

# Bennett Pump Company

*T-75 Hydraulic Pumping Units*

## Operation, Service & Parts Manual

**Only Trained Personnel May Work on This Equipment**

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the Literature Tab on our website.



107072 Rev E 06/11/12



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## Introduction

The Type 75 pumping unit is the standard product produced by Bennett Pump Company. It is used in many countries and has proven its ability to work properly even in the toughest conditions.

It is a compact, lightweight unit built with the following functions:

- Filtering
- Pumping
- Air elimination
- By-Pass (adjustable as an option)
- Outlet Control Valve

The same unit is used to achieve the two standard flows of 13 gpm (3m<sup>3</sup>/h) or 22 gpm (5m<sup>3</sup>/h). This feature is achieved by:

- U.S. Market — 60Hz power:  
Using two sizes of pump chamber initially assembled into the housing. The 13 gpm pump requires a 250 Watt 1/3 hp motor, the 22 gpm pump uses a 560 Watt 3/4 hp motor.
- European Market — 50Hz power:  
Running the 22 gpm pump at different speeds, just by changing the pump pulley

This unit uses a rotary vane pump with carbon blades that produces very good suction (power) even when the pump is dry (at start). The rotor is supported at each end by self lubricated insert bearings that are field replaceable.

Air elimination is achieved within extreme standards through a patented fully static device using a vortex effect.

Filtration is achieved with three different filter means (10 micron cloth filter, 35 micron pleated paper filter and 70 micron Nylon strainer), according to the conditions of use. The T-75 Pumping Unit is fully compatible with the SB-100 Meter.

For further information, please contact the Bennett Technical Service Department at 1-800-423-6638.

## Specification Sheet

- Standard Fuels (up to 15% alcohol) or Alcohol Fuels (E85 typical)
- Standard Flow (13 GPM) or High Flow (22 GPM)
- Ultra High (50 psi), High Pressure (45 psi), Normal Pressure (35 psi) or Low Pressure (25 psi) By-Pass Valve Spring (nominal pressures w/adjustable bypass screwed in)
- Adjustable or Non-Adjustable By-Pass Valve Settings
- Low Pressure (4.3 psi) or Standard Pressure (6 psi) Control Valve Spring
- Meter Outlet Flange or Tube Style Outlet
  - W/Tube outlet - offer a Motor Mount Option on Atmospheric Cover
- 100 or 70 Micron Metal Strainer Basket or 35 Micron Paper Element Filter with or without Fabric Integral Inlet check valve

## Technical Specifications U.S. Market

Maximum Flow (gpm)	13	22
Noise Level (dB)	68	72
Bypass Pressure (psi)	25	25
Motor Power (hp)	1/3	3/4
Minimum Dry Suction (in. Hg)	10	12
Minimum Wet Suction (in. Hg)	21	21
Air Elimination	According to OIML, CEE 77.313 Regulation	
Micron Filter ( $\mu$ )	10,35,70 according to conditions of use	
Pump Curve	See Figure 1	See Figure 2

## Technical Specifications European Market

Maximum Flow (m <sup>3</sup> /h)	3	5
Minimum Flow (m <sup>3</sup> /h)	0.3	0.5
Noise Level (dB)	68	72
Bypass Pressure (b)	1.8 (Adjustable 1.2 - 2.5)	2.0 (Adjustable 1.2 - 2.5)
Motor Power (Kw)	.37	.55
Minimum Dry Suction (mb)	400	
Minimum Wet Suction (mb)	700	
Air Elimination	According to OIML, CEE 77.313 Regulation	
Micron Filter ( $\mu$ )	10,35,70 according to conditions of use	
Pump Curve	See Figure 3	
Approval Documents (See Appendices Ministère de l'Industrie et du Commerce - FRANCE #85.0.01.462.2.3 (July 1, 1985) #87.0.04.462.2.3 (Dec. 31, 1987)		

