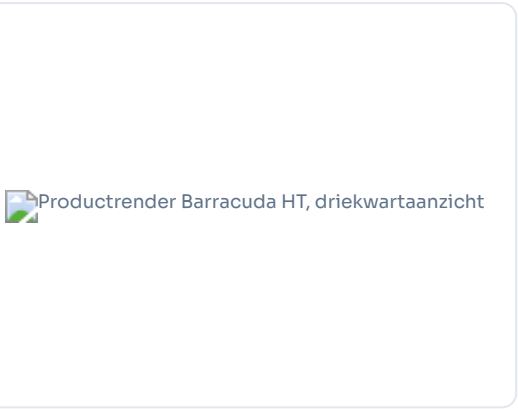
HIGH TEMPERATURE LED FLOODLIGHT

Barracuda HT



Shown: Barracuda HT, aluminium housing, chemically hardened glass front, high tensile 316L bracket.

CE | IP69K | IK09 | Class II | Ta −45 … +120 °C | peaks +130 °C | 90–305 VAC | aluminium or 316L | C5 ISO 9223 | IR-reflective print | silicone cable to 150 m | 5-year warranty to +120 °C

The floodlight for oven zones and heavy industry, and the proven choice at Tata Steel and Rockwool: 20,600 lumens at 120 W, rated for +120 °C continuous ambient. The luminaire sits in the heat, the driver sits outside it, because in almost every failure of LED lighting in a hot environment the driver is what gives up first.

LUMINOUS FLUX	POWER	EFFICACY
20,600 lm	120 W	172 lm/W
AMBIENT	**INGRESS**	**BEAM ANGLE**
+120 °C	IP69K	133°

Values apply to BAHT01 at 4000 K, Ta 25 °C, including driver consumption. 6500 K delivers the same luminous flux as 4000 K. Lumen maintenance at elevated ambient is on page 3.

WHY IT IS SPECIFIED

The driver sits outside the heat. Standard industrial luminaires stop at roughly +50 °C because the driver does. Splitting the system moves the weak part out of the hot zone entirely.

+120 °C continuous, +130 °C in peaks. Full warranty at continuous +120 °C, with short excursions to +130 °C permitted.

IR-reflective print as standard. Radiant heat from the process is reflected instead of absorbed, which is what keeps the LED junction temperature down next to a casting platform.

WHERE IT IS USED

- Steel industry: rolling mills
- Casting platforms and ladle bays
- Mineral wool production
- Building materials and kilns
- Oven zones in heavy process industry
- Paper machines and drying sections
- Glass and ceramics production
- Foundries and heat treatment
- Asphalt and cement plants
- Aluminium smelters and anode plants

MODELS

	Housing	Optic
BAHT01	Cast aluminium, e-coated	No lens, 133°
BAHT02	Cast aluminium, e-coated	HT glass optic
BAHT03	316L stainless steel	No lens, 133°
BAHT04	316L stainless steel	HT glass optic

All models 120 W at 90–305 VAC, with a colour temperature suffix -65K, -40K or -27K. Every model uses a remote BLD320 driver outside the hot zone. HT glass optics of 20°, 40° or 60° are available on request.

