

NEON PIONEERS

Ralph F. Cortese began making electrode equipment in his basement in 1927, and three years later founded Engineering Glass Laboratories in a 1000 sq. ft. building in Newark, New Jersey. He soon added aspirators, pirani gauges, mercury traps, graded seals, and other laboratory glassware to his product line and, with the help of his five children, the business grew rapidly.

EGL continued to develop new products, and purchased 12 neon-related companies in the New York, New Jersey area - the core of the neon industry.

By 1975 EGL had become the world's largest manufacturer of neon products, with more than 50 percent of all neon signage worldwide containing EGL electrodes, tubing, gases, tube supports, or other components.

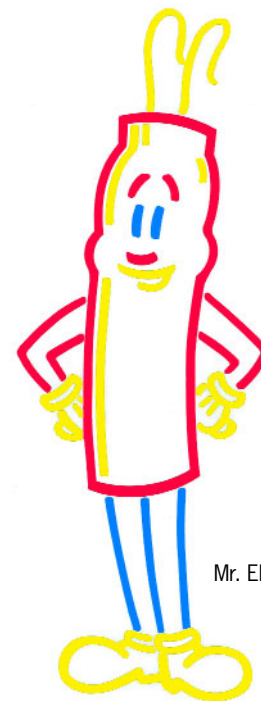
The company's line of processing equipment also expanded to include crossfires, torches, ribbon burners,

bombarder transformers, chokes, diffusion pumps, vacuum pumps, and a wide variety of other equipment - virtually everything needed to build a complete neon plant. In addition, EGL developed a comprehensive line of cold cathode lamp blanks and housings, as well as high-output fluorescent lamps.

Today, EGL is still owned and operated by the Cortese family, now in its fourth generation.

Over 12,000 sign shops and corporate managers in 75 countries now specify EGL products and equipment for their signage and architectural lighting.

To meet this demand, EGL operates an 80,000 sq. ft. manufacturing facility with highly-specialized, state-of-the-art equipment, raising quality to new heights and increasing production capacity, while continuing to develop the world's most comprehensive, most advanced line of neon products.



Mr. Electrode®

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For prices on all neon equipment and supplies, please refer to a current EGL price list.

In an effort to offer the very best products available, items shown in this catalog may be changed at the discretion of EGL.

EGL reserves the right to correct clerical and/or typographical errors.



Your Neon Source

SPECIFY ADVANTAGE™ ELECTRODES FOR BRIGHTER, CLEANER, LONGER LASTING NEON THAN EVER BEFORE POSSIBLE

Heavier gauge, solid nickel, corrosion-proof, seven-strand lead wires.

Thicker tubulation wall for easier, stronger tip-offs.

Stronger inner lead wires keep shell centered in tube, reducing vibration.

State-of-the-art inverter welding provides superior shell support and conductivity.

After forming, shells receive proprietary nickel plating for more uniform, non-porous coverage.

100% AMERICAN MADE

Electrodes are fully annealed to relieve stress, preventing cracking.

Thicker shell walls heat up evenly, eliminating hot spots, promoting uniform conversion of emission coating.

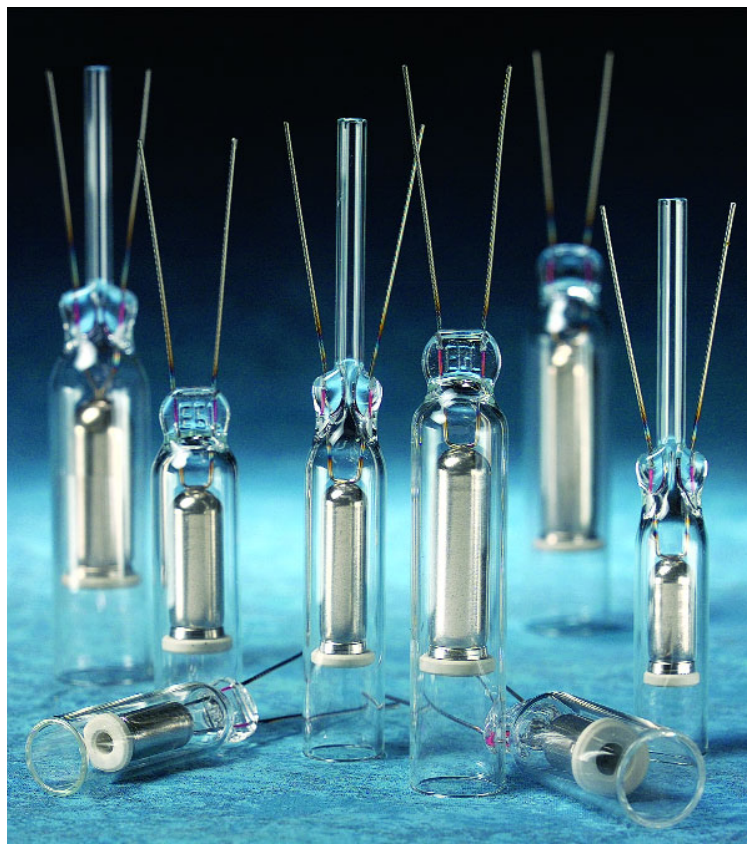
Newly developed emission coating measured precisely for each shell, ensuring that all shells "come up" evenly during bombardment.

Patented ceramic collar centers shell in tube, eliminating side ignition, sputtering and blackening.

ELECTRODE APPLICATION SPECIFICATION GUIDE

ADVANTAGE™ TYPE	SPECIFICATION
12CM	Our smallest ceramic collar electrode designed for use on 8 - 12mm neon tubing. Neon tubing must not exceed 8 feet and consideration to the electrode size must be exercised during processing. This electrode is rated to operate at 30mA maximum current. Correct processing levels must be monitored with a Milliamp Meter and Torr or Positive Pressure Gauge.
13CL	This electrode is designed for use on 12 - 13mm neon tubing. It is rated for operation on 30 - 45mA transformers and has a longer shell for use on Accuwall classic tubing and units that may require higher current levels during processing. We suggest the use of 12CM electrodes on smaller diameter units of 8 - 10mm tubing.
15CS	This short (2 inch) electrode was designed for short length 15mm diameter neon units up to 6 feet long. It operates on up to 30mA transformers and is best suited to lead or lead-free glass. The Accuwall classic glass requires electrodes capable of longer processing times. Due to the short length of the shell, the electrode must be carefully monitored to insure it is not overheated during processing. It is ideal in applications where standing electrode height is a factor.
15CM	Our most popular electrode for use in housings or where short returns are used. It is rated for operation on 30 - 45mA transformers and can be used on neon units up to 10 feet long provided processing is monitored with all necessary gauges. Since it has a 500mA processing level, this electrode can also be used on smaller diameters of tubing.
15CL	This electrode can be used on all 15mm neon tubes and is rated for use on transformer up to 80mA. It can be ordered in 2 different glass sleeve lengths (2.625 & 2.875 inches). It is not recommended for use on tubing diameters smaller than 15mm due to the high processing current required to fully process the shell. This electrode has successfully outperformed all electrode life tests against our competitors. This shell construction requires full system gauges when processing for best results to insure all recommended levels are achieved and vacuum levels during bombardment are monitored to insure shells are evenly processed.
19CM	This cold cathode electrode operates on 120 - 180mA transformers. It is designed for use on 18 - 25mm cold cathode tubing and must not be used on smaller diameters. It requires a bombarder 15KVA or larger to properly heat the shells and glass during production. System requirements and performance must be met before attempting cold cathode production.
19CL	This cold cathode electrode operates on up to 200mA transformers and has a longer shell than the 19CM. Again it requires a larger bombarder, 15KVA or larger and system requirements must be met before attempting cold cathode production.

EGL ELECTRODE SPECIFICATIONS



THE WORLD'S LARGEST MANUFACTURER OF ELECTRODES

EGL electrodes have consistently raised the industry standards for reliability and performance since their introduction in 1930.

To ensure rigid quality control, all phases of manufacturing are performed in-house, including emission coating, inverter welding shells with lead wires, and sealing and centering the mounts in glass envelopes.

Today, EGL manufactures over 75 standard and custom electrodes - the world's

broadest line - to satisfy your most specialized requirement without compromise.

The latest addition to the growing family of EGL electrodes is the "ADVANTAGE™" electrode series, combining the features you need for the ultimate in brilliance, clarity, and longevity.

All EGL electrodes are made in the USA and are readily available from your local distributor.

