

SPECTROLINE®

LEAK DETECTION and DIAGNOSTIC TOOLS

**Pinpoint the
Exact Source of
All These Leaks!**

- Refrigerants
- Hydraulics
- Fuel
- Water
- Compressed Air
- Natural Gas
- Propane
- Steam



The World Leader in Leak Detection Since 1955

**ISO 9001:2000
CERTIFIED COMPANY**

Fluorescent Leak Detection

How It Works

A small amount of fluorescent dye is added to an air conditioning, refrigeration or industrial fluid system and allowed to circulate. The dye escapes with the system's refrigerant or fluid and remains at all leak sites. When the system is scanned with a Spectroline® inspection lamp, the dye fluoresces brilliantly to pinpoint the exact source of every leak. Proven to find multiple and intermittent leaks undetectable by any other method. Even leaks smaller than 1/8 ounce per year!

Easily verify repairs by removing the dye from the leak sites with GLO-AWAY™ dye cleaner and then reinspect. The dye can remain safely in AC&R or fluid systems indefinitely for future leak inspections.

Fluorescent leak detection is the only method that can be used for both accurate diagnostics and as part of a comprehensive preventive maintenance program.

AR-GLO® fluorescent dyes are the only dyes that are co-solvent free and OEM-approved by major compressor, refrigerant, lubricant and AC&R equipment manufacturers.

AR-GLO® dyes are super-concentrated and proven in over 45 million AC&R systems worldwide.

AR-GLO® dyes are completely safe and will not alter or impair lubricant properties, which could lead to equipment damage and costly downtime. They have been successfully tested in accordance with ASHRAE Standards 97 and 86.

Small to Medium Size AC&R Systems

- Ice Machines • Window Units • Refrigerators
- Residential • Commercial • Light Industrial



Large Size AC&R Systems

- Supermarkets • Refrigerated Warehouses
- Food and Dairy Plants • Industrial



Fluid Systems

- Oil • Fuel • Water • Hydraulics



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Leak Detection Lamps and Kits

Cordless LED Lamps



OPX-365

OPTIMAX™ 365 Cordless, Rechargeable UV LED Leak Detection Flashlight (Patent Pending)

- Ultra-high intensity UV LED technology
- 4 times stronger than most corded, high-intensity UV leak detection lamps
- Works with all dyes, including difficult-to-fluoresce yellow dyes
- Inspection range up to 20 feet (6.1 m) or more
- 30,000-hour LED life
- Instant-on start, no warm-up required
- Powered by a rechargeable NiMH battery (included)



UV-absorbing glasses (UVS-30), smart AC charger (RB-300), smart DC charger with cigarette lighter adapter (RB-300DC), holster (119846) and padded carrying case (CC-365) are included with this lamp.



OPX-3000

OPTIMAX™ 3000 Cordless, Rechargeable Blue LED Leak Detection Flashlight

- 15 times brighter than regular LED lights
- Power comparable to super-high intensity 150W lamps
- Inspection range up to 20 feet (6.1 m) or more
- Compatible with all standard leak detection dyes
- 50,000-hour LED life
- Powered by a rechargeable NiMH battery (included)
- Smart AC and DC chargers
- UVS-40 fluorescence-enhancing glasses

OPK-300EZ/E

Complete EZ-Ject™ Kit Features the OPTIMAX™ 3000 Cordless, Rechargeable LED Flashlight

FOR SMALL TO MEDIUM SIZE SYSTEMS, INCLUDING HIGH-PRESSURE R-410A SYSTEMS

Contains:

- EZ-50 EZ-Ject™ dye injector assembly
- EZ-25 hose assembly with check valve and low-loss fitting
- (2) EZ-4/ECS 0.5 oz (14.8 ml) EZ-Ject™ universal/POE dye cartridges
- (3) Drip plugs for hose/coupler



OPK-300BEZ/E

Complete BigEZ™ Kit Features the OPTIMAX™ 3000 Cordless, Rechargeable LED Flashlight

FOR MEDIUM TO LARGE SIZE SYSTEMS, INCLUDING HIGH-PRESSURE R-410A SYSTEMS

Contains:

- BEZ-50 BigEZ™ dye injector assembly
- BEZ-25 hose assembly with check valve and low-loss fitting
- BEZ-4/ECS 4 oz (118 ml) BigEZ™ universal/POE dye cartridge
- (3) Drip plugs for hose/coupler



Fluorescence-enhancing glasses (UVS-40), smart AC charger (RB-300), smart DC charger with cigarette lighter adapter (RB-300DC), plastic carrying case (CC-130) and 8 oz (237 ml) spray bottle of GLO-AWAY™ dye cleaner (CR-800) are included in above kits.

Leak Detection Lamps and Kits



CE U

OPX-500CS

OPTIMAX Jr™ Cordless, Blue LED Leak Detection Flashlight

- Perfect for tight spaces
- Power comparable to high-intensity 75W lamps
- Inspection range up to 6 feet (1.8 m) or more
- 100,000-hour LED life
- Powered by 3 "AA" batteries (included)
- UVS-40 fluorescence-enhancing glasses

OPK-50EZ/E

Complete EZ-Ject™ Kit

Features the OPTIMAX Jr™

Ultra-Compact, Cordless LED Flashlight
FOR SMALL TO MEDIUM SIZE SYSTEMS,
INCLUDING HIGH-PRESSURE
R-410A SYSTEMS

Contains:

- EZ-50 EZ-Ject™ dye injector assembly
- EZ-25 hose assembly with check valve and low-loss fitting
- (2) EZ-4/ECS 0.5 oz (14.8 ml) EZ-Ject™ universal/POE dye cartridges
- (3) Drip plugs for hose/coupler



OPK-50GS/E

Complete GLO-STICK® Kit

Features the OPTIMAX Jr™

Ultra-Compact, Cordless LED Flashlight
FOR SMALL TO MEDIUM SIZE
SYSTEMS, INCLUDING HIGH-PRESSURE
R-410A SYSTEMS

Contains:

- (1) GS-1/E universal/POE GLO-STICK® dye capsule
- (2) GS-2/E universal/POE GLO-STICK® dye capsules
- (1) GS-3/E universal/POE GLO-STICK® dye capsule
- (1) BV-50 bleed valve for attaching GLO-STICK® capsule to service hose
- (1) PC-0249 purge capsule
- (1) 119567 hose to connect to low side service port



Fluorescence-enhancing glasses (UVS-40), plastic carrying case (CC-110) and 8 oz (237 ml) spray bottle of GLO-AWAY™ dye cleaner (CR-800) are included in above kits.



CE U

QMP-400CS

Quad Max Pro™ Flexible, Multi-Function LED Leak Detection Lamp with Mirror

- Three lamp positions: UV/White/Off (three UV LEDs for leak detection and one white LED for general component inspection, all with 100,000-hour life)
- Flexible head allows precise positioning in tight spots
- Adjustable mirror helps pinpoint leaks hidden from direct view
- Powered by 3 "AAA" batteries (included)
- UVS-40 fluorescence-enhancing glasses

QMK-40EZ/E

Complete EZ-Ject™ Kit

Features the Quad Max Pro™

Multi-Function LED Lamp

(Patented)

FOR SMALL TO MEDIUM
SIZE SYSTEMS, INCLUDING
HIGH-PRESSURE R-410A SYSTEMS

Contains:

- EZ-50 EZ-Ject™ dye injector assembly
- EZ-25 hose assembly with check valve and low-loss fitting
- (2) EZ-4/ECS 0.5 oz (14.8 ml) EZ-Ject universal/POE dye cartridges
- (3) Drip plugs for hose/coupler



Fluorescence-enhancing glasses (UVS-40), plastic carrying case (CC-110) and 8 oz (237 ml) spray bottle of GLO-AWAY™ dye cleaner (CR-800) are included in above kit.



CE U

OPD-500

Dual-Max™ Cordless, Multi-Function LED Flashlight

Features a super-bright blue light LED for leak detection,
plus a white light LED for general component inspection

- Power comparable to high-intensity 75W lamps
- Inspection range of up to 6 feet (1.8 m) or more
- Compact design allows easy access into tight spaces
- 100,000-hour LED life
- Powered by 3 "AAA" batteries (included)
- UVS-40 fluorescence-enhancing glasses

Choose GLO-STICK® capsules, bottled AR-GLO® dye, BigEZ™ or EZ-Ject™ cartridges separately.

Green "U" symbol indicates that lamp works best with universal, polyol ester AC&R dyes.

