

# Sprague

## Air Driven Gas Boosters

Sprague pneumatic boosters offer a cost effective way to compress shop air or bottled gas to meet various requirements for higher pressure, lower volume air or gas.

Industrial applications include charging accumulators, inflating high pressure tires or charging shock struts from lower pressure supply sources, the transferring of gas from a supply cylinder to another container or the actuating of air chucks in machine tools. Where production machinery or test set-ups require higher air pressures than normally provided by the shop air system, Sprague boosters can provide the extra muscle needed to operate the equipment.

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# How Sprague Gas Boosters Work

The Sprague gas booster is a piston-type, air-operated booster. It uses a mechanically operated, snap-action air selector valve to cycle the booster.

The Sprague boosters, like Sprague air driven hydraulic pumps, employ the piston differential areas principle— a large area air piston, driven at low air pressure to drive a small area compression piston which converts input gas to higher pressure, lower volume output gas.

The booster gas output or discharge pressure developed by the compression piston is determined by the ratio between the area of the air piston, the operating air pressure and the available precharge pressure. The function of the precharge pressure to the booster is to charge the high pressure cylinder inside the booster with gas, reducing the time required to reach higher pressures, and the time to return the compression piston and the air piston for the next compression cycle.

The Sprague booster works rapidly to reach the required pressure, then stops at a pressure balance. The booster will hold the pressure balance indefinitely with minimal energy consumption, heat build-up or parts movement. When a pressure imbalance occurs, the booster will automatically restart to restore the pressure balance.

By using a pressure regulator on the operating air supply line, the outlet gas pressure can be accurately adjusted to any pressure level between the precharge pressure and the maximum discharge pressure.

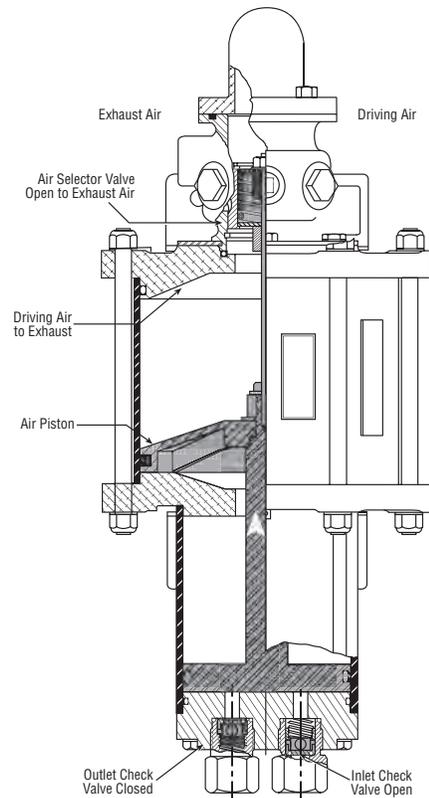
With some Sprague booster models, the pumping or high pressure section is cooled with exhaust air piped from the air-driving section of the booster. In other boosters, the pumping section employs external fins to dissipate the heat.

Compared to other air-operated gas boosters, the Sprague booster does the same job but with fewer moving parts and seals for less maintenance throughout its service life.

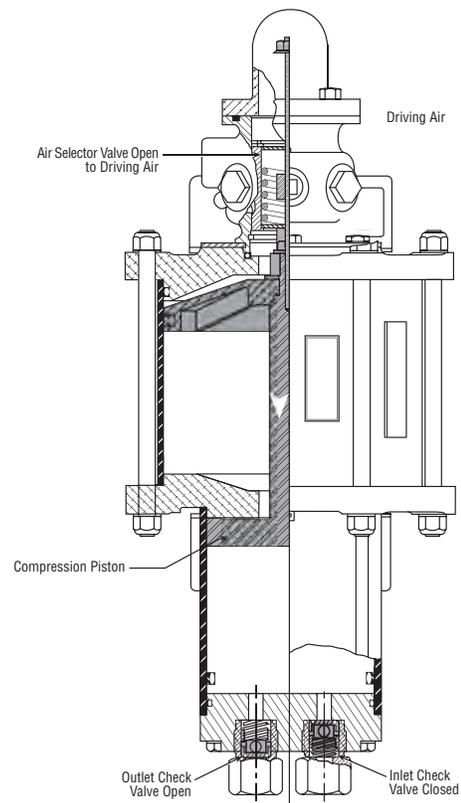
Because of their compact size and low cost, Sprague boosters can be used in high-low combinations to meet higher flow and pressure requirements.

Being air driven and having no electrical connections, Sprague pneumatic boosters are non-sparking. These boosters can be used safely in the presence of flammable or explosive liquids or vapors.

Sprague boosters and other Sprague pneumatic products are designed to a 4 to 1 minimum safety factor.



**Start of Suction Stroke**



**Start of Compression Stroke**

# Typical Circuits

## for Air Driven Gas Boosters & Accessories

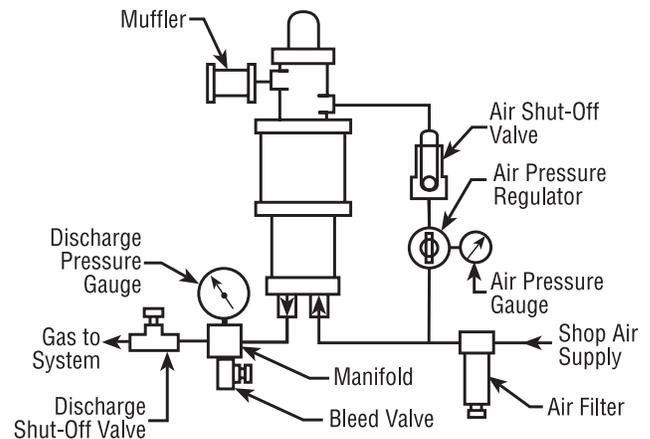
To compress shop air or bottled gas to higher pressures, Sprague boosters are combined with accessories to provide complete circuits as shown below.

An air control unit and shut-off valve are installed in the driving air side of booster. Noise is dampened with a muffler. An air filter (10 micron) is recommended in the gas precharge line. On the gas discharge side, a pressure gauge, shut-off and bleed valves are installed.