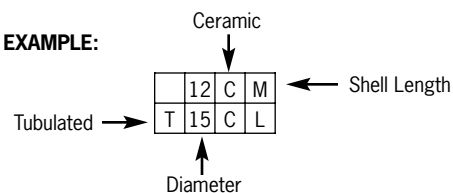
FORMER PREMIUM PLUS™ DESIGNATION	MA. RATING (MA.)	SHELL			GLASS		NOTES	PART NO.	ELECTRODE DESIGNATION
		TYPE	DIA. (INCL.)	LENGTH (INCH)	DIA. (MM.)	LENGTH (INCH)			
07	20	8SC	3/16	3/8	8	1.25	3 3,4	112900 113000 113100 113200	07 Dumet w/mica T07 Dumet w/mica 07 Dumet no mica T07 Dumet no mica
12C	20-30	9SCI	1/4	3/4	10	2	1	122100 122200	10S ADVANTAGE™ T10S ADVANTAGE™
9C	30	12CI	5/16	1-1/16	12	2.5	1	119800 119900	12L ADVANTAGE™ T12L ADVANTAGE™
9CMC PREM. PLUS	30	12MCC	5/16	3/4	12	2	C,1,4,5	119554 119654	12CM ADVANTAGE™ T12CM ADVANTAGE™
NEW PRODUCT	30-45	12CC	5/16	1-1/16	12	2.5	C,1,4,5	120909 121009	12CL ADVANTAGE™ T12CL ADVANTAGE™
9CC PREM. PLUS	30-45	12CC	5/16	1-1/16	13	2.5	C,1,4,5	120904 121004	13CL ADVANTAGE™ T13CL ADVANTAGE™
13 SHORT	30	15SCI	3/8	9/16	13	2	1	112900 123000	13 SHORT Flex T13 SHORT Flex
8C	30-60	15CI	3/8	1-1/4	15	2.625	1	114300 114400	15L ADVANTAGE™ T15L ADVANTAGE™
8CCS PREM. PLUS	30-45	15SCC	3/8	9/16	15	2	C,1,4,5	116004 116104	15CS ADVANTAGE™ T15CS ADVANTAGE™
8CMC PREM. PLUS	30-45	15MCC	3/8	1	15	2.375	C,1,4,5	117204 117304	15CM ADVANTAGE™ T15CM ADVANTAGE™
8CC PREM. PLUS	80	15CC	3/8	1-1/4	15	2.625	C,1,4,5	114805 114905	15CL ADVANTAGE™ 2 5/8" T15CL ADVANTAGE™ 2 5/8"
						2.875	C,1,4,5	115205 115305	15CL ADVANTAGE™ T15CL ADVANTAGE™
19CC PREM. PLUS	120-180	19MCC	1/2	1-1/4	19	2.875	C,1	124500 124600	19CM ADVANTAGE™ T19CM ADVANTAGE™
19LCC PREM. PLUS	200	19LCC	1/2	1-9/16	19	3.125	C,1	124900 125000	19CL ADVANTAGE™ T19CL ADVANTAGE™

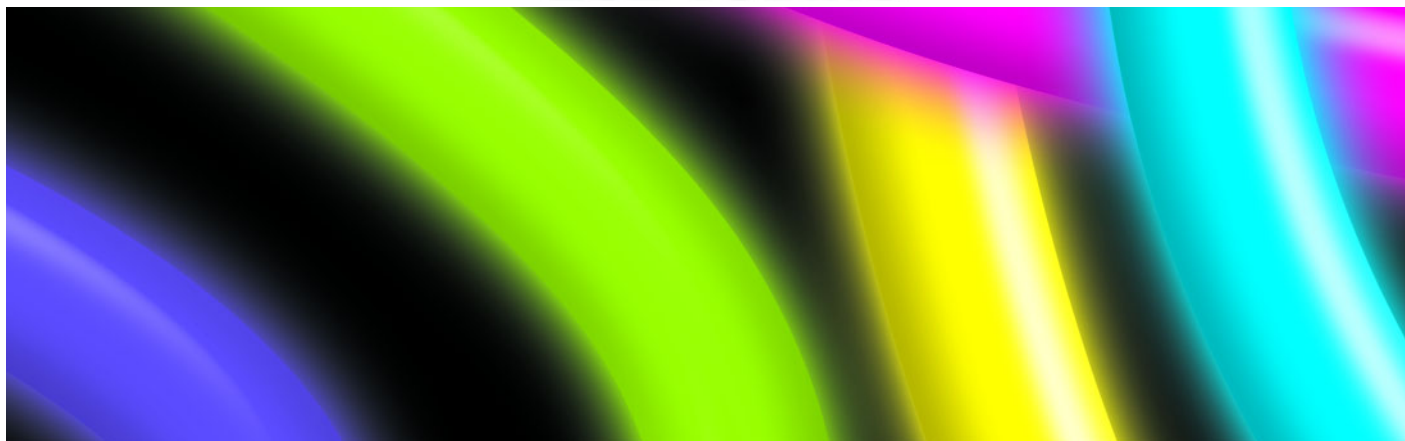
NOTES: T-Tubulated Electrode
C-Ceramic collar
1-Flex leads only
3-Dumet only
4-No mica
5-U.S. Patent 5,045,756

The ADVANTAGE™ series of electrodes uses the following nomenclature:

C = Ceramic Collar
S = Short Shell
M = Medium Shell
L = Long Shell
T = Tubulated

EXAMPLE:





WORLD'S LARGEST COLOR SELECTION

EGL has introduced more new colors in the last 15 years than any other source - stunning, saturated colors that give your neon signage, channel letters, and architectural lighting unequaled brilliance, uniformity, and longevity.

For top performance and cost effectiveness in both general and specialized applications, EGL produces neon tubing of many types including:

- SIGNMATE™
- Single-Coated Tubing
- SIGNMATE II™
- Double-Coated Tubing
- ACCUWALL® Coated and Uncoated Colored Glass Tubing
- Rare Earth Phosphor Coated Tubing
- C.L. Designer® Coated Tubing
- Cold Cathode Tubing

Choose from one of the world's largest tubing color selections now in stock for immediate shipment, including colors comparable to other makers, but with superior batch-to-batch consistency. No other neon producer provides faster turn-around on special colors.

EGL's proprietary phosphor coatings dramatically boost adhesion, uniformity, brightness and long term color stability - virtually eliminating flaking, color washout, and darkening at bends and splices.

EGL phosphor coatings combine special adhesives, the world's finest phosphors and a range of proprietary additives - specially processed,

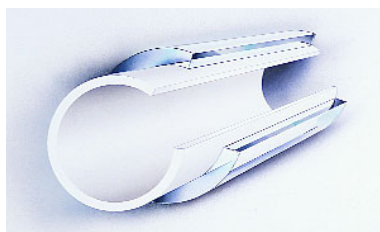
uniformly coated, baked and annealed in computer controlled ovens at 1000°F (532°C).

Developed and supported by the industry's most renowned phosphor chemists with more than 80 years of combined experience, these formulations deliver unmatched brightness and stability without flaking, washout, ripples, specks, or darkening at the bends (even with shades of blue).

With EGL's Total Quality Management Program, you can count on consistent color and longevity, tube-to-tube, box-to-box, year-to-year.

All EGL tubing is individually straightened, fire-polished, washed, and dried, using EGL's special Sani-Dry process to eliminate residue contamination. It is then coated, baked, and annealed, reducing glass stress and strain.

The world's finest phosphors, proprietary adhesives, and special additives combine to provide unmatched brilliance and consistency without flaking, even at the tightest bends.



KOLD KOTE

No-bake alcohol-based phosphor coating mix.

Note: Hazardous material shipping restrictions apply. Please consult factory for information.

SIGNMATE II™

SIGNMATE II™ tubing is first coated with a color stain that is baked-on, then with EGL's proprietary phosphors, the pre-staining step resulting in added color vividness and intensity. Available in five select colors, SIGNMATE II™ tubing is excellent for borders. Care should be used if tight bending patterns are required as bend "washout" may occur.

SIGNMATE II™ 4-FOOT DOUBLE COATED LEAD GLASS

EGL COLOR	COLOR W/ AR/MERC	COLOR W/ NEON	DIA. (MM)	PART NUMBER
Neo Blue II	Deep Blue	Mauve	10	335510
			11	335511
			12	335512
			13	335513
			15	335515
			18	335518
Clear Gold	Golden Yellow	Tangerine	8	344508
			9	344509
			10	344510
			11	344511
			12	344512
			13	344513
VP Green	Bright Green	Amber Orange	15	344515
			18	344518
			8	346008
			9	346009
			10	346010
			11	346011
Clear Brite Yellow	Bright Yellow	Orange	12	346012
			13	346013
			15	346015
			18	346018
			8	336008
			9	336009
Tropic Yellow	Brighter Yellow Higher Lumens per foot	"Tropic" Orange	10	336010
			11	336011
			12	336012
			13	336013
			15	336015
			18	336018
			8	307508
			9	307509
			10	307510
			11	307511
			12	307512
			13	307513
			15	307515
			18	307518

SIGNMATE™ AND SIGNMATE II™ FOOTAGE CHART

Diameter (mm):	8	9	10	11	12	13	15	18
Ft. per Lb. average:	18	16	13	12	11	10	8.5	7.1

ACCUWALL® FOOTAGE CHART

Diameter (mm):	8	9	10	12	15
Ft. per Lb. average:	21	19	16	14	10

EGL TUBING SPECIFICATIONS

EGL SIGNMATE™ SINGLE-COATED 4-FOOT NEON TUBING

SIGNMATE™ tubing is single-coated with proprietary phosphors to produce the world's most popular whites and colors. All tubing 15mm or smaller is packed in 25 lb. boxes; 18mm in 20 lb. boxes.

