

FIRE FIGHTING SOLUTIONS



**CHEMGUARD** INC

# Welcome

We started this company with a simple credo: Work hard to deliver the best quality products at a fair price. Today that loyalty to customer satisfaction and quality has brought forth a lot of growth for the company. It has also propelled Chemguard into a position of delivering truly innovative solutions to today's industrial and municipal fire fighting concerns around the world.

Our foam concentrate products are earth-friendly and continually meet and set new standards in fire suppression.

Our equipment is engineered for great performance over many years use, and

# CHEMGUARD INC.

S U I T A B L E   F O R   T H E S E   A P P L I C A T I O N S

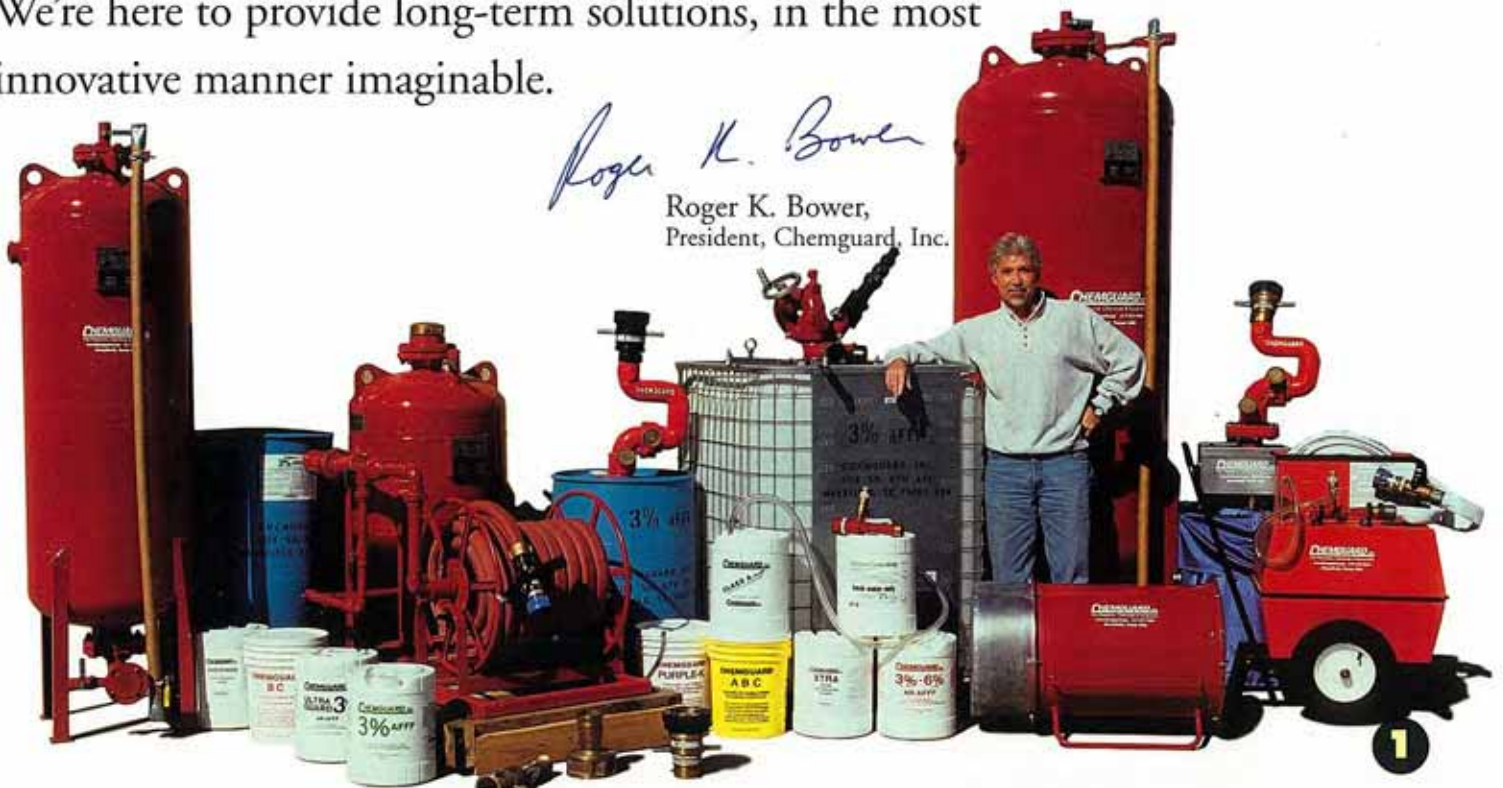


Because many of our products may be used on different class fires, and in multiple environments, we have included these icons throughout the catalog to help you understand which applications are recommended for the particular product you're considering. They represent (from left) Offshore, Municipalities, Transportation/Freight/Airports, Marine, Manufacturing, and Petroleum/Energy Production.

our customer service is second to none. Personally, we couldn't have envisioned all the changes we would see, and facilitate, but we knew that the drive to be the best would pay dividends to our most important

concern... you, our clients and customers. As you look through this all new catalog, please feel free to contact us directly with any questions or comments. We're here to provide long-term solutions, in the most innovative manner imaginable.

Roger K. Bower,  
President, Chemguard, Inc.



## **Chemguard at Work**

Chemguard's operations are a synergistic blend of research, design and manufacturing found nowhere else in the industry. From our innovative patents to our persistence in delivering a superior product, the dedication to a high level of achievement can be found in each department, in each employee and process.

Throughout this book you'll see evidence of a thoughtful and thorough approach to fighting fires in a myriad of environments. We recognize the need for solutions that are first reliable, and secondly superior in performance. From our hardware to our foam concentrates, Chemguard's entire product line is engineered for years of frequent use, which also makes the best even more attractive when it comes to budget time.



**Fire Test Facilities**



**Foam Concentrate  
Blending & Packaging**



**Dry Chemical  
Blending & Packaging**



**Shipping, Receiving  
and Warehousing**



**Engineering  
and Design**

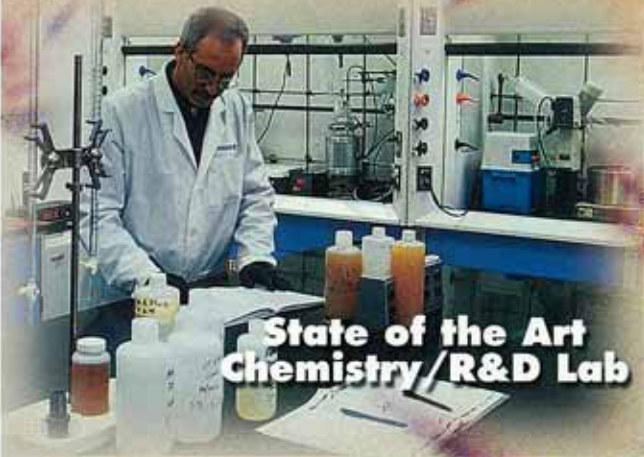


**Fire Education & Training Center**

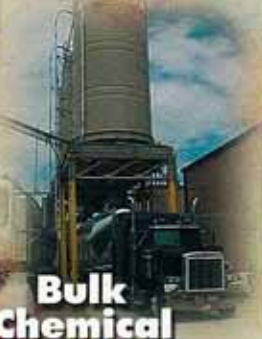
**Product Testing & Quality Assurance**



**Manufacturing Facilities**



**State of the Art Chemistry/R&D Lab**



**Bulk Chemical Silos**



**Sales, Marketing and Administrative Functions**

# Good Chemistry has never been so bad for fire!

## The Beginning

In 1987 Roger Bower formed Chemguard with the express intention of producing foam concentrates. After thousands of hours of research and development and live fire tests, the first UL Listings for Chemguard's AFFF concentrates were achieved in 1988. UL Listings for AR-AFFF, high expansion, protein, and fluoroprotein concentrates quickly followed, growing to the point where Chemguard is today offering the most extensive line of environmentally-friendly UL Listed foam concentrates in the industry with over 20 UL Listed products.



Chemguard's growth was supplemented in 1992 with the company's integration of its foam system hardware. This afforded Chemguard substantial expansion and growth, allowing the company to move into its new manufacturing and corporate headquarters in Mansfield, Texas. At the same time Chemguard worked diligently and achieved its ISO 9001 accreditation.

Dr. Kirtland Clark



In 1997, in order to become more vertically integrated and more important to the worldwide industry of fire fighting, Chemguard took the leadership position in the chemical side of fire suppression foams by committing to new technologies and employing industry expert Dr. Kirtland Clark (former director of corporate research at Ciba-Geigy Corporation). Dr. Clark's many patents (6 alone related to AFFF) herald his leadership in formulating AFFF agents and specialty hydrocarbon and fluorochemical surfactants, key ingredients in all of today's AFFF fire fighting foams.

Roger Bower believed Dr. Clark could develop new surfactants and subsequently, new proprietary, earth-friendly AFFF agents for Chemguard. Chemguard believed that a new approach to AFFF was necessary because to this point, AFFF agents were driven by more costly fluorochemical surfactants.

Dr. Clark saw that the development of an efficient hydrocarbon surfactant (HCS) could replace standard high volume/low cost/off-the-shelf HCS and indeed provide that new approach. It became clear that by developing a proprietary HCS in conjunction with Chemguard's own high-efficiency fluorochemical surfactants (FCS), the company could manufacture fluorine efficient AFFF agents while surpassing all UL-162 performance requirements.



At Chemguard, we think a lot about the environment and as a result, produce an entire line of Earth-Friendly Foams.