Leak Detection Lamps and Kits

TITAN® UV/Blue™ Lamp



TL-100A/12 TITAN® Flashlight-Style Lamp (Patented)

For large AC&R systems

Supermarkets, chillers and commercial rooftop units

- Equals the performance of larger AC-powered UV lamps
- Inspection range of up to 20 feet (6.1 m) or more
- Bulb rating: 12 volts, 100 watts, "instant-on"
- 4 ft (1.2 m) cord with cigarette lighter plug
- Specifications: 10½ oz. (298 gm), 3⅝ x 9 in (9.2 x 22.9 cm)
- UVS-40 fluorescence-enhancing glasses



TLK-100GS/E or TLK-100GS



TLK-100BEZ/E

TLK-100GS/E and TLK-100GS Complete Leak Detection Kits

Featuring the TL-100A/12 UV/Blue™ lamp
TLK-100GS/E includes GS-70/E starter/assortment pack of GLO-STICK® universal/POE dye capsules for all AC&R systems

TLK-100GS includes GS-70 starter/assortment pack of GLO-STICK® dye capsules for mineral oil lubricant systems

- BV-50 bleed valves (2)

TLK-100 Lamp Kit

(not shown)

Featuring the TL-100A/12 UV/Blue™ lamp

* Additional items (listed below) are included in this kit.

TLK-100BEZ/E Complete BigEZ™ Leak Detection Kit

Featuring the TL-100A/12 UV/Blue™ lamp

- BEZ-50 BigEZ™ multi-dose dye injector assembly
- BEZ-25 ¼" flare hose assembly with check valve and low-loss fitting
- BEZ-4/ECS 4 oz. (118 ml) BigEZ™ universal/POE dye cartridge for all AC&R systems
- (3) Drip plugs for hose/coupler

* Additional items shown (listed below) are included in kits above.

*The TLK kits above include: portable, rechargeable battery pack (BP-12A), fluorescence-enhancing glasses (UVS-40), plastic carrying case (CC-140) and 8 oz (237 ml) spray bottle of GLO-AWAY™ dye cleaner (CR-800).

Green "U" symbol indicates that lamp works best with universal, polyol ester AC&R dyes.

Corded UV Lamps

Ultraviolet Lamps Are the Original Leak Detection Technology and Produce Virtually No Visible Light, Making the Smallest Leaks Glow Brighter!



BIB-150P Built-In-Ballast™ UV Lamp

For large AC&R systems

Highest intensity self-ballasted UV lamp in the industry!

- Inspection range of up to 25 feet (7.6 m) or more
- Built-In-Ballast™ bulb eliminates the need for a heavy, external transformer
- Bulb rating: 120 volts, 150 watts (also available in 230V, 240V and 100V versions)
- Specifications: 3¼ lbs (1.5 kg), 6¾ x 10¼ in (17.1 x 26 cm)
- UVS-30 UV-absorbing glasses

BIB-150PR — Lamp, Same as the BIB-150P (above), with a 30 foot (9.1 m) retractable power cord in "flying reel".

BIB-150PX — Lamp, Same as the BIB-150P (above), with a 20 foot (6.1 m) power cord.



HVLD-80GS



LD-80SK

HVLD-80GS Complete Leak Detection Kit

Featuring the BIB-150P UV lamp

Contains:

- GS-70 starter/assortment pack of GLO-STICK® dye capsules for mineral oil lubricant systems
- BV-50 bleed valves (2)

* Additional items shown (listed below) are included in this kit

LD-80SK Lamp Kit

Featuring the BIB-150P UV lamp

* Additional items shown (listed below) are included in this kit

Choose GLO-STICK® capsules, bottled AR-GLO® dye, BigEZ™ or EZ-Ject™ cartridges separately.

* The BIB-150P kits above include: UV-absorbing glasses (UVS-30), plastic carrying case (CC-120A), and 8 oz (237 ml) spray bottle of GLO-AWAY™ dye cleaner (CR-800).

Leak Detection Lamps and Kits



ML-3500 MAXIMA™ (Patented) **For large AC&R systems** *Ultra-high intensity spot UV lamp*

- Inspection range of up to 30 feet (9.1 m) or more
- Works even in *direct sunlight!*
- Micro Discharge Light (MDL) technology
- Bulb rating: 120 volts, 35 watts (also available in 230V, 240V and 100V versions)
- Specifications: total weight 6.1 lbs (2.8 kg), lamp head 2.5 lbs (1.1 kg), solid-state ballast
- UVS-30 UV-absorbing glasses

NOTE: Battery-operated AC/DC version (MAXIMA ML-3500M) also available



MLK-35

MLK-35 **Lamp Kit**

Featuring the **ML-3500 MAXIMA™** spot UV lamp

*Additional items shown (listed below) are included in this kit



MLK-35M

MLK-35M **Battery-Operated** **Lamp Kit**

Featuring the **ML-3500M MAXIMA™** spot UV lamp

Contains:

- BP-12A 12-volt rechargeable battery pack
- AC and 12V DC cord sets

*Additional items shown (listed below) are included in this kit

Choose GLO-STICK® capsules, bottled AR-GLO® dye, BigEZ™ or EZ-Ject™ cartridges separately.

* **The MAXIMA kits above include:** UV-absorbing glasses (UVS-30), plastic carrying case (CC-350) and 8 oz (237 ml) spray bottle of GLO-AWAY™ dye cleaner (CR-800).

NOTE: Flood bulb/reflector assembly, diffusing filter lens and “flying” reel versions with 35 foot (10.7 m) secondary cord are also available.



TRI-365 TRITAN™ 365 (Patent Pending) **For large AC&R systems**

Ultra-high intensity, multi-LED, broad-beam UV lamp

- Inspection range of up to 20 feet (6.1 m) or more
- Three-position rocker switch: UV/White/Off (three UV LEDs for leak detection and one white LED for general component inspection)
- Instant-on start; no warm-up required
- Broad-beam design provides wider coverage area than conventional UV leak detection lamps
- Rubber bumper with Borofloat™ glass lens protects LEDs from damage
- Built-in fan keeps LEDs cool to maintain optimum light intensity during extended use
- Power requirements: 120 volts AC (also available in 230V, 240V and 100V versions)
- Specifications: Weight 1 lb (454 g), length 8 in (20.3 cm), lamp head diameter 3.25 in (8.3 cm)
- UVS-30 UV-absorbing glasses

NOTE: Battery-operated AC/DC version (TRI-365M) also available



TRI-365M **Battery-Operated Lamp Kit**

Featuring the **TRI-365M TRITAN™ 365** UV lamp

Contains:

- BP-20 12-volt rechargeable battery pack
- BR-100 smart charger
- AC cord set
- CC-370 padded carrying case
- UVS-30 UV-absorbing glasses

Choose GLO-STICK® capsules, bottled AR-GLO® dye, BigEZ™ or EZ-Ject™ cartridges separately.

Lamp Comparison Chart

Comparison Chart for

Please note that lamps are not shown in size proportion to each other

Specifications	Cordless LED Lamps				
	OPX-365	OPX-3000	OPX-500CS	OPD-500	GMP-400CS
					
Light Intensity	Ultra High	Super High	High		Medium
Bulb Rating	UV LED	Blue LED	Blue LED	Blue LED & White LED	3 UV LEDs & 1 White LED
Inspection Range ^①	Up to 20 feet (6.1 m) or more		Up to 6 feet (1.8 m) or more		Up to 2 inches (5.1 cm) or more
Lamp Style	Flashlight				Flexible Lamp
Operation	Instant-on				
Lamp Head Diameter X Length	1 ¹⁵ / ₁₆ x 8 in (4.9 x 20.3 cm)	1 ¹⁵ / ₁₆ x 7 ¹ / ₂ in (4.9 x 19 cm)	1 ³ / ₃₂ x 7 ⁵ / ₁₆ in (2.8 x 19 cm)	1 ¹ / ₈ x 6 ¹ / ₁₆ in (2.9 x 15.4 cm)	⁵ / ₈ x 18 in (1.6 x 46 cm)
Weight	11.8 oz (334.5 gm)	11.2 oz (318 gm)	4.8 oz (135 gm)	5.8 oz (164.4 gm)	7.5 oz (213 gm)
Cord Length	Cordless				
Power Requirements	Rechargeable NiMH Battery		(3) AA batteries	(3) AAA batteries	(3) AAA batteries

① Depending on ambient light conditions (the darker the better).

② Lamps and battery chargers also available in 230V/50Hz, 240V/50Hz and 100V/50-60Hz.

③ Versions also available with flying reel or 20 foot (6.1 m) power cord.





④ For ML-3500M, primary DC cord is 3 feet (0.9 m).

⑤ Versions also available with 35 foot (10.7 m) secondary cord in flying reel.

⑥ Lamp's broad UV beam profile works best at closer distances.

Green "U" symbol indicates that lamp works best with universal, polyol ester AC&R dyes.

