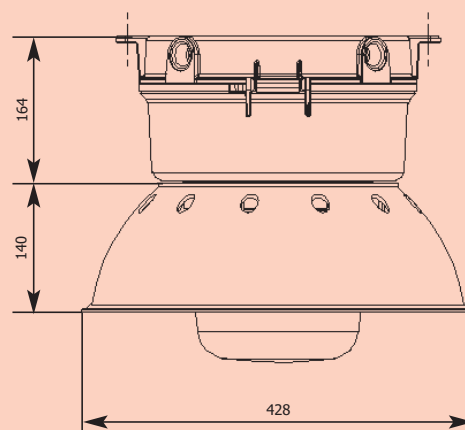
ANGLE REFLECTOR (HEC20-0002)

164
268
374
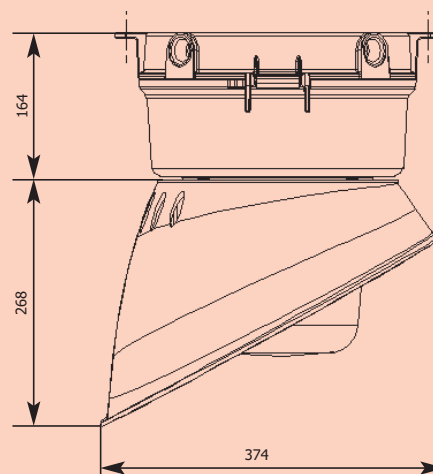
FEATURES AND BENEFITS

Easily installed and maintained • Suitable for low temperature appications • Restricted breathing enclosure

CERTIFICATION & APPROVALS

ATEX Certificate SIRA01ATEX4234

⟨Ex⟩ II 3 G Ex nR II T4

Ambient temperature range:
-50°C to +35°C*

Ingress protection to IP66 and IP67

GOST-R Approved

* Refer to matrix for lamp,
'T' rating.

DIMENSIONS

4 fixing holes Ø10.3

48

13

206

Part view
on B-B

B

B

152.5 CRS

254 CRS

292

48

170
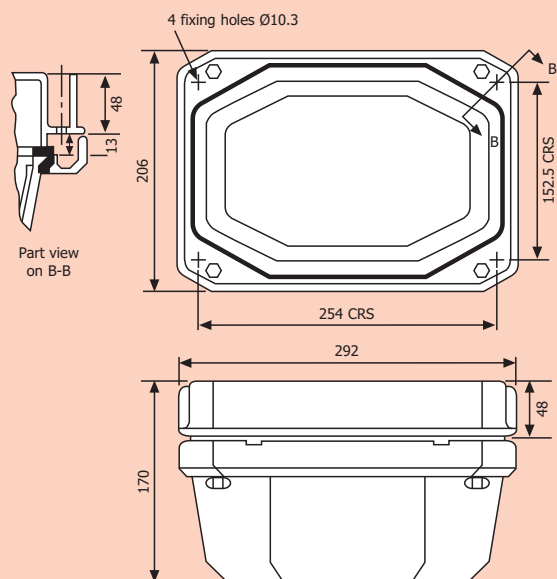
Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)
VANN/070/HS	70W	HPS	E27	T4	-50°C to +35°C
VANN/080/MV	80W	Mercury Vapour	E27	T4	-50°C to +30°C
VANN/150/GL	150W	GLS	E27	t3	-50°C to +35°C

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 70W
MBF - 80W
GLS - 150W (max).

POWER SUPPLY

HID: 220V / 230V / 240V / 254V 50Hz (60Hz option).
GLS: 250V (max).

POWER FACTOR

Better than 0.85.

TERMINALS

3 core up to 4 mm^2 conductors with looping. Through wiring facility as standard. Terminals for live constant, neutral & earth are provided. External earth terminal as an option.

CABLE ENTRIES

Side entry luminaire, 3 x M20 cable entries.

Supplied with 1 x transit plug and 2 x Ex blanking plugs.

Cable entry devices (i.e. glands) must maintain both the restricted breathing properties and the IP rating of the luminaire.

MATERIALS

Main Body	LM6 die cast aluminium, with epoxy paint finish.
Lampglass	Borosilicate (diffused pattern).
Gasket	Silicone.
External Fasteners	Stainless steel.

WEIGHT

Discharge lamp versions - 6.5Kg.
GLS version - 4.85Kg.

SUSPENSION

Four Ø10.3mm fixing holes are provided outside of the restricted breathing enclosure.

The luminaire may be mounted in any orientation other than horizontally - glass up.

GLS versions for 'glass up' mounting are available on request.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60   60Hz

ACCESSORIES

Wire guard
SVANE-00001

REGENT VL71

FEATURES AND BENEFITS

Lightweight Stainless Steel Construction • High efficiency symmetrical reflector • Stainless steel cover with quick release fasteners

CERTIFICATION & APPROVALS

IECEx Certificate IECEx BAS070025X
ATEX Certificate Baseefa07ATEX0119X

⟨Ex⟩ II 3 GD Ex nA nR II
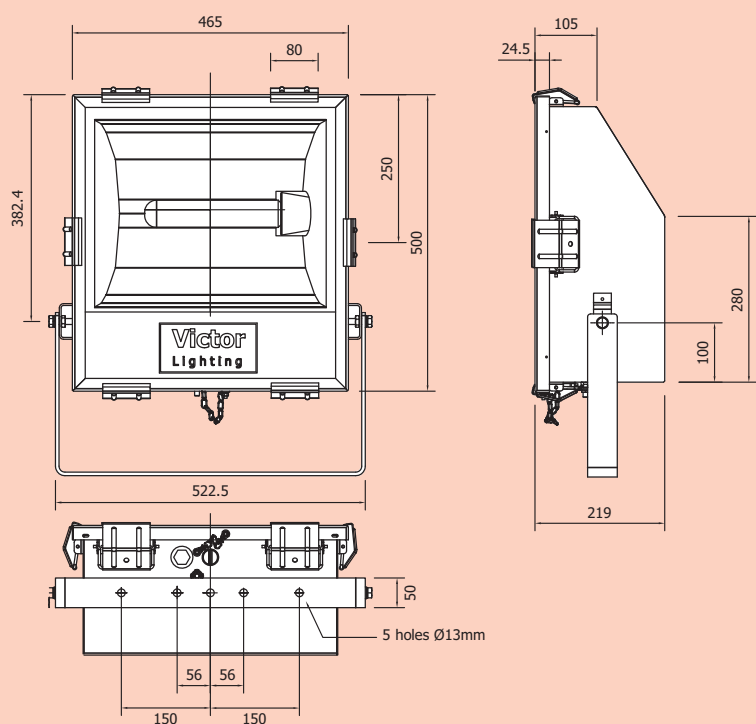
Ambient temperature range:
-50°C to +60°C*

Ingress protection IP66 and IP67

* Refer to matrix for lamp,
'T' rating.

DIMENSIONS

465
80
382.4
250
500
522.5

105
24.5
280
100
219

50
56 56
150 150
5 holes Ø13mm

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	Ambient °C
REGN/150/MS	150W	HPS/Metal Halide	E40	T4	-50°C to +60°C
REGN/250/MS	250W	HPS/Metal Halide	E40	T4	-50°C to +55°C
REGN/400/MS	400W	HPS/Metal Halide	E40	T3	-50°C to +50°C
REGN/500/TH	500W	Tungsten Halogen	E40	T3	-50°C to +55°C
110/120V Cat Ref.					
REGN/150/MS/120**	150W	HPS/Metal Halide	E40	T4	-50°C to +55°C
REGN/250/MS/120**	250W	HPS/Metal Halide	E40	T4	-50°C to +55°C
REGN/400/MS/120***	400W	HPS/Metal Halide	E40	T3	-50°C to +55°C

** c/w IEC control gear 110/120V supply

*** c/w Transformer box for 110/120V supply (IEC control gear fitted)

TECHNICAL SPECIFICATION

LAMP TYPES

SON/MBI = 150W, 250W, 400W (Tubular)
Tungsten Halogen = 500W

POWER SUPPLY

220V, 230V, 240V, 254V 50Hz

POWER FACTOR

Better than 0.85

TERMINALS

3 core up to 6 mm^2 conductors with looping. Terminals for live constant, neutral & earth are provided. Internally earthed, external earth terminal as standard.

CABLE ENTRIES

2 x M20 cable entries.
Supplied with 1 x transit plug and 1 x Ex blanking plug.
Cable entry devices (i.e. glands) must maintain both the restricted breathing properties and the IP rating of the luminaire.

TEMPERATURE

Refer to matrix above for maximum ambient temperature for lamp, T rating & orientation.

MATERIALS

Main Body	Epoxy painted marine grade stainless steel.
Lampglass	Toughened glass.
Gasket	Silicone rubber.
External Fasteners	Stainless steel.

WEIGHT

150W - 19Kg
250W - 20.5Kg
400W - 21Kg
500W - 16.5Kg
110/120V - 23Kg

MOUNTING

Stainless steel stirrup bracket.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/M25	M25 Entries
/TI	Timed cut-out ignitor
/WA	Suitable for wire guard or anti-glare shield
/N	Narrow beam reflector

ACCESSORIES

Wire guard
S8644-0004
(Requires /WA suffix when ordering)

Pole mount bracket
S2400-0002

Spigot mount bracket
S2400-0007

Anti-glare shield
S8644-0002
(Requires /WA suffix when ordering)

To calculate photometric values for lighting design, please use the free Victor LiteGuide™ software package.
To request your copy, please contact your local Victor agent or download a copy from the website.
Design is subject to alteration without notice. Please refer to the website www.victor-lighting.com for the latest details.
All products are sold subject to our conditions of sale, available on request.

FLOODLIGHT VL100

FEATURES AND BENEFITS

Compact light weight design • Integral control gear • Hinged lid assembly for easy re-lamping • Range of lamp options

CERTIFICATION & APPROVALS

ATEX Certificate SIRA 00ATEX4117

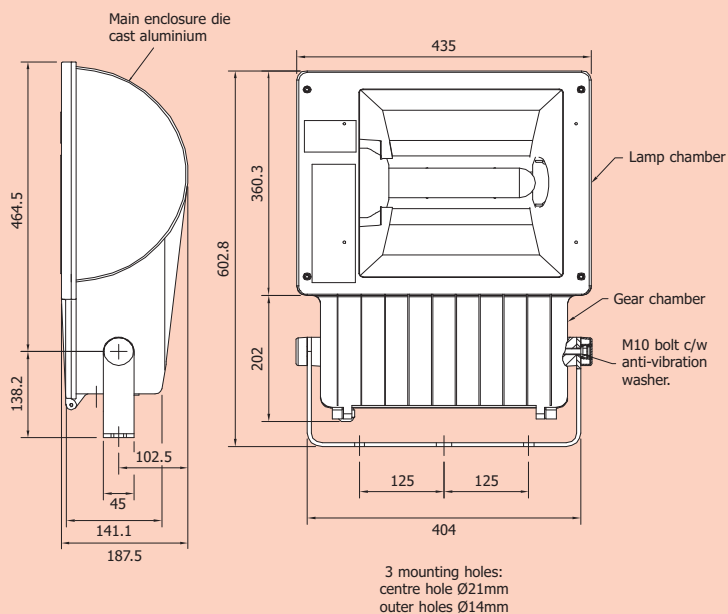⟨Ex⟩ II 3 GD Ex nR II T3 T200°C

Ambient temperature range:
-50°C to +50°C

Ingress protection to IP66 and IP67

TIS Approved

DIMENSIONS

Main enclosure die cast aluminium

464.5

138.2

102.5

45

141.1

187.5

435

360.3

602.8

202

Lamp chamber

Gear chamber

M10 bolt c/w anti-vibration washer.

125   125

404

3 mounting holes:
centre hole Ø21mm
outer holes Ø14mm

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder	T Class	T °C(Dust)	Ambient °C
V10N/150/MS	150W	HPS/Metal Halide	E40	T3	200	-50°C to +50°C
V10N/250/MS	250W	HPS/Metal Halide	E40	T3	200	-50°C to +50°C
V10N/250/MV	250W	Mercury Vapour	E40	T3	200	-50°C to +50°C
V10N/400/MS	400W	HPS/Metal Halide	E40	T3	200	-50°C to +50°C
V10N/400/MV	400W	Mercury Vapour	E40	T3	200	-50°C to +50°C
V10N/500/TH	500W	Tungsten Halogen	E40	T3	200	-50°C to +50°C

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 150W Tubular
SON and MBI - 250W Tubular
SON and MBI - 400W Tubular
Tungsten Halogen - 500W Max

POWER SUPPLY

220V, 230V, 240V and 250V 50/60Hz
250V Max for halogen & GLS

POWER FACTOR

Greater than 0.85

TERMINALS

3 core up to 4 mm^2 conductors with looping. Terminals for live constant, neutral & earth are provided. Internally earthed.

CABLE ENTRIES

2 x M20 cable entries supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (i.e. glands) must maintain both the restricted breathing properties and the IP rating of the luminaire.

TEMPERATURE

Gas environments: T3
Dust environments: T200°C

MATERIALS

Main body	LM6 aluminium alloy.
Lampglass	Toughened glass.

WEIGHT

400W SON Lamps - 16Kg

SUSPENSION

Galvanised steel stirrup bracket with protractor for elevation angle setting.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/M	Medium beam reflector

ACCESSORIES

Pole mount bracket
SV10N-00005

Spigot mount bracket
SV10N-00004

MARQUIS II VL55I

VL55I with stainless steel body

FEATURES AND BENEFITS

Lightweight and slimline construction • Simple to install and maintain • Copper and Iron control gear • Single and twin lamp versions

CERTIFICATION & APPROVALS

Ingress protection IP65
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

GRP Body

2x8.2mm Dia.

B

D

2x20mm Dia.
cable entry
clearance
holes 1 each
end.

A

C

Stainless Steel Body

B

D

3x20mm Dia.
cable entry
clearance
holes.
2x1 end
1x opposite.

A

C

GRP Body			
	1 x 18W / 2x18W	1x36W / 2x36W	1x58W / 2x58W
A	702	1312	1612
B	500	800	1100
C	102 / 172	102 / 172	102 / 172
D	106	106	106
Stainless Steel Body			
	1x18W / 2x18W	1x36W / 2x36W	1x58W / 2x58W
A	700	1312	1612
B	500	800	1100
C	172	172	172
D	106	106	106

Dimensions in millimetres

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W,
2 x 36W, 2 x 58W.

POWER SUPPLY

230V/240V 50Hz

POWER FACTOR

Greater than 0.80

TERMINALS

4 core up to 4 mm^2 conductors. Through wiring is available as an option. Terminals for live constant, live switched, neutral & earth are provided. Internally earthed.

CABLE ENTRIES

Pre-drilled Ø20mm.

Supplied with 1 x transit plug and the required number of blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

MATERIALS

Body	Corrosion resistant glass reinforced polyester (GRP) or stainless steel.
Diffusers	Polycarbonate.
Clips	Stainless Steel (18Wx6, 36Wx8 & 58Wx10).
Gear Tray	White polyester painted zinc coated steel.

CONTROL GEAR

Copper & Iron pulse start ballast.

WEIGHT

GRP Body	Stainless Body
1 x 18W Lamp - 2.5Kg	1 x 18W Lamp - 5.5Kg
1 x 36W Lamp - 3.6Kg	1 x 36W Lamp - 6.6Kg
1 x 58W Lamp - 4.2Kg	1 x 58W Lamp - 7.2Kg
2 x 18W Lamps - 3.2Kg	2 x 18W Lamps - 6.2Kg
2 x 36W Lamps - 4.2Kg	2 x 36W Lamps - 7.2Kg
2 x 58W Lamps - 5.1Kg	2 x 58W Lamps - 8.1Kg

SUSPENSION

8mm clearance holes, sealing washers are provided.

A range of mounting accessories are available. See below:

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
MA2I/118/BII	1x18W	Bi-Pin
MA2I/218/BI	2x18W	Bi-Pin
MA2I/136/BI	1x36W	Bi-Pin
MA2I/236/BI	2x36W	Bi-Pin
MA2I/158/BI	1x58W	Bi-Pin
MA2I/258/BI	2x58W	Bi-Pin

A stainless steel body version is also available.
To order substitute MA2I with MS2I.

OPTIONS - SUFFIX TO CATALOGUE REF.

/MF	Mains fuse
/T	Through wired
/ES	Electronic start
/EA	External earth (earth tag GRP body) (earth stud stainless body)

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Offset ceiling bracket assembly
S3004-100001

C' form hook type ceiling bracket assembly
S3004-100003

Flush mounted wall bracket assembly
S3004-100004

18W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0008

36W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0012

58W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0022

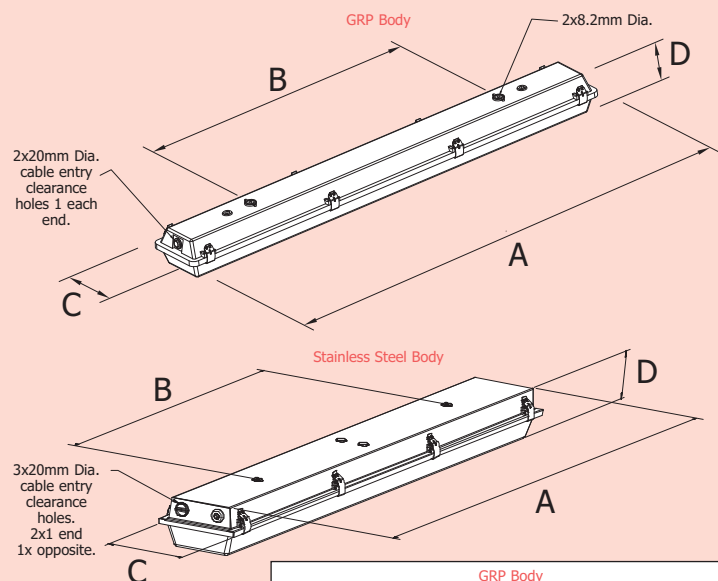VL55I with stainless steel body

FEATURES AND BENEFITS

Lightweight and slimline construction • Simple to install and maintain • High frequency electronic control gear • Single and twin lamp versions

CERTIFICATION & APPROVALS

Ingress protection IP65
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

GRP Body

2x8.2mm Dia.

B

D

2x20mm Dia.
cable entry
clearance
holes 1 each
end.

A

C

Stainless Steel Body

B

D

3x20mm Dia.
cable entry
clearance
holes.
2x1 end
1x opposite.

A

C

GRP Body			
	1 x 18W / 2x18W	1x36W / 2x36W	1x58W / 2x58W
A	702	1312	1612
B	500	800	1100
C	102 / 172	102 / 172	102 / 172
D	106	106	106
Stainless Steel Body			
	1x18W / 2x18W	1x36W / 2x36W	1x58W / 2x58W
A	700	1312	1612
B	500	800	1100
C	172	172	172
D	106	106	106

Dimensions in millimetres

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W,
2 x 36W, 2 x 58W.