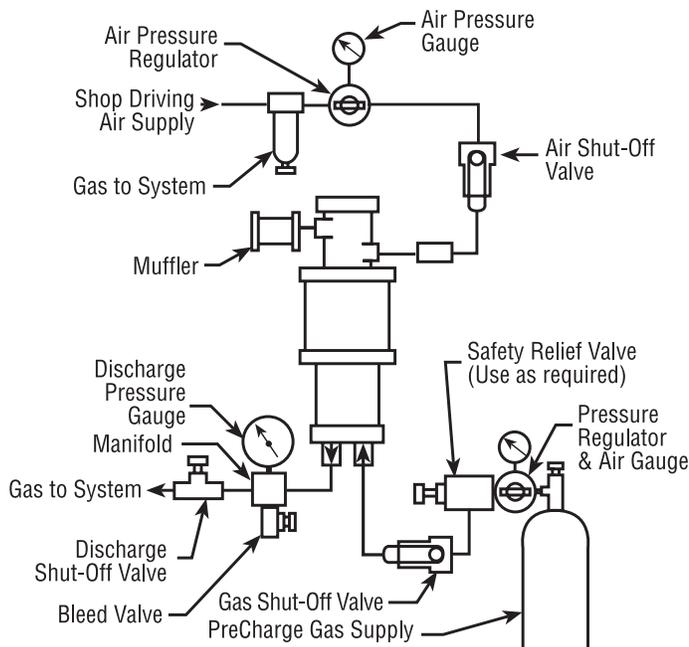
For convenience, boosters combined with compatible accessories can be obtained as complete, ready-to-use power units.

### SINGLE AIR SOURCE

Non-lubricated shop air to driving side and to gas inlet of booster.



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### DUAL SOURCE AIR/GAS SOURCES

Precharge gas supply to gas inlet of booster.

# Gas Booster

## S-86 Selection

In general, an air or gas charging application requires a specific volume to be brought to a specific pressure within a given amount of time. The adjacent tables will assist you in selecting the most efficient ratio Sprague booster for your application requirements.

A typical hose pressure testing application:

- a. Hose with one cubic foot volume is to be pressure tested at 500 psig. Pressure level is to be reached in three minutes. Available shop air is 150 psi.
- b. Using Table 1, Low Pressure Gas Boosters Performance, page 46, find the required receiver pressure of 500 psi. Compare the figures found in the 500 psi discharge pressure column to the desired time of three minutes. The column figures nearest to three minutes is 2 minutes, 45 seconds with a discharge rate of 4.4 standard cubic feet per minute. So, the 5:1 ratio booster will do this job more efficiently than a 15:1 ratio booster.
- c. Note that the booster driving air pressure and above calculations are based on 100 psi, so the shop air pressure of 150 psi must be reduced to 100 psi driving air to operate the booster. Shop air of 150 psi should still be supplied to the inlet port of the compressing portion of the booster. The higher the precharge inlet pressure, the faster the discharge outlet pressure will be reached.
- d. For the above hose test, the S-86-JN-5 booster or S-486-JN-5 booster power unit could be used (See pages 47 & 48).



**S-86**

## S-86 Selection

Low Pressure Booster Ratio	Precharge Inlet Air Range-psi	Outlet Air Range-psi
2:1	25-450	50-450*
5:1	50-1100	125-1100*
15:1	100-3100	375-3100*

\*Based on 200 psi driving air

High Pressure Booster Ratio	Precharge Inlet Air Range-psi	Outlet Air Range-psi
30:1	200-6000	750-6000*
60:1	300-6100	1500-6100**
100:1	500-10300	2500-10300**
135:1	800-13500	3375-13500**

\*Based on 200 psi driving air.

\*\*Based on 100 psi driving air.

# S-86 Performance Data

## Low Pressure Gas Boosters Performance (approximate performance based on air consumption of 80 SCFM)

BOOSTER RATIO	INLET PORT PRECHARGE PRESSURE-psi	OUTLET PORT PRESSURE (with 100 psi driving air)	DISCHARGE CAPACITY - Standard Cubic Feet per minute (SCFM)											
			Discharge Pressure - psi											
			125	150	175	200	300	400	500	600	800	1000	1500	
2:1	75	225	15.8	14.2	12.6	11.1								
	125	225		19.6	17.3	13.7								
	125	225		22.5	20.6	15.0								
5:1	50	550				4.1	3.6	2.7	1.6					
	100	550				8.7	6.8	5.2	3.0					
	150	550				13.7	11.1	8.0	4.4					
15:1	100	1500						2.2	1.9	1.7	1.4	1.2	-	
	200	1500						6.5	5.7	5.2	4.5	4.1	1.1	
	300	1550						10.7	9.5	8.4	6.2	5.1	1.5	

Time required in minutes/seconds to fill a one cubic foot receiver to listed Discharge Pressures RECEIVER PRESSURE - psi (one cubic foot)

2:1	75	225	0-12	0-19	0-27	0-38							
	100	225		0-8	0-14	0-25							
	125	225		0-5	0-8	0-17							
5:1	50	550				2-4	2-58	5-40	9-22				
	100	550				0-42	1-40	2-50	4-50				
	150	550				0-12	0-36	1-27	2-45				
15:1	100	1550						7-30	10-48	14-56	23-6	33-12	
	200	1550						1-45	2-52	4-5	6-54	9-55	20-48
	300	1550						0-31	1-18	2-8	4-0	6-16	14-28

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## High Pressure Gas Boosters Performance (approximate performance based on air consumption of 80 SCFM)

BOOSTER RATIO	INLET PORT PRECHARGE PRESSURE-psi	OUTLET PORT PRESSURE (with 100 psi driving air)	DISCHARGE CAPACITY - Standard Cubic Inches per Minute (SCIM)											
			Discharge Pressure - psi											
			1000	2000	2500	2750	3000	4000	5000	6000	7000	800	9000	10000
30:1	Min. 200*	3000	2800	200	1400	950								
	300	3000	5200	4200	3200	2100								
	500	3000	12500	9500	7000	3800								
60:1	Min. 300*	6100	3800	3200	3100	3050	3000	3000	2900	2000				
	500	6100	6600	6000	5900	5850	5800	5750	5700	4500				
	Min. 800*	10,300					5074	5000	4800	4700	4500	4250	3800	3000
100:1	1000	10,300					7000	6700	6600	6400	6100	5600	5000	3500
	Min. 800*	13,500												
135:1	1000	13,500												

Time required in minutes/seconds to fill a one cubic foot receiver to listed Discharge Pressures RECEIVER PRESSURE - psi (one cubic foot)

30:1	Min. 200*	3000	1-15	3-52	6-35	9-50								
	300	3000	0-35	1-48	2-50	4-30								
	500	3000	0-10	0-45	1-0	1-30								
60:1	Min. 300*	6100	0-53	2-54	3-32	4-30	5-7	7-24	9-18	12-20				
	500	6100	0-40	1-30	1-50	2-15	2-38	3-25	4-25	6-40				
	Min. 800*	10,300					2-47	4-7	5-22	6-25	7-40	8-38	9.46	11-13
100:1	1000	10,300					1-30	2-50	3-45	4-30	5-20	6-10	7-0	8-30
	Min. 800*	13,500												
135:1	1000	13,500												

\*Minimum precharge required for satisfactory operation.