Leak Detection Lamps

TITAN® UV/Blue™ Lamp	Corded UV Lamps					
	TL-100A/12	BIB-150P	ML-3500	ML-3500M	TRI-365	TRI-365M
						
Very High	Super High	Ultra High	Ultra High			
100 watts	150 watts	35 watts	3 UV LEDs & 1 White LED			
Up to 20 feet (6.1 m) or more	Up to 25 feet (7.6 m) or more	Up to 30 feet (9.1 m) or more	Yellow Dye: Up to 20 feet (6.1 m) or more Green Dye: Up to 6 feet (1.8 m) or more®			
Compact	Pistol Grip	Pistol Grip	Pistol Grip			
Instant-on	5 minute warm-up	Instant-on	Instant-on			
3 1/4 x 7 1/2 in (8.3 x 19 cm)	6 1/2 x 9 5/8 in (16.5 x 24 cm) includes heat guard	6 1/2 x 7 1/2 in (16.5 x 19 cm)	3 1/4 x 8 in (8.3 x 20.3 cm)			
1.1 lb (590 gm)	3 1/4 lbs (1.5 kg)	Lamp 2.5 lbs (1.1 kg) + Ballast 6.1 lbs (2.8 kg)	Lamp + Ballast + Battery Pack 12.2 lbs (5.6 kg)	Lamp 1 lb (454 g)	Lamp + Battery Pack 2.5 lbs (1.1 kg)	
4 foot (1.2 m) with battery plug	8 foot (2.5 m)®	8 foot (2.5 m) secondary® 8 foot (2.5 m) primary®		8 foot (2.5 m)	8 foot (2.5 m) secondary 3 1/2 foot (1.1 m) primary	
12 VDC	120 VAC®	120 VAC®	12 VDC or 120 VAC®	120 VAC®	12 VDC or 120 VAC®	

Technical Tips!

1. When leak detection lamps are used outside during the day, shading the inspection range area with an umbrella, cardboard or tarp will help find the smallest leaks.
2. All lamps can be used with a service mirror.
3. The inspection range can increase and the smallest of leaks can be easily found under low-light conditions.

Fluorescent Dyes and Injection Methods for AC&R Systems

SPECTROLINE® fluorescent leak detection combines **AR-GLO®** fluorescent dyes and **Spectroline®** inspection lamps to pinpoint all leaks in two simple steps!

1. Add fluorescent dye to the system and let it circulate.
2. Scan the system with a Spectroline® inspection lamp and see all leaks in one inspection!

Universal dye is compatible with all refrigerants and lubricants, including mineral oil, polyol ester and alkyl benzene

Lubricant-specific dyes exactly match the OEM lubricant type in the system

Co-solvent free dyes will not impair lubricant properties (lubricity and viscosity), which could lead to excessive wear or damage to system components

OEM-approved by major compressor, refrigerant, lubricant and AC&R equipment manufacturers

Safe: ASHRAE and ANSI compliant, proven in over 45 million AC&R systems worldwide

AR-GLO® fluorescent dyes quickly pinpoint the *exact* source of *every* air conditioning and refrigeration leak. They locate leaks not detectable by *any* other method — even multiple or intermittent leaks as small as 1/8 of an ounce per year!

1. When the lubricant is unknown, use universal “E” polyol ester dye.
2. To improve performance and reduce inspection time, add dye in advance as part of a preventive maintenance program.
3. The more time the dye circulates, the brighter the glow!

Technical Tips!

Four Ways To Add AR-GLO®



SPECTROLINE® offers **FOUR WAYS** to add AR-GLO® dye to AC&R systems:

Small to Medium Size Systems

1



EZ-Ject™ Multi-Dose Dye Injection System (Patented)

Convenient and economical. Works with all systems, including high-pressure R-410A systems.

- Each prefilled, disposable EZ-Ject dye cartridge treats up to 2 gallons (7.6 L) of lubricant, 25 lbs (11.3 kg) of refrigerant or 12 tons of cooling. No pouring and no refrigerant required for injection.
- One calibrated cartridge provides exact dosing for multiple systems
- Easily overcomes system pressure. Inject dye with a turn of the handle

2



GLO-STICK® Dye Capsules (Patented)

Fast and easy servicing. Works with all systems, including high-pressure R-410A systems.

- Prefilled, single-dose, self-cleaning, disposable dye capsules eliminate measuring, pouring and messy spills
- Available in 4 sizes/concentrations to match the capacity of the system. Treats up to 2 gallons (7.6 L) of lubricant, 25 lbs (11.3 kg) of refrigerant or 12 tons of cooling.
- Inject dye while charging with refrigerant, or when connecting from the high side to the low side.
- Metering orifice prevents slugging of the compressor

Medium to Large Systems

3



BigEZ™ Multi-Dose Dye Injection System (Patented)

Most economical for larger systems. Works with all systems, including high-pressure R-410A systems.

- Each prefilled, disposable 4 oz (118 ml) BigEZ dye cartridge treats up to 16 gallons (60.8 L) of lubricant, 400 lbs (180 kg) of refrigerant or 150 tons of cooling. No pouring and no refrigerant required for injection.
- One calibrated cartridge provides exact dosing for multiple systems
- Easily overcomes system pressure. Inject dye with a turn of the handle

Very Large Systems

4



AR-GLO® Bottled Dyes and Refillable Mist Infusers™

(Patented)

The easiest and most economical way to service very large capacity systems.

- Uses standard, refillable injectors or Mist Infuser™ pump
- Highly concentrated dyes available in 0.5 oz (14.8 ml), 2 oz (59 ml), pint (473 ml) and gallon (3.8 L) sizes
- Special dye available for oil-less systems

EZ-Ject™ Dye Injection System

For Small to Medium Size Systems

1 EZ-Ject™ Multi-Dose Injector and Dye Cartridges Works with all systems, including high-pressure R-410A systems

The revolutionary way to add fluorescent dyes into air conditioning and refrigeration systems — *without* the use of additional refrigerant! Just one connection, then turn the handle to inject the dye. No complicated hookups! Ideal for preventive maintenance programs and for multiple, small AC&R units.

Cost effective for small to medium size systems — Each disposable EZ-Ject™ dye cartridge treats up to 2 gallons (7.6 L) of lubricant or 25 lbs (11.3 kg) of refrigerant.

No pouring, no refrigerant, no spills — Prefilled EZ-Ject™ cartridges are clearly labeled with 14 calibrations so you'll introduce *exactly* the right amount of dye every time! When the cartridge is empty, just throw it away. A new one connects in seconds.

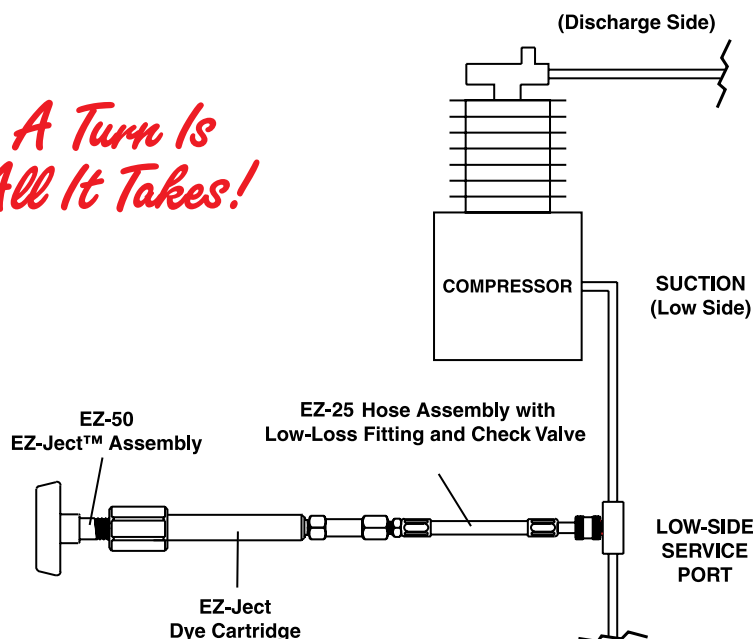
Check valve prevents the backflow of dye or refrigerant and allows for easy storage of the hose/cartridge between jobs. It also prevents dye leakage or contamination. Torque from the EZ-Ject™ assembly easily overcomes AC&R system pressure, even with R-410A.



HOW IT WORKS

1. Install the cartridge, then connect the hose to the low-side service port. Turn the EZ-Ject™ handle to inject the exact amount of AR-GLO® fluorescent dye required into the system and let the dye circulate.
2. Scan the system with a Spectroliner® inspection lamp. The *precise* location of *all* leaks will be shown by a bright, yellow-green glow.

*A Turn Is
All It Takes!*



1. For plunger-type manual injectors, insert the purge fitting into the low-loss fitting. Inject the dye into the hose assembly until the dye exits the purge fitting.
2. An additional hose assembly is recommended for each lubricant type, so no dye is wasted.

Technical Tips!

