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UV Lamps, Sleeves and Sensors — Certificate-Bound Buying

cBallast Technical Sourcing · UV disinfection systems · issued 2026-11-04 · cballast.com/documents/uv-lamps-certificate-bound-consumable

How waterworks, wastewater plants, fish farms, pools and ships buy UV lamps, quartz sleeves and sensors by the hundred: the standards that name the lamp (DVGW, ÖNORM, USEPA, NSF, IMO), lamp technology decoded, the RoHS and sanctions clauses a 2026 tender needs, the annual-bill arithmetic and the lamp-set standing list.

The short version

A UV reactor is a vessel with a shopping list inside it. Lamps, quartz sleeves, O-rings, ballasts, UV sensors, wipers. The vessel lasts twenty years; the list is bought every year, and on a large plant it is bought by the hundred. We call the per-position bundle, lamp plus sleeve plus seals, the lamp set.

The lamp is a certificate-bound consumable. A drinking-water reactor certified to DVGW W 294 or ÖNORM M 5873, a reactor validated to the USEPA UV Disinfection Guidance Manual, and a ballast water system type-approved under the IMO BWMS Code are each certified with a named lamp type and a named sensor. Change the lamp type and the certificate no longer describes the reactor. Where no certificate binds the position, an equivalent lamp to the same electrical and optical specification is a legitimate saving.

The buyers are largely public. Waterworks, wastewater plants and municipal pools buy UV consumables under public procurement rules: EU thresholds of EUR 140,000 and 216,000 for supplies in 2026 and 2027 (EUR 432,000 for utilities), framework agreements, Peppol e-invoicing, sanctions declarations, 30-day payment. A supplier that cannot work inside those rules is not a supplier to this market.

Three regulatory clauses belong in every UV tender in 2026. The RoHS exemptions that keep mercury UV lamps legal in the EU carry an Annex III date of 24 February 2027 and a renewal decision still pending; Article 5k of the EU sanctions regulation requires supplier origin and ownership to be declared down the chain; spent lamps are hazardous WEEE with a take-back obligation. Section 8 has the wording.

Consumables are forecastable to the lamp. Lamp count divided by rated life, times operating hours, gives next year's lamps; sleeves, O-rings and sensors follow. That list is a standing list, priced once, called off per change-out campaign, with a lamp set per reactor on the shelf. Section 10 shows the register; section 11 the RFQ that prices it in one pass.

1. Where UV sits, and who buys it

Segment | What UV does there | Governing rules | Who buys | What drives consumable volume |

Municipal drinking water | Second hygienic barrier against Cryptosporidium and Giardia; in Norway the usual barrier beside filtration under the drinking water regulation | DVGW W 294, ÖNORM M 5873, USEPA UVDGM and LT2ESWTR, NSF/ANSI 55, EU Drinking Water Directive 2020/2184 | Municipal and intermunicipal waterworks, public utilities | Reactors run continuously; lamp changes on rated hours; sensor calibration on a fixed cycle |
Municipal and industrial wastewater | Final effluent disinfection, water reuse, combined sewer overflow | Discharge permits; USEPA and state criteria; EU water reuse Regulation 2020/741 | Public wastewater utilities, industrial plants | Open-channel banks of hundreds to thousands of lamps; the largest lamp populations anywhere |
Aquaculture | Intake and recirculation water in hatcheries, smolt plants and RAS; effluent | Veterinary and biosecurity rules; in Norway the Food Safety Authority's requirements | Private operators, often large groups | Many mid-size reactors per site; continuous duty; seawater fouling |
Swimming pools | Chloramine reduction and disinfection with medium-pressure UV | DIN 19643 process combinations; national pool hygiene rules | Municipalities, leisure centres, hotels | Medium-pressure lamps with short rated lives |
Ships: ballast water | Treatment to the IMO D-2 standard in UV-based systems | IMO BWM Convention and BWMS Code; USCG type approval | Ship owners and managers | Lamp sets per system, replaced on hours, bought per vessel class |
Food, beverage, pharma, electronics | Disinfection of process water, dechlorination, TOC reduction with 185 nm lamps, ozone destruction | Site quality systems; pharmacopoeia water requirements | Private plants | Continuous duty; high-purity sleeves and lamps; validation documents |

The public-sector weight is the point of the table. Most of the large lamp populations sit in municipal water and wastewater, and most of them are bought under procurement law. That changes how a supplier has to sell (section 8) more than it changes what is sold.

