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PJ KODIVAC VACUUM PRODUCTS

Cumulative High Technology Your Technological Partner For
The New Millennium



 (주)PJ KODIVAC



VACTECH SDN. BHD.
(Company No. 389978-P)

DIFFUSION PUMP

유확산 펌프는 증기를 발생시키는 보일러, 증기를 분리하는 노즐, 그리고 분사된 기체를 응축하는 벽으로 구성되며, 초음속 또는 이에 가까운 속도로 분사되는 증기류(타 기체보다 무겁고 고속에 의해 흡입기체를 압축배기하도록 하는 원리)를 이용한 펌프로써, 특히 흡입기체가 분자류 영역에 있을 때 가장 유용하게 작동합니다. 유확산 펌프는 구조가 간단하고 고속 Pumping의 특성과 Gas Load 처리 능력, 높은 생산성 등으로 인해 진공산업에서 널리 사용되고 있습니다.

The oil diffusion pump consists of boiler which produce vapors, a nozzle which separates vapor, and a wall which condenses vaporized gases. The oil diffusion pumps oil vapors which has a higher speed than the sonic speed, further more the residual molecules move into the lower part of the pump, and become compressed, thus attaining a high vacuum condition sufficient enough for them to be discharged into the primary pump.

website : www.vactech.com.my
e-mail : sales@vactech.com.my

Introduction

유확산 펌프의 구조에서 Jet Assembly는 First Stage에 다른 Stage와는 다른 분리된 Tube를 장착시켜 불순물이 없는 가장 순수한 Oil만이 Center Tube를 통해 Top Jet로 이동해서 펌프의 최상층부 즉 흡입구 부분이 가장 높은 진공상태가 되게 해주고, 오염된 Oil은 하부 Jet에서 동작하도록 설계하여 높은 Pumping Speed와 낮은 Oil Back Stream을 갖도록 설계 제작하였습니다. 또한 Jet는 조립이 간단하여 쉽게 분해되며 각각의 Nozzle을 쉽게 세척할 수 있도록 하였으며 시창을 Option으로 장착하여 Oil의 양과 변질상태를 육안으로 관찰할 수 있도록 설계 제작하였습니다. PJ KODIVAC의 유확산 펌프는 철저한 품질관리와 검사를 거쳐 생산되는 신뢰성 있는 Pump입니다. 현재DPF-3Z에서 DPF-28Z까지의 수냉시리즈와 DPF-3ZA, DPF-4ZA 공냉시리즈가 생산되고 있습니다.

The diffusion pump features a simple structure, high pumping speed, excellent ability to treat gas load, and high throughput, thus playing an important role in the vacuum industry.

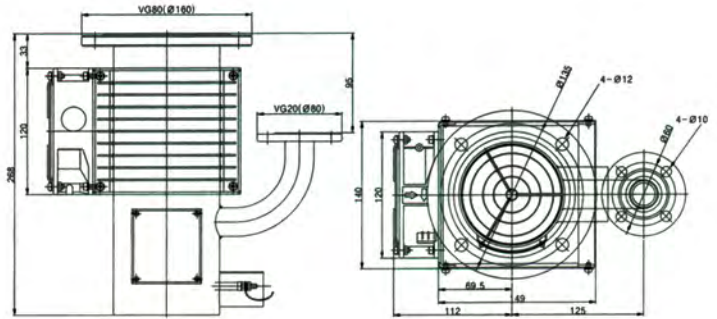
PJ KODIVAC DPF-Z type diffusion pump is designed to have high pumping speed, excellent backstream characteristics, low ultimate pressure, and high reliability. The jet assembly of the diffusion pump has a tube that separates the first stage vapors from others. This enables only the purest oil to come into the top jet through the center tube and the part closest to the chamber to attain the highest vacuum condition while any contaminated oil can be used at lower stages. In other words, it is designed to have the highest pumping speed and the least backstream pressure. Besides, the jet is built by an assembling method ensuring that it can be completely disassembled, so that the nozzles of every stage can be cleaned with ease. The pump can also be equipped with a viewing point, which is an option by which you can observe the oil surface and oil contamination/decomposition. In short, PJ KODIVAC supplies reliable pumps produced thorough quality control and test process. The pumps come in water-cooled versions from DPF-3Z Thru DPF-28Z and air-cooled versions from DPF-3ZA thru DPF-4ZA.