EZ-Ject™ Kits and Dye Cartridges



EZ-100/ECS Universal Dye Injection Kit

For Mineral Oil, Polyol Ester and Alkyl Benzene Lubricant Systems

Contains:

- EZ-50 EZ-Ject™ dye injector assembly
- EZ-25 hose assembly complete with check valve and 1/4 inch flare low-loss fitting
- (2) EZ-4/ECS 0.5 oz (14.8 ml) universal/POE dye cartridges
- 119690 purge fitting
- Service labels

Also available: EZ-100CS Dye Injection Kit

Same as EZ-100/ECS kit, but features (2) EZ-4CS 0.5 oz (14.8 ml) EZ-Ject™ dye cartridges for mineral oil lubricant systems

EZ-Ject™ Dye Cartridges



EZ-4/ECS (Universal/Polyol Ester)

Also available: EZ-4CS for mineral oil lubricant systems

EZ-Ject™ Dye Cartridge Injection Chart

SYSTEM TYPE [®]	Small systems, e.g., ice machines, window A/C units and refrigerators	Residential systems ^②	Light commercial and large residential systems ^②	Commercial and light industrial, including all split systems ^②
Refrigeration Oil Charge	Up to 15 fl oz (450 ml)	Up to 1.6 qt (1.5 L)	1.7 to 3.2 qt (1.6 to 3.0 L)	3.3 qt to 2 gal (3.1 to 7.6 L)
Refrigerant Charge	Up to 2.9 lb (1.3 kg)	3 to 4.9 lb (1.4 to 2.2 kg)	5 to 9.9 lb (2.3 to 4.5 kg)	10 to 25 lb (4.6 to 11.3 kg)
Tons of Cooling Horsepower	Up to 1 ton Up to 1 Hp	1.1 to 2 tons 1.1 to 4 Hp	2.1 to 6 tons 4.1 to 10 Hp	6.1 to 12 tons 10.1 to 25 Hp
No. of Graduations on EZ-Ject	1	2	6	8-14

Treatment: One graduation treats one pint of refrigeration oil; two graduations treat one quart.

① Always use the **refrigeration oil charge** when it is known. Refrigerant charge, tonnage and horsepower are approximations.

② One full cartridge is recommended for **all** split systems, including residential applications, even if they hold less than 10 pounds of refrigerant.

EZ-Ject™ Kits, Dye Cartridges and Accessories What to Order

Product Number	Description
EZ-100/ECS EZ-100CS	EZ-Ject Universal Dye Injection Kit — for Mineral Oil, Polyol Ester and Alkyl Benzene Lubricant Systems EZ-Ject Dye Injection Kit — for Mineral Oil Lubricant Systems.
EZ-4/ECS EZ-4CS EZ-4/LT	EZ-Ject Universal Dye Cartridge — for Mineral Oil, Polyol Ester and Alkyl Benzene Lubricant Systems Treats up to 25 lbs (11.3 kg) of refrigerant or 2 gallons (7.6 L) of lubricant (case of six 0.5 oz (14.8 ml) cartridges) EZ-Ject Dye Cartridge — for Mineral Oil Lubricant Systems Treats up to 25 lbs (11.3 kg) of refrigerant or 2 gallons (7.6 L) of lubricant (case of six 0.5 oz (14.8 ml) cartridges) EZ-Ject Dye Cartridge — for Alkyl Benzene Lubricant Systems Treats up to 25 lbs (11.3 kg) of refrigerant or 2 gallons (7.6 L) of lubricant (case of six 0.5 oz (14.8 ml) cartridges)
EZ-50 EZ-25	EZ-Ject Dye Injector Assembly — Plunger, Handle and Fitting EZ-Ject Hose Assembly — with Check Valve and 1/4" Flare Low-loss Fitting

Product numbers with a "CS" suffix denote clamshell packaging

GLO-STICK® Dye Capsules

For Small to Medium Size Systems

2 GLO-STICK® Dye Capsules

Easy to use — Prefilled, disposable capsules allow dye to be injected into pressurized systems using refrigerant.

Clean and precise — The entire contents is washed into the system.

Choice of sizes — Available in 4 sizes/concentrations to match the capacity of the system.

Safe — Will withstand pressures of more than 1000 psi.

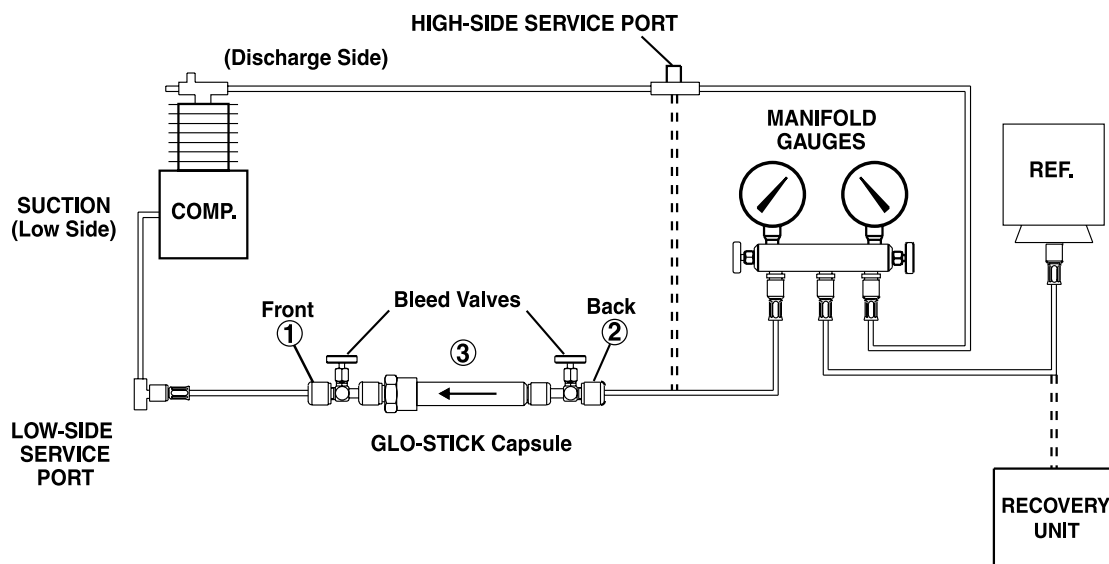


HOW IT WORKS

1. **Connect the GLO-STICK® capsule** between the low-pressure gauge of a charged manifold and the service port using bleed valves. Open the valves *slowly* to gradually add AR-GLO dye into the system and let it circulate.
2. **Scan the system with a Spectrolin® inspection lamp.** The *precise* location of *all* leaks will be shown by a bright, yellow-green glow.



It's That Easy!



1. Use the system pressure to bleed the hose from the AC&R system back to the front valve.
2. Use the pressure from the manifold to bleed the hose from the manifold to the back valve.
3. Install the GLO-STICK® capsule between the pressurized hoses, with the arrow pointing in the direction of the refrigerant flow.
4. To verify that the AC&R system is properly treated with AR-GLO® dye, locate the system site glass or release a diminuous amount of refrigerant/oil onto a dark cloth and check for a bright glow with a Spectrolin® inspection lamp.

Technical Tips!

GLO-STICK® Dye Capsules

It's easy to choose the right GLO-STICK® dye capsule for your application. Simply read across the chart to locate your system's refrigeration oil charge, refrigerant, tonnage, or horsepower. Then read down to locate its lubricant type. The GLO-STICK® capsule you need is shown where the column and row meet.

GLO-STICK® Dye Capsule Selection Chart

SYSTEM TYPE ^①	Small systems, e.g., ice machines, window A/C units and refrigerators	Residential systems ^②	Light commercial and large residential systems ^②	Commercial and light industrial, including all split systems ^③
Refrigeration Oil Charge	Up to 15 fl oz (450 ml)	Up to 1.6 qt (1.5 L)	1.7 to 3.2 qt (1.6 to 3.0 L)	3.3 qt to 2 gal (3.1 to 7.6 L)
Refrigerant Charge	Up to 2.9 lb (1.3 kg)	3 to 4.9 lb (1.4 to 2.2 kg)	5 to 9.9 lb (2.3 to 4.5 kg)	10 to 25 lb (4.6 to 11.3 kg)
Tons of Cooling Horsepower	Up to 1 ton Up to 1 Hp	1.1 to 2 tons 1.1 to 4 Hp	2.1 to 6 tons 4.1 to 10 Hp	6.1 to 12 tons 10.1 to 25 Hp
LUBRICANT TYPE				
Polyol Ester (Universal)	GS-101/ECS	GS-1/ECS	GS-2/ECS	GS-3/ECS
Mineral Oil	GS-101CS	GS-1CS	GS-2CS	GS-3CS
Alkyl Benzene	GS-101/LT	GS-1/LT	GS-2/LT	GS-3/LT
PAG	GS-101/PAG®			

- ① Always use the **refrigeration oil charge** when it is known. Refrigerant charge, tonnage and horsepower are approximations.
 ② Use GS-3 series with **all** split systems, even if they are being used for residential applications and they hold less than 10 lbs of refrigerant.
 ③ Most GLO-STICK® capsules require the use of two BV-50 bleed valves (for use on 1/4 inch flare hose fittings). The exception is the GS-101/PAG designed for automotive R-134a/PAG A/C systems, which require two BV-75 bleed valves. The BV-75 is used on 1/2 inch Acme hose fittings.