Chemguard built a new high-tech organic/synthetic research laboratory and mounted an intense three-year research and development program. This led to the development and manufacture of CHEMGUARD HS-100, a specialty HCS which provides excellent foam expansion and drain-time properties in AFFF agents while not interfering with FCS performance. Chemguard also developed its FS-100, a custom FCS that provides exceptional film spreading properties in the presence of HS-100. With these two proprietary surfactants, Dr. Clark developed and obtained UL Listings on AFFF and AR-AFFF agents having 30%-70% lower fluorine content than competitive products.

5%

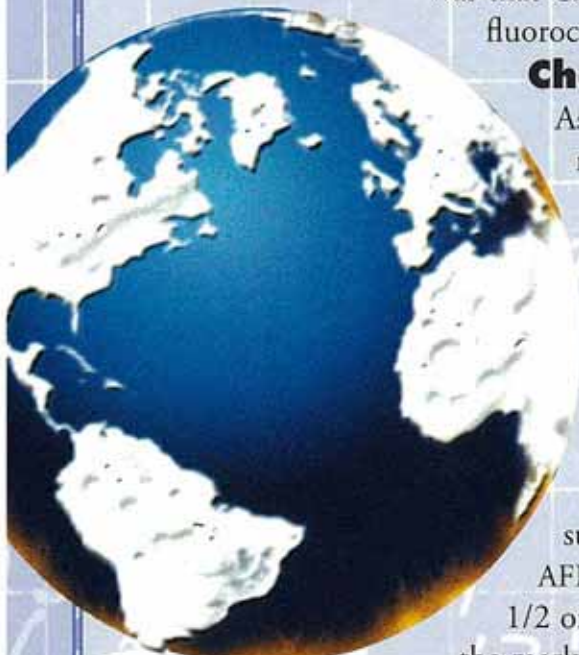
3%

On May 16, 2000, 3M\* announced their exit from various fluorochemical markets due to global environmental concerns over the persistence of perfluorooctanyl sulfonate (PFOS) and sent a shockwave through the industry. Coincidentally, that same day at the NFPA show in Denver, Colorado, Chemguard announced its breakthroughs in development of a new line of high-efficiency, dramatically-lower fluorine AFFF agents. A key factor in this development was that Chemguard's FCS was synthesized from telomer-based fluorocarbons and contained no PFOS or derivatives.

### Chemguard Today

As of January 2001, Chemguard has introduced into the market multiple new products and reformulated their existing product line utilizing this proprietary chemistry. These products have superior performance with the lowest fluorochemical content, thereby making Chemguard's fire fighting foam the most efficient environmentally friendly product in its class the world over.

AFFF agents, by definition, must have positive spreading coefficients, excellent fire extinguishing, burn back performance, superior drain time, and low application rates. Chemguard's new AFFF products provide exceptional features with up to 1/2 of the fluorine content compared to other UL Listed products on the market today. Chemguard has also increased fire extinguishing and burn back performance and lowered product application rates.



Call us today to find out more about our world-wide Distribution Partners

**World-Wide Foam Manufacturing Facilities** – Chemguard's expansion of its distribution and manufacturing capabilities has taken a major step forward in recent months with the establishment of remote blending facilities located strategically throughout the world. It is Chemguard's commitment to provide these facilities which will allow for quicker supply and reduced cost to local markets.

### The Future of Fire-Fighting Foam & Chemguard

Chemguard believes the lesson from 3M's PFOS ordeal should mandate that we produce AFFF agents with lower fluorine content and that the future of AFFF agents can only be advanced through the continued development of increasingly more efficient products having negative or only slightly positive spreading coefficients. Such fire extinguishing agents would have fluorine levels of about 0.15% to 0.25%, by weight, thus reducing environmental impact without giving up any fire extinguishment properties. The recent major breakthroughs by Chemguard are evidence of Chemguard's commitment to continue to drive towards these goals for the future of fire protection and the preservation of our environment.



\* 3M is a registered trademark of Minnesota Mining and Manufacturing

## Foam Concentrates

For years, foam has been used as a fire extinguishing medium for flammable and combustible materials. Unlike other mediums (water, dry chemicals, and CO<sub>2</sub>) a stable foam "blanket" extinguishes a flammable or combustible liquid fire by the *combined actions* of cooling, separating flame or ignition sources from the fuel, suppressing vapors and smothering.

Foam also has the properties of draining slowly, providing extended burn back resistance and protection against reflash or reignition.



Chemguard chemicals and application products are manufactured at the same facility, ensuring a complete synergism of hardware and agents to guarantee the most fire effective suppression combination possible.

**The Mighty Bubble** Because the water's surface tension is decreased, the foam bubbles enable water to penetrate and soak into Class A fires up to 20 times faster.

Perhaps most importantly, foam bubbles absorb heat more quickly than regular water, meaning more steam *more quickly* and a greatly reduced fire temperature.

You get faster extinguishment, less water used and less heat stress; in fact, the National Institute of Standards and Technology (NIST) rated foam 3-5 times more effective than untreated water.



During the past 7 years our expert engineers and chemists have successfully obtained UL listing for a very comprehensive range of foam concentrates and hardware. In fact Chemguard has more sprinkler heads UL listed for use with concentrates than all other manufacturers.

**The Right Proportions** Chemguard's wide array of foam and equipment choices are designed to meet your specific needs. From petrochemical and storage tank farms to mining, marine and airport facilities, and from municipal fire equipment to trucking and rail loading/unloading facilities, we always have the right foam to meet your system specifications.

We even make finding the right foam easier with our extensive design manual. You can access a remarkable database of uses and product choices to make the right decisions each time you order.

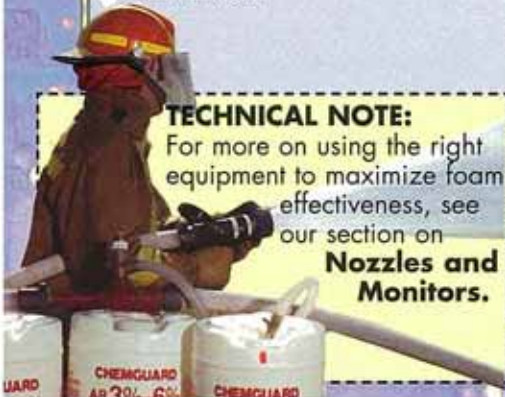
### TECHNICAL NOTE:

For more on using the right equipment to maximize foam effectiveness, see our section on

**Nozzles and Monitors.**



Chemguard's AFFF product line has 30 to 70% less fluorochemical content compared to other UL listed products available on the market today, making our fire fighting foam one of the most environmentally friendly products in its class in the world. Chemguard's AR-AFFF also has the lowest and best application rate in the industry. The bottom line: lower product volumes while obtaining faster and safer extinguishment of fire, which substantially lessens damage to property and the environment.





## Synthetic Foams

**Aqueous Film Forming Foam (AFFF)** - These agents are biodegradable and environmentally friendly foams which require very low energy input to produce a very high quality foam blanket that floats on the fuel surface. The application of AFFF provides the fastest knockdown on hydrocarbon fuel fires (gasoline, kerosene, diesel, etc.) and quickly covers the fuel surface. AFFF may also be used on Class A fires. All of Chemguard's AFFF products are intended for use at the proportioning rate of the product description, i.e. 1% = 1 part concentrate to 99 parts water, 3% = 3 parts concentrate to 97 parts water, etc.

### P/N C103

#### 1% AFFF

- Formulated for use (at 1%) on Class B hydrocarbon fires.
- Benefits: Requires substantially less foam concentrate than 3% or 6% product.
- UL 162 Listed, "Foam Liquid Concentrates"



### P/N C301MS

#### 3% Military Specification AFFF

- Chemguard's 3% MIL SPEC concentrate is on the Government's QPL\* and is the highest quality AFFF available.
- MIL-F-24385F and UL 162 Listed, "Foam Liquid Concentrates"

#### Also Available:

#### P/N C601MS - Military Specification 6% AFFF

- MIL-F-24385 and UL162 Listed, "Foam Liquid Concentrates"

### P/N C303

#### 3% AFFF

- Formulated for use at 3% proportioning rate
- Benefits: An industry standard, and the most commonly used AFFF
- UL 162 Listed, "Foam Liquid Concentrates"

#### Also Available:

#### P/N C3LT - Freeze protected to -20° F

- UL 162 Listed "Foam Liquid Concentrates"

#### P/N SG3HE - Standard grade, non listed



### P/N C603

#### 6% AFFF

- Formulated for use at 6% proportioning rate
- Benefits: Lowest cost AFFF product
- UL 162 Listed, "Foam Liquid Concentrates"

#### Also Available:

#### P/N C6LT - Freeze protected to -20° F

#### P/N SG6HE - Standard grade, non listed

**Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)** - These agents are available in 1x3%, 3x3% and 3x6% concentrates. Chemguard's AR-AFFF concentrates are specially formulated alcohol resistant aqueous film forming foams, which form a physical polymer membrane/barrier between the fuel surface and the foam blanket. They are both biodegradable and environmentally friendly. AR-AFFF foam is designed to suppress both Class B hydrocarbon and polar solvent (alcohol type) fires, and to suppress the hazardous vapors emitted from these fires or spills. AR-AFFF may also be used on Class A fires. All Chemguard's AR-AFFF products are intended for use at the proportioning rate of the product description, i.e. 1x3% would be 1 part concentrate to 99 parts water on hydrocarbon fires (gasoline, kerosene, diesel, etc.) and 3 parts concentrate to 97 parts water on polar solvent/water miscible fuels (alcohol, ketones, methanol and MTBE products).

