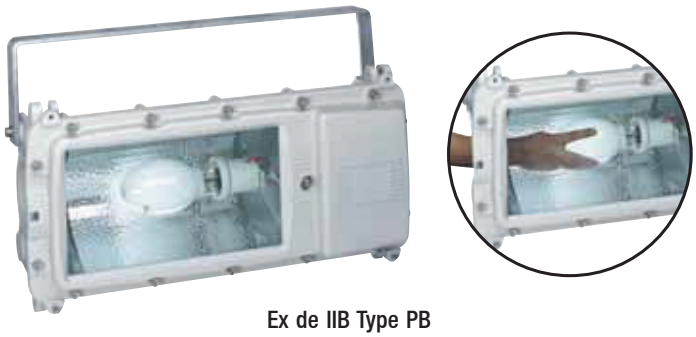
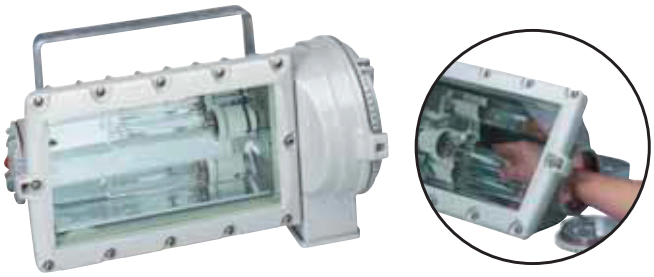
Lighting: Incandescent & HID Lighting
PB, PC & PL Series: Floodlights – Flameproof



Ex de IIB Type PB



Ex de IIC Type PC

Ex de IIB Type PL
Low Temperature Rating

Compliances:

ATEX - IEC:

Zone 1 & 2 – 21 & 22	ATEX	II 2 GD	IECEx	CE
Ex de IIB (PB and PL) Ex de IIC (PC)	T4 to T1	Ex tD A21	T130°C to T378°C	IP66 (Type PB) IP66/67 (PL and PC)

Type of Lamps and Wattages:

High Pressure Sodium	Metal Halide	Mercury Vapor	Halogen	
150–600 W	150–400 W	250–400 W	70–500–1000 W	

Operating Temperature:

–20°C to +55°C (Type PB)
–20°C to +55°C (Type PC) (–25°C as an option)
–40°C to +55°C (Type PL)

Lighting: Incandescent & HID Lighting

PB, PC & PL Series: Floodlights – Flameproof

Zone 1 & 2 - 21 & 22
Ex II 2 GD
ATEX / IECEx
IP66 or IP66/67 - IK10

Applications:

- Designed for large area lighting in industrial outdoor and indoor hazardous areas.
- Ideal for use in Zones 1 and 2 and 21 and 22 in the oil and gas industry; i.e. refineries, pipelines, warehouses, offshore platforms and drilling rigs.

Features:

- Gray epoxy painted light marine grade aluminum housing and door.
- Fast and easy lamp replacement via threaded cover on the side of the fixture (Types PB and PC). The cover is fitted with a short safety chain.
- Lampholder can be easily field-adjustable for either a narrow or wide beam.
- Fixtures operate safely in high ambient temperatures up to +55°C and in low ambient temperature up to -40ºC (-25ºC for PC type and -40ºC for PL type).
- Electrical components (ballast, ignitor and capacitor) are thermally separated from the lighting compartment with a bulkhead (Type PB) or with an insulating protection (Types PC and PL), providing extended life.
- Easy and efficient wiring due to separate Ex e terminal box with wiring onto 2 captive terminals 2 x 6 mm^2; 2 internal earth terminals capacity 6 mm^2 and 1 external earth terminal capacity 4 mm^2.
- 2 x 20 mm clearance holes throughwire cable entries supplied with:
  - One Ex e unarmored cable gland (sealing dia. 6.5 to 14.5 mm)
  - One blanking plug
  - Two M20 locknuts.
- For use with either tubular or ellipsoidal shape lamps. See ordering information for details.
- Choice of mounting with galvanized hinged bracket fixed mounting or tube/pole mounting with galvanized brackets.
- Toughened glass factory-sealed into the floodlight body (Types PC and PL) or factory-sealed into the cover frame (Type PL).
- Operates in any position (except Type PL, to be used only for wall-mounting or down lighting applications).
- Reversible hinge allows for fixture access from either side.
- E40 or H3 lampholders for the 2 x 70 W 24 Vac/Vdc halogen version.
- Internal symmetric reflector.