Diffusion Pump

DIFFUSION ▶ DPF-3ZA PUMP

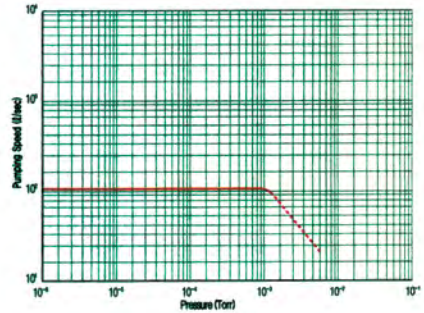
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	150ℓ /sec
Ultimate Pressure	
-With Baffle	1×10^{-7} Torr(1×10^{-5} Pa)
Oil Backstream Rate	7.5×10^{-4} mg/cm ² · min
Oil Capacity	100 ml
Electrical Main Supply	220V/1Ø
Warm-up Time	20 min
Fore-Vacuum Pressure	2×10^{-1} Torr(27Pa)
Heater Power	450W
Weight	7.5Kg
Cooling	Air

Speed Curve



Feature

■특징

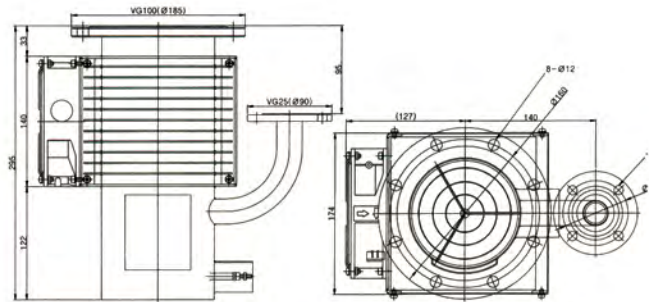
- 뛰어난 배기속도
- Low Oil back stream.
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 오손실을 방지

■Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION PUMP ▶ DPF-4ZA PUMP

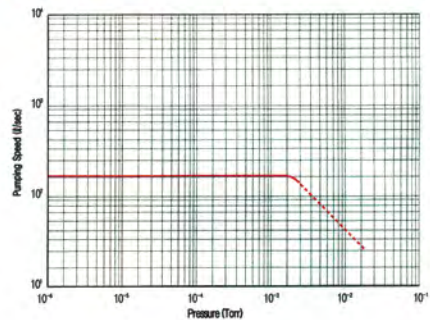
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	250ℓ /sec
Ultimate Pressure -With Baffle	1×10^{-7} Torr (1×10^{-8} Pa)
Oil Backstream Rate	7.5×10^{-8} mg/cm ² · min
Oil Capacity	150 ml
Electrical Main Supply	220V/1Ø
Warm-up Time	20 min
Fore-Vacuum Pressure	2×10^{-1} Torr (27Pa)
Heater Power	700W
Weight	10Kg
Cooling	Air

Speed Curve



Feature

■특징

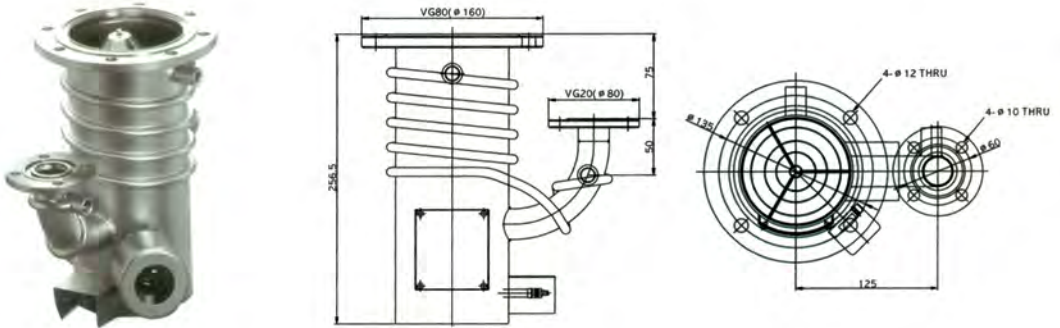
- 뛰어난 배기속도
- Low Oil back stream.
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 Oil손실을 방지

■Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION ▶ DPF-3Z PUMP

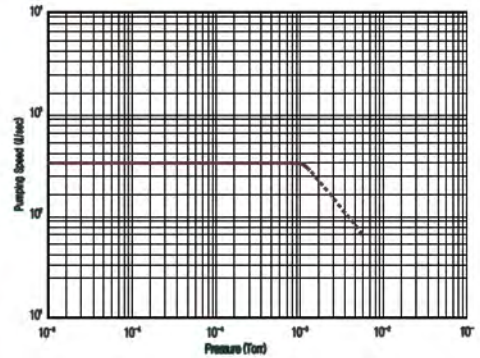
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	360ℓ /sec
Ultimate Pressure	
-Without Baffle	5×10^{-7} Torr (6.7×10^{-5} Pa)
-With Baffle	1×10^{-7} Torr (1×10^{-5} Pa)
Oil Backstream Rate	
-Without Baffle	2.5×10^{-2} mg/cm ² · min
-Air Cooled Baffle	7.5×10^{-4} mg/cm ² · min
-Water Cooled Baffle	2×10^{-4} mg/cm ² · min
Oil Capacity	100 ml
Electrical Main Supply	220V/1Ø
Warm-up Time	20 min
Cooling Water Flow	1.0ℓ /min
Fore-Vacuum Pressure	2×10^{-1} Torr (27Pa)
Heater Power	450W
Weight	6Kg

Speed Curve



Feature

■ 특징

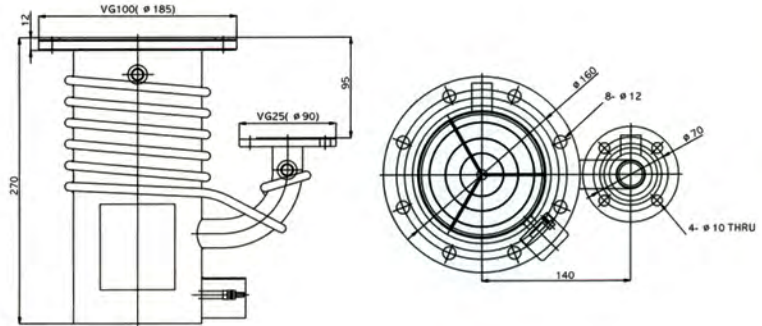
- 뛰어난 배기속도
- Low Oil back stream,
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 Oil손실을 방지

■ Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION ▶ DPF-4Z PUMP

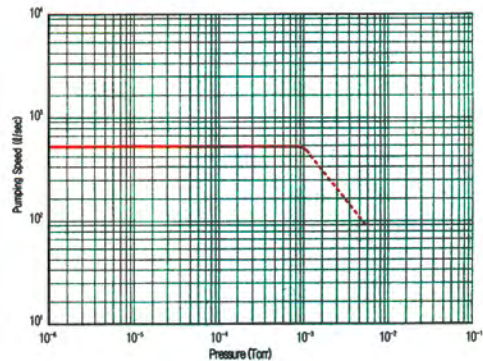
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	570ℓ /sec
Ultimate Pressure	
-Without Baffle	5×10^{-7} Torr (6.7×10^{-6} Pa)
-With Baffle	1×10^{-7} Torr (1×10^{-6} Pa)
Oil Backstream Rate	
-Without Baffle	2.5×10^{-2} mg/cm ² · min
-Air Cooled Baffle	7.5×10^{-4} mg/cm ² · min
-Water Cooled Baffle	2×10^{-4} mg/cm ² · min
Oil Capacity	150 ml
Electrical Main Supply	220V/1 φ
Warm-up Time	20 min
Cooling Water Flow	1.5ℓ /min
Fore-Vacuum Pressure	2×10^{-1} Torr(27Pa)
Heater Power	700W
Weight	8Kg

