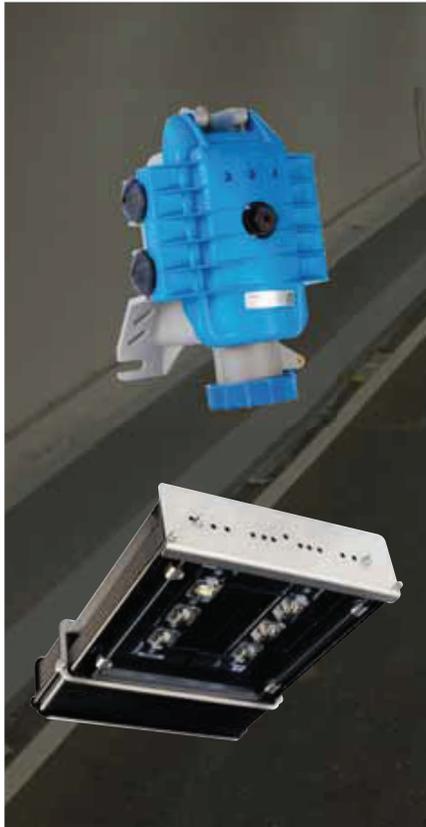




VENTILATION



LIGHTING





VENTILATION

TUNNEL54
fire resistant
sockets for
ventilators

Page 240



LIGHTING

TUNNEL54
junction boxes
with insulation
perforation

Page 244



TUNNEL54
fire resistant
junction boxes
with terminal
blocks

Page 248



TUNNEL54
led
lighting fixtures

Page 250



TUNNEL54
fluorescent
lighting fixtures

Page 253





TUNNEL 54 series for electro ventilators is composed of compact switched sockets with plug in aluminium alloy. They are designed to guarantee the operating service at 400° C for 120 minutes as defined in tunnel safety regulations. Sockets are made of high resistant materials and equipped with an isolator switch of AC3-AC23A category guaranteed at rated current.

EASY TO BE INSTALLED

Thanks to compact dimensions and reduced weight



PROTECTED AGAINST HYDRANTS

Thanks to the IP66 protection rating it is protected against water jets used to clean the tunnels



NO LIMITS

Thanks to the AC3-AC23A category at rated current





Conformity to standards	IEC/EN 50200 IEC/EN 50362 European Directive 2004/54/CE ANAS 7735 memorandum - Guide lines for safety planning in road tunnels IEC/EN 60309-1 IEC/EN 60309-2 IEC/EN 60309-4
Material	Aluminium alloy
Surface treatment	Passivation with fluoro-zirconium
Painting	Hot polymerized non-toxic polyester
Protection rating (IP as per IEC/EN 60529)	IP66
Colour	RAL5012 (cover) RAL7035 (base)
Operating temperature resistance	400°C per 120'
Resistance to impacts (IK rating as per IEC/EN 62262)	IK10
Rated current	63A - 125A
Rated voltage	400V - 690V
Rated frequency	50-60Hz
Insulation class	I



Switched interlocked sockets for ventilators up to 47kW for **single-pole** cables, with plug 50-60Hz IP66 400°C 120'

Rated current (A)	Rated voltage (V)	Poles	Auxiliary contact (AUX)	Palazzoli code	Pack Q.ty
63	380÷415V	3P+⊕	-	151511	1
63	600÷690V	3P+⊕	-	151512	1
63	380÷415V	3P+⊕	1 NO	151611	1
63	600÷690V	3P+⊕	1 NO	151612	1

Equipment included: n. 1 x plug 63A 3P+⊕ IP67. With cable glands. External earth screw.
Notes: special configurations upon request.



Switched interlocked sockets for ventilators up to 47kW for **multi-pole** cables, with plug 50-60Hz IP66 400°C 120'

Rated current (A)	Rated voltage (V)	Poles	Auxiliary contact (AUX)	Palazzoli code	Pack Q.ty
63	380÷415V	3P+⊕	-	151513	1
63	600÷690V	3P+⊕	-	151514	1
63	380÷415V	3P+⊕	1 NO	151613	1
63	600÷690V	3P+⊕	1 NO	151614	1

Equipment included: n. 1 x plug 63A 3P+⊕ IP67. With cable glands. External earth screw.
Notes: special configurations upon request.