2. The reactor as a parts list

Component | Function | Typical replacement | What identifies it |

UV lamp | The UV-C source | At rated hours: roughly 9,000 to 12,000 h for standard low-pressure, 12,000 to 16,000 h for amalgam low-pressure high-output, 4,000 to 10,000 h for medium-pressure, as the maker specifies | Lamp maker and type, or reactor maker's part number; arc length, base, power |
Quartz sleeve | Separates lamp from water; transmits UV-C | Every second or third lamp change, or on inspection: fouling, etching, cracks | Length, outer diameter, wall, closed or open end, quartz grade |
O-rings and seals | Seal sleeve to reactor; seal lamp holder | At every lamp change | Size and compound: EPDM, FKM, silicone; food-contact or drinking-water approval |
Ballast or electronic power supply | Drives the lamp at its rated current | Years; on failure or on lamp-type change | Reactor maker's part number; lamp type and count it drives |

UV intensity sensor (duty sensor) | Continuous measurement behind the sleeve | Replace when the duty-to-reference ratio drifts; recalibrate on cycle | Reactor maker's type; DVGW or ÖNORM-conforming sensor where certified |
Reference sensor | Offline check of the duty sensors | Factory calibration at least every three years | Certified reference radiometer type |
Wiper system | Mechanical sleeve cleaning | Wiper rings yearly or on wear; drives and seals on inspection | Reactor maker's part numbers |
Cleaning chemicals | Chemical sleeve cleaning in situ | Per cleaning cycle | Citric, oxalic or phosphoric acid solutions as the maker specifies |
UVT monitor, flow meter, controller parts | Dose control | On failure or obsolescence | Instrument maker's part numbers |

The lamp set is lamp, sleeve and the O-rings for one lamp position. Buying in lamp sets removes the most common failure on a change-out day, which is a shelf full of lamps and one missing O-ring size.

3. Lamp technology decoded

Low-pressure (LP) mercury lamps emit almost entirely at 254 nm, run at low power per lamp and have the highest conversion of electrical power to UV-C. They dominate small and medium reactors.

Low-pressure high-output amalgam lamps (LPHO) hold mercury as an amalgam, which keeps output stable over a wider water-temperature range and allows several times the UV-C output of a standard LP lamp of the same length, at 12,000 to 16,000 rated hours on electronic ballasts. They dominate municipal drinking water and wastewater reactors and most new aquaculture installations.

Medium-pressure (MP) lamps emit a broad spectrum from 200 nm upward at high power per lamp, with lower conversion efficiency and shorter life. They give compact reactors for high flows and poor transmittance, and they are the standard in pools because the broad spectrum breaks down chloramines.

UV-C LEDs are established in point-of-use and small appliance units and in some instrument applications; at municipal flows the lamp reactors above remain the installed base and the current purchasing reality.

What a lamp designation encodes. Arc length and overall length; tube diameter (T5, T6, T8, T10 and others); base and pin configuration (single-ended four-pin, double-ended two-pin, and maker-specific bases); electrical rating (watts and lamp current); amalgam or standard; quartz type (ozone-generating 185 nm or ozone-free). Lamp makers such as Signify (Philips TUV ranges), Heraeus, LightSources and LightTech, Ushio and OSRAM supply both their own catalogue types and lamps built to reactor makers' specifications; a reactor maker's part number may map to one lamp maker's type, or to a lamp made only for that reactor.

The ballast must match the lamp. A lamp runs at the current and ignition conditions its ballast or electronic power supply was built for. A lamp of the right dimensions on the wrong ballast runs outside its rating, which shortens life and changes output; the validated dose assumed the rated output.

