LEYBOLD
VACUUM PRODUCTS INC.

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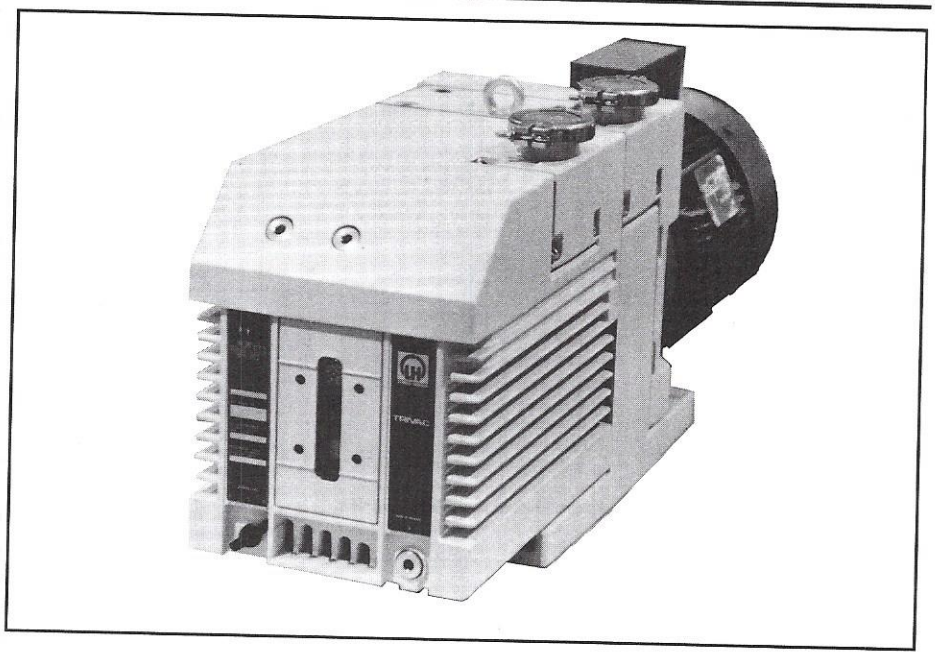
TRIVAC® BCS Rotary Vane Pumps

Models D40BCS, D65BCS



Technical Data

Performance Characteristics	D40BCS	D65BCS
Nominal Displacement.....60 Hz (50 Hz) CFM	32.5 (27.1)	53.0 (44.2)
Pumping Speed.....60 Hz (50 Hz) CFM	28.3 (23.6)	45.9 (38.3)
Ultimate Partial Pressure with Gas Ballast Closed.....Torr	$<1 \times 10^{-4}$	$<1 \times 10^{-4}$
Ultimate Total Pressure with Gas Ballast Open.....Torr	$<3.8 \times 10^{-3}$	$<3.8 \times 10^{-3}$
Water Vapor Tolerance.....Torr	30	30
Oil Capacity, Minimum.....qt	1.8	2.1
Oil Capacity, Maximum.....qt	2.7	3.4
Motor Power.....HP	3	3
Pump Rotational Speed (Nominal).....RPM	1800	1800
Weight.....lb	184	203
Noise Level (Max) at Three Feet with Gas Ballast Closed.....dB(A)	57	57
Noise Level (Avg) at Three Feet with Gas Ballast Open.....dB(A)	59	59

Note: To determine liters per minute Nominal Displacement multiply CFM by 28.3.

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The TRIVAC Modular System includes:

- TRIVAC BCS Rotary Vane Pump
- CFS Chemical Filter with Safety Isolation Valve
- ARS Exhaust Filter with Automatic Oil Return
- IGS Inert Gas System
- LSS Limit Switch System
- EIS Electrical Indicator System

Standard KF flange connection ports ensure easy fitting of the TRIVAC-SYSTEM modules.

Corrosive Service TRIVAC BCS Rotary Vane Pumps are supplied with an initial charge of hydrocarbon vacuum pump oil. TRIVAC BCS Pumps for Extreme Corrosive Service are supplied with a charge of PFPE vacuum pump fluid.