### P/N C133

#### 1 X 3% AR-AFFF

- Top of the line concentrate for use on both hydrocarbon (at 1%) and polar solvent fuel fires (at 3%)
- Benefits: Requires substantially less foam concentrate than a 3% or 6% product
- UL 162 Listed, "Foam Liquid Concentrates"



### P/N CUG

#### 3 X 3% UltraGuard AR-AFFF

- Most commonly used high-end concentrate for use on both hydrocarbon (at 3%) and polar solvent fuel fires (at 3%)
- Benefits: One application rate for multi-use
- UL 162 Listed, "Foam Liquid Concentrates" and FM Approved for use with **sprinkler foam systems**

#### Also Available:

#### P/N CUGLT - Freeze protected to -20° F

### P/N C361

#### 3 X 6% AR-AFFF

- Lowest cost concentrate for use on both hydrocarbon (at 3%) and polar solvent fuel fires (at 6%)
- Benefits: The industry accepted standard
- UL 162 Listed, "Foam Liquid Concentrates"



### P/N C333

#### 3 X 3% Chemguard AR-AFFF

- The lowest cost 3/3 AR-AFFF designed specifically for municipal and industrial use.
- Lowest Fluorine content 3/3 AR-AFFF in the industry with superior fire performance
- UL 162 Listed, "Foam Liquid Concentrates"

#### Also Available:

#### P/N CARLT - Freeze protected to -20° F

#### P/N SG36HE - Standard grade, non listed

\*Qualified Product Listed under MIL-F-24385F

## High Expansion Foams

**High Expansion Foam Concentrates** - These agents are synthetic based and are suitable for use with low, medium or high expansion foam generating equipment. Normally used at a proportioning rate between 1 and 3%, they are used in contained areas such as **mining operations, ship hold areas**, etc. where volume fire control is required. A high expansion generator can be used to fill the entire area with a large amount of very light, expanded foam bubbles, and depending upon the type of generator, ratios of up to 1,000 to 1 can be achieved. Fires involving solid materials as well as **flammable liquids** can be controlled and extinguished. High expansion foam also has special advantages in dealing with spills of **Liquefied Natural Gas (LNG)**.

### P/N C-2/VEE FOAM VEE FOAM

- Chemguard's premium "UL Listed" high expansion foam provides a superior fire suppression and vapor barrier against a broad range of volatile chemicals. This product can also be used with low expansion equipment for flammable Class A & B hydrocarbon fires.
- Benefits: Low water use and runoff, and UL listed for use with Chemguard's high expansion foam generators.
- UL 162 Listed, "Foam Liquid Concentrates"



**Note:** For more information on High Expansion Systems and Equipment, see pages 18 & 19.

### P/N CX X-TRA HIGH EXPANSION FOAM

- Chemguard's standard grade high expansion foam provides superior fire suppression and vapor barrier against a broad range of materials. This product can also be used with low expansion equipment for fighting flammable Class A & B hydrocarbon fires.
- Benefits: Cost savings

## Class A & Wetting Agents

**Class A Foams/Wetting Agents** - Chemguard's Class A foam concentrate is a mixture of foaming and wetting agents. When proportioned with water it changes the properties of the water, reducing the surface tension and allowing for greater penetration in all Class A fuel and **wild land fires**. It also gives the water a foaming ability allowing it to remain and cling to the surfaces without run off. Class A is effective in fighting **forest fires** and many deep-seated fires such as **tires, paper**, and **wooden structures**.

### P/N CA+ CLASS A PLUS FOAM

- Chemguard's Class A Plus is a non-corrosive, non-toxic biodegradable Class A fire fighting foam concentrate and is suitable for use through medium expansion discharge devices, compressed air foam systems (CAFS) and arial bambi buckets.
- Recommended application rates from 0.1% to 1.0%. Class A Plus is manufactured, tested and evaluated in accordance with NFPA 298, specifications for Class A foams for **wild land fires, helicopter bucket operations**, and **ground applications**.
- Benefits: 3 to 5 times more effective than plain water.



### P/N CW CHEMWET

- Chemguard's CHEMWET is a highly concentrated wetting and penetrating agent, which allows for quicker extinguishment and stretches your water supply. This formula contains anti-rust and anti-scaling agents, which improves the longevity of storage tanks and application products. CHEMWET is ideally suited for use with inline inductors and/or as a premix solution and has a penetration rate of 350% to 400%
- To be used at 1 gal of CHEMWET to 12,000 gallons of water
- Benefits: Lowest cost Class A fire solution

**Note:** CHEMWET does not have foaming properties

## Training Products

**Training Foam Products** - Chemguard offers two specially designed synthetic foam formulations which are biodegradable and environmentally friendly for use in **live fire-training sessions**. Both formulations are suitable for use with both fresh and salt water and can be used with all siliconized dry chemical agents and can be proportioned at either 3% or 6%.

**Note:** These training foams should be used under training conditions only.

### P/N CST SUPERTRAIN AFFF

- Specially formulated to simulate standard AFFF fire fighting foam concentrate during live fire training on low vapor hydrocarbon fuels.
- Benefits: Shorter drain time than standard AFFF, which results in a reduced burn back resistance allowing more repeat fire training sessions.



### P/N CSF SIMUFOAM

- Specially formulated foam concentrate designed for use as a training foam on **LP gas fire training simulators** and can be used at both 3% and 6% proportioning.
- Benefits: Produces a foam with characteristics similar to standard AFFF products such as expansion and drainage without any film forming properties.



## Protein Foams

**Fluoro-Protein Foam Concentrates (FP)** - These agents are available in both 3% and 6% UL 162 Listed and UK Ministry of Defense 42-22 approved. They are non-synthetic concentrates based upon hydrolyzed protein with the addition of fluoro-carbon surfactants, making this foam concentrate more resistant to fuel contamination/pickup.

**P/N C3FP**

### 3% FLUORO-PROTEIN FOAM

- Chemguard's fluoro-protein foam concentrate can be used for subsurface injection of storage tanks containing hydrocarbon fuels. This product is recommended for use with air aspirating discharge devices
- UL162, "Foam Liquid Concentrates" and UK-MOD-42-22 approved



**Also Available:**

**P/N C6FP - 6% Fluoroprotein concentrate**

- UL 162 Listed AND UK-MOD-42-22

**Film Forming Fluoro-Protein (FFFP)** - Chemguard's FFFP is a derivative of AFFF and fluoro-protein, an increased quantity of fluoro-carbon surfactants have been added, which allows a quicker knock down and added burn back resistance compared to standard fluoro-protein foam. It is available in 3% and 6% concentrate that is UL listed and UK Ministry approved. Chemguard's FFFP can be used with air-aspirating and non-air aspirating sprinkler heads and spray nozzles, air aspirating hand lines and monitor nozzles, foam makers and sub-surface base injection for storage tanks on hydrocarbon fuels.

**P/N 3%FFFP**

### 3% FFFP FOAM

- 3% foam concentrate
- Benefits: Quicker knock down and more burn back resistance than standard fluoroprotein foams.
- UL 162 Listed, "Foam Liquid Concentrates" and UK-MOD-42-22 approved



**Also Available:**

**P/N C6FFFP - 6% foam concentrate**

- UL 162 Listed and UK-MOD-42-22 approved

**Alcohol Resistant Film Forming Fluoro-Protein (AR-FFFP)** - Chemguard's AR-FFFP is an Alcohol Resistant Film Forming Fluoro-Protein foam concentrate recommended for use on hydrocarbon fuels at 3% and polar solvent fuels at 6%. It is the best protein derived fire fighting foam concentrate available and can be used on more applications than standard FFFP or fluoro-protein foam concentrates.

**P/N C36FFFP**

### AR-FFFP FOAM

- Proportioning rate at 3% on hydrocarbon and 6% on polar fuel fires
- Benefits: Best protein-derived concentrate available.
- UL 162 Listed, "Foam Liquid Concentrates" and UK-MOD-42-22 approved



Call our expert sales staff for all of your product questions and requirements

## Dry Chemicals

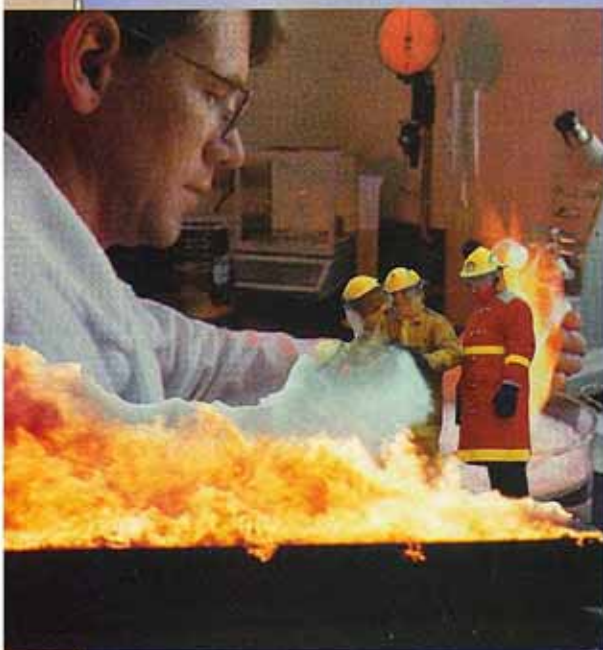
We've been manufacturing high-quality dry chemicals for close to two decades. Aggressive product research and development, coupled with our state-of-the-art manufacturing process and stringent quality control have continued to pay dividends for fire fighting efforts involving Class A, B, C & D type fires.



## Innovation at Work

Innovative manufacturing processes have forged developments such as our siliconization process (to eliminate caking via moisture absorption and packing) and our sieve analysis (to check for uniform particle size) Chemguard's full line of dry chemicals deliver superior and consistent performance for less money.