End-of-lamp-life. Makers specify the fraction of initial UV-C output remaining at rated hours, and the reactor's certified or validated dose is calculated at that end-of-life output together with sleeve fouling and ageing. Lamps run past rated hours take the reactor outside the basis of its certificate even when the sensor still reads above alarm, which is why lamp hours, not sensor readings alone, drive the change-out calendar in certified plants.

4. The certificate-bound consumable

A UV reactor earns its place in a drinking-water plant by a biodosimetric test: the reactor is challenged with a test organism and the result is expressed as a reduction equivalent dose (RED). DVGW W 294 and ÖNORM M 5873 require an RED of 40 mJ/cm² for drinking water, and NSF/ANSI 55 Class A certifies a dose at least equivalent to 40 mJ/cm² at the alarm set point. The USEPA UVDGM validates reactors against the dose table of the LT2 rule, which assigns 12 mJ/cm² for 3-log Cryptosporidium and 186 mJ/cm² for 4-log virus credit on the adenovirus basis. The test is run with a specific lamp type, a specific sleeve, a specific sensor and a specific control logic, and the certificate or validation report names them.

That makes four consumables certificate-bound:

The lamp. Named in the certificate by maker and type. A different lamp, even one that fits and lights, is a reactor the certificate no longer describes unless the reactor maker has had the alternative type listed.
The duty sensor. DVGW and ÖNORM reactors use sensors conforming to those standards' sensor requirements; the sensor's spectral response and measurement geometry are part of the dose calculation.
The sleeve. Quartz grade and wall thickness set the UV-C transmittance assumed in the validation.
The ballast. It sets the lamp's operating point.

The same logic binds the lamp in a ballast water system: the IMO type approval under the BWMS Code and the USCG type approval cover the system as tested, lamp type included. Spares for a type-approved system are the maker's listed spares.

Where equivalents are legitimate. Positions not bound by a certificate: process water, many aquaculture and effluent duties, pools outside a DIN 19643 process-combination claim, industrial reuse, and any reactor whose maker has listed an alternative lamp type. There the test is technical: same arc length, overall length, diameter and base; same electrical rating and lamp current on the existing ballast; same or higher UV-C output at the stated hours; same quartz type (ozone-free where the original was); same amalgam or standard construction; and a lamp maker's written equivalence statement. Lamp makers publish cross-references for the common reactor types; a reactor maker's own replacement is the reference the equivalent is measured against.

Our rule. For a reactor that holds a DVGW, ÖNORM, USEPA or NSF certificate, or an IMO or USCG type approval, we quote the lamp type the certificate names, or an alternative the reactor maker has listed, and nothing else. For unbound positions we may quote an equivalent to the specification above, declared on the quote next to the original, never swapped silently.

5. The standards map

Standard or rule | Scope | What it fixes for purchasing |

DVGW W 294-1 to -3 (Germany) | UV systems for drinking water: requirements, testing, sensors | 40 mJ/cm² RED; certified

reactor with named lamp and sensor; reference sensor regime |
ÖNORM M 5873-1 and -2 (Austria) | Low-pressure (-1) and medium-pressure (-2) drinking-water reactors | 40 mJ/cm² RED; ÖVGW certification; accepted widely in Europe including Norway |
USEPA UVDGM 2006 with LT2ESWTR (USA) | Validation of reactors for Cryptosporidium, Giardia and virus credit | Validated dose and operating envelope per reactor; the lamp and sensor as validated |
NSF/ANSI 55 (USA) | Point-of-entry and point-of-use UV | Class A at 40 mJ/cm² equivalent for potable use; Class B for supplemental treatment only |
EU Drinking Water Directive 2020/2184 | Quality and risk-based approach for water intended for human consumption | National transposition; materials in contact with drinking water under the Directive's harmonised approach |
EU Regulation 2020/741 | Water reuse for agricultural irrigation | Reuse classes that UV effluent disinfection is sized against |
DIN 19643 (Germany) | Treatment of pool and bath water | UV within approved process combinations for chloramine reduction |
IMO BWM Convention, D-2 and the BWMS Code; USCG 46 CFR 162.060 | Ballast water treatment systems | Type-approved system as tested, lamp type included |
EU RoHS Directive 2011/65, Annex III exemptions 4(a)-I and 4(f)-IV | Mercury in UV-C low-pressure and amalgam lamps (4(a)-I) and in medium- and high-pressure UV lamps (4(f)-IV) | Legal basis for mercury UV lamps on the EU market; see section 8 |
EU WEEE Directive 2012/19 | Collection and treatment of spent lamps | Take-back and hazardous-waste routing for mercury lamps |
EU Directive 2014/55 and the European e-invoicing standard | Electronic invoicing in public procurement | Public buyers accept e-invoices to EN 16931; Norway requires EHF (Peppol BIS) from suppliers to the public sector |
EU Directive 2011/7 | Late payment | Public authorities pay within 30 days as a rule |
Regulation (EU) 833/2014, Article 5k | Sanctions in public procurement | No award to Russian-established or Russian-majority-owned suppliers, nor reliance on them for more than 10% of contract value |