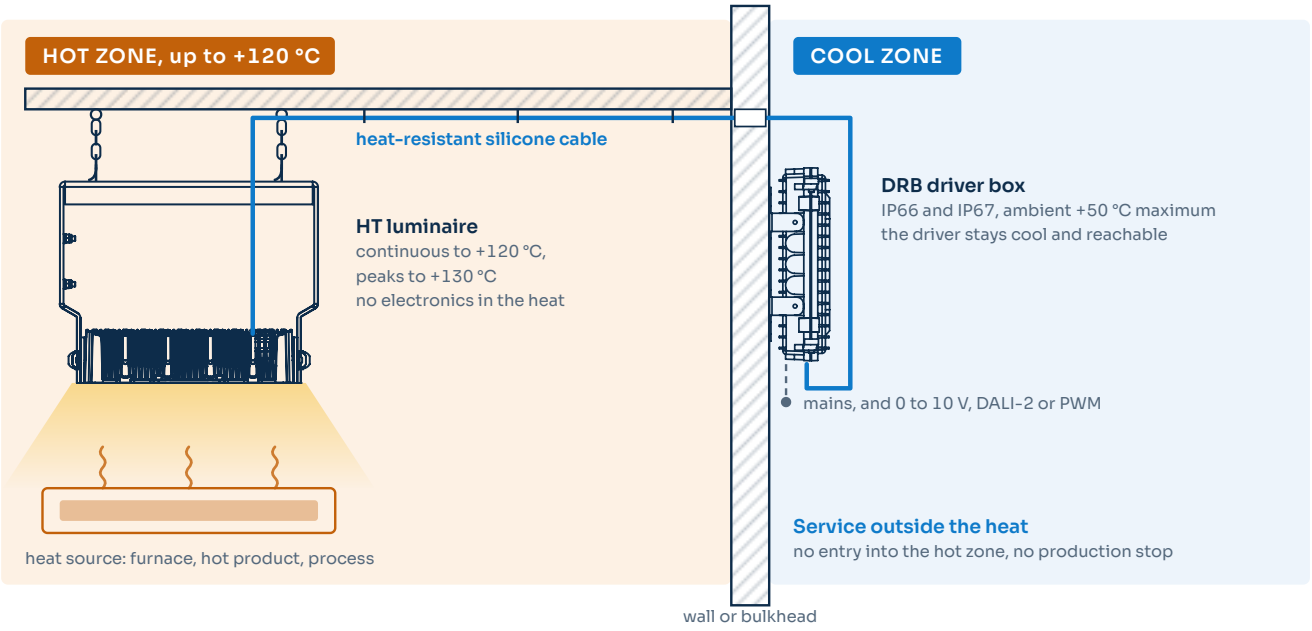
The HT system

Engineered as a system for heat, not as a luminaire that tolerates it.

Standard industrial LED luminaires are specified to roughly +50 °C ambient. Above that the driver electronics fail first: in virtually every failure of LED lighting in a hot environment, the driver is the weak link. Every installation in the HT line therefore consists of two parts. The heat-resistant luminaire sits in the hot zone and the driver sits outside it, supplied bare as standard or built into a DRB driver box, joined by heat-resistant silicone cable. Nothing that fails at temperature is left in the heat.

+120 °C	+130 °C	150 m	130,000 h	IP67
continuous, with full warranty	short peaks permitted	heat-resistant silicone cable	driver life at Tc 50 °C	remote driver and DRB box

THE HIGH TEMPERATURE SYSTEM



The HT system: the luminaire in the heat, the driver outside it.

BUILT-IN SELF-PROTECTION

The luminaire protects itself with internal temperature feedback. As the internal temperature rises it dims back automatically, and on overheating it switches itself off. That feedback runs through the four-core supply of every luminaire: two cores of 2.5 mm² for power and two of 0.5 mm² for temperature control. It is the reason the cable specification on page 4 has four cores rather than two.

Above +130 °C, or unsure about the thermal load? Our engineers calculate the thermal load per mounting position and design the complete system, including the driver location, cable route and DRB selection. Photometric values are measured at a +50 °C reference ambient. HT luminaires are not ATEX certified by default.

Light output and optics

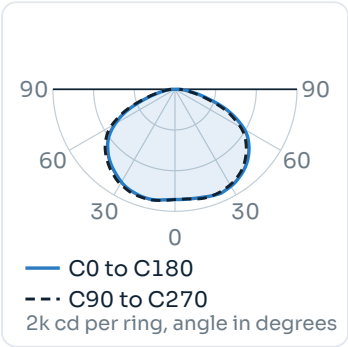
Values apply at Ta 25 °C and include driver consumption. Photometry is measured in house to IES LM-79 and the files are downloadable per model from the product page.

BEAM CHARACTERISTICS

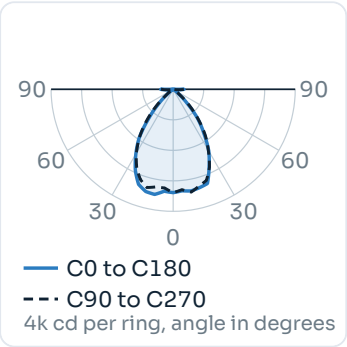
Model	Distribution	Beam angle 50 % of peak	Field angle 10 % of peak	Typical use
BAHT01 / 03	No lens, very wide	133°	165°	Close range over a wide field, up to around 15 m: oven fronts, casting platforms, walkways and machine bays
BAHT02 / 04	HT glass optic	72°	98°	Longer throw in the same heat: crane bays, high roof lines and drying sections. Optics of 20° and 40° on request

The beam angle is the full angle between the two directions where the intensity has fallen to 50 % of the peak. The field angle uses 10 %. Both are read from the IES files. The HT glass optic is measured on a coarse 5° grid, so its figures are indicative until a finer measurement is available.

LIGHT DISTRIBUTION



BAHT01 / 03, no lens



BAHT02 / 04, HT glass optic

OBTRUSIVE LIGHT

ULOR at 0° tilt	**0 %**
Colour temperatures	6500 K, 4000 K, 2700 K
Glare control	The HT glass optic shows a rising intensity toward the horizontal, so aim it with care near walkways and control cabins

Nothing is emitted above the horizontal at 0° tilt. Inside a plant that matters less than outdoors, but for roof lines, yard extensions and installations near a plant boundary it is the figure a permitting authority asks for.