Speed Curve



Feature

■특징

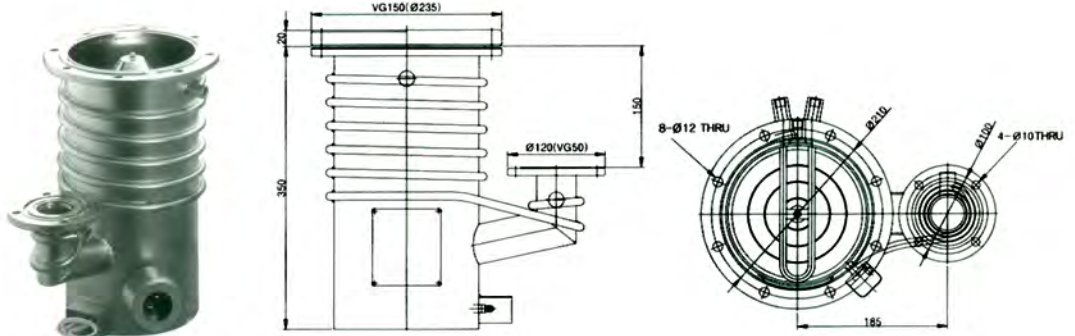
- 뛰어난 배기속도
- Low Oil back stream.
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 Oil손실을 방지

■Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION ▶ DPF-6Z PUMP

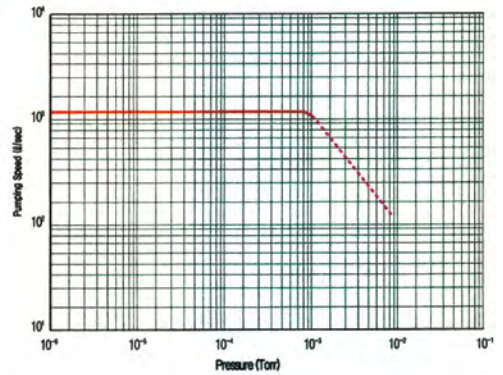
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	1200ℓ /sec
Ultimate Pressure	
-Without Baffle	5×10^{-7} Torr (6.7×10^{-6} Pa)
-With Baffle	1×10^{-7} Torr (1×10^{-6} Pa)
Oil Backstream Rate	
-Without Baffle	2.5×10^{-2} mg/cm ² • min
-Water Cooled Baffle	2×10^{-4} mg/cm ² • min
Oil Capacity	340 ml
Electrical Main Supply	220V/1φ
Warm-up Time	20 min
Cooling Water Flow	3.0ℓ /min
Fore-Vacuum Pressure	2×10^{-1} Torr (27Pa)
Heater Power	1KW
Weight	20Kg

Speed Curve



Feature

■ 특징

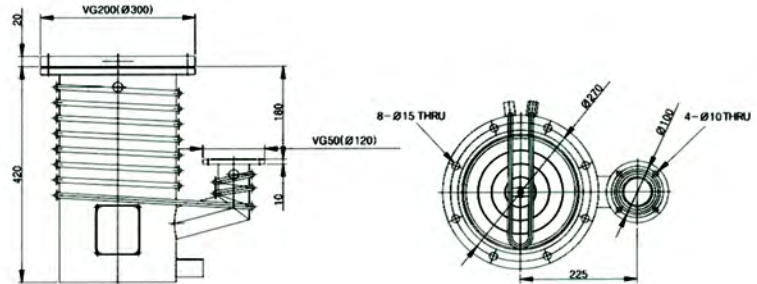
- 뛰어난 배기속도
- Low Oil back stream.
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 이손실을 방지

■ Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION ▶ DPF-8Z PUMP

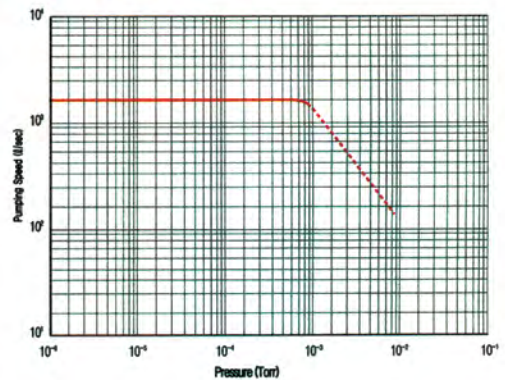
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	1950ℓ /sec
Ultimate Pressure	
-Without Baffle	5×10^{-7} Torr (6.7×10^{-5} Pa)
-With Baffle	1×10^{-7} Torr (1×10^{-5} Pa)
Oil Backstream Rate	
-Without Baffle	2.5×10^{-2} mg/cm ² · min
-Water Cooled Baffle	2×10^{-4} mg/cm ² · min
Oil Capacity	500 ml
Electrical Main Supply	220V/1φ
Warm-up Time	25 min
Cooling Water Flow	4.0ℓ /min
Fore-Vacuum Pressure	2×10^{-1} Torr(27Pa)
Heater Power	1.5kW
Weight	30Kg

Speed Curve



Feature

■ 특징

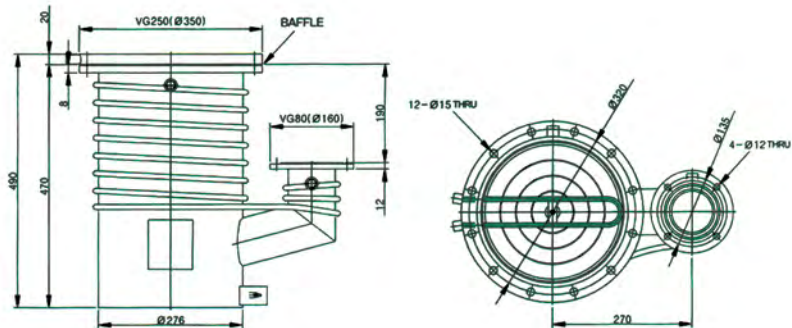
- 뛰어난 배기속도
- Low Oil back stream.
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 이손실을 방지

■ Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION ▶ DPF-10Z PUMP

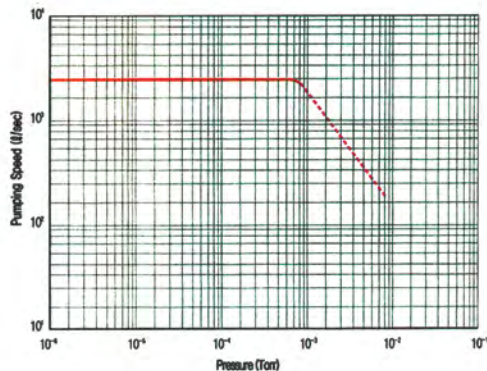
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	3000ℓ /sec
Ultimate Pressure	
-Without Baffle	5×10^{-7} Torr (6.7×10^{-5} Pa)
-With Baffle	1×10^{-7} Torr (1×10^{-5} Pa)
Oil Backstream Rate	
-Without Baffle	2.5×10^{-2} mg/cm ² · min
-Water Cooled Baffle	2×10^{-4} mg/cm ² · min
Oil Capacity	820 ml
Electrical Main Supply	220V/1φ
Warm-up Time	25 min
Cooling Water Flow	5.0ℓ /min
Fore-Vacuum Pressure	2×10^{-1} Torr (27Pa)
Heater Power	1.9KW
Weight	41Kg

Speed Curve



Feature

■ 특징

- 뛰어난 배기속도
- Low Oil back stream,
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 Oil손실을 방지