Chemguard dry chemicals are manufactured at our state of the art facilities and are available in a wide range of container sizes ranging from 50 lb. boxes to 2,000 lb. bulk bags.



In the lab or out on our testing site, thorough attention to an extensive list of chemical performance criteria ensures an ongoing and open channel of communication between Chemguard's research and manufacturing professionals. It also delivers a consistently high-performance line of products.

Many of our dry chemical products are also compatible with foam concentrates to allow for twin agent application. They are also manufactured and tested continually for NFPA 10 and UL 299 dry chemical fire extinguisher equipment compatibility. From refills for the industry's smallest extinguishers to mobile and large fixed installations, Chemguard has the right dry chemical for the job.



Chemguard's dry chemicals have been classified as to fire extinguishing, discharge performance and compatibility with many extinguisher brands. Extinguishers can be recharged with our agents as a substitute or replacement for original agents in accordance with the instructions on nameplates and as contained in NFPA 10. The basic standard to test this chemical is UL 299 "Dry Chemical Fire Extinguishers."

### TECHNICAL NOTE:

For more on Fighting dry chemical-related fires, see our section on **Dry Chemical Units** and **Twin Agent Systems**.





P/N PB1001 PD1001  
PP1001 PBB1001

**ABC MULTIPURPOSE**

Chemguard's ABC is suitable for use as a recharge agent in most manufacturers fire extinguishers that utilize mono ammonium phosphate based dry chemical powder. It is most suitable for use on combination fires involving Class A, B, or C fires together. It is yellow in color and is not recommended for fires involving cooking or vegetable oils.



P/N PB1002 PD1002  
PP1002 PBB1002

**BC SILICONIZED**

Chemguard's BC Siliconized sodium bicarbonate dry chemical powder is suitable for use on both Class B and Class C type fires and is suitable for use as a recharge agent in most manufacturers fire extinguishers that utilize this chemical. It is recommended for use on Class B flammable liquid fires, including cooking oils and grease.

P/N PB1003 PD1003  
PP1003 PBB1003

**PURPLE K "PK"**

Chemguard's PK is a potassium bicarbonate based dry chemical and considered the **premium powder** for use in all high risk areas such as **refineries, chemical plants, and airfields** where superior fire extinguishing capabilities are a must. PK is used on both Class B and Class C type fires. It is also used extensively in twin agent fire extinguishing systems and as well as large dry chemical fixed systems covering liquid natural gas pumping stations. PK is purple in color.



P/N PB1004 PD1004  
PP1004

**SUPER K**

Chemguard's Super K is a siliconized potassium chloride dry chemical utilized for both Class B and C fires. It is designed to be used as a recharge agent and is ideal for use as a training powder.

P/N PP1006 PD1006

**D1 POWDER**

Chemguard's D1 is a sodium chloride salt based powder specifically designed for fighting **Class D fires involving metals**, such as magnesium, sodium, potassium, titanium, uranium, and aluminum. D1 utilizes the heat from these fire types to cake and form a crust which excludes air while dissipating the heat from the burning metal.



**\*Note:** All of our powders are shipped in (PB) 50 lb. boxes, (PP) 50 lb. pails, (PD) 400 lb. drums, and (PBB) 2,000 lb. bulk bags. Custom formulations including variations in chemical content are available upon request.



From special blends to more on our complete blending facilities, we are always at your service.

## Portable Equipment

When firefighters are on the run, their equipment needs to provide a wide variety of resources, not the least of which is flexibility.

This is why Chemguard has designed a complementary array of solutions for fighting fire on the run. From fuel spills on a tank farm to accidents in aviation settings, our equipment delivers a substantial knockdown capacity with multifaceted hardware systems.

### Synergy to Go

Chemguard's nozzles, eductors and carts combine to provide remarkably effective foam dispersement, from a variety of distances. The systems also enable far more varied angles of attack given terrain, stationary equipment, infrastructure impediments and wind conditions.

Our mobile systems can also be customized depending upon individual requirements and applications. All the products that make up this line are interchangeable, and work with a broad range of foam solutions.



From the original drawings to final manufacturing and delivery, each piece of Chemguard equipment is the product of a focused blend of science and engineering.



Designed for simplicity and a long life of use, our portable equipment enable firefighters to act quickly and confidently knowing their equipment will perform as designed each and every time.

### Quality & Durability

From the hearty chrome plated metal ball shutoffs built in to each of our hand line nozzles to the reinforced fiberglass construction of our carts, this is equipment with a long life span, designed to provide years of low- maintenance service. We



Our ongoing research trials have yielded a more stable, reinforced fiberglass design that allows our mobile cart systems to be used with any type of fire fighting foam concentrate.

#### TECHNICAL NOTE:

For more on Mobile Equipment, see our section on **Portable Monitors** and **Twin Agent Systems**.



engineer each component to perform consistently in prolonged use, and then build them with the care and attention to detail necessary to meet our standards... and yours.



## Hand Line Nozzles

**Adjustable, Constant, Automatic and High Expansion Foam Nozzles** - These nozzles provide a wide range of flexibility and flow-control options and are ideal for use on Class A and B fires utilizing AFFF, AR-AFFF and Class A foam concentrates. The foam product produced using Chemguard's nozzles provides superior expansion of the AFFF or Class A solutions to achieve extremely quick knock down and extinguishment of these types of fires. **Note:** High expansion nozzles are on page 19.

- Features Include:**
- Durable chrome plated ball shutoffs
  - Removable pistol grips for more diverse use
  - Compatible with all Class A & B foams

- 100 psi rated pressure standards
- Ideal for inline foam inductor use
- Straight, power cones & wide angle fog patterns
- Manufactured in Chemlite™ anodized black aluminum or brass for heavy industrial or marine use

- Quick flush w/o shut down
- Detents for more positive pattern positioning
- Conforms to all NFPA-1964 standards
- Spinning turbine teeth provide superior dispersement of water/foam solution

P/N MA 10-P

### ADJUSTABLE GPM LOW-FLOW

- Lowest flow range (5-10-24-40 GPM)
- 1" swivel NST inlet

P/N MA 15-P

### ADJUSTABLE GPM STD-FLOW

- Standard flow range (30-60-95-125 GPM)
- 1 1/2" swivel NST inlet
- Also available in brass **MB15-P**



P/N MRA 15-P

### ADJUSTABLE GPM HIGH-FLOW

- High flow range (30-60-95-125-150-200 GPM)
- 1 1/2" swivel NST inlet

P/N MA 25-P

### ADJUSTABLE GPM HIGHEST-FLOW

- Highest flow range (95-125-150-200-250 GPM)
- 2 1/2" swivel NST inlet

P/N SB95-P

### CONSTANT FLOW 95 GPM

- Designed to provide a constant water flow in a straight stream, power cone or wide angle pattern at 95 GPM
- Designed for durability and simplified operation
- Brass construction for harsh environments
- 1 1/2" swivel NST inlet



P/N AA15-P

### AUTOMATIC FLOW

- Chemguard's automatic nozzle reacts to changes in flow pressures (60-200 GPM) and provides constant pressures in all flow patterns
- Designed for durability and simplified operation
- 1 1/2" swivel NST inlet

P/N CFT

P/N CFT1

P/N CFT2

### AIR ASPIRATING FOAM TUBES

- Chemguard's foam tubes are lightweight, easy to use and attach quickly to the nozzle bumpers
- Increases expansion ratios up to 10:1



## Portable Inline Eductors

Chemguard's inline eductors provide an inexpensive method of metering all types of foam concentrate into a water stream, and are manufactured with corrosion-resistant brass. Designed with 1 1/2" NST inlet and outlet threads. Variable metering at 0, 0.5%, 1%, 3% and 6%. System includes metering valve and 8' pickup hose assembly.

P/N CE60

P/N CE60NSPH

### INLINE EDUCTOR

- 60 GPM inline eductor

**Note:** Flow rates are calculated @ 200 psi inlet pressure



P/N CE95

P/N CE95NSPH

### INLINE EDUCTOR

- 95 GPM inline eductor

## Mobile Foam Cart

**36-Gallon Mobile Cart** - Chemguard's designed-and-manufactured mobile foam cart features a 36-gallon reinforced fiberglass tank which is compatible with any foam concentrate.

P/N CMFC-1

### 36-GALLON CART SYSTEM

- Designed as a mobile cart system, this unit holds 36 gallons of foam concentrate and includes our 95 GPM inline eductor and SB95-P handline nozzle along with 50' of 1 1/2" rubber-lined single jacket fire hose making this a very effective fire fighting unit for flammable liquid fires.

**Note:** Additional sizes and options are available on a special-order basis.



For quick answers and great customer service call us at 1-800-222-3710 today!

## Monitors, Nozzles & Related Equipment

Chemguard's superior line of monitors and monitor-specific equipment means extra capability for industrial fire fighting efforts, especially those facilities requiring high volumes of fire fighting agents. These devices will discharge water or foam/water

solutions at flow rates between 250 GPM up to 5,000 GPM from a single location.

### A Wider Selection of Choices

Our Monitors, Monitor Nozzles & Trailer-Mounted Mobile Units are available in 4 basic categories, manual, automatic, remote controlled and portable/mobile

units. All of Chemguard monitors are available with a wide range complement of nozzles that can be used with water or foam concentrates.

### Superior Design and Materials

Chemguard takes extra steps in each part of our engineering and manufacturing processes. From the use of our innovative inner vanes at elbows to reduce friction to our use of either brass or our proprietary black anodized aluminum, Chemlite™, this equipment is built to perform *and last* for years.



Chemguard's impressive array of monitors and equipment means more choices to meet your specific needs.



