HIGH TEMPERATURE LED WORK LAMP

Goby HT



Shown: Goby HT, chemically hardened glass front, remote driver box.

CE | IP69K | IK09 | Class II | Ta −45 … +120 °C | C5 ISO 9223 | 90–305 VAC | 24 VDC | silicone cable 15 m | borosilicate option | remote driver on AC | 5-year warranty to +120 °C

2,600 lumens at 13 watts and an ambient temperature of +120 °C, which is 200 lumens per watt. The smallest high temperature luminaire in the range, for the positions inside an oven, a kiln or a drying tunnel where the light has to sit close to the work.

LUMINOUS FLUX	POWER	EFFICACY
2,600 lm	13 W	200 lm/W
AMBIENT	**INGRESS**	**IMPACT**
+120 °C	IP69K	IK09

Values apply at 6500 K and the stated ambient temperature, including driver consumption. Bi-colour and amber are not available on the high temperature versions.

WHY IT IS SPECIFIED

The driver leaves the hot zone. Electrolytic capacitors are what fail in heat. On the AC version the driver sits outside the zone and is connected with 15 m of heat resistant silicone cable.

200 lm per watt at +120 °C. A high temperature luminaire normally costs efficacy because the usual approach is to derate a standard product. This one is designed for the condition.

Same housing as the standard Goby. Same size, same weight, same bracket and the same mounting positions, so a plant can standardise on one work lamp across hot and normal areas.

WHERE IT IS USED

- Drying ovens and curing tunnels
- Bakery and food process ovens
- Paint lines and powder coating booths
- Kilns and annealing lehrs
- Heat treatment and forging shops
- Foundry service positions
- Climate and test chambers
- Sterilisation and autoclave rooms
- Paper machine drying sections
- Asphalt and bitumen plant
- Boiler houses and incineration halls
- Confined hot spaces and inspection hatches

VERSIONS

	Goby HT AC	Goby HT DC
Code	GOHT01	GOHT02
Flux	2,600 lm	2,600 lm
Power	13 W	13 W
Supply	90–305 VAC	9–32 VDC
Ambient	−45 to +120 °C	−45 to +110 °C
Driver	Remote BLD075	On board

Goby HT DC is identical to Goby HT AC apart from the supply and the ambient limit. HT optics are not possible on the Goby: the housing is too small, so both versions are 120° very wide.

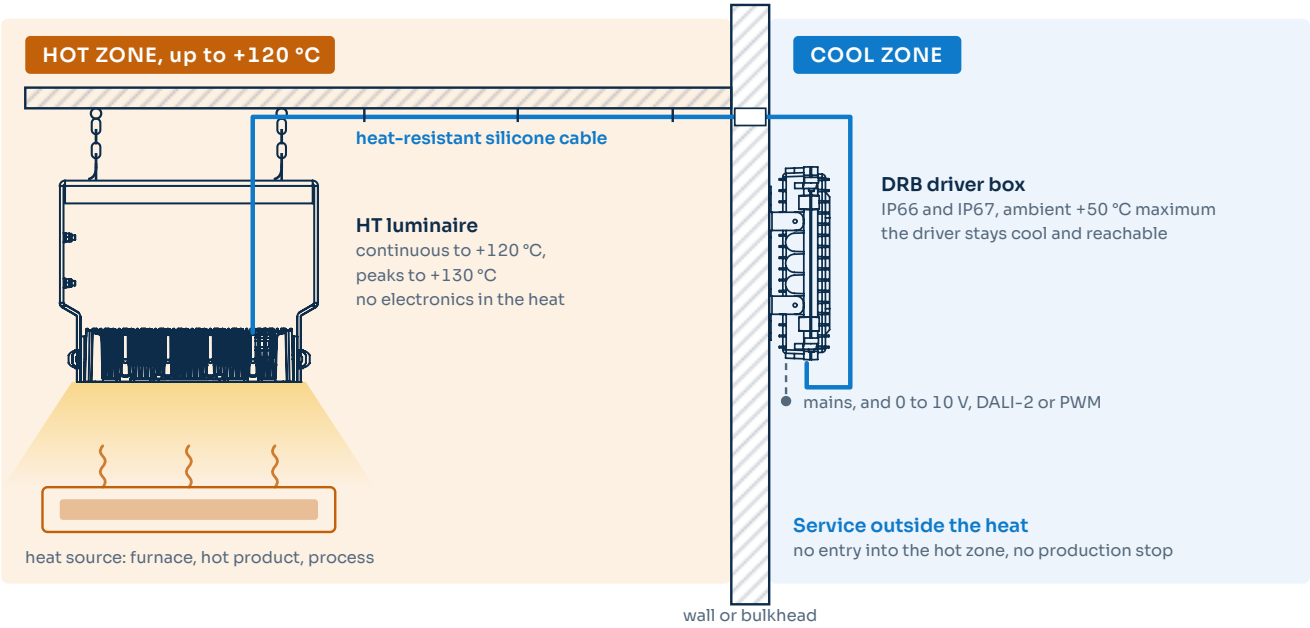
The HT system

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 continuous, with full warranty	**+130 °C** short peaks permitted	**15 m** heat-resistant silicone cable	**130,000 h** driver life at Tc 50 °C	**IP67** 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 1.0 mm² for power and two of 0.5 mm² for temperature control. It is the reason the cable specification 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.