# Pump Curves U.S. Market

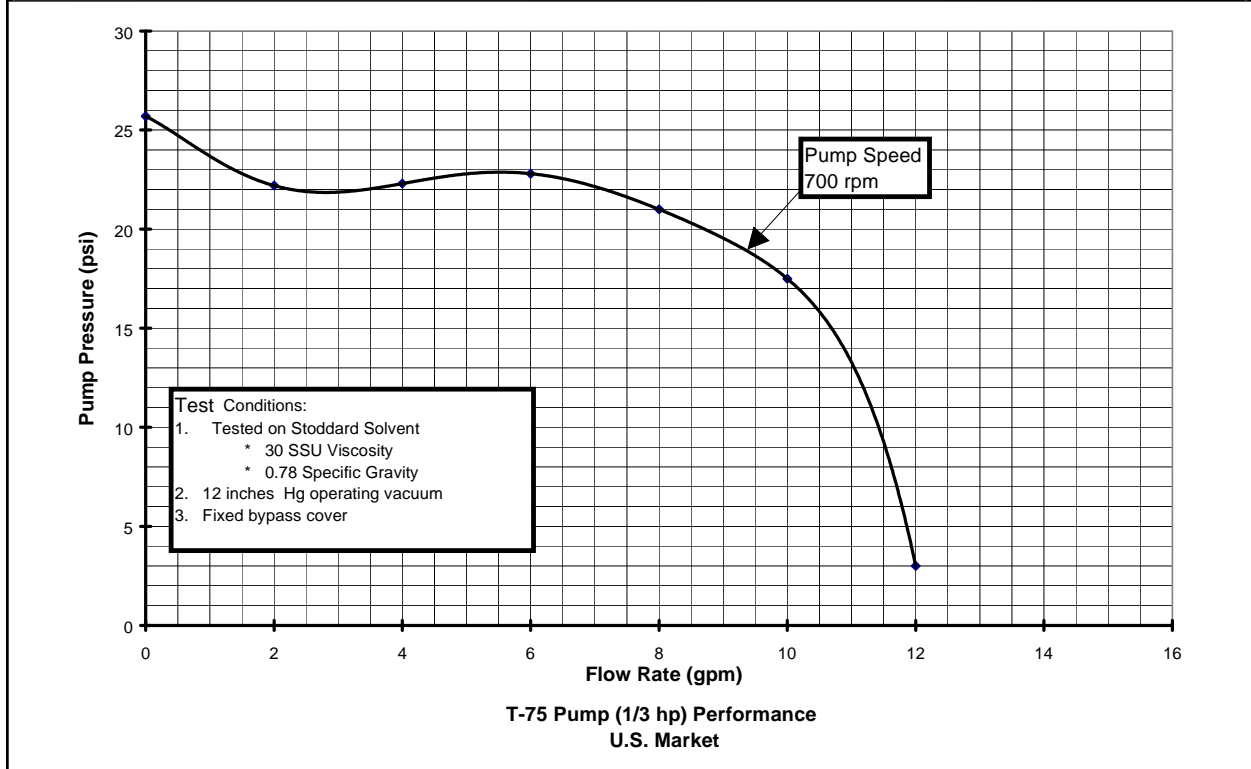


Figure 1

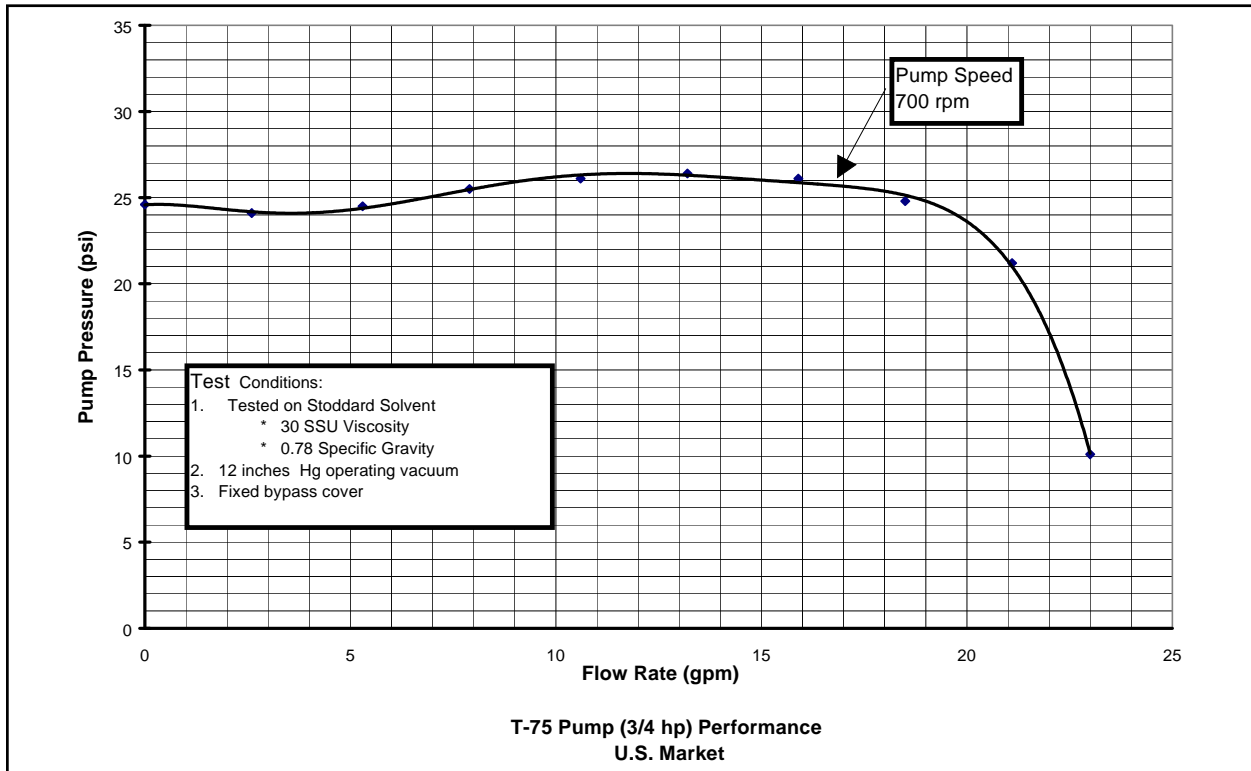


Figure 2

## Pump Curves European Market

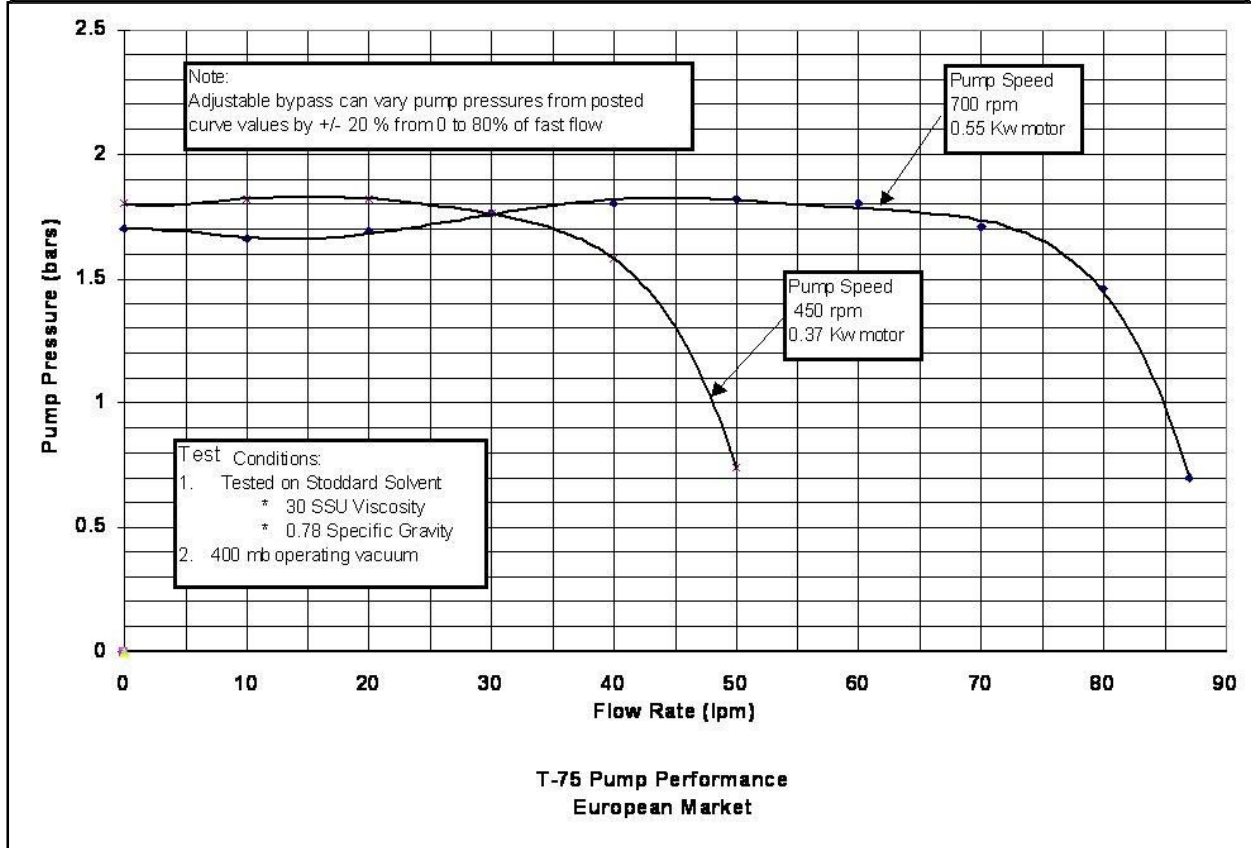
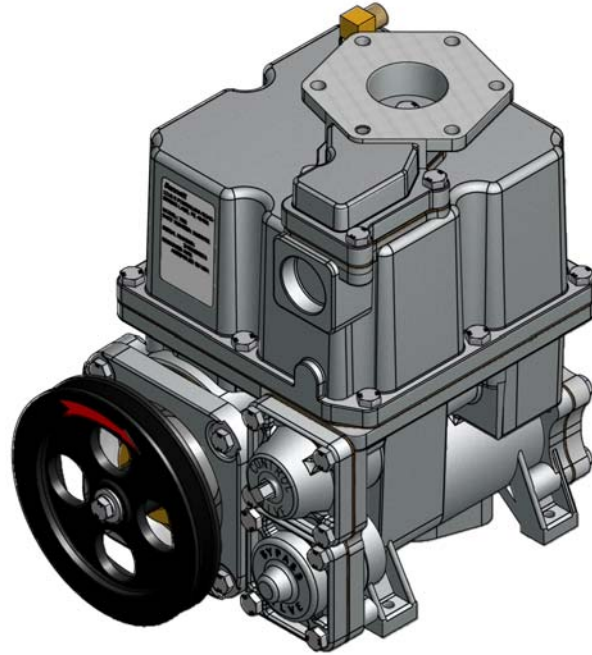


Figure 3



# Overall Dimensions

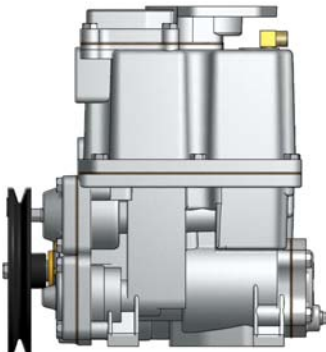
## T75 with Meter Outlet



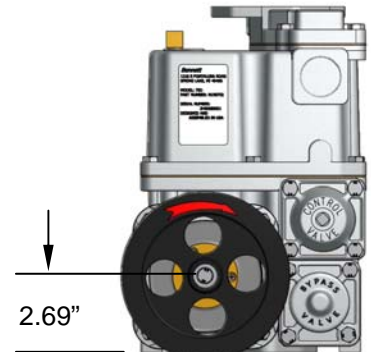
Top View



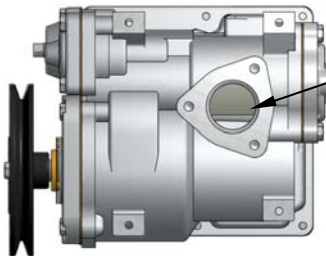
Back View



Side View



Front View

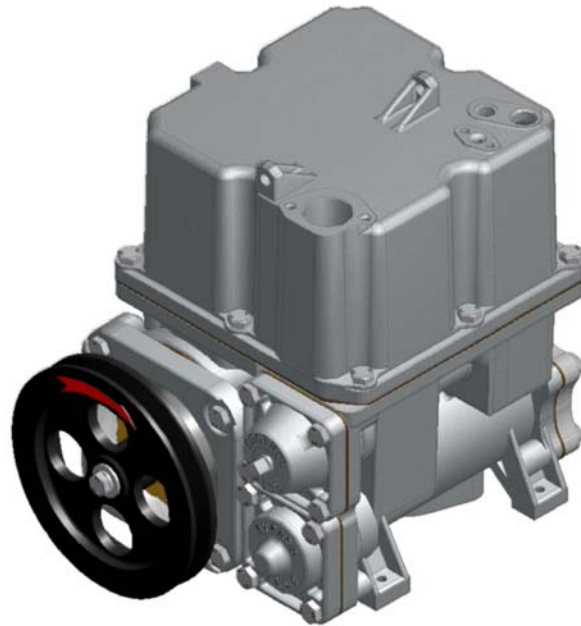


Bottom View

Ø: 1.63"  
Ø:[40mm]

# Overall Dimensions

## T75 with Tube Outlet



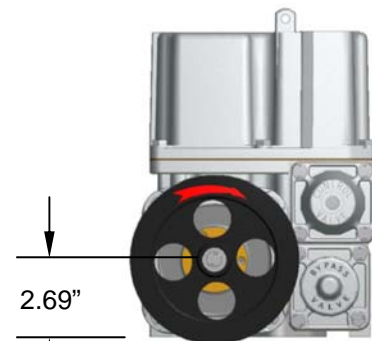
Top View



Back View



Side View



2.69"

Front View



Ø: 1.63"  
Ø:[40mm]

