

# PRESSURIZER-VS™

Variable Speed Booster System



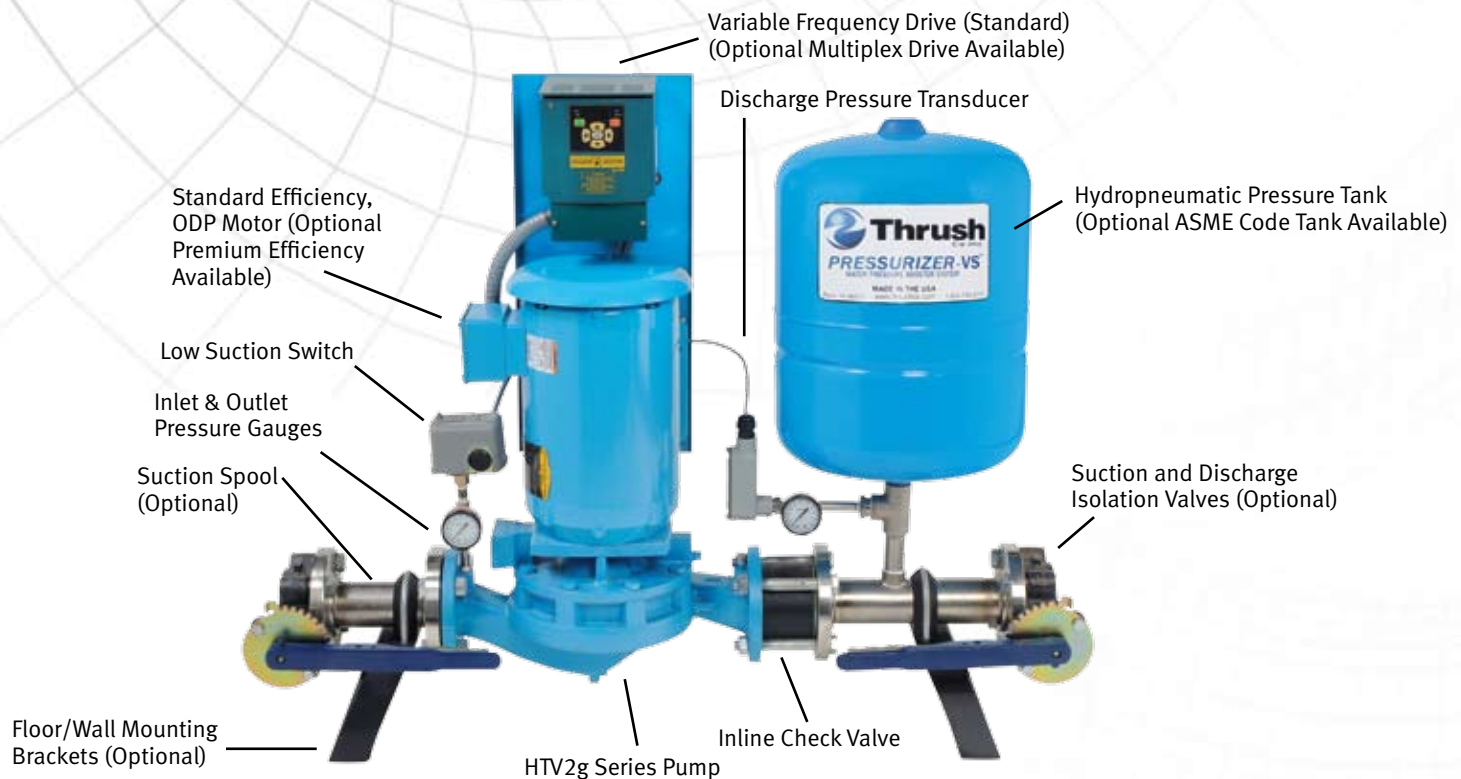
# Thrush Quality, Ingenuity,

## A Wide Variety of Sizes for Your Booster Application Needs:

- 1.5” – 3” Line Sizes
- Flow Rates up to 200 GPM
- Pressure Boost Ranges from 30-80 PSI
- Horsepower Sizes from 2-15 HP