TUNNEL54 SERIES

Website dedicated to system for roadway, railway and underground tunnels



www.palazzoli.com





Reducers
for large-section
single-pole cables
400°C 120'
850°C 90'
IP66

Line cable section (mm ²)	Pole/section terminals (mm ²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
from 50 to 70	3x70	185x252x152	M32 (11÷21)	151533	1
from 95 to 120	3x125	252x315x193	M40 (15÷27)	151534	1
from 150 to 185	200	315x315x193	M40 (15÷27)	151535	1

Characteristics: provision for internal and external earth connection.
M40 entry for 3x25mm² or 3x16mm² cables.

Notes: special configurations upon request.



Reducers
for large-section
multi-pole cables
400°C 120'
850°C 90'
IP66

Line cable section (mm ²)	Pole/section terminals (mm ²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
50	3x70	185x252x152	M50 (22÷35)	151531	1
70	3x70	185x252x152	M63 (35÷48)	151532	1

Characteristics: provision for internal and external earth connection.
M40 entry for 3x25mm² or 3x16mm² cables.

Notes: special configurations upon request.



Pair of supports
in stainless steel AISI 304
for wall mounting
of sockets for ventilators

Applications	Palazzoli code	Pack Q.ty
Wall mounting with support	151541	1



Pair of supports
in stainless steel AISI 304
for fastening sockets for ventilators to channel

Applications	Palazzoli code	Pack Q.ty
For L 200mm channel	151542	1
For L 300mm channel	151543	1



Kit of screws
in stainless steel AISI 304
for fastening sockets for ventilators to channel rod

Applications	Palazzoli code	Pack Q.ty
Fastening to channel rod	151544	1



Switched interlocked sockets for ventilators **up to 117kW** in enclosure **predisposed for flanges**
50-60Hz IP66 400°C 120'

Rated current (A)	Rated voltage	Poles	Palazzoli code	Pack Q.ty
63	400÷690V	3P+⊕	151880	1
125	400÷690V	3P+⊕	151881	1

Notes: special configurations upon request.



M32
Ø 11÷21mm

Plugs with cable gland, for ventilators **up to 117kW**
50-60Hz IP66 400°C 120'

Rated current (A)	Rated voltage	Poles	Palazzoli code	Pack Q.ty
63	400÷690V	3P+⊕	151890	1
125	400÷690V	3P+⊕	151891	1



Supports for ceiling mounting of sockets for ventilators up to 117kW

Manufacture material	Palazzoli code	Pack Q.ty
Stainless steel AISI 304	151900	1

Characteristics: complete with adjustable support for ceiling and 50x30mm profile and screws.



Flanges in aluminium alloy for multi-pole cables
cable gland in brass
400°C 120'
850°C 90'
IP66

Line cable gland	Fastening diameter (mm)	Palazzoli code	Pack Q.ty
M32	11÷21	151930	1
M40	15÷27	151931	1
M50	22÷35	151932	1
M63	35÷48	151933	1

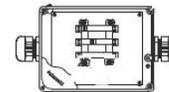


Flanges in aluminium alloy for single-pole cables
cable gland in brass
400°C 120'
850°C 90'
IP66

Line cable gland	Fastening diameter (mm)	Palazzoli code	Pack Q.ty
n.3 x M25	8÷16	151940	1
n.3 x M32	11÷21	151941	1
n.3 x M40	15÷27	151942	1