6. Sensors and monitoring: the part of the budget nobody forecasts

A certified plant runs two kinds of sensor. Duty sensors sit in the reactor and measure continuously. A reference sensor is kept offline and used to check the duty sensors; the drinking-water guidance that follows DVGW and ÖNORM practice checks duty against reference at least monthly, replaces or corrects a duty sensor whose ratio to the reference exceeds 1.2, and sends the reference sensor for factory calibration against a traceable standard at least every three years.

For purchasing, that means three lines that recur as predictably as lamps: duty sensors on a replacement cycle, reference-sensor calibration on a three-year cycle, and sensor windows and O-rings at each service. They belong on the standing list next to the lamp sets, because a plant without a valid reference sensor is a plant that cannot prove its dose.

7. The annual bill

For each reactor: lamp count, rated lamp life, operating hours per year.

lamps per year = lamp count x operating hours per year / rated hours
sleeves per year = lamp count / sleeve life in lamp changes x lamp changes per year
O-ring sets per year = lamps per year

A wastewater bank of 1,000 amalgam lamps rated at 12,000 hours and running all year replaces around 730 lamps a year on hours alone; with dose pacing (lamps switched by flow and transmittance) fewer, with a fixed annual change-out campaign exactly 1,000. A waterworks with eight reactors of 24 lamps each replaces about 140 lamps a year. Sleeves follow at a third to a half of that, O-rings one set per lamp, plus sensors and wipers on their own cycles. The bill for a large plant is six figures a year in consumables alone, every year, for the life of the plant, which is why it belongs in a framework agreement and not in a monthly purchase order.

Two levers reduce it without touching the dose. Dose pacing, where the control system runs only the lamps the flow and transmittance need, extends lamp life in hours. Scheduled sleeve cleaning, mechanical or chemical, keeps the fouling factor where the validation assumed it, which keeps the dose at the lamps' rated hours instead of forcing early changes.

8. Buying UV consumables under public procurement

Thresholds. From 1 January 2026 to 31 December 2027 the EU thresholds for supplies and services are EUR 140,000 for central government authorities and EUR 216,000 for sub-central authorities under Directive 2014/24, and EUR 432,000 under the utilities Directive 2014/25 (Delegated Regulations 2025/2152 and 2025/2150). Norway applies the equivalent EEA thresholds from 21 April 2026 at NOK 1.63 million for central government, NOK 2.5 million for other contracting authorities and NOK 5 million for utilities, with a national announcement threshold of NOK 1.3 million below them. A multi-year lamp supply for a large plant crosses these lines, which means a published notice on TED or Doffin, a formal procedure and a framework.

The right instrument. A framework agreement of two to four years with call-offs per change-out campaign, priced on unit rates with quantity bands per lamp type and sleeve type, is the instrument that fits consumables. Dynamic purchasing systems suit buyers that aggregate several plants. A single-reactor replacement of lamps and sleeves, under the thresholds, is a direct purchase against a quote.