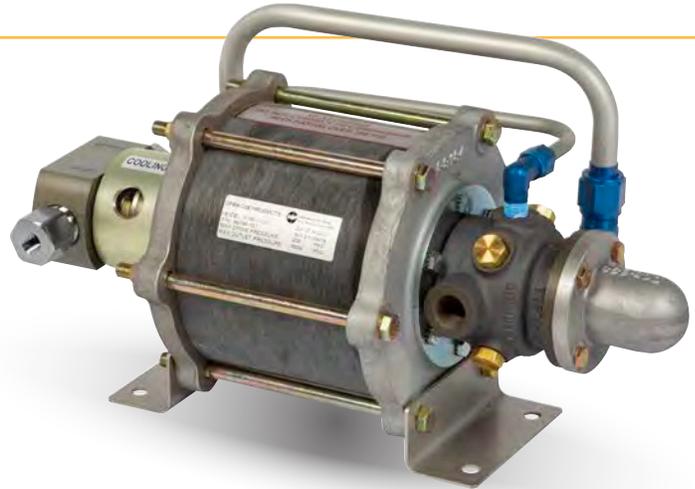
# Gas Boosters

## S-86-JN Non-Contaminating

A competitively priced series of versatile gas boosters is offered in six popular design ratios: 2:1, 5:1, 15:1, 30:1, 60:1 and 100:1.

These non-contaminating gas boosters are suitable for general use or for use in cleanrooms or laboratories. Since these boosters are provided with self-lubricating dynamic seals, they can be driven with clean dry air.

Being air driven, these boosters are non-sparking and safe for use in hazardous areas.



S-86-JN

## S-86-JN Gas Booster Performance And Data (Nominal)

Model No.	Ref. No	Ratio	Driving Air Supply-psi (See Note 1)	Precharge Inlet Air Range-psi	Outlet Air Range-psi	Port Thread Size		Size				Weight	
						Driving Air	Inlet-Outlet Air	Length		Width		Actual	
								in.	cm	in.	cm	lbs.	kg
S-86-JN-2	88734-1	2:1	25-200	25-450	50-450	1/2 NPT	NFC	18-1/4	46.3	7-3/4	19.6	17	7.7
S-86-JN-5	88621-1	5:1	25-200	50-1100	125-1100	1/2 NPT	NFC	18-1/4	46.3	7-3/4	79.6	16	7.3
S-86-JN-15	90081-1	15:1	25-200	100-3100	375-3100	1/2 NPT	NFB	17-1/2	44.5	7-3/4	19.6	18	8.2
S-86-JN-30	88186-101	30:1	25-200	200-6000	750-6000	1/2 NPT	NFB	15-1/2	39.4	11-5/8	29.5	19-1/2	8.8
S-86-JN-60	90404-1	60:1	25-100	300-6100	1500-6100	1/2 NPT	NFB	15-7/8	40.3	11-5/8	29.5	19-1/2	8.8
S-86-JN-100	90036-2	100:1	25-100	500-10300 (see Note 2)	2500-10300	1/2 NPT	NFB	15-7/8	40.3	11-5/8	29.5	19-1/2	8.8
S-86-JN-135	94319-135	135:1	25-100	800-13500	3375-13500	1/2 NPT	NFB	16-1/4	41.3	11-5/8	29.5	19-1/2	8.8

**Notes:** 1. Maximum driving air consumption of the boosters is approximately 80 SCFM @ 100 psi.  
Boosters will operate with less than 80 SCFM and with less than 100 psi.

2. Minimum precharge of 800 psi is necessary to obtain a maximum output pressure of 10300 psi.

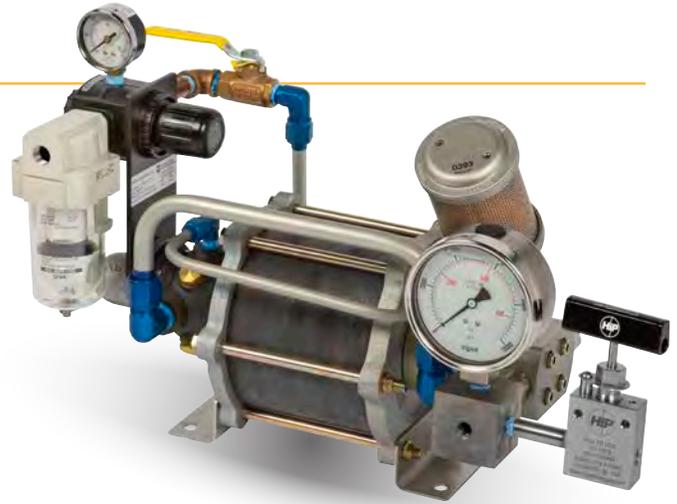
# Gas Booster

## Power Units

Assembled, ready-to-use gas booster power units are suitable for general use or for cleanroom or laboratory use. The power units can be used within portable power supply circuits or stationary pneumatic circuits.

Being air driven, the power units are non-sparking and safe for use in hazardous areas.

The power unit assembly includes an S-86-JN-( ) type booster, air filter, air pressure regulator, air gauges, driving air shut-off and bleed valves, high pressure manifold fitting and muffler.