Line junction boxes for fan power supply lines
400°C 120'
850°C 90'
IP66

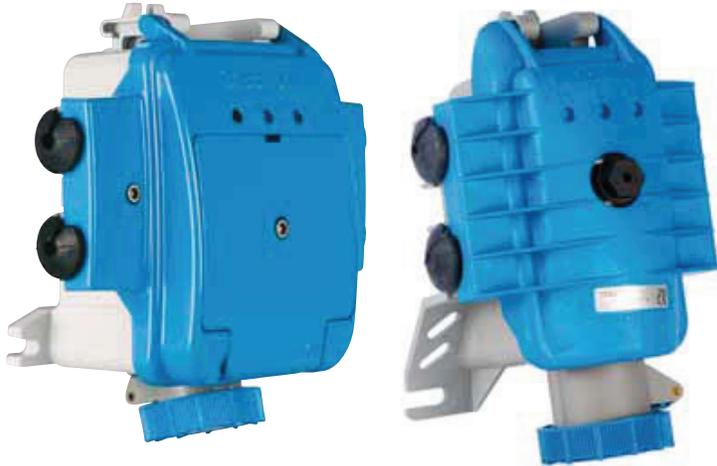


Line cable section (mm²)	Pole/section terminals (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
3x10		185x185x105	M40 (15÷27)	151553	1
3x16	3x25				
3x25					
3x35	3x40	252x185x152	M40 (15÷27)	151564	1
3x50	3x70	252x185x152	M50 (22÷35)	151575	1
3x70	3x70	252x185x152	M63 (35÷48)	151585	1

Notes: special configurations upon request.



Suitable for ordinary and emergency lighting in roadway, railway and underground tunnels



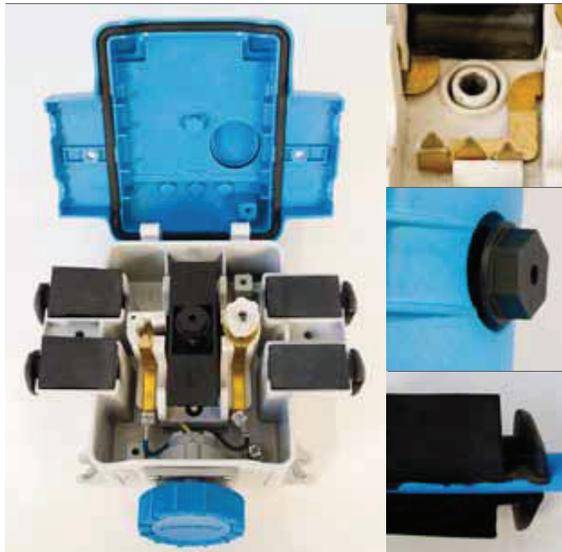
You can wire it in less than a minute thanks to the calibrated breaking system and universal gaskets

THE ADVANTAGES



it resists at 850° C for 90'

TUNNEL54 boxes in aluminium alloy has been tested under severe temperature conditions in order to be used in emergency circuits of roadway tunnels.



The three-blade perforating system avoids cutting and section reductions.

The pre-set screw guarantees the connection without the need of calibrated tools.

The universal gasket allows acceptance of all cables from 6 to 35 mm², avoiding the need for specifically sized glands.



Both the technopolymer and aluminium alloy versions have the protection fuse that can be replaced with the maximum safety, as you can always access to it without opening the box.



TUNNEL54 range includes a section of lighting fixtures with specific products for junction in aluminium alloy or in reinforced self-extinguishing technopolymer, with IP66 protection rating, composed of quick wiring with insulation perforation with universal cable entry of 35mm² or with ceramic terminal block. The junction boxes for emergency circuits guarantee the operating service at 850°C for 90 minutes, are treated with ecological anticorrosion passivation with fluoro-zirconium and finished with hot polymerized scratch-resistant non-toxic polyester painting. Junction boxes are equipped either with a IEC/EN 60309-1 and IEC/EN 60309-2 socket or with cable gland.