Specifying without unlawful lock-in. Directive 2014/24 Article 42 forbids technical specifications that refer to a specific make or source unless the subject matter justifies it, and requires the words "or equivalent" when such a reference is made. For a certificate-bound position the justification exists and should be written down: "lamp type as named in the reactor's DVGW/ÖNORM certificate or listed by the reactor manufacturer as an approved alternative". For unbound positions, specify the lamp by its parameters (arc length, overall length, diameter, base, power, lamp current, UV-C output at rated hours, amalgam, ozone-free quartz, rated life) and let equivalents compete.

Clauses a 2026 UV tender needs.

RoHS status. Mercury UV lamps are placed on the EU market under Annex III exemptions 4(a)-I (UV-C low-pressure and amalgam lamps) and 4(f)-IV (medium- and high-pressure UV lamps). The Annex III date for these exemptions is 24 February

2027; renewal requests were due by 24 August 2025 and were filed, the stakeholder consultation ran in mid-2026, and the Commission's decision had not been published at the time of writing. Under Article 5(5) of the Directive an exemption with a timely renewal request remains valid until the decision. The tender should require the bidder to state the exemption each lamp type relies on and to notify the buyer of any change in its status.
Sanctions. Under Article 5k of Regulation (EU) 833/2014, mirrored in Norway's sanctions regulation, no contract above the thresholds may be awarded to a supplier established in Russia or majority-owned from Russia, nor rely on such entities for more than 10% of the contract value as subcontractors or suppliers. The tender should require a declaration of the country of manufacture and the ownership of the maker for every lamp and sleeve type offered.
WEEE and hazardous waste. Spent mercury lamps are hazardous waste under WEEE. The tender should state who takes back spent lamps, how they are packed and transported, and where the treatment certificate is filed.
Documents per line. Certificate reference for certificate-bound items; lamp maker's equivalence statement for equivalents; material declarations for sleeves and O-rings in contact with drinking water; safety data sheets for cleaning chemicals.
Delivery per campaign. Call-off quantities by reactor and date, packed per lamp set, with lamp serial numbers and hours tracking where the plant uses them.
E-invoicing and payment. Peppol BIS or EHF e-invoices to the buyer's access point; payment within 30 days under Directive 2011/7.

The supplier's side of the same rules. A supplier to this market registers on the buyer's portal, completes the European Single Procurement Document, declares origin and ownership down its chain, invoices electronically, and accepts public-sector payment terms. These are not obstacles; they are the entry ticket.

9. Lead time: what is on the shelf and what is not

Standard LP and amalgam lamp types in common lengths, standard quartz sleeves and O-rings are stock items at the lamp makers and at reactor makers' spares desks, and move in days. Medium-pressure lamps, unusual arc lengths, lamps made only for one reactor type, certified sensors and ballasts for older reactors are made or allocated to order and run from weeks to months. The protection is the same as for every other consumable in this series: know which of your positions are in the second group before the change-out campaign, and hold a lamp set per reactor on site.

For plants with several reactors of the same type, a consolidated campaign order with staged delivery per reactor is cheaper and safer than reactor-by-reactor buying: one entry, one document pack, one shelf.

10. The UV register and the standing list

One row per reactor:

TAG reactor tag, plant, location
REACTOR maker, model, serial, year, certification (DVGW, ÖNORM, USEPA, NSF, IMO) and certificate reference
LAMPS lamp type as certified, maker's part number, count, rated hours, hours at last change
ALTERNATIVES lamp types listed by the reactor maker as approved, if any
SLEEVES part number, count, date of last replacement
O-RINGS sizes and compounds per position
SENSORS duty sensor type and count; reference sensor type and last factory calibration
BALLASTS type and count
WIPER wiper ring and seal part numbers, interval
CAMPAIGN planned change-out dates
STOCK lamp sets on site: quantity, location

The register produces the standing list: annual quantities per lamp type, sleeve type, O-ring set, sensor and wiper part, with the certificate reference per line and the campaign dates. Priced once a year on unit rates with quantity bands, it becomes the schedule of a framework agreement, and the call-offs follow the campaigns. For a fleet, the register is per ballast water system type and the standing list is delivered to the agent at the port where the service is planned.