**S-486-JN**

### 3 S-486-JN Gas Booster Power Units Data (Nominal)

Model No.	Ref. No	Ratio	Gas Booster used in power unit	Port Thread Size			Size						Weight	
				Driving Air	Inlet Air	Outlet Air	Length		Width		Height		Actual	
							in.	cm	in.	cm	in.	cm	lbs.	kg
<b>S-486-JN-2</b>	90017-2	2:1	S-86-JN-2	3/8 NPT	NFC	NFC	23-1/2	59.7	10-3/4	27.3	13-1/2	34.3	27	12.2
<b>S-486-JN-5</b>	90017-5	5:1	S-86-JN-5	3/8 NPT	NFC	NFC	23-1/2	59.7	10-3/4	27.3	13-1/2	34.3	27	12.2
<b>S-486-JN-15</b>	90204-1	15:1	S-86-JN-15	3/8 NPT	NFB	NFB	23-7/8	60.6	9-1/2	24.1	13-1/2	34.3	26-1/4	11.9
<b>S-486-JN-30</b>	90018-1	30:1	S-86-JN-30	3/8 NPT	NFB	NFB	19-7/8	50.5	10-3/4	27.3	13-1/2	34.3	29-3/4	13.5
<b>S-486-JN-60</b>	90647-1	60:1	S-86-JN-60	3/8 NPT	NFB	HF4	22	55.9	10-3/4	27.3	13-1/2	34.3	30	13.6
<b>S-486-JN-100</b>	90153-1	100:1	S-86-JN-100	3/8 NPT	NFB	HF4	22	55.9	10-3/4	27.3	13-1/2	34.3	30	13.6
<b>S-486-JN-135</b>	94363	135:1	S-86-JN-135	3/8 NPT	NFB	HF4	24-1/4	61.6	11-7/8	30.2	13-1/3	35.3	30	13.6

**Note:** Inlet port: 1/4 NPT, Outlet port: 9/16-18UNF-3B (NBS port).

# Sprague PowerStar™ 4

## Advanced Gas Boosters

The PowerStar™4B gas booster is a reciprocating, single or double or dual stage air operated unit. It uses an air-piloted unbalanced type air directional valve to cycle the booster.

### Features

- Works off compressed air supplies
- Operates quietly
- Features mechanical separation between air drive and boosted gas
- Compatible with most gases

### The Principles of Operation

The PowerStar™4B gas booster operates on the differential piston area principle. A large area piston, driven at low air pressures, drives a small area compression piston which converts input gas to higher pressure. The output gas or discharge pressure is determined by the ratio between the area of the drive piston, the operating air pressure and the available precharge pressure supply.

The function of the precharge pressure is to charge the high pressure cylinder inside the booster with gas, reducing the time needed to reach higher pressures. In double-ended gas boosters, the precharge gas adds power to the compression stroke.

### The Actual Operation

The PowerStar™4B gas booster works rapidly at first, then slows and stops at a pressure balance. The booster holds the pressure balance indefinitely, assuming no leakage. When a pressure imbalance occurs, the booster automatically restarts and restores the pressure balance. During operation, exhaust air from the air drive section cools the high pressure boosting chamber.

### The Gas Booster in Action

Whether you use gas above normal cylinder pressure or require continuous high pressure and want to get the most out of the cylinder's gas supply, the PowerStar™4B Series is for you! It assures the optimum use of commercially-bottled gas. Some units draw a vacuum.



The applications for this versatile gas booster are extensive and include:

#### Aviation and Aerospace

- Static and dynamic testing of valves and components at overhaul facilities
- Inflating high pressure aircraft tires
- Instrument calibration

#### Automotive

- Air bag testing
- Gas spring charging systems for die and mold manufacturers
- Accumulator charging

#### Petrochemical

- Heel recovery from cylinders for gas transfer
- Gas blanketing

#### Diving

- Filling air tanks from larger cylinders
- Testing air pressure regulators
- Gas mixing

#### Fire Protection

- Filling breathing air cylinders
- Mobile filling stations for firefighters
- Halon and CO2 charging

#### Fluid Power

- Testing hoses and valves
- Testing and calibrating gas components
- Accumulator charging

#### Machine Tools

- Power clamping
- Quick die change

#### Plastics

- Ejecting parts from molds
- Gas injection

#### Packaging

- Injecting nitrogen into aerosol cans

# PowerStar™ 4 Gas Booster Performance Data

**TABLE 1** Approximate performance based on a maximum air consumption of 50 SCFM

MODEL NUMBER	INLET PORT PRECHARGE PRESSURE-psi	OUTLET PORT PRESSURE (with 100 psi driving air)	DISCHARGE CAPACITY - Standard Cubic Feet per minute (SCFM)											
			DISCHARGE PRESSURE - psi											
			200	400	600	800	1000	2000	3000	4000	5000	6000	7000	8000
P4BS010	100	1000	4593	4176	3854	3533								
P4BS010	200	1000	8598	7815	7215	6614								
P4BS034	400	3400			4388	4342	4296	3683	3314					
P4BS034	500	3400			5447	5390	5332	4571	4114					
P4BS050	400	5000			2747	2709	2517	2382	2248	2171				
P4BS050	500	5000			3410	3362	3124	2957	2790	2694				
P4BS080	600	8000							2353	2186	2002	1919	1852	
P4BS080	1000	8000							3883	3608	3305	3167	3057	
S010P4BS010	50	1050	4405	4004	3696	3388								
S010P4BS010	100	1100	7808	7099	6552	6006								
S010P4BS010	200	1200	14617	13286	12266	11244								
S034P4BS034	300	3700			5661	5602	5542	4752	4276					
S034P4BS034	400	3800			7460	7381	7303	6261	5634					
S034P4BS034	500	3900			9260	9163	9064	7771	6994					
S050P4BS050	400	5400			4670	4605	4279	4049	3822	3691	2117			
S050P4BS050	500	5500			5797	5715	5311	5027	4743	4580	2627			
S080P4BS080	600	8600							4000	3716	3403	3262	3148	1889
S010P4BS034	100	3840			3109	3109	3053	2855	2533					
S010P4BS050	100	5600			3109	3109	3053	2855	2691	2533	2329			
S010P4BS080	100	8900			3109	3081	3053	2940	2883	2770	2657	2544	2431	2318

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**Table 2** Approximate performance based on a maximum air consumption of 50 SCFM