Conformity to standards	IEC/EN 50200 IEC/EN 50362 European Directive 2004/54/CE ANAS 7735 memorandum - Guide lines for safety planning in road tunnels IEC/EN 60309-1 IEC/EN 60309-2 IEC/EN 60309-4
Material	Aluminium alloy (emergency circuit boxes) Reinforced technopolymer (ordinary circuit boxes)
Protection rating (IP as per IEC/EN 60529)	IP66
Colour	RAL5012 (cover) RAL7035 (base)
Resistance to abnormal heat and fire ("Glow Wire" as per IEC/EN 60695-2-10)	960°C (ordinary circuit boxes)
Self-extinguishing grade (as per UL94)	V0 (ordinary circuit boxes)
Operating temperature resistance	850°C per 90' (boxes in aluminium alloy)
Resistance to impacts (IK rating as per IEC/EN 62262)	IK10
Insulation class	I and II
Fuse type	E14 - D01 (emergency circuit boxes) Cylindrical 5x20 (ordinary circuit boxes)
Cable gland type	In nicked brass with metric ISO threading



Resistance to chemical agents

WATER	SALINE ATMOSPHERES	ACIDS		CHEMICAL BASES		SOLVENTS			
		CONCENTRATED	DILUTED	CONCENTRATED	DILUTED	ALCOHOL	ACETONE	PERCHLOROETHYLENE	BENZENE
↑	↑	↓	→	→	↑	↑	↑	↑	↑
OILS		FATS		AMMONIA	OXIDIZERS	INORGANIC SALTS	GASOLINE	DETERGENTS	U.V. RAYS
MINERAL	VEGETABLE	ANIMAL	SYNTHETIC						
↑	↑	↑	↑	↑	→	↑	↑	↑	↑

Legend: ↑ high resistance → partial resistance ↓ low resistance



2P+
230V

Junction boxes
in reinforced technopolymer
with insulation perforation
for single-pole cables
IP66

Line cable section (mm ²)	Class	External dimensions (mm)	Protections	Palazzoli code	Pack Q.ty
4 - 16	II	164x242x135	-	158201	1
4 - 16	II	164x242x135	1 fuse 4A (L)	158211	1

Notes: upon request special configurations.



2xM20
Ø 7÷13mm

Junction boxes
in aluminium alloy
with insulation perforation
for single-pole cables
with **2 cable glands**
for emergency circuits
IP66 - 850°C 90°

Line cable section (mm ²)	Class	External dimensions (mm)	Protections	Palazzoli code	Pack Q.ty
4-35	I	247x225x130	1 fuse 6A (L)	157012	1
4-35	I	247x225x130	2 fuses 6A (L+N)	157112	1
4-35	II	247x225x130	1 fuse 6A (L)	158012	1
4-35	II	247x225x130	2 fuses 6A (L+N)	158112	1

Notes: upon request special configurations.



2P+
230V

Junction boxes
in aluminium alloy
with insulation perforation
for single-pole cables with
socket for emergency circuits
IP66 - 850°C 90°

Line cable section (mm ²)	Class	External dimensions (mm)	Protections	Palazzoli code	Pack Q.ty
4-35	I	247x225x130	1 fuse 4A (L)	157001	1
4-35	I	247x225x130	2 fuses 4A (L+N)	157101	1
4-35	II	247x225x130	1 fuse 4A (L)	158001	1
4-35	II	247x225x130	2 fuses 4A (L+N)	158101	1

Notes: upon request special configurations.



Supports
for insulation perforation
boxes

Manufacture material	Palazzoli code	Pack Q.ty
Stainless steel AISI 304	157050	20
Painted zinc steel RAL 7035	157051	20

Equipment included: suitable for channel with maximum height of 100 mm.



M20
Ø 7÷13mm

Junction boxes
in aluminium alloy with
insulation perforation for
single-pole cables with **cable gland**
for emergency circuits
IP66 - 850°C 90°

Line cable section (mm ²)	Class	External dimensions (mm)	Protections	Palazzoli code	Pack Q.ty
4-35	I	247x225x130	1 fuse 4A (L)	157011	1
4-35	I	247x225x130	2 fuses 4A (L+N)	157111	1
4-35	II	247x225x130	1 fuse 4A (L)	158011	1
4-35	II	247x225x130	2 fuses 4A (L+N)	158111	1

Notes: upon request special configurations.