11. The cballast UV RFQ

Copy it, fill it in and send it to sales@cballast.com. It works with any supplier, and it is built so that one reactor or a whole plant can be priced firm without a clarification round.

1. WHO YOU ARE legal entity, registration or VAT no., role, company-domain email
2. END USER plant or vessel (IMO no.), or "we are the end user"; public body or private
3. REACTOR maker, model, serial, year; certificate or type approval and its reference
4. LAMPS type as certified or as marked, maker's part number, quantity; approved alternatives if listed
5. SLEEVES, SEALS sleeve part number and quantity; O-ring sizes and compounds; quantity
6. SENSORS, OTHER duty and reference sensors, ballasts, wiper parts, cleaning chemicals, with part numbers
7. EQUIVALENT OK? certificate-bound (OEM type only) or unbound (equivalents to specification may be offered)
8. DOCUMENTS certificate references, equivalence statements, material declarations, SDS, origin and ownership declaration, RoHS exemption reference
9. DELIVERY address or port, campaign dates, staged quantities per reactor, Incoterm
10. COMMERCIAL one-off, annual standing list, or framework schedule; e-invoicing route; payment terms

What comes back from our desk: each line priced with maker, type and certificate status; equivalents, where allowed, declared next to the OEM type with the lamp maker's equivalence statement; lead time per line; origin and ownership stated per maker; documents per line as asked; and, for standing lists, unit rates with quantity bands and a campaign delivery schedule.

12. Accounts, including public ones

Private accounts. Every new account is vetted at onboarding. The first order is prepaid. Established accounts move to credit terms and substantial repeat-account discounts.

Public bodies and utilities. Contracting authorities and public utilities are invoiced against their purchase order on public-sector terms from the first order, by Peppol BIS or EHF e-invoice where the buyer requires it, with the supplier documentation

(registration, tax status, origin and ownership declarations, ESPD) provided at onboarding. Framework schedules are priced on unit rates with quantity bands and called off per campaign.

We work on quote and invoice, not a checkout. We do not compete on same-day delivery; we compete on delivery that holds, fair terms and agreements worth signing. The buyers we are built for are end users with recurring demand: waterworks and wastewater utilities, aquaculture operators, pool operators, ship owners and managers, process plants. We do not quote broadcast lists with no named end user.