POWER SUPPLY

120V-254V, 50/60Hz AC
175V-270V DC

POWER FACTOR

Greater than 0.95

TERMINALS

4 core up to 4 mm^2 conductors. Through wiring is available as an option. Terminals for live constant, live switched, neutral & earth are provided. Internally earthed.

CABLE ENTRIES

Pre-drilled Ø20mm.

Supplied with 1 x transit plug and the required number of blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

MATERIALS

Body	Corrosion resistant glass reinforced polyester (GRP) or stainless steel.
Diffusers	Polycarbonate.
Clips	Stainless Steel (18Wx6, 36Wx8 & 58Wx10).
Gear Tray	White polyester painted zinc coated steel.

CONTROL GEAR

High frequency electronic ballast.

WEIGHT

GRP Body	Stainless Body
1 x 18W Lamp - 2.3Kg	1 x 18W Lamp - 5.3Kg
1 x 36W Lamp - 3.3Kg	1 x 36W Lamp - 6.3Kg
1 x 58W Lamp - 3.7Kg	1 x 58W Lamp - 6.7Kg
2 x 18W Lamps - 2.6Kg	2 x 18W Lamps - 5.6Kg
2 x 36W Lamps - 3.6Kg	2 x 36W Lamps - 6.6Kg
2 x 58W Lamps - 4.1Kg	2 x 58W Lamps - 7.1Kg

SUSPENSION

8mm clearance holes, sealing washers are provided.

A range of mounting accessories are available. See below:

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
MA2I/118/BI/HF	1X18W	Bi-Pin
MA2I/218/BI/HF	2x18W	Bi-Pin
MA2I/136/BI/HF	1x36W	Bi-Pin
MA2I/236/BI/HF	2x36W	Bi-Pin
MA2I/158/BI/HF	1x58W	Bi-Pin
MA2I/258/BI/HF	2x58W	Bi-Pin

**A stainless steel body version is also available.
To order substitute MA2I with MS2I.**

OPTIONS - SUFFIX TO CATALOGUE REF.

/MF	Mains fuse
/T	Through wired
/EA	External earth (earth tag GRP body) (earth stud stainless body)

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Offset ceiling bracket assembly
S3004-100001

C' form hook type ceiling bracket assembly
S3004-100003

Flush mounted wall bracket assembly
S3004-100004

18W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0008

36W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0012

58W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0022

MARQUIS II VL56I

3 Hour Operation

VL56I with stainless steel body

FEATURES AND BENEFITS

Battery back up for three hour emergency operation • Simple to install and maintain • Copper and Iron control gear

CERTIFICATION & APPROVALS

Ingress protection IP65
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

GRP Body

2x8.2mm Dia.

B

D

2x20mm Dia.
cable entry
clearance
holes 1 each
end.

A

C

Stainless Steel Body

B

D

3x20mm Dia.
cable entry
clearance
holes.
2x1 end
1x opposite.

A

C

Dimensions in millimetres

GRP Body			
	1 x 18W / 2x18W	1x36W / 2x36W	1x58W / 2x58W
A	702	1312	1612
B	500	800	1100
C	102 / 172	102 / 172	102 / 172
D	106	106	106
Stainless Steel Body			
	1x18W / 2x18W	1x36W / 2x36W	1x58W / 2x58W
A	700	1312	1612
B	500	800	1100
C	172	172	172
D	106	106	106

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W,
2 x 36W, 2 x 58W.

POWER SUPPLY

230V/240V, 50Hz

POWER FACTOR

Greater than 0.80

EMERGENCY OPERATION

Typically 3 hours duration at 25ºC
32% of one lamp (18W).
14% of one lamp (36W).
9% of one lamp (58W).

BATTERY

6V, 4Ah internal Ni-Cad.

CABLE ENTRIES

Pre-drilled Ø20mm.

Supplied with 1 x transit plug and the required number of blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TERMINALS

4 core up to 4 mm^2 conductors. Through wiring is available as an option. Terminals for live constant, live switched, neutral & earth are provided. Internally earthed.

MATERIALS

Body	Corrosion resistant glass reinforced polyester (GRP) or stainless steel.
Diffusers	Polycarbonate.
Clips	Stainless Steel (18Wx6, 36Wx8 & 58Wx10).
Gear Tray	White polyester painted zinc coated steel.

CONTROL GEAR

Copper & Iron pulse start ballast.

WEIGHT

GRP Body	Stainless Body
1 x 18W Lamp - 4.8Kg	1 x 18W Lamp - 7.8Kg
1 x 36W Lamp - 5.6Kg	1 x 36W Lamp - 8.6Kg
1 x 58W Lamp - 5.7Kg	1 x 58W Lamp - 8.7Kg
2 x 18W Lamps - 5.6Kg	2 x 18W Lamps - 8.2Kg
2 x 36W Lamps - 6.1Kg	2 x 36W Lamps - 9.1Kg
2 x 58W Lamps - 7.1Kg	2 x 58W Lamps - 10.1Kg

SUSPENSION

8mm clearance holes, sealing washers are provided.

A range of mounting accessories are available. See below:

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
MA2I/118/BI/EM*	1x18W	Bi-Pin
MA2I/218/BI/EM	2x18W	Bi-Pin
MA2I/136/BI/EM*	1x36W	Bi-Pin
MA2I/236/BI/EM	2x36W	Bi-Pin
MA2I/158/BI/EM*	1x58W	Bi-Pin
MA2I/258/BI/EM	2x58W	Bi-Pin

* Emergency single lamp versions only available in a twin lamp body.

A stainless steel body version is also available.
To order substitute MA2I with MS2I.

OPTIONS - SUFFIX TO CATALOGUE REF.

/NM	Non-maintained emergency version (single lamp body)
/MF	Mains fuse
/T	Through wired
/ES	Electronic start
/EA	External earth (earth tag GRP body) (earth stud stainless body)

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Offset ceiling bracket assembly
S3004-100001

C' form hook type ceiling bracket assembly
S3004-100003

Flush mounted wall bracket assembly
S3004-100004

18W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0008

36W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0012

58W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0022

MARQUIS II VL56I H/F

3 Hour Operation
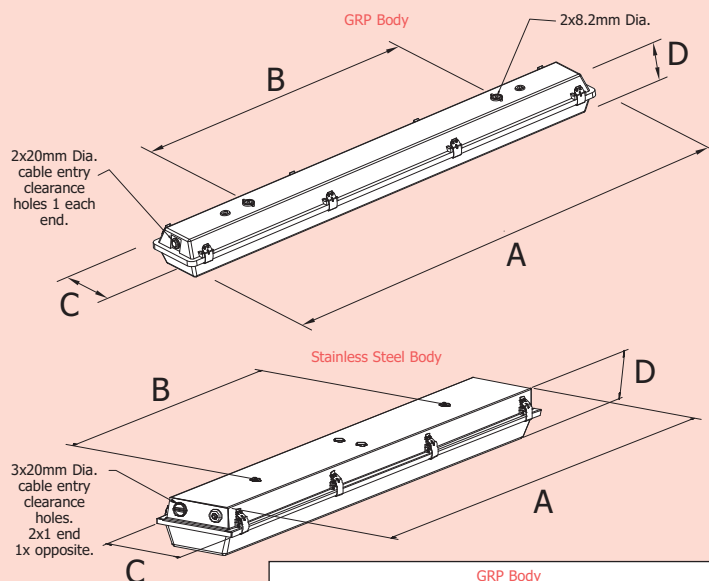
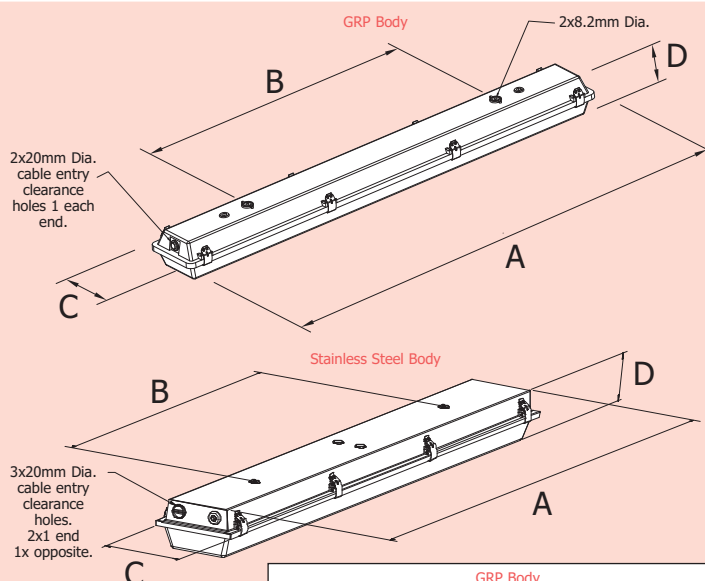VL56I with stainless steel body

FEATURES AND BENEFITS

Battery back up for three hour emergency operation • High frequency electronic control gear • Optional battery control management

CERTIFICATION & APPROVALS

Ingress protection IP65
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

GRP Body

2x8.2mm Dia.

B

D

2x20mm Dia.
cable entry
clearance
holes 1 each
end.

A

C

Stainless Steel Body

B

D

3x20mm Dia.
cable entry
clearance
holes.
2x1 end
1x opposite.

A

C

Dimensions in millimetres

GRP Body			
	1 x 18W / 2x18W	1x36W / 2x36W	1x58W / 2x58W
A	702	1312	1612
B	500	800	1100
C	102 / 172	102 / 172	102 / 172
D	106	106	106
Stainless Steel Body			
	1x18W / 2x18W	1x36W / 2x36W	1x58W / 2x58W
A	700	1312	1612
B	500	800	1100
C	172	172	172
D	106	106	106

TECHNICAL SPECIFICATION

LAMP TYPES

T8, Ø26mm, G13 cap bi-pin fluorescent.
Available in the following configurations: 2 x 18W, 2 x 36W, 2 x 58W.

POWER SUPPLY

220-254V, 50/60Hz AC (other voltages available)
120V 50/60Hz AC (option available)

POWER FACTOR

Greater than 0.95

EMERGENCY OPERATION

Typically 3 hours duration at 25ºC
32% of one lamp (18W) 14% of one lamp (36W)
9% of one lamp (58W)

BATTERY

6V, 4Ah internal Ni-Cad.

CABLE ENTRIES

Pre-drilled Ø20mm.

Supplied with 1 x transit plug and the required number of blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

TERMINALS

4 core up to 4 mm^2 conductors. Through wiring is available as an option. Terminals for live constant, live switched, neutral & earth are provided. Internally earthed.

MATERIALS

Body	Corrosion resistant glass reinforced polyester (GRP) or stainless steel.
Diffusers	Polycarbonate.
Clips	Stainless Steel (18Wx6, 36Wx8 & 58Wx10).
Gear Tray	White polyester painted zinc coated steel.

CONTROL GEAR

High frequency electronic ballast.

WEIGHT

GRP Body	Stainless Body
1 x 18W Lamp - 4.3Kg	1 x 18W Lamp - 7.3Kg
1 x 36W Lamp - 5.3Kg	1 x 36W Lamp - 8.3Kg
1 x 58W Lamp - 5.7Kg	1 x 58W Lamp - 8.7Kg
2 x 18W Lamps - 4.6Kg	2 x 18W Lamps - 7.6Kg
2 x 36W Lamps - 5.6Kg	2 x 36W Lamps - 8.6Kg
2 x 58W Lamps - 6.1Kg	2 x 58W Lamps - 9.1Kg

SUSPENSION

8mm clearance holes, sealing washers are provided.

A range of mounting accessories are available. See below:

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Voltage	Lamp Type
MA2I/118/BI/EM/HF*	1X18W	220-254V 50/60Hz	Bi-Pin
MA2I/218/BI/EM/HF	2x18W	220-254V 50/60Hz	Bi-Pin
MA2I/136/BI/EM/HF*	1x36W	220-254V 50/60Hz	Bi-Pin
MA2I/236/BI/EM/HF	2x36W	220-254V 50/60Hz	Bi-Pin
MA2I/158/BI/EM/HF*	1x58W	220-254V 50/60Hz	Bi-Pin
MA2I/258/BI/EM/HF	2x58W	220-254V 50/60Hz	Bi-Pin

* Emergency single lamp versions only available in a twin lamp body.

**A stainless steel body version is also available.
To order substitute MA2I with MS2I.**

OPTIONS - SUFFIX TO CATALOGUE REF.

/NM	Non-maintained emergency version (single lamp body)
/MF	Mains fuse
/120	120V High frequency ballast (36W & 58W only)
/T	Through wired
/EA	External earth (earth tag GRP body) (earth stud stainless body)
/BCM	Battery control management

ACCESSORIES

Pole mount bracket (38-42mm)
SPOL4-100004

Pole mount bracket (48-52mm)
SPOL4-100005

Pole mount bracket (58-62mm)
SPOL4-100006

Offset ceiling bracket assembly
S3004-100001

C' form hook type ceiling bracket assembly
S3004-100003

Flush mounted wall bracket assembly
S3004-100004

18W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0008

36W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0012

58W wall mounting outreach bracket
(use with S3004-100002)
NPRO4-0022

To calculate photometric values for lighting design, please use the free Victor LiteGuide™ software package.
To request your copy, please contact your local Victor agent or download a copy from the website.
Design is subject to alteration without notice. Please refer to the website www.victor-lighting.com for the latest details.
All products are sold subject to our conditions of sale, available on request.

RECESSIBLE VL77I

Single screw height adjustment

Adjust to ensure ceiling integrity

FEATURES AND BENEFITS

Suitable for M300 and plasterboard ceilings • Automatic lamp de-energisation on opening • Resistant to voltage fluctuations

CERTIFICATION & APPROVALS

Ingress protection IP54
to EN60529

Designed & manufactured
to EN60598-1

SOLAS B15 Fire rated

Standard Clear Diffuser

Prismatic Diffuser (/PD)

Low Glare Louvre (/LG)

TECHNICAL SPECIFICATION

LAMP TYPES

18W & 36W bi-pin fluorescent (T8)

POWER SUPPLY

120-254V 50/60Hz AC, 175-270V DC

TERMINALS

3 core up to 4 mm^2 conductors with looping. Through wiring facility as standard. Terminals for live constant, neutral & earth are provided. External earth terminal as standard.

CABLE ENTRIES

4 x 20mm entries, two at each end (not suitable for looping both ends).

Supplied with 1 x transit plug and 3 x blanking plugs.

Cable entry devices (i.e. glands) must maintain the IP rating for the luminaire.

MATERIALS

Enclosure	White polyester painted zinc coated steel body & frame.
Diffuser	Clear polycarbonate.
Reflector	White polyester painted zinc coated steel.
Gasket	Neoprene rubber.

WEIGHT

2 x 18W - 6Kg.
2 x 36W - 11Kg.

SUSPENSION

Standard mounting is fixed side brackets with swing out arms, with provision for drop rod mounting.

For details of appropriate ceiling types and dimensions see pages 84 and 85.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
V77I/218/BI	2x18W	Bi-Pin
V77I/236/BI	2x36W	Bi-Pin

ACCESSORIES

There are no accessories for this product.

OPTIONS - SUFFIX TO CATALOGUE REF.

/MF	Mains fuse
/25	25mm Entries
/LG	Low glare louvre
/PD	Prismatic diffuser
/PC	Plasterboard (solid) ceiling
/EL	Extra live
/SC	Screwed connection terminal block (6mm^2 conductors)
/DIM	Analogue dimming

RECESSIBLE VL78I

3 Hour Operation

Single screw height adjustment

Adjust to ensure ceiling integrity

FEATURES AND BENEFITS

Back up battery for emergency operation • Battery management, monotoring and self test • End of Life protection

CERTIFICATION & APPROVALS

Ingress protection IP54
to EN60529

Designed & manufactured
to EN60598-1

SOLAS B15 Fire rated

Standard Clear Diffuser

Prismatic Diffuser (/PD)

Low Glare Louvre (/LG)

TECHNICAL SPECIFICATION

LAMP TYPES

18W & 36W bi-pin fluorescent (T8)

POWER SUPPLY

220-254V 50/60Hz AC, 120V 50/60Hz AC

EMERGENCY OPERATION

Typically 3 hours duration at 25°C
22% of one lamp (18W)
14% of one lamp (36W)

BATTERY

6V, 4Ah internal Ni-Cad.

TERMINALS

4 core up to 4 mm^2 conductors with looping. Through wiring facility as standard. Terminals for live constant, live switched, neutral & earth are provided. External earth terminal as standard.

CABLE ENTRIES

4 x 20mm entries, two at each end (not suitable for looping both ends).

Supplied with 1 x transit plug and 3 x blanking plugs.

Cable entry devices (i.e. glands) must maintain the IP rating for the luminaire.

MATERIALS

Enclosure	White polyester painted zinc coated steel body & frame.
Diffuser	Clear polycarbonate.
Reflector	White polyester painted zinc coated steel.
Gasket	Neoprene rubber.

WEIGHT

2 x 18W - 8.5Kg.
2 x 36W - 13.5Kg.

SUSPENSION

Standard mounting is fixed side brackets with swing out arms, with provision for drop rod mounting.

Suitable for Danaccoustic m300 planks or damper cc300 planks.

For details of appropriate ceiling types and dimensions see pages 84 and 85.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
V78I/218/BI/EM	2x18W	Bi-Pin
V78I/236/BI/EM	2x36W	Bi-Pin

ACCESSORIES

There are no accessories for this product.

OPTIONS - SUFFIX TO CATALOGUE REF.

