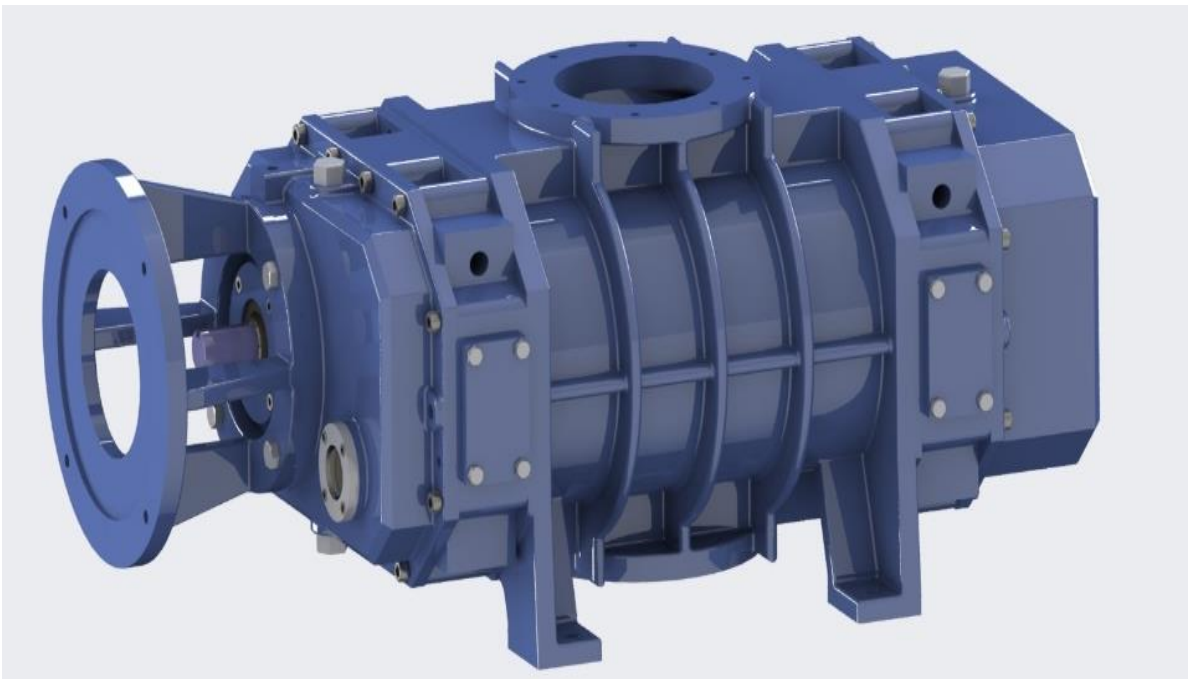


ROOTS PUMP (Mech. Booster)



For all medium and high vacuum application

DMB Series : 1500 m³/hr ~ 14000 m³/hr



DVTec Vacuum

ROOTS