EGL COLOR	COLOR W/ AR/MERC	COLOR W/NEON	DIA. (MM)	PART NUMBER
8300 Bright White	*	**	7	331007
			8	331008
			9	331009
			10	331010
			11	331011
			12	331012
			13	331013
			15	331015
E65 Daylight (white)	*	**	18	331018
			7	317007
			8	317008
			9	317009
			10	317010
			11	317011
			12	317012
			13	317013
6500 HO (white)	*	**	15	317015
			18	317018
			7	318007
			8	318008
			9	318009
			10	318010
			11	318011
			12	318012
E30 Snowwhite (white)	*	**	13	318013
			15	318015
			18	318018
			7	312007
			8	312008
			9	312009
			10	312010
			11	312011
6500 Snowwhite (white)	*	**	12	312012
			13	312013
			15	312015
			18	312018
			7	314007
			8	314008
			9	314009
			10	314010
Omniwhite	*	**	11	314011
			12	314012
			13	314013
			15	314015
			18	314018
			7	314507
			8	314508
			9	314509
E66 Britewhite (white)	*	**	10	314510
			11	314511
			12	314512
			13	314513
			15	314515
			18	314518
			7	319007
			8	319008
4500 (white)	*	**	9	319009
			10	319010
			11	319011
			12	319012
			13	319013
			15	319015
			18	319018
			7	313007
V4500 (white)	*	**	8	313008
			9	313009
			10	313010
			11	313011
			12	313012
			13	313013
			15	313015
			18	313018
	*	**	7	321007
			8	321008
			9	321009
			10	321010
			11	321011
			12	321012
			13	321013
			15	321015
	*	**	18	321018

EGL COLOR	COLOR W/ AR/MERC	COLOR W/NEON	DIA. (MM)	PART NUMBER
3500 (white)	*	**	7	322007
			8	322008
			9	322009
			10	322010
			11	322011
			12	322012
			13	322013
			15	322015
V3500 (white)	*	**	18	322018
			7	324307
			8	324308
			9	324309
			10	324310
			11	324311
			12	324312
			13	324313
Warm White E3000 (white)	*	**	15	324315
			18	324318
			7	323007
			8	323008
			9	323009
			10	323010
			11	323011
			12	323012
H37 Pink	*	**	13	323013
			15	323015
			18	323018
			7	324007
			8	324008
			9	324009
			10	324010
			11	324011
E10 Green	Green	Amber	12	324012
			13	324013
			15	324015
			18	324018
			7	311007
			8	311008
			9	311009
			10	311010
E20 Turquoise	Bluish Turquoise	Peach Pink	11	311011
			12	311012
			13	311013
			15	311015
			18	311018
			7	316007
			8	316008
			9	316009
E21 Aqua	Turquoise	Peach	10	316010
			11	316011
			12	316012
			13	316013
			15	316015
			18	316018
			7	326007
			8	326008
E12 Turquoise	Greenish Turquoise	Peach	9	326009
			10	326010
			11	326011
			12	326012
			13	326013
			15	326015
			18	326018
			7	327007
E40 Blue	Blue	Rose	8	327008
			9	327009
			10	327010
			11	327011
			12	327012
			13	327013
			15	327015
			18	327018
	*	**	7	310007
			8	310008
			9	310009
			10	310010
			11	310011
			12	310012
			13	310013
			15	310015
	*	**	18	310018

* Whites are listed in order from coolest (bluish) to warmest (pinkish)

** Different shades of pink

***5' lengths also available by special order. Call for details.

• 4' tubing 8 - 15mm packed in 25 lb. boxes; 7mm packed in 30 lb. boxes;
• 18mm packed in 20 lb. boxes.

• When ordering, please use the 6-digit EGL part number.



ACCUWALL®

ACCUWALL® tubing is the machine-drawn colored glass that's easy to bend, opening a world of design freedom for neon signmakers. It offers a more consistent wall thickness outside diameter, and more uniform color than traditional colored glass tubing, allowing you to bend and process the sturdiest and most vivid signage attainable in less time, with far less breakage.

ACCUWALL® tubing is available uncoated, or coated with EGL's proprietary rare-earth phosphors. All have fire-polished ends.

ACCUWALL® MACHINE DRAWN 5-FOOT COLORED GLASS TUBING

EGL COLOR	ARGON/MERCURY	NEON	DIA. (MM)	PART NUMBER
Aquamarine (clear)	*		10	394310
			12	394312
			15	394315
Aquamarine (coated)	*		10	371710
			12	371712
			15	371715
Bromo Blue (clear)	*		10	398310
			12	398312
			15	398315
Bromo Blue (coated blue glass)	*		8	368708
			10	368710
			12	368712
			15	368715
Bromo Blue (coated purple)	*		10	373710
			12	373712
			15	373715
Royal Purple (coated)	*		10	374010
			12	374012
			15	374015
Emerald Green (coated)	*		10	370610
			12	370612
			15	370615
Noviol Gold (clear)	*		10	396310
			12	396312
			15	396315
E-50 Noviol Gold (coated)	*		8	366708
			10	366710
Bright Yellow			12	366712
			15	366715
P-73 Noviol Gold (coated)	*		8	371308
			10	371310
True Gold			12	371312
			15	371315
S-81 Noviol Gold (coated)	*		8	369608
			10	369610
Medium Yellow			12	369612
			15	369615
E-60 Casino Gold (coated)	*		8	371508
			10	371510
Rich Gold			12	371512
			15	371515
Apple Green (coated Noviol Gold glass)	*		10	372710
			12	372712
			15	372715
Orange (coated)	*		10	369710
			12	369712
			15	369715
Tangerine (coated Orange glass)	*		10	371810
			12	371812
			15	371815
Ruby Red (clear)		*	10	397310
			12	397312
			15	397315
Ruby Red (coated)	*		8	367708
			10	367710
			12	367712
			15	367715

COLD CATHODE

Historically, "cold cathode" refers to luminous tubing which is larger than 15mm in diameter and operates on a minimum current of 60 milliamps. This larger diameter tubing is often used for interior cove and accent lighting. EGL cold cathode tubing is coated using the same quality coating techniques as is used on our small diameter tubing. This tubing is available in eight-foot lengths, in 18, 20, and 25mm diameters. Standard and "high output" whites, as well as some colors, are produced.

8-FOOT COLD CATHODE TUBING

EGL COLOR	DESCRIPTION	DIAMETER (MM)	PART NUMBER
Warm White	Warm White	18	380418
		20	380420
		25	380425
3500 White	3500 White	18	380618
		20	380620
		25	380625
4500 White	Cool White	18	380218
		20	380220
		25	380225
6500 Snowwhite	6500 White	18	382618
		20	382620
		25	382625
Green	Green	18	382018
		20	382020
		25	382025
Blue	Blue	18	381618
		20	381620
		25	381625
Horizon Blue	Blue	18	381518
		20	381520
		25	381525
2400 K White	Tri-phosphor	18	371018
		20	371020
		25	371025
2800 K White	Tri-phosphor	18	379018
		20	379020
		25	379025
3000 K White	Tri-phosphor	18	379118
		20	379120
		25	379125
3500 K White	Tri-phosphor	18	380718
		20	380720
		25	380725
4100 K White	Tri-phosphor	18	380918
		20	380920
		25	380925
6500 K White	Tri-phosphor	18	381318
		20	381320
		25	381325

25mm sticks packed 24 per case; 18mm and 20mm sticks packed 30 per case. All sold in case quantity only.

3 METER GLASS

3 meter glass available by special order. Call for details.

COLD CATHODE HOUSINGS



RK212SJ (left)
Part No.....662150

RK212ST (right)
Part No.....662100

See page 16 for more details

"RARE EARTH" NEON TUBING

FOR CHANNEL LETTERS AND SIGNAGE REQUIRING SUPER-BRIGHT WHITES AND BRILLIANT COLORS, SPECIFY THE C.L. DESIGNER® SERIES

UP TO 300% BRIGHTER THAN CONVENTIONAL NEON, PLUS GREATER OUTPUT STABILITY AND STAIN RESISTANCE

This newest generation of neon tubing from EGL is an outcome of recent advances in television screen technology that utilize the brilliant picture quality you enjoy today.

Research revealed that rare-earth chemicals incorporated in phosphor coatings emit extremely narrow bandwidths of light (significant because the narrower the bandwidth, the brighter, purer, and more vivid the light emission - the wider the bandwidth, the dimmer and more washed-out.)

Rare-earth phosphors were also found to maintain their purity and high output levels far longer than conventional phosphors, offering superior performance on all counts.

EGL has combined the latest in rare-earth phosphor technology with over 70 years of experience

in neon tube making to create an entirely new generation of ultra-high performance neon tubing - C.L. Designer® series. Available in a range of nine whites and six colors, C.L. Designer® tubing is the ideal alternative to conventional neon for channel letter applications for major reasons:

- 25 to 300 percent higher output significantly boosts the brilliance and visibility of all rigid and vinyl plastic channel letter fascia colors - including blues and greens that were previously difficult to illuminate. Higher output can also allow the number of tubing runs to be reduced, cutting material and labor costs significantly.

- Superior color purity and accuracy enable channel letters to match corporate color schemes with unmatched precision and consistency.

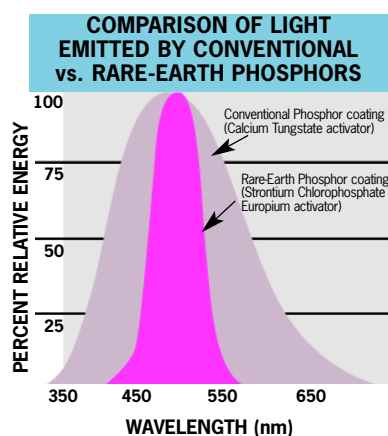
- Enhanced color stability and resistance to staining and output depreciation keep channel letters looking brighter and more colorful significantly longer than letters containing conventional neon tubing.

- Super-bright C.L. Designer® color tubing boosts the vividness and intensity of colored plastic fascias for far beyond that of conventional white tubing.

- Blending of three rare-earth phosphors to produce each brilliant shade of white creates a range of cool-to-warm variants, allowing fine tuning of the illuminated plastic fascia colors to match corporate color schemes precisely.

While the outstanding properties of C.L. Designer® tubing make it particularly suitable for channel letter applications, it is equally desirable for open neon signage and architectural lighting requiring super-bright whites, brilliant colors, and long term color accuracy. It processes as easily as conventional phosphor-coated tubing and is available in 7, 8, 9, 10, 11, 12, 13, 15, and 18mm diameters.

For best results use EGL Advantage™ Electrodes and EGL 99.999% pure gases.



The rare-earth phosphor emits a narrower band of wavelengths, and therefore a purer, more vivid color than the conventional phosphor.