From explosion-proof motors to incredibly durable brass and stainless construction, our monitor equipment blankets fires more effectively in more settings around the globe.



Our sturdy line of monitor nozzles offer a broader set of specifications when piecing together the right system.

#### TECHNICAL NOTE:

For more on Fighting Refinery and Petroleum related fires see our section on **Foam System Discharge Devices.**





## Chemguard's Foam/Water Monitors

Chemguard's **manual and gear driven monitors** are constructed of corrosion resistant brass and are ideally suited for harsh, corrosive environments such as marine docks, process areas, and offshore installations. They are operated in both horizontal and vertical planes and are capable of flows up to 5,000 GPM. **Note:** Units with larger flows available by special order.

### P/N CM-1250M-3 and \*CM-1250M-4

• Chemguard's **Rattlers** are low profile brass monitors with a 3" waterway. These units are capable of flows up to 1250 GPM, adjustable in both the horizontal and vertical planes. Stainless ball bearings at all rotation joints with 3" flange inlet and 2 1/2" male NST discharge outlet. Vertical travel is controlled by an adjustable hand wheel with worm gear drive.



\*Available with 4" flange inlet

### P/N CM-1250H-3 and \*CM-1250H-4

• The CM-1250H **industrial** gear driven monitor has 3" water way for up to 1250 GPM flow with a 3" flange inlet and 2 1/2" male NST outlet. Chemguard's dual gear driven Brahma monitor is operated in both vertical and horizontal planes by dual worm gears with hand wheels.



\*Available with 4" flange inlet

## Portable/Deck Gun Monitors

### P/N CPM-1250

• Chemguard's **Jackrabbit** monitor is a low profile lightweight, durable aluminum monitor with a 3" waterway with flows up to 1250 GPM. This unit was designed for fire department and fire appliance applications. The portable base allows the unit to drop into place and be left unattended to supply water or foam solution at the fire scene. This same unit can also be placed on a fire apparatus and be used as a deck gun.

- Includes folding base, monitor and restraining strap
- 3" waterway with flows up to 1250 GPM
- Inlet is 2 by 2 1/2" with the discharge 2 1/2" male NST
- Vertical travel controlled by adjustable hand wheel
- Optional 1x5" Storz inlet is available



### P/N CPM-1250-5

• Chemguard's **Jackrabbit "special"** monitor is the standard unit with the additions of a interchangeable top mount 3" flange adapter base which allows the unit to work as a deck gun and as a portable monitor. Also included is a stream shaper and stacked tips for more versatile operation.



### P/N C SS

- 2 1/2" by 2 1/2" stream shaper.

### P/N CN-ST

- Quad stacked tip nozzle set sized 2", 1 3/4", 1 1/2", & 1 3/8".



For all your special hazard applications, please call us at 1-800-222-3710.

## Water Power Oscillating Monitors

Chemguard's unique **UL listed oscillating monitors** are used in applications such as aircraft hangers, heli-decks and high risk areas such as tank farm facilities where rapid blanketing action is required. Operating over a preset arc, they can be installed to provide fire suppression under the wing shadow area of an aircraft. These monitors utilize **a turbine water wheel** that means the activating force comes directly from the water inlet and filtration is not required. As a result these water powered monitors are inherently **the most reliable in the industry** because there are no small orifices or filters that can become blocked. Requires no external wiring or hydraulic control for operation. Oscillating speed is adjustable from 0° to 30° per second. Minimum operating pressure 50psi. Unit is equipped with a garden hose test connection; this allows for functional check of the oscillation system without system flow.

**Note:** Does not include monitor nozzle

### P/N CWPOM

- Water Power Oscillating Monitors (includes Chemguard's P/N CM-1250B Brahma monitor)
- Manual over ride capability with 360° rotation
- 3" water way allows for flows up to 1250 GPM
- 4" flanged inlet with a 2½" male NHT outlet
- UL Listed

**Note:** Flow rates up to 1600 GPM available with 4" waterway monitors. Call us for part #s.



### P/N CWPOUBF

- Between flange, water powered oscillating unit only. Monitor and nozzle not included.
- For customers utilizing existing manual fixed monitors and wishing to convert utilizing the oscillation unit which can be mounted between the existing monitor and mounting flanges.



## Trailer-Mounted Mobile Monitors

**High Flow Mobile/Stationary Monitors** - Chemguard manufactures an assortment of high output mobile monitors for combating fire in fuel or storage tanks areas or anywhere high flows of water or foam are required. We design, engineer and manufacture units as skid mounted, stationary, and/or trailer units, having discharge rates up to 5000 GPM. Call for specific applications, designs and quotations.





## Monitor Nozzles

All Chemguard nozzles are available for use with our full line of monitors and are designed to be used with water/foam solutions. Non-aspirating water fog nozzles are used for AFFF applications; aspirating nozzles are used for polar solvent fuels and fluoro protein foam solutions. All Chemguard monitor nozzles are manufactured with corrosion resistant brass or Chemlite™ durable anodized black aluminum and are available in flow rates from 100 GPM up to 1,250 GPM. On high-volume mobile/trailer units, GPM flows up to 5,000 are available. All are fully adjustable from straight stream to full fog and have serrated teeth to improve the water fog pattern, quality, and aid in the agitation of the foaming of AFFF solutions.

Chemguard's master stream monitor nozzles are offered as **fixed gallonage, adjustable gallonage, automatic** and **self-educing versions**.

### P/N CMNB (350 - 750) & CMNB 1000

- Chemguard's single gallonage **constant flow master stream nozzles** are constructed of corrosion resistant brass and are designed for use in harsh environments such as marine, off shore or chemical plants.
- The CMNB is shipped with 2 adjustment washers which allows flow rates of 350, 500 or 750 GPM. Note the 1,000 is a fixed nonadjustable flow nozzle.
- 2 1/2" NST swivel base and nozzles are fitted with turbine teeth for greater dispersion of the water stream into a fog pattern.



**Note:** Please specify desired flow rate when ordering.

### P/N CEN 350, 500, 700, & 1000 GPM

- Chemguard's line of **self-educing monitor nozzles** are designed to deliver fire fighting foam into the water stream. Each nozzle is a single gallonage constant flow and is fully adjustable from a straight stream to a wide fog pattern.
- Allows foam concentrate to be educed right into the nozzle eliminating the need for separate foam inline educator.
- Supplied with one 8' length of clear suction hose and nozzle foam concentrate inlet orifice.
- 2 1/2" NST swivel base inlet



- Converts any existing fixed or portable monitor into an instant foam station.

### P/N CMNOAB 1250

- 500, 750, 1,000 & 1,250 GPM
- Chemguard's mid-range **multi-gallonage master stream nozzles** provide the operator a great degree of flexibility. Flow rate can be manually adjusted quickly to 500, 750, 1,000 or 1,250 GPM.
- Designed to ensure superior flow pattern from wide area and straight stream
- Manufactured in brass
- 2 1/2" NST swivel inlet



### P/N CN-A1000

- Chemguard's **automatic monitor nozzle** reacts automatically to changes in water flow. The nozzle gives excellent flow whether in the straight stream pattern, power cone or wide-angle fog. Fixed turbine teeth provides excellent dispersion of the water stream.
- 2 1/2" NST inlet (300 to 1250 GPM)
- Manufactured in Chemlite™ durable anodized black aluminum



For international sales and customer service call us at 1-800-222-3710 today!

## High Expansion Foam Systems...

Chemguard's line of UL Listed high expansion foam systems are being utilized in increasing numbers to combat fires occurring in warehouses, storage buildings, basements, LNG tank farms/loading facilities, flammable liquid drum storage areas, hazardous waste facilities, shipboard engine rooms, bilges and holds, roll paper warehouses, flammable packaging areas, cable tunnels, mining operations, aircraft hangers, and wild land fire breaks.

### Saving Water, Time & Money



As High-Ex foam sees a surge of new uses, one of its newest uses is in closed hangar settings. It is here, that High-Ex does more, more quickly than any other solution without causing damage to equipment and surrounding materials.

with less heat and stress adds up to savings for all parties.

### How it Works, For You

The expansion of the foam solution is achieved by spraying the solution onto a stainless steel screen where the air/water stream blows through the screen to produce a mass of foam bubbles. The foam blankets that are produced by these systems transport small amounts of water to the fire

eliminating the oxygen at the source of the fire, encapsulating the toxic vapors and causing suppression at its source. Call and speak to one of Chemguard's expert design engineers for a system that is right for you.

#### TECHNICAL NOTE:



For more on industrial-related fires, see our section on **Foam Systems**.



Chemguard has the largest, most diverse UL Listed High Expansion product line available in the industry today, covering everything from high expansion foam concentrate to portable handline nozzles, water powered, electric and diesel powered high expansion foam generators.



The rapid deployment of thousands of gallons of foam allows for a faster knockdown and suppression of heat and toxic gasses.



## Foam Concentrates

**High Expansion Foam Concentrates** - These agents are synthetic based and are suitable for use with low, medium or high expansion foam generating equipment. Normally used at a proportioning rate between 1% and 3%, they are used in contained aircraft hangars, mining operations and ship hold areas where volume fire control is required. Fires involving solid materials as well as flammable liquids can be controlled and extinguished. High expansion foam also has special advantages in dealing with spills of Liquefied Natural Gas (LNG). **Note:** For additional information on High expansion Concentrates, please see Page 8.