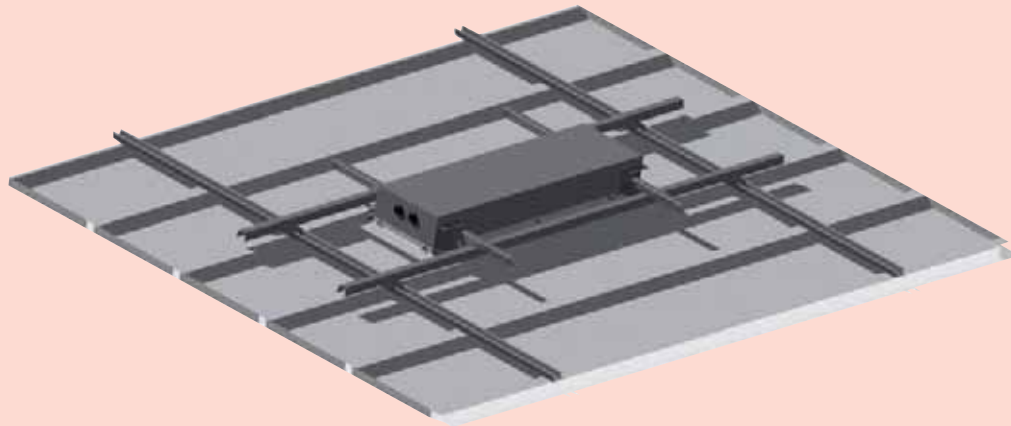|	
/120	Specific voltage (110/130V)
/MF	Mains fuse
/25	25mm Entries
/LG	Low glare louvre
/PD	Prismatic diffuser
/PC	Plasterboard (solid) ceiling
/BCM	Battery controlled management
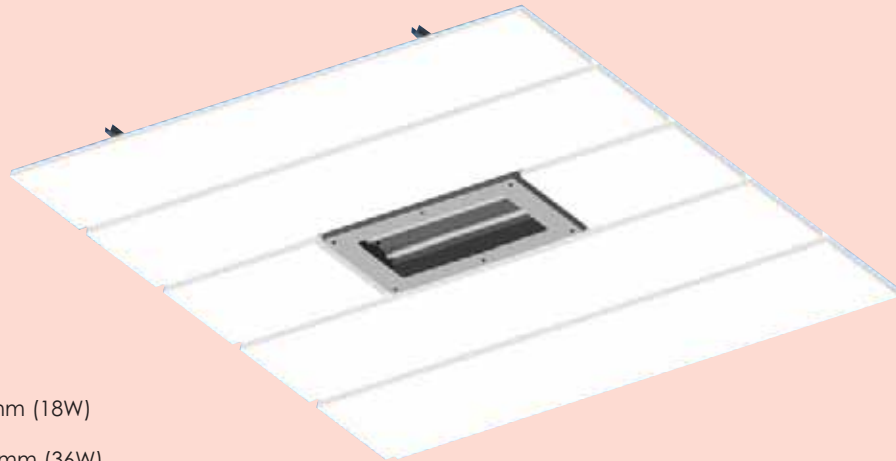
Typical aperture:

Tile length x 800mm (18W)
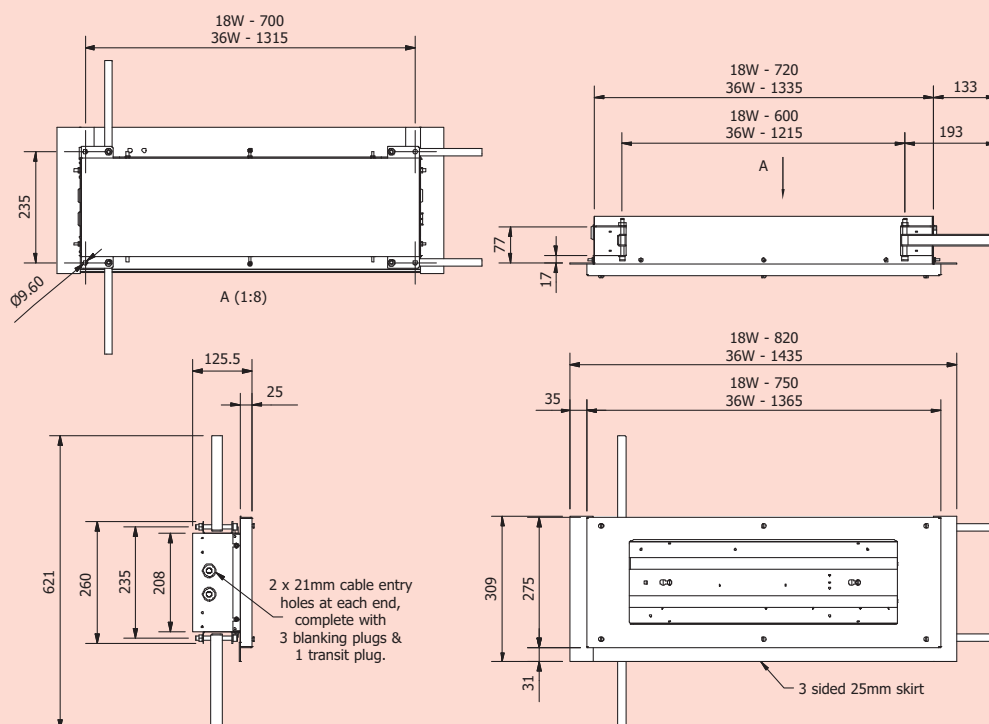
Tile length x 1315mm (36W)

View of plank ceiling with recessed luminaire

Typical 275 x 25mm tile mounting system

DIMENSIONS

18W - 700
36W - 1315

235

Ø9.60

A (1:8)

18W - 720
36W - 1335   133

18W - 600
36W - 1215   193

A

77

17

125.5

25

621   260   235   208

2 x 21mm cable entry
holes at each end,
complete with
3 blanking plugs &
1 transit plug.

18W - 820
36W - 1435

18W - 750
36W - 1365

35

309   275

31

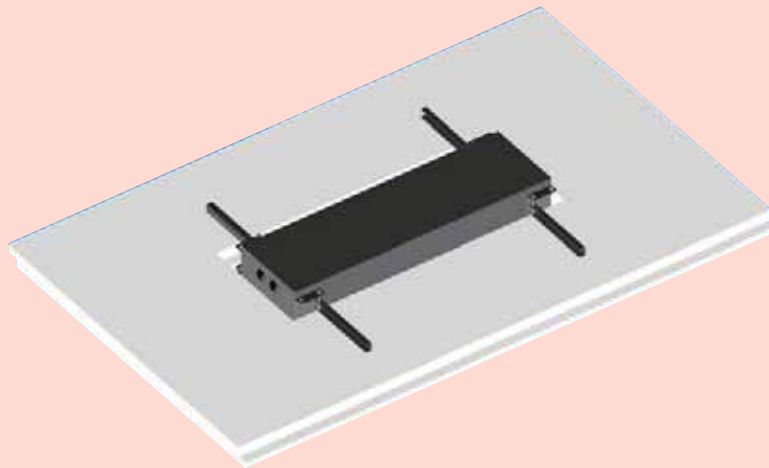3 sided 25mm skirt

Dimensions in millimetres

Typical aperture:

300mm x 740/750mm (18W)
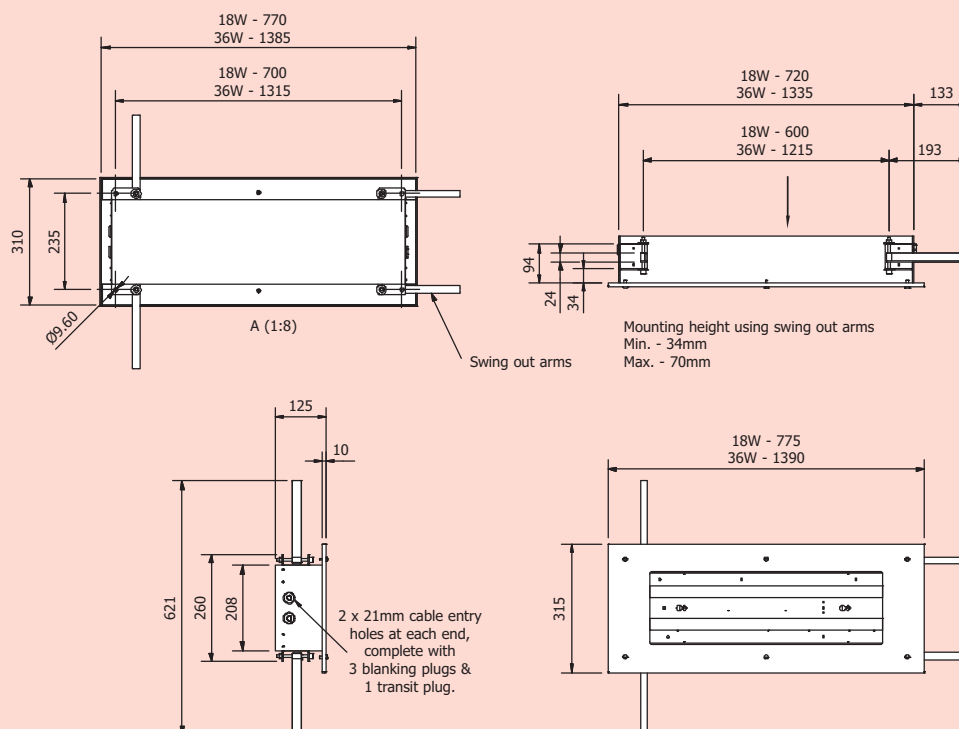
300mm x 1355/1356mm (36W)

View of solid ceiling with recessed luminaire

Typical solid ceiling/panel mounting system

DIMENSIONS

18W - 770
36W - 1385

18W - 700
36W - 1315

310

235

Ø9.60

A (1:8)

Swing out arms

18W - 720
36W - 1335

133

18W - 600
36W - 1215

193

94

24

34

Mounting height using swing out arms
Min. - 34mm
Max. - 70mm

125

10

621

260

208

2 x 21mm cable entry
holes at each end,
complete with
3 blanking plugs &
1 transit plug.

18W - 775
36W - 1390

315

Dimensions in millimetres

3 Hour Operation

FEATURES AND BENEFITS

Suitable for modular ceiling types • Range of diffuser options • Back up battery version • Optional battery management

CERTIFICATION & APPROVALS

Ingress protection IP44*
to EN60529

Designed & manufactured
to EN60598-1

SOLAS B15 Fire rated

* From front cover only.

/LG - Low glare louvre

TECHNICAL SPECIFICATION

LAMP TYPES

18W & 36W bi-pin fluorescent (T8)

POWER SUPPLY

220-240V AC/DC 50/60Hz - standard version
220-240V AC/DC 50/60Hz - emergency version

EMERGENCY OPERATION

Typically 3 hours duration at 25°C
22% of one lamp (18W)
14% of one lamp (36W)

BATTERY

6V, 4Ah internal Ni-Cad.

CABLE ENTRIES

4 x 20mm holes located on the rear panel, two at one end, two at the other end.

Supplied with 1 x transit plug and 3 x blanking plugs.

Cable entry devices (i.e. glands) must maintain the IP rating for the luminaire.

TERMINALS

4 core up to 4 mm^2 conductors with looping. Through wiring facility as standard. Terminals for live constant, live switched, neutral & earth are provided. External earth terminal as standard.

MATERIALS

Enclosure	White polyester painted zinc coated steel body & frame.
Diffuser	Clear polycarbonate with prismatic diffuser.
Reflector	White polyester painted zinc coated steel.
Gasket	Neoprene rubber.
External Fasteners	Stainless steel.

WEIGHT

2 x 18W - 8.0kg	4 x 18W - 8.0kg
2 x 36W - 14.6kg	4 x 36W - 15.0kg
2 x 18W EM - 8.6kg	4 x 18W EM - 8.6kg
2 x 36W EM - 16.6kg	4 x 36W EM - 18.0kg

SUSPENSION

Standard mounting is fixed cantilever side brackets, there is also a provision for drop rod mounting.

Please refer to pages 88 and 89 for details of ceiling types and dimensions.

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type
V104I/218/BI**	2x18W	Bi-Pin
V104I/418/BI	4x18W	Bi-Pin
V104I/236/BI**	2x36W	Bi-Pin
V104I/436/BI	4x36W	Bi-Pin
V104I/218/BI/EM**	2x18W	Bi-Pin
V104I/418/BI/EM	4x18W	Bi-Pin
V104I/236/BI/EM**	2x36W	Bi-Pin
V104I/436/BI/EM	4x36W	Bi-Pin

** Only available in 600mm x 600mm (2 x 18W) and 600mm x 1200mm (2 x 36W) body.

The standard VL104 is supplied with a 3mm clear outer panel and prismatic diffuser.
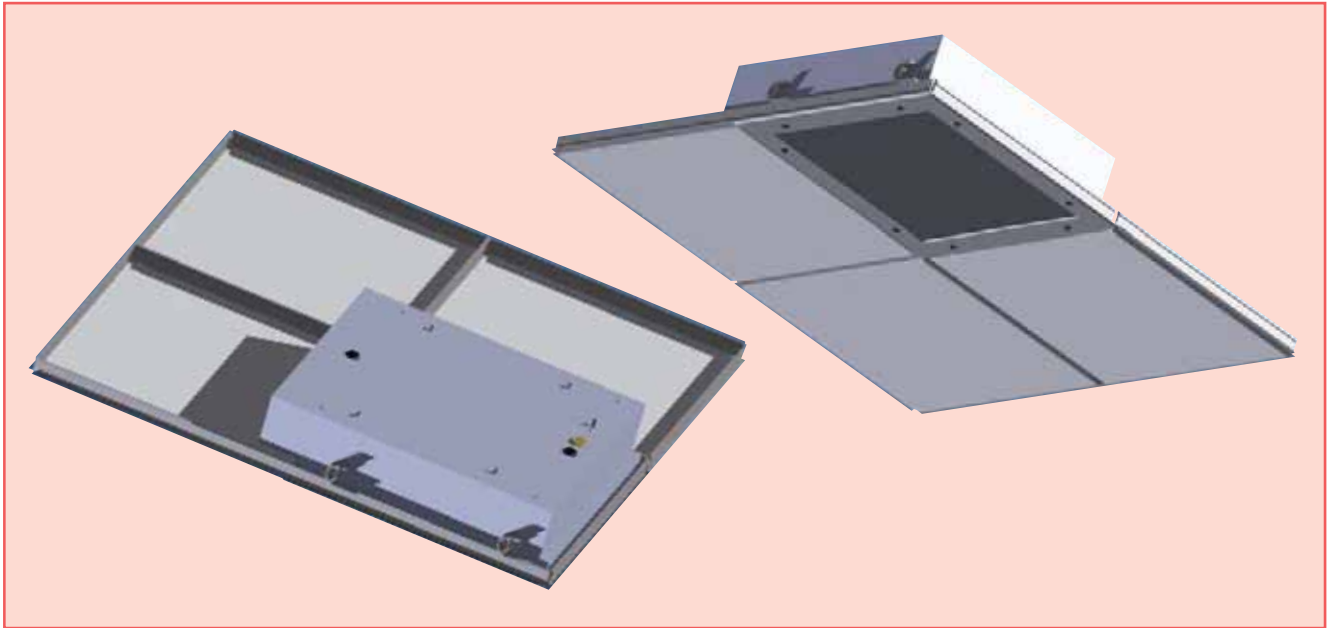
OPTIONS - SUFFIX TO CATALOGUE REF.

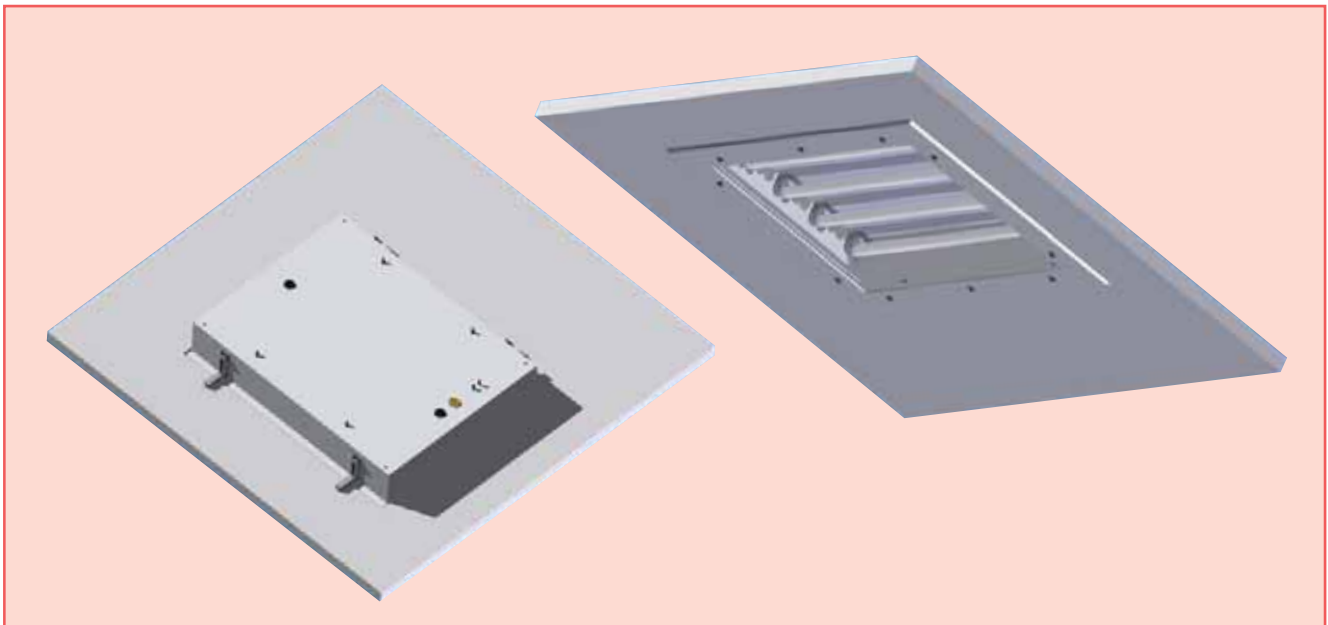|	
/MES	Modular - Exposed "T" ceiling and Spring "T" ceiling types
/120	Specific voltage 110/130V
/254	Specific voltage 254V
/25	25mm entry
/LG	Low glare louvre
/2L	2 lamp emergency mode
/DM	Mains controlled switchable dimming (220-240V)
/BMT	Battery monitoring and self test