Bottom View

# Theory of Operation

## Detailed Description

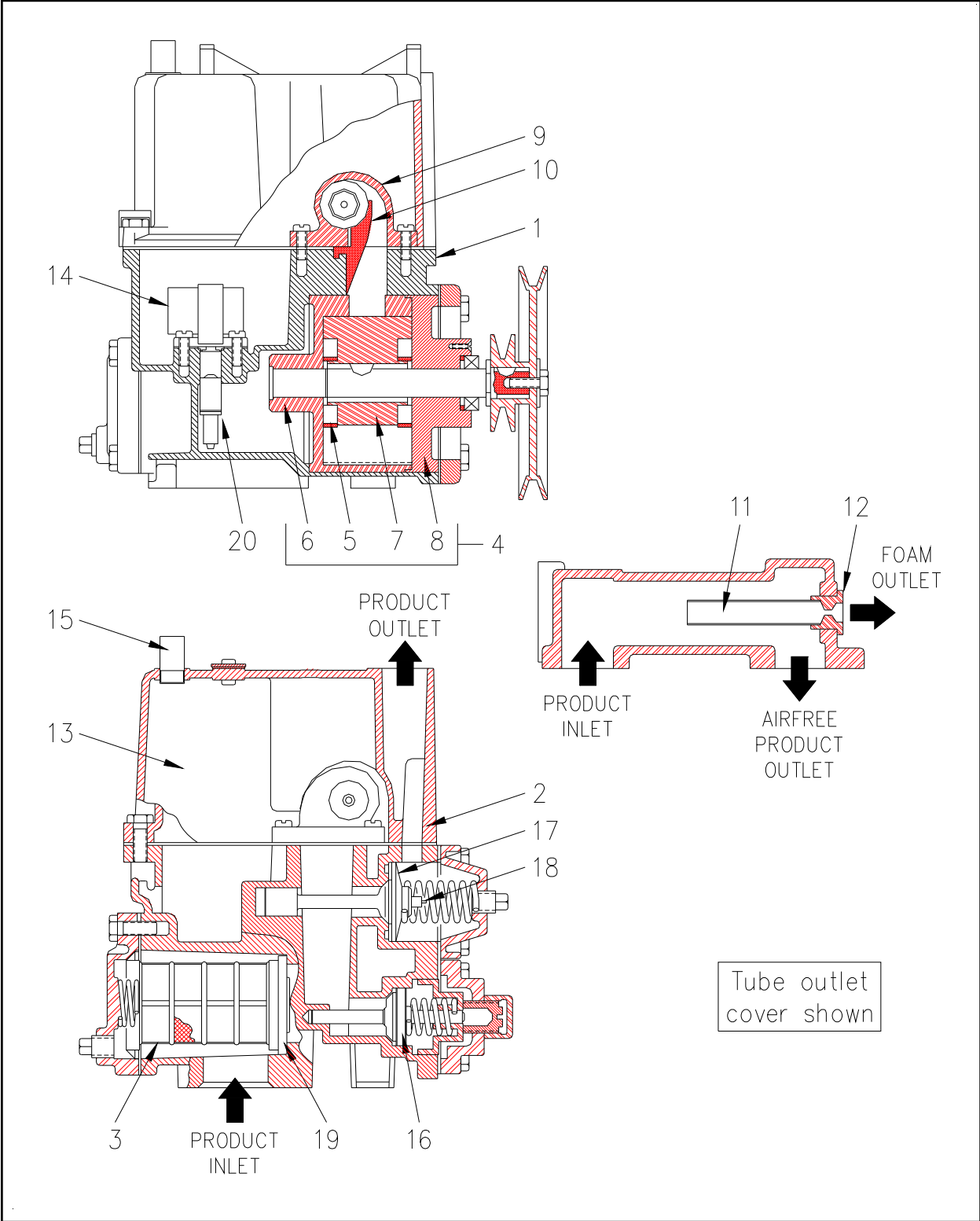


Figure 7

## Theory of Operation

The pump assembly has the following main components: (See Figure 7 for numbers in parenthesis.)

- a body (1) of cast aluminum
  - The inlet is designed to accept a triangular inlet flange with a 3-hole bolt pattern.
- a cover (2)
  - outlet flanged for direct meter mounting
  - tubular outlet for remote meter mounting (as shown on page 6)
- a filter (3) in the horizontal position. The filter cover includes a pipe plug to drain the pump.
  - An optional inlet checkvalve (19) is available to hold product in the suction line when the pump is turned off. This is an environmentally friendly device that maintains a vacuum in the line preventing fuel from leaking through a loose joint into the ground.
- a rotating pump (4) with radial carbon blades
  - Throwout rings (5) maintain contact of the blades to the stator.
  - The stator (6) is made of cast iron and is tightly fitted in the pump body.
  - The rotor (7) is made of cast iron with a chrome plated shaft.
  - Self lubricated bearings (21) prevent seizure when tank is pumped dry.
  - The cover (8), also of cast iron, encapsulates the rotor and the stator.
- an air elimination assembly (9), a patented fully static device, uses a vortex effect.
  - The insert (10) starts spinning the fluid.
  - The foam and the air pass through the tube (11) and evacuated through the orifice (12).
- a drain line eliminator (13) or atmospheric chamber of 1.2 gallon (4.5 liter) capacity.
  - The float valve assembly (14) provides for the recovery of liquid from the chamber, while air is evacuated through the vent tube (15).
  - A non return float (20) seals the atmospheric chamber when the pump is turned off to prevent flooding and spilling out onto the driveway.
- a bypass valve (16) limiting the maximum working pressure.
  - its cover includes a device to adjust the bypass pressure (optional in USA)
- a control valve assembly (17) assures that all downstream hydraulic components are filled with liquid. This valve has a relief valve (18) to relieve excess pressure.

**NOTE: A diaphragm operated preset valve is available as an option.**

# Hydraulic Schematics & Principle

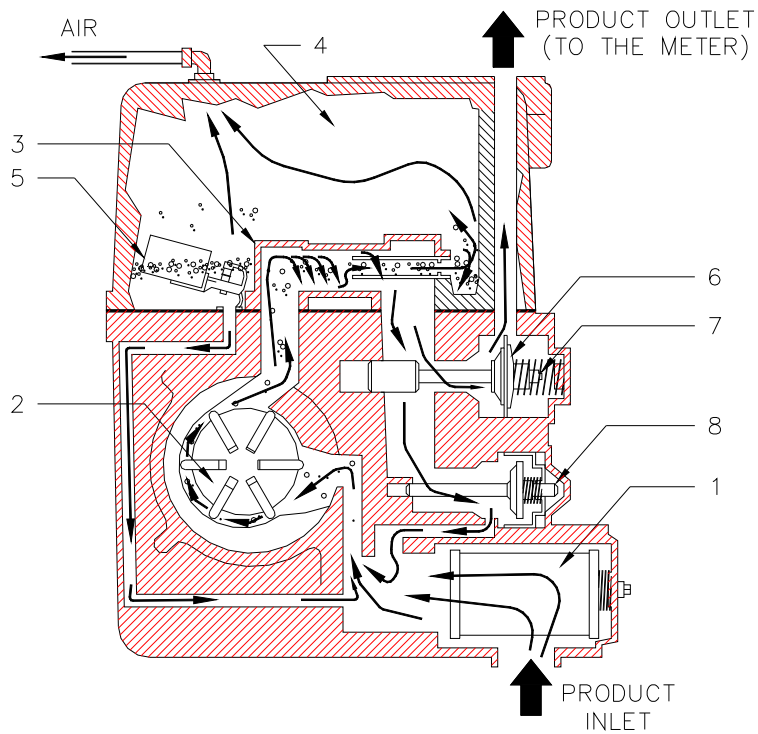


Figure 8

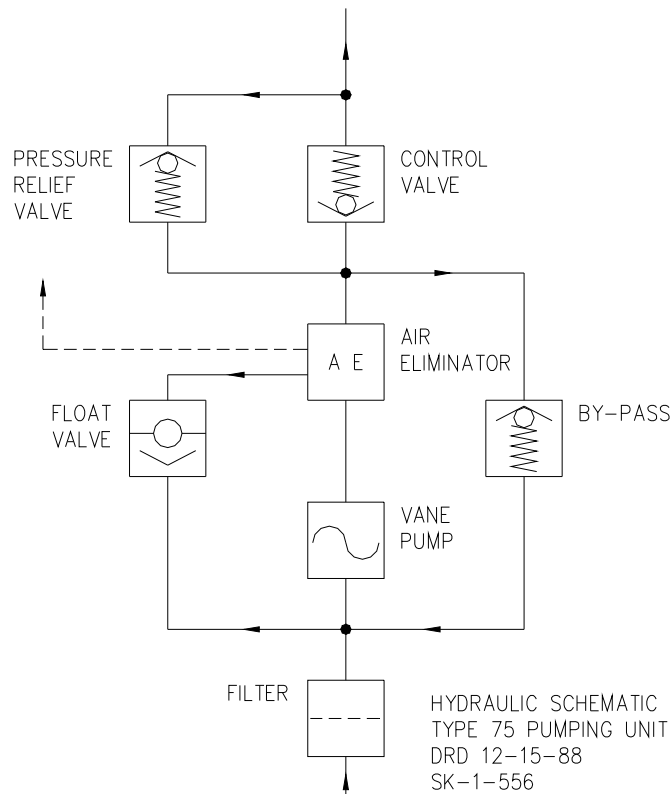


Figure 9

## Hydraulic Schematics & Principle

*(See Figure 8 for numbers in parenthesis.)*

The product is drawn from the underground storage tank through the strainer screen of filter (1).