### P/N C-2/VEE FOAM VEE FOAM

- UL Listed High Expansion Foam
- Chemguard's premium quality high expansion foam provides a superior fire suppression and vapor barrier against a broad range of volatile chemicals.
- For additional details, please see Page 8



### P/N CX X-TRA HIGH EXPANSION FOAM

- Chemguard's standard grade high expansion foam provides superior fire suppression and vapor barrier against a broad range of materials.
- For additional details, please see Page 8

## Handline High Expansion Nozzles

### P/N Mini-X-2 M482431-NST

- Chemguard's Mini-X-2 is designed to provide rapid deployment of a foam blanket for fighting spill fires and vapor mitigation from spilled hydrocarbon and other types non-polar flammable liquids. One person lightweight operation makes it ideal for use by municipal volunteer and industrial fire departments. The Mini-X-2 uses 1/2 gallon of concentrate per minute with a 22 GPM inductor; the unit will produce 750 cubic feet per minute of finished foam with an expansion ratio of 250 to 1.
- The Mini-X-2 is equipped with a grip that comfortably balances the unit for hand held operation as well as a built-in prop for unattended use.
- Size 20" by 10" & Weight 12 lbs.
- Effective range 12 feet



### P/N Vari-X M485870-NST

- Chemguard's **patented** Vari-X foam maker is specifically designed for use on spills by fire service and hazardous materials teams as well as industrial fire brigades.
- Variable adjustments produce **low, medium, and high expansion foam**. The unit comes equipped with its own 22GPM eductor, pressure gage and a 1 1/2 NST hose fitting.
- The Vari-X is suitable for use with AFFF and AR-AFFF foam concentrates and features detents settings for low, medium, and high expansion ratios.
- Size 22" by 11" & Weight 14 lbs.
- Effective range from 10' to 50' depending upon expansion ratio setting.

## High Powered High Expansion Foam Generators

Chemguard's line of **UL Listed\* high expansion generators (water, electric, and diesel)** all generate high or medium expansion foams, primarily used for fire fighting in structures, mines, vehicles, ships, aircraft hangars, and various military installations. Our line of foam generators are available in sizes ranging from 1,500 CFM to 30,000 CFM. With the smaller models being designed for use as a portable generator or in a fixed installation. They are also effective in controlling fuel spill fires and wild land fire timber breaks.

### P/N 1500WP, 3000WP\*, 6000WP\*, and 12000WP CFM

- Chemguard's **UL Listed Water Powered High Expansion Foam Generators** require no other source of power such as electricity, gasoline or diesel. They are powered by the foam solution driving a hydraulic (water) motor, which in turn blows the air through the screen to product the foam mass.
- Will operate with foam solution pressures as low as 50psi
- Easy installation with units being capable of being mounted both horizontally and/or vertically
- Can be used with multiple types of proportioning equipment such as fixed or portable eductors, bladder tanks, ILBP systems, etc.



### P/N 3000E, 6000E\*, 12000E, 24000E, 30000E CFM

- Chemguard's line of **Electric Powered High Expansion Generators** are designed for use for flooding structures, shafts, ducts and inaccessible areas with high expansion foam or where vapor suppression is desired. These units function with all high expansion foam concentrates and are useful on Class A and Class B fires, requiring 120 VAC single phased power on models up to 6000E, 460 VAC single phased power on 12000E and up.
- Chemguard's **High Expansion Diesel Powered Generators** are available in multiple sizes. Call for more information.

**Note:** Please specify portable (P) or fixed (F) system when ordering.  
\*Indicates units which are UL Listed.

## Twin Agent and Chemical Systems

Chemguard's engineered and manufactured Twin Agent and Chemical Systems are the ultimate in self-contained fire suppression systems. They combine the most advanced concepts of dry chemical and AFFF agents. Originally pioneered for aircraft rescue and fire fighting purposes, these systems are utilized in many more flammable-liquid risk environments including helicopter decks, offshore platforms, refineries, and processing areas.

### Twice the punch and convenience

Twin Agent systems work to knock down fires more quickly via the rapid results inherent in dry chemical

applications while providing an excellent barrier to fast-spreading spills via foam solutions. The two elements are propelled at rates of 5 to 8 lbs. per second for the dry chemical and 35 to 60 GPM for the pre-mix foam solution, meaning rapid response, less heat and additional capabilities, especially in three-dimensional fires.

When it comes to convenience, these systems excel largely due to their self-sufficiency and ease of

use. Most of our twin agent systems are self-contained and thus require no outside power source for use. To enhance this flexibility of use, many systems are skid-mounted and placed on fire-fighting trailers or trucks and use either one or two hose reels, or a twin agent monitor. We also construct them for easy activation by one individual with a simple push of a lever or by opening a single hand wheel. The flow of the extinguishing agent can then be controlled with the handline nozzle.

#### TECHNICAL NOTE:

For more on Fighting Aircraft-related fires, see our section on

**Mobile  
Units and  
Portable  
Monitors.**



Our Twin Agent Systems are available in 6 standard sizes as well as custom configurations. Standard sizes range from 50 gallon premix foam solution and 500 lbs. of dry chemical to 250 gallons of foam solutions and 1,500 of dry chemical.



Often designed for simplicity of use by one person, our systems also allow flexibility depending upon the fire. Both dry chemical and AFFF nozzles are equipped for individual or simultaneous operation.



Our Self-Contained Foam systems will extinguish large flowing liquid fires where other equipment and agents may not be effective.

Given the challenges of these fire-fighting environments, Twin Agent and Dry Chemical Systems are the most effective means of achieving great results quickly.



## Twin Agent and Chemical Systems

Chemguard's engineered and manufactured **Twin Agent Systems** combine the most advanced concepts of dry chemical and AFFF agents. These self-contained systems utilize nitrogen to charge and expel a combination of dry chemical in one vessel (to extinguish the fire) and the premix foam solution in the other (to blanket the flame-free surface) through the twin hose assembly. Very effective against 3-dimensional and pressurized fuel fires and spills, most systems are designed with either one or two hose reels for manual fire fighting and can be fabricated with a twin agent monitor for use in extinguishing larger hazard fires. Our systems can be easily activated automatically, or individually with a simple lever or single hand wheel, to control the flow with a handline nozzle. Depending upon the size, handline flow rates vary from 5 to 8 lbs. per second for the dry chemical and 35 to 60 GPM for the pre-mix foam solution.

**P/N CTA 500/50, 500/100, 1000/100, 1000/150, 1500/200, 1500/250**

- 6 standard size models available
- Custom sizes and configurations available upon request
- One man operation
- Unit is completely self-contained (no outside power source or water supply required)

- Both dry chemical and AFFF nozzles are equipped for individual or simultaneous operation
- 1 or 2 hose reel stations available
- Skid-mounted systems may be mounted on trailers or trucks.



## Dry Chemical Systems

Chemguard designs and manufactures our own line of large, expertly engineered **Dry Chemical Systems**, for controlling 3-dimensional Class B (flammable liquid) and Class C (electrical) fires. Chemguard's Dry chemical systems will extinguish large flowing fuel and gas/liquid pressure fires where other types of equipment and agents may not be effective. Our systems are frequently used in offshore locations for effectively controlling large free flowing flammable liquid spills and for suppressing liquefied gas fires. Our standard systems are available from 200 lbs. up to 2,500 lbs. The dry chemical is expelled by nitrogen cylinders and can be manufactured with fixed, remote hose reels or with monitors.

**P/N CDC 200, 500, 1000, 1500, 2500**

- Suitable for use with one person operation
- Manual operation allows the user to control the quantity of dry chemical necessary to contain the fire
- Self contained; no outside power source is required
- 5 standard size systems are available

- Custom sizes and configurations are available
- Systems can be adapted for trailer or truck mounting
- Also for use with all types of dry chemical including PK, BC, ABC, and SK



## Premix Self-Contained Foam Systems

Chemguard's line of **Premix Self-Contained Foam Systems** ideally uses all types of Class A and Class B fire fighting foam solutions in areas where flammable liquids are manufactured, stored or transported. Each unit is fully contained (foam concentrate and water are already in a premix form) and requires no outside water source, pumping equipment or proportioning device. Nitrogen cylinders pressurize the unit and expel the foam solution through a hose reel mounted on the skid. The unit can also be equipped to divert a small portion of the nitrogen into the discharging foam solution to form an aerated mixture similar to CAFS.

**P/N CPM 50, 100, 150, 250, 300, 500**

- 6 standard size models (50 to 500 gallons) available
- One man operation
- Can be equipped with 1 or 2 hose reels depending upon customer requirements or connected to fixed-system nozzles

- Completely self contained, no outside water supply or power source required
- Skid mounted for ease of movement when mounting on a trailer or other vehicle
- Custom designs are available by request.



## Foam Fire Fighting Stations

Chemguard's designed **Foam Fire Fighting Stations** are available in Bladder Tank style as well as self-contained units that rely only on water flow and pressure for operation. Once installed in a fixed location such as process, storage or handling areas, it would be used to control fires or spills of flammable or combustible liquids. The unit is designed to hold 60 gallons of any type of foam concentrate. The 95 GPM proportioner is mounted so that the valve can be manually closed. The unit has a hose reel containing 100' of 1 1/2" hose along with a handline nozzle. **Note: Unit pictured is a Bladder Tank Station.**

**P/N CFFS6-F, CFFPS6-S, CBTF-S**

- Standard nozzle is a non-air aspirating type, which has a better stream reach and provides for a constant flow at 95 GPM at 100psi
- Hose reel is galvanized with brass piping
- Carbon steel metal frame has eye rings for convenient lifting of a unit into mounting position
- Tank can be refilled during operation of the unit

- Inline eductor has variable metering valve for 0%-0.5%-1%-3%-6%
- Unit can be supplied with fiberglass (F), steel (ST), or stainless steel (S) storage tank
- Other sizes and custom design systems are available upon request

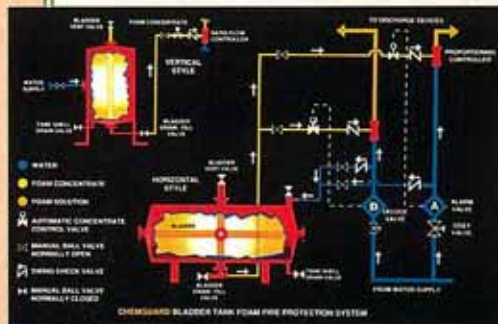


## Foam Systems

Chemguard's foam systems are comprehensive units designed to meet your fire fighting needs in industrial applications. Consisting of Chemguard's engineered and manufactured components, these systems bring a rapid, thorough and *economical* response to fires of all types. The combination of tank storage, the



Chemguard routinely designs and manufactures custom systems to meet and exceed performance standards in harsh environments such as this freeze-protected insulated horizontal bladder tank.