MODEL NUMBER	INLET PORT PRECHARGE PRESSURE-psi	OUTLET PORT PRESSURE (with 100 psi driving air)	Time required in minutes to fill a 100 cubic inch air receiver to discharge											
			DISCHARGE PRESSURE - psi											
			200	400	600	800	1000	2000	3000	4000	5000	6000	7000	8000
P4BS010	100	1000		0.4	0.8	1.2	1.7							
P4BS010	200	1000		0.2	0.4	0.7	0.9							
P4BS034	400	3400				0.8	1.1	3.0	5.3					
P4BS034	500	3400				0.4	0.9	2.5	4.3					
P4BS050	400	5000				1.0	1.5	4.4	7.6	11.1	15.1			
P4BS050	500	5000				0.6	1.0	3.3	5.9	8.7	11.9			
P4BS080	600	8000							6.9	10.0	14.7	18.8	23.1	27.9
P4BS080	1000	8000							3.5	5.4	8.1	10.6	13.1	16.0
S010P4BS010	50	1050		0.5	0.9	1.4	1.9							
S010P4BS010	100	1100		0.3	0.5	0.7	1.0							
S010P4BS010	200	1200		0.1	0.2	0.3	0.5							
S034P4BS034	300	3700				0.6	0.9	2.4	4.1	10.0				
S034P4BS034	400	3800				0.4	0.6	1.7	3.0	7.0				
S034P4BS034	500	3900				0.2	0.4	1.3	2.4	5.8				
S050P4BS050	400	5400				0.6	0.9	2.6	4.4	6.5	8.9			
S050P4BS050	500	5500				0.4	0.6	2.0	3.4	5.1	7.0			
S080P4BS080	600	8600							4.1	5.9	8.7	11.1	13.6	16.4
S080P4BS080	1000	9000							2.5	3.6	5.2	6.7	8.2	10.0
S010P4BS034	100	3840				1.5	2.0	4.4	7.2	11.4				
S010P4BS050	100	5600				1.5	2.0	4.4	7.2	10.0	13.7			
S010P4BS080	100	8900				1.5	2.0	4.3	6.7	9.4	12.3	15.4	18.9	22.6

# PowerStar™ 4 Gas Booster - Models, Porting & Dimensions

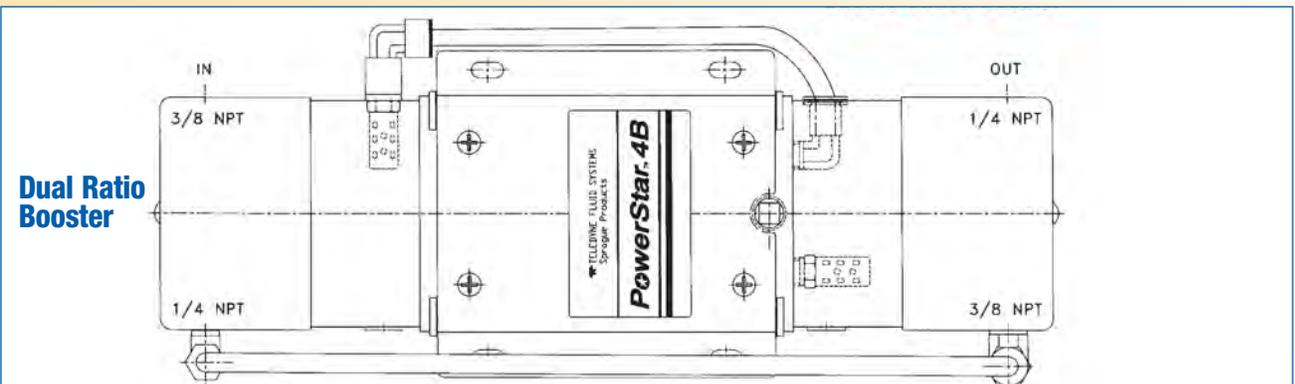
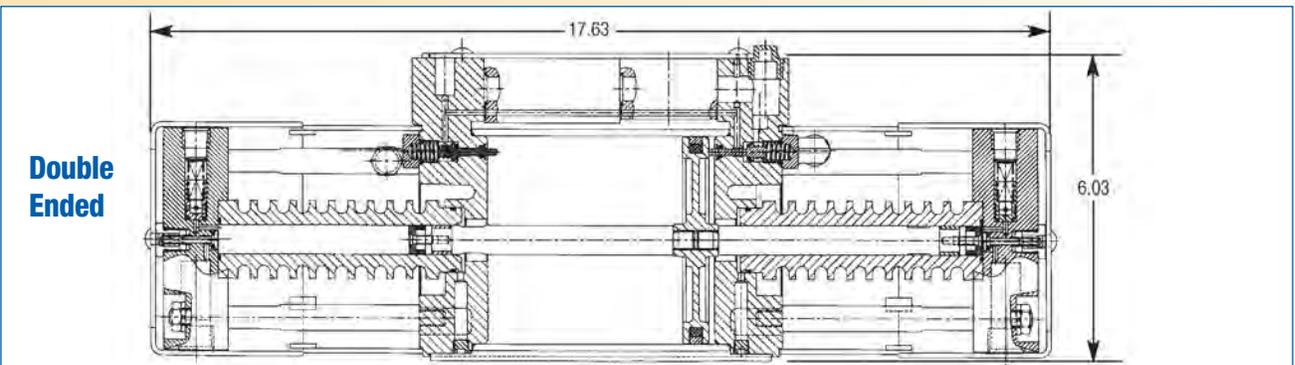
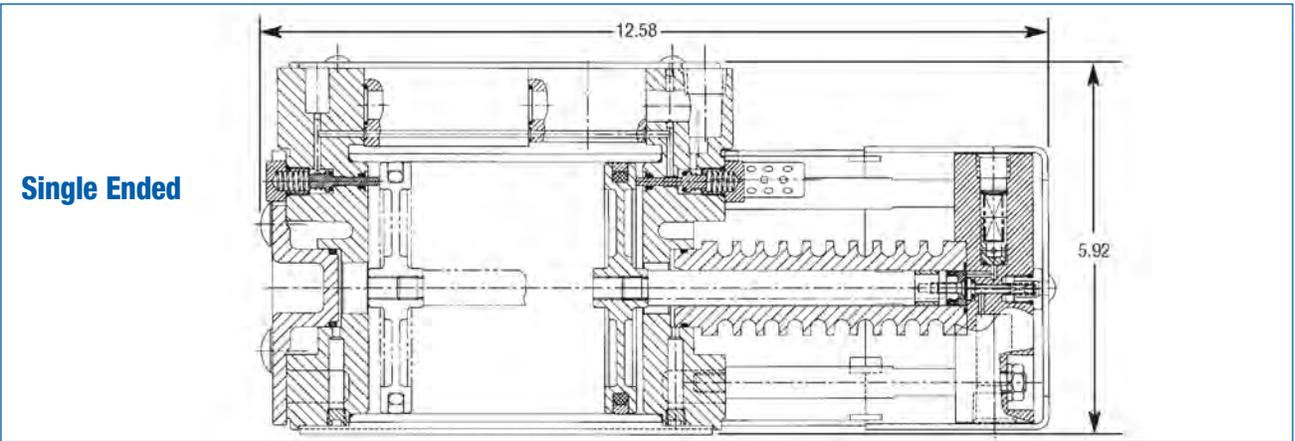
## Models