Whites available:

C.L. Designer® 24
C.L. Designer® 28
C.L. Designer® 30
C.L. Designer® 35
C.L. Designer® 41
C.L. Designer® 45
C.L. Designer® 65
C.L. Designer® 71
C.L. Designer® 83

Rare-Earths available:

Horizon Blue
Tropic Green
Coral Pink
Seacrest
Violet II
Flamingo



Channel letters illuminated with C.L. Designer® tubing (right) produce significantly more light and truer whites than conventional tubing (left) which emits a bluish cast and alters the color of the plastic fascia.



C.L. Designer® tubing (right) is so bright, single runs can often be used instead of double runs of conventional white tubing (left), saving material and labor costs while eliminating the bluish cast of conventional white tubing.



Using colored rare-earth tubing behind colored plastic fascias produces signage that is not only brighter but more vivid and pure than signage illuminated with conventional white tubing. Compare identical blue plastic fascia colors illuminated by conventional white tubing (left) and EGL's Horizon Blue (right).



Identical green plastic fascias illuminated by EGL's rare-earth Tropic Green neon tubing (right) are significantly brighter and more vivid than fascias illuminated by conventional white tubing (left).

C.L. DESIGNER® SERIES SPECIFICATIONS

C.L. DESIGNER® SELECTION GUIDE					
PLASTIC COLOR	ROHM & HASS COLOR #	CYRO COLOR #	CONVENTIONAL COLOR	C.L. DESIGNER®/ RARE EARTH COLOR	ADVANTAGES OF C.L. DESIGNER®/RARE EARTH
White	7328	015-2	6500 Snowwhite	C.L. Designer® 71 or 83	60% Brighter
Blue	2114	605-0	6500 Snowwhite or E-40 Blue	Horizon Blue	125% Brighter than 6500;
Blue	2050	606-0	6500 Snowwhite or E-40 Blue	Horizon Blue	25% brighter than E-40 w/enhanced color stability
Green	2108	507-0	6500 Snowwhite or E-10 Green	Tropic Green	150% Brighter than 6500;
Green	2030	506-0	6500 Snowwhite or E-10 Green	Tropic Green	35% brighter than E-40 w/enhanced color stability
Yellow	2037	407-2	3500, 4500 White or 6500 Snowwhite	C.L. Designer® 28 or 65	300% Brighter than 6500;
Orange	2119	303-0	6500 Snowwhite	Coral Pink	25% brighter than E-10 w/enhanced color stability
Ivory	2146	047-2	6500 Snowwhite	C.L. Designer® 28, 35, or 65	150% Brighter than 6500;
Black/White	3063	1124-1	6500 Snowwhite	C.L. Designer® 71 or 83	Slightly brighter than E-10 w/enhanced color stability
Red	2793	278-0	Clear Red	None	90% Brighter
Red	2157	205-0	Clear Red	None	300% Brighter than 6500
					60% Brighter
					35% Brighter
					Recommend Clear Red
					Recommend Clear Red

C.L. DESIGNER® LIGHT OUTPUT (LUMENS PER FOOT)								
TUBING COLOR	DEGREES KELVIN	12MM	15MM		20MM		25MM	
		30mA	30mA	60mA	60mA	120mA	60mA	120mA
C.L. Designer® 24	2400°	235	200	375	300	520	235	450
C.L. Designer® 28	2800°	250	210	400	320	550	250	480
C.L. Designer® 30	3000°	260	220	410	360	700	260	460
C.L. Designer® 35	3500°	250	210	400	280	560	200	410
C.L. Designer® 41	4100°	240	200	380	295	540	200	400
C.L. Designer® 45	4500°	240	200	380	300	560	210	415
C.L. Designer® 65	6500°	240	200	390	340	640	250	470
C.L. Designer® 71	7100°	245	205	395	345	650	255	480
C.L. Designer® 83	8300°	245	205	395	345	650	255	480
Coral Pink	NA	170	130	270				
Flamingo	NA	125	100	200				
Violet II	NA	65	50	100				
Horizon Blue	NA	100	80	170	150	300	130	210
Tropic Green	NA	270	240	420				
Seacrest	NA	190	150	290				

RARE-EARTH COLORED TUBING			
EGL COLOR	DESCRIPTION	DIAMETER (MM)	PART NUMBER
Coral Pink	High Lumen Output/Color Rendition/Stability	10	329010
		12	329012
		13	329013
		15	329015
		18	329018
Flamingo	High Lumen Output/Color Rendition/Stability	10	300010
		12	300012
		13	300013
		15	300015
		18	300018
Violet II	High Lumen Output/Color Rendition/Stability	10	306510
		11	306511
		12	306512
		13	306513
		15	306515
Horizon Blue	High Lumen Output/Color Rendition/Stability	10	341010
		12	341012
		13	341013
		15	341015
		18	341018
Tropic Green	High Lumen Output/Color Rendition/Stability	10	307010
		12	307012
		13	307013
		15	307015
		18	307018
Seacrest	High Lumen Output/Color Rendition/Stability	10	301010
		12	301012
		13	301013
		15	301015
		18	301018

All C.L. Designer® Whites and Rare-Earth tubing selections are also available in 7, 8, & 9mm. Part numbers not shown.

All C.L. Designer® Whites and Rare-Earth tubing selections will produce brighter, more intense colors than the conventional selections.

ALL TUBING FOUR FOOT, LEAD GLASS

***5' lengths also available by special order. Call for details.

C.L. DESIGNER® WHITE TUBING			
EGL COLOR	DESCRIPTION	DIAMETER (MM)	PART NUMBER
C.L. Designer® 24	High Lumen Output/Color Rendition/Stability	10	331510
		12	331512
		13	331513
		15	331515
		18	331518
C.L. Designer® 28	High Lumen Output/Color Rendition/Stability	10	332510
		12	332512
		13	332513
		15	332515
		18	332518
C.L. Designer® 30	High Lumen Output/Color Rendition/Stability	10	332710
		11	332711
		12	332712
		13	332713
		15	332715
C.L. Designer® 35	High Lumen Output/Color Rendition/Stability	10	332910
		12	332912
		13	332913
		15	332915
		18	332918
C.L. Designer® 41	High Lumen Output/Color Rendition/Stability	10	333210
		12	333212
		13	333213
		15	333215
		18	333218
C.L. Designer® 45	High Lumen Output/Color Rendition/Stability	10	333610
		12	333612
		13	333613
		15	333615
		18	333618
C.L. Designer® 65	High Lumen Output/Color Rendition/Stability	10	333410
		12	333412
		13	333413
		15	333415
		18	333418
C.L. Designer® 71	High Lumen Output/Color Rendition/Stability	10	333810
		12	333812
		13	333813
		15	333815
		18	333818
C.L. Designer® 83	High Lumen Output/Color Rendition/Stability	10	334310
		12	334312
		13	334313
		15	334315
		18	334318

EGL GAS TRANSFER SYSTEMS

ALL EGL GASES ARE OF THE HIGHEST QUALITY: 99.999% PURE

EGL standard and blended gas mixtures are shipped in hard or soft glass flasks in Jumbo (2.65 liter) and Regular (0.9 liter) sizes as shown below. All gases are bottled in a completely new rare gas plant, using state-of-the-art apparatus

and techniques. Also available is a complete gas transfer system for use with 25, 50, or 100 liter EGL disposable gas tanks.



MAXIMIZE QUALITY, CONSISTENCY, AND ECONOMY WITH EGL'S GAS TRANSFER SYSTEM

Simply eliminating system shut-downs for flask replacements will justify investing in this system. In addition, it offers:

- Gas purity: Gas bottled in cylinders maintains its highest purity.
- Tighter control: With the system's pressure gauge, stopcock leakage is virtually non-existent.
- Better economy: Liter-for-liter, costs are reduced by purchasing in bulk. EGL tanks are available in 25, 50, and 100 liter sizes.

neon signs, cold cathode, etc. A precision-made filling valve eliminates the use of two glass stopcocks. Clean gas flow is guaranteed, as compared to double-stopcock systems which require constant lubrication and can allow air leakage into glass flasks. No entrapped grease vapors are automatically pushed into the neon tubes when the glass stopcocks are used.

No gas losses are incurred when changing glass flasks with small immeasurable volumes of remaining gases. No labor charges are incurred for each changing of replacement flasks. For example, one fifty (50) liter cylinder will eliminate 50 bottle changes. A system can hold 100% of its gases indefinitely, unlike glass stopcocks which cannot prevent seepage for long periods of time.

Additionally, since the tanks are capable of being filled to a much higher pressure than glass flasks, 100% of gas volume will be used rather than approximately 80% when utilizing the glass flasks.