Light output and optics

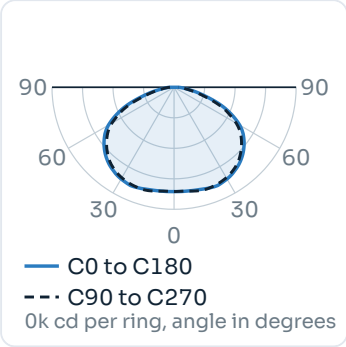
Values apply at Ta 25 °C, including driver consumption. The luminous flux is maintained across the full ambient range; what changes with temperature is the LED service life, stated as a ladder in the colour table.

BEAM CHARACTERISTICS

Version	Distribution	Beam angle 50 % of peak	Field angle 10 % of peak	Typical use
Both versions	No optics, very wide	136°	168°	Close range over a wide field: oven interiors, drying tunnels, hatches
HT optics	Not available on the Goby	–	–	See the Barracuda HT, the Orca HT or the Linear HT

HT optics of 20°, 40° and 60° exist for the Orca, the Barracuda and the Linear only. On the Goby, the Snapper and the Manta the housing is too small to carry one, so those versions are supplied as 120° very wide. Inside an oven or a tunnel that is normally what is wanted anyway.

LIGHT DISTRIBUTION



120° very wide, both versions

OBTRUSIVE LIGHT

ULOR at 0° tilt	**0 %**
Colour temperatures	6500 K, 4000 K and 2700 K
Bi-colour	Not available on the high temperature versions

Nothing is emitted above the horizontal at 0° tilt. That is the figure a permitting authority asks for when a site borders a residential area or a protected zone, and it is the starting point for any assessment against NEN-EN 12464-2 and the NSVV guidance on obtrusive light. Where the site condition demands a cut off optic rather than a controlled floodlight, see the DarkLicht range.

COLOUR AND CONSISTENCY

Colour temperatures	6500 K, 4000 K, 2700 K
Bi-colour	Not available on the high temperature versions
Colour rendering	Ra > 70 standard, optionally 80 or 90
Colour consistency	MacAdam step 3 or better
LED service life	TM-21 L90B05, see the temperature ladder below
Ladder	> 360,000 h at 50 °C · 103,000 h at 85 °C · 71,700 h at 105 °C · 51,400 h at 120 °C

Full specification

All values apply to the standard configuration at 25 °C ambient, including lens losses and driver consumption. A hyphen means the entry does not apply to that version.

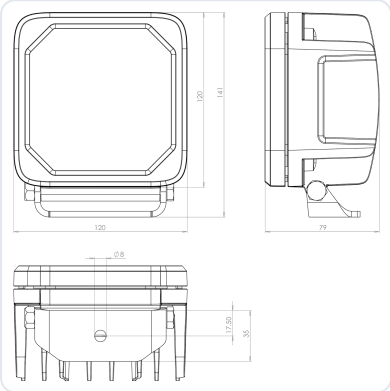
	Goby HT AC	Goby HT DC
PERFORMANCE		
Luminous flux	2,600 lm	2,600 lm
Power consumption	13 W	13 W
Efficacy	200 lm/W	200 lm/W
Beam	120° very wide	
ELECTRICAL AND DRIVER		
Supply voltage range	90–305 VAC, 50/60 Hz	9–32 VDC, 12 and 24 V nominal
Current draw	0.1 A at 120 V · 0.05 A at 220 to 277 V	0.55 A at 24 V · 1.1 A at 12 V
Power factor at full load	> 0.9 at 65 to 100 % load	-
Surge protection	6 kV line to line, 10 kV line to earth (IEC 61000-4-5)	Protected
Dimming	0–10 V, PWM, DALI-2	On request
Driver	Remote BLD075, 131 × 68 × 33.5 mm, 650 g. Fits the DRB-1	DC drivers on board
Driver ambient	The driver box must sit in an ambient of at most +50 °C	-
CONSTRUCTION		
Housing	Cast aluminium, less than 0.08 % copper	
Surface finish	Conversion layer plus 2-layer titanium-based e-coating	
Bracket	High tensile 316L stainless steel, unlimited rotation from -60° to +30°	
Front	Chemically hardened glass IK09, or borosilicate glass	
Protection class	Class II	
Ingress protection	IP66, IP67, IP68 and IP69K, resistant to steam and high pressure cleaning	
Impact resistance	IK09, set by the front cover (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	
DURABILITY AND DIMENSIONS		
Ambient temperature	−45 to +120 °C	−45 to +110 °C
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	
Cable and termination	SiHF-OB silicone, 4 cores (2 × 1.0 mm² + 2 × 0.5 mm²), 15.0 m	SiHF-OB silicone, 2 cores (2 × 1.0 mm²), 15.0 m
Dimensions	120 × 141 × 79 mm including bracket	
Weight	1.8 kg incl. bracket, driver box separate	1.8 kg incl. bracket
Warranty	5 years to +120 °C	5 years to +110 °C

The driver box is mounted outside the hot zone and is connected with heat resistant silicone cable. The LED life ladder applies to every high temperature luminaire in the range and is stated in the colour table rather than as a footnote.