The rotary van pumping unit (2) pressurizes the fluid.

Product enters the centrifugal air separator assembly (3). Any air present is forced out the air tube along with a small amount of liquid into the atmospheric chamber (4).

Product collected in the atmospheric chamber is returned to the pump intake across the non return float when the liquid level in the chamber lifts the float and valve assembly from its seat (5). Any air is then vented to the atmosphere through the vent tube.

Air free product leaving the air separator opens the control valve (6) and is pumped to the meter. The control valve includes a built-in relief valve (7) which relieves excess pressure caused by hot weather expansion.

Product passes through the meter where it is accurately measured, then through the hose and nozzle into the vehicle being fueled.

Whenever the nozzle is not fully opened, some liquid is relieved into the pump intake through the bypass valve (8).

## How to Correct Problems on Pumping Units

Problem	Cause	Action
1. The motor starts but the pump does not deliver fuel.	a. The fuel supply is below the suction stub in the storage tank.	a. Fill the storage tank.
	b. The vent pipe is plugged in the storage tank.	b. Clean the vent pipe.
	c. The strainer screen or filter assembly has an obstruction.	c. Remove obstructions from the screen or filter assembly.
	d. The bypass valve is not seating properly due to wear or obstruction.	d. Check the valve for an obstruction causing the valve to stay open, and/or replace the bypass valve.
	e. The v-belt is loose or broken.	e. Adjust or replace the v-belt.
	f. There is an obstruction in the atmospheric float valve.	f. Clean the float and valve area. Check for swelling and binding in the linkage.
	g. The pump is out of prime. All fuel drained out of suction line due o fault line check or foot valve.	g. Check for a faulty foot valve in the storage tank or a faulty check valve in the suction line.
	h. The suction line is leaking.	h. Start the pump and open the nozzle. If bursts of air are felt while holding a finger on the vent tube, the suction line is damaged. Repair or replace.
	i. The intake line, foot valve, angle check valve, or vertical check valve have an obstruction.	i. Connect a vacuum gauge to the 1/4" plug on the filter cover. Turn the pump on and open the nozzle. A reading of 15 or more inches of mercury with no flow indicates a complete blockage in the suction line. Clean the line or replace.
	j. The suction stub in the storage tank is on the bottom of the tank.	j. Make sure there is a three inch clearance.
	k. The control valve has an obstruction.	k. Clean the control valve. It must slide freely in the valve cavity.
	l. The nozzle is not working.	l. Replace the nozzle.
	m. *Two pumps are connected to one storage tank with one suction line. There is a faulty check valve in one of the supply lines.  *Not recommended.	m. Disconnect the vent tube on the idle pump. Install a short copper tube. Place the end of the copper tube in a container of liquid. If the liquid is drawn out of the container when the opposite pump is operated with an open nozzle, the line check valve is faulty. Replace the check valve.

## How to Correct Problems on Pumping Units

Problem	Cause	Action
2. The pump runs, but delivery is slow.	a. The fuel supply level is low.	a. Fill the storage tank.
	b. The storage tank vent pipe is partially obstructed.	b. Clean the vent pipe.
	c. The strainer screen is partially plugged.	c. Remove obstructions from the screen or filter assembly.
	d. The pump bypass valve is not seated properly.	d. Remove and clean the strainer screen.
	e. The v-belt is loose.	e. Adjust the v-belt.
	f. The motor voltage is too low.	f. Check the power supply voltage. Check for too many pieces of equipment on one electrical line.
	g. A blade or blades in the pump are worn or broken.	g. Check the blades and replace if necessary.
	h. An automatic nozzle has been installed.	h. Delivery speed will be reduced by 10-25%. If maximum speed is desired, replace with a manual nozzle.
	i. The motor is defective.	i. Inspect the motor for loose connections. If no loose connections are found, the motor is defective. Repair or replace.
	j. There is a slow leak in the suction line.	j. Start the pump and open the nozzle. If bursts of air are felt while holding a finger on the vent tube, the suction line is damaged. Repair or replace.
	k. The suction line is obstructed or the foot valve, angle or vertical check valve is partially stuck and will not open fully.	k. Connect a vacuum gauge to the 1/4" plug on the filter cover. Turn the pump on and open the nozzle. A reading of 11 to 13 inches of mercury indicates a partial obstruction in the suction line. Clean or replace the suction line components.
	l. The pump control valve is partially stuck and will not open fully.	l. Remove the valve and clean thoroughly.
	m. The nozzle check valve is sticking.	m. Clean or replace the nozzle check valve.
n. The hose is defective (flattened).	n. Replace the hose.	

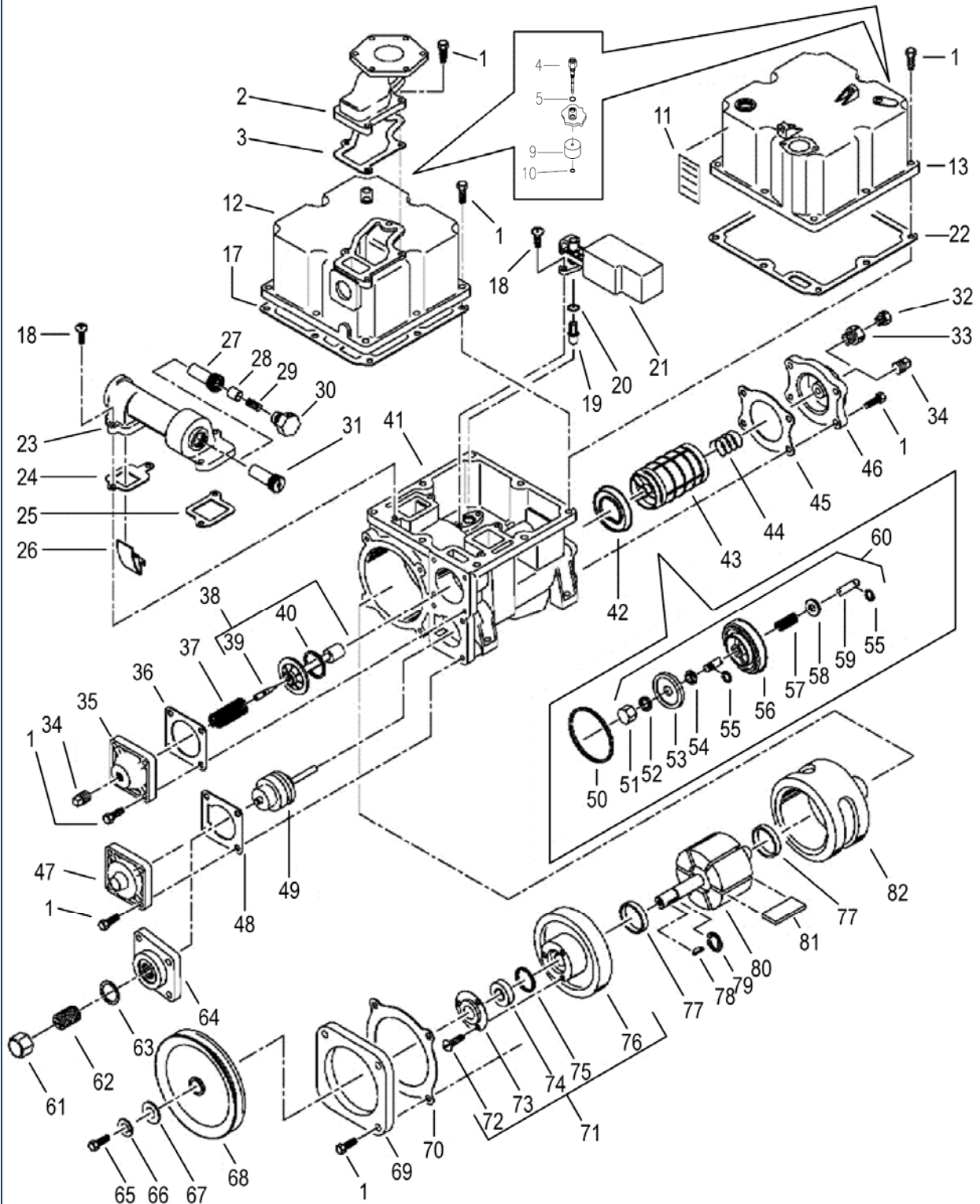


## How to Correct Problems on Pumping Units

Problem	Cause	Action
3. Inaccurate Delivery.	a. Control valve stuck open.	a. Remove 4-bolt control valve cover and free control valve.
	b. Vent tube from air eliminator to atmosphere plugged.	b. Clear any obstructions.
4. Fuel Runs out Vent Tube When Pump is Operating.	a. Float valve stuck in a closed position.	a. Clean the float and valve area. Check for swelling and binding in the linkage.
	b. Flooded suction chamber. Directional flow valve missing.	b. Storage tank level must be lower than pumping unit. Make sure 2 or more pumps are not using same suction line.
5. The computer jumps when the pump is turned on.	a. Control valve not seated properly.	a. Remove valve cover & inspect for dirt or nicks in O-ring.
	b. Expansion relief Dill valve in control valve stuck open.	b. Remove and inspect for foreign matter. Pull spring loaded seat for better view. Reinstall.