COLOUR AND CONSISTENCY

Colour temperatures	6500 K, 4000 K, 2700 K
Flux at 6500 K	Identical to 4000 K
Colour rendering	Ra > 70
Colour consistency	MacAdam step 3 or better
IR-reflective print	Standard on every model
LED service life	TM-21 L90B05, see the temperature table on page 3
IES files	Download per model, product page

Full specification

All values apply to the standard configuration at 25 °C ambient unless stated otherwise, including driver consumption. Lumen maintenance at elevated ambient governs, not the headline figure.

	Barracuda HT
PERFORMANCE	
Luminous flux	20,600 lm
Power consumption	120 W
Efficacy	172 lm/W
Colour rendering	Ra > 70, optionally 80 or 90
Colour consistency	MacAdam step 3 or better
TEMPERATURE AND LIFETIME	
Ambient temperature	−45 to +120 °C continuous
Temperature peaks	Up to +130 °C permitted
LED service life, TM-21 L90B05	360,000 h at +50 °C · 103,000 h at +85 °C · 71,700 h at +105 °C · 51,400 h at +120 °C
Driver location	Remote, outside the hot zone. IR-reflective print standard, so radiant heat is reflected
ELECTRICAL AND DRIVER	
Supply voltage range	90–305 VAC, 50/60 Hz. 380 VAC for up to 2 h
Current draw	1.1 A at 110 V · 0.6 A at 220 V
Power factor at full load	> 0.95 at 60 to 100 % load
THD at full load	< 15 % at 60 to 100 % load
Inrush current	31.2 A peak, T50 1.3 ms at 220 V
Luminaires per MCB	B16: 2 · C16: 4 · C25: 7 · D16: 8
Surge protection	6 kV line to line, 10 kV line to earth (IEC 61000-4-5)
Leakage current	0.7 mA max at 240 VAC (IEC 60598-1)
Dimming and control	0 to 10 V standard. PWM, DALI-2, LoRa Mesh or NFC optional
Driver	Remote BLD320, 225 × 68 × 38.5 mm, 1,120 g. Bare, or in the DRB-1 or DRB-2
Driver life	≥ 100,000 h at Tc 75 °C, MTBF ≥ 280,000 h, Tc −40 to +90 °C. Replaced without opening the luminaire
CONSTRUCTION	
Housing	Cast aluminium, less than 0.08 % copper, or 316L stainless steel
Surface finish	Conversion layer plus 2-layer titanium-based e-coating, or electrolytically polished 316L
Colour	Titanium Light Grey, or bare stainless steel
Bracket	High tensile 316L stainless steel, fully rotatable through 360° in 30° steps
Front	Chemically hardened glass IK09, or borosilicate glass
Protection class	Class II
Ingress protection	IP66, IP67, IP68 to 5 m and IP69K, resistant to steam and high pressure cleaning
Impact resistance	IK09. The front cover is the limiting factor (IEC 62262)
Corrosion class	C5 industrial and marine (ISO 9223)
Vibration and shock	6 G at resonant frequency (IEC 60068-2-6), shock tested to IEC 60068-2-27
DIMENSIONS AND CONNECTION	
Cable and termination	SiHF-OB heat resistant silicone, 4 cores (2 × 2.5 mm² + 2 × 0.5 mm²), 15.0 m as standard, up to 150 m on request, pre-fitted with free wire ends
Dimensions	Luminaire 320 × 290 × 90 mm, excluding bracket
Weight	10.1 kg cast aluminium · 16.0 kg 316L stainless steel, incl. bracket
Wind load area, frontal	0.104 m² with standard bracket · 0.026 m² side view. Cd 1.2 gives Cd·A 0.125 m²
Warranty	5 years on the complete luminaire up to +120 °C. Stainless housings 20 years on the housing

MCB counts are manufacturer figures for ABB S200 at 220 V, a guide for the engineering phase and not a substitute for the installation calculation.

Mechanics, mounting and driver

All drawings are to scale and dimensioned in millimetres. DXF and STEP models are available on request.