The EGL Gas Transfer System provides uninterrupted flow of pure Neon, Argon, or special gas mixtures into tubes for

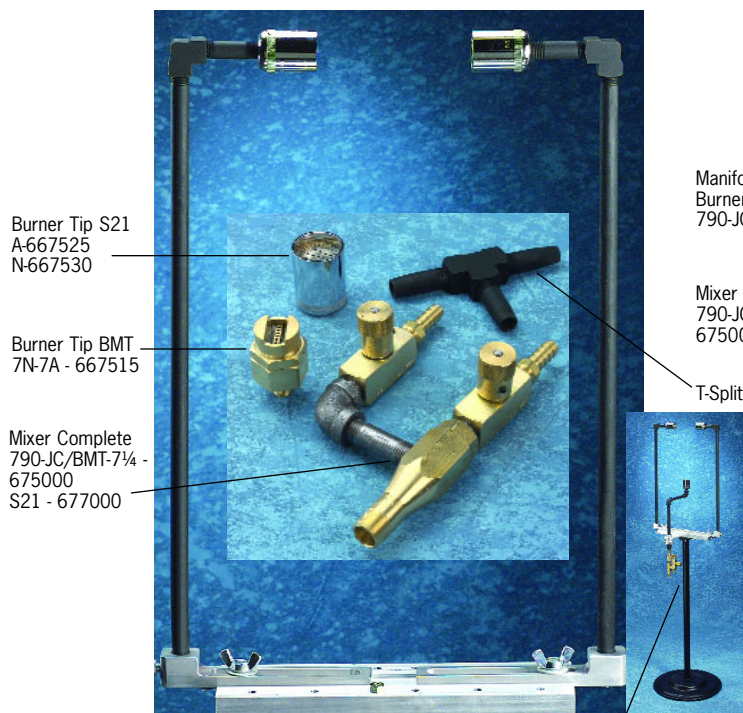
STANDARD AND BLENDED GAS MIXTURES						
GAS TYPE	CHARACTERISTICS	VOLUME (LITERS)	SOFT GLASS (LEAD)	HARD GLASS (PYREX®)	TANK	PART NUMBER
EGL NEON	Excellent for clear red units, or for coated tubing.	.90	*	*		412001
		1.00				416000
		2.65	*			420000
		2.00		*		424000
		25.00			*	436000
		50.00			*	440000
EGL ARGON	For low-voltage fluorescent tubes and fluorescent lamps. Mercury required. Not recommended for outdoor use.	100.00			*	444000
		0.90	*			413001
		1.00		*		417000
		2.65	*			421000
		2.00		*		425000
		25.00			*	437000
EGL BLUE (REPLACES #1050)	EGL's standard mixture for warmer climates - used in clear or fluorescent-coated tubing with added mercury.	50.00			*	441000
		100.00			*	445000
		0.90	*			411001
		1.00		*		415000
		2.65	*			419000
		2.00		*		423000
EGL K4 COLD WEATHER GAS (REPLACES #1051)	The best for all-weather applications, from below-zero regions to the tropics. The high percentage of Ne in K4 provides the heat necessary to completely vaporize mercury under cold weather conditions. Mercury required. Proven 14 to 49% brighter than competitive cold weather gases by an independent laboratory.	50.00			*	435000
		100.00			*	439000
		0.90	*			443000
		1.00		*		414001
		2.65	*			418000
		2.00		*		422000
EGL FLUSHING HELIUM	The finest and safest gas for preliminary bombarding, or for flushing-out repair units.	25.00			*	426000
		50.00			*	438000
		100.00			*	442000
		0.90	*			445600
		1.00		*		427001
		2.65	*			428000
EGL HELIUM	For clear glass tubes; giving a pale flesh-pink color, or when using noviol-coated tubing, a warm gold tone. Must be used at a lower pressure than normal (4-6mm typically). In coated glass, Krypton (Kr) has much the same effect as Ar. In clear glass, the color could be best described as pale platinum. Should not be filled to pressures higher than 12mm because of the tendency to develop linear discharge.	2.00		*		426150
		25.00			*	438600
		50.00			*	442100
		100.00			*	445500
		0.90	*			431001
		1.00		*		432000
EGL KRYPTON	In coated glass, Krypton (Kr) has much the same effect as Ar. In clear glass, the color could be best described as pale platinum. Should not be filled to pressures higher than 12mm because of the tendency to develop linear discharge.	0.90	*			433001
		1.00		*		434000
EGL XENON	Xenon (Xe) is similar to Kr in color, but principally used in special effects for linear discharge, or for high-pressure flash tubes. This is a relatively high-resistance gas.	0.90	*			433001
		1.00		*		434000

GAS TRANSFER SYSTEMS AND COMPONENTS

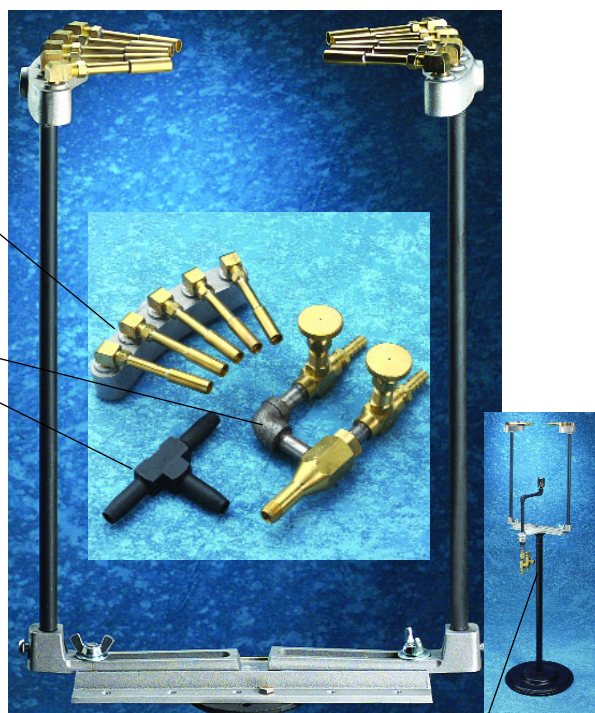
GAS TRANSFER SYSTEMS AND COMPONENTS	PART NUMBER
GAS TRANSFER SYSTEM (excluding tank - One System required per gas tank)	448501
MAJOR COMPONENTS:	
Pressure Gauge	448520
Robbins Valve	733000
Glass fitting for Robbins Valve	733010
Metal fitting for Robbins Valve	733020
Washers:	
Washer compression set for metal side	448005
Teflon washer compression set for glass side	448010

Tank (optional)

EGL BENDING EQUIPMENT



Cannon-fire Crossfire shown with optional Swing-Out Burner



5-Point Crossfire shown with optional Swing-Out Burner

CANNON-FIRE CROSSFIRES			
		BURNER TIPS: N=Natural Gas A=Artificial Gas	
		PART NO.	
COMPLETE SYSTEMS including burners, side pipes, sliding base, T-splitter, and 1/4" Venturi mixer			
		WITH STAND	WITHOUT STAND
BMT SERIES (shown) - provides a knife-shape flame, ideal for splicing and sufficient heat for bending glass 15mm or less.	BMT-7N OR A	652551	652550
S21 SERIES - provides a broad, high-heat flame hotter than 5-point crossfires but more diffused, hence better for bending than splicing.	S21-N S21-A	653051 653551	653000 653500
BURNER TIPS:			
SERIES BMT-7-N OR A	N or A		667515
SERIES S21-N	N		667530
SERIES S21-A	A		667525
SIDE PIPES			
SERIES BMT-7 AND S21			655560
REDUCER FOR SERIES BMT-7			655520
MIXERS			
SERIES 790-JC/BMT-7¼ (#1728) complete			675000
SERIES S21 (#1929) complete			677000

5-POINT CROSSFIRES				
		BURNER TIPS: N=Natural Gas A=Artificial Gas		PART NO.
COMPLETE SYSTEMS including burners, side pipes sliding base, T-splitter, and 1/4" Venturi mixer			WITH STAND	WITHOUT STAND
790 JC SERIES (shown) - provides an even heat output system to bend or splice all diameters, from 8mm to 35mm. *Note: 790-JC-N or A also includes manifold for burner tips		790-JC-N or A	651051	651000
BURNER TIPS Series 790-JC-N or A		N or A		667510
SIDE PIPES SERIES 790-JC				655540
5-POINT CROSSFIRE MANIFOLDS SERIES 790-JC-N or A (with burner tips) MANIFOLD CASTING ONLY		N or A		674200 674000
BRASS ELBOW				655530
MIXER SERIES 790-JC/BMT-7¼ (#1728)				675000

COMPONENTS COMMON TO CANNON-FIRE AND 5-POINT CROSSFIRES		PART NO.
ADJUSTABLE BASE CASTING WITH 2 SLIDING STATIONS 2-SLIDE BRACKETS		655000 655500
NEEDLE VALVE (FITS ALL 1/4" MIXERS) T SPLITTER		668000 655510
SWING-OUT BURNER COMPLETE WITH S21 BURNER AND 1/8" VENTURI MIXER		655200

A NOTE ABOUT VENTURI MIXERS:

Some glassblowers construct their own mixer "T"s from glass or plumbers' parts, and use common valves to control air and gas-flow. Although seemingly cost-conscious, that procedure has a negative effect on the overall quality of the work. The reason - control. To make clean joints with lead glass, a stable, blue-violet flame is required. If a low-cost setup is being used and difficulties are experienced, it is strongly recommended that a proper mixer be tried.



16" ribbon burner

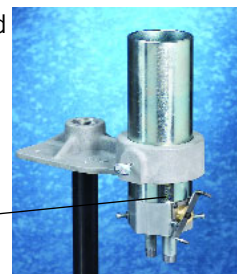
24" ribbon burner

HAND TORCHES

	SPACE BETWEEN BURNERS	BURNER TIPS: N=Natural Gas A=Artificial Gas	PART NO.
SPLICING SPLICING TORCH NO. 1 with #81 oblong "fishtail" burners for splicing 10-25mm glass.	2"	N or A	650600
BRASS FISHTAIL BURNER TIPS for Torch No. 1 (1/4" MPT)		81-N or A	665000
COMBINATION SPLICING/TIPPING COMBINATION SPLICING/TIPPING TORCH NO. 2 with #228 oblong "fishtail" burners for splicing smaller diameter glass (up to 13mm), and for tipping off with reduced flame.	1-7/8"	228-N 228-A	650700 650200
BRASS FISHTAIL BURNER TIPS for combination Splicing/Tipping Torch No. 2 (1/4"- 27 Thread)		228-N 228-A	666000 665500
TIPPING TIPPING TORCH NO. 3 with #228 oblong "fishtail" brass burners for tipping off tubes up to 6mm diameter. May also be used for splicing tubes up to 10mm.	1-1/4"	N A	650800 650300
BRASS FISHTAIL BURNER TIPS for Tipping Torch No. 3 (1/4"- 27 Thread)		228-N 228-A	666000 665500
BRASS ROUND BURNER TIPS for Tipping Torch No. 3 (1/4"- 27 Thread)		100ST-N or A	667540
TIPPING NO. 500 TIPPING TORCH with round burners for tipping off tubes up to 6mm diameter. May also be used for splicing tubes up to 10mm. Replace- able stainless steel tips enable the torch body to be reused indefinitely.	1-5/8"	100-N or A	650970
STAINLESS STEEL ROUND BURNER TIPS for No. 500 Tipping Torch (1/4" MPT)		100-N or A	667545
COMPONENTS COMMON TO ALL EGL HAND TORCHES			
NEEDLE VALVE, 1/8"			682000
44-50 1/8" MIXER			680000

Ribbon burners are utilized for creating sweeping curve effects and script-type lettering for neon signs. EGL Ribbon Burners feature a brass burner bar to eliminate warping and side ignition, and an improved economizer valve with O-ring seals to eliminate leakage. All models are equipped with a control slide to adjust flame length. The cast aluminum body rotates 360° on a collar flange which can be bolted on a work-bench, or threaded onto an available pipe stand with a 17-pound weighted base plate.