Single Ended Ratio Non Separated	Double Ended Ratio Non Separated	Dual Ratio Non Separated	Single Ended Ratio Separated	Double Ended Ratio Separated	Dual Ratio Separated
P4B010	010P4B010	010P4B034	P4BS010	S010P4BS010	S010P4BS034
P4B034	034P4B034	010P4B050	P4BS034	S034P4BS034	S010P4BS050
P4B050	050P4B050		P4BS050	S050P4BS050	S010P4BS080
			P4BS080	S080P4BS080	

## Porting

Model	Inlet Ports Gas	Outlet Ports Gas	Inlet Ports Air	Approximate Shipping Weight
All single-ended	3/8" NPT	1/4" NPT	3/8" NPT	20 lbs.
All double-ended	3/8" NPT	1/4" NPT	3/8" NPT	25 lbs.

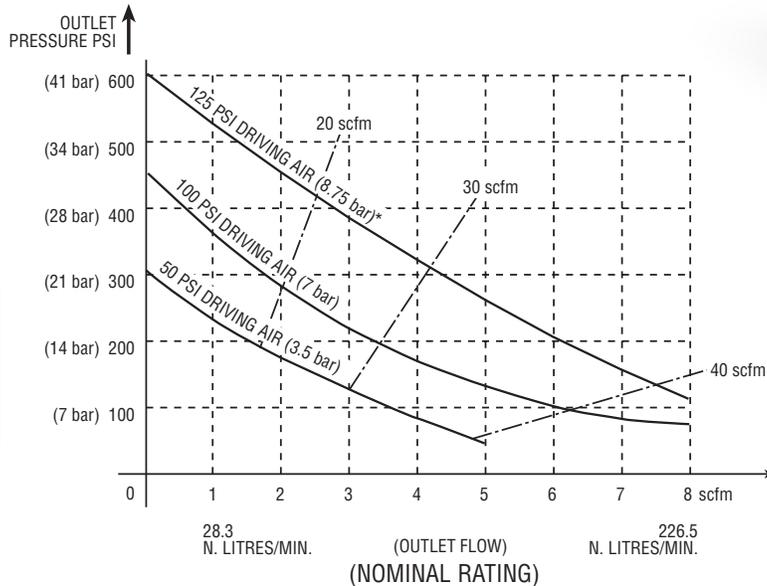
## Dimensions



# Sprague PowerStar™ 4

## Advanced Air Amplifiers

### Performance Chart AA4P4AA4 Double-Ended Air Amplifier



Solid lines indicate approximate flows at various driving air pressure. Dotted lines indicate air consumption in scfm.

All air driven air amplifiers will operate on low air volumes as long as the supply is sufficient to overcome minor internal leakage and operate the air selector valve in the air motor section.

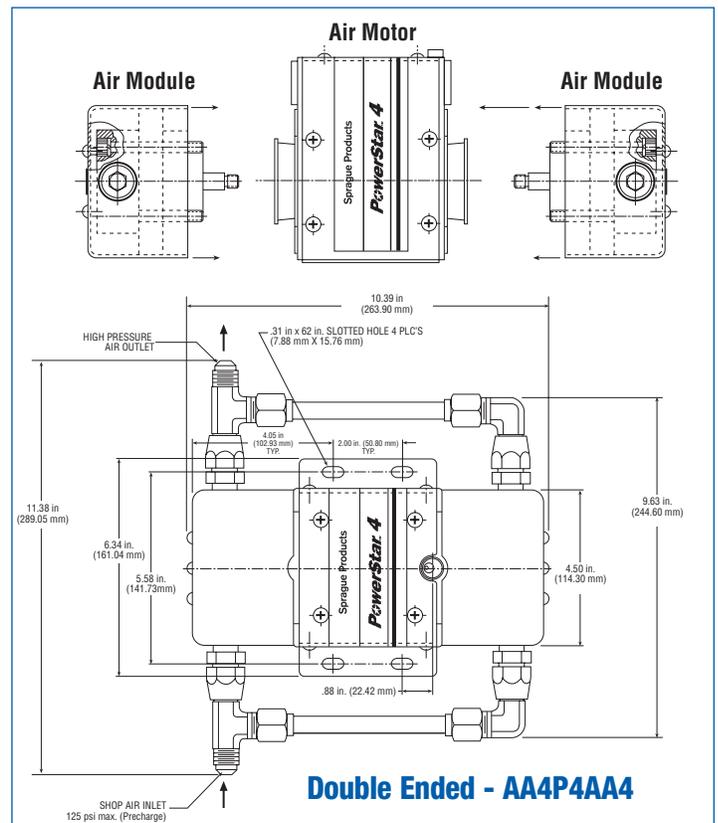
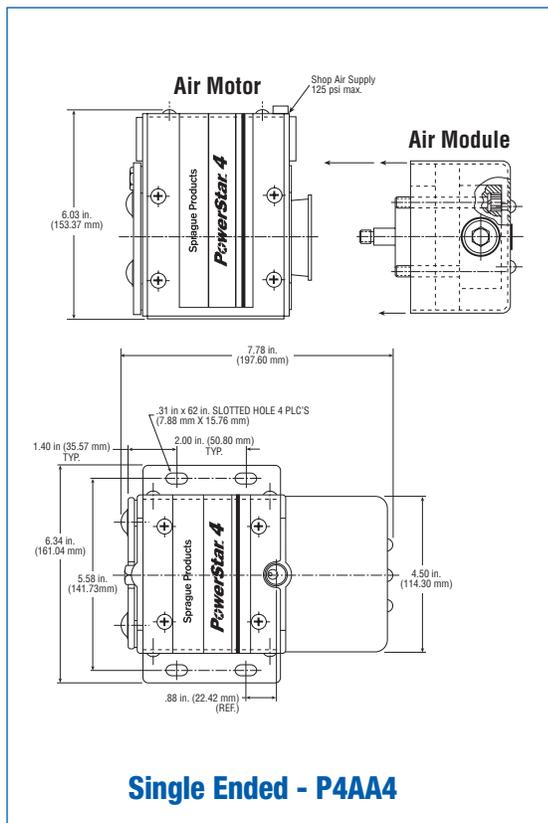
**Note:** Most air compressors produce 4-5 scfm of compressed air per horsepower at 100 psi. As an example, with 100 psi (6.8 bar) driving air, the air amplifier consumes 30 scfm at an operating pressure of 200 psi (14 bar) and produces an outputflow of 3.5 scfm.