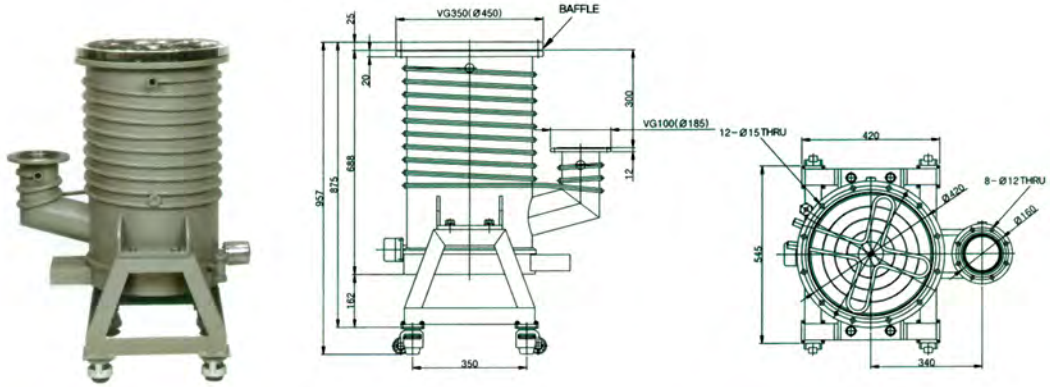
■ Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION PUMP

DIFFUSION PUMP
DPF-14Z

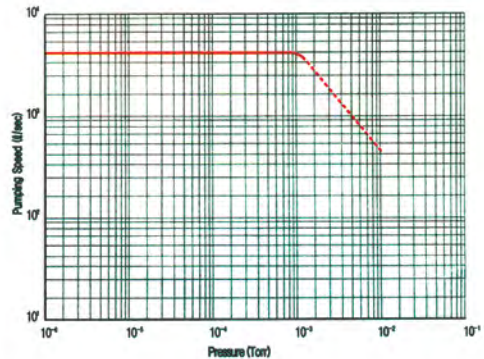
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	5500ℓ /sec
Ultimate Pressure	
-Without Baffle	5×10^{-7} Torr (6.7×10^{-6} Pa)
-With Baffle	1×10^{-7} Torr (1×10^{-6} Pa)
Oil Backstream Rate	
-Without Baffle	2.5×10^{-2} mg/cm ² · min
-Water Cooled Baffle	2×10^{-4} mg/cm ² · min
Oil Capacity	1600ml
Electrical Main Supply	220V/3φ
Warm-up Time	30 min
Cooling Water Flow	7.0ℓ /min
Fore-Vacuum Pressure	2×10^{-1} Torr (27Pa)
Heater Power	4.5KW
Weight	120Kg

Speed Curve



Feature

■특징

- 뛰어난 배기속도
- Low Oil back stream,
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 Oil손실을 방지

■Features

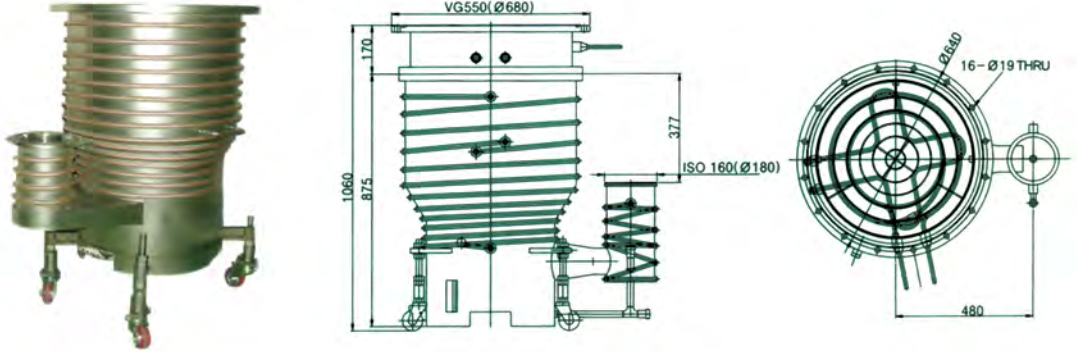
- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION PUMP – DPF Series