ECONOMIZER



RIBBON BURNERS

	BURNER TIPS: N=Natural Gas A=Artificial Gas	PART NO.	
		WITH STAND	WITHOUT STAND
COMPLETE (Includes economizer and bench flange)			
16" RIBBON BURNER (shown)	N	664104	664102
	A	664103	664101
24" RIBBON BURNER (shown top right)	N	658001	658000
	A	658501	658500
HEAD ONLY			
16" RIBBON BURNER HEAD	N		664202
	A		664201
24" RIBBON BURNER HEAD	N		659000
	A		659500
SCREENS			
16" SCREENS	N		664325
	A		664320
24" SCREENS	N		663100
	A		663000
SLIDES			
16" SLIDE			664340
12" SLIDES (2)			662000
BENCH/STAND FLANGE			664300
FLOOR STAND			664315
ECONOMIZER			664310

EGL REGENERATIVE BLOWERS



R-4 and R-5 Series high-efficiency regenerative blowers are oil-less, low maintenance, and ruggedly constructed with totally enclosed fan-cooled motor-mounted designs.

R-4 SERIES:

92 CFM/60 Hz (74 CFM/50Hz), 52" H₂O maximum pressure, operating on 115/208-230V, 1 HP: 1 Phase Model (Blower and motor only)722848

1 Phase Model complete with inlet filter, muffler, pressure relief valve, pressure gauge and T-adaptor722880
3 Phase Model (Blower and Motor only).....722850
3 Phase Model complete with inlet filter, muffler, pressure relief valve, pressure gauge and T-adaptor722882

R-5 SERIES:

160 CFM/60 Hz (133 CFM/50 Hz), 50"/47" H₂O maximum pressure, operating on 190/220-380-415V, 1 Phase, 2.5 HP: (Blower and motor only)722810
1 Phase Model complete with inlet filter, muffler, pressure relief valve, pressure gauge and T-adaptor722820
3 Phase Model (Blower and Motor only).....722812
3 Phase Model complete with inlet filter, muffler, pressure relief valve, pressure gauge and T-adaptor722822
Inlet Filter722920
Muffler722930
Pressure Relief Valve722950

EGL BOMBARDERS & CHOKES



BOMBARDER TRANSFORMERS

15 KVA Bombarder Transformers are suitable for use with all applications, and are generally the recommended choice for this reason.

22 KVA models are best suited for large scale, full-time production shops processing 15-25mm tubing and using primarily 60-120 milliamp electrodes.

The EGL model 4600 variable-controlled choke is a DC reactance devise using a dial Variac. When used in conjunction with the EGL milliamp gauge (item no. 733300) the model 4600 will provide precise control of bombarding levels combined with ease of operation and reliability.

**The use of an EGL Bombarding Milliamp Gauge is recommended.*

BOMBARDER TRANSFORMER SPECIFICATIONS

MODEL	PRIMARY VOLT ¹	PRIMARY NOMINAL AMPS	PRIMARY PEAK AMPS	MINIMUM BREAKER SIZE ²	MINIMUM WIRE SIZE ³	SECONDARY VOLTS NOMINAL/PEAK	AVERAGE NOMINAL mA	PEAK mA	BOMBARDER DUTY CYCLES
15 KVA	240	10-80	100	100A	#2	26KV/24KV	800	1500	100%
22 KVA	240	10-80	100	100A	#2	26KV/24KV	800	1750	100%

Notes: ¹ - 208V services will draw approximately 10% more.

² - Minimum 100 Amp service recommended.

³ - Minimum size included for wire and breaker suitable for most applications. For heavy, continuous production, use next-size-larger wire and breaker minimums.

CHOKES, BOMBARDERS & VARIACS

MODEL	CHOKE ONLY	BOMBARDER ONLY	VARIAC ONLY	CHOKE COMPLETE (Includes Choke & Variac)	BOMBARDER COMPLETE (Includes Choke, Bombarder & Variac)
15 KVA 220V/60 Hz	718615	716615	718815	718620	716435
15 KVA 220V/50 Hz	718515	716515	718806	718630	718550
22 KVA 220V/60 Hz	718622	716622	718815	718660	718445
22 KVA 220V/50 Hz*	718522	716522	718806	718525	718500

*Special order

Bombarder Contactor (2-pole, 90 amp) includes main contactor assembly, metal enclosure and auxiliary contactor718830

Contact Foot Switch (10 amp, 550V), a heavy-duty single-pole, double-throw foot switch with guard. A 14 gauge SJ electrical cord with ground required for installation (not included)718835

EGL PROCESSING EQUIPMENT

EZ READ GAS PRESSURE GAUGE (MANOMETER)

The EGL EZ Read gauge provides accurate readings of rare gases during neon tube or cold cathode filling. Accuracy of .1mm is possible.

The EGL EZ Read gauge uses a greaseless stopcock assembly designed to prevent the butyl oil from ascending into the manifold system should sudden pressure be applied to the liquid during operation.



Connection is made with a glass compression fitting that will accommodate 12 to 15mm tubing. Each gauge is supplied with a calibrated scale and required gauge oil.

EZ Read Gauge Complete - with stand. Part No.733600
EZ Read Gauge Glass Only Part No.733625
Red B-phthalate Oil, 2oz. Part No.730500

DIGITAL TEMPERATURE GAUGE

Designed for the neon bombarding process, this gauge provides accurate Fahrenheit or Celsius readings in a range of 32°F-650°F (0-325°C) and features a large, clear, 3/4" LCD, enabling



the operator to concentrate fully on the bombarding of units. A high quality durable probe made for neon tubing (8-20mm diameter) with a foil thermocouple (replaceable) provides accurate temperature readings.

The unit is housed in a durable plastic case and comes equipped with one nine-volt battery for approximately 180 hours of operation.
Part No.734200
Replacement Thermocouple Part No.734210

MAXI-VAC™ SINGLE-STAGE BOROSILICATE OIL DIFFUSION PUMP

This efficient oil diffusion pump provides pressures of 1×10^{-5} Torr at a pumping rate of approximately 8-10 liters/second (up to 600 liters/minute) depending on backing pump. This pump has no moving parts for easy maintenance.



The Diffusion Pump Intake Port is 25mm diameter with a compression fitting that will accommodate 15 to 18mm glass. The Foreline (Exhaust) port is 18mm diameter.

Complete system including: Vertical support rod with base, pancake heater mantle with support, clamp to secure pump, heater controller, and finest quality diffusion pump oil. 120V/60 Hz model

Part No.734300
220V/50 Hz model complete Part No.734301
Diffusion pump glass only Part No.734305
Pancake heater mantle 120V/60Hz Part No.734320
Pancake heater mantle 220V/50Hz Part No.734321
Heater controller 120V/60Hz Part No.734315
Heater controller 220V/50Hz Part No.734316
Pancake heater support ring Part No.713055
Vertical support rod with base Part No.713050
Diffusion pump clamp Part No.713060
50ml clear diffusion pump oil Part No.735010

EGL MILLIAMP GAUGE

The EGL Milliamp Gauge provides a reading of 0-1000 MA (1AMP), and can be wired in a series to indicate the precise



power level drawn from the bombarding transformer. The gauge is

simple to install and operates on any bombardier.

Part No.733300

ANALOG VACUUM GAUGE

The VT6 Analog Vacuum Gauge is a rugged reliable thermocouple-type instrument. Available in the 0-1000 micron range.

The gauge features a large easy-to-read analog display with 1 micron divisions in the 0-10 micron range. The gauge tubes



have a 1/8" male NPT thread. The gauge is supplied with an 8' cable for the gauge tube.