Application Guide and Module Selection Chart for TRIVAC BCS Rotary Vane Pumps

Application	TRIVAC-SYSTEM MODULES					
	BCS	CFS	ARS	IGS	LSS	EIS
Semiconductor Processes						
Plasma etching	■	■	■	■	■	■
Reactive ion etching	■	■	■	■	■	■
Oxidation	■	■		●	●	●
LPCVD	■	■	●	■	●	●
PECVD	■	■	●	■	●	●
Epitaxy	■	■	■	■	●	●
Purification	■	■	■	■	■	■
Ion Implantation-source pump	■	■	■	■	●	●
Ion Implantation-beam line and End Station	■	●		●		
Sputter Coating	■	●				
Other Processes						
Automated Production	■		■		■	■
Pharmaceutical Freeze-Drying	■	●	●	■	■	■
Pumping of Corrosive and Moisture-Sensitive Media in Chemical Processing	■	■	●	■	■	■

■-Required; ● -Recommended Option

TRIVAC BCS Rotary Vane Pumps Reference Guide

Model	Nominal Displacement (CFM) @ 60Hz	Ultimate Partial Pressure (Torr) w/ Gas Ballast Closed	Connection Ports (KF)	Max Dimensions LxWxH (in.)	Motor (HP)	Oil Capacity (qts)	Weight (lbs)	Catalog Pages
D16BCS	13.4	1×10^{-4}	25	22 x 8 x 12	0.75/1.0	1.10	78	2.33-2.35
D25BCS	20.9	1×10^{-4}	25	25 x 10 x 12	1.5	1.50	85	2.33-2.35
D40BCS	32.5	1×10^{-4}	40	31 x 10 x 14	3.0	2.70	184	2.36-2.38
D65BCS	53.0	1×10^{-4}	40	34 x 10 x 14	3.0	3.40	203	2.36-2.38

Notes:
1) Dimensions rounded to next higher inch.
2) Pump rotational speed=1800 RPM (Nom.)
3) Oil capacity shown for hydrocarbon oil. To determine inert (PFPE) oil capacity in pounds: multiply qts. amount by 4.

TRIVAC® BCS Rotary Vane Pumps

Introduction

Description

TRIVAC BCS Rotary Vane Pumps are direct drive, oil-sealed vacuum pumps designed for use in extremely corrosive applications, such as aluminum etching and other harsh chemical processes. They can be used alone or as backing pumps for Roots pumps, diffusion pumps, turbomolecular pumps and cryopumps.

TRIVAC BCS pumps are available in four dual-stage models. Features include:

Corrosion-Proof Construction

- Trend-setting technology
- Small footprint for minimal space requirements
- All controls are located on the front side of the pump for convenient access
- Inlet and outlet ports can be used in either vertical or horzontal position
- Low noise and vibration

Advanced Vacuum Engineering

- High pumping speeds
- Low ultimate pressure
- Integral regulator for temperature control
- Gas ballasting for high water-vapor tolerance
- Forced-feed lubrication system with built-in oil pump
- Built-in anti-suckback valve — no oil suckback
- Minimum air backflow
- Double-radial shaft seals
- Solvent-resistant seals and gaskets

Energy Efficiency

- Low power consumption
- Low heat emission

Easy Maintenance and Servicing

- Complete inner pump body can be replaced in minutes — without removing the pump from your vacuum system

Modular Design for Compatibility with TRIVAC-SYSTEM Components

Design Features

TRIVAC BCS Rotary Vane Pumps are constructed of gray cast iron, surface-treated aluminum, steel and stainless steel. They are totally free of nonferrous heavy metals and other materials subject to corrosive attack. The oil casing, inlet port, outlet port and other aluminum-wetted surfaces of TRIVAC BCS pumps have been chemically treated for protection from reactive process gases. All seals and gaskets are solvent resistant. TRIVAC BCS pumps also incorporate a forced feed lubrication system with its own internal gear pump. The system supplies clean, filtered oil to all internal bearings and wear surfaces, thus reducing maintenance intervals.

The TRIVAC BCS design ensures dependable, long-life performance over a wide range of medium and medium-high vacuum applications charac-terized by the presence of corrosive or oxidizing gases. TRIVAC BCS Rotary Vane Pumps are especially suited for pumping extremely toxic and corrosive gases when outfitted with TRIVAC-SYSTEM modules.