Frequently asked questions

Can I replace the UV lamps in a certified drinking-water reactor with another maker's lamps?Only with a lamp type named in the reactor's DVGW, ÖNORM, USEPA or NSF certificate or listed by the reactor maker as an approved alternative. The certificate was earned with that lamp, sensor and sleeve. For reactors without a certificate, an equivalent lamp to the same arc length, base, electrical rating, UV-C output and quartz type, with the lamp maker's equivalence statement, is legitimate.What UV dose is required for drinking water?A reduction equivalent dose of 40 mJ/cm² under DVGW W 294 and ÖNORM M 5873, and an equivalent dose under NSF/ANSI 55 Class A. The USEPA UVDGM validates reactors against the LT2 dose table, for example 12 mJ/cm² for 3-log Cryptosporidium credit.How often are UV lamps, sleeves and sensors replaced?Lamps at rated hours: roughly 9,000 to 12,000 for standard low-pressure, 12,000 to 16,000 for amalgam, 4,000 to 10,000 for medium-pressure, as the maker specifies. Sleeves every second or third lamp change or on inspection. O-rings at every lamp change. Duty sensors are checked against a reference sensor monthly and replaced when the ratio exceeds 1.2; the reference sensor is factory-calibrated at least every three years.Are mercury UV lamps still legal in the EU?Yes. They are placed on the market under RoHS Annex III exemptions 4(a)-I (UV-C low-pressure and amalgam) and 4(f)-IV (medium- and high-pressure). The Annex III date is 24 February 2027, renewal requests were filed by the August 2025 deadline, and the exemptions remain valid until the Commission decides. Tenders should require bidders to state the exemption relied on.What must a UV lamp tender in the EU or Norway include?The lamp type per reactor as certified or a parameter specification with "or equivalent"; a declaration of country of manufacture and maker ownership under Article 5k of Regulation (EU) 833/2014; the RoHS exemption reference per lamp type; WEEE take-back of spent lamps; documents per line; staged delivery per campaign; e-invoicing by Peppol BIS or EHF; 30-day payment under Directive 2011/7.Which companies make UV disinfection reactors and lamps?Reactor makers include Xylem Wedeco (Germany), Trojan Technologies (Canada), Hanovia and Berson (UK and Netherlands, Halma), atg UV (UK, Xylem), SITA (Italy), LIT (production centre in Erfurt, Germany; group headquartered in Moscow), ProMinent (Germany), BIO-UV (France), UltraAqua (Denmark) and, for ballast water, Alfa Laval PureBallast (Sweden), Optimarin (Norway), Trojan Marinex and BIO-UV BIO-SEA. Lamp makers include Signify (Philips TUV), Heraeus, LightSources and LightTech, Ushio and OSRAM.Does cballast supply UV lamps, quartz sleeves, sensors and spares for SITA, LIT, Wedeco, Berson, Hanovia, atg UV, UltraAqua, Trojan and ballast water UV systems?Yes, by reactor maker's part number or lamp maker's type, with certificate status, origin and ownership stated per line, on one quote with the sleeves, O-rings, sensors, ballasts and wiper parts that go with them. Standing lists and framework schedules are priced on unit rates with quantity bands and delivered per change-out campaign. Send the UV RFQ or a register to sales@cballast.com.Does cballast sell to municipalities and public utilities?Yes, against purchase order on public-sector terms from the first order, with Peppol or EHF e-invoicing and the supplier documentation public buyers require.What is cballast not the right source for?Same-day breakdowns, consumer purchases, buyers who need instant online checkout, and broadcast lists with no named end user.

Terms used in this guide

Lamp set: lamp, quartz sleeve and O-rings for one lamp position, bought and stocked together.
Certificate-bound consumable: a consumable whose type is named in the reactor's certificate, validation or type approval: lamp, duty sensor, sleeve, ballast.
Unbound position: a reactor or duty with no certificate binding the lamp type, where equivalents to specification may be offered.
Equivalence statement: the lamp maker's written confirmation that a lamp matches the original's dimensions, electrical rating, UV-C output and quartz type.
Reduction equivalent dose (RED): the dose a reactor delivers as measured by biodosimetry with a test organism.
Duty and reference sensors: the reactor's online sensors and the offline sensor that checks them.
Campaign: a scheduled change-out of lamps and sleeves on one or more reactors, which is the natural call-off unit.
UV register: one row per reactor with its certificate, lamp, sleeve, sensor, ballast and wiper data.
Standing list: annual quantities per consumable type with certificate references, priced once and called off per campaign.
Framework schedule: the standing list as the price schedule of a public framework agreement.
UV RFQ: the ten-line cballast request format in section 11.

References and related guides

Standards and sources referenced: DVGW W 294-1…-3; ÖNORM M 5873-1/-2; USEPA UV Disinfection Guidance Manual 2006 and LT2ESWTR; NSF/ANSI 55; Directive (EU) 2020/2184; Regulation (EU) 2020/741; DIN 19643; IMO BWM Convention and BWMS Code; USCG 46 CFR 162.060; RoHS 2011/65/EU Annex III exemptions 4(a)-I and 4(f)-IV; WEEE 2012/19/EU; Regulation (EU) 833/2014 Article 5k; Directives 2014/24/EU, 2014/25/EU, 2014/55/EU and 2011/7/EU; Delegated Regulations (EU) 2025/2150 and 2025/2152 (thresholds).
UV lamp cross-reference by length and wattage
SITA UV spare parts cross-reference
Atlantium HOD UV spare parts reference
The legal bill of materials — EU rules on OT hardware
The port-call window — how a managed fleet buys spares

Questions on a reactor's certificate, a lamp cross-reference, a sensor regime or a tender clause are welcome at sales@cballast.com. We answer whether or not you buy from us. Registers, standing lists and UV RFQs go to sales@cballast.com.

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