Standard Materials:

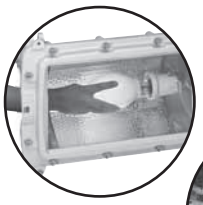
- Housing and door: copper free marine-grade aluminum alloy, painted gray.
- Lens: toughened safety glass.
- Reflector: bright highly polished aluminum.
- Stainless steel bolts.
- Polyamide cable gland and blanking plug.
- Nickel plated brass locknut.

Standard Finishes:

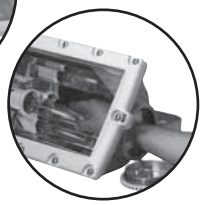
- Housing and door: gray epoxy powder paint.

Options:

- Other voltages, please consult factory.
- Terminal block with 2 more terminals for wiring with 3 phases plus Neutral in 380/415 V (loop in/loop out wiring possible): add "T" at the end of the catalog number.
- Screwed-on overhead diffuser out of galvanized steel with black painting (see accessories).
- Screwed-on zinc-coated protection guard for Types PB and PC (see accessories).
- 1000 W HP Sodium (Type PL) with separate Ex d housing for ballast.



Type PB



Type PC

Catalog Number Logic:

PB — Series :
- PB = IIB
- PC = IIC
- PL = IIB Low Temperature Rating (4)

A — Zone 1, 2, 21 and 22 ATEX/IEC Certified

H — Lamp Type:
- H = Metal Halide
- L = Sodium
- M = Mercury Vapor
- Z = Halogen

15 — Lamp Power:
- 70 = 2 x 70 W Halogen (1)
- 15 = 150 W
- 25 = 250 W
- 40 = 400 W
- 50 = 500 or 1000 W Halogen
- 60 = 600 W (5)
- 1K = 1000 W (6)

XJ — Voltage:
- XJ = 230/240 Vac 50 Hz (Magnetic Ballast)
- XC = 230 Vac 50 Hz (Magnetic Ballast) (2)
- XA = 220 Vac 50 Hz (Magnetic Ballast) (2)
- BT = 24 Vac/Vdc (1)

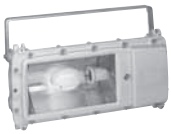
B — Options:
- B = Hinged Bracket Included
- T = Extra Terminals (3)
- C = -25°C Ambient Temperature (7)

(1) Only for IIB Version – 2 x 70 W Halogen 24 Vac/Vdc
(2) Only for IIB Low Temperature Rating Version Type PL
(3) 3 Phase + Neutral
(4) Only for 250 W and 400 W Versions
(5) Only Sodium for PC Series (IIC)
(6) Only Sodium for PL Series + Separate Gear Box
(7) Only IIC Version

Lighting: Incandescent & HID Lighting
PB, PC & PL Series: Floodlights – Flameproof

Zone 1 & 2 - 21 & 22
Ⓔx II 2 GD
ATEX / IECEx
IP66 or IP66/67 - IK10

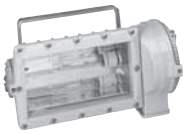
Ordering Information:



Ex de IIB Floodlight - PB Series

Lamp Wattages	Lampholder	Voltage (+/-10%)	Lamp Type Ellipsoidal	Tubular	Weight (kg)	Volume (dm^3)	Catalog Number	Old Catalog Number
High Pressure Sodium								
150 W	E40	230/240 V 50 Hz	x	x	29.3	79.4	**PBAL15XJB**	095166 + 095193
250 W	E40	230/240 V 50 Hz	x	x	30.3	79.4	**PBAL25XJB**	095169 + 095193
400 W	E40	230/240 V 50 Hz	–	x	31.8	79.4	**PBAL40XJB**	095179 + 095193
Mercury Vapor								
250 W	E40	230/240 V 50 Hz	x	x	29.3	79.4	**PBAM25XJB**	095167 + 095193
400 W	E40	230/240 V 50 Hz	–	x	29.8	79.4	**PBAM40XJB**	095173 + 095193
Metal Halide								
250 W	E40	230/240 V 50 Hz	x	x	30.3	79.4	**PBAH25XJB**	095168 + 095193
400 W	E40	230/240 V 50 Hz	–	x	31.8	79.4	**PBAH40XJB**	095177 + 095193
Halogen								
500/1000 W	E40		–	x	26.3	79.4	**PBAZ50B**	095184 + 095193
2 x 70 W	H3	24 Vac/Vdc 50 Hz	–	–	27.3	79.4	**PBAZ70BTB***	095165 + 095193

Note : Floodlights supplied with hinged mounting bracket, 1 plug, 1 M20 cable gland (dia. 6.5 to 14.5 mm). Lamps are not included.
* Supplied with 2 x 70 W H3 bulbs, 24 Vac/Vdc



Ex de IIC Floodlight - PC Series

Lamp Wattages	Lampholder	Voltage (+/-10%)	Lamp Type Ellipsoidal	Tubular	Weight (kg)	Volume (dm^3)	Catalog Number	Old Catalog Number
High Pressure Sodium								
150 W	E40	230/240 V 50 Hz	x	x	29.0	104.4	**PCAL15XJB**	095155 + 095194
250 W	E40	230/240 V 50 Hz	x	x	30.0	104.4	**PCAL25XJB**	095156 + 095194
400 W	E40	230/240 V 50 Hz	–	x	32.0	104.4	**PCAL40XJB**	095157 + 095194
600 W	E40	230/240 V 50 Hz	–	x	35.0	104.4	**PCAL60XJB**	095160 + 095194
Mercury Vapor								
250 W	E40	230/240 V 50 Hz	x	x	30.0	104.4	**PCAM25XJB**	095162 + 095194
400 W	E40	230/240 V 50 Hz	–	x	30.5	104.4	**PCAM40XJB**	095158 + 095194
Metal Halide								
250 W	E40	230/240 V 50 Hz	x	x	30.0	104.4	**PCAH25XJB**	095163 + 095194
400 W	E40	230/240 V 50 Hz	–	x	32.0	104.4	**PCAH40XJB**	095159 + 095194
Halogen								
500/1000 W	E40		–	x	27.0	104.4	**PCAZ50B**	095161 + 095194

Note : Floodlights supplied with hinged mounting bracket, 1 plug, 1 M20 cable gland (dia. 6.5 to 14.5 mm). Lamps are not included.

Ex de IIB Floodlight - PL Series

Lamp Wattages	Lampholder	Voltage (+/-10%)	Lamp Type Ellipsoidal	Tubular	Weight (kg)	Volume (dm^3)	Catalog Number	Old Catalog Number
High Pressure Sodium								
250 W	E40	230/240 V 50 Hz	x	x	37.5	104.4	**PLAL25XJB**	095276 + 095285
400 W	E40	220 V 50 Hz	x	x	37.5	104.4	**PLAL40XAB**	095277 + 095285
Halogen								
500/1000 W	E40		–	x	34.0	104.4	**PLAZ50B**	095283 + 095285

Note: Floodlights supplied with hinged mounting bracket, 1 plug, 1 M20 cable gland (dia. 6.5 to 14.5 mm). Lamps are not included.