**\*Note:** for applications above 450 psi (31.5 bar), consult factory.

**Note:** stall conditions on double ended units are best achieved by regulating air motor pressure 10% lower than precharge.

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### Nominal Dimensions

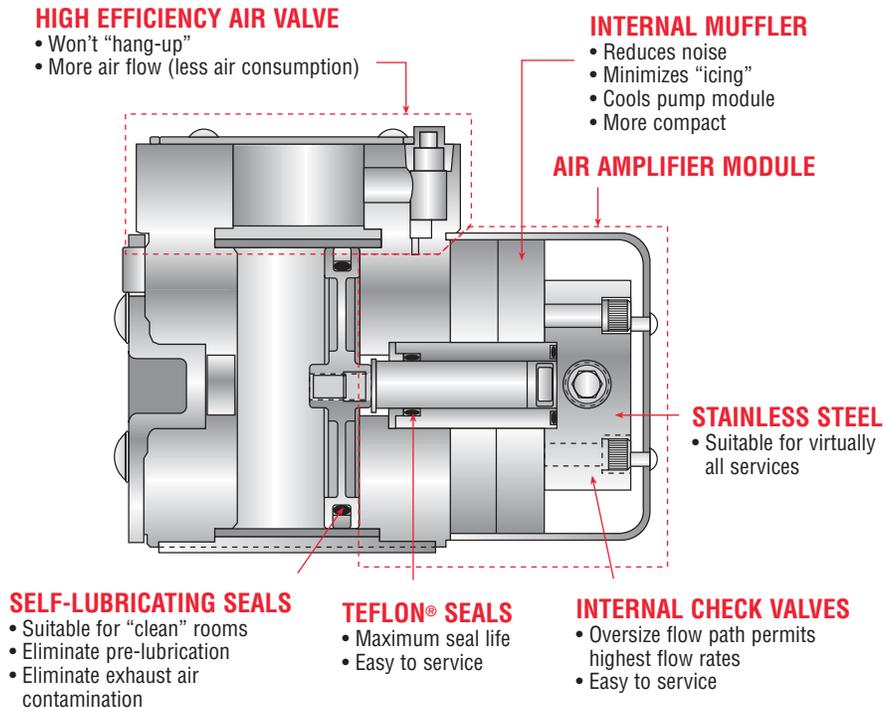


# How PowerStar™ 4 Air Amplifiers Work

The PowerStar™ 4 air amplifier develops high output pressures by applying the principle of differential areas. It features a large area air motor piston (air driven at low 10-125 psi pressures) that drives a small area air piston that amplifies the incoming air pressure.

Air output pressure is determined by the ratio between the area of the air motor piston, the area of the small high pressure piston and the applied driving air pressure. The relationship of the air motor piston to the small area piston is referred to as the Air Amplifier Ratio.

In operation, the AA4P4AA4 model using 125 psi input air pressure (at the air motor), can produce a maximum air output pressure of 600 psi (limited to 500 psi in the P4AA4PCT and AA4P4AA4PCT models with an ASME tank rated at 500 psi). At 100 psi input air pressure, the air amplifier can produce an output air pressure of 450 psi; at 50 psi input pressure, it can produce an output air pressure of 300 psi.

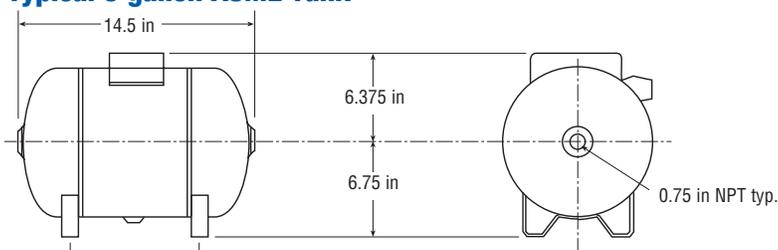


## Weights, Porting & Ordering Information

### Weights & Porting

Model Number	Inlet Port Air Module	Outlet Port Air Module	Inlet Port Air Motor	Approximate Shipping Weight
P4AA4	1/2" NPTF	3/8" NPTF	3/8" NPTF	16 lbs (7.26 Kg)
AA4P4AA4	-8, 37 deg. Male flare fittings	3/8" NPTF	3/8" NPTF	21 lbs (9.53 Kg)
P4AA4PCT	1/2" NPTF	3/8" NPTF	3/8" NPTF	80 lbs (36.3 Kg)
AA4P4AA4PCT	1/2" NPTF	3/8" NPTF	3/8" NPTF	85 lbs (38.6 Kg)

### Typical 5 gallon ASME Tank



### Order Information

Components	Description
P4	Air Motor Module
AA4	Air Amplifier Module
P4AA4	Single Air Amplifier (Assembled)
AA4P4AA4	Double Air Amplifier (Assembled with plumbed inlets & outlets)
93744	Air Control Kit (Filter, regulator, gauge, fittings)
Systems	Description
P4AA4PCT	Single Air Amplifier, Complete System (5 gal. ASME tank, 500 psi rating, ASME relief valve, gauge, shut-off valve)
AA4P4AA4PCT	Double Air Amplifier, Complete System (5 gal. ASME tank, 500 psi rating, ASME relief valve, gauge, shut-off valve)