ACCESSORIES

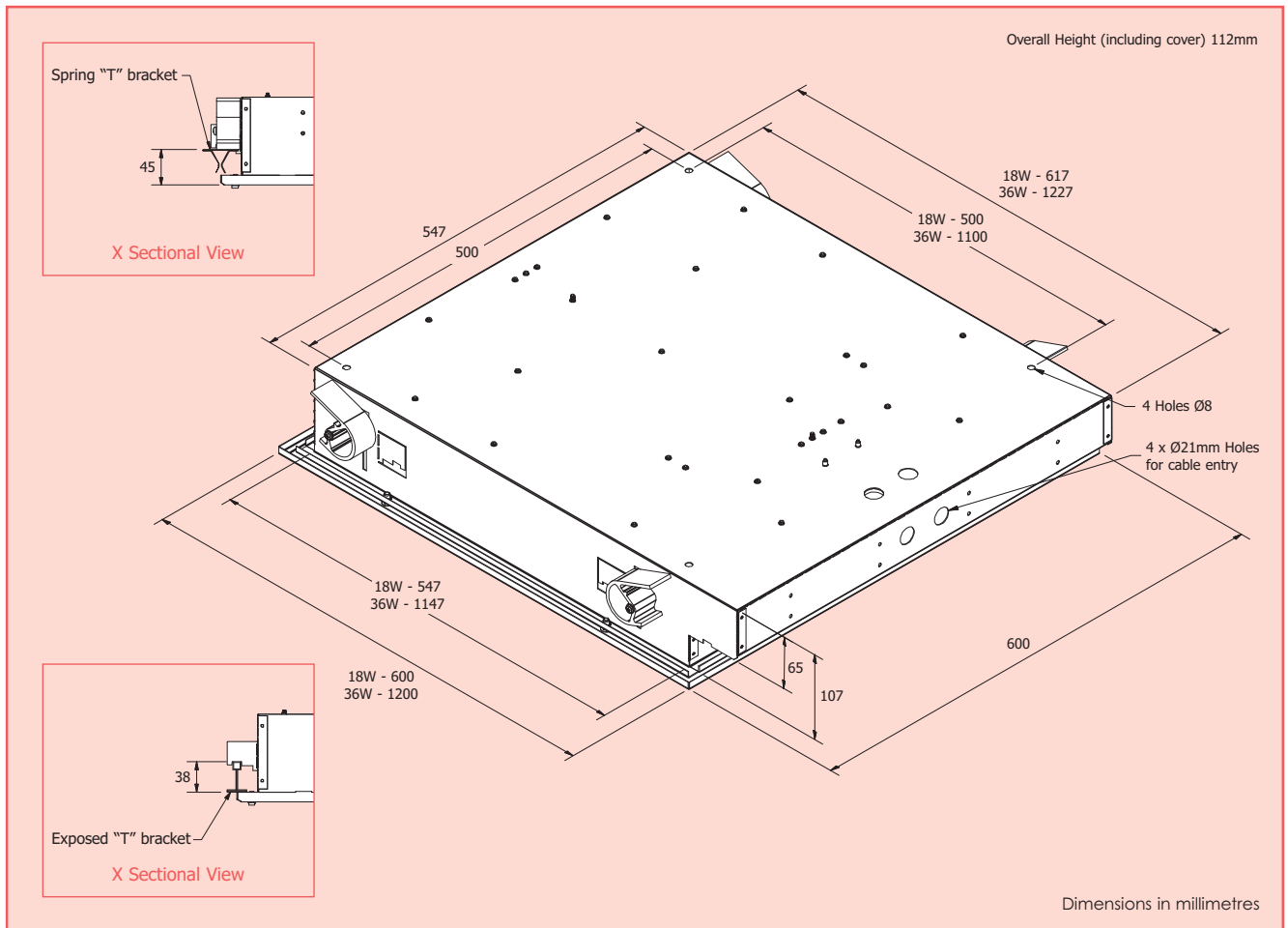Adjustable arm mounting kit
SMOKI-000002

View of Exposed "T" Ceiling with recessed luminaire, typical 600mm x 600mm tile grid mounting system (/MES).
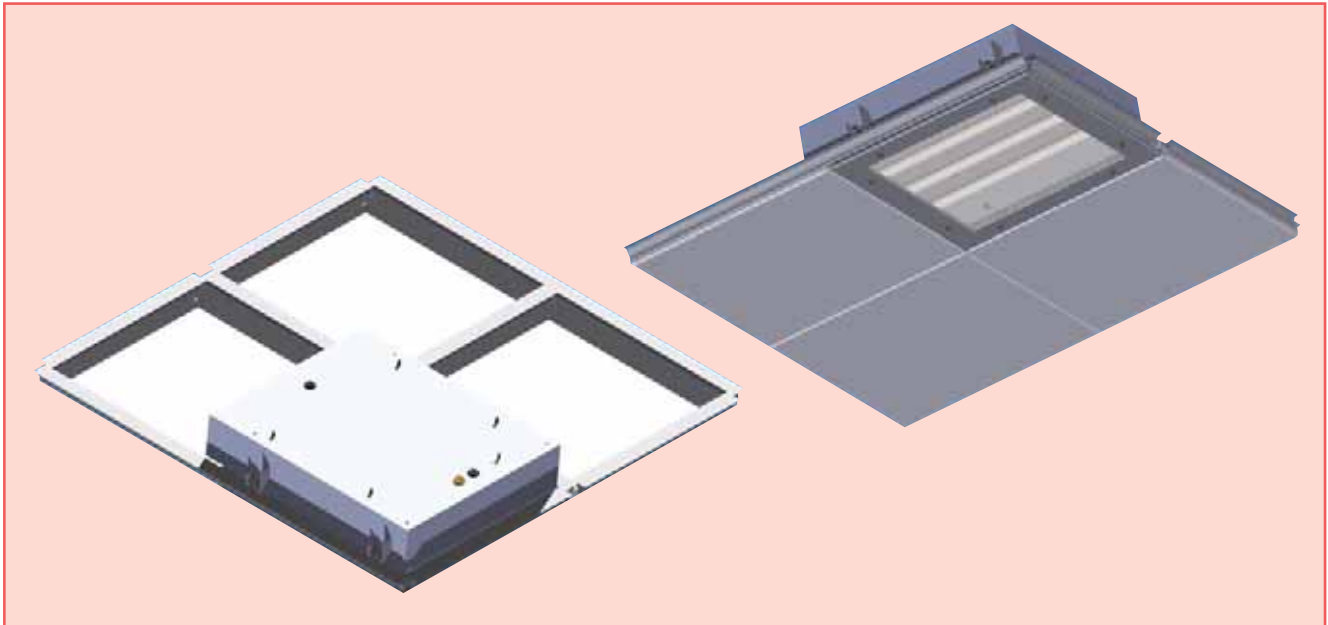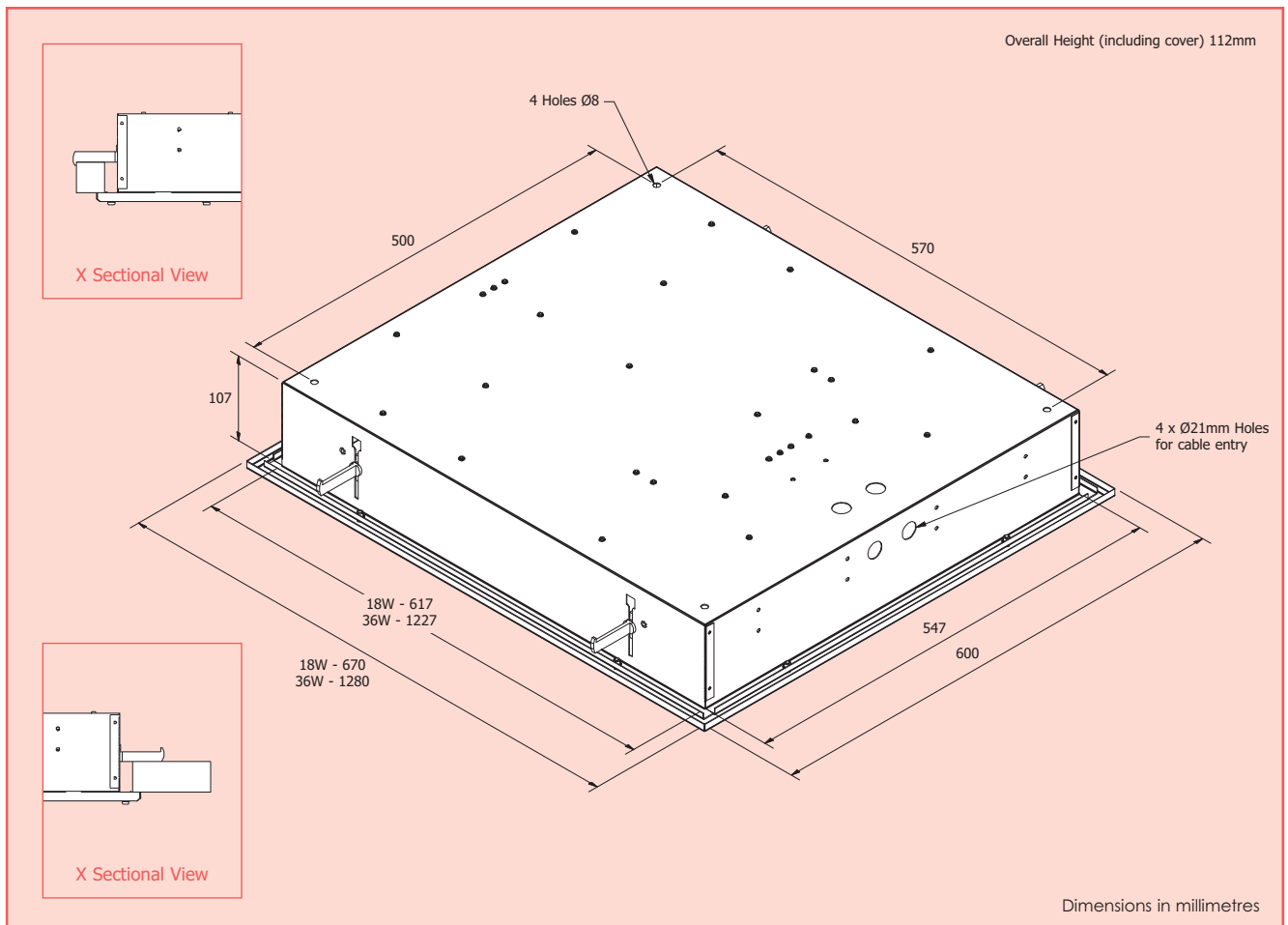

View of Spring "T" Ceiling with recessed luminaire, typical 600mm x 600mm tile grid mounting system (/MES).

View of Solid Ceiling with recessed luminaire.

Overall Height (including cover) 112mm

Spring "T" bracket

45

X Sectional View

547
500

18W - 617
36W - 1227

18W - 500
36W - 1100

4 Holes Ø8

4 x Ø21mm Holes
for cable entry

18W - 547
36W - 1147

18W - 600
36W - 1200

65

107

600

38

Exposed "T" bracket

X Sectional View

Dimensions in millimetres

Exposed "T" and Spring "T" Ceiling types (/MES) dimensions.

Overall Height (including cover) 112mm

4 Holes Ø8

X Sectional View

500

570

107

4 x Ø21mm Holes
for cable entry

18W - 617
36W - 1227

547

18W - 670
36W - 1280

600

X Sectional View

Dimensions in millimetres

Solid Ceiling dimensions.

MONARCH VL14I

VL14 with external reflector

VL14 with wire guard

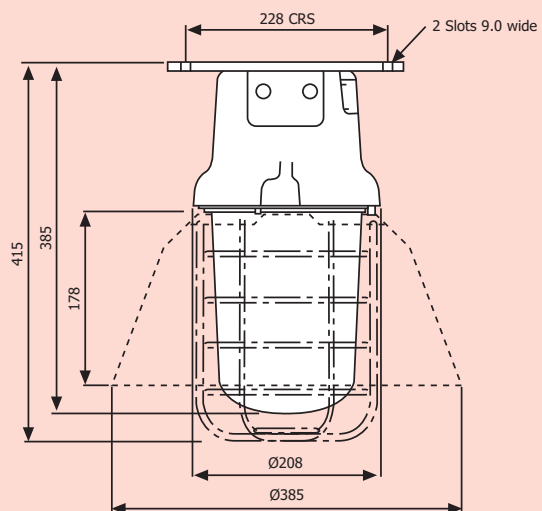

Glass retaining mechanism

FEATURES AND BENEFITS

Easy to install and maintain • Suitable for pendant or 45° mounting • Integrated glass retaining mechanism

CERTIFICATION & APPROVALS

Ingress protection IP66
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

228 CRS

2 Slots 9.0 wide

415

385

178

Ø208

Ø385

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder
MONI/070/HS	70W	HPS	E27
MONI/080/MV	80W	Mercury Vapour	E27
MONI/100/GL	100W	GLS	E27
MONI/125/MV	125W	Mercury Vapour	E27
MONI/160/MB	160W	MBTF	E27
MONI/200/GL	200W	GLS	E27

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 70W (external ignitor type)
MBF - 50W, 80W and 125W
MBTF - 200W GLS (max), 60W

POWER SUPPLY

HID: 220V / 230V / 240V / 254V
GLS: 250V (MAX)
Maximum lampholder current rating: 4A.

POWER FACTOR

Better than 0.85.

TERMINALS

3 core up to 2.5 mm^2 conductors with looping. Through wiring facility as standard. Terminals for live, neutral & earth are provided. External earth is an option.

CABLE ENTRIES

3 x M20 cable entries.

Supplied with 1 x transit plug and 2 x blanking plugs.

Cable entry devices (i.e. glands) must maintain the IP rating of the luminaire.

MATERIALS

Main Body	LM6 aluminium - with epoxy paint finish. Cast Iron also available.
Lamp glass	Borosilicate glass. (prismatic pattern).
External fasteners	Stainless steel.

WEIGHT

Discharge lamp versions - 6.3Kg.
GLS/MBTF versions - 4.8Kg.

SUSPENSION

Mounting strap suitable for two Ø8mm fasteners on 228mm centres.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60   60Hz

ACCESSORIES

Wire guard
SMONN-00001

Reflector
SMONN-00002

Low wattage glass globe (up to 150W)

Enclosed spun reflector

FEATURES AND BENEFITS

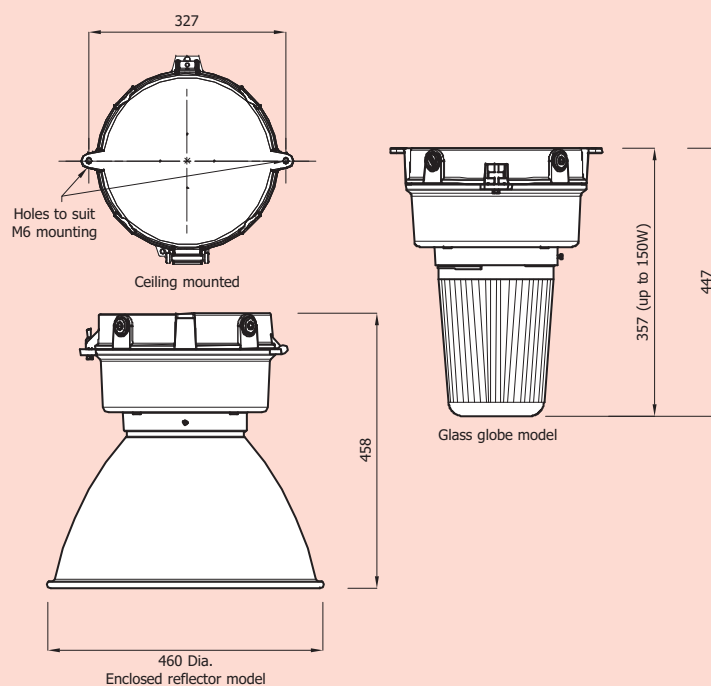**Swing barrel nut system for simple installation • Easy access to terminals and control gear • Threaded lamp glass for rapid re-lamping**

CERTIFICATION & APPROVALS

Ingress protection IP66
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

327

Holes to suit
M6 mounting

Ceiling mounted

458

460 Dia.
Enclosed reflector model

357 (up to 150W)

447

Glass globe model

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder
MO2I/050/HS	50W	HPS	E27
MO2I/070/MS	70W	HPS/Metal Halide	E27
MO2I/100/MS	100W	HPS/Metal Halide	E40
MO2I/150/MS	150W	HPS/Metal Halide	E40
MO2I/250/MS	250W	HPS/Metal Halide	E40
MO2I/400/MS	400W	HPS/Metal Halide	E40
MO2I/080/MV	80W	Mercury Vapour	E27
MO2I/125/MV	125W	Mercury Vapour	E27
MO2I/250/MV	250W	Mercury Vapour	E40
MO2I/400/MV	400W	Mercury Vapour	E40

TECHNICAL SPECIFICATION

LAMP TYPES

Refer to table above.

POWER SUPPLY

Mercury Vapour - 220, 230, 240V 50Hz (50, 80, 100 & 125W)
HPS/Metal Halide - 220, 230, 240, 254V 50Hz (70, 150, 220, 250 & 400W)

TERMINALS

Side entry luminaire, 3 core up to 6mm² max conductors with looping.

CABLE ENTRIES

Up to 4 x M20 cable entries.

Supplied with 1 x transit plug and 1 or 3 x blanking plugs.

Wall mounted version supplied with 1 Ex blanking plug and ceiling mounted version is supplied with 3 Ex blanking plugs.

Cable entry devices (ie. glands) must maintain the IP rating for the luminaire.

MATERIALS

Enclosure	Painted aluminium alloy.
Diffuser	Borosilicate glass.
Gasket	Silicone rubber.

WEIGHT

HPS - 7.5Kg (50W), 9.0Kg (100W)

HPS/Metal Halide - 8.0Kg (70W), 11.0Kg (150W), 15.0kg (250W), 15.5Kg (400W)

Mercury Vapour - 7.5Kg (80W), 8.0Kg (125W), 15.0Kg (250W), 15.5Kg (400W)

SUSPENSION

Mounting options include: ceiling and flush, wall mounted, stanchion and pendant mounted options.

Refer to page 64.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/M25	M25 cable entries
/WM	Wall mounted version
/ST	Stanchion mounted version
/PE	Pendant mounted version
/TI	Timed cut out ignitor
/ER	Enclosed spun reflector

ACCESSORIES

Wire guard for low wattage glass globe (up to 150W)
E0850-0042

Wire guard for high wattage glass globe (200W/400W)
E0850-0044

Wire guard for enclosed reflector
E0850-0043

Dome reflector
HEC20-0001

30° Angled reflector
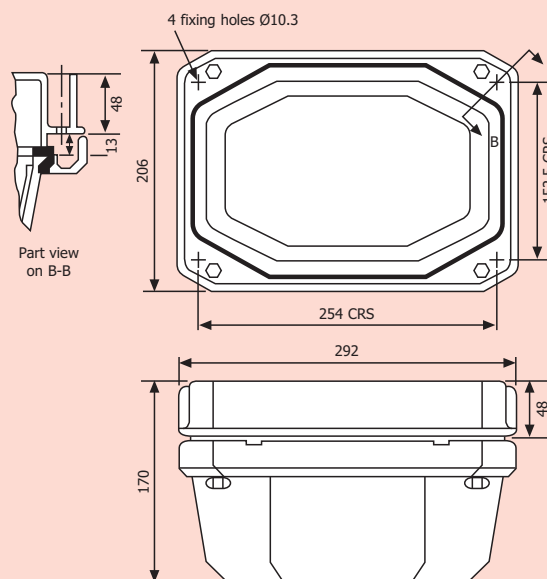HEC20-0002

FEATURES AND BENEFITS

Easily installed and maintained • LM6 aluminium construction • Range of lamp types

CERTIFICATION & APPROVALS

Ingress protection IP66 and IP67
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

4 fixing holes Ø10.3

48

13

206

Part view
on B-B

B

B

152.5 CRS

254 CRS

292

48

170

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder
VANI/070/MS	70W	HPS/Metal Halide	E27
VANI/080/MV	80W	Mercury Vapour	E27
VANI/150/GL	150W	GLS	E27

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 70W
MH - 70W
MBF - 80W
GLS - 150W (max).

