

# STOKES VACUUM

Packaging - Processing  
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## DRY PUMP AND MECHANICAL BOOSTER

### SEMI-CONDUCTOR SERIES APPLICATIONS

Current applications include many phases of semiconductor processing, such as Nitride, LPCVD, and metal etching, where the cost for expensive synthetic oil sealants runs high and pump service life is very short.

They are also ideal for chemical vapor deposition, plasma etching, reactive ion etching, and ion implanting. Additional applications include optical coating systems and other high-vacuum areas of industrial manufacturing.

### FEATURES

- Permits a greater degree of operational and environmental safety through elimination of cold traps and waste disposal problems.
- Greatly lengthens pump life, especially in harsh vacuum service applications.
- Eliminates the high cost of exotic sealant oil, oil filters and related maintenance.
- Provides the cleanest possible vacuum for your process.

The Stokes® Dry Pump can be used as a direct replacement for oil sealed pumps.

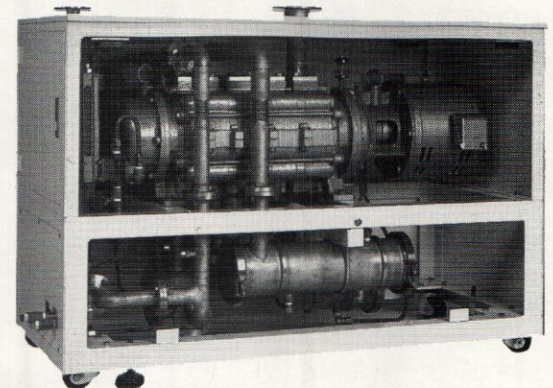
Stokes Dry Pumps are similar in size to oil sealed pumps. A Mechanical Booster, when required, mounts on top of the Dry Pump without significantly altering the footprint.

### CD SERIES

#### APPLICATIONS

- Vacuum Distillation and Solvent Stripping.** Excellent solvent recoveries.
- Pharmaceutical Production.** Recovery of solvents, collection of intermediates.
- Pilot Vacuum Processes.** Differential condensation, recovery of high-boiling intermediates.
- Flavors And Fragrances.** Enhanced recovery of essential oils, terpenoids and complex flavor concentrates.
- Medical Device Fabrication.** Clean, sterilizable vacuum pump for implantable device manufacture. Recovery of ethylene oxide gas sterilants.
- Materials Research.** Pump aggressive gases safely at high flows and concentrations.

### SEMICONDUCTOR SERIES DRY DRUM PUMP AND MECHANICAL BOOSTER SPECIFICATIONS

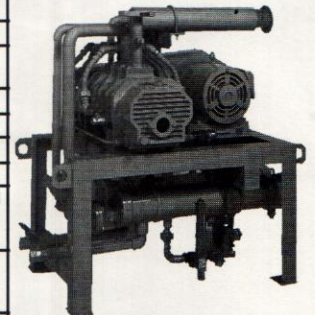


	Mechanical Booster					
Specifications	540	575	15110	15215	15240	15320
Blower Displacement (60 Hz)	—	—	110 cfm	245 cfm	245 cfm	400 cfm
Nominal Dry Pump Speed (60 Hz)	40 cfm	75 cfm	40 cfm	40 cfm	75 cfm	75 cfm
Base Pressure	0.1 Torr	0.015 Torr	0.005 Torr	0.005 Torr	0.002 Torr	0.002 Torr
Motor HP (Blower/Dry Pump)	3.5	5.4	2/3.5	2/3.5	2/5.4	2/5.4
Inlet Flange	KF 40	KF 50	3" ASA	3" ASA	3" ASA	4" ASA
Exhaust Flange	KF 25	KF 40	KF 25	KF 25	KF 40	KF 40
Water Flow Rate	1.3 GPM	1.8 GPM	1.3 GPM	1.3 GPM	1.8 GPM	1.8 GPM
N <sub>2</sub> Flow	3-9 LPM	3-9 LPM	3-9 LPM	3-9 LPM	3-9 LPM	3-9 LPM
Approximate Weight	480 lbs.	630 lbs.	700 lbs.	700 lbs.	850 lbs.	900 lbs.
Dimensions: Length	46"	50.5"	46"	46"	50.5"	51"
Width	18.5"	20"	18.5"	18.5"	20"	20"
Height	22"	37.5"	37.5"	37.5"	41.5"	41.5"

### Request BULLETIN

### CD-SERIES DRY PUMP SPECIFICATIONS

Specifications	CD-75	CD-120	CD-180	CD-250	CD-500	CD-750
Nominal Pump Speed	75 cfm	120 cfm	180 cfm	250 cfm	500 cfm	750 cfm
Base Pressure (1) (Torr)*	.3	1.5	1.0	.9	.7	.6
Pump RPM	2850	3000	2500	2550	1960	1560
Motor H.P.	5	7.5	10	15	30	40
Inlet Flange Size	1.5"	2"	2.5"	3"	4"	5"
Exhaust Flange Size	1"	1.25"	1.5"	2"	2.5"	3"
Water Flow Rate (2) to Pump Intercoolers (GPM)	3 GPM	3.5 GPM	4.75 GPM	6 GPM	8.75 GPM	11.75 GPM
Dimensions: Height (3)	48"	48"	55"	60"	65"	75"
Width	32"	35"	38"	42"	55"	62"
Length	52"	52"	60"	65"	65"	72"
Approximate Weight (lbs.)	650	875	1350	1675	2975	4575



(1) Lower Pressures Are Attainable By Integrated Package Design With Rotary Lobe Blowers.  
(2) Non-Process Contacting Water Flow For Systems Requiring No Water; Closed Loop Coolers Are Available As Options.  
(3) Detailed Installation Drawings Are Available.

\* Sizing: STOKES VACUUM DRY Pumps are staged dry lobed mechanical pumps. They develop base pressures to one torr or better and are available in a wide range of sizes. Because the pumps are true dry backing pumps, they can be employed with rotary lobed blowers for more speed and lower pressure (0.01 TORR typically).

- Fatty Acid Production.** Elimination of water pollution and drain blockage from ejector effluents.

### FEATURES

- Safe.** Leak-tight pumping mechanism uses no oil or sealing fluid for vacuum production. Workers are not exposed to leaking process gas or contaminated oil.

### Request BULLETIN CD-1A

- Reliable.** Rugged gear-driven pumping lobes do not require spring-loaded vanes, oil-metering pumps or interstage relief valves.
- Process Integration.** Unique interstage condensing capability. Permits recovery of high-boiling volatiles as liquids, lowers V.O.C. levels, lessens scrubber burden, improves process economics.