## Key Standard Features:

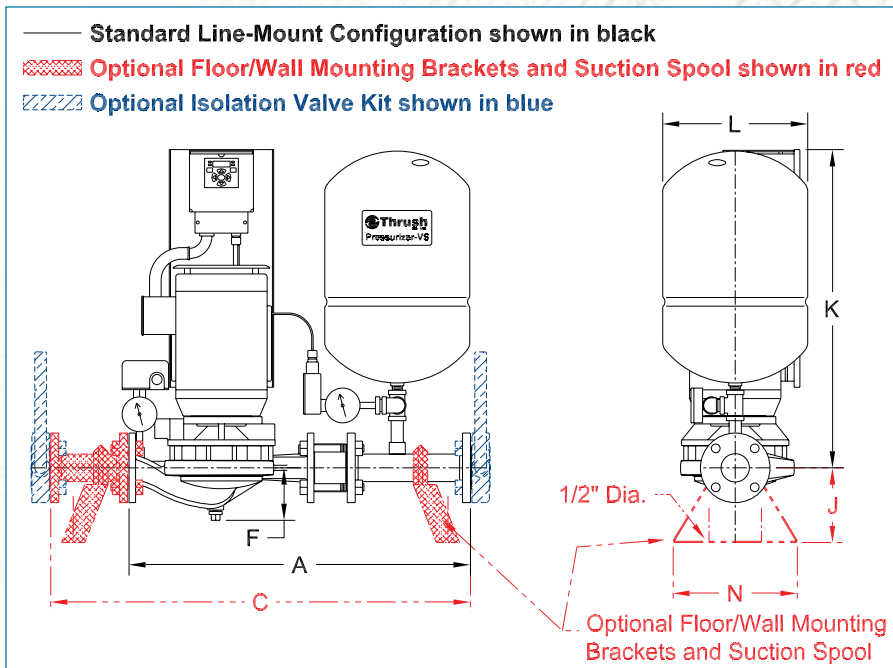
- Energy Saving Variable Frequency Drive
- Compact In-line Installation
- No Flow Shut-down with “Sleep Boost”
- Redundant “Low Suction” Protection



## The Pressurizer-VS is another product in the long line of innovations from Thrush Co. Inc.

1. A Thrush HTV2g series in-line pump is utilized in the Pressurizer-VS™. Its in-line configuration allows for a compact footprint, enabling the unit to fit into areas traditional booster packages can not. Depending on the model, water pressure can be boosted up to 80 psi with flows up to 200 gallons per minute.
2. This system utilizes a variable frequency drive (VFD) to regulate water flow and provide a constant output pressure, regardless of fluctuating supply pressure or changing flow demand. The control allows for a narrower pressure deadband, which insures a constant pressure supply at fixtures. This also eliminates temperature fluctuations associated with mixing valves in hot water applications. An integral check valve prevents backflow into the supply.
3. A hydropneumatic tank is incorporated into the Pressurizer-VS™. To eliminate short cycling, the system utilizes a “Sleep Boost” feature to pre-pressurize the tank prior to no flow shut-down. This feature enables the system to react instantaneously upon demand and keeps the system from cycling during small infrequent demands. The “Sleep Boost” also allows a soft start of the system when greater demand is called for.

# and Value...



## Typical Applications

### Supplemental Pressurization of Upper Floors

In cases where falling city pressure has made the main booster system incapable of maintaining proper pressure on upper floors of high-rise buildings, such as apartment houses, office buildings, hotels and motels.

### Multiple Installations on Alternate Floors

Pressurizers can provide incremental pressurization for blocks of floors. Eliminates the need for a large central booster system. Ideal for modular building techniques.

### Hospital/Research Facilities

Ensure constant pressure at critical points of use such as laser equipment and lab cooling systems.

### Industrial Point of Use

Provide required pressure of process lines at point of use. Hydraulic pressure, cooling and flushing.

### Jockey Pump Applications

Provides off peak/leak loss pressurization on fire systems, to keep large fire pumps from short cycling.

### Off Peak Use

To provide minimum pressure during periods of low usage (weekends) and keep main booster system off.

## PB-VSI Models & Dimensions

Model	HP	Connection Size	Length (in)		Height (in)		Width (in)	
			A	C	J	K (max)	L*	N
PB-VSI-60-30	2	1.5"	29.44	36.19	6.38	32.63	12.00	10.81
PB-VSI-60-40	3	1.5"	29.44	36.19	6.38	32.63	12.00	10.81
PB-VSI-60-60	5	1.5"	29.44	36.19	6.38	34.88	12.00	10.81
PB-VSI-60-80	7.5	1.5"	29.44	36.19	6.38	33.25	12.00	10.81
PB-VSI-100-30	3	2"	29.50	36.31	6.63	32.63	12.00	10.81
PB-VSI-100-45	5	2"	29.50	36.31	6.63	34.88	12.00	10.81
PB-VSI-100-65	7.5	2"	29.50	36.31	6.63	33.25	12.00	10.81
PB-VSI-100-80	10	2"	29.50	36.31	6.63	35.88	12.00	10.81
PB-VSI-200-35	7.5	3"	38.19	45.00	8.00	33.19	12.00	13.19
PB-VSI-200-50	10	3"	38.19	45.00	8.00	35.75	12.00	13.19
PB-VSI-200-60	15	3"	38.19	45.00	8.00	42.75	12.00	13.19

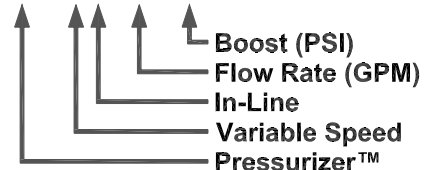
\* 14" for ASME rated tank (option)  
 Dimensions are subject to change based on option selection. Refer to the submittal sheets to obtain specific dimensions for the models and options chosen.