# Gas Boosters

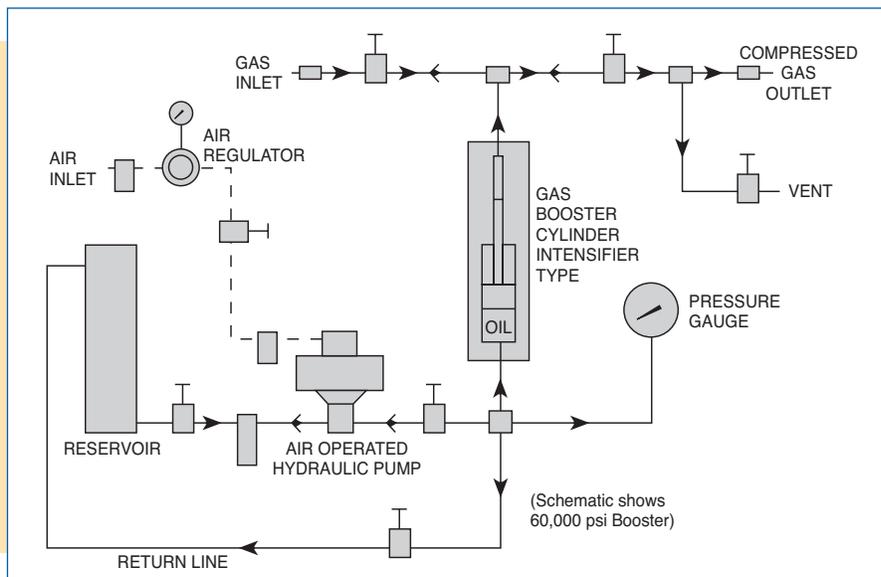
## Model GBS-30, GBS-60

### MODEL GBS - 30

30,000 psi Gas Booster System  
(One-to-one ratio — 112 cubic inch  
per stroke displacement)  
(17-4PH stainless steel construction)



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# Gas Booster Specifications

## GBS-30 - 30,000 psi

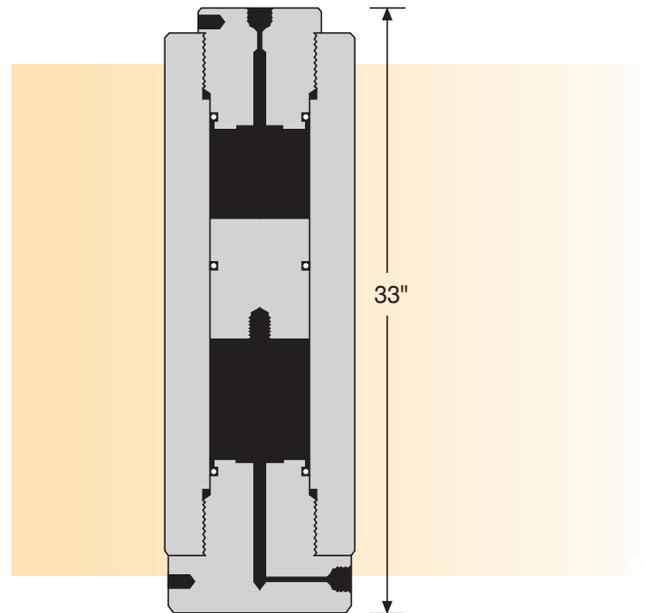
The Model GB-30 Gas Booster is rated for use up to 30,000 psi and has a one-to-one ratio. Displacement per stroke is 112 cubic inches (1835 ml).

**Material of construction** is 17-4PH stainless steel for the body and covers. The piston is supplied in brass with other materials available as an option. Standard O-ring material for the covers and piston is BUNA-N (nitrile).

**Standard connections** supplied are for 1/4" O.D. High Pressure tubing (HF4 connection) at each end.

The Model GB-30 can be supplied as a separate unit or with the complete system (Model GBS-30) shown on page 54.

The Model GB-30 should not be used with hydrogen or oxygen.



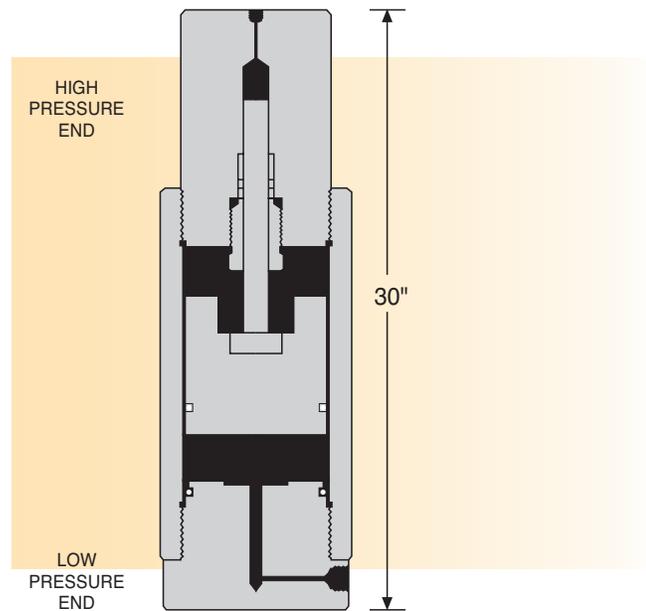
## GBS-60 - 60,000 psi

The Model GB-60 Gas Booster is rated for use up to 60,000 psi and has a thirty-to-one (30-1) ratio. Thus, 60,000 psi can be obtained at the high pressure end using only 2,000 psi inlet pressure. Displacement per stroke is 4.7 cubic inches (77 ml).

**Material of construction** is Type 4340 alloy steel (or equivalent) properly heat treated for use at high pressure. Other internal materials include 17-4PH stainless steel and aluminum bronze. Seals include BUNA-N (nitrile) O-rings and a Parker Poly Pak®.

**Standard connections** supplied are for 1/4" O.D. High Pressure tubing (HF4 on the high pressure end and AF4 on the low pressure end).

The Model GB-60 can be supplied as a separate unit or with the complete system (Model GBS-60) shown on page 54. The Model GB-60 should not be used with hydrogen or oxygen.



Piston travel - 6"

# Special Gas Boosters & Intensifiers

High Pressure Equipment Company has designed and supplied numerous gas boosters and intensifiers to meet the customer's special requirements. A price quotation can be made by advising us of the requirements including: media (gas or liquid) to be pressurized, maximum outlet pressure required, available inlet pressure and required displacement per stroke.