# Parts List

# Type 75 Pumping Unit



## Type 75 Pumping Unit Parts List

Item	Part Number	Description	Comment
1	A479902	Bolt	M8-1.25 X 25 mm (Use N840502 for Seal Wire Bolt)
2	N152902	Meter Inlet Adaptor	With Tap
	105588	Meter Inlet Adaptor	<b>High Alcohol</b>
3	N162801	Gasket, Meter Inlet Adaptor	
4	111874	Housing, Air Valve Float Assembly	
5	108737	Gasket	
9	108734	Float	
10	111537	Retainer Ring	
11	110211	ID Tag	
12	N152801	Cover, Atmospheric Chamber	Meter Mount Style
	105787	Cover, Atmospheric Chamber	Meter Mount Style - <b>High Alcohol</b>
13	N347901	Cover, Atmospheric Chamber	Pipe Outlet with Motor Mount Ears
	103055	Cover, Atmospheric Chamber	Pipe Outlet with Motor Mount Ears - <b>High Alcohol</b>
	108945	Cover, Atmospheric Chamber	GPU
	109582	Cover, Atmospheric Chamber	GPU - <b>High Alcohol</b>
17	N162901	Gasket - Atmospheric Cover	
18	A480101	Bolt - Round Head	M6-0.7 X 20 mm
19	N888301	Non-Reversing Float	
20	111788	O-Ring #O17	Also used with <b>High Alcohol</b>
21	109892	Atmospheric Float Assembly	
22	N162901	Gasket - Atmospheric Cover	
23	113078	One Piece Air Separator Body	
	113079	One Piece Air Separator Body	<b>High Alcohol</b>
24	N162501	Gasket, Inlet Separator	
25	N162601	Gasket, Outlet Separator	
26	N190201	Insert - Air Separator Inlet	
27	108727	Tube - Air Separator	
28	108730	Piston	OIML Only
29	108725	Spring	
30	108728	End Cap	
31	N225301	Tube - Air Separator	}
32	109668	Screw - Air Test Valve	
33	109666	Adaptor - Air Test Valve	
34	110430	Pipe Plug	1/4 - 18NPT
35	N154801	Cover, Control Valve	
	103053	Cover, Control Valve	<b>High Alcohol</b>
36	N162301	Gasket	
37	E008001	Spring	Standard Delivery Pump 12 GPM
	J325201	Spring	Heavy Duty Delivery Pump 22 GPM
38	113022	Control Valve Assembly	Aluminum Body Version with Hard Coat
39	A321901	Pressure Relief Valve	
40	111790	O-Ring #210	Also used with <b>High Alcohol</b>
41	N150602	Pump Body	<b>High Alcohol</b>
	103052	Pump Body	Side Inlet Version
	N150603	Pump Body	Side Inlet <b>High Alcohol</b>
	109735	Pump Body	
42	N160301	Filter Insert	
43	100070	Strainer	Standard Production
	A311901	Filter	Paper Filter 35 Micron
		Strainer	Special - Used with Sack
	N347301	Cloth Sack	10 Micron

## Type 75 Pumping Unit Parts List

Item	Part Number	Description	Comment
44	N905001	Filter Spring	
45	N162201	Gasket	
46	N154701	Filter Cover	
	103054	Filter Cover	<b>High Alcohol</b>
47	N154901	Bypass Cover	Non-Adjustable
	105585	Bypass Cover	<b>High Alcohol</b>
48	N162401	Gasket	
49	N481201	Bypass Valve	Standard - Silver Spring Low Pressure
	N481202	Bypass Valve	Standard - Green Spring Medium Pressure
	N481203	Bypass Valve	Standard - Copper Spring High Pressure
50	111791	O-Ring #229	Also used with <b>High Alcohol</b>
51	A620801	Cap Nut	
52	A620901	Seal Ring	
53	N873001	Disc	} Not Sold Separately - See Item #60
54	N872801	Adaptor	
55	A620101	Retaining Ring	
56	N872901	Check Valve Body	
57	N873201	Spring	
58	N873101	Washer	
59	N872701	Shaft	
60	N873301	Check Valve Assembly	With out Ring
	KR044102	Check Valve Assembly	Includes Item #50 & Item #60
61	N308301	Cap	
62	N308201	Adjustment Screw	
63	A507901	Washer	
64	N308101	Cover - Adjustable Bypass	
65	A479903	Screw	M8 - 1.25 X 20 mm
66	A000301	Lock Washer	
67	A028101	Flat Washer	
68	N106901	Pulley - Single Groove	
	100040	Pulley - Dual Groove	
69	N155901	Clamping Ring	
70	N162701	Gasket	
71	J682702	Rotor Cover Assembly	
72	A480001	Flat Head Screw	
73	H352101	Shaft Seal Retainer	
74	A323702	Shaft Seal (with insertion tool)	109711 Shaft Seal Kit - Includes #74 & 75 with install plug
75	A247014	Square Seal	
76	N103801	Rotor Cover	
77	N650401	Throw Out Ring	Standard Delivery Pump
	N238101	Throw Out Ring	Heavy Duty Pump
78	A199501	Woodruff Key	
79	A263101	Retaining Ring	
80	N238301	Rotor & Shaft Assembly	Standard 6 Blade Rotor
	*KR0420xx	*Rotor Replacement Kit	Includes #70, 74, 75, (2) 77, 80, (6) 81 <b>xx="01" Std Delivery</b> <b>"02" Heavy Duty</b>
81	110704	Rotor Blade	
82	N156401	Stator	Standard Delivery Pump
	N159501	Stator	Heavy Duty Pump
	KR036604	Gasket Set for Pumping Unit	Complete Set of Gaskets, Seals, and O-Rings for P/U

# Appendix A

**BULLETIN OFFICIEL DES INSTRUMENTS DE MESURE**  
**CERTIFICAT D'APPROBATION C.E.E. DE MODELES**  
**n° 87.0.04.462.2.3 du 31 décembre 1987**  
**modifiant le certificat C.E.E. n° 85.0.01.462.2.3 du 7er juillet 1985 (f)**

## **Groupes de pompage et de dégazage SATAM modèles EPZ 75/3 et EPZ 75/5**

Le présent certificat est établi en application de la directive 71/316/CEE du 26 juillet 1971, modifiée par la directive 83/575/CEE du 26 octobre 1983, relative aux dispositions communes aux instruments de mesurage et aux méthodes de contrôle métrologique, de la directive 71/319/CEE du 5 juillet 1971, relative aux coupleurs de liquides autres que l'eau et de la directive 77/313/CEE du 5 avril 1977, modifiée par la directive 82/625/CEE du 7er juillet 1982, relative aux ensembles de mesurage de liquides autres que l'eau. Du décret n° 73-788 du 4 août 1973, modifié par le décret n° 84-1107 du 6 décembre 1984, portant application des prescriptions de la Communauté économique européenne relatives aux dispositions communes aux instruments de mesurage et aux méthodes de contrôle métrologique et du décret n° 73-791 du 4 août 1973 relatif à l'application des prescriptions de la Communauté économique européenne au contrôle des compteurs volumétriques de liquides autres que l'eau et de leurs dispositifs complémentaires.

**Fabricant:**

SATAM Industries, 63, Avenue du General. Leclerc, B.P. 100. 93123 La Courneuve. Paris, France.

**Objet:**

Le présent certificat CEE modifie le certificat CEE n° 85.1.01.462.2.3 du 7er juillet 1985 (1).

**Caractéristiques:**

Les groupes de pompage et de dégazage SATAM, modèles EPZ 75/3 et EPZ 75/5, faisant l'objet du présent certificat CEE diffèrent des modèles approuvés par le certificat CEE précité par:

- Le remplacement sur le couvercle des groupes de pompage et de dégazage d'un clapet tareté par un orifice protégé par une bride rivetée : cet orifice assure l'évacuation des vapeurs et des gaz de la cuve de purge dans le cas où le tube de mise à l'atmosphère est obstrué.
- La modification du groupe de pompage du modèle EPZ 75/3 : il est identique à celui du modèle EPZ 75/5 mais la vitesse de rotation de l'axe des palettes dans la chambre d'aspiration est réduite. La pression maximale de fonctionnement, identique pour les deux modèles, est égale à 2 bar.

Les autres caractéristiques, les indications complémentaires, le signe d'approbation CEE, le principe de fonctionnement et le plan de scellement ne sont pas modifiés.