Connection & Valve Options	PB-VSI-60	PB-VSI-100	PB-VSI-200
NPTF Discharge Spool	Standard	Optional	n/a
Flanged Discharge Spool	Optional	Standard	Standard
NPTF Suction Spool*	Optional	Optional	n/a
Flanged Suction Spool*	Optional	Optional	Optional
NPT Ball Valve Kit	Optional	Optional	n/a
Butterfly Valve Kit	n/a	Optional	Optional

\* Includes Support Feet and Vibration Isolation Mount U-Bolts

## Model Designation

### PB-VSI-100-45



### Optional features:

- IQ variable frequency drive with multiplex capability
- Suction spool with floor/wall mounting brackets
- Suction and discharge isolation valves
- ASME code hydropneumatic tanks
- Premium efficiency motors

### Optional Multiplex Feature

The Pressurizer-VS™ can be ordered with an IQ variable frequency drive with multiplexing capability. This feature enables multiple drives (up to 8) to communicate with each other, allowing precise multiple pump staging for varying flow conditions. In addition, the drives automatically alternate for equal pump run times and exercising. Due to its compact footprint, the Pressurizer-VS™ can be installed in smaller, multiple locations. This eliminates the need to install a large unit, with extra capacity, for future expansion. Additional pressurizers can be integrated into the system as demand increases.

### PB-VSI Components

Materials		Standard	Optional
Drive	Model	MD	IQ
	Features	Sleep Boost	Sleep Boost, Multiplex Capability
Pump	PB-VSI-60	1.5x1.5x7 HTV2g	n/a
	PB-VSI-100	2x2x7 HTV2g	n/a
	PB-VSI-200	3x3x7 HTV2g	n/a
Seal	Rotary Assembly	SS Mechanical - Type 21	n/a
	Seat	Ceramic	n/a
	Shaft Sleeve	Brass	n/a
Motor		Standard E, ODP	Premium Efficiency, ODP
Tank		8.5 Gallon Non-Code - 125 PSI	10 Gallon ASME - 200 PSI
Pressure Transmitter		0-100 PSI, 4-20 mA	0-200 PSI, 4-20 mA
Pressure Switch		NEMA 1	n/a
Pressure Gauges		2" SS Cased Liquid Filled	n/a
Discharge Spool		Stainless Steel	n/a
Suction Spool		Optional	Stainless Steel

### PB-VSI Quick Sizing Chart

*Pressure Boost (PSI)	20	40	60	80	100	120	200
80	PB-VSI-60-80	PB-VSI-60-80	PB-VSI-60-80	PB-VSI-100-80	PB-VSI-100-80	*All models are sized to make an additional 5 PSI before sleep mode to pressurize the hydro-pneumatic tank.	
75	PB-VSI-60-80	PB-VSI-60-80	PB-VSI-60-80	PB-VSI-100-80	PB-VSI-100-80		
70	PB-VSI-60-80	PB-VSI-60-80	PB-VSI-60-80	PB-VSI-100-80	PB-VSI-100-80		
65	PB-VSI-60-80	PB-VSI-60-80	PB-VSI-60-80	PB-VSI-100-65	PB-VSI-100-65		
60	PB-VSI-60-60	PB-VSI-60-60	PB-VSI-60-60	PB-VSI-100-65	PB-VSI-100-65	PB-VSI-200-60	PB-VSI-200-60
55	PB-VSI-60-60	PB-VSI-60-60	PB-VSI-60-60	PB-VSI-100-65	PB-VSI-100-65	PB-VSI-200-60	PB-VSI-200-60
50	PB-VSI-60-60	PB-VSI-60-60	PB-VSI-60-60	PB-VSI-100-65	PB-VSI-100-65	PB-VSI-200-50	PB-VSI-200-50
45	PB-VSI-60-60	PB-VSI-60-60	PB-VSI-60-60	PB-VSI-100-45	PB-VSI-100-45	PB-VSI-200-50	PB-VSI-200-50
40	PB-VSI-60-40	PB-VSI-60-40	PB-VSI-60-40	PB-VSI-100-45	PB-VSI-100-45	PB-VSI-200-50	PB-VSI-200-50
35	PB-VSI-60-40	PB-VSI-60-40	PB-VSI-60-40	PB-VSI-100-45	PB-VSI-100-45	PB-VSI-200-35	PB-VSI-200-35
30	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-100-30	PB-VSI-100-30	PB-VSI-200-35	PB-VSI-200-35
25	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-100-30	PB-VSI-100-30	PB-VSI-200-35	PB-VSI-200-35
20	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-100-30	PB-VSI-100-30	PB-VSI-200-35	PB-VSI-200-35
15	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-100-30	PB-VSI-100-30	PB-VSI-200-35	PB-VSI-200-35
10	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-60-30	PB-VSI-100-30	PB-VSI-100-30	PB-VSI-200-35	PB-VSI-200-35



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