Lighting: Incandescent & HID Lighting

PB, PC & PL Series: Floodlights – Flameproof

Zone 1 & 2 - 21 & 22
Ex II 2 GD
ATEX / IECEx
IP66 or IP66/67 - IK10

Accessories and Spare Parts:

Type		Catalog Number	Old Catalog Number
Galvanized Steel Hinged Brackets			
Type PB		**PBHBG**	095193
Type PL		**PLHBG**	095285
Type PC		**PCHBG**	095194
Pole/Tube Mounting Galvanized Steel Brackets			
Type PB/PL	1-1/4" to 1-1/2"	**PNHC49G**	095284
	2"	**PNHC60G**	095286
Type PC	1-1/4" to 1-1/2"	**PCHC49G**	095171
	2"	**PCHC60G**	095189
Flat Surface Mounting Galvanized Steel Brackets			
Type PB/PL		**PNSBG**	095197
Type PC		**PCSBG**	095188

Type	Catalog Number	Old Catalog Number
400 W Mercury Vapor Lamp		
Tubular	**LM400E40**	094895
Screwed-on Overhead Diffuser		
Type PB	**PBGDG**	095191
Type PC	**PCGDG**	095186
Screwed-on Protective Guard		
Type PB	**PBPGZ**	095195
Type PC	**PCPGZ**	095187
Visor (secured with 2 screws)		
Type PC only	**PCVG**	095185

Compliances:

Hazardous Area	Gas	Dust
Certified Type	**PJd**	
Zones	1 and 2	21 and 22
Conforming to ATEX 94/9/CE	CE 0081 Ex II 2 G	CE 0081 Ex II 2 D
Symbol of protection ATEX	Ex de IIB (Type PB et PL) Ex de IIC (Type PC)	Ex tD A21
Symbol of protection IEC		
Temperature Rating	See tables	NA
Surface temperature	NA	See tables
Ambient temperature	–20°C ≤ Ta ≤ +55°C (Type PB and PC) (–25°C for PC Type as an option) –40°C ≤ Ta ≤ +55°C (Type PL)	
CE Declaration of conformity	50207	
ATEX Certificate	LCIE 99 ATEX 6002	
IECEx Certificate	IECEx LCI 04.0020	
Other Certifications	GOST	
Index of protection (solids and liquids)	IP66 (Type PB) IP66/67 (Types PC and PL)	
Impact resistance (shock)	IK10	

Temperature Rating Chart: Types PB

Lamp Wattage	Gas: Temperature Rating According to Ta +40°C	+50°C	+55°C	Dust: Surface Temperature
2 x 70 W - H3 (1)	T4	T4	T4	130°C
150 W Sodium	T4	T3	T3	145°C
250 W Sodium	T3	T3	T3	195°C
250 W Metal Halide	T3	T3	T3	197°C
250 W Mercury Vapor	T3	T3	T3	194°C
400 W Sodium	T3	T3	T3	189°C
400 W Metal Halide	T3	T3	T3	193°C
400 W Mercury Vapor	T3	T3	T3	195°C
600 W Sodium	T2	T2	T2	257°C
500 W Halogen	T2	T2	T2	267°C
1000 W Halogen	T1	T1	T1	378°C

Temperature Rating Chart: Type PL

Lamp Wattage	Gas: Temperature Rating According to Ta +40°C	+50°C	+55°C	Dust: Surface Temperature
150 W Sodium	T4	T3	T3	145°C
250 W Sodium	T4	T3	T3	145°C
250 W Metal Halide	T3	T3	T3	197°C
250 W Mercury Vapor	T3	T3	T3	194°C
400 W Sodium	T4	T3	T3	144°C
400 W Metal Halide	T3	T3	T3	193°C
400 W Mercury Vapor	T3	T3	T3	195°C
600 W Sodium	T2	T2	T2	257°C
500 W Halogen	T2	T2	T2	267°C
1000 W Halogen	T1	T1	T1	378°C

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Lighting: Incandescent & HID Lighting
PB, PC & PL Series: Floodlights – Flameproof

