

# B-SERIES DIA-VAC®

## Diaphragm Sampling Pumps

Compact and Versatile Pumps for OEM Analyzers  
single head / double head



An Ingersoll Rand Business

The B-Series Dia-Vac® diaphragm sampling pumps are designed to be integrated into Continuous Emissions Monitoring Systems (CEMS) that include CO, CO<sub>2</sub>, NO<sub>x</sub>, or Fourier Transform Infrared (FTIR) analyzers. The B-Series are **light, quiet, perform with low vibration**, and feature a **compact footprint** to easily fit into a gas analyser, making them popular among CEMS Original Equipment Manufacturers (OEMs); however, they can be also purchased with their own enclosure for **external or portable usage**.

The fully CE-approved B-Series offer a choice of dual voltage **115v/230v**, **dual cycle 50/60 Hz AC motors**, and **12-24 volt DC brushless motors**, and is available in a single head configuration with an **elevated head option** to install the pump into a heated enclosure and keep the motor safe from high temperatures. A **heated head option** allows the B-Series to keep the medium in a stable gaseous state to **maintain sample integrity** as well as prevent condensate build-up and **reduce pump corrosion**.

Designed for high-accuracy and robust continuous operation, the B-Series flow rate ranges from 3 liters per minute (LPM) to 7 LPM for the single head configuration and **up to 12.6 LPM** for the double head version. **Adjustable eccentric sizing** is available for greater adherence to system performance requirements. **Dual-phase liquid and gas capability** (with proper mounting) further enhances the remarkable flexibility of the B-Series diaphragm sampling pumps due to its liquid media endurance at moderate levels.



### HIGHLY CONFIGURABLE to your specific needs

The B-Series can be customized with a heated head, elevated head, various motor options, and a double head option for two-stream sampling in a single compact pump. It can also operate in any position as long as the motor is properly supported.



### MADE IN THE USA AND AVAILABLE FOR QUICK DELIVERY!

Manufactured on-site at ADI's headquarters in Florida, USA so our experts can assemble pumps to match your application in a short amount of time.



### ROBUST, PROVEN DESIGN

Delivers leak, oil, contamination, and corrosion free gas samples, offering high chemical and corrosion resistance - can handle small amounts of liquid while continuing to operate.

## YOUR BENEFITS



### DURABLE

Chemical, moisture and corrosion resistant. Features oversized bearings and motor shaft. Blocked inlet or outlet poses no risk of damage to the pump.



### LOW MAINTENANCE AND RELIABLE

Long product lifespan and easily field serviceable. Made of chemically inert material to keep sample integrity. Diaphragms last, on average, over 12 months under normal operating conditions\*.



### LOW TOTAL COST OF OWNERSHIP TCO

compared to industry standards due to low maintenance requirements, long-life high-quality components, and reasonably priced service kits.

\* Diaphragms are not covered under warranty and diaphragm lifetime will vary depending on operating conditions.