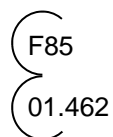
Les ensembles de mesurage routiers approuvés antérieurement avec un groupe de pompage et de dégazage SATAM, modèle EPZ 75/3 ou EPZ 75/5, objet du certificat CEE n° 85.1.01.462.2.3 précité peuvent être équipés d'un groupe de pompage et de dégazage objet du présent certificat.

(1) Revue de Métrologie, juillet 1985, page 509.

# Appendix A

## *BULLETIN OFFICIEL DES INSTRUMENTS DE MESURE*

Signe d'approbation de modèle:



Dépôt de modèles:

Les plans et schémas ont été déposés au siège de la direction régionale de l'industrie et de la recherche d'Ile-de-France et à la sous direction de la métrologie.

Validité du présent certificat CEE:

Le présent certificat CEE est valable jusqu'en juillet 1995.

Annexe:

Dessin n° 4858.

Pour le ministre et par délégation:

Par empêchement du directeur général de  
l'industrie:  
L'Ingénieur général des Mines,  
A.C. Lacoste.

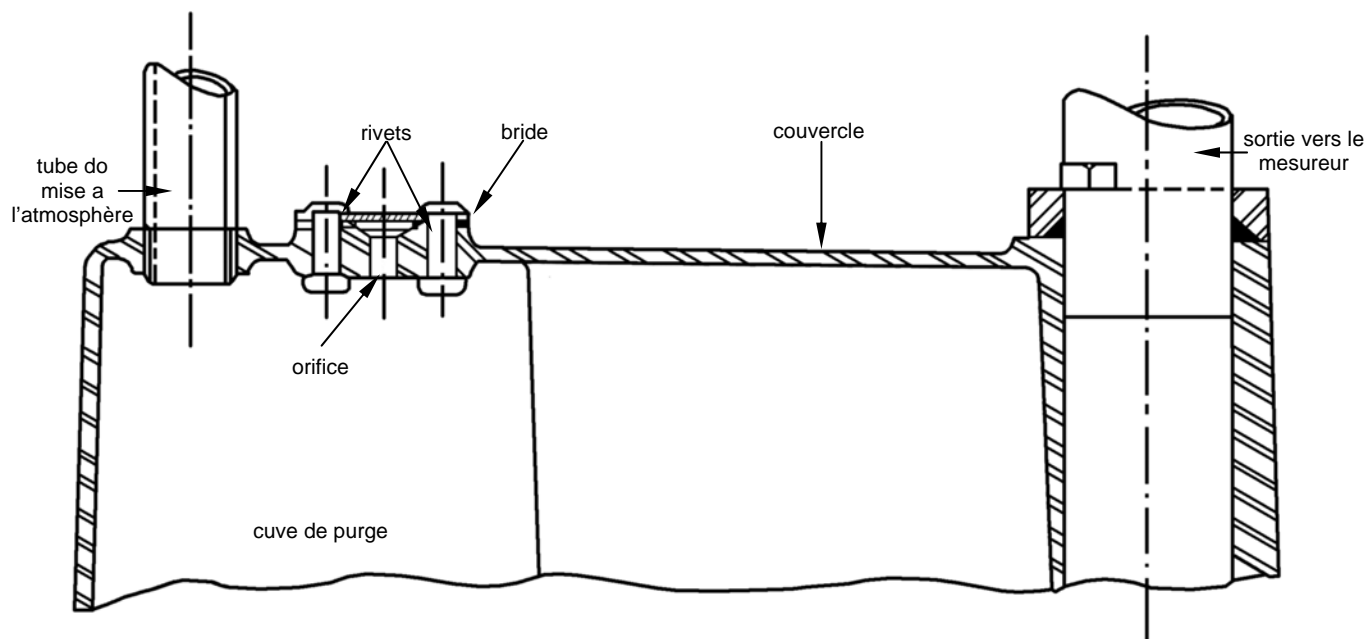
# Appendix A

BULLETIN OFFICIEL DES INSTRUMENTS DE MESURE

N° 4858

## Groupes de pompage et de dégazage SATAM EPZ 75/3 et EPZ 75/5

Vue en coupe du couvercle





# Appendix B

**BULLETIN DES INSTRUMENTS DE MESURE**

**JUILLET 1985**

**CERTIFICAT D'APPROBATION C.E.E. DE MODELES**  
n° 85.0.01.462.2.3 du fer juillet 1985

## **Groupes de pompage et de dégazage SATAM** **modèles EPZ 75/3 et EPZ 75/5** **(Précision commerciale)**

Le présent certificat est établi en application de la directive 71/316/CEE du 26 juillet 1971, relative aux dispositions communes aux instruments de mesurage et aux méthodes de contrôle métrologique, de la directive 71/319/CEE du 26 juillet 1971, relative aux coupleurs de liquides autres que l'eau Du décret n° 73-788 du 4 août 1973 portant application des prescriptions de la CEE relatives aux dispositions communes aux instruments de mesurage et aux méthodes de contrôle métrologique du décret n° 73-791 du 4 août 1973 relatif à l'application des prescriptions de la CEE au contrôle des compteurs volumétriques de liquides autres que l'eau et de leurs dispositifs complémentaires et de l'arrêté du 8 novembre 1973 relatif aux modalités d'application de certaines dispositions du décret n° 73-788 du 4 août 1973, de l'arrêté du 20 novembre 1973 portant application du décret n° 73-791 du 4 août 1973 et de l'arrêté du 19 juin 1978 relatif à l'application des prescriptions de la CEE au contrôle des ensembles de mesurage à compteur volumétrique destinés à déterminer le volume des liquides autres que l'eau.

Fabricant:

SATAM Industries, 63, Avenue du General. Leclerc, B.P. 100. 93123 La Courneuve. Paris, France.

Caractéristiques:

Les groupes de pompage et de dégazage SATAM, modèles EPZ 75/3 et EPZ 75/5, sont destinés au mesurage de l'essence, du supercarburant et du gazole.

Ils sont composés des éléments suivants:

- Un filtre avec couvercle amovible.
- Une pompe rotative à six palettes radiales.
- Un séparateur de gaz statique à effet VORTEX.
- Une cuve de purge.
- Un clapet de bipasse.
- Un clapet anti-retour.
- Un orifice de refoulement vers le mesureur.

Ces deux modèles diffèrent par la cylindrée de la chambre d'aspiration de la pompe. En outre, le modèle EPZ 75/7 comporte une bague de guidage des palettes.

## Appendix B

**BULLETIN DES INSTRUMENTS DE MESURE**

**JUILLET 1985**

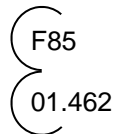
Leurs caractéristiques métrologiques sont les suivantes:

Modèle	EPZ 75/3	EPZ 75/5
Débit maximal	3 m <sup>3</sup> /h	5 m <sup>3</sup> /h
Pression maximale de fonctionnement	1.7 bar	2 bar
Pression minimale de fonctionnement	0.6 bar	0.6 bar

Indication complémentaire:

Lorsque le groupe de pompage et de dégazage SATAM, modèle EPZ 75/5 est incorporé dans un ensemble de mesurage routier destiné au mesurage de gazole, un indicateur de gaz doit être disposé en amont du flexible de l'ensemble.

Signe d'approbation de modèle:



Dépôt de modèles:

Les plans et schémas ont été déposés au service de la métrologie.

Validité du présent certificat CEE:

Jusqu'au 1er juillet 1995.

Annexe:

Notice descriptive.  
Dessins n° 4490-1 et 2

Pour le ministre et par délégation:

Par empêchement du Directeur de la qualité et de  
la sécurité industrielles:  
Le Chef du service de la Métrologie,  
P, Bertran.