This diagram helps to illustrate the exacting engineering design required to build the most reliable bladder tank protection system available

balanced and in-line balanced proportioning (introducing the right amount of foam into the water flow) equipment delivers an optimal level of foam agent to the fire, often with no external power other than water pressure to ensure correct operation.

## The Right Stuff

A Chemguard foam system is more than the sum of its parts because it is designed and engineered to your application specifications; however, the parts are indeed exceptional in their own right, and many are available as replacement or structural improvement components for existing systems.



This twin vertical bladder tank system provides both dual and redundant systems capacity depending upon situational needs.

### TECHNICAL NOTE:

For more on Fighting Industrial and loading area fires, see our section

on **Foam Discharge Devices.**



Consult your Chemguard engineer for specifics on putting these exceptional systems to work for you.



## Foam Systems

Chemguard's Bladder Tanks are one component in a balance pressure foam proportioning system. It requires no external power other than water pressure to ensure correct operation. Both **vertical** and **horizontal** bladder tanks are designed and constructed in accordance with the latest revisions to **ASME** code. Proportioning is the introduction of foam concentrate into a flowing water stream to produce a foam solution. Chemguard offers a variety of proportioning equipment that will accurately accomplish this task with various types of systems such as Bladder tanks, balance pressure proportioning systems and inline balance proportioning systems (ILBP's).

### Vertical and Horizontal Bladder Tanks -

Chemguard's line of **UL listed** and **FM approved vertical and horizontal bladder tank systems** are available from 25 gallons to 2,500 gallons in the vertical and 100 gallons to 6,000 gallons in the horizontal style. These systems provide a dependable and cost-effective foam fire protection for a variety of flammable/combustible hazard areas; and because water is the primary operating medium, they are easy to operate and maintain. Bladder tanks are frequently used in small aircraft hangers, warehouses, helicopter decks, and storage facilities. When the tank is in operation, water is applied to the outside surface of the bladder and subsequently displaces the foam concentrate, which is contained inside the bladder, which then makes its way to the proportioning device and then is injected into the water stream.

- Bladder is manufactured in extremely durable material which has a Mullen bursting pressure in excess of 800 psi and constructed to conform to the inside dimensions of the tank
- Tanks are supplied with brass trimmed valves with Teflon seats
- All valves are labeled showing normal working conditions
- All tanks are oversized to allow for any thermal expansion of the foam concentrate
- All tanks are certified and supplied with a label identifying the type of foam concentrate the system is designed for and the percentage ratio and tank size
- All tanks include the following trim valve packages: tank shell drain/fill valve, tank shell vent valve, bladder vent valve and bladder drain/fill valve
- Various options, such as coating, sight glass, pre-piping, stainless steel, insulated and heat-tracing packages are available
- UL listed
- FM approved



## Hydraulic Concentrate Control Valves

Chemguard's **Hydraulic Concentrate Control Valves** are designed for use with either a bladder tank system or balance pressure proportioning systems. The valve is used to automatically open the line supplying foam concentrates to a ratio controller. It does not require electrical power to operate only water from a system that has been activated. Available in 1", 1 1/2", 1 1/2", 2", 2 1/2", and 3" sizes. Standard brass threaded with optional stainless flanged available. Optional 24V DC, 120V AC, or 220 VAC solenoid options.



Chemguard can assist you with your most technical questions. Call us today @ 1-800-222-3710!

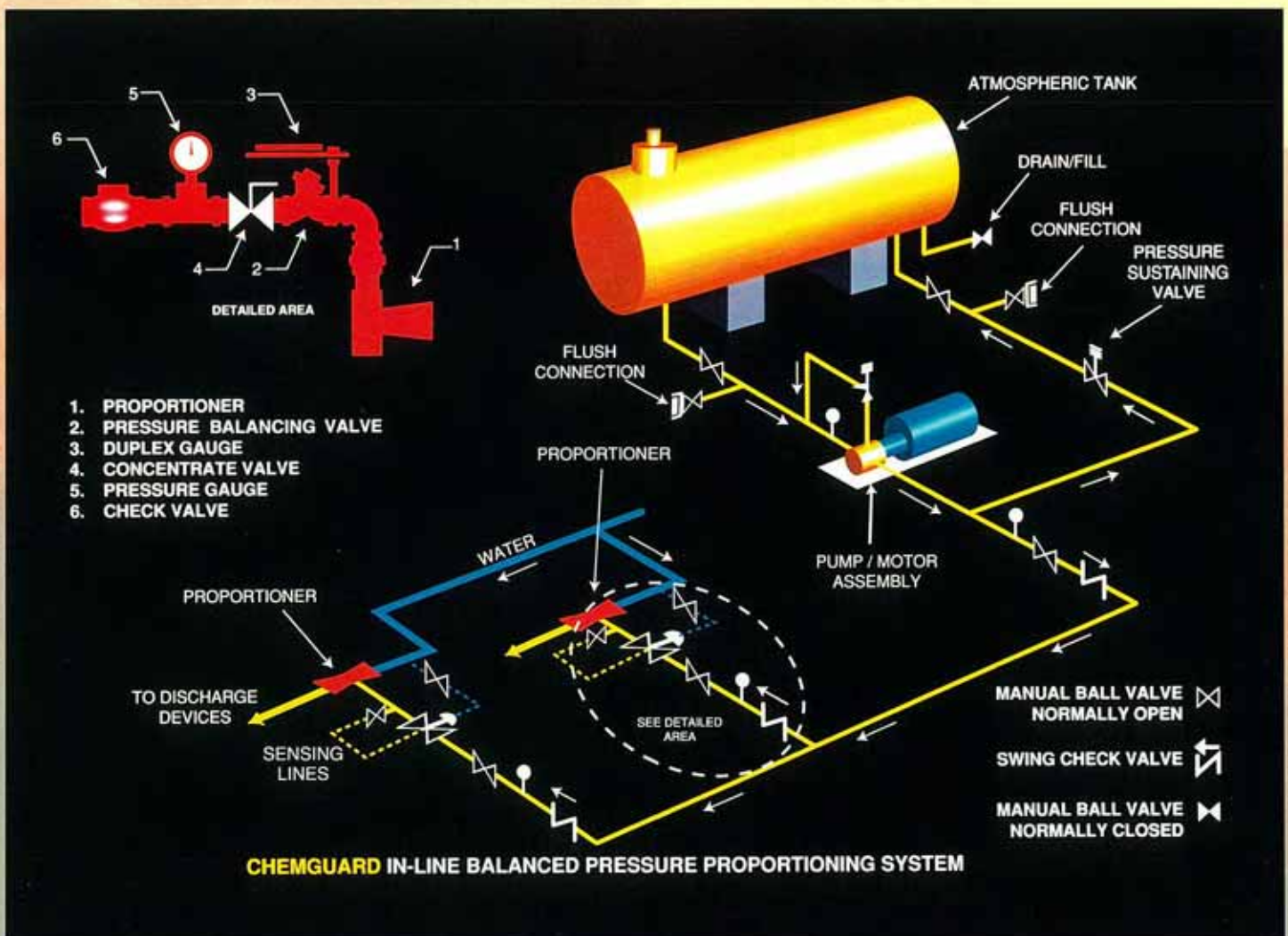
## Foam Systems

### Balanced Pressure Proportioning Systems

Chemguard's **Balanced Pressure Proportioning Systems** are an alternative to bladder tanks. Balanced pressure proportioning systems are frequently used in large aircraft maintenance facilities and for large storage tank farm protection.

Chemguard's injection type **Balanced Pressure Proportioning Systems** are completely self-contained systems which automatically proportion foam concentrate over a wide range of flows and pressures without manual adjustment. The system is installed adjacent to an atmospheric foam concentrate storage tank and consists of the following components: control valves, proportioning controllers, duplex gage, positive displacement foam pumps with **electric, diesel, water turbine, or gasoline** motors and all inter-connecting piping. The complete unit is mounted on a structural steel base for stability. Flow range will vary depending upon the job requirements, and you can put multiple proportioning units in to this system. Please consult Chemguard's engineering department for your specific application.