POWER SUPPLY

HID: 220V / 230V / 240V / 254V 50Hz (60Hz option).
GLS: 250V (max).

POWER FACTOR

Better than 0.85

TERMINALS

3 core up to 4 mm^2 conductors with looping. Through wiring facility as standard. Terminals for live constant, neutral & earth are provided. External earth terminal as an option.

CABLE ENTRIES

Side entry luminaire, 3 x M20 cable entries.
Supplied with 1 x transit plug and 2 x blanking plugs.
Cable entry devices (i.e. glands) must maintain the IP rating of the luminaire.

MATERIALS

Main Body	LM6 die cast aluminium, with epoxy paint finish.
Lampglass	Borosilicate (diffused pattern).
Gasket	Silicone.
External Fasteners	Stainless steel.

WEIGHT

Discharge lamp versions - 6.5Kg.
GLS version - 4.85Kg.

SUSPENSION

Four Ø10.3mm fixing holes are provided outside gasket to ensure the IP rating.

The luminaire may be mounted in any orientation, the lampholder should be at the bottom when the lamp is mounted vertically.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60   60Hz

ACCESSORIES

Wire guard
SVANE-00001

REGENT VL71I

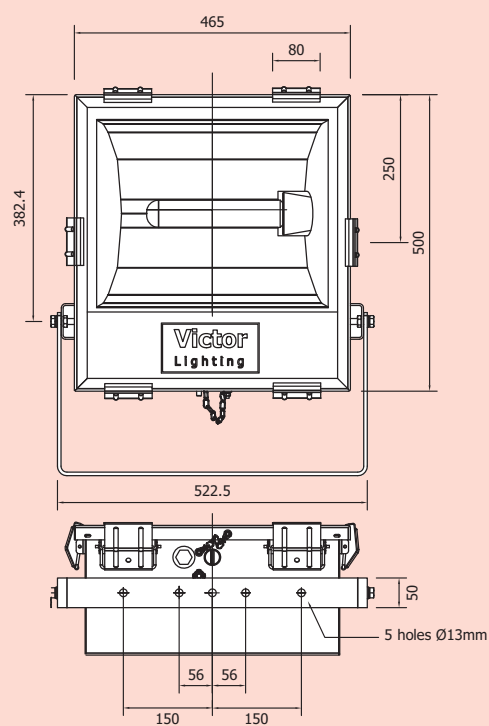## FEATURES AND BENEFITS

Lightweight Stainless Steel Construction • High efficiency symmetrical reflector • Stainless steel cover with quick release fasteners

CERTIFICATION & APPROVALS

Ingress protection IP66 and IP67
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

465
80
382.4
250
500
105
24.5
280
100
522.5
219
50
5 holes Ø13mm
56 56
150 150

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder
REGI/150/MS	150W	HPS/Metal Halide	E40
REGI/250/MS	250W	HPS/Metal Halide	E40
REGI/400/MS	400W	HPS/Metal Halide	E40
REGI/500/TH	500W	Tungsten Halogen	E40
110/120V Cat Ref.			
REGI/150/MS/120**	150W	HPS/Metal Halide	E40
REGI/250/MS/120**	250W	HPS/Metal Halide	E40
REGI/400/MS/120***	400W	HPS/Metal Halide	E40

** c/w IEC control gear 110/120V supply

*** c/w Transformer box for 110/120V supply (IEC control gear fitted)

TECHNICAL SPECIFICATION

LAMP TYPES

SON/MBI = 150W, 250W, 400W (Tubular)
Tungsten Halogen = 500W

POWER SUPPLY

220V, 230V, 240V, 254V 50Hz

POWER FACTOR

Better than 0.85

TERMINALS

3 core up to 6 mm^2 conductors with looping. Terminals for live constant, neutral & earth are provided. Internally earthed, external earth terminal as standard.

CABLE ENTRIES

2 x M20 cable entries.
Supplied with 1 x transit plug and 1 x blanking plug.
Cable entry devices (i.e. glands) must maintain the IP rating of the luminaire.

TEMPERATURE

Refer to matrix above for maximum ambient temperature for lamp, T rating & orientation.

MATERIALS

Main Body	Epoxy painted marine grade stainless steel.
Lampglass	Toughened glass.
Gasket	Silicone rubber.
External Fasteners	Stainless steel.

WEIGHT

150W - 19Kg
250W - 20.5Kg
400W - 21Kg
500W - 16.5Kg
110/120V - 23Kg

MOUNTING

Stainless steel stirrup bracket.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60	60Hz
/M25	M25 Entries
/TI	Timed cut-out ignitor
/WA	Suitable for wire guard or anti-glare shield
/N	Narrow beam reflector

ACCESSORIES

Wire guard
S8644-0004
(Requires /WA suffix when ordering)

Pole mount bracket
S2400-0002

Spigot mount bracket
S2400-0007

Anti-glare shield
S8644-0002
(Requires /WA suffix when ordering)

To calculate photometric values for lighting design, please use the free Victor LiteGuide™ software package.
To request your copy, please contact your local Victor agent or download a copy from the website.
Design is subject to alteration without notice. Please refer to the website www.victor-lighting.com for the latest details.
All products are sold subject to our conditions of sale, available on request.
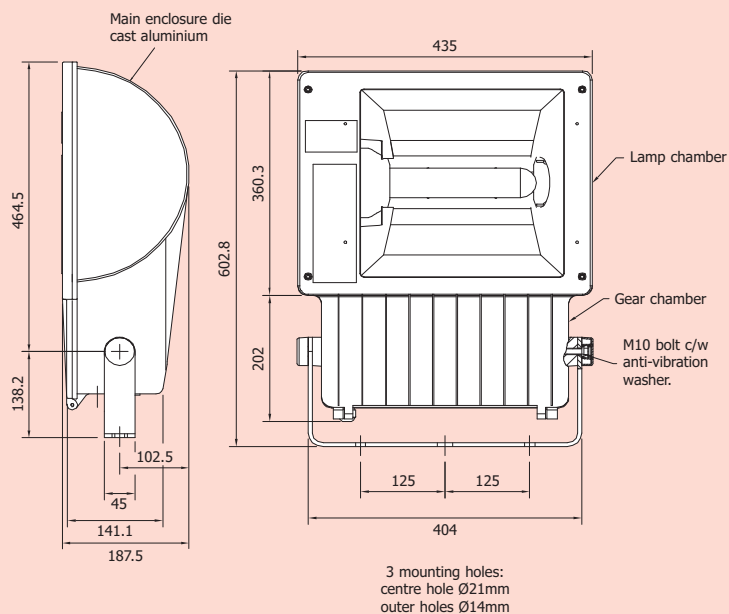
FEATURES AND BENEFITS

Compact light weight design • Integral control gear • Hinged lid assembly for easy re-lamping • Range of lamp options

CERTIFICATION & APPROVALS

Ingress protection IP66 and IP67
to EN60529

Designed & manufactured
to EN60598-1

DIMENSIONS

Main enclosure die
cast aluminium

464.5

138.2

102.5

45

141.1

187.5

435

360.3

602.8

202

125   125

404

Lamp chamber

Gear chamber

M10 bolt c/w
anti-vibration
washer.

3 mounting holes:
centre hole Ø21mm
outer holes Ø14mm

Dimensions in millimetres

ORDERING REFERENCE

Std. Cat Ref.	Wattage	Lamp Type	Lampholder
V10I/150/MS	150W	HPS/Metal Halide	E40
V10I/250/MS	250W	HPS/Metal Halide	E40
V10I/250/MV	250W	Mercury Vapour	E40
V10I/400/MS	400W	HPS/Metal Halide	E40
V10I/400/MV	400W	Mercury Vapour	E40
V10I/500/TH	500W	Tungsten Halogen	E40

TECHNICAL SPECIFICATION

LAMP TYPES

SON - 150W Tubular
SON and MBI - 250W Tubular
SON and MBI - 400W Tubular
Tungsten Halogen - 500W Max (single ended)
GLS - 500W Max

POWER SUPPLY

220V, 230V, 240V and 250V 50/60Hz
250V Max for halogen & GLS

POWER FACTOR

Greater than 0.85

TERMINALS

3 core up to 4 mm^2 conductors with looping. Terminals for live constant, neutral & earth are provided. Internally earthed.

CABLE ENTRIES

2 x M20 cable entries.

Supplied with 1 x transit plug and 1 x Ex blanking plug.

Cable entry devices (i.e. glands) must maintain the IP rating for the luminaire.

MATERIALS

Main body	LM6 aluminium alloy (Die Cast).
Lampglass	Toughened glass.

WEIGHT

400W SON Lamps - 16Kg

SUSPENSION

Galvanised steel stirrup bracket with protractor for elevation angle setting.

OPTIONS - SUFFIX TO CATALOGUE REF.

/60   60Hz

/M   Medium beam reflector

ACCESSORIES

Pole mount bracket
SV10N-00005

Spigot mount bracket
SV10N-00004

LAMP LUMEN OUTPUT AND EFFICACY

The following table shows typical lumen outputs for common lamp types which can be used with Victor Lighting luminaires.
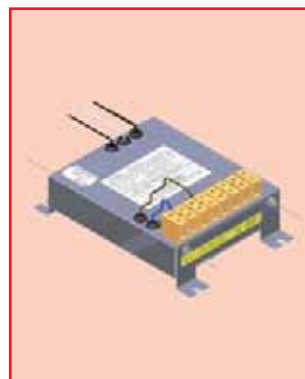
Individual lamps form different manufacturers may vary for those stated in this table. If you require details on a specific lamp, please check with the lamp supplier.

Lamp lumen output also decreases over time and with continuous usage.

LAMP TYPE	LUMEN OUTPUT (lm)	LUMINOUS EFFICACY (lm/W)
Fluorescent T8 (White, colour 84)		
18W T8	1350	75
36W T8	3350	93
58W T8	5200	90
Compact Fluorescent		
11W	900	82
18W	1200	67
26W	1800	69
HPS, SON-T		
50W ("Super" type)	4400	88
70W	5900	84
100W ("Super" type)	10000	100
150W	14500	97
250W	27000	108
400W	48000	120
HPS, SON-E		
50W	3500	70
70W	5600	80
100W ("Super" type)	9500	95
150W	14000	93
250W	25000	100
400W	47000	118
Twin Arc HPS (tubular, clear)		
50W	4000	80
70W	6500	93
100W	10000	100
150W	17000	113
250W	32000	128
400W	55000	138
Twin Arc HPS (elliptical, coated)		
50W	3600	72
70W	6000	86
100W	9500	95
150W	15500	103
250W	30000	120
400W	52500	131

LAMP TYPE	LUMEN OUTPUT (lm)	LUMINOUS EFFICACY (lm/W)
Metal Halide (tubular, clear)		
70W	4800	69
100W	8100	81
150W	12600	84
250W	17100	68
400W	32400	81
Metal Halide (elliptical, coated)		
70W	4800	69
100W	7700	77
150W	11300	75
250W	20000	80
400W	38000	95
Mercury Vapour		
50W	1800	36
80W	3800	48
125W	6300	50
250W	13000	52
400W	22000	55
Mercury-Tungsten Blended		
160W	3100	19
Induction QL		
55W	3500	64
85W	6000	71
165W	12000	73
GLS (frosted)		
60W	720	12
100W	1360	14
150W	2200	15
200W	3100	16

Although all the products on the Victor Lighting range are made to the highest standards using quality materials and workmanship, over time these may need to be replaced. To assist you we have compiled a list of the most commonly requested spare parts and ballasts for our Hazardous Area range.

If you need to replace an item that is not listed below, please contact your local agent or directly to **info@victor-lighting.com**

TRIDENT VL125/VL126 COMPONENTS	
Battery - 6.0V 4Ah 5 cell	V192053S
Ballast cover - Clear	V192288A
Ballast cover - Grey	V192288
Emergency Fuse Assembly	V948934
18W Lamp envelope assembly and spine	V045032S
36W Lamp envelope assembly and spine	V045032AS
58W Lamp envelope assembly and spine	V045032BS
11W Emergency lamp	SPATE-00004

EXCALIBUR VL19E/VL24E COMPONENTS	
Em Battery & Fuse Holder assembly - VL24E	V949639S
Lamp envelope gasket	V148372
Ballast housing	V148362
Ballast housing Gasket	V148375
Battery - 12V 4Ah 10 cell	V148852
Operating Switch	V148816
Microswitch Assembly	V948803
Fuse & Fuse holder Assembly	V949013S
Lampholder - 3 per fitting	V144300
Lampholder Spring - 3 per fitting	V144301
Lampholder Retainer - 3 per fitting	V144302
Lamp centring ring - T8 lamps	V149704
Terminal Block 4 way	V149067
Terminal Block 6 Way	V149128
18W Lamp envelope assembly - Mono-Pin	V948360CS
18W Lamp envelope assembly - Bi-Pin	V990788AS
18W Lamp envelope assembly - Mono-Pin	V948816AS
18W Lamp envelope assembly - Bi-Pin	V990789AS
Replacement Cover Assembly - VL19E	V043740AS
Replacement Cover/Cable/Plug - VL24E	V043741AS
36W Lamp envelope assembly - Mono-Pin	V948360BS
36W Lamp envelope assembly - Bi-Pin	V990788S
36W Lamp envelope assembly - Mono-Pin	V948816S
36W Lamp envelope assembly - Bi-Pin	V990789S
36W Replacement Cover Assembly - VL19E	V043740S
36W Replacement Cover/Cable/Plug Assembly - VL24E	V043741S

TRIDENT VL125/VL126

2x18watt	Ballast	V992323AS	220-254V 50/60Hz
	Ballast Low voltage	V992604AS	110-130V 50/60Hz
	Em ballast lid	STRIE-00002	Lid Assembly HV/LV
2x36watt	Ballast	V992323S	220-254V 50/60Hz
	Ballast Low voltage	V992604BS	110-130V 50/60Hz
	Em ballast lid	STRIE-00001	Lid Assembly
	Em ballast Low voltage	STRIE-00003	Lid Assembly LV
2x58watt	Ballast	V992323BS	220-254V 50/60Hz
	Em ballast lid	STRIE-00001	Lid Assembly HV

EXCALIBUR VL19E/VL24E

2x18watt HV	Electronic Ballast	V044408S	220-277V 50/60Hz
	Em ballast/Inverter	V044410BS	220-277V 50/60Hz
2x18watt LV	Electronic Ballast	V044502S	100-130V 50/60Hz
	Em ballast/Inverter	V044508BS	100-130V 50/60Hz
2x36watt HV	Electronic Ballast	V044407S	220-277V 50/60Hz
	Em ballast/Inverter	V044409BS	220-277V 50/60Hz
2x36watt LV	Electronic Ballast	V044501S	100-130V 50/60Hz
	Em ballast/Inverter	V044507BS	100-130V 50/60Hz

PATHFINDER VL114E/VL114S

Ballast	V0136H11100S	1X11W Ballast (high Voltage)
Inverter	STRIE-00001	1x11W Lid Assembly (Non-Maintained)
Inverter	V992328BS	1x11W Lid Assembly (Maintained)
Ballast	V992323D	2x18W (No Lamp Holders)
Lamp	SPATE-00004	1x11W lamp assembly
Lamp	SPATE-00001	1x18W lamp assembly

VL77/VL78

2x18watt	Ballast	G7536-2240-E0L	220-254V 50/60Hz
	Ballast	G7536-2120-E0L	110-120V 50/60Hz
	Em ballast - 90min	G7618-5240E0L	220-254V 50/60Hz
	Em ballast - 90min	G7618-5120-E0L	110-120V 50/60Hz
	Em ballast - 3 hour (/3H)	G7618-1240-E0L	220-254V 50/60Hz
	Em ballast - 3 hour (/3H)	G7618-1120-E0L	110-120V 50/60Hz
	Battery	PROT2-0005	4Ah
2x36watt	Ballast	G7536-2240-E0L	220-254V 50/60Hz
	Ballast	G7536-2120-E0L	110-120V 50/60Hz
	Em ballast - 90min	G7636-4240-E0L	220-254V 50/60Hz
	Em ballast - 90min	G7636-4120-E0L	110-120V 50/60Hz
	Em ballast - 3 hour (/3H)	G7636-1240-E0L	220-254V 50/60Hz
	Em ballast - 3 hour (/3H)	G7636-1120-E0L	110-120V 50/60Hz
	Em ballast - 90min (/HEO)	G7636-5240-E0L	220-254V 50/60Hz
	Em ballast - 90min (/HEO)	G7636-5120-E0L	110-120V 50/60Hz
	Battery	PROT2-0005	4Ah (90min)
	Battery	PROT2-0006	7Ah (3H & HEO version)

Ex REPLACEMENT BALLASTS & INVERTERS

VL104C

2x18watt	Ballast	G7536-2240-E0L	220-277V 50/60Hz
	Em ballast - 90min	G7618-5240-E0L	220-277V 50/60Hz
	Em ballast - 3 hour (/3H)	G7618-1240-E0L	220-277V 50/60Hz
2x36watt	Ballast	G7536-2240-E0L	220-277V 50/60Hz
	Em ballast - 90min	G7636-5240-EOL	220-277V 50/60Hz
	Em ballast - 3 hour (/3H)	G7636-1240-E0L	220-277V 50/60Hz
4x18watt	Ballast	G7536-2240-E0L	220-277V 50/60Hz
	Em ballast - 90min	G7618-5240-E0L	220-277V 50/60Hz
	Em ballast - 3 hour (/3H)	G7618-1240-EOL	220-277V 50/60Hz
4x36watt	Ballast	G7536-2240-E0L	220-277V 50/60Hz
	Em ballast - 90min	G7636-5240-E0L	220-277V 50/60Hz
	Em ballast - 3 hour (/3H)	G7636-1240-E0L	220-277V 50/60Hz

VISCOUNT VL51A/VL52A

1x8watt	Em Inverter	V191689	230/240V 50/60Hz (Non Maintained)
	Em Inverter	V191689A	230/240V 50/60Hz (Maintained)
1x8watt	Ballast	T-90769905	220-240V 50/60Hz
2x8watt	Ballast	T-90769906	220-240V 50/60Hz
1x18watt	Ballast	V044888S	110-254V 50/60Hz
2x18watt	Ballast	V044894S	220-254V 50/60Hz
	Em Ballast/Inverter	V991929S	220-254V 50/60Hz
	Ballast Low Voltage/VL51A	V044893S	110-130V 50/60Hz
	Ballast/Inverter Low Voltage VL52A	V991929CS	110-130V 50/60Hz
1x36watt	Ballast	V044890S	220-254V 50/60Hz
	Ballast Low Voltage/VL51A	V044889S	110-130V 50/60Hz
2x36watt	Ballast	V044896S	220-254V 50/60Hz
	Em Ballast/Inverter	V991929AS	220-254V 50/60Hz
	Ballast Low Voltage/ VL51A	V044895S	110-130V 50/60Hz
	Ballast/Inverter Low Voltage VL52A	V991929DS	110-130V 50/60Hz
1x58watt	Ballast	V044892S	220-254V 50/60Hz
	Ballast Low Voltage/VL51A	V044891S	110-130V 50/60Hz
2x58watt	Ballast	V044898S	220-254V 50/60Hz
	Em Ballast /Inverter	V991929BS	220-254V 50/60Hz

