



## TECHNICAL DATA

### WATER POWERED HIGH EXPANSION FOAM GENERATORS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

#### 1. DESCRIPTION

Chemguard Standard Model Water Powered (WP) High Expansion Foam Generators are designed to expand foam solution into millions of tiny stable bubbles. Expansion rates up to 880 gallons of expanded foam for every one gallon of foam solution can be achieved depending on the generator selected solution flow rate and operating pressure.

The Chemguard WP High Expansion Generators require no other source of power such as electricity or gasoline engines. They are powered by the foam solution driving a hydraulic (water) motor. The expansion of the foam solution is achieved by spraying the solution onto a stainless steel screen, and then an air stream created by the fan attached to the motor forces air through the screen to produce a mass of foam bubbles. The continuous flow of the foam solution and the movement of air through the screen will generate large volumes of foam.

##### Features

- Seven different models available
- No outside source of power required – only the foam solution under pressure
- Standard units supply from 1,350 to 26,100 cfm
- UL Listed® to operate at foam solution pressures as low as 40 psi
- Easy installation with units capable of being mounted in horizontal or vertical configuration
- NO STRAINER REQUIRED - Foam solution piping and discharge nozzles are of open design allowing passage of particles of up to ¼" in diameter



#### 2. LISTINGS AND APPROVALS

F15104 - No listings or approvals

F15105, F15106, F15108, F15109, F15110 - UL Listed

#### 3. TECHNICAL DATA

##### Specifications:

Flow Rate: See Figures 3 through 8

Pressure: See Figures 3 through 8

Foam Output: See Figures 3 through 8

Weight:

F15104 - 75 lbs. (34,0 kg)

F15105 - 115 lbs. (52,1 kg)

F15106 - 225 lbs. (102,0 kg)

F15108 - 441 lbs. (200,0 kg)

F15109 - 535 lbs. (242,6 kg)

F15110 - 627 lbs. (284,0 kg)

Dimensions:

See Figures 1 and 2

##### Material Standards:

Generator housing: Mild steel, painted red (Custom colors available)

Screens: Stainless steel, perforated

##### Ordering Information:

F15104 - 1500WP

F15105 - 3000WP

F15106 - 6000WP

F15108 - 15000WP

F15109 - 18000WP

F15110 - 25000WP

Viking Technical Data may be found on  
The Viking Corporation's Web site at  
<http://www.vikinggroupinc.com>.  
The Web site may include a more recent  
edition of this Technical Data Page.



## TECHNICAL DATA

**WATER POWERED  
HIGH EXPANSION  
FOAM GENERATORS**

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

### 4. INSTALLATION

Typical hazards where Chemguard High Expansion Foam Generators may be used to supply fire protection are:

- LNG Tank Farms/Loading Facilities
- Flammable Liquid Drum Storage Areas
- Hazardous Waste Storage Facilities
- Shipboard Engine Rooms, Bilge's and Holds
- Roll Paper Warehouse
- Chemical Storage Facilities
- Flammable Liquid Packaging Areas
- Cable Tunnels
- Aircraft Hangars

### 5. OPERATION

Chemguard High Expansion Foam Generators can be used with the following types of proportioning equipment:

- Fixed or portable eductors.
- Bladder tank balanced pressure-proportioning system.
- In-line balanced pressure or positive displacement foam pump-proportioning skid.

### 6. INSPECTIONS, TESTS AND MAINTENANCE

**NOTICE:** The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to recognized standards such as those produced by NFPA, LPC, and VdS which describe care and maintenance of sprinkler systems. In addition, the "Authority Having Jurisdiction" may have additional maintenance, testing and inspection requirements which must be followed.

**WARNING:** Any system maintenance or testing which involves placing a control valve or detection system out of service may eliminate the Fire Protection of that system. Prior to proceeding, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a Fire Patrol in the affected area.

### 7. AVAILABILITY

Viking Foam Products are available through a network of domestic and international distributors. See the Viking web site for closest distributor or contact The Viking Corporation.