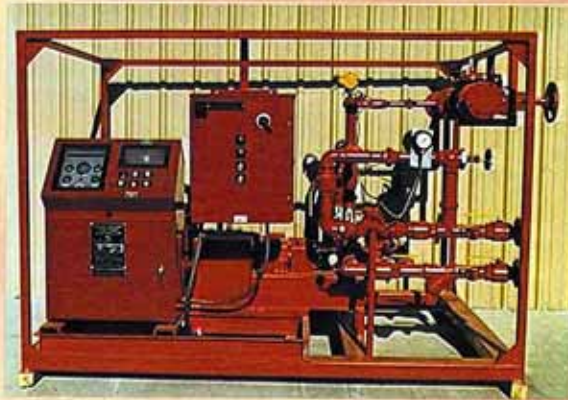
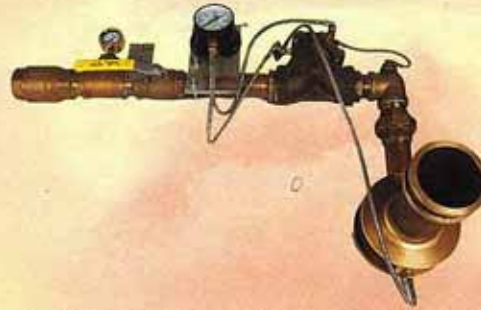
- Multiple Proportioner options to cover a wide range of flow requirements
- Compatible for use with all foam concentrates
- Name tags used for all valve identification
- Pump skid supplied with manual override capabilities
- All Chemguard skids are fully tested and shipped from the factory ready to install
- Choice of color and finishes available for all environments
- Chemguard designs pump skids according to the customer specifications and/or according to NFPA standards.





## In-Line Balance Pressure Proportioning System (ILBP)

Chemguard's **UL Listed** In-Line Balance Pressure Proportioning (ILBP) systems can operate in several locations remote from the foam concentrate pump and atmospheric foam storage tank and are designed to meter the correct proportion of foam concentrate into the water stream over a wide range of flows and pressures. These units are suitable for all types of foam concentrates. The Chemguard ILBP system is a completely self contained device containing all necessary components including the ratio controller, pressure balancing diaphragm valve, duplex gauge, check valve, and manual ball valve. This system automatically adjusts the foam concentrate pressure and then introduces it into the water stream. Chemguard manufactures 5 standard ILBP proportioners ranging from a 2 1/2" with flow rates from 100 to 400 GPM, 3", 4", 6", and 8" with the 8" having the flow range from 900 to 4200 GPM. ILBP's are designed for applications requiring large quantities of foam concentrate and/or where the proportioners must be installed at great distances from the tank. These units offer great flexibility and can accommodate an almost infinite number of risers with each one having a different size proportioner and each offering a wide range of flow.



P/N CILBP2.5, CILBP3, CILBP4, CILBP6, CILBP8

## Atmospheric Foam Concentrate Storage Tanks

Chemguard offers **Atmospheric Foam Concentrate Storage Tanks** in sizes ranging from 200 to 12,000 gallons and manufactured in **stainless steel, carbon steel, high-density polyethylene, and fiberglass**. They are typically used in conjunction with balance pressure, proportioning systems or self-educing monitor stations, both in fixed applications and portable. Vertical tanks are normally manufactured with flat bottoms and dome tops, and horizontal tanks sit on saddles. All tanks offered by Chemguard are for use with all foam concentrates and are manufactured with inspection hatches along with a pressure/vacuum vent.



## Pressure Sustaining Valves

Chemguard's **Pressure Sustaining Valves** are used in foam pressure skid units to maintain a set system pressure. The valve is used in combination with the foam concentrate pump to maintain consistent upstream pressure regardless of system demand.

- Quickly relieves excess or back pressure
- Operates automatically from line pressure
- Easily repaired and adjusted without removal from the system
- All valves are hydrostatically and flow tested prior to shipping

P/N CPSV STANDARD ASTM Ductile Iron

• Models available in 1 1/4", 1 1/2", 2", 3", 4" and 6" versions

Also Available:

P/N CPCVB BRASS

P/N CPSVSS STAINLESS STEEL



For international system quotations and assistance, call us today @ 1-800-222-3710.

## Foam System Proportioning Devices

Chemguard has designed, engineered and manufactured one of the broadest lines of proportioning devices available in the market place today from **Inline Proportioners** also referred to as eductors, and **Proportioning Controllers** also known as ratio flow controllers, to the state of the art **Ultra Wide Proportioner**.

**Line Proportioners** – Also referred to as eductors, **Chemguard's Line Proportioners** present a simple, cost effective method to proportion foam concentrate and water at the proper percentage. They are often utilized in a fixed foam storage and distribution system, i.e. foam concentrate storage tanks or atmospheric storage systems. Our full range of these constant-flow devices includes 13 models having flow rates from 60 GPM to 730 GPM, manufactured in a corrosion resistant brass.

P/N CE95, CE240, CE420, CE550 & CE730



**Proportioning Controllers** - The Chemguard (**UL Listed**) line of Proportioning Controllers is used in conjunction with balance pressure systems, such as bladder tanks, pump skids, and foam pump-proportioning systems. Manufactured in 5 standard models from 2 1/2" to 8" allowing for flow ranges between 40 and 5,500 GPM.

P/N CPC2.5, CPC3.0, CPC4.0, CPC6.0, CPC8.0

- Proportioners are cast in ASTM-85-5-5-5-brass
- Chemguard's CPC2.5 is a 2 1/2" threaded controller designed with a 2 1/2" FNPT threaded inlet and a 2 1/2" male NPT threaded outlet
- All 3", 4", 6", and 8" controllers are designed to mount between two ANSI 150 lbs. pipe flanges
- The Controller is clearly marked with a flow direction arrow and label, identifying the foam concentrate and percentage ratio
- UL Listed



**Ultra-Wide™ Proportioners** - Chemguard's Ultra-Wide™ Proportioners are revolutionary new products for foam/water sprinkler systems. Being **UL Listed and FM approved**, this proportioner discharges a correctly proportioned mixture of foam/water solution through all foam sprinkler heads the instant they are activated even at flow rates as low as 20 GPM. Most ratio controllers lack adequate water flow when first activated which results in an inaccurate or inconsistent discharge of foam solution causing dangerous delays in fire suppression. The Chemguard Ultra-Wide proportioner eliminates this problem.

### ULTRA-WIDE PROPORTIONERS

- Faster fire suppression
- Designed for accurate discharge over a range of 20 to 2500 GPM
- Ideal for use in systems such as bladder tanks, balance pressure proportioning systems and inline balance pressure systems.
- Adaptable for all different foam concentrates
- Ideal for closed head foam/water sprinkler systems
- Can be used with bladder tanks reducing the need for balance pressure pump skids and ILBP systems along with their associated cost
- Maintenance Free
- Specifications over all length 12 inches, flanges ANSI 6" 150 lbs. raised face; foam inlet flange ANSI 2" 150 lbs. and unit weight 70 lbs.
- Call for specific part numbers.



**Note:** When ordering proportioning devices, please specify percentage and types of concentrate being used.



## Foam System Discharge Devices

**Foam Chambers** - Chemguard's Foam Chambers are **(UL Listed)** type 2 discharge devices as defined by NFPA11 which are designed to lessen the submergence of the foam and deliver the foam directly onto the surface of flammable or combustible liquid. The foam chambers are installed on **flammable liquid storage tanks** just below the roof joint, flow rates are sized for the specific application. Foam solution is supplied to the chamber from outside the hazard area from a fixed foam storage and proportioning system or from a dry pipe semi-fixed system which receives foam solution from a mobile foam apparatus. Upon entering the chamber the foam solution is expanded and then discharged against a deflector mounted inside the storage tank. The deflector directs the foam against the inside wall of the storage tank, reducing the agitation of the fuel.

### P/N FC2.5

- Flow rate from 50 to 150 GPM

### P/N FC3

- Flow rate from 100 to 300 GPM

### P/N FC4

- Flow rate from 180 to 625 GPM

### P/N FC6

- Flow rate from 395 to 1,050 GPM

- UL Listed
- Top of the chamber has access for inspection of the vapor seal
- Glass vapor seal designed to break between 10 and 20 psi
- Chambers manufactured in ASTM A36 carbon steel with a 304 stainless steel screen covering the foam maker air inlets
- Choice of 2 styles of deflectors (split or solid)

**Note:** All Chemguard foam chambers are UL listed and suitable for use with hydrocarbons or polar solvent fuels and are suitable for use with all low expansion foam concentrates, proteins, and synthetics



**Foam Makers** - Chemguard's **UL Listed** Foam Makers are designed as an air **aspirating discharge device** used principally for the protection of **dike** and **open floating roof storage tanks, rim seal protection**, or where low velocity foam streams are desired. The foam maker is normally installed in the line of a semi-fixed or fixed foam fire protection system.

### P/N CGFM1.5

- Flow rates from 10 to 150 GPM

### P/N CGFM2.5

- Flow rate from 100 to 300 GPM

- All brass construction suitable for harsh and corrosive environment
- Air inlets covered with stainless steel mesh
- Foam makers supplied with standard NPT threaded inlets and outlets
- Can be mounted both horizontally or vertical
- UL Listed



**High Back Pressure Foam Makers** - Chemguard's **UL Listed** High Back Pressure Foam Makers are designed for **sub-surface injection** and are suitable for use with various types of foam solution systems, such as bladder tanks, balanced pressure, foam pump systems, ILBP's, and foam pumper trucks. Manufactured in carbon steel, but stainless steel or brass can be requested.

### P/N CFM 70, 90, 250, 270, 1000

- Available in flow rates from 60 to 1200 GPM

- Designed to produce expanded foam that is introduced into cone roof storage tanks by sub-surface injection, and for use on hydrocarbon based fuels only, such as diesel, kerosene and gasoline. The foam maker is generally located outside the dike area that surrounds the storage tanks and is not recommended for use for tanks having a floating roof.
- Expanded foam solution is delivered to the burning fuel surface with minimum exposure to heat and flame
- Piping and equipment is located at the tank base and in areas not subject to damage from heat, flame, or explosion.
- UL Listed



**Note:** Ruptured disk and holders as well as spare disks are available upon request.



Please request more information on specific flow rates and pressures by calling us at 1-800-222-3710.