Mechanics, mounting and driver

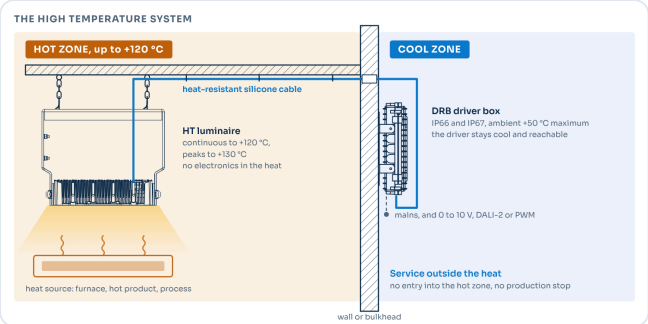
All drawings are to scale and dimensioned in millimetres. On the AC version the driver box is a separate item and is mounted outside the hot zone.

BRACKET AND ROTATION



Incl. bracket	120 × 141 × 79 mm
Weight	1.8 kg with bracket
Material	High tensile 316L stainless steel
Rotation	Unlimited from -60° to +30°
Front	Chemically hardened glass, or diffuse borosilicate for food industry applications
Same housing as	The standard Goby

LUMINAIRE AND DRIVER BOX



In the hot zone	The luminaire only
Outside the hot zone	The BLD075 driver on the AC version
Between them	Heat resistant silicone cable, 15.0 m
Driver ambient	+50 °C maximum
DC version	Drivers on board, nothing external

MOUNTING AND ACCESSORIES

Standard bracket	High tensile 316L, supplied as standard
DRB-1 driver box	Housing for the remote driver on the AC version
Borosilicate front	Option where the glass sees direct radiant heat
Silicone cable	15.0 m as standard. Longer runs on request
Higher output at temperature	Snapper HT at 7,000 lm, Barracuda HT at 20,600 lm
Linear alternative	Linear HT, for a continuous run inside a tunnel

REMOTE DRIVER, AC VERSION

Type	BLD075, 90–305 VAC or 127–420 VDC
Position	Outside the hot zone, ambient +50 °C maximum
Case temperature	Tc −40 to +90 °C
Lifetime	≥ 100,000 h at Tc 75 °C
MTBF	≥ 320,000 h at 75 °C case
DC version	Drivers on board

Heat is what kills a driver, not the LED. Electrolytic capacitors dry out. Moving the driver out of the hot zone is the single change that turns a high temperature installation from a yearly job into a ten year one.

DRB-1 DRIVER BOX



Use	Housing for the remote driver, outside the hot zone
DRB-1	One driver up to 320 W. 276 × 194 × 86.5 mm, 4.2 kg, IP66 and IP67
Ingress protection	IP66 and IP67
Ambient	+50 °C maximum

Ordering, standards and documents

ORDER CODE

Example **GOHT01-65K**

Goby HT, AC, 6500 K

GOHT01	High temperature, AC, remote BLD075
GOHT02	High temperature, DC, drivers on board
65K · 40K · 27K	6500 K · 4000 K · 2700 K
BORO	Borosilicate front instead of chemically hardened glass
Beam	120° very wide, no optic suffix

Bi-colour and amber are not available on the high temperature versions. Cable length beyond 15.0 m and the diffuse borosilicate front are confirmed at order.

COMBINATIONS

Borosilicate front	Both versions
DC to +110 °C	Standard
AC to +120 °C	Standard
Bi-colour or amber	Not available
HT optics	Not possible on this housing
316L housing	Not available, see the Snapper HT

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, IP69K	In-house test
Impact and vibration	IEC 62262 IK09, set by the front cover · IEC 60068-2-6 at 6 G	In-house test
Shock and corrosion	IEC 60068-2-27 · ISO 9223 class C5, industrial and marine	In-house test
Photometry	IES LM-79, IES files per optic	In-house test
Substances	RoHS, REACH	Self-declaration

BEFORE YOU ORDER

A sample luminaire to hang before you commit to a project quantity.

Five years warranty on the complete luminaire.

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

PRODUCT PAGE

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

WHERE IT EARNS ITS PLACE

Inside an oven, a kiln or a drying tunnel there is no room for a floodlight and no access during production. The Goby HT is the smallest luminaire in the range that can sit there permanently, at 200 lumens per watt, with the only heat sensitive component mounted somewhere a technician can actually reach it.

Notes. Values are for the standard configuration. The warranty follows the operating temperature: five years to +120 °C on AC and to +110 °C on DC. The LED life ladder in the colour table is the same for every high temperature luminaire in the range. North American models on request. The JEL range is not ATEX or Ex certified.