GLO-STICK® Dye Capsules What to Order

Product Number	Description	How Much to Use
Universal — For Mineral Oil, Polyol Ester and Alkyl Benzene Lubricant Systems		
GS-101/ECS	Up to 2.9 pounds (1.3 kg) of refrigerant or up to 15 fluid ounces (450 ml) of lubricant (case of six 0.03 oz (1 ml) capsules)	
GS-1/ECS	Up to 4.9 pounds (2.2 kg) of refrigerant or up to 1.6 quarts (1.5 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-2/ECS	5 to 9.9 pounds (2.3 to 4.5 kg) of refrigerant or 1.7 to 3.2 quarts (1.6 to 3.0 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-3/ECS	10 to 25 pounds (4.6 to 11.3 kg) of refrigerant or 3.3 quarts to 2 gallons (3.1 to 7.6 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-70/E	Starter Assortment Pack, Contains One GS-101/E, Two GS-1/E, Two GS-2/E and One GS-3/E	
For Mineral Oil Lubricant Systems		
GS-101CS	Up to 2.9 pounds (1.3 kg) of refrigerant or up to 15 fluid ounces ((450 ml) of lubricant (case of six 0.03 oz (1 ml) capsules)	
GS-1CS	Up to 4.9 pounds (2.2 kg) of refrigerant or up to 1.6 quarts (1.5 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-2CS	5 to 9.9 pounds (2.3 to 4.5 kg) of refrigerant or 1.7 to 3.2 quarts (1.6 to 3.0 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-3CS	10 to 25 pounds (4.6 to 11.3 kg) of refrigerant or 3.3 quarts to 2 gallons (3.1 to 7.6 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-70	Starter Assortment Pack, Contains One GS-101, Two GS-1, Two GS-2 and One GS-3	
For Alkyl Benzene Lubricant Systems		
GS-101/LT	Up to 2.9 pounds (1.3 kg) of refrigerant or up to 15 fluid ounces (450 ml) of lubricant (case of six 0.03 oz (1 ml) capsules)	
GS-1/LT	Up to 4.9 pounds (2.2 kg) of refrigerant or up to 1.6 quarts (1.5 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-2/LT	5 to 9.9 pounds (2.3 to 4.5 kg) of refrigerant or 1.7 to 3.2 quarts (1.6 to 3.0 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-3/LT	10 to 25 pounds (4.6 to 11.3 kg) of refrigerant or 3.3 quarts to 2 gallons (3.1 to 7.6 L) of lubricant (case of six 0.5 oz (14.8 ml) capsules)	
GS-70/LT	Starter Assortment Pack, Contains One GS-101/LT, Two GS-1/LT, Two GS-2/LT and One GS-3/LT	
For PAG Lubricant Systems		
GS-101/PAG	Up to 2.9 pounds (1.3 kg) of refrigerant or up to 15 fluid ounces (450 ml) of lubricant (case of six 0.06 oz (1.9 ml) capsules)	
GLO-STICK® Accessories		
BV-50	Bleed Valve for all GLO-STICK® capsules except GS-101/PAG	
BV-75	Bleed Valve for GS-101/PAG ONLY	

Product numbers with a "CS" suffix denote clamshell packaging

For residential systems, allow 4 to 6 hours to inspect for leaks. For supermarkets, allow 2-3 days.

Technical Tip!

BigEZ™ Dye Injection System

For Medium to Large Systems

3 BigEZ™ Multi-Dose Dye Injector and Dye Cartridges

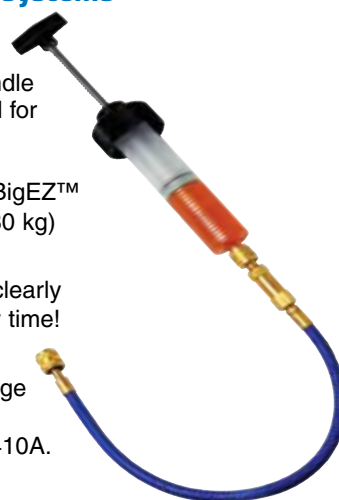
Works with all systems, including high-pressure R-410A systems

The revolutionary new way to add fluorescent dyes into air conditioning and refrigeration systems — *without* the use of additional refrigerant! Just one connection, then turn the handle to inject the dye. No complicated hookups! Ideal for preventive maintenance programs and for multiple, medium to large AC&R units.

Cost effective for medium to large size systems — Each disposable BigEZ™ dye cartridge treats up to 16 gallons (60.8 L) of lubricant, approximately 400 lbs (180 kg) of refrigerant or 150 tons of cooling.

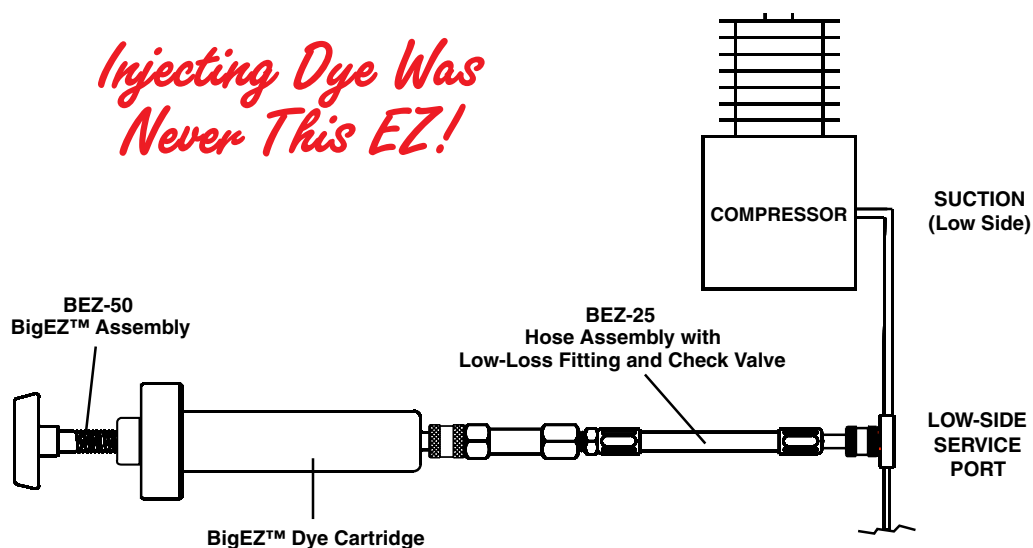
No pouring, no refrigerant, no spills — Prefilled BigEZ™ cartridges are clearly labeled with 32 calibrations so you'll introduce *exactly* the right amount of dye every time! When the cartridge is empty, just throw it away. A new one connects in seconds.

Check valve prevents the backflow of dye or refrigerant and allows for easy storage of the hose/cartridge between jobs. It also prevents dye leakage or contamination. Torque from BigEZ™ assembly easily overcomes AC&R system pressure, even R-410A.



HOW IT WORKS

1. Install the cartridge, then connect the injector hose to the system's low-side service port. Turn the handle to inject the exact amount of dye required and let it circulate.
2. Scan the system with a Spectroline® inspection lamp. The *precise* location of *all* leaks will be shown by a bright, yellow-green glow.



For plunger-type manual injectors, always use a cloth to wipe residual fluorescent dye from low-loss fitting so no false leak indications occur.

Technical Tip!

BigEZ™ Kits and Dye Cartridges



BEZ-400/ECS Universal Dye Injection Kit

For Mineral Oil, Polyol Ester and Alkyl Benzene Lubricant Systems

Contains:

- BEZ-50 BigEZ™ dye injector assembly
- BEZ-25 hose assembly with check valve and 1/4 inch flare low-loss fitting
- (1) 4 oz (118 ml) BEZ-4/ECS universal/POE dye cartridge
- 119690 purge fitting
- Service labels

Also available: BEZ-400CS Dye Injection Kit.