STANDARD BRACKET


Maattekening Barracuda HT, voor-, zij- en onderaanzicht met maatvoering in millimeters

Luminaire	320 × 290 × 90 mm
Incl. bracket	351 × 298 mm
Mounting foot	319.20 × 86.50 mm
Fixing holes	3 × Ø 17.10 mm
Hole centres	249.25 mm between outer holes
Adjustment	360° in 30° steps
Weight	10.1 kg aluminium · 16.0 kg stainless steel

THE HT SYSTEM


Schema: armatuur in de hitte, driver erbuiten

In the hot zone	The luminaire, rated to +120 °C continuous
Outside the hot zone	The remote driver, bare or in a DRB box
Between them	Heat resistant silicone cable, 15.0 m standard, up to 25 m
Cable limit	Up to 150 m on request. Beyond that is custom
Why	Above roughly +50 °C ambient the driver electronics fail first, so the driver is moved out

MOUNTING AND ACCESSORIES

Standard bracket	High tensile 316L, supplied as standard
Retrofit bracket	On request, codes issued per structure
Boom and tenon mount	On request
Safety cable	Optional, supplied with the luminaire
Cable	15.0 m as standard, up to 150 m on request, same SiHF-OB type
HT glass optic	BAHT02 and BAHT04
Stainless steel housing	BAHT03 and BAHT04
HT optics	20°, 40° or 60° glass optics on request

REMOTE DRIVER

Type	BLD320, 90–305 VAC
Location	Outside the hot zone
Case temperature	Tc −40 to +90 °C
Lifetime	≥ 100,000 h at Tc 75 °C
MTBF	≥ 280,000 h at 75 °C case
Size and weight	225 × 68 × 38.5 mm, 1,120 g
Enclosure	Bare as standard, or in the DRB-1 or DRB-2

Every AC installation is two parts. The heat resistant luminaire in the hot zone and the driver outside it, joined by silicone cable. That split is the whole reason the system holds at +120 °C where a conventional luminaire stops at +50 °C.

DRB DRIVER BOX


DRB-1 driver box

DRB-1	One driver, up to the 320 W type which is the largest that fits. 276 × 194 × 86.5 mm, 4.2 kg, IP66 and IP67
DRB-2	Systems up to 2,000 W. 441 × 290 × 145 mm, 10.4 kg, IP66 and IP67
Use	Mounted outside the hot zone and outside the wash-down zone
Bare driver	Also possible where a cabinet is already present

Ordering, standards and documents

ORDER CODE

Example **BAHT01-65K**

Barracuda HT, aluminium, no lens, 6500 K

BAHT01	Aluminium housing, no lens, 133°
BAHT02	Aluminium housing, HT glass optic
BAHT03	316L stainless steel housing, no lens, 133°
BAHT04	316L stainless steel housing, HT glass optic
65K · 40K · 27K	6500 K · 4000 K · 2700 K
HT optic	20°, 40° or 60° glass optic on request, article BAHT02 or BAHT04

Cable length, bracket type and driver enclosure are confirmed at order and are not part of the code. State the continuous and peak ambient temperature at the mounting position with the enquiry, because that is what sets the expected lumen maintenance.

COMBINATIONS

HT optic with stainless housing	BAHT04
HT optics 20°, 40°, 60°	On request
24 V DC version	Not available on the HT
Borosilicate front	Available on every model
Cable up to 150 m	On request, beyond that custom
Bi-colour or amber	Not standard

STANDARDS AND VERIFICATION

Subject	Standard	Verification
Luminaire safety	IEC/EN 60598-1, -2-5	In-house test
EMC emission and immunity	EN 55015, EN 61547	Third party test
Ingress	IEC 60529 and ISO 20653. IP66, IP67, IP68 to 5 m, IP69K	In-house test
Impact	IEC 62262, IK09, set by the front cover	In-house test
Vibration and shock	IEC 60068-2-6 at 6 G, IEC 60068-2-27	In-house test
Corrosion	ISO 9223 class C5, industrial and marine	In-house test
Lumen maintenance	IES LM-80 and TM-21, L90B05 per ambient	In-house test
Photometry	IES LM-79, IES files per model	In-house test
Substances	RoHS, REACH	Self-declaration

BEFORE YOU ORDER

A sample luminaire to hang in the hot zone before you commit to a project quantity.

State the continuous and peak ambient at the mounting position.

A DIALux calculation from our engineers, on your plant drawing.

WHERE IT EARNS ITS PLACE

Standard industrial LED luminaires are specified to roughly +50 °C, and above that the driver fails first. The Barracuda HT keeps the luminaire in the heat and the driver outside it, so the failure mode is removed rather than derated. Below +50 °C ambient, the standard Barracuda is the better and cheaper choice.

QR-code naar de productpagina van de Barracuda HT

PRODUCT PAGE

IES files and revision history, DXF and STEP on request, and project references.
jelproducts.nl/en/products/barracuda-ht

Notes. Values are for the standard configuration. Lumen maintenance depends strongly on ambient temperature, so the table on page 3 governs, not a single headline figure. Packaging dimensions depend on the order quantity and are stated at quotation. North American models on request.