Screws
for fixing junction boxes in
aluminium on support

Manufacture material	Palazzoli code	Pack Q.ty
Stainless steel	157060	100

Conformity
to standards

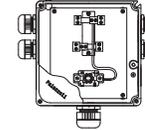
IEC/EN 50200
IEC/EN 50362
European Directive 2004/54/CE
ANAS 7735 memorandum –
Guide lines for safety planning
in road tunnels
IEC/EN 60309-1
IEC/EN 60309-2
IEC/EN 60309-4

Boxes
material**Aluminium alloy**Terminal
blocks material**Ceramic (base)
Brass (terminals)**Protection rating
(IP as per
IEC/EN 60529)**IP66**

Colour

**RAL5012 (cover)
RAL7035 (base)**Operating
temperature
resistance**850° C per 90'**Resistance to impacts
(IK rating as per
IEC/EN 62262)**IK10**Insulation
class**I**Fuse
type**E14 - D01**Cable gland
type**In nickered brass with metric
ISO threading**M25
Ø 8÷16mm

Junction boxes
in aluminium alloy **with
terminal block** for single-pole
cables **with cable gland**
for emergency circuits
IP66 - 850° C 90'

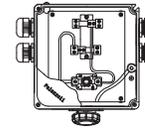


Line cable section (mm ²)	Pole/section terminals (mm ²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
2x (1x4)-2x (1x6)	2x6	185x185x105	M16 (4÷9,5)	151011	1
2x (1x10)-2x (1x16)	2x16	185x185x105	M20 (7÷13)	151022	1
2x (1x25)-2x (1x35)	2x40	185x252x152	M25 (8÷16)	151034	1
2x (1x50)-2x (1x70)	2x70	252x315x193	M32 (11÷21)	151045	1

Equipment included: reduction insert for cable glands.
Note: special configurations upon request.

2P+ ÷
230V

Junction boxes
in aluminium alloy **with
terminal block** for single-pole
cables **with socket**
for emergency circuits
IP66 - 850° C 90'

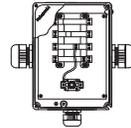


Line cable section (mm ²)	Pole/section terminals (mm ²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
2x (1x4)-2x (1x6)	2x6	185x185x105	M16 (4÷9,5)	151311	1
2x (1x10)-2x (1x16)	2x16	185x185x105	M20 (7÷13)	151322	1
2x (1x25)-2x (1x35)	2x40	185x252x152	M25 (8÷16)	151334	1
2x (1x50)-2x (1x70)	2x70	252x315x193	M32 (11÷21)	151345	1

Equipment included: reduction insert for cable glands.
Note: special configurations upon request.



M25
Ø 8÷16mm



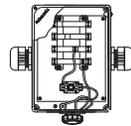
Junction boxes in aluminium alloy with **terminal block** for multi-pole cables with **cable gland** for emergency circuits **IP66 - 850°C 90'**

Line cable section (mm ²)	Pole/section terminals (mm ²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
4x4 - 4x6	4x6	185x252x152	M32 (11÷21)	151241	1
4x10	4x16	185x252x152	M32 (11÷21)	151242	1
4x16	4x16	185x252x152	M40 (15÷27)	151252	1
4x25 - 4x35	4x40	185x252x152	M40 (15÷27)	151264	1
3x50+25 - 3x70+35	4x70	252x315x193	M50 (22÷35)	151275	1
70	4x70	252x315x193	M63 (35÷48)	151285	1

Equipment included: reduction insert for cable glands.
Notes: special configurations upon request.



2P+
230V



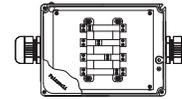
Junction boxes in aluminium alloy with **terminal block** for multi-pole cables with **socket** for emergency circuits **IP66 - 850°C 90'**

Line cable section (mm ²)	Pole/section terminals (mm ²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
4x4 - 4x6	4x6	185x252x152	M32 (11÷21)	151441	1
4x10	4x16	185x252x152	M32 (11÷21)	151442	1
4x16	4x16	185x252x152	M40 (15÷27)	151452	1
4x25 - 4x35	4x40	185x252x152	M40 (15÷27)	151464	1
3x50+25 - 3x70+35	4x70	252x315x193	M50 (22÷35)	151475	1
70	4x70	252x315x193	M63 (35÷48)	151485	1

Equipment included: reduction insert for cable glands.
Notes: special configurations upon request.