Zone 1 & 2 - 21 & 22
Ⓔx II 2 GD
ATEX / IECEx
IP66 or IP66/67 - IK10

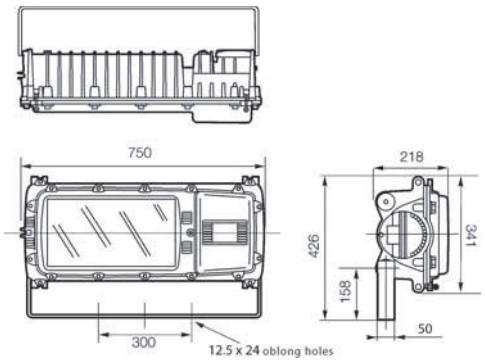
Standards:

Ex Standards	EN / IEC 60079-0; 60079-1; 60079-7; 61241-0; 61241-1
Product Standards	EN / IEC 60598-1
EMC Standards	EN / IEC 55015; 61547
Other Standards	EN / IEC 60529 (IP), 62262 (IK)

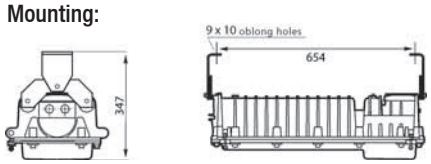
Dimensions (mm):

Type PB

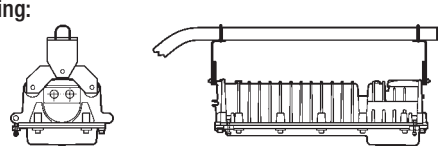
Hinged Bracket Mounting:



Flat Surface Mounting:

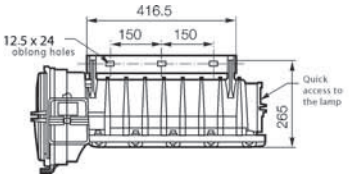


Pole Mounting:

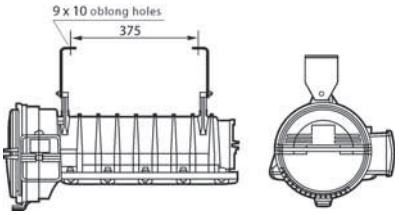


Type PC

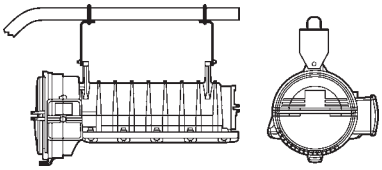
Hinged Bracket Mounting:



Flat Surface Mounting:

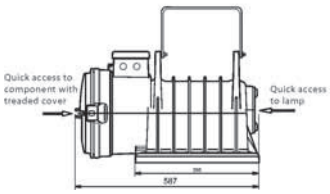


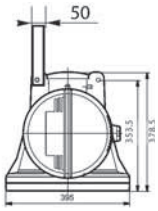
Pole Mounting:



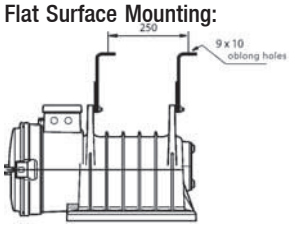
Type PL

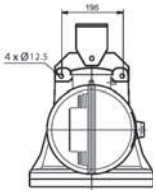
Hinged Bracket Mounting:





Flat Surface Mounting:





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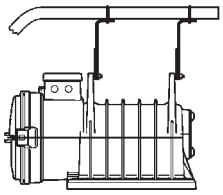
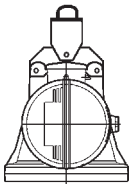




Lighting: Incandescent & HID Lighting

PB, PC & PL Series: Floodlights – Flameproof

Zone 1 & 2 - 21 & 22
Ⓔx II 2 GD
ATEX / IECEx
IP66 or IP66/67 - IK10

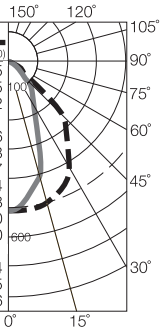
Photometric Data for Types PB and PC:

Polar curves for a lumen output of 1000 lm, as per NF C 71–120
Luminaire symbol as per NF C 71–121