TITAN VL38

50watt HS	Ballast	V190954	SON 50W 240V 50Hz
	Capacitor	G4800-1001	6µF 250V
	Ignitor	G2200-5070	50W/70W Max SON
50watt MV	Ballast	V192142	MBF 50W 240V 50Hz
	Capacitor	V192147	6µF 250V
55watt QL	55W QL Lamp System	V192024	Lamp/Ballast/Inductor Wand
70watt HS	Ballast	V192145	SON/MBI 70W 240V 50Hz
	Capacitor	V192149	10µF 250V
	Ignitor	V191502	150W Max SON/MH
80watt MV	Ballast	V192143	MBF 80W 240V 50Hz
	Capacitor	V192148	8µF 250V
85watt QL	85W QL Lamp System	V192024A	Lamp/Ballast/Inductor Wand)
1X15watt CF	Ballast	V192009	CFL 1x10/13W
1X18watt CF	Ballast	V192009A	CFL 1x18W
125watt MV	Ballast	V192144	MBF 125W 240V 50Hz
	Capacitor	V192149	10µF 250V
2X13watt CF	Ballast	V192009C	CFL 2x10/13W
2X18watt CF	Ballast	V192009D	CFL 2x18W
2X26watt CF	Ballast	V192009E	CFL 2x26W
1X26watt CF	Ballast	V192009B	CFL 1x26W

TITAN VL39

150watt MS	Ballast	V192555	SON/MBI 150W 240V 50Hz
	Capacitor	G4800-2000	20µF 250V
165watt QL	165W QL Lamp System	V192024B	Standard voltage (220 - 240V)
	165W QL Lamp System	V192024E	Low voltage (110 - 130V)
250watt MS	Ballast	V192556	SON/MBI 250W 240V 50Hz
	Capacitor	V191022	30µF
250watt MV	Ballast	V192557	MBF 250W 240V 50Hz
	Capacitor	V191410	16µF
400watt MS	Ballast	V192561	SON 400W 240V 50Hz
	Ballast	V192558	MBI 400W 240V 50Hz
	Capacitor	V190967	40µF
400watt MV	Ballast 400W MBF-50Hz	V192560	MBF 400W 240V 50Hz
	Capacitor 20UF	V191089	40µF

TITAN II VL147

Please contact the technical sales dept, technical@victor-lighting.com

VL64 EP

150watt MS	Ballast	G1191-0150A	150W 220/230/240/254V 50Hz
	Capacitor	G4800-2000	20 µF
	Ignitor	G2200-5000	Superimposed Ignitor
250watt MS	Ballast	G1191-0250A	250W 220/230/240/254V 50Hz
	Capacitor	G4800-1500 x 2	2 x 15 µF
	Ignitor	G2200-5000	Superimposed Ignitor
400watt MS	Ballast	G1191-0400A	400W 220/230/240/254V 50Hz
	Capacitor	G4800-2000 x 2	2 x 20 µF
	Ignitor	G2200-5000	Superimposed Ignitor

VL65A

50watt HS	Ballast	V190954	SON 50W 240V 50Hz
	Capacitor	V190423	10µF 250V
	Ignitor	V191081D	35W-70W SON Ignitor
70watt MS	Ballast	V191246	SON 70W 240V 50Hz
	Ballast	V190849	MBI 70W 240V 50Hz
	Capacitor	V190423	10µF
	Ignitor	V191081D	35W-70W SON Ignitor
80watt MV	Ballast	V192143	MBF 80W 240V 50hz
	Capacitor	V147498	8µF 250V AC
125watt MV	Ballast	V192144	MBF 125W 240V 50Hz
	Capacitor	V190423	10uF

VL34 HELI-PAD/VL35 LED

8 x 1W	Driver Unit	SV34E-0001	LED Driver 110/254V
	Battery Pack	SV34-0007	4Ah 5.8V Battery Pack
	Battery Pack (Low Temp)	SV34-0008	4Ah 5.8V Battery Pack with heater

MARQUIS II

1x18watt	Ballast	G8400-0004	220-254V 50/60Hz AC/DC
	Em Inverter	PST2N-0001	220-254V 50/60Hz AC/DC
	Diffuser	B0801-0101	Polycarbonate Diffuser
	Battery	G9000-0145	4Ah battery
2x18watt	Ballast	G8400-0001	220-254V 50/60Hz AC/DC
	Ballast – Low Voltage	G8400-0001	110-130V 50/60Hz AC
	Em Inverter	PST2N-0001	220-254V 50/60Hz AC/DC
	Diffuser	B0801-0104	Polycarbonate Diffuser
	Battery	G9000-0145	4Ah battery
1x36watt	Ballast	G8400-0005	220-254V 50/60Hz
	Ballast – Low Voltage	G8400-0005	110-130V 50/60Hz AC
	Em Inverter	PST2N-0002	220-254V 50/60Hz AC/DC
	Em Inverter Low Voltage	PST2N-0005	110-130V 50/60Hz AC
	Diffuser	B0801-0102	Polycarbonate Diffuser
	Battery	G9000-0145	4Ah battery
2x36watt	Ballast	G8400-0002	220-254V 50/60Hz
	Ballast – Low Voltage	G8400-0002	110-130V 50/60Hz AC
	Em Inverter	PST2N-0002	220-254V 50/60Hz
	Em Inverter Low Voltage	PST2N-0005	110-130V 50/60Hz AC
	Diffuser	B0801-0105	Polycarbonate Diffuser
	Battery	G9000-0145	4Ah battery
1x58watt	Ballast	G8400-0006	220-254V 50/60Hz
	Ballast Low Voltage	G8400-0006	110-130V 50/60Hz AC
	Em Inverter	PST2N-0003	220-254V 50/60Hz AC/DC
	Em Inverter Low Voltage	PST2N-0006	110-130V 50/60Hz AC
	Diffuser	B0801-0003	Polycarbonate Diffuser
	Battery	G9000-0145	4Ah battery
2x58watt	Ballast	G8400-0003	220-254V 50/60Hz
	Ballast Low Voltage	G8400-0003	110-130V 50/60Hz AC
	Em Inverter	PST2N-0003	220-254V 50/60Hz
	Em Inverter Low Voltage	PST2N-0006	110-130V 50/60Hz AC
	Diffuser	B0801-0106	Polycarbonate Diffuser
	Battery	G9000-0145	4Ah battery

MONARCH VL14

70watt HS	Ballast	V190476	SON 70W 240V 50Hz
	Capacitor	V190423	10µF 250V
	Ignitor	G2200-5070	50/70w SON
80watt MV	Ballast	V190475	MBF 80W 240V 50Hz
	Capacitor	V148763	8µF 250V
125watt MV	Ballast	V190422	MBF 125W 240V 50Hz
	Capacitor	V190423	10µF 250V
1x26watt CF	Ballast	V190138	CFL 20W 240V 50Hz
	Capacitor	V148530	4µF 250V

MONARCH II VL15

50watt HS	Ballast	G1250-0050V	SON 50W 220/230/240V 50Hz
	Capacitor	G4800-1000	10µF 250V
	Ignitor	G2200-5100	70W/100W HS
70watt MS	Ballast	G1251-0070V	MBI 70W 240V 50Hz
	Capacitor	G4800-1000	10µF 250V
	Ignitor	G2200-5071	70W/100W HS
80watt MV	Ballast	G9000-0123	MBF 80W 22/230/240V 50Hz
	Capacitor	G4800-1000	10µF 250V
100watt MS	Ballast	G0111-0014	MBI 100W 220/240V 50Hz
	Capacitor	G4800-1000	10µF 250V
	Ignitor	G2200-5100	70W/100W HPS
125watt MV	Ballast	G9000-0124	MBF 125W 220/230/240V 50Hz
	Capacitor	G4800-1000	10µF 250V
150watt MS	Ballast	G1191-0150	MBI 150W 220/230/240/250V 50Hz
	Capacitor	G4800-2000	20µF
	Ignitor	G2200-5000	150W/250W/400W HS/MS
250watt MS	Ballast	G1158-0250A	MBI 250W 220/230/240/254V 50Hz
	Capacitor	G4800-1000	10µF 250V
	Ignitor	G2200-5000	150W/250W/400W HS/MS
250watt MV	Ballast	G9000-0125	MBF 250W 220/230/240V 50Hz
	Capacitor	G4800-2000	20µF
400watt MS	Ballast	G1191-0400A	MBI 400W 220/230/240/254V 50Hz
	Capacitor	G4800-2000	20µF
	Ignitor	G2200-5000	150W/250W/400W HS/MS
400watt MV	Ballast	G9000-0128	MBF 400W 220/230/240V 50Hz
	Capacitor	G4800-1000	10µF 250V

VANGUARD VL20

70watt HS	Ballast	V149321	SON 70W 240V 50Hz
	Capacitor	V148902	10µF 250V
	Ignitor	G2200-5070	50/70W SON
80watt MV	Ballast	V149450	MBF 80W 240V 50Hz
	Capacitor	V147498	8µF 250V

REGENT VL71

150watt HS	Ballast	G1185-0150A	SON 150W 220/230/240/254V 50Hz
	Ballast (60 Hz)	G9000-0102	SON 150W 220/230/240/254V 60Hz
	Capacitor	G4800-2000	20µF
	Ignitor	G2200-5000	150W/250W/400W HS/MS
250watt HS	Ballast	G1158-0250A	SON 250W 220/230/240/254V 50Hz
	Ballast (60 Hz)	G9000-0101	SON 250W 220/230/240/254V 60Hz
	Capacitor	G4800-3000	30µF
	Ignitor	G2200-5000	150W/250W/400W HS/MS
	Transformer (110-120V)	G3005-0502	Low to High voltage Transformer
400watt HS	Ballast	G1151-0400A	SON 400W 220/230/240V 50Hz
	Ballast (60 Hz)	G9000-0130	SON 400W 220/230/240V 60Hz
	Capacitor	G4800-2000	20µF
	Ignitor	G2200-5000	150W/250W/400W HS/MS
	Transformer (110-120V)	G3005-0502	Low to High voltage Transformer

VL100

150watt HPS/MH	Ballast 150W-50Hz	V192012	SON/MBI 150W 240V 50Hz
	Capacitor 20µf 250V	V191089	20µF 250V
	Ignitor 100/400	V148586	100W/400W
250watt HPS/MH	Ballast 250W-50Hz	V192010	SON/MBI 250W 240V 50Hz
	Capacitor 30µf	V191022	30µF 250V
	Ignitor 100/400W	V148586	100W/400W
250watt MV	Ballast 250W-50Hz	V192018	MBF 250W 240V 50Hz
	Capacitor 16µf stud fix	V191410	16µF 250V
400watt HPS/MH	Ballast Ballast 220-254V 50Hz	V191948	SON/MBI 400W 240V 50Hz
	Capacitor 40µf	V190967	40µF 250V
	Ignitor	V148586	100W/400W
400watt MV	Ballast 400W 50Hz	V192016	MBF 400W 240V 50Hz
	Capacitor 20µf 250V	V191089	20µF 250V

COMMON LAMP TERMINOLOGY

HID	High Intensity Discharge	MBI	Metal Halide
CFL	Compact Florescent	HQI	Metal Halide
TH	Tungsten Halogen	MBFU	Mercury Vapour
HPS	High Pressure Sodium	MBTF	Blended Mercury Vapour
SON-E	High Pressure Sodium (Eliptical)	QL	Induction Lamp
SON-T	High Pressure Sodium (Tubular)	LED	Light Emitting Diode

HAZARDOUS AREA STANDARDS AND APPROVALS

There are different standards used for hazardous areas and electrical equipment designed for use in those environments, depending upon where in the world they are to be used. In Europe EN standards are used to gain compliance with the ATEX directive. In the USA the standard is NEC (National Electric Code), with a variant called CEC (Canadian Electric Code) used in Canada. In addition some countries have their own approval standards (e.g. GOST for Russia and the former Soviet States, TISI for Thailand, etc), however these are often based on IEC standards.

To simplify matters an attempt is being made to harmonise all major standards for use in the IECEx scheme. The aim of the IECEx Scheme is to facilitate international trade in electrical equipment intended for use in explosive atmospheres (Ex equipment) by eliminating the need for multiple national certification while preserving an appropriate level of safety.

Whilst the standards used in Europe and America are intended to achieve the safe installation and operation of electrical equipment in hazardous areas, they are different in principles, classification and approach.

The purpose of the following guide is to detail some of the differences in the two approaches and to use a step-by-step process to select the correct type of luminaire or other electrical equipment for use in a hazardous area.

THE CLASSIFICATION OF HAZARDOUS AREAS INTO ZONES IS GIVEN FOR GAS MIXTURES, IN IEC OR EN 60079-10 AND SELECTION IN IEC OR EN 60079-14.

FOR COMBUSTIBLE DUST HAZARDS THE EUROPEAN STANDARDS ARE EN 61241-10 AND EN 61241-14.

THE INFORMATION FOLLOWING IS GIVEN AS BACKGROUND TO THE USE OF THE ABOVE STANDARDS. THE APPLICATION OF THE STANDARDS AND ANY LOCAL REGULATION IS THE RESPONSIBILITY OF THE USER.

EUROPEAN HAZARDOUS AREA EQUIPMENT DIRECTIVE, STANDARDS AND APPROVALS

ATEX DIRECTIVE

The ATEX Directive 94/9/EC is a directive adopted by the European Union (EU) to facilitate free trade in the EU by aligning the technical and legal requirements in the Member States for products intended for use in potentially explosive atmospheres.

The Directive covers electrical and mechanical equipment and protective systems, which may be used in potentially explosive atmospheres (flammable gases, vapours or dusts.) It became mandatory at the end of June 2003 for Europe.

One of the significant changes that was introduced in the ATEX directive was the move away from defining types of equipment by their protection concept and using categories instead. These are in effect levels of safety. They are linked to the protection concept by the wording in the individual harmonised European standards. In fact the definition of the categories aligns the protection concept with it's traditional area of use. The directive for use is 99/92/EC.

The table below shows the relationship between the category and the expected zone of use.

It is very important to emphasise that the ATEX categories are levels of safety. The various types of protection are put into these categories of safety as shown in the EN equipment standards. The hazardous area classification into zones is entirely separate.

However, because the types of protection have been designed for use in particular hazardous areas and the application/installation standards give the basic suitability of types of protection for different zones, the ATEX categories align with the zone of use for practical purposes. This is provided that other attributes of the equipment or zone do not conflict and that the risk assessment for the zone does not dictate differently.

Category 1 - Zone 0

Category 2 - Zone 1

Category 3 - Zone 2

Category	Degree of Safety	Design Requirement	Application	Expected Zone of Use
1	Very high level of Safety	Two independent means of protection or safe with two independent faults	Where explosive atmospheres are present continuously or for lengthy periods	Zone 0 (gas) and Zone 20 (dust)
2	High level of Safety	Safe with frequently occurring disturbances or with a normal operating fault	Where explosive atmospheres are likely to occur	Zone 1 (gas) and Zone 21 (dust)
3	Normal level of Safety	Safe in normal operation	Where explosive atmospheres are likely to occur infrequently and be of short duration	Zone 2 (gas) and Zone 22 (dust)
ATEX Categories and Applications				

STEP BY STEP PRODUCT SELECTION GUIDE

STEP 1

Establish if the hazardous area is due to the presence of an explosive gas or an explosive dust.

EXPLOSIVE GASES

Using the table FIG. 1.0 below, ascertain first if the gas present is a group I or group II gas.

- Group I gases are firedamp methane gas. These are usually associated with mining applications.

- Group II gases are all other explosive gases as listed opposite with relevant subdivisions A, B or C according to the nature of the chemical content. These are usually associated with surface applications.

GROUP IIA				GROUP IIB	GROUP IIC
Hydrocarbons **Alkanes:** Methane Ethane Propane Butane Pentane Hexane Heptane Octane Nonane Decane Cyclobutane Cyclopentane Cyclohexane Cycloheptane Methylcyclobutane Methylcyclopentane Methylcyclohexane Ethylcyclobutane Ethylcyclopentane Ethylcyclohexane Decahydronaphthalene (decaline) **Alkenes:** Propene (propylene) **Aromatic hydrocarbons:** Styrene Methylstyrene **Benzene and its** **derivatives:** Benzene Toluene Xylene Ethylbenzene Trimethylbenzene Naphthalene Cumene Cymene	**Mixtures of** **hydrocarbons:** Industrial methane Turpentine Petroleum naphtha Oil naphtha Petroleum (including petroleum spirits) Dry cleaning solvents Fuel oil Kerosene Gas-oil Benzole for cars **Compounds containing** **oxygen:** **Oxides:** (including ethers): Carbon monoxide Dipropyl ether **Alcohols and phenols:** Methanol Ethanol Propanol Butanol Pentanol Hexanol Heptanol Octanol Nonanol Cyclohexanol Methylcyclohexanol Phenol Cresol Diacetone-alcohol **Aldehydes:** Acetaldehyde Methaldehyde	**Ketones:** Acetone Ethyl-methyl ketone Propyl-methyl ketone Butyl-methyl ketone Amyl-methyl ketone 2,4-Pentanedione (acetylacetone) Cyclohexanone **Esters:** Methyl formate Ethyl formate Methyl acetate Ethyl acetate Propyl acetate Butyl acetate Amyl acetate Methyl methacrylate Ethyl methacrylate Vinyl acetate Ethyl acetyacetate **Acids:** Acetic acid **Compounds containing** **halogens** **Compounds with no** **Oxygen:** Chloromethane Chlorethane Bromoethane Chloropropane Chlorobutane Bromobutane Dichlorethane Dichloropropane Chlorobenzene Benzyl chloride Dichlorobenzene Allyl chloride Dichloroethylene	Chloroethylene (vinyl chloride) Benzyl trifluoride Methylene chloride **Compounds containing** **Oxygen:** Acetyl chloride Chloroethanol **Compounds containing** **Sulphur:** Ethyl mercaptan Propyl mercaptan Thiophene Tetrahydrothiophene **Compounds containing** **Nitrogen:** Ammonia Acetonitrile Nitromethane Nitroethane **Amines:** Methylamine Dimethylamine Trimethylamine Diethylamine Propylamine Butylamine Cyclohexylamine Monoethanolamine Diaminoethane Anline Dimethylaniline Amphetamine Toluidine Pyridine	**Hydrocarbons** Allylene (Propyn) Ethylene Cyclopropane Butadine **Compounds containing** **Nitrogen:** Acrylonitrile Isopropyl nitrate Hydrocyanic acide **Compounds containing** **Oxygen:** Mrthyl ether Ethylmethyl ether Ethyl ether Butyl ether Ethylene oxide (epoxyethane) Epoxy-propane Dioxoian Dioxin Trioxin Butyl hydoxyacetate Tetrahydrofurfuryl Methyl acrylate Ethyl acrylate Furane Crotonaldehyde Acrolien Tetrahydrofuran **Mixtures:** Gas from a coke furnace **Compounds containing** **Halogens:** Telrafluoroethylene Propane, 1 chloro. 2,3 epoxy (epichlorohydrin)	Hydrogen Acetylene Carbon disulphide

FIG 1.0

COMBUSTIBLE DUSTS

If an area is classed as hazardous due to the presence of combustible dust, it is important to establish if it is a metallic or non metallic dust. The latest series of standards for electrical apparatus in the presence of combustible dust that will provide protection concepts, installation and selection requirements will be the EN/IEC 61241 series.