Line junction boxes for power supply lines for tunnel lighting fixtures **IP66 - 850°C 90'**



Line cable section (mm ²)	Pole/section terminals (mm ²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli code	Pack Q.ty
4x4 - 4x6	4x6	252x185x152	M32 (11÷21)	151641	1
4x10	4x16	252x185x152	M32 (11÷21)	151642	1
4x16	4x16	252x185x152	M40 (15÷27)	151652	1
4x25 - 4x35	4x40	252x185x152	M40 (15÷27)	151664	1
3x50+25 - 3x70+35	4x70	315x252x193	M50 (22÷35)	151675	1
70	4x70	315x252x193	M63 (35÷48)	151685	1

Notes: special configurations upon request.



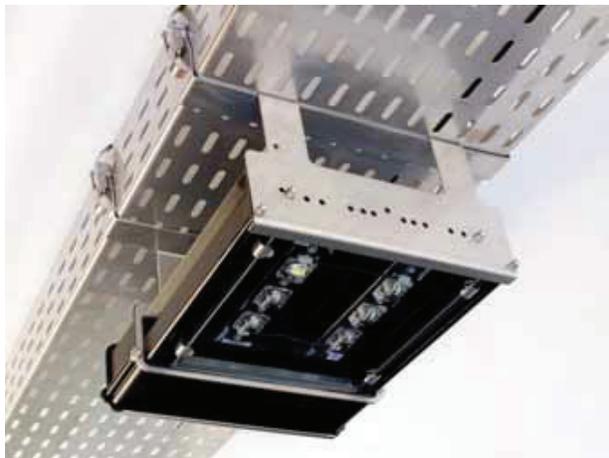
Supports for mounting of junction boxes

Manufacture material	For boxes with dimensions	Palazzoli code	Pack Q.ty
Stainless steel AISI 304	185x185 - 252x185	151901	10
Stainless steel AISI 304	185x252 - 315x252	151902	10
Stainless steel AISI 304	252x315	151903	10

Equipment included: screws for fixing the boxes.

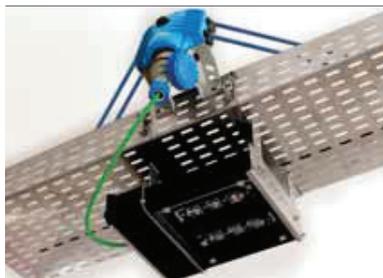


Suitable for reinforcing and permanent lighting of roadway, railway and underground tunnels.



The most advanced technology on the market with multichip LED

THE ADVANTAGES



The only complete solution for tunnel lighting systems.



Each lighting fixture is equipped with special lens designed for the maximum photometric output.

The variable shape body allows the maximum versatility in realizing customized solutions.

Palazzoli Technical Service can design a tailored solution for each tunnel lighting.



High dissipation shape guarantees an optimal operating temperature for the LEDs to ensure a long-term durability.



The TUNNEL54 LED range is the new and complete system of lighting fixtures for lighting entrances and central parts of the tunnels. They have great installation flexibility thanks to the new range of accessories for mounting on cable channel with different heights or directly on the wall or ceiling.