Longitudinal
Transverse

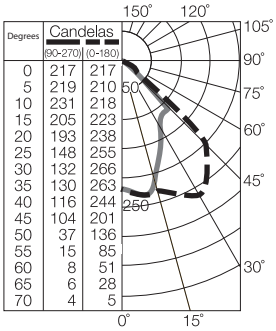
Narrow beam Metal Halide 250 W
Efficiency 68.3%
NF C 71–121: 0.68B

Degrees	Candelas (90-270)	Candelas (0-180)
0	505	505
5	499	515
10	469	512
15	403	501
20	312	476
25	248	453
30	190	427
35	146	394
40	117	368
45	97	290
50	12	160
55	7	51
60	4	34
65	4	15
70	4	6



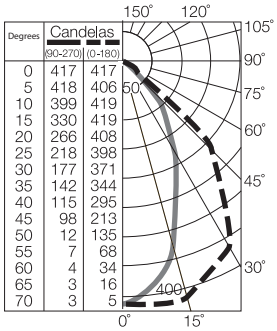
Narrow beam Metal Halide 400 W
Efficiency 49.3%
NF C 71–121: 0.49C

Degrees	Candelas (90-270)	Candelas (0-180)
0	217	217
5	219	210
10	231	218
15	205	223
20	193	238
25	148	255
30	132	266
35	130	263
40	116	244
45	104	201
50	37	136
55	15	85
60	8	51
65	6	28
70	4	5



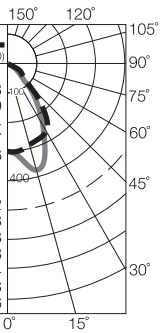
Narrow beam Halogen 1000 W
Efficiency 59.2%
NF C 71–121: 0.59B

Degrees	Candelas (90-270)	Candelas (0-180)
0	417	417
5	418	406
10	399	419
15	330	419
20	266	408
25	218	398
30	177	371
35	142	344
40	115	295
45	98	213
50	12	135
55	7	68
60	4	34
65	3	16
70	3	5



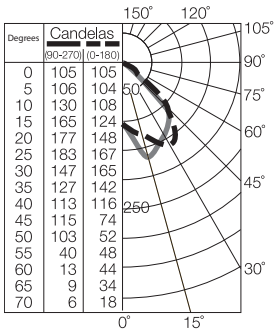
Wide beam Metal Halide 250 W
Efficiency 67.9%
NF C 71–121: 0.68C

Degrees	Candelas (90-270)	Candelas (0-180)
0	301	301
5	318	303
10	342	299
15	387	294
20	382	287
25	306	286
30	237	271
35	208	231
40	186	172
45	140	133
50	104	83
55	18	48
60	8	34
65	6	23
70	6	6



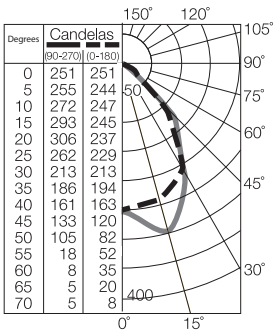
Wide beam Metal Halide 400 W
Efficiency 46.7%
NF C 71–121: 0.46C

Degrees	Candelas (90-270)	Candelas (0-180)
0	105	105
5	106	104
10	130	108
15	165	124
20	177	148
25	183	167
30	147	165
35	127	142
40	113	116
45	115	74
50	103	52
55	40	48
60	13	44
65	9	34
70	6	18



Wide beam Halogen 1000 W
Efficiency 57.7%
NF C 71–121: 0.57C

Degrees	Candelas (90-270)	Candelas (0-180)
0	251	251
5	255	244
10	272	247
15	293	245
20	306	237
25	262	229
30	213	213
35	186	194
40	161	163
45	133	120
50	105	82
55	18	52
60	8	35
65	5	20
70	5	8



*400 W Metal Halide: Efficiency rate lower than 250 W due to thermal deflector between glass and lamp, requested for T3.

North American CEC/NEC Certification:

- AEx/Ex de IIB IP 66 (Type PB only) cCSAus Ex de IIB IP 66 (Type PB only).
- 175 W Metal Halide and Pulse Start Metal Halide.
- Safety starter.