Complete unit includes gauge tube and grounding unit.
120/60Hz Part No.735340
220/50Hz Part No.735341
Gauge only
120/60Hz Part No.735350
220/50Hz Part No.735351
Gauge Tube (not shown) Part No.735360

HIGH VACUUM HOSE FOR VACUUM PUMPING SYSTEMS

1/8" ID x 1/8" Wall, latex Part No.670750
5/8" ID x 1/2" Wall, latex Part No.723000
1/2" ID x 1/2" Wall, latex Part No.723500
3/4" ID x 1/2" Wall, pure gum Part No.724000
3/8" ID x 3/8" Wall, pure gum Part No.724500
1/2" ID x 3/8" Wall, pure gum Part No.725000

DIGITAL PIRANI VACUUM GAUGE

The TM-20 is a single station Pirani Gauge. It can display pressure in Torr, Microns, M-Bar, or Pascal units using a large easy-to-read LCD display with digital and bar graph readout. Measurement range is from 760 Torr (ATM) down to 1x10 range (1 Micron). Complete gauge



includes a TR211 sensor with 1/8" NPT fitting and 10 feet of sensor cable. The gauge can be

bench or panel-mounted and is housed in a 1/4 inch case. Part No.735370

EGL ANALOG CAPSULE FILL PRESSURE GAUGE

The EGL Analog Capsule Fill



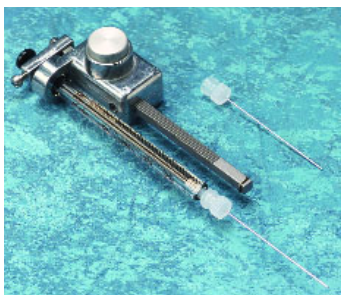
Pressure/Torr Gauge features a four-inch easy-to-read face for precise indication of mm Hg/Torr from 0 to 50 in 1-unit graduations. It has a 1/4" M-NPT connection and

can be fitted to virtually any manifold using the 19mm glass compression adapter. Fill Gauge Complete (includes adapter and support legs)* Part No.733205
Fill Gauge with Adapter (legs not included)*733202
Fill Gauge Only733200
*Adapter must be used when attaching to a glass manifold.

NORMAL LATEX TUBING - for gas and air supply lines

Blow Hose
1/8" ID x 1/16" Wall Part No.669500
Hand Torch Hose
1/4" ID x 1/16" Wall Part No.669000
1/4" ID x 1/8" Wall Part No.669400
Crossfire Hose
3/8" ID x 3/32" Wall Part No.670000
Ribbon Burner Hose
1/2" ID x 1/8" Wall Part No.670500

*EGL vacuum gauges installed on manifolds other than EGL MaxiVac™ systems will require a metal to glass compression fitting for connection. Call for details.



EGL MERCURY INJECTOR

The EGL Mercury Injector improves operator safety and dispensing accuracy. Pressing a button advances a plunger, dispensing 10 microliters (100mg) of mercury, equivalent to a ball 2mm in diameter—the correct amount for most argon-filled “neon” tubes.

The reservoir has a 500 microliter capacity, good for 50 applications. Marked in 10 microliter increments, it enables the user to calibrate total volume by setting the plunger position. The injector dispensing tube end is blunt, reducing the danger associated with sharp medical syringes commonly employed to

inject mercury. In addition, it offers the repeatable accuracy needed to prevent over-filling that causes mercury condensation and tube darkening, and under-filling that reduces tube brightness.

Part No.732000

EGL VACUUM PUMPS



VACUUM PUMP SPECIFICATIONS

	SERIES A32	SERIES A70	SERIES A107
Free Air Displacement CFM(L/min)3.2 (90)	3.2 (90)	7.0 (195)	10.7 (305)
Oil Capacity Quarts	0.825	1.0	1.0
Motor Rating (hp/rpm)	1/3-1800	1/2-1800	3/4-1800
Weight (Approx.) lbs (kg)	48 (22)	55 (24.5)	63 (28.6)
Voltage/cycles	110V/50/60Hz and 220V/50/60Hz	110V/50/60Hz and 220V/50/60Hz	110V/50/60Hz and 220V/50/60Hz
EGL Part Number	721300	721400	721200
Mist Eliminator (optional)	720915	720915	720915

All EGL vacuum pumps are 2-stage rotary vane direct-drive pumps which reach an ultimate vacuum of 1×10^{-4} mbar and have ISO-KF-25 flanges on inlets and outlets. All have anti-suckback valves and are equipped with Pneurop flanges, hose nipple, centering ring, O-ring, and clamp.

EGL REPLACEMENT OILS



#119 VACUUM OIL

(1 Liter) Part No.735200
Incorporates two essential high vacuum characteristics: low vapor pressure which does not materially increase at temperatures up to 50°C; and viscosity sufficiently low for use at 15°C.

#200 VACUUM OIL

(1 Liter) Part No.735210
Superior vacuum oil to #119 that offers lower vapor pressure, less backstreaming and higher flash point temperature.

FLUSHING OIL

(1 gal.) Part No.735300
Swift, safe removal of harmful sediment and contamination from high vacuum pumps is accomplished by using this specially developed oil. One or two flushings clean accumulated residues and protect the pump. Its use considerably improves high vacuum production. The pump can be refilled with operating oil immediately after flushing.

#43 VACUUM PUMP OIL

(1 gal.) Part No.735100
A custom blended general purpose vacuum pump oil utilizing advanced feedstocks. This economical alternative to molecularly distilled fluids possesses a vapor pressure of 2×10^{-4} torr at a temperature of 25°C.

COLD CATHODE HOUSINGS

COLD CATHODE HOUSING DIMENSIONS (INCHES)

SOCKET TYPE	RK212SJ JUMPER	RK212ST TERMINAL
Center to Center of Electrode w/SPCR Housing Fixture Size	1 1/4	1 1/4
Lamp Tolt +/- Socket Height from Surface	2"x4"x2.5" metal receptacle	2"x4"x2.5" metal receptacle
Interior Depth	1/8	1/8
Interior Width	.880	.880
Interior Length	1 1/2	1 1/2
Overall Flange Width	7/8	7/8
Overall Flange Length	2 7/32	2 1/8
Flange Thickness	2 9/32	2 9/32
Overall Body Width	4 1/2	4 1/2
Overall Body Length	3/8	3/8
Mounting Hole Centers	1.37	1.45
Height to Connection	4 1/2	4 1/2
	3 1/4	3 1/4
	1 1/4	1 1/4



Cross Section



RK212SJ (left)

RK212ST (right)

COLD CATHODE HOUSINGS

Cold Cathode Housings are rated @ 7500V to ground. Milled out of stock material, not from a mold. Wire strip gauge is imprinted on unit. Can be recessed or externally mounted. Stainless steel mounting screw for GTO or Ballast wire. Features solid brass receptacles for electrodes. User friendly (wiring and mounting abilities).
RK212SJ (Jumper)662150
RK212ST (Terminal).....662100

EGL NEON ACCESSORIES



ULTRAVIOLET COLOR CHECKER

A compact, lightweight 4 watt UV lamp for checking the color of phosphor coated tubing. The EGL color checker is housed in a high quality, impact-resistant ABS plastic case that resists fading, peeling, and cracking from exposure to heat or chemicals.

Measures 6-1/2" L x 1-1/4" W x 1-3/4" H, Weight 8 oz., and uses 4 AA 1.5 volt batteries (not included)
Part No.763000



ELECTRONIC MILLIAMPER METER

The Digital mA meter was designed to measure true RMS current on core and coil and electronic transformers when placed in a series connection of multiple tubes. It is compact, convenient, requires no batteries, has a frequency range of 50 to 50,000hz, and can measure from 3 to 200mA/AC. The meter readings should be taken with the meter placed in series in the neon circuit, ideally at mid-point.

Part No.645300

BRASS ELECTRODE CAPS

Available Sizes:	Part No.
12mm Short	754500
15mm Short	754000
15mm Long	753500
19mm Long	755000
15mm Electrode	
Buttons	753100



DIGITAL MAP MEASURE

Used for measuring required lengths of glass tubing by following the exact contours of a to scale working drawing of the intended design. Features 91 imperial and metric scales.

Map Measure
Part No.....753005

CORKS

Diameter	Part No.
8mm	755500
9mm	756000
10mm	756500
11mm	757000
12mm	757500
13mm	758000
15mm	758500

BLACK RUBBER CORKS

Diameter	Part No.
12mm	760009
15mm	760010

GLASS FILES

For quick cuts of glass tubing to desired lengths; files are carbon steel, 8" overall length.

Part No.760500



LEAD GLASS STOPCOCKS MADE IN USA

EGL Stopcocks are used by virtually all neon shops in the United States and in many shops overseas.

Diameter (mm)	Part No.
2.....	735500
4.....	736000
6.....	736500
8.....	737000
10.....	737500



EGL PORTABLE SLIMLINE TUBE TESTER

Battery powered high-frequency generator for testing pumped neon tubes and fluorescent lamps, operates on 4 AA batteries. Tube being tested will illuminate in a pulsating manner if "good". Includes leather case.

6-7/8" long x 1-1/2" wide x 3/4" deep
Part No.741200

SWIVELS

3/16" Swivels are most commonly used for neon tubing; 1/4" are best suited for cold cathode work (18mm or larger).

1/4" RAE (Right Angle)	
One-sided Swivel	
Part No.	671500
3/16" RAE (Right Angle)	
Double Swivel	
Part No.	672000
3/16" RAE (Right Angle)	
One-sided Swivel	
Part No.	672100
1/4" x 1-1/2" Straight Swivel	
Part No.	672500
1/4" x 3" Straight Swivel	
Part No.	673000



ELECTRODE HOLDER



Electrode holder keeps fingers cool while splicing electrodes to glass.
Part No.683000



SPARK COIL

110 or 230 Volt high-frequency generator used for detecting leaks in a tube while processing; BD 10A is a standard product for lab use; also available is BD 20A for more specialized uses, with its finer probe tip.

BD 10A Spark coil	
115V Part No.	740500
BD 10AS Spark coil	
115V Part No.	740510
BD 10AV Spark coil	
230V Part No.	740520
BD 10ASV Spark coil	
230V Part No.	740515
BD 20A Spark coil	
115V Part No.	740600
BD 20V Spark coil	
230V Part No.	740610

Models with an "S" are equipped with on/off switches.