## APPLICATIONS



### GENERAL GAS SAMPLING



### PROCESS ANALYSIS AND MONITORING SYSTEMS

### CEMS

### CONTINUOUS EMISSIONS MONITORING SYSTEMS (CEMS)

## INDUSTRIES SERVED



REFINERIES/  
PETROCHEMICAL



CHEMICAL

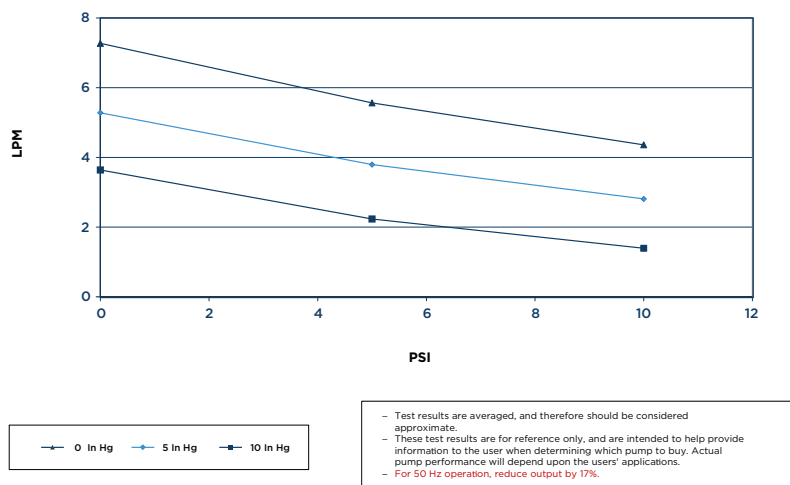


ENVIORNENTAL



GENERAL INDUSTRY  
AND MANUFACTURING

# COMBINATION CURVE



One of the key benefits of the Dia-Vac® pump is its ability to act as a vacuum pump, compressor, or both depending on the application.

Instead of showing a traditional performance curve, that only shows the unit as a vacuum pump OR a compressor, the combination curve illustrates the relationship between (inlet) vacuum, (outlet) pressure, and flow rate. The primary benefit compared to a traditional performance curve is that it covers applications where the pump is providing both vacuum and pressure at a given flow rate instead of just pressure OR vacuum at a given flow rate.

## B-SERIES DIA-VAC® PERFORMANCE

Eccentric Size	PSIG	bar	InHg	mbar	CFM	LPM
0.080	8.5	0.59	14.9	505	0.138	3.9
0.100	12.9	0.89	17.4	589	0.155	4.4
0.120	18.1	1.25	20.2	684	0.20	5.7
0.140	23.4	1.61	21.4	725	0.24	6.8
0.160	29.2	2.01	23.0	778	0.268	7.6
Double (.160) *	34.3	2.36	22.2 / 28.0	752 / 948	.45 / .23	12.6 / 6.4

Test results are approximate  
 Tests performed with 316 stainless steel wetted parts, All-Teflon® diaphragm, 1/4 diameter hose x 5 ft. line at 75°F, using a standard 3500 rpm motor at 60 Hz. For 50 Hz operation, reduce flow by 17%.  
 These tests are for reference only, and are intended to help provide information to the user when determining which pump to buy. Actual pump performance will depend upon the users application.  
 Please visit the ADI website @ [www.airdimensions.com](http://www.airdimensions.com) for complete performance curves

\* Parallel / Series

ADI's Dia-Vac® Pumps can **Pass Your Gas at the Speed of Need!** Due to an increased interest in reducing the pressure, vacuum, and/or flow on the Dia-Vac® pumps our engineers designed modified eccentric options which allow you to customize your Dia-Vac® pump to meet your specific application requirements while at the same time increasing the life of the diaphragm and bearings.

## HOW TO ORDER

How to specify and order pumps from Air Dimensions.

CAPACITY			WETTED MATERIALS		POWER			OPTIONAL
STYLE	ECC.	HEADS	HEAD	DIAPHRAGM	TYPE	VOLTS	Hz	OPTIONS
B=B-Series	16	1	A=Alum	E=Encapsulated**	A=Gen. Pur.	A=115	0=N/A	<ul style="list-style-type: none"> <li>L=Elevated Head</li> <li>M=Heated-K Thermocouple</li> <li>Z=Rotate Housing 180°</li> </ul>
	14	2	B=Alum (TefCo)	P=All Teflon	J=24v Brush DC*	B=230	1=60 1Ph	
	12		F=316ss	V=Viton	T=Brushless DC*	H=12	2=50 1 Ph	
	10		G=316ss (TefCo)			J=24		
	08		L=316ss Silconert		* Single Head Only			
			T=Solid Teflon					
			** Solid Teflon Only					



### OVER 50 YEARS OF EXCEEDING INDUSTRY STANDARDS

Built to exceed industry standards, ADI's pumps have long been known as premium quality products designed to stand up to the rigorous demands of gas sampling and monitoring even in the harshest environments. Whatever the application, our range of products and manufacturing capabilities allow us to meet your exact requirements.