Conformity to standards	IEC/EN 60598-1 IEC/EN 60958-2-1; CEI 34-23 EN 62471 EN 55015 EN 62031 UNI 11356
Body material	Anodized aluminium alloy
Diffuser material	Tempered glass
Protection rating (IP as per IEC/EN 60529)	IP66
Colour	RAL 9005 (black)
Resistance to impacts (IK rating as per IEC/EN 62262)	IK10
Rated voltage	230V
Rated frequency	50-60Hz
Max cable section	2,5mm²
Insulation class	II □
Colour temperature	5000 K
Colour rendering index	70
Inlet	16A 2P+≐ IP66
Cable length	1,5 m
Storage temperature	-40°C - +70°C
Operating temperature	-25°C - +45°C



LED tunnel lighting fixture
for permanent lighting
IP66

Optics	Rated flux (Lm)	Absorbed power (W)	Palazzoli code	Pack Q.ty
symmetrical 	4000	35	154000	1
	8000	70	154020	1
	12000	110	154030	1
20° asymmetrical 	6000	55	154110	1
	12000	110	154130	1
45° asymmetrical 	6000	55	154210	1
	12000	110	154230	1

Notes: special configurations and dimmerable power supply upon request.



LED tunnel lighting fixture
for reinforcing lighting
with asymmetrical optics
IP66

Optics	Rated flux (Lm)	Absorbed power (W)	Palazzoli code	Pack Q.ty
60° asymmetrical 	8000	80	155420	1
	16000	160	155440	1
	24000	240	155460	1
	32000	320	155470	1
	40000	400	155480	1
	48000	480	155490	1

Notes: special configurations and dimmerable power supply upon request.



Pair of supports
in stainless steel
for rapid fixing
of LED tunnel lighting fixtures

Channel dimensions	Palazzoli code	Pack Q.ty
100x75	151910	1
200x75	151911	1
300x75	151912	1
100x100	151913	1
200x100	151914	1
300x100	151915	1



TUNNEL54 fluorescent range is the system of lighting fixtures for lighting niches, traffic lanes technical rooms and for ordinary and emergency lighting. Lighting fixtures can be supplied in special execution complete with brackets for rapid fastening to channel and/or wired with cable and plug.

Conformity to standards	IEC/EN 50200 IEC/EN 50362 European Directive 2004/54/CE ANAS 7735 memorandum - Guide lines for safety planning in road tunnels IEC/EN 60309-1 IEC/EN 60309-2 IEC/EN 60309-4
Body material	Stainless steel AISI 304
Diffuser material	Tempered glass
Protection rating (IP as per IEC/EN 60529)	IP66
Resistance to impacts (IK rating as per IEC/EN 62262)	IK09
Insulation class	II
Lampholder	G13 T8 / G5 T5
Rated voltage	230V
Rated frequency	0-50-60Hz
Max cable section	2,5mm²
Entry cable diameter	7-14 mm
Operating temperature	-25°C - +50°C



Stainless steel-glass
lighting fixtures
with **symmetrical reflector**
and electronic ballast
230V **IP66** - Classe II



M20 cable gland
brass

Power (W)	Power supply	Lampholder and lamps	Palazzoli code	Pack Q.ty
2x18	Electronic	G13 T8	152132	1
2x36	Electronic	G13 T8	152232	1
2x54	Electronic	G5 T5	152962	1

Characteristics: lighting fixtures can be supplied in special execution complete with brackets for rapid fastening to channel and/or wired with cable and plug.



Stainless steel-glass
lighting fixtures
with **asymmetrical reflector**
and electronic ballast
230V **IP66** - Classe II



M20 cable gland
brass

Power (W)	Power supply	Lampholder and lamps	Palazzoli code	Pack Q.ty
2x18	Electronic	G13 T8	153132	1
2x36	Electronic	G13 T8	153232	1
2x54	Electronic	G5 T5	153962	1

Characteristics: lighting fixtures can be supplied in special execution complete with brackets for rapid fastening to channel and/or wired with cable and plug.



Supports
for rapid mounting
of tunnel lighting fixtures

Manufacture material	Applications	Palazzoli code	Pack Q.ty
Stainless steel AISI 304	for L 200mm channel	820004	1
Stainless steel AISI 304	for L 300mm channel	820005	1



Pair of **swivelling supports**
for **ceiling or wall** mounting
of steel lighting fixtures

Manufacture material	Rotating angle	Palazzoli code	Pack Q.ty
Stainless steel AISI 304	± 75°	820000	1