Same as BEZ-400/ECS kit, but features (1) 4 oz (118 ml) BEZ-4CS BigEZ dye cartridge for mineral oil lubricant systems

BigEZ™ Dye Cartridges



BEZ-4/ECS (Universal/Polyol Ester)

Also available: BEZ-4CS for mineral oil lubricant systems

BEZ-4/LTCS for alkyl benzene lubricant systems

BigEZ™ Dye Injection Chart

Dye Dose for BEZ-4 Series	System Size
1 line, 1/8 fl oz (3.7 ml)	1/2 gal (1.9 L) lubricant, 12.5 lb (5.7 kg) of refrigerant or 5 tons of cooling

BigEZ™ Kits, Dye Cartridges and Accessories What to Order

Product Number	Description
BEZ-400/ECS	BigEZ Universal Dye Injection Kit — for Mineral Oil, Polyol Ester and Alkyl Benzene Lubricant Systems
BEZ-400CS	BigEZ Dye Injection Kit — for Mineral Oil Lubricant Systems
BEZ-4/ECS	BigEZ Universal Dye Cartridge — for Mineral Oil, Polyol Ester and Alkyl Benzene Lubricant Systems Use 0.25 oz (7.4 ml) per gallon (3.8 L) of refrigeration oil in system [one 4 oz (118 ml) dye cartridge]
BEZ-4CS	BigEZ Dye Cartridge — for Mineral Oil Lubricant Systems Use 0.25 oz (7.4 ml) per gallon (3.8 L) of refrigeration oil in system [one 4 oz (118 ml) dye cartridge]
BEZ-4/LTCS	BigEZ Dye Cartridge — for Alkyl Benzene Lubricant Systems Use 0.25 oz (7.4 ml) per gallon (3.8 L) of refrigeration oil in system [one 4 oz (118 ml) dye cartridge]
BEZ-25 BEZ-50	BigEZ Hose Assembly with Check Valve and Low-Loss Fitting BigEZ Dye Injector Assembly

Product numbers with a "CS" suffix denote clamshell packaging

AR-GLO® Bottled Dyes and Refillable Mist Infuser™ Pump

For Very Large Systems

4 AR-GLO® Bottled Dyes and Refillable Mist Infuser™ Pump

The faster, safer and easier way to locate even tiny leaks in very large industrial air conditioning and refrigeration systems. All AR-GLO® bottled dyes require a standard, refillable injector or the Spectroline MI-1600P Mist Infuser™ pump to add them to an AC&R system. The Mist Infuser™ pump is a unique tool that makes treating very large AC&R systems safer and easier. AR-GLO® bottled dyes are the most economical way to purchase replacement dye.

AR-GLO/E is a **universal** dye. It is formulated for **mineral oil, polyol ester and alkyl benzene** lubricant systems.

AR-GLO is formulated for **mineral oil** lubricant systems.

AR-GLO/LT is formulated for **alkyl benzene** lubricant systems.

AR-GLO/OL is formulated for use with **oil-less** systems such as centrifugal chillers or condensing systems or simple heat transfer fluid systems where there is no lubricant present. AR-GLO/OL will also effectively treat heat transfer systems as long as the heat transfer fluid will take an oil into the solution and allow the dye to circulate.



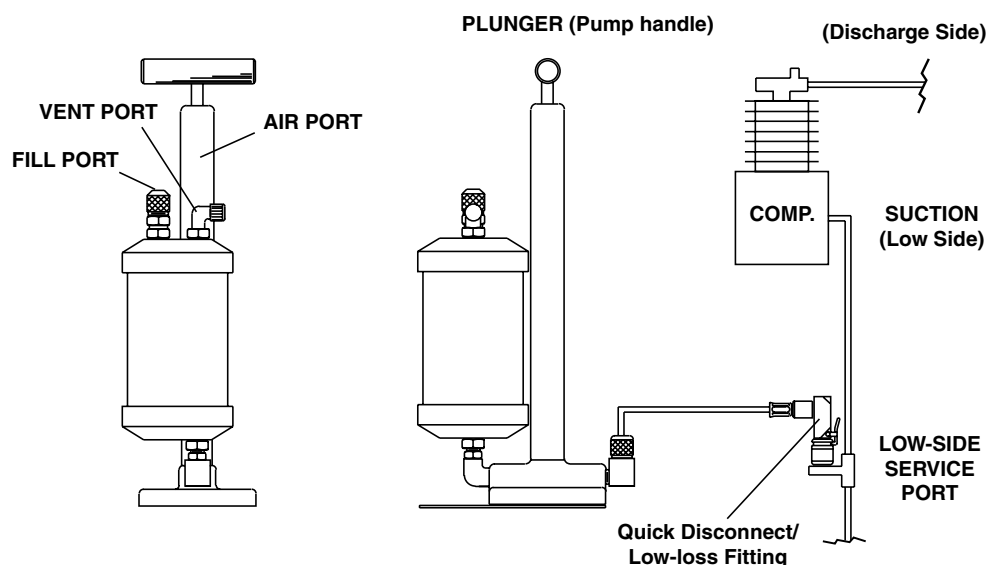
HOW IT WORKS

Simple 2-step procedure finds the *exact* source of *every* leak:

1. Fill the refillable injector or Mist Infuser™ pump with AR-GLO® dye, connect it to the low-side access port, pump in the exact amount of dye needed and let it circulate.
2. Scan the system with a Spectroline® inspection lamp. The *precise* location of *all* leaks will be shown by a bright, yellow-green glow.



MI-1600P
Mist Infuser™ Pump



7. When an oil reservoir can be isolated and depressurized, AR-GLO® bottled dye can easily be poured and added to the AC&R system.
2. Alkyl benzene is the most common lubricant in low-temperature applications.

Technical Tips!

AR-GLO® Bottled Dyes and Mist Infuser™ Pump

Mist Infuser™ Pump Injector

The MI-1600P can be used on *all* sizes of industrial and supermarket refrigeration systems and is ideal for use on systems that are 200 tons or more. The MI-1600P can be hooked up to the oil reservoir or to the low side of the system, allowing AR-GLO 4 to be pumped *directly* into the system. The pump allows for large quantities of dye to be injected most efficiently.

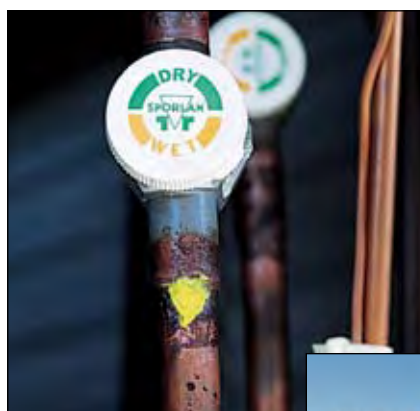
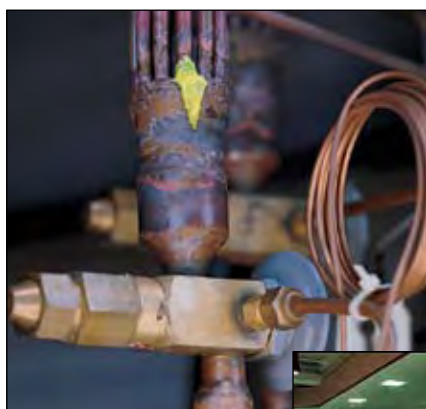
AR-GLO® Bottled Dyes What to Order

Product Number	Description	How Much to Use
Universal — for Mineral Oil, Polyol Ester and Alkyl Benzene Lubricant Systems		
AR-GLO 4/E AR-GLO 4/E-P	Case of 6 – 2 oz (59 ml) bottles 1 – 16 oz (473 ml) bottle	Use 0.25 oz (7.4 ml) per gallon (3.8 L) of refrigeration oil in system
For Mineral Oil Lubricant Systems		
AR-GLO 1	Case of 12 – 0.5 oz (14.8 ml) bottles	Use 0.5 oz (14.8 ml) per 4.9 pounds (2.2 kg) of refrigerant or 1.6 quarts (1.5 L) of lubricant
AR-GLO 2	Case of 12 – 0.5 oz (14.8 ml) bottles	Use 0.5 oz (14.8 ml) per 5 to 9.9 pounds (2.3 to 4.5 kg) of refrigerant or 1.7 to 3.2 quarts (1.6 to 3.0 L) of lubricant
AR-GLO 3	Case of 12 – 0.5 oz (14.8 ml) bottles	Use 0.5 oz (14.8 ml) per 10 to 25 pounds (4.6 to 11.3 kg) of refrigerant or 3.3 quarts to 2 gallons (3.1 to 7.6 L) of lubricant
AR-GLO 4 AR-GLO 4-P	Case of 6 – 2 oz (59 ml) bottles 1 – 16 oz (473 ml) bottle	Use 0.25 oz (7.4 ml) per gallon (3.8 L) of refrigeration oil in system
For Alkyl Benzene Lubricant Systems		
AR-GLO 4/LT AR-GLO 4/LT-P	Case of 6 – 2 oz (59 ml) bottles 1 – 16 oz (473 ml) bottle	Use 0.25 oz (7.4 ml) per gallon (3.8 L) of refrigeration oil in system
For Oil-Less Systems		
AR-GLO 4/OL-P	1 – 16 oz (473 ml) bottle	Use one pint (473 ml) per 2,500 pounds (1134 kg) of refrigerant in system

NOTE: AR-GLO 4 formulations are the most concentrated dyes on the market.