The most commonly used part of the EN 61241 series applicable to luminaires will be EN 61241-1: Protection by enclosures with marking "tD". It should be noted that this standard outlines to two techniques that provide equivalence in safety but different requirements in terms of selection and installation.

The two techniques are "Practice A" and "Practice B", practice B is principally a prescriptive based technique where practice A is performance based. Practice A is the most commonly used technique, where dust may form in layers up to 5mm thick and where a temperature difference of 75K is specified between the maximum surface temperature and the ignition temperature of the dust; the method of determining dust ingress is according to IEC 60529 the IP code. Practice A and Practice B apply to Zones 21 and 22. For clarity the zones for dust can be described as follows:

ZONE 21

Where a combustible dust, as a cloud, is likely to occur during normal operation in sufficient quantity to be capable of producing an explosive concentration of combustible or ignitable dust in mixture with air.

ZONE 22

In this zone, combustible dust clouds may occur infrequently, and persist for only a short time, or in which accumulation or layers of combustible dust may be present under abnormal conditions and give rise to ignitable mixtures of dust in air. Where following an abnormal condition, the removal of dust accumulations or layers cannot be assured, then the area shall be classified as zone 21.

STEP 2

Now having established which gas or dusts are present, the next thing to establish is the hazardous area category. FIG 1.1 below sets out the zone definitions to classify your area.

ZONE	TYPE OF PROTECTION ASSIGNED TO APPARATUS
Zone 0	An area in which an explosive atmosphere is continuously present or for long periods or frequently
Zone 1	An area in which an explosive atmosphere is likely to occur in normal operation occasionally
Zone 2	An area in which an explosive atmosphere is not likely to occur in normal operation and if it occurs it will exist only for a short time. (Zone 2 is often described as the 'remotely hazardous area'.)
HAZARDOUS AREA CLASSIFICATION	

FIG 1.1

Using the guide in FIG 1.1 you can now classify the hazardous area into a zone. If you are unsure as to which zone an area should be classified as, please refer to your local health and safety officer or your fire brigade for guidance. Victor Lighting or any other manufacturer of hazardous area equipment is not able to offer any advice in this respect.

STEP 3

Having now identified the zone and gas/dust present in the hazardous area, the ignition temperature of the gas/dust needs to be ascertained. For atmospheres containing explosive dust, the ignition temperature of the dust needs to be established both when it is in a cloud and when it is in a layer. This information can be found from the table in FIG 1.2.

EXPLOSIVE GASES

GAS	IGNITION TEMP $^{\circ}$C	GAS	IGNITION TEMP $^{\circ}$C	GAS	IGNITION TEMP $^{\circ}$C
Acetic acid (glacial)	464	Isopropyl ether	443	Vinyl chloride	472
Acetone	465	Mesityl oxide	344	Xylenes (o-xylene)	463
Acrylonitrile	481	Methane (natural gas)	537	Acrolein (inhibited)	220
Ammonia	651	Methanol (methyl alcohol)	385	Arsine	NA
Benzene	498	3-methyl-1-butanol (isoamyl alcohol)	350	Butadiene	420
Butane	287	Methyl ethyl ketone	404	Ethylene oxide	429
1-butanol (butyl alcohol)	343	Methyl isobutal keytone	448	Hydrogen	500
2-butanol (secondary butyl alcohol)	405	2-methyl-1-propanol (isobutyl alcohol)	415	Propylene oxide	449
N-butyl acetate	425	2-methyl-1-propanol (tertiary butyl)	478	Propylnitrate	175
Isobutyl acetate	421	Petroleum naphta	288	Ethylene	450
Sec-butyl alcohol	343	Pyridine	482	Ethylenmine	320
Di-isoutylene	391	Octanes	206	Ethyl mercaptan	300
Ethane	472	Pentanes	260	Ethyl sulfide	NA
Ethanol (ethyl alcohol)	363	1-pentanol (amyl alcohol)	300	Hydrogen cyanide	538
Ethyl acetate	426	Propane	432	Hydrogen sulfide	260
Ethylene diamine (anhydrous)	385	1-propanol (propyl alcohol)	412	Morpholine	310
Ethylene dichloride	413	2-propanol (isopropyl alcohol)	399	2-nitropropane	428
Gasoline (56-60 octane)	280	Propylene	455	Tetrahydrofuran	321
Hexanes	223	Styrene	490	Unsymmetrical dimethyl	
Heptanes	204	Toluene	480	hydrazine (udmh 1. 1-	249
Isoprene	395	Vinyl acetate	402	dimethyl hydrazine	

EXPLOSIVE DUSTS
METALLIC

MATERIAL	CLOUD	LAYER
Aluminum	650	760
Magnesium	620	490
Titanium	330	510
Zinc	630	430
Bronze	370	190
Chromium	580	400
Tin	630	430
Cadmium	570	250

EXPLOSIVE DUSTS
NON METALLIC

MATERIAL	CLOUD	LAYER
Alfalfa	460	200
Cocoa	420	200
Coffee	410	220
Corn	400	250
Cornstarch	380	200
Malt	400	250
Skim milk	490	200
Rice	440	220
Sugar	350	400
Wheat	480	220
Coal (pittsburgh seam)	610	180
Wheat flour	380	360
Cellulose acetate	450	390
Ethyl acetate	450	390
Nylon	500	430
Polyethylene	450	380
Polystyrene	560	-
Epoxy	540	-
Polyurethane	550	390
Cork	490	280
Wood flour (white pine)	470	260

EXPLOSIVE FIBRES

MATERIAL	CLOUD	LAYER
Cotton lint	520	-
Flax	430	230
Rayon	520	250

FIG 1.2

STEP 4

Knowing the ignition temperature of the explosive atmosphere, the zone and the gas grouping or dust type we are better able to decide upon the appropriate type of electrical apparatus required. It is important therefore to understand the certified protection concepts recognised for safe operation as used for an ATEX category and/or within a zone.

The category in ATEX links to types of protection listed below. If the ATEX categories are used as a cross reference to zones then the protection concepts listed apply.

ATEX CATEGORY PROTECTION TYPE - STANDARDS AND PROTECTION METHODS

CATEGORY	PROTECTION TYPE	STANDARDS	PROTECTION METHOD
1	Ex 'ia' Intrinsic Safety.	EN 60079-11	Where the design limits the ignition spark energy to below that which will ignite the explosive gas. Safe even with two simultaneous faults.
	Special protection for Category 1 [and Zone 1]	EN 60079-26	Special construction normally based on the use of two independent types of protection both individually suitable for Category 1.
2	Intrinsic Safety	EN 60079-11	All protection methods described above for Category 1 are also suitable for Category 2.
	Ex 'e' Increased Safety	EN 60079-7	Design prevents any ignition from occurring by ensuring no normally sparking components are used and other components reduce the risk of causing a fault that may cause an ignition. This is achieved by strictly controlling and limiting the temperature of components, ensuring adequate insulation is used, all electrical connections are true and the IP rating offers adequate protection against contamination.
	Ex 'd' Flameproof	EN 60079-1	The components may produce sparks that could cause ignition of the explosive gas but which are housed in an explosive proof enclosure. The design of the enclosure may allows the gas to enter, but any explosion is contained within the enclosure.

CATEGORY	PROTECTION TYPE	STANDARDS	PROTECTION METHOD
	Ex 'ib' Intrinsic Safety	As Ex ia	As Ex ia but allows for the occurrence of only one component fault.
	Ex 'tD'	EN 61241-1	Design ensures dust ingress protection and surface temperature limitation to avoid ignition of dust layer or cloud.
	Ex 'm' Encapsulation	EN 60079-18	Integral components which can potentially ignite an explosive gas are encapsulated allowing the isolation of these components from the explosive atmosphere surrounding them. This allows the strict control of surface temperatures under normal and fault conditions.
	Ex 'p' Pressurised Apparatus	EN 60079-2	One type of pressurisation maintains a positive static pressure inside the apparatus to prevent entry of gas and another maintains a continuous flow of air or inert gas to neutralise or carry away any explosive mixture entering or being formed within the enclosure. Essential to these methods are continuous monitoring systems to ensure their reliability and purging schedules on installation and following opening.
	Ex 's' Special Protection		As special protection, Ex 's' is not subject to any formal standard as such. It is used where equipment does not comply exactly with standards but where its method of operation is proven to be safe in a hazardous area environment.
	Ex 'q' Powder filling	EN 60079-5	This technique involves the mounting of potentially incendive components in an enclosure filled with sand or similar inert powder. The sand prevents explosive ignition. It was originally developed to protect heavy duty traction batteries. It is now primarily of use where the incendive action is the abnormal release of electrical energy by the rupture of fuses or failure of components used in electronic apparatus. The likelihood of possible incendive failure of the components is assessed and precautions taken to minimise it. Usually Ex q is used for discrete sub-assemblies and components inside Ex e apparatus.
3			All protection methods described above for Category 1 & Category 2 are suitable for use in Category 3
	Ex 'n' non sparking	EN 60079-15	This is a method very similar to Ex 'e' increased safety although not as stringent. The components are designed so as not to produce any sparks or dangerous temperatures in operation.
	Ex 'nA' and Ex 'nR'	EN 60079-15	The Ex non sparking 'nR' denotes the use of a restricted breathing enclosure. This technique is used where internal components run hotter than the required T rating. The T rating is achieved by mounting the offending components in a sealed enclosure to prevent the explosive atmosphere contacting them. This technique by virtue incorporates high IP ratings of minimum IP65.
	Ex 'o' Oil Immersion	EN 60079-6	Ex 'o', involves the immersion of the sparking components in oil with controlled venting.

FIG 1.3

STEP 5

Now that you have clarified the gases/dusts present, their ignition temperature, the zone and applicable protection methods, the certified temperature codings must be understood for choosing the correct luminaire. Failure to understand the relationships could result in selecting an inappropriate luminaire for the zone and atmosphere. If the luminaires T rating code signifies the surface temperature of the equipment is greater than the ignition temperature of the gas/dust present, the luminaire will ignite the surrounding atmosphere causing an explosion.

Below FIG 1.4 shows the temperature codes related to surface temperatures. Using this table check the ignition temperature of the gas/dust present, as shown in FIG 1.2. This will then indicate the suitability of the equipment you have selected, or the temperature rating of the equipment you need to select.

TEMPERATURE CLASSIFICATION	MAXIMUM SURFACE TEMPERATURE OF EQUIPMENT (°C)
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

FIG 1.4

STEP 6

The environment that the equipment will operate in is also important. Many environments are arduous and may involve the equipment being subject to the following:

TYPES OF ENVIRONMENT	EXAMPLES
Extreme high or low temperatures	Middle East/Norway
Arduous weather conditions	Offshore/Marine
Immersion in water	Dry docks
Subject to dusty atmospheres	Clean rooms/Grain silos

FIG 1.5

In order to ensure that the equipment selected will perform in the environment for which it is intended, the following factors of equipment performance need to be considered.

- Ambient temperature - Does the equipment have certification to operate within the minimum and maximum temperatures of the environment ?
- How much dust/liquid etc will the equipment be subjected to and for how long ?
- Will the equipment be subject to any likely impact during its service life ?
- Are there any chemicals/vapours present that could attack luminaires with plastic enclosures ?

When selecting equipment, the product information will state the certified operating temperature such as the example below. If in selecting equipment the product information contains no statement or reference to ambient temperature be very sceptical and do not assume. Always check and obtain written confirmation from the manufacturer.

Example Floodlight VL65A
-50°C to +55°C

Always check that the ambient temperature certification is applicable to your relevant choice of product as maximum ambient performances are often quoted and may only be applicable to certain product variants.

If the environment will subject the equipment to any dust/fibres/liquids, ensure it is certified to an appropriate level of ingress protection. This can be done using the table below.

INDEX OF PROTECTION (IP XX)

IP** degree of protection of enclosures of electrical equipment in accordance with standards IEC 529, EN 60529 and NFC 20-010. The ingress protection number (IP) is found by putting the first and second figure together. An example is shown below.

1st figure: Protection against solid bodies							
IP	0	1	2	3	4	5	6
TESTS		Ø50mm	Ø12.5mm	Ø2.5mm	Ø1mm		
	No Protection	Protected against solid bodies of 50 mm and greater (e.g. accidental contact with the hand)	Protected against solid bodies of 12.5 mm and greater (e.g. finger)	Protected against solid bodies of 2.5mm and greater (e.g. tools, wires)	Protected against solid bodies larger than 1 mm (e.g. thin tools and fine wires)	Protected against dust (no harmful deposit)	Completely protected against dust

2nd figure: Protection against liquids								
IP	0	1	2	3	4	5	6	7	8
TESTS			15°	60°					Ø50mm
	No Protection	Protected against vertically falling drops of water (condensation)	Protected against drops of water falling up to 15° from the vertical	Protected against drops of water falling up to 60° from the vertical	Protected against splashing water from all directions	Protected against jets of water from all directions	Protected against powerful jets of water from all directions	Protected against the effects of temporary immersion in water	Protected against the continuous effects of immersion in water having regard to specific conditions

FIG 1.6

Example Floodlight VL65A
Ingress protection to IP66 and IP67

A third figure is sometimes used in the index of protection. This relates to the degree of mechanical protection the equipment has been certified as having. This relates to the degree of impact energy the equipment will stand before its hazardous area and ingress protection certification is compromised. FIG 2.2 below details the levels of protection.

INDEX OF MECHANICAL PROTECTION

IK CODE	IK00	IK01	IK02	IK03	IK04	IK05	IK06	IK07	IK08	IK09	IK10
Impact energy Joule	a	0.14	0.2	0.35	0.5	0.7	1	2	5	10	20
[a] not protected to this standard											

FIG 1.7

STEP 7... FINALLY

Having covered all the rules and safety considerations of the operation of electrical equipment in a hazardous area it is now possible to select a safe and appropriate product.

INTERNATIONAL STANDARDS AND APPROVALS

A number of products in the Victor Lighting range are certified to national and international standards, details of these are outlined below.

IECEx International Certification Scheme

"The aim of the IECEx Scheme is to facilitate international trade in electrical equipment intended for use in explosive atmosphere (Ex equipment) by eliminating the need for multiple national certification while preserving an appropriate level of safety."

"The final objective of the IECEx Scheme is worldwide acceptance of one standard, one certificate and one mark."

GOST-R (Russia)

Gosstandart of Russia is responsible for:

- establishment of the general rules and recommendations for certification of products, services (works) and systems of quality and production harmonised with international norms and rules;
- carrying out the State registration of the mandatory and voluntary certification systems and of the conformity marks.

Russia participates in the following international certification systems:

- System of the International Electrotechnical Commission (IEC) for tests of electrical equipment on conformity to the safety standards.

FSETAN

Rostekhnadzar (Federal service on ecological, technical and nuclear supervision) was formally known as Gosgortekhnadzor (GGTN) and is responsible for the issue of permits and licenses for a broad range of machinery and equipment. As a separate entity to Gosstandart, FSETAN requires product types that fall under its jurisdiction to undergo a further certification process.

All potentially hazardous machinery and equipment, such as pressure vessels, boilers, burners, lifts and cranes is subject to FSETAN approval, even if it has already obtained a GOST-R Coc.

In addition, any machinery to be used in hazardous or potentially explosive environments, such as oil or gas fields, refineries or chemical plants also require a separate FSETAN permit. This applies even where the equipment itself would not normally require GOST-R approval.

GB (China)

The GB mark is the Chinese national safety certification scheme. These standards are aligned to the latest IEC standards.
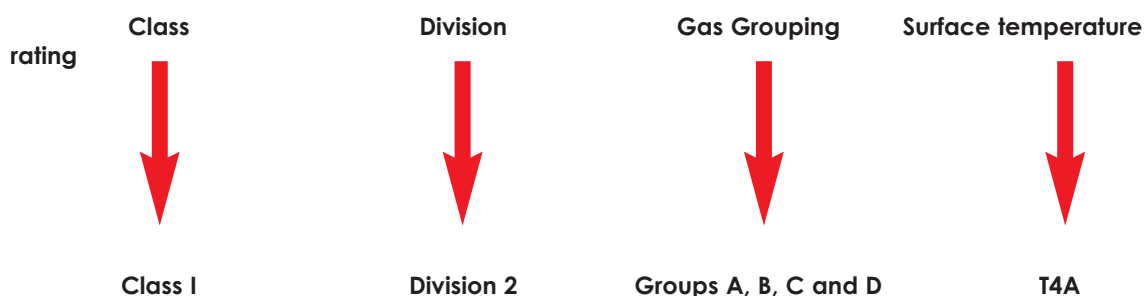
TIS (Thailand)

Thai industrial standards are a national product certification scheme. This is designed to ensure products used within the county meet minimum electrical and quality standards.

NORTH AMERICAN STANDARDS AND APPROVALS

PRODUCT CODING

As in the European section, products are coded according to their certification for use in particular types of environments.

Class rating	Division	Gas Grouping	Surface temperature
Class I	Division 2	Groups A, B, C and D	T4A

STEP I

As detailed in the European section in STEP 1 the gas/dust/fibre present in the hazardous area needs to be identified and classified under the CEC\NEC (North American) classifications detailed in FIG 1.9.