C.L. DESIGNER® CASE

The 13" x 16" x 6" briefcase can be used to illuminate two "U" shaped neon tubes to provide a visual comparison of each tube's relative effectiveness behind different colors of plastic. It can be used to simulate a channel letter application, as well as cove and exposed neon lighting.
Part No. 768805

BOMBARDING MICA

Part No.761500

MERCURY*

Triple-distilled EGL mercury is the purest available anywhere. Packed in .9 lb. glass bottles.
Part No.762001

*Hazardous Material shipping restrictions may apply.



GLASS TUBE SUPPORTS

Description	Part No.
1-3/4" Brass 2-Piece Base	615125
1-3/4" Brass 2-Piece Base w/wire	615150
1-3/4" Aluminum Single Piece Base	615175
1-3/4" Aluminum Single Piece Base w/wire	615185
1-3/4" Brass Single Piece Base	615100
1-3/4" Brass Single Piece Base w/wire	615105
1-3/4" SL (8mm) Brass 2-Piece Base	615190
1-3/4" SL (8mm) Brass 2-Piece Base w/wire	615195
3-1/2" Brass 2-Piece Base	615200
3-1/2" Brass 2-Piece Base w/wire	615205
Metal Extension Post	616100



GRAB-IT™ WIRELESS SUPPORTS FOR NEON TUBING

Secure grip without wire twists. Glass tubing snaps firmly into the resilient "C" clip which encircles approximately 75% of the tube, providing a secure grip and eliminating the need for unsightly wire twists and associated labor costs. Light shines through the transparent clips, making them virtually invisible.

GRAB-IT™ tube supports are spring-loaded with 1/8" travel to absorb shock and compensate for tubing irregularities, giving the entire sign a protective suspension. All supports provide a 1-3/4" stand-off height to accommodate "double-back" tube thickness.

Tough polycarbonate plastic withstands extreme conditions. Resistance to high impact, corrosion, and wide temperature variations permit utilization of



NEON TUBING DISPLAY BRIEFCASE

This self-contained, portable sales kit saves time, increases sales, and ensures customer satisfaction with tubing color selections. The lockable slimline briefcase is suited to any business setting, and holds 20 neon tubes, up to four of which can be illuminated simultaneously to demonstrate color combinations.

Standard tubing colors are:

- 8300 White
- 6500 Snowwhite
- E40 Blue
- Horizon Blue
- Bromo Blue Coated
- E12 Turquoise
- Purple
- Coral Pink
- Violet II
- Flamingo
- Ruby Red Coated
- Clear Brite Yellow
- Clear Gold
- Seacrest
- E10 Green
- Apple Green
- Emerald Green Coated
- Casino Gold
- Tropic Green
- Tropic Yellow

All standard tubes are 12mm in diameter and feature EGL electrodes for maximum brilliance, clarity, and longevity.
Display Briefcase
Part No.765800

these tube supports in virtually any interior or exterior environment. 1" x 1/2" mounting base flange accommodates a number eight screw, or can be glued to any surface using silicone or any appropriate adhesive.

Available in 9, 10, 12, 13, and 15mm sizes. All sizes are clearly marked on each tube support, packaged 100 per bag. Give your signs a clean, clear look with GRAB-IT™ tube supports, the newest to EGL's line of glass and metal tube supports.

Diameter (mm)	Part No.
9 (clear)	614109
9 (black base)	614209
10 (clear)	614110
10 (black base)	614210
12 (clear)	614112
12 (black base)	614212
13 (clear)	614113
13 (black base)	614213
15 (clear)	614115
15 (black base)	614215

BIG BOY™ HIGH OUTPUT LAMPS

Cost-Saving Length

The right time to use an EGL Big Boy™ is any time you can avoid using two shorter lamps of equal length. By reducing the number of lamp ends (lumen loss) more light per-foot is achieved without unsightly center raceway shadows and with reduced labor and material costs: fewer ballasts, fewer sockets, and much less wiring.

Standard Convenience

Use EGL Big Boys as you would any other straight high-output lamp. All sign ballast makers supply ballasts that carry up to four lamps, 9, 9-3/4, or 10 feet.

Standard colors: Coolwhite and Daylight - 3 sizes in T12 diameter: F108, F117, F120.



9, 9-3/4, AND 10-FOOT HIGH-OUTPUT LAMPS

COLOR	NOMINAL LAMP WATTS	LENGTH SOCKET TO SOCKET (Inches)	12-PACK WT. APP. (Lbs.)	LAMP CODE	EGL PART NO.
COOL WHITE	124	105-3/16"	23	108T12HO/CW	451108
	135	114-3/16"	25	117T12HO/CW	466117
	138	117-3/16"	25	120T12HO/CW	481120
DAYLITE	124	105-3/16"	23	108T12HO/D	456108
	135	114-3/16"	25	117T12HO/D	471117
	138	117-3/16"	25	120T12HO/D	486120

maxi.vac™ mxv-50

MANIFOLD AND COMPLETE PUMPING SYSTEM FOR NEON TUBING

GAS INLET VALVE
(ROBBINS VALVE)
Part No. 733000

"Y" FITTING
Part No. 735405

MAIN STOPCOCKS
Part No. 735460

CONTROLLER FOR
DIFFUSION PUMP HEATER
120V/60Hz...Part No. 734315
220V/50Hz...Part No. 734316

GLASS
DIFFUSION PUMP
120V/60Hz...Part No. 734300
220V/50Hz...Part No. 734301

DIRECT DRIVE PUMP
(EGL - A70 -
Set up as roughing pump)
Part No. 721400

FILLING GAUGE
Part No. 733202

ANALOG VACUUM GAUGE
120V/60Hz...Part No. 735340
220V/50Hz...Part No. 735341

GAS INLET VALVE
(ROBBINS VALVE).. Part No. 733000

"Y" FITTING
Part No. 735405

HIGH STRENGTH SUPPORT SYSTEM AND
MOUNTING BOARD

FLEXIBLE STAINLESS
STEEL CONNECTION
Part No. 735420

DIRECT DRIVE PUMP
(EGL - A70 - Operates in conjunction with
diffusion pump)
Part No. 721400

COMPLETE MAXI-VAC™ MXV-50 "SYSTEM II" PUMPING
SYSTEM FOR GAS TANKS with the
following options: Second "Y" piece, two gas transfer
systems and tanks, and second vacuum pump.
† Stand not available from EGL
‡‡ Most components sold separately

SUPERIOR DESIGN AND CONSTRUCTION PROVIDE THE FASTEST, MOST CONSISTENT PUMPING SPEEDS, AND THE BRIGHTEST, CLEANEST NEON TUBES ATTAINABLE

The MAXI-VAC™ manifold virtually eliminates the leakage, breakage, contamination, and downtime common to older systems by eliminating the components that cause it. Gone forever are the grease-type stopcocks, numerous connections, and maze of fragile glass tubing which result in wasted repair time and, still worse, finished neon products of inconsistent quality.

LARGE BORE, GREASE-FREE STOPCOCKS

The MAXI-VAC™ manifold employs the fewest number of stopcocks to minimize the possibility of leakage. The two 25mm diameter main stopcocks are larger than on any other pumping manifold, providing the highest pumping rates. The stopcocks are machined from durable Teflon®, and feature a new coarse thread design that provides long life, fast actuation, and easy removal and re-threading for cleaning. The stopcocks are also grease-free, eliminating the contamination problem of grease-type stopcocks 100 percent.

HEAVY WALL, LARGE DIAMETER MANIFOLD TUBING

Short lengths of heavy wall 50mm diameter borosilicate tubing are welded in a compact configuration which has the fewest possible number of connections, then annealed to remove strain. The result is an extremely strong assembly that provides the highest possible flow rates, maximum vacuum integrity, minimal gas waste, and the easiest interior access for cleaning.

COMPLETE SYSTEMS	120V 60HZ**	220V 50HZ**
	PART NO.	PART NO.
SYSTEM I Includes: Borosilicate Glass Manifold complete with sturdy base, 0-50MM HG/TORR fill gauge, highly accurate vacuum gauge complete with gauge adapter/stopcock, newly designed oil diffusion pump (for maximum pumping performance) complete with heater and ALL necessary mounting hardware.		
Complete system for gas flasks	716000	716005
Complete system for gas tanks*	716010A	716015A
SYSTEM II includes: Same as System I, including Series A70 or equivalent vacuum pump with stainless steel flex hose and adapter.		
Complete system for gas flasks w/Series A70 vacuum pump	716025	716026
Complete system for gas tanks* w/Series A70 vacuum pump	716027A	716028A

NOTES:

*Gas Transfer System included with SYSTEM IV only.

**120V refers to all electrical components except bombarders and chokes (Both are 220V primary).

***Special order only for 220V/50 Hz.

COMPLETE SYSTEMS	120V 60HZ**	220V 50HZ**
	PART NO.	PART NO.
SYSTEM III includes: Same as System II, including choice of KVA bombarder & variable output transformer choke & milliamp gauge.		
Complete system for gas flasks w/Series A70 vacuum pump and 15KVA bombarder and choke.....	716060	716061
Complete system for gas tanks* w/Series A70 vacuum pump and 15KVA bombarder and choke.....	716062A	716063A
Complete system for gas flasks w/Series A70 vacuum pump and 22KVA bombarder and choke.....	716078	***
Complete system for gas tanks* w/Series A70 vacuum pump and 22 KVA bombarder and choke.....	716080A	***
SYSTEM IV (for gas tanks only) includes: Same as System III, plus second Series A70 or equivalent vacuum pump with stainless steel flexible hose and adapter, two gas tank systems, EGL digital temperature gauge, set of replacement "O" rings, additional 50cc bottle of clear diffusion pump oil, and 100 pair of 15CL Advantage electrodes.		
Complete system for gas tanks* w/2 Series A70 vacuum pump and 22 KVA bombarder and choke.....	716164A	***