Large Size AC&R Systems

Supermarkets • Refrigerated warehouses • Food and dairy plants • Industrial



Fluorescent Dyes for Industrial Fluid Leak Detection

Used as part of a diagnostic/preventive maintenance program for large-capacity industrial fluid systems, Spectroline® bottled fluorescent dyes for oil, hydraulic, fuel and water leak detection can save thousands of dollars a year on replacement fluids and cleanup, as well as reduce energy consumption through more efficient operation of equipment.

OIL-GLO™, GAS-GLO™ and WD-801/WD-802/WD-803 (Water Dyes)

What to Order

Dye	Finds the following leaks	How much to use US 1 oz per Metric 30 ml per		What to order Product number Description		Fluorescent color
OIL-GLO™ 22*	<u>Host Fluid</u>					
	Light-colored hydraulic fluid	4 gal	15 L	OIL-GLO 22 OIL-GLO 22-P OIL-GLO 22-G	24 – 1 oz (30 ml) bottles 1 – 1 pt (473 ml) bottle 1 – 1 gal (3.8 L) container	Yellow
	Dark or intensely blue hydraulic fluid	2 gal	7.6 L			
	Compressor oil	2 gal	7.6 L			
	Engine oil	1.5 gal	5.7 L			
	Gearbox oil	0.5 gal	1.9 L			
OIL-GLO™ 33*	<u>Host Fluid</u>					
	Light-colored hydraulic fluid	8 gal	30 L	OIL-GLO 33-P OIL-GLO 33-G	1 – 1 pt (473 ml) bottle 1 – 1 gal (3.8 L) container	Green
	Dark or intensely blue hydraulic fluid	4 gal	15 L			
	Compressor oil	4 gal	15 L			
	Engine oil	3 gal	11 L			
	Gearbox oil	1 gal	3.8 L			
OIL-GLO™ 40**	<u>Host Fluid</u>					
	Light-colored hydraulic fluid	8 gal	30 L	OIL-GLO 40-P OIL-GLO 40-G	1 – 1 pt (473 ml) bottle 1 – 1 gal (3.8 L) container	Blue
	Dark or intensely blue hydraulic fluid	4 gal	15 L			
	Compressor oil	4 gal	15 L			
	Engine oil	3 gal	11 L			
	Gearbox oil	1 gal	3.8 L			
OIL-GLO™ 44* (Patented)	<u>Host Fluid</u>					
	Light-colored hydraulic fluid	8 gal	30 L	OIL-GLO 44-P OIL-GLO 44-G	1 – 1 pt (473 ml) bottle 1 – 1 gal (3.8 L) container	Yellow-Green
	Dark or intensely blue hydraulic fluid	4 gal	15 L			
	Compressor oil	4 gal	15 L			
	Engine oil	3 gal	11 L			
	Gearbox oil	1 gal	3.8 L			
GAS-GLO™ 32	Gasoline and diesel fuel leaks in any enclosed circulatory system, including fuel systems, storage tanks, gas lines, fuel injector lines.			GAS-GLO 32 GAS-GLO 32-P GAS-GLO 32-G	24 – 1 oz (30 ml) bottles 1 – 1 pt (473 ml) bottle 1 – 1 gal (3.8 L) container	Yellow
		10 gal of fuel	37.9 L			
WD-801**, WD-802 and WD-803	Leaks in all types of water systems, both static and circulating, such as boilers, hydronic heaters, pumps, sprinkler systems, storage tanks, pipes and associated fittings.	30 gal of water	114 L	WD-801 WD-801-G	1 – 1 pt (473 ml) bottle 1 – 1 gal (3.8 L) container	Blue
		60 gal of water	227 L	WD-802 WD-802-G	1 – 1 pt (473 ml) bottle 1 – 1 gal (3.8 L) container	Green
		30 gal of water	114 L	WD-803 WD-803-G	1 – 1 pt (473 ml) bottle 1 – 1 gal (3.8 L) container	Blue-Green

* OIL-GLO is also available in custom blends to accommodate the host fluid, whether petroleum-based or synthetic lubricant-based.

**Should be used only with UV lamps.



1 oz (30 ml) bottles



Twin-neck pint (473 ml) bottles for easy measuring and pouring



Available in pint (473 ml) and gallon (3.8 L) containers. Larger size containers also available by special order.

GLO-AWAY™ Dye Cleaner and Accessories

GLO-AWAY™ Dye Cleaner

Removes all traces of fluorescent dye from repaired leak sites so repairs can be verified.

Safe for the environment — water-based, nontoxic, nonflammable, noncarcinogenic, biodegradable and has no offensive odor.

Contains no harmful solvents or CFCs — safe for use on plastic, rubber and metals. It can be shipped without a hazardous material surcharge.



8 oz (237 ml)
spray bottle



16 oz (473 ml)
refill bottle

What to Order

Product Number	Description
CR-800	1 – 8 oz (237 ml) refillable bottle with spray nozzle
CR-800C	12 – 8 oz (237 ml) refillable bottles with spray nozzle
CR-1600	1 – 16 oz (473 ml) refill bottle
CR-1600C	12 – 16 oz (473 ml) refill bottles

DP-25 Drip Plugs

Made of special absorbent foam to soak up residual dye in low-side hose coupler. Prevent messy toolboxes. Keep hands dye-free. Come 25 to a pack.



ACID-BUSTER™ Acid Scavenging Solution



AB-100CS

ACID-BUSTER™ Injection Kit

Acid Scavenging Solution — Eliminates Acid Buildup in AC&R Systems. Prevents Compressor Burnout!

Works with all lubricants and systems, including high-pressure R-410A systems.

Contains:

- EZ-50 EZ-Ject™ injector assembly
- EZ-25 hose assembly complete with check valve and ¼ inch flare low-loss fitting
- (2) AB-5CS 0.5 oz (14.8 ml) EZ-Ject™ cartridges filled with ACID-BUSTER™ acid scavenging solution. Each cartridge treats up to 1 qt of oil, 3 lbs of refrigerant or 1.5 tons of cooling.

Also available: AB-400CS ACID-BUSTER™ Injection Kit.

Similar to AB-100CS kit, but features BigEZ™ injector assembly and hose, and (1) 4 oz (118 ml) **AB-4CS** BigEZ™ cartridge filled with ACID-BUSTER™ acid scavenging solution.



AB-5CS

Replacement ACID-BUSTER™ Universal Cartridges

Filled with ACID-BUSTER™ Acid Scavenging Solution

AB-5CS EZ-Ject™, 0.5 oz (14.8 ml) cartridge

Not Shown:

AB-4CS BigEZ™, 4 oz (118 ml) cartridge

AB-8 BigEZ™, 8 oz (237 ml) cartridge

Specialized Diagnostic Tools

COBRA™ Series Multi-Purpose Borescopes



CB-1000 COBRA™ & CB-1036 COBRA-Plus™ (Patented)

Feature built-in UV and white light LEDs. Perfect for refrigerant and fluid leak detection, detecting cracks in heat exchangers, boiler inspections, behind-the-wall moisture or insect investigation, checking duct work clearance and integrity, diagnosing blocked evaporator coils and much more!

- Advanced 7400 pixel imaging bundle and adjustable-focus eyepiece allow crystal-clear viewing
- “No-droop” shaft maintains position for easier access into hard-to-view areas
- Strong, impact- and water-resistant nylon housing stands up to daily abuse
- Pistol grip handle provides steady, comfortable viewing
- Clip-on mirror permits viewing at an angle to detect “hidden” leaks and flaws
- CB-1000 COBRA equipped with 10 mm, 24 inch shaft
- CB-1036 COBRA-Plus features 10 mm, extra-long 36 inch shaft for greater versatility
- Include fluorescence-enhancing glasses and padded carrying case

CB-400 COBRA-4™

Features dual-head blue and white light LED flashlight. Designed for specialized applications that require extended reach or viewing in deep recesses; slides easily into inaccessible areas!

- Durable, water- and abrasive-resistant ultra-thin, 4 mm, 36 inch shaft for smaller areas
- Advanced 7400 pixel imaging bundle provides unsurpassed resolution and clarity
- Versatile, press-fit coupler design allows for quick changing of light source
- Clip-on, angled mirror helps pinpoint leaks and flaws normally hidden from view
- Includes fluorescence-enhancing glasses and padded carrying case

MDE-1000 Marksman™ Ultrasonic Diagnostic Tool

Converts and amplifies inaudible ultrasonic sound into audible “natural” sound for accurate diagnosis. Finds problems before they result in major breakdowns.