CLASS I (EXPLOSIVE GASES)

GROUP A ATMOSPHERE	
Methane (Natural Gas)	580
Propane	480
Petrol	400

GROUP B ATMOSPHERE	
Acrolein (inhibited)	220
Arsine	NA
Butadiene	420
Ethylene oxide	429
Propylene oxide	449
Propylnitrate	175

GROUP C ATMOSPHERE	
Acetylene	305
Ethylene	450
Ethylenmine	320
Ethyl mercaptan	300
Ethyl sulfide	NA
Hydrogen	500
Hydrogen cyanide	538
Hydrogen sulfide	260
Morpholine	310
2-nitropropane	428
Tetrahydrofuran	321
Unsymmetrical dimethyl hydrazine (udmh 1. 1-dimethyl hydrazine	249

GROUP D ATMOSPHERE			
Acetic acid (glacial)	464	Mesityl oxide	344
Acetone	465	Methane (natural gas)	537
Acrylonitrile	481	Methanol (methyl alcohol)	385
Ammonia	651	3-methyl-1-butanol (isoamyl alcohol)	350
Benzene	498	Methyl ethyl ketone	404
Butane	287	Methyl isobutal keytone	448
1-butanol (butyl alcohol)	343	2-methyl-1-propanol (isobutyl alcohol)	415
2-butanol (secondary butyl alcohol)	405	2-methyl-1-propanol (tertiary butyl)	478
N-butyl acetate	425	Petroleum naphta	288
Isobutyl acetate	421	Pyridine	482
Sec-butyl alcohol	343	Octanes	206
Di-isoutylene	391	Pentanes	260
Ethane	472	1-pentanol (amyl alcohol)	300
Ethanol (ethyl alcohol)	363	Propane	432
Ethyl acetate	426	1-propanol (propyl alcohol)	412
Ethylene diamine (anhydrous)	385	2-propanol (isopropyl alcohol)	399
Ethylene dichloride	413	Propylene	455
Gasoline (56-60 octane)	280	Styrene	490
Hexanes	223	Toluene	480
Heptanes	204	Vinyl acetate	402
Isoprene	395	Vinyl chloride	472
Isopropyl ether	443	Xylenes (o-xylene)	463

CLASS II (EXPLOSIVE DUSTS)

GROUP E		
MATERIAL	CLOUD	LAYER
Aluminum	650	760
Magnesium	620	490
Titanium	330	510
Zinc	630	430
Bronze	370	190
Chromium	580	400
Tin	630	430
Cadmium	570	250

MATERIAL	CLOUD	LAYER	MATERIAL	CLOUD	LAYER
Alfalfa	460	200	Wheat flour	380	360
Cocoa	420	200	Cellulose acetate	450	390
Coffee	410	220	Ethyl acetate	450	390
Corn	400	250	Nylon	500	430
Cornstarch	380	200	Polyethylene	450	380
Malt	400	250	Polystyrene	560	-
Skim milk	490	200	Epoxy	540	-
Rice	440	220	Polyurethane	550	390
Sugar	350	400	Cork	490	280
Wheat	480	220	Wood flour (white pine)	470	260

GROUP F		
MATERIAL	CLOUD	LAYER
Coal (Pittsburgh Seam)	610	180

CLASS III (EXPLOSIVE FIBRES)

MATERIAL	CLOUD	LAYER
Cotton lint	520	-
Flax	430	230
Rayon	520	250

FIG 1.9

Using FIG 1.9 we can also ascertain the ignition temperatures of the identified gas/dust/fibre present.

STEP 2

Select the Gas/Dust/Fibre type present from FIG 1.9 and note:

- Material classification
  - I = Gas
  - II = Dust
  - III = Fibre

- The material group

- If the material present is a dust or fibre and whether it forms a cloud or a layer on surfaces

- The ignition temperature of the material

STEP 3

Assess the hazardous area as in STEP 2 of the european section with regard to the potential frequency and longevity of an explosive atmosphere. This can be done using the classifications below.

DIVISION	CLASSIFICATION CRITERIA
1	Gas/dust/fibres normally present in explosive amounts during operation.
2	Gas/dust/fibres not normally present in explosive amounts during operation.

STEP 4

Now having defined the explosive gas/dust/fibres present, the nature of their presence, their ignition temperature and the classification of the hazardous area we, need to determine the temperature classifications to ensure the selection of equipment which will be safe in operation.

The classifications, which are similar to Europe, are further subdivided as follows

NORTH AMERICAN TEMPERATURE CLASSIFICATIONS

Temperature in Fahrenheit	Temperature in Celsius	North American Temperature code
842	450	T1
572	300	T2
536	280	T2A
500	260	T2B
446	230	T2C
419	215	T2D
392	200	T3
356	180	T3A
329	165	T3B
320	160	T3C
275	135	T4
248	120	T4A
212	100	T5
185	85	T6

FIG 2.0

Product markings will often show the actual rated temperature in brackets next to the temperature code to make judgement and selection easier.

STEP 5

Finally we need to take cognisance of the environment in which the equipment will be operating with respect to the concentration of liquids/gas/dust/fibres and ambient temperature.

In North America environmental protection is classified using the NEMA standard as opposed to the European IP protection standard.

On establishing these operating conditions we can determine the desired environmental protection required of the equipment by using the table below.

INDEX OF NEMA PROTECTION

Provides a degree of protection against the following environmental conditions	Enclosure type											
	2	3	3R	3S	4	4X	5	6	6P	12	12K	13
Dripping and light splashing of non-corrosive liquids and falling dirt	x	x	x	x	x	x	x	x	x	x	x	x
Circulating dust, lint, fibres and flyings*	-	x	-	x	x	x	-	x	x	x	x	x
Settling airborne dust, lint, fibres and flyings*	-	x	-	x	x	x	x	x	x	x	x	x
Hose-down and splashing water	-	-	-	-	x	x	-	x	x	-	-	-
Corrosion	-	-	-	-	-	x	-	-	x	-	-	-
Occasional temporary submersion	-	-	-	-	-	-	-	x	x	-	-	-
Occasional prolonged submesrion	-	-	-	-	-	-	-	-	x	-	-	-
Oil and coolant seepage, spraying and splashing	-	-	-	-	-	-	-	-	-	-	-	x
Rain, snow and external formation of ice**	-	x	x	x	x	x	-	x	x	-	-	-
External formation of ice***	-	-	-	x	-	-	-	-	-	-	-	-
Wind-blown dust	-	x	-	x	x	x	-	x	x	-	-	-

FIG 2.1

* These fibres and flyings are non hazardous materials and are not considered sa Class II or III combustable dust or easily ignitable fibres or flyings. For these types of material refer to the Canadian Electrical Code.

** External operating mechanism(s) shall not be required to operate when the enclosure is covered in ice.

*** External operating mechanism(s) shall be operable when the enclosure is covered in ice.

EUROPEAN vs NORTH AMERICAN HAZARDOUS AREA CLASSIFICATIONS

TEMPERATURE RATINGS

Temperature in Fahrenheit	Temperature in Celsius	North American Temperature code	IEC Temperature code
842	450	T1	T1
572	300	T2	T2
536	280	T2A	T2
500	260	T2B	T2
446	230	T2C	T2
419	215	T2D	T2
392	200	T3	T3
356	180	T3A	T3
329	165	T3B	T3
320	160	T3C	T3
275	135	T4	T4
248	120	T4A	T4
212	100	T5	T5
185	85	T6	T6

Note Actual temperatures may be shown instead of T - codes in North America

COMPARISON OF 'NEMA AND IP ENVIRONMENTAL PROTECTION'

CSA or NEMA Enclosure type	Ingress protection type					
	IP23	IP30	IP55	IP65	IP66	IP67
2		x				
3			x			
3R			x			
3S			x			
4					x	
4X					x	
6						x
12			x	x		
13				x		

HAZARDOUS AREA CLASSIFICATIONS

North American to IEC / CENELEC Zone method of protection usability chart.

(Use with caution: **most Category 1 products cannot be used in North American Class I Div. 1 Areas**)

North American Approval	CENELEC/IEC equivalent Zone
Class I, Division 1	Zone 0 and 1
Class I, Division 2	Zone 2

North American Gas & Vapour Groups	CENELEC/IEC Gas and Vapour classification
Group A	IIC
Group B	IIC
Group C	IIB
Group D	IIA

HAWKE - CABLE GLANDS

Victor Lighting is a division of Hubbell Ltd and part of the Hubbell group of companies. Through its market leading brands, Hubbell can also offer a range of related electrical connection and lighting products.

Most types of hazardous and industrial lighting requires a secure interface between the luminaire and the electrical supply cable. Victor Lighting therefore recommends the use of Hawke International cable glands.
The following is a selection from the range of Hawke glands available for further information visit **www.ehawke.com**

501/421

The 501/421 cable gland provides a seal on the outer cable sheath and is intended for use on non-armoured elastomer and plastic insulated cables.

The cable gland is dual certified EExd and EExe and is suitable for installation in Zone 1 (21) and Zone 2 (22) hazardous areas.
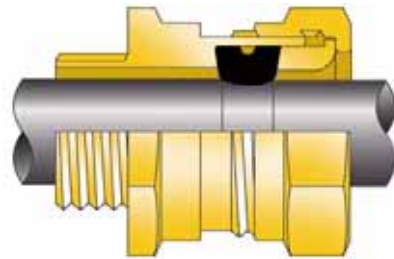
Ex nR

Suitable for restricted breathing applications.

501/453/UNIVERSAL
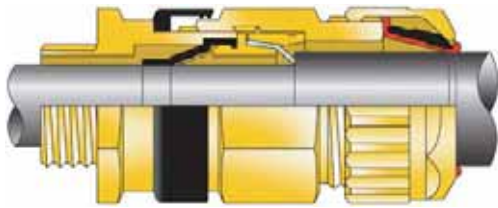
The 501/453/Universal cable gland provides a flameproof seal on the inner cable sheath and an IP seal on the outer sheath. It utilises reversible armour clamp (RAC) technology and can therefore accommodate all types of armoured or braided cables (W, X and Z). An outer deluge boot also helps prevent moisture ingress (DTS-01). The cable gland is particularly suitable for use on 'soft' inner cable sheaths that exhibit "Cold Flow" characteristics as the inner diaphragm seal will not damage the cable bedding. The cable gland is dual certified EExd and EExe and is suitable for installation in Zone 1 (21) and Zone 2 (22) hazardous areas.

501/453/RAC

The 501/453/RAC cable gland provides a flameproof seal on the inner cable sheath and an IP seal on the outer sheath. It utilises reversible armour clamp (RAC) technology and can therefore accommodate all types of armoured or braided cables (W, X and Z).

The cable gland is dual certified EExd and EExe and is suitable for installation in Zone 1 (21) and Zone 2 (22) hazardous areas.
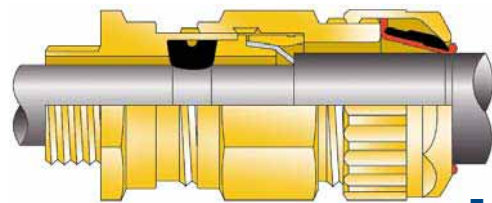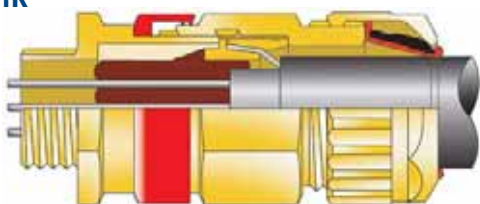
Ex nR

Suitable for restricted breathing applications.

ICG 653/UNIVERSAL

Ex nR

Suitable for restricted breathing applications.

The ICG 653/Universal cable gland provides a flameproof barrier seal on the individual insulated cable cores and prevents entry of the products of an explosion into the cable's surrounding environment. It also provides an IP seal on the cable outer sheath. The cable gland is suitable for cables that are not effectively filled and for cables with a 'soft' inner sheath that exhibit "Cold Flow" characteristics.
The cable gland is dual certified EExd and EExe and is suitable for installations in Zone 1 (21) and Zone 2 (22) hazardous areas, where the enclosure is greater than 2 litres in volume and contains an ignition source and requires IIC apparatus.

ATEX ⟨Ex⟩ CE
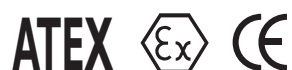
Hawke International ATEX approved connectors are ideal for explosive environments commonly found in Oil and Gas exploration, production and process plants. Their features, however, also offer numerous benefits in explosive dust environments as well as harsh and hostile non-explosive applications where temporary but safe disconnection of power is critical.
Hawke International's Ex range of connectors permit the safe and rapid service, repair and replacement of key plant, provide quick connection to temporary equipment and greatly reduce hook-up time in capital-intensive processes.
The Ex range of connectors cover three main application areas: Instrumentation, control and power.
For a guide as to which Ex connector may be best suited to an individual application the table below outlines the main variables.

SELECTION OVERVIEW

Connector Type	Minimum Number of Pins	Maximum Number of Pins	Minimum Conductor Size	Maximum Conductor Size	Maximum Voltage	Maximum Current (amps)	Live Demate
Instrum ⟨Ex⟩	4	8	0.14	2.5	250V	10	✓
Control ⟨Ex⟩	3	60	1.5	35	660V	125	✗
Power ⟨Ex⟩	1	4	50	630	750V*	780	✗

* Other voltages available on special request.

INSTRUM Ex

This revolutionary design allows the live de-mating of signal and power in hazardous areas safely and quickly. The Instrum ⟨Ex⟩ connector is available with two insert options: the 4-way option will accept cores ranging between 0.5mm² and 2.5mm² and can operate up to a maximum current of 10A at 250V AC. The 8-way option, designed predominantly for Ethernet applications, will accept cores ranging between 0.14mm² and 0.37mm² and can carry 1A at 250V. Instrum ⟨Ex⟩ connectors include an integral Hawke cable gland for easy termination of both armoured and un-armoured cables.

CONTROL Ex

The 3rd generation of Control ⟨Ex⟩ connectors include many features and refinements as a result of consumer feedback. And are suitable for control and low/medium power applications. The robust stainless steel body can hold up to 60 contacts and will accept conductor sizes ranging between 0.5mm² and 35mm², operating up to 125A and 600V. Further information on recommended cable glands for use with the ControlEx connectors can be found at www.ehawke.com

POWER Ex

The Power ⟨Ex⟩ range of connectors have been designed specifically for the extremely demanding requirements of higher power applications. Inserts are available with 1 to 4 contacts with a conductor acceptance range of between 50mm² and 630mm² operating up to 125A and 660V.

There are several innovative features common across the range of Hawke ATEX connectors. Despite their highly advanced design and technical features, the range is extremely simple to use and quick to terminate.

Impossible to cross mate

The unique mechanical keying system prevents contact damage and ensures safe use by eliminating the possibility of misconnection of circuits. Machined key and keyway also ensures connector alignment.

Ingress and deluge protected

All Hawke ATEX connectors meet the requirements of IP66 and IP67 to IEC60529. They are also deluge protected to DTS01 offering long term protection in onerous environments.

High reliability contacts

Each pin and socket is fitted with multilam technology to ensure reliable low resistance connection on each coupling.

Robust design

Designed and constructed for the most demanding environments, Hawke connectors are durable in almost any environment, requiring no routine maintenance to ensure continued performance.

www.ehawke.com

GRP RANGE

Features

The Ultimate in Robust GRP Construction
Designed to withstand impact resistance up to 20Nm. GRP Construction provides a high degree of resistance to corrosive atmospheres.

Integral Steel Earth Continuity Plate (PL7 Series)
Provides internal/external earth continuity through to the two external mounting feet.

Anti-Static Properties
Removes the risk of ignition sources through static induced sparking.
Insulation Resistance in accordance with EN 50014 : 1998, which does not exceed 1 G Ω.

External Mounting Feet
Eliminates the need to remove the lid when mounting the enclosure on the wall.

Corrosion Resistant Stainless Steel Lid Fixing Screws with Nylon Retaining Washers
Prevents loss of screws during assembly and maintenance.

One Piece Durable Captive Moulded Silicone Gasket
DTS01 deluge protection witnessed by EECS. Provides Ingress Protection to IP66.
Optimum performance at low and high temperature extremes.

Stainless Steel Rating Label
Highly durable and corrosion resistant.

STAINLESS STEEL RANGE

Features

Robust Stainless Steel Construction
Enclosure material thickness ranges between 1.2 - 2.0mm with 3mm thick gland plates. Durable stainless steel rating label.

Electropolished Surface Finish
Provides high levels of corrosion resistance.

Softer Finished Rounded Edges
Safer manual handling of enclosure and gland plates.

Rigid Slotted External Mounting Feet
Allows enclosure to be hung onto the structure.

Corrosion Resistant Stainless Steel Lid Fixing Screws with Nylon Retaining Washers
Prevents loss of screws during assembly and maintenance.

Superior Silicone Sponge Gasket
DTS01 deluge protection witnessed by EECS. Provides ingress protection to IP66.
Durable with excellent UV stability and chemical resistance.
Good chemical resistance - EMC mesh option.

Extensive Range of Enclosure Sizes Available
Nine enclosure sizes available. Sizes range from 153 x 233 x 130 to 740 x 1000 x 210.
Gland plates offered on two side faces and bottom face of each enclosure.

EZE SERIES STAINLESS STEEL

- Better access for faster installation, easier inspection and on-site modification.
- Solid back plate and base frame with a removable clamshell style lid.
- Seals shielded from the environment.
- Clip-in quick release gland plate.
- Under-wiring possible.
- Superior Silicone Compression Gasket.
- Large Terminal Capacity.

KILLARK®

INNOVATIVE THINKING HAS MADE KILLARK AN INDUSTRIAL LEADER

Killark is a leading manufacturer of NEC electrical construction products for standard, harsh and hazardous installations, The company has over 85 years of manufacturing experience and is a major participant in the OEM, commercial and industrial construction material markets.

The Killark range encompasses industrial and explosion proof fittings in both iron and aluminium including: HID & fluorescent lighting, emergency lighting, floodlights, enclosures & controls, plugs and receptacles, motor starters and distribution equipment.

Killark became a division of Hubbell in 1985 and since then, increased levels of capital investment have funded major new product initiatives enabling the group to compete worldwide with an extensive electrical construction product range covering, conduit raceway fittings, junction boxes, enclosures, standard and custom control assemblies, lighting fixtures as well as plugs and sockets.

As part of Hubbell, the strengths of Killark and Victor Lighting are now combined.
This partnership has created the largest, most comprehensive range of lighting products and associated apparatus for hazardous locations available within the global market.

Hubbell and Killark are well represented on Codes and Standards committees in the US, Canada, Mexico and internationally. This affords the most cost competitive solutions to be offered to user requirements on a world wide basis, regardless of locality or installation constraints.

Both companies have reputations for customer specific solutions to complex and challenging hazardous location requirements, utilising proven designs and value added engineering input, and these solutions are enhanced by access to comprehensive laboratory facilities. In house testing laboratories allow product development efforts to continually support new product development and solutions to specific user defined requirements.

With a Total Quality Management programme and ISO 9001:2000 accreditation, Killark and Victor Lighting are dedicated to meeting customer needs, with engineering solutions, new product development and on-time delivery in every phase of the project. This underlines an already proven ability to supply lower cost total system solutions and savings over the entire lifetime of a project.

For further information on this NEW expanded range of products or to obtain a dedicated Killark brochure, simply refer to your usual Victor Lighting personnel. Photometric data on the Killark range is also available from the LiteGuide™ lighting design software.

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REGISTERED FIRM
KILLARK

HUBBELL®

www.hubbell-killark.com

Victor

Lighting

Making Hazardous Environments Work

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