### 8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

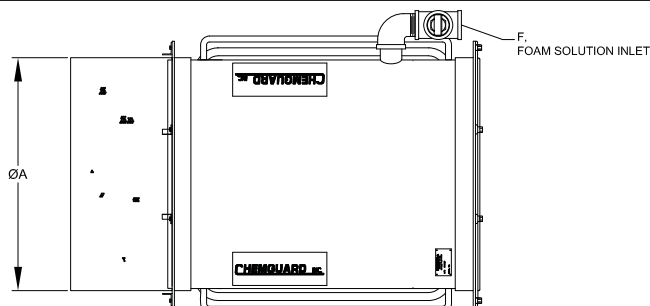


# TECHNICAL DATA

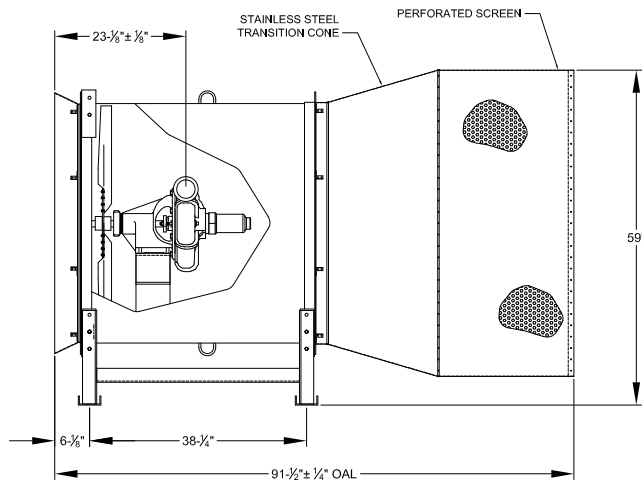
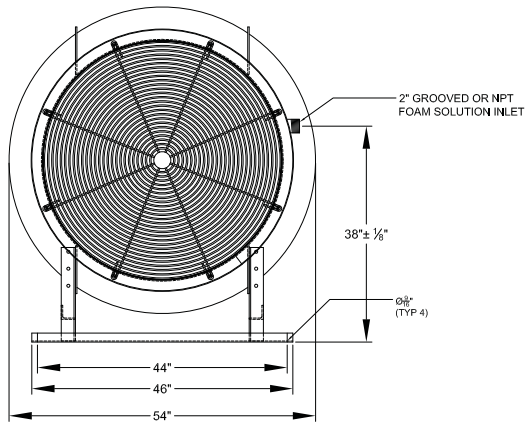
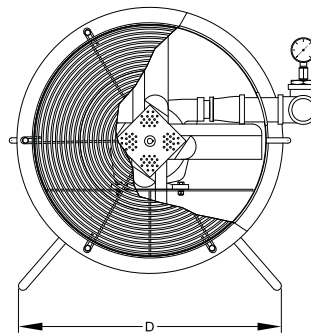
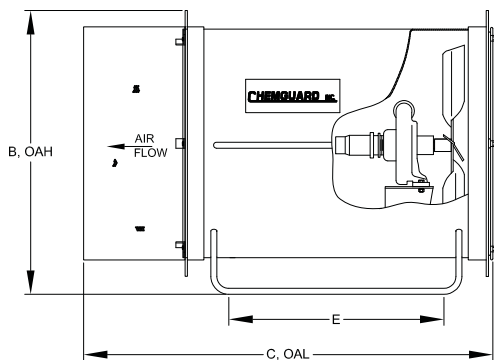
## WATER POWERED HIGH EXPANSION FOAM GENERATORS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com



**Figure 1:**  
**Generator Dimensions for**  
**F15104, F15105, F15106,**  
**F15108 & F15109**



**Figure 2: Generator Dimensions for F15110**

**Table 1: Dimensions**

Part No.	A	B	C	D	E	F
F15104	15.3"	20"	28"	16"	7.8"	**1" FNH
F15105	19.5"	23.8"	34.3"	22"	15"	**1.5" FNH
F15106	25.5"	28.8"	48.3"	28"	24.5"	**1.5" FNH
F15108	42"	44"	85.8"	42"	36"	2" GRVD
F15109	42.3"	48"	74.3"	46"	32.5"	2.5" FNPT
F15110	54"	59"	91-1/2"	46"	38-1/4"	2" GRVD

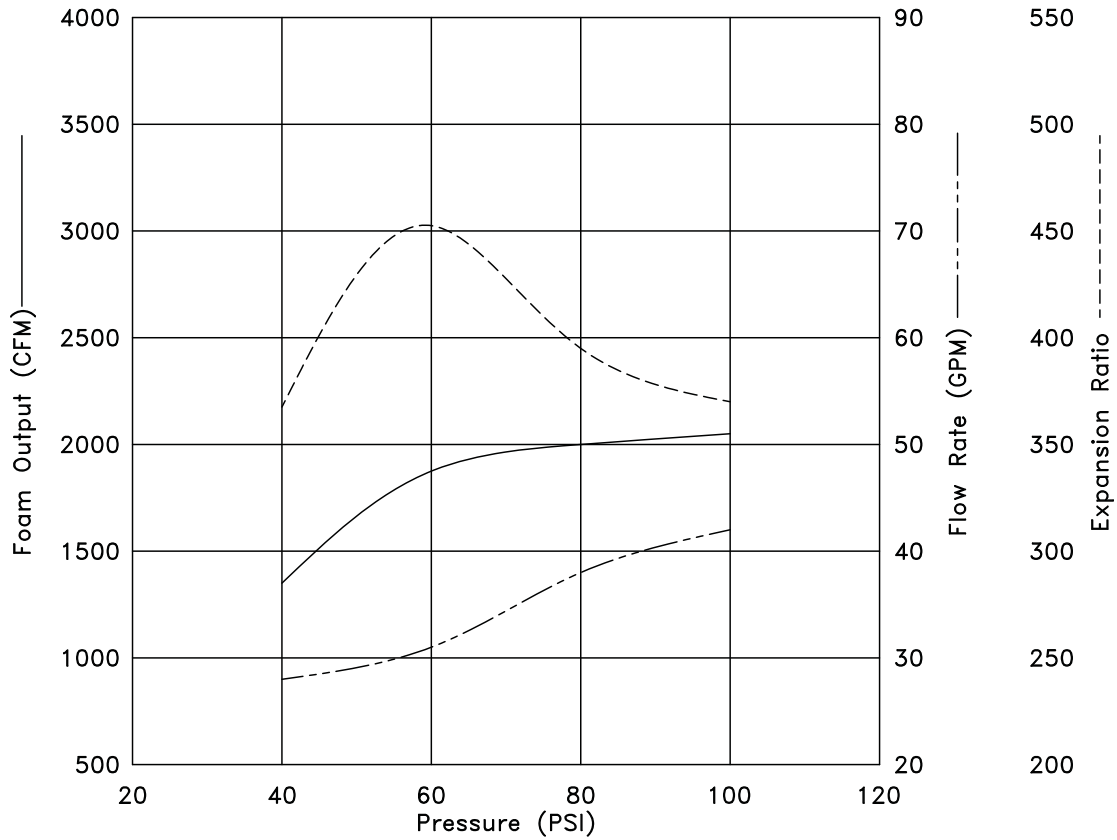
\*\* Units supplied with Educator

Dimensions are approximate and subject to change.

	<h1 style="margin: 0;">TECHNICAL DATA</h1>	<p><b>WATER POWERED HIGH EXPANSION FOAM GENERATORS</b></p>
---	--	--

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058  
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

### 1500WP Performance Curve



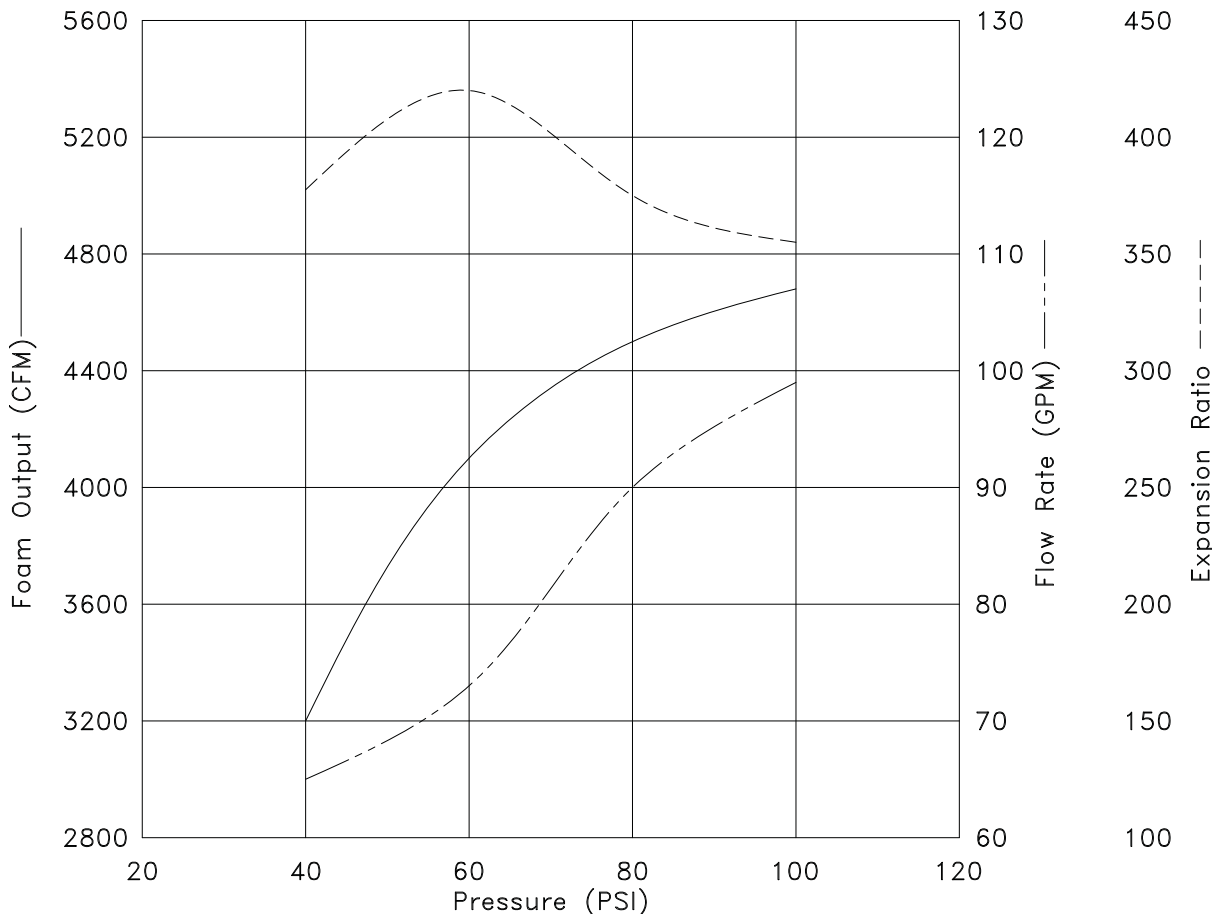
1500WP						
Pressure		Foam Output		Flow Rate		Expansion
PSI	Bar	CFM	CMM	GPM	LPM	Ratio
40	2.8	1,350	38	28	104	367:1
50	3.4	1,650	47	29	110	426:1
60	4.1	1,875	53	31	117	452:1
70	4.8	1,975	56	35	131	428:1
80	5.5	2,000	57	38	144	394:1
90	6.2	2,025	57	40	151	379:1
100	6.9	2,050	58	42	157	370:1
Foam Breakdown Constant: N/A						

**Figure 3: High Expansion Foam Generator 1500WP Performance Curves**

	<h1 style="margin: 0;">TECHNICAL DATA</h1>	<p><b>WATER POWERED HIGH EXPANSION FOAM GENERATORS</b></p>
---	--	--

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058  
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

### 3000WP Performance Curve



3000WP						
Pressure		Foam Output		Flow Rate		Expansion
PSI	Bar	CFM	CMM	GPM	LPM	Ratio
40	2.8	3,200	91	65	246	368:1
50	3.4	3,700	105	70	265	395:1
60	4.1	4,100	116	73	276	420:1
70	4.8	4,340	123	83	314	391:1
80	5.5	4,500	127	90	341	374:1
90	6.2	4,560	129	94	356	363:1
100	6.9	4,680	133	99	375	354:1

Foam Breakdown Constant: S = 6.4 CFM/GPM (0.0479 CMM/LPM)

**Figure 4: High Expansion Foam Generator 3000WP Performance Curves**

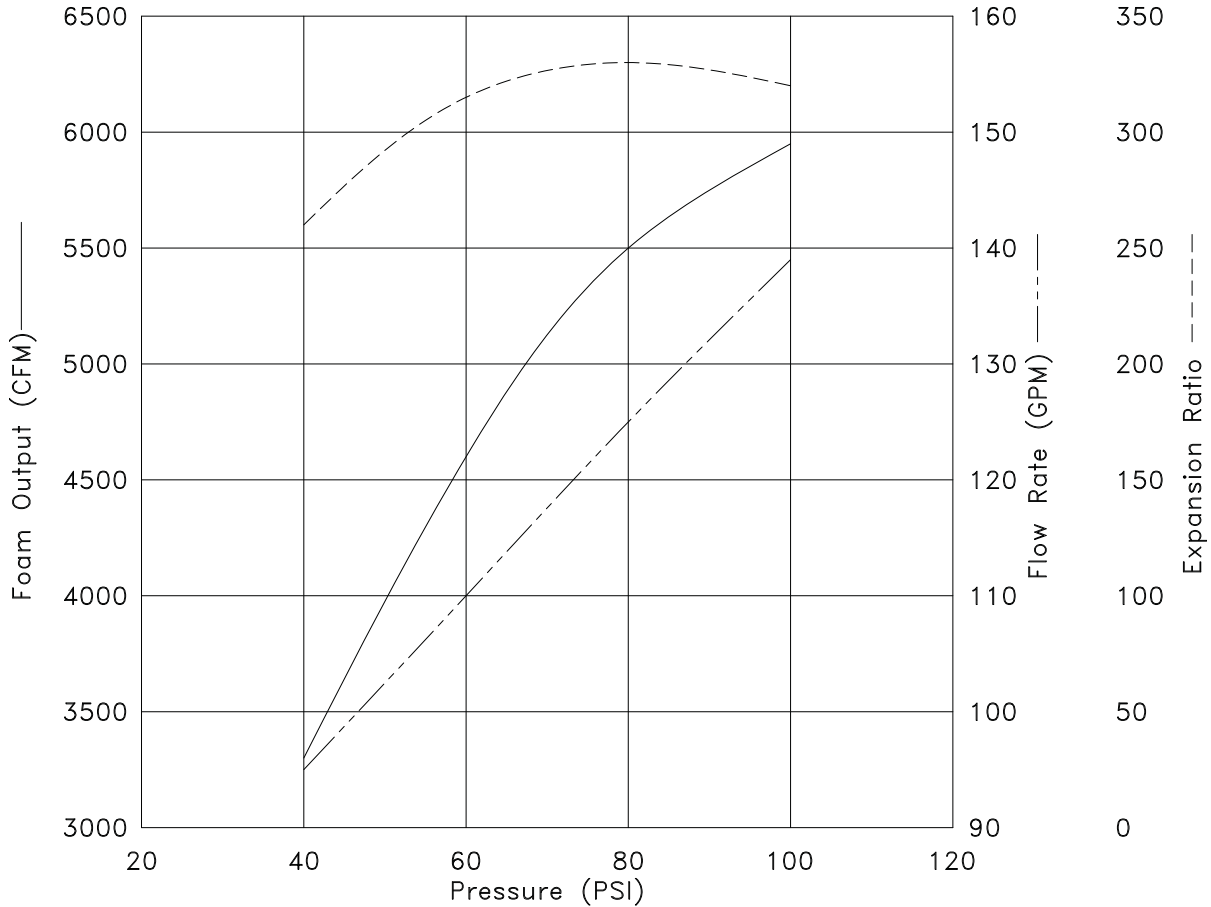


# TECHNICAL DATA

**WATER POWERED  
HIGH EXPANSION  
FOAM GENERATORS**

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058  
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

### 6000WP Performance Curve



6000WP						
Pressure		Foam Output		Flow Rate		Expansion
PSI	Bar	CFM	CMM	GPM	LPM	Ratio
40	2.8	3,300	93	95	360	260:1
50	3.4	3,975	113	104	394	286:1
60	4.1	4,600	130	110	416	313:1
70	4.8	5,150	146	117	443	329:1
80	5.5	5,500	156	125	473	329:1
90	6.2	5,750	163	133	503	323:1
100	6.9	5,950	168	139	526	320:1

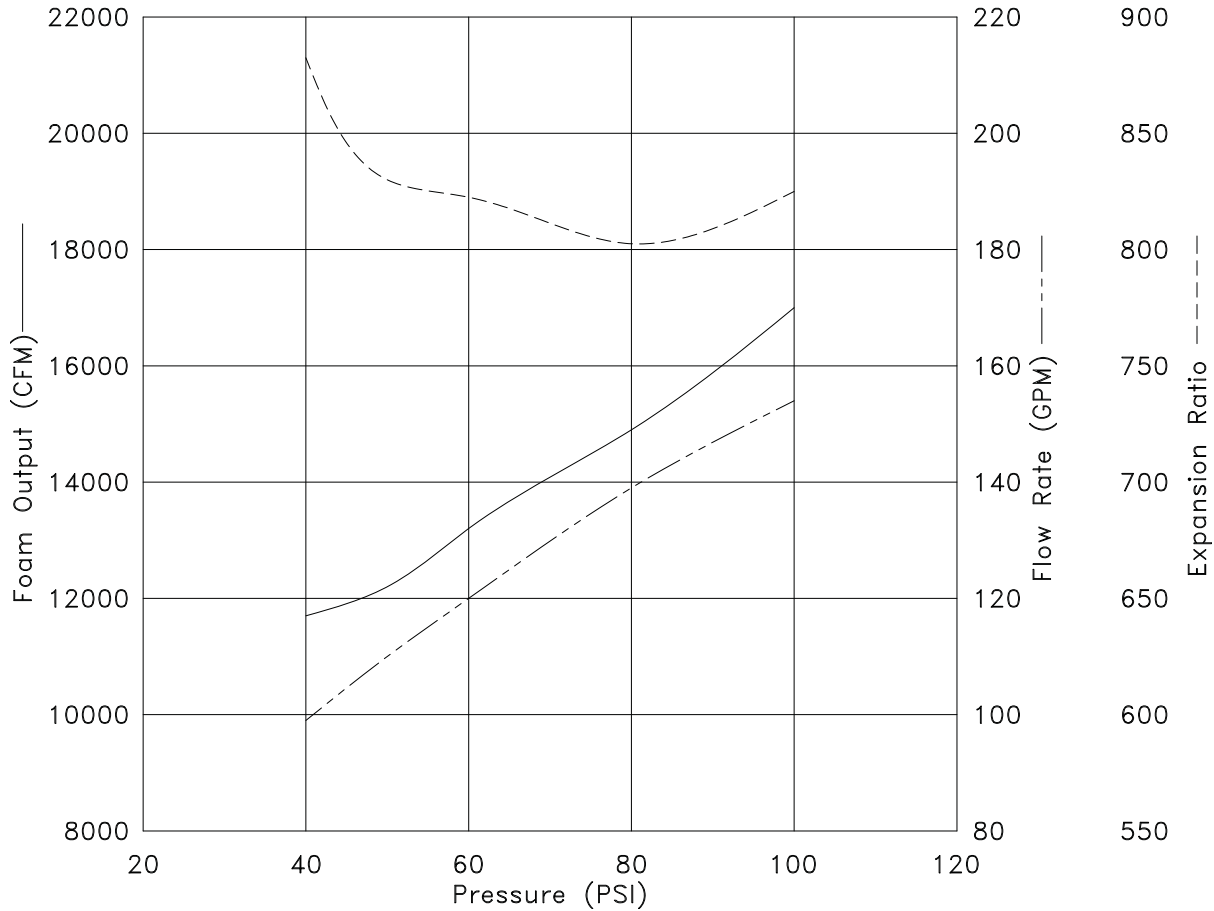
Foam Breakdown Constant: S = 6.4 CFM/GPM (0.0479 CMM/LPM)

**Figure 5: High Expansion Foam Generator 6000WP Performance Curves**

	<h1 style="margin: 0;">TECHNICAL DATA</h1>	<p><b>WATER POWERED HIGH EXPANSION FOAM GENERATORS</b></p>
---	--	--

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058  
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

### 15000WP Performance Curve



15000WP						
Pressure		Foam Output		Flow Rate		Expansion
PSI	Bar	CFM	CMM	GPM	LPM	Ratio
40	2.8	11,700	331	99	375	884:1
50	3.4	12,200	345	110	416	830:1
60	4.1	13,200	374	120	454	823:1
70	4.8	14,000	396	130	492	806:1
80	5.5	14,900	422	139	526	802:1
90	6.2	15,900	450	147	556	809:1
100	6.9	17,000	481	154	583	826:1

Foam Breakdown Constant: S = 5.1 CFM/GPM (0.0382 CMM/LPM)

**Figure 6: High Expansion Foam Generator 15000WP Performance Curves**

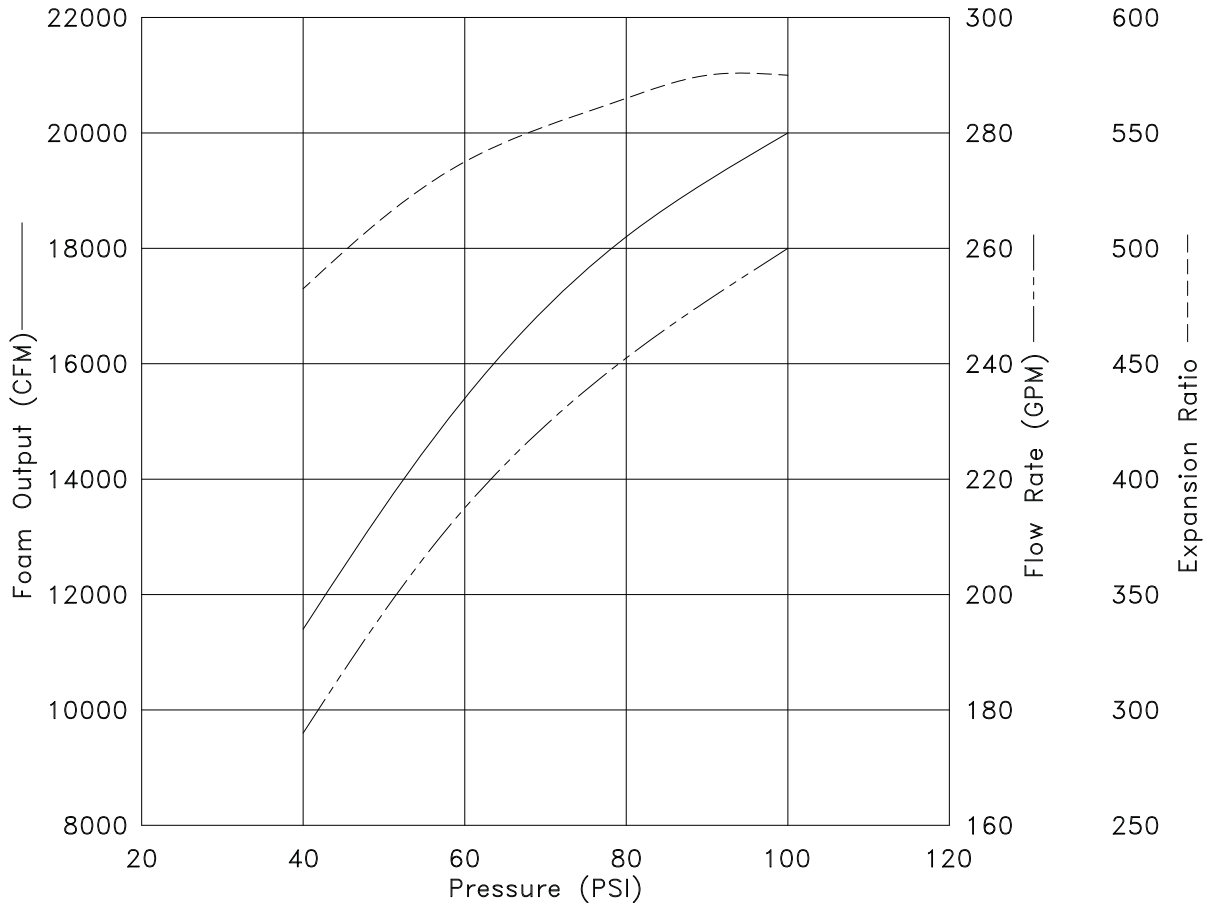


# TECHNICAL DATA

**WATER POWERED  
HIGH EXPANSION  
FOAM GENERATORS**

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058  
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

### 18000WP & 18000WP-SS-LNG Performance Curve



18000WP & 18000WP-SS-LNG						
Pressure		Foam Output		Flow Rate		Expansion
PSI	Bar	CFM	CMM	GPM	LPM	Ratio
40	2.8	11,333	321	176	666	482:1
50	3.4	13,300	377	197	746	505:1
60	4.1	15,445	437	215	813	538:1
70	4.8	17,000	481	230	871	553:1
80	5.5	18,167	514	241	911	565:1
90	6.2	19,300	547	251	950	575:1
100	6.9	20,000	566	260	984	575:1

Foam Breakdown Constant: S = 2.8 CFM/GPM (0.0209 CMM/LPM)

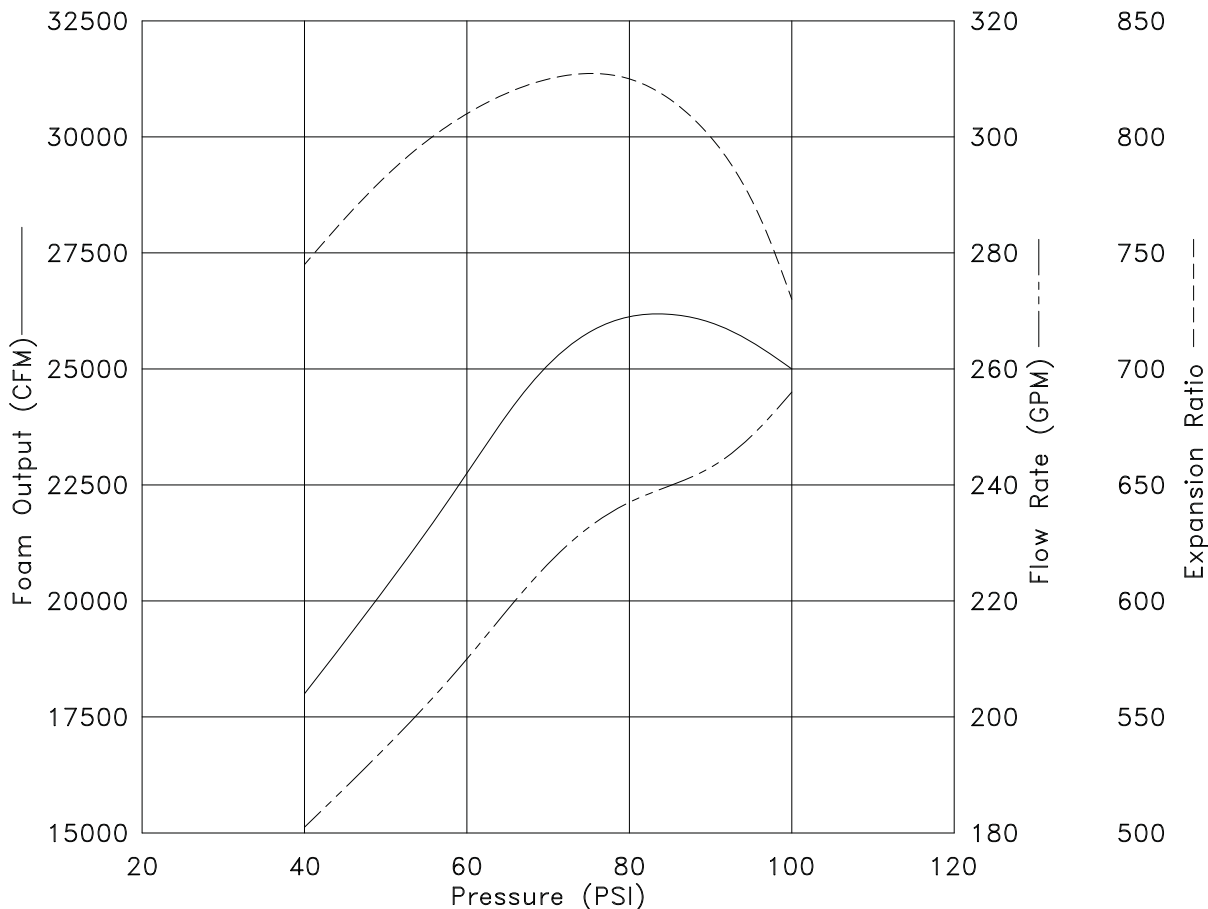
**Figure 7: High Expansion Foam Generator 18000WP Performance Curves**



	<h1 style="margin: 0;">TECHNICAL DATA</h1>	<p><b>WATER POWERED HIGH EXPANSION FOAM GENERATORS</b></p>
---	--	--

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058  
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

### 25000WP Performance Curve



25000WP						
Pressure		Foam Output		Flow Rate		Expansion
PSI	Bar	CFM	CMM	GPM	LPM	Ratio
40	2.8	18,000	510	181	685	744:1
50	3.4	20,250	573	195	738	777:1
60	4.1	22,750	644	210	795	810:1
70	4.8	25,000	708	225	852	831:1
80	5.5	26,100	739	237	895	826:1
90	6.2	26,000	736	243	920	800:1
100	6.9	25,000	708	256	969	731:1

Foam Breakdown Constant: S = 5.1 CFM/GPM (0.0382 CMM/LPM)

**Figure 8: High Expansion Foam Generator 25000WP Performance Curves**