- Detects compressed air, natural gas, propane tank, vacuum, refrigerant, steam and other pressurized leaks quickly and effortlessly
- Pinpoints gear and bearing wear in internal components and electric motors
- Checks for electrical discharge associated with insulation breakdown, carbon tracking and arcing
- Detects irregular fluid turbulence due to restrictions in pipes and hydraulic lines
- Finds air and water leaks that pass by faulty seals, gaskets and weather stripping in doors, windows, ductwork and other non-pressurized enclosures

MDE-1000 Master Kit includes: Ultrasonic receiver, ultrasonic emitter, headphones, air probe, contact probe and carrying case.

Also available: MD-500 (same as MDE-1000, but without emitter)



ELD-1000 Pro-Alert™ Electronic Refrigerant Leak Detector

Features high performance heated-diode sensor technology!

- Optimum sensitivity detects leaks down to 0.25 oz/yr.
- Sensor life up to 200 hours or more
- Automatically self-calibrates to neutralize background contamination
- Sensitive to all CFC, HFC and HCFC refrigerants
- High/low switch for accurate diagnosis of both large and small leaks
- Variable-intensity audible alarm plus flashing LED help pinpoint leaks fast
- Flexible metal probe holds its position in tight quarters
- Easily replaceable foam filter protects sensor and pump
- Includes replacement filters, (2) D cell batteries and durable plastic carrying case



Lamp & Kit Accessories



BP-12A
BATTERY PACK, Complete with RB-12S
Battery Charger, Rechargeable Battery
and Nylon Carrying Case. For TL-Series
and MLK-35M Lamp Kits



BP-20
BATTERY PACK, Complete with BR-100
Smart Battery Charger, Rechargeable
Battery and Nylon Carrying Case. For
TRI-365M Lamp Kit



CC-110
CARRYING CASE for
QMK-40EZ/E, OPK-50GS/E
and OPK-50EZ/E Lamp Kits



CC-130
CARRYING CASE for
OPK-300EZ/E and
OPK-300BEZ/E Lamp Kits



CC-140
CARRYING CASE
for TL-Series Lamp Kits



CC-120A
CARRYING CASE for
BIB-150P Lamp Kits



CC-350
CARRYING CASE for
MAXIMA™ ML-3500
Series Lamps



CC-365
CARRYING CASE for
OPX-365 Lamp



CC-370
CARRYING CASE for
TRI-365M Lamp Kit



UVS-30
SPECTACLES,
UV-Absorbing



UVS-40
SPECTACLES,
Fluorescence-Enhancing



UVG-50
GOGGLES,
UV-Absorbing

Replacement Parts



BLE-35RA
SPOT BULB/REFLECTOR ASSEMBLY
for MAXIMA™ ML-3500 Series Lamps

BLE-35RAF
FLOOD BULB/REFLECTOR
ASSEMBLY for MAXIMA™
ML-3500 Series Lamps



BLE-150CS-115/M
BULB for BIB-150P Series Lamps, 115
volt version

BLE-150CS-230/M
BULB for BIB-150P Series Lamps, 230
volt version

BLE-150CS-100/M
BULB for BIB-150P Series Lamps, 100
volt version



BLE-50/12
BULB, 50-watt, Set of Three, for
TL-50/12 Lamp

BLE-100/12
BULB, 100-watt, Set of Three, for
TL-100A/12 Lamps



BLE-50/12B
BULB/REFLECTOR ASSEMBLY
for BL-50A



124482
LED for OPX-3000 Lamp



2F575
FILTER for TL-100A/12 Lamp



2F325
FILTER for TL-50/12 Lamp



2F958
FILTER for MAXIMA™ ML-3500 and
BIB-150P Series Lamps

2F350
DIFFUSING FILTER for MAXIMA™
ML-3500 Series Lamps



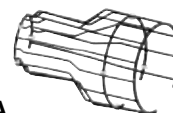
100089
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RB-12S
SMART BATTERY CHARGER
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BR-100
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BP-20 Battery Pack



HGS-150A
HEAT GUARD/STAND
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120654
SERVICE MIRROR for QMP-400CS
Lamp



107923
CORD SET, 8 Foot, 115V or 100V, for
MAXIMA™ ML-3500 Lamp

107924
CORD SET, 8 Foot, 230V,
for MAXIMA™ ML-3500 Lamp



RB-300
SMART AC CHARGER for OPX-365
and OPX-3000 Lamps (120V/60Hz)



RB-300DC
SMART DC CHARGER for OPX-365
and OPX-3000 Lamps



124483
BATTERY STICK for OPX-3000 Lamp



125608
BATTERY STICK for OPX-365 Lamp

Warranty

All equipment is warranted against defects in manufacture. Spectronics Corporation's obligation under this warranty is limited to repairing or replacing, at the option of Spectronics Corporation, any part(s) of the product which, if properly installed, used and maintained, proves upon factory examination to have been defective in materials or workmanship within 12 months from the date of delivery to the customer.

This warranty does not apply to any component which (1) is normally consumed in operation or (2) has a normal life inherently shorter than the warranty stated. For example, bulbs, filters and rechargeable batteries are warranted for 30 days. In addition, Spectronics Corporation does not warrant any instrument that has been subjected to misuse, negligence or accident, or has been repaired or altered by anyone other than Spectronics Corporation.

This warranty is in place of all other warranties of quality. There are no other warranties either oral, written, express, implied or statutory. **IMPLIED WARRANTIES OF FITNESS FOR PURPOSE AND MERCHANTABILITY ARE EXCLUDED.** This warranty and your remedies thereunder are solely as stated in this form. In no event shall Spectronics Corporation be liable for special, indirect, incidental or consequential damages, nor for any damages arising out of delay in shipment or production.

Warranty

PRO-Alert™ Electronic Refrigerant Leak Detector ONLY:

Two-year warranty The PRO-Alert™ Electronic Refrigerant Leak Detector, when delivered is warranted against defects in manufacture.

Spectronics Corporation's obligation under this warranty is limited to repairing or replacing, at the option of Spectronics Corporation, any part(s) of the product which if properly installed, used and maintained, proves upon factory examination to have been defective in materials or workmanship within two (2) years from the date of delivery to the customer.

This warranty does not apply to any component that deteriorates under normal use, including power cells, sensors, and filters. In addition, Spectronics Corporation does not warrant any instrument that has been subjected to misuse, negligence or accident, or has been repaired or altered by anyone other than Spectronics Corporation.

This warranty is in place of all other warranties of quality. There are no other warranties either oral, written, express, implied or statutory. **IMPLIED WARRANTIES OF FITNESS FOR PURPOSE AND MERCHANTABILITY ARE EXCLUDED.** This warranty and your remedies thereunder are solely as stated here. In no event shall Spectronics Corporation be liable for special, indirect, incidental or consequential damages, nor for any damages arising out of delay in shipment or production.

Product Specifications

Spectronics Corporation reserves the right to alter product specifications without notice. Spectronics is under no obligation to make similar changes in its products previously produced.

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Product numbers with a "CS" suffix denote clamshell display packaging

Company Background

Spectronics Corporation *invented* fluorescent leak detection in 1955 and is the world's leading manufacturer of ultraviolet equipment and fluorescent materials. Spectronics supplies over 1,000 different products for the laboratory, biotechnology, industrial, electronics, semiconductor, forensics, financial, automotive, HVAC/R and other markets.

Spectroline® fluorescent leak detection was laboratory and field tested extensively before it was introduced to the stationary air conditioning and refrigeration (AC&R) market in 1989. Spectronics' modern, 100,000 square-foot manufacturing facility and office headquarters is located in Westbury, New York. Nearly 200 personnel are involved in all phases of research and development, manufacturing, sales, marketing, customer service, and logistical and technical support.

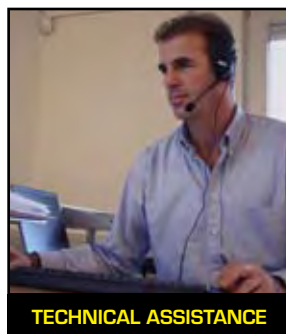
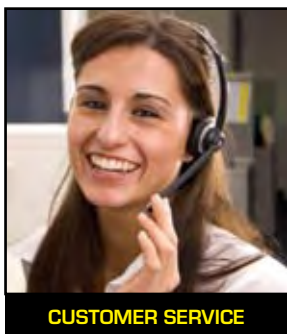
Over five decades since its inception, the goal of Spectronics is still the same — to produce effective, top-quality products with the utmost dedication to customer satisfaction.



Product/Customer Support & Technical Assistance

Product literature, instructions and a full staff of trained customer service representatives and technical service engineers are available for support. Additional product information and support are available on our website.

- Order Information
- Technical Assistance
- Local Sales Representatives
- Authorized Distributors



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(Outside the U.S. and Canada: 516-333-4840)

Fax Toll-Free:

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