website : www.vactech.com.my
e-mail : sales@vactech.com.my

DIFFUSION ▶ DPF-222ZQ PUMP

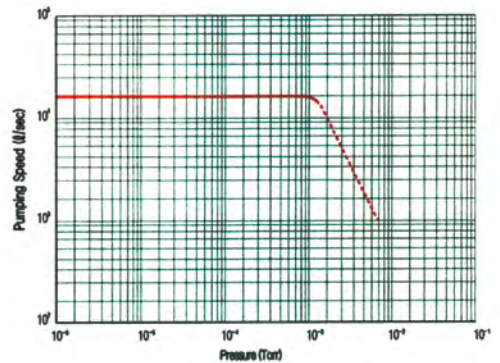
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	13,000ℓ /sec
Ultimate Pressure	
-Without Baffle	5×10^{-7} Torr (6.7×10^{-2} Pa)
-With Baffle	1×10^{-7} Torr (1×10^{-2} Pa)
Oil Backstream Rate	
-Without Baffle	2.5×10^{-2} mg/cm ² · min
-Water Cooled Baffle	2×10^{-4} mg/cm ² · min
Oil Capacity	5000 ml
Electrical Main Supply	220V/3Ø
Warm-up Time	35 min
Cooling Water Flow	11ℓ /min
Fore-Vacuum Pressure	2×10^{-1} Torr (27Pa)
Heater Power	9KW
Weight	180Kg

Speed Curve



Feature

■특징

- 뛰어난 배기속도
- Low Oil back stream.
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 Oil손실을 방지
- 222이상은 주문생산되고 있습니다.

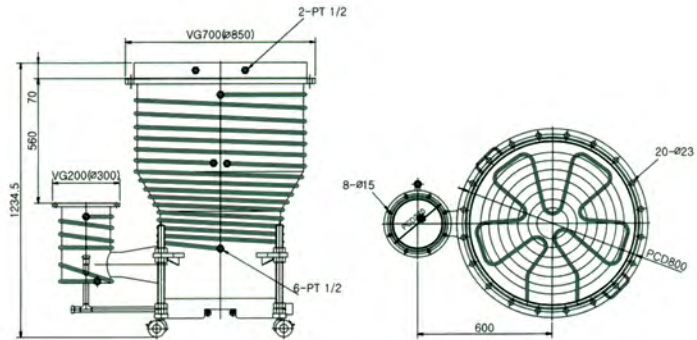
■Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

DIFFUSION PUMP

DPF-28ZQ

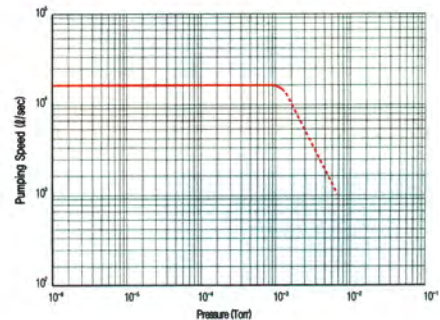
Design / Outline Drawing(mm)



Technical Specification

Pumping Speed	25,000ℓ /sec
Ultimate Pressure	
-Without Baffle	5×10^{-7} Torr (6.7×10^{-5} Pa)
-With Baffle	1×10^{-7} Torr (1×10^{-5} Pa)
Oil Backstream Rate	
-Without Baffle	2.5×10^{-2} mg/cm ² · min
-Water Cooled Baffle	2×10^{-4} mg/cm ² · min
Oil Capacity	9000 ml
Electrical Main Supply	220V/3Ø
Warm-up Time	40 min
Cooling Water Flow	15ℓ /min
Fore-Vacuum Pressure	2×10^{-1} Torr (27Pa)
Heater Power	15KW
Weight	270Kg

Speed Curve



Feature

■특징

- 뛰어난 배기속도
- Low Oil back stream.
- High Fore-Vacuum Pressure
- 헬륨 누설 탐지기에 의한 정밀한 누설검사
- 분류법에 의한 Jet의 설계로 Oil의 오염을 제거
- Baffle의 장착으로 Backing System의 Oil손실을 방지
- 22Z이상은 주문생산되고 있습니다.

■Features

- High pumping speed
- High fore-vacuum pressure
- Precise leak test by Helium leak detector
- Removal of fluid pollution by jet designing of fraction
- Protection from oil loss of backing system by foreline baffle

It's customers and we will take a big step forward to becoming the first specialized company in the vacuum industry.

e-mail : sales@vactech.com.my
website : www.vactech.com.my

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