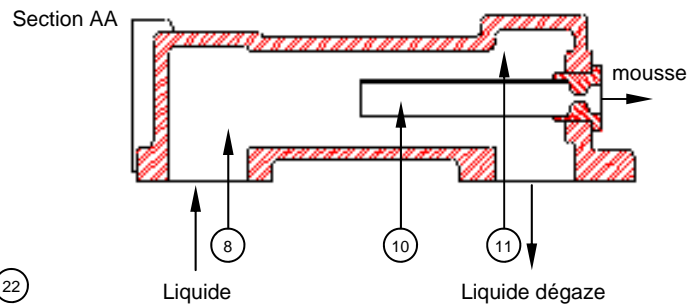
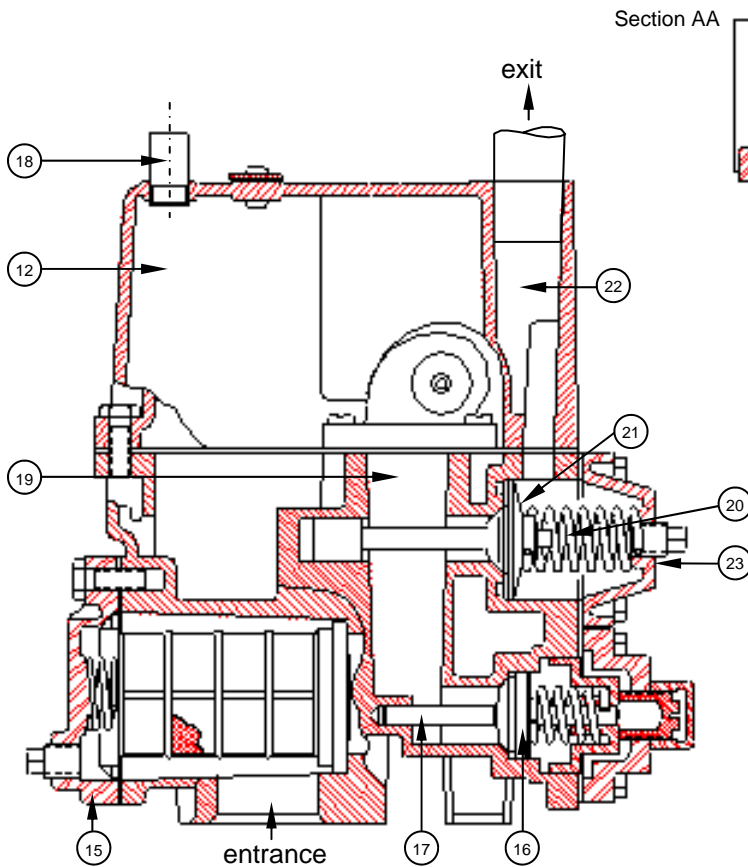
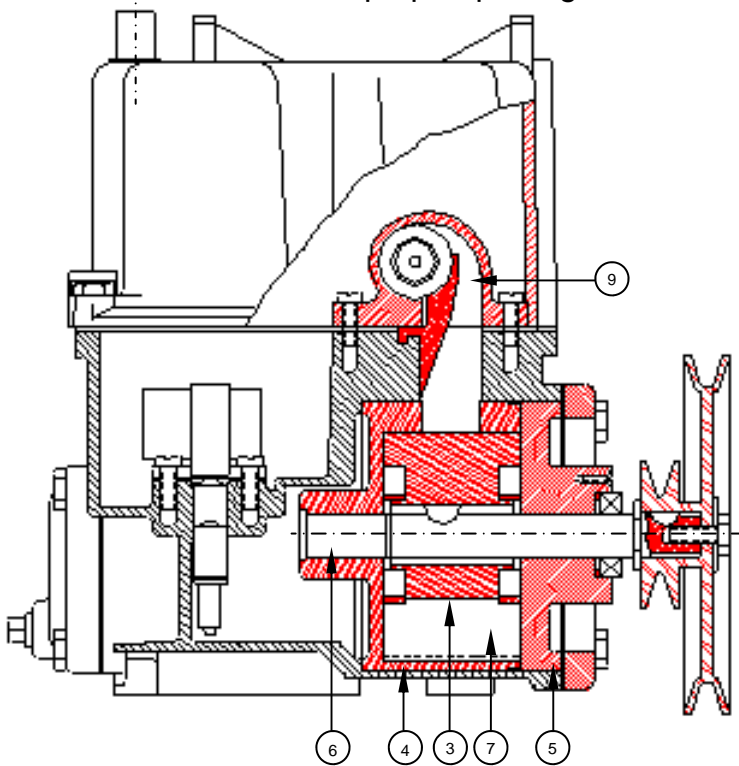
# Appendix B

BULLETIN DES INSTRUMENTS DE MESURE

JUILLET 1985

Groupe pompe dégazeur SATAM EPZ 75/3

N° 4490-1



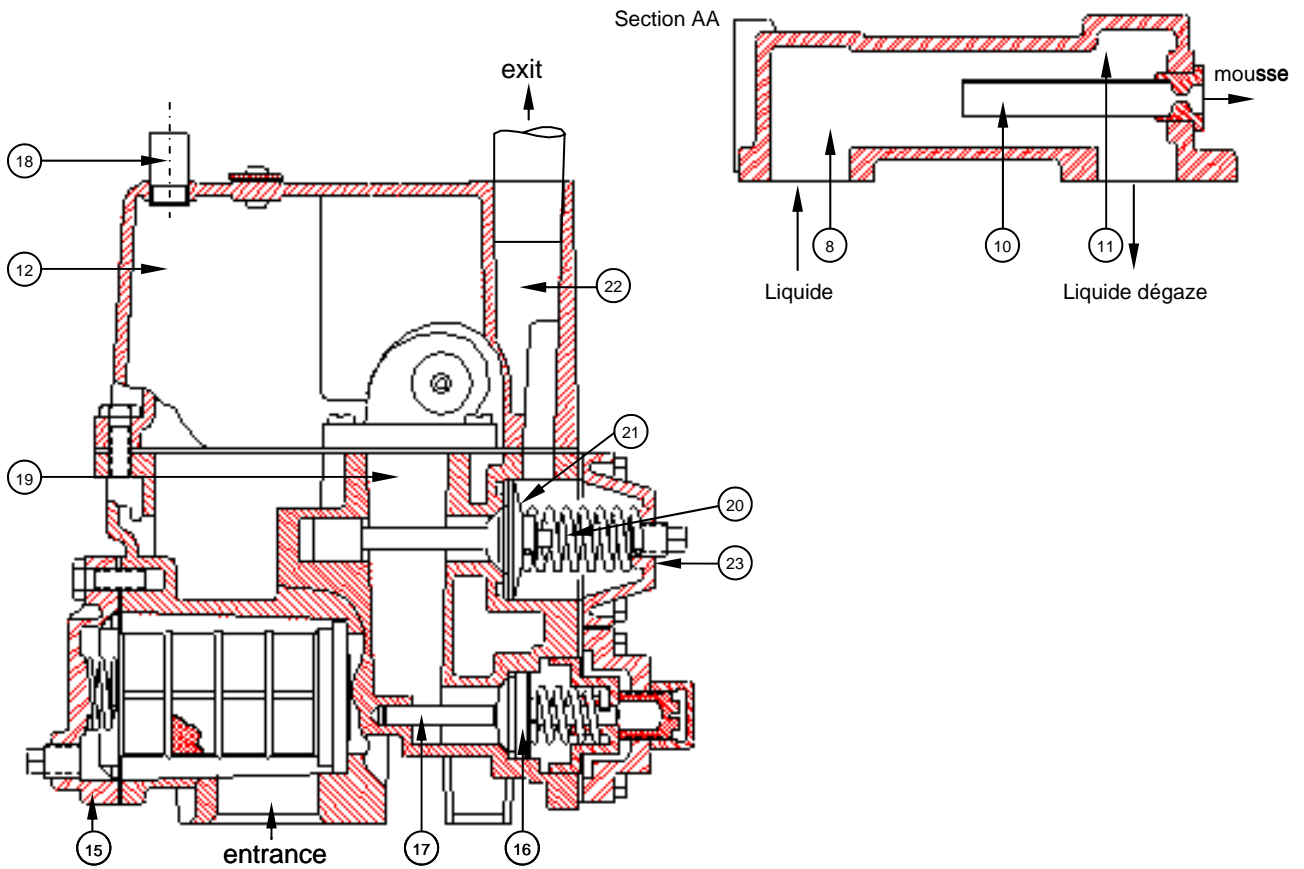
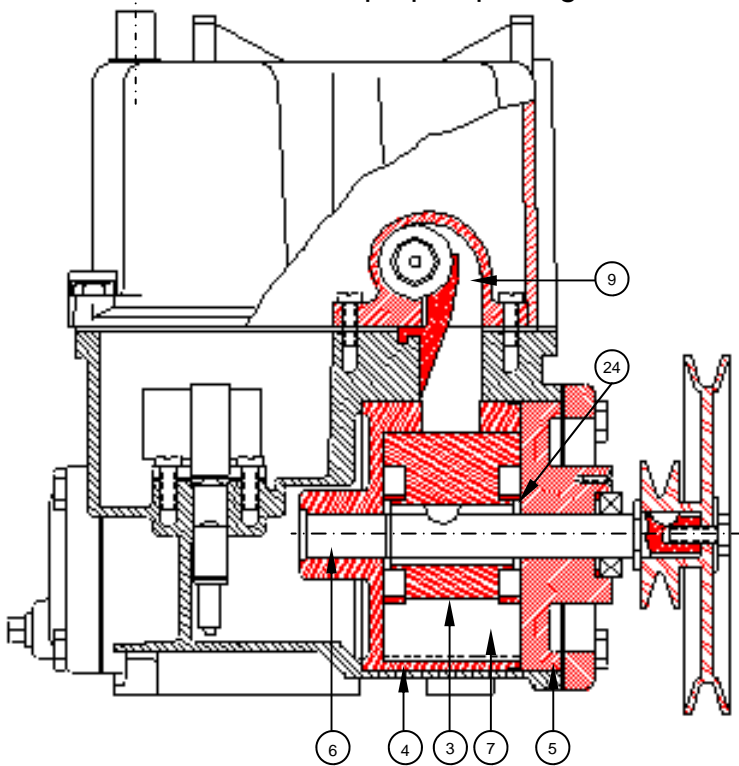
# Appendix B

BULLETIN DES INSTRUMENTS DE MESURE

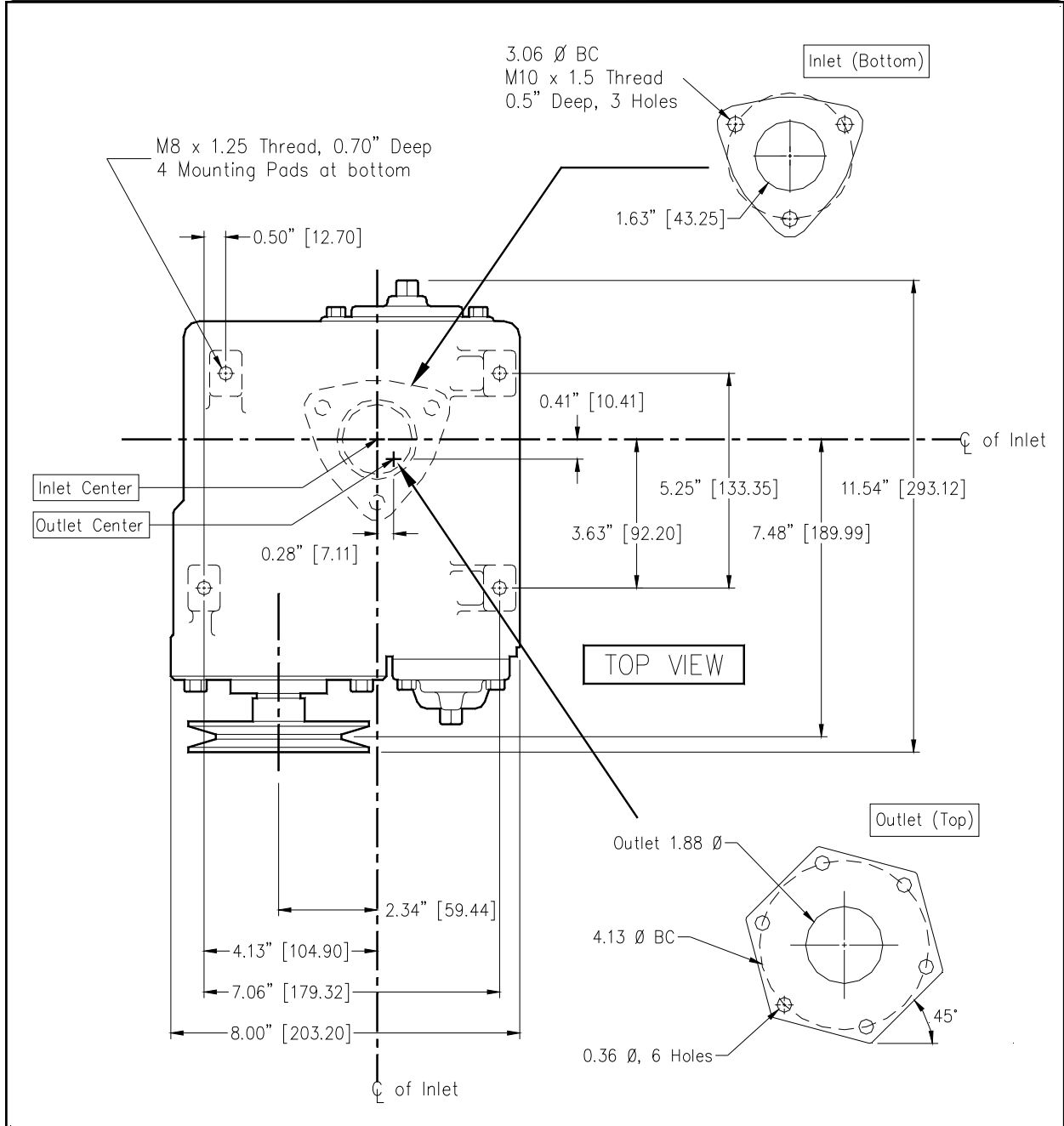
JUILLET 1985

Groupe pompe dégazeur SATAM EPZ 75/5

N° 4490-2

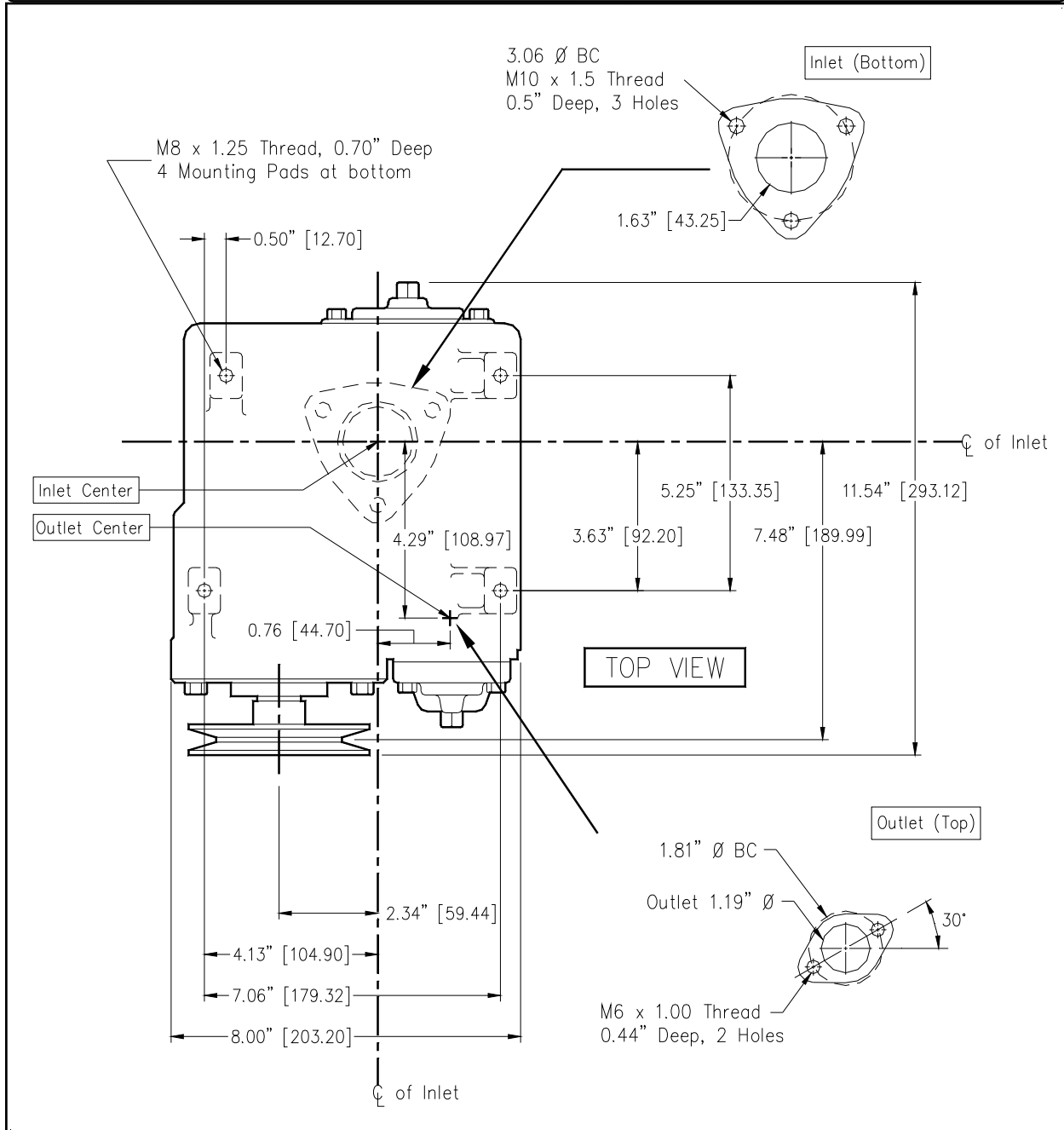


## Appendix C Inlet & Mounting Dimensions



**Figure 5 - Meter Flange Outlet Option**

## Appendix C Inlet & Mounting Dimensions



**Figure 6 - Tubular Outlet/Motor Mount Option**

## Appendix D

### Installation Piping for Type 75 Pump Dispenser

To obtain maximum flow rates on a self-contained pump, follow these guidelines:

1. The total length of horizontal piping between the pump and tank must be no longer than 60 feet.
2. Piping specifications:
  - a. Use new 1-1/2" galvanized or approved non-metallic pipe for 10-15 GPM pumps. Use new 2" galvanized or approved non-metallic pipe for 20-24 GPM pumps.
  - b. All horizontal piping must be buried a MINIMUM of 18" below the finishing grade.
  - c. The pipe from the tank must slope up to the pump (approximately 1-1/2" to 2" per 10 feet). The pipe MUST be straight. The pipe must be supported continuously to prevent sagging.
  - d. All piping must hold a 50 PSI pressure test for 10 minutes.
  - e. To absorb ground movement from settling of the tank, front heaving of the ground pump or pump island settling, a swing joint must be used in the supply line at the tank and directly underneath the dispenser. Three additional directional changes using elbows are permitted.
  - f. Only one pumping unit is permitted for each underground pipe. Do not use a tee to connect two pumps off one line.
3. Static lift on self contained units must not exceed 10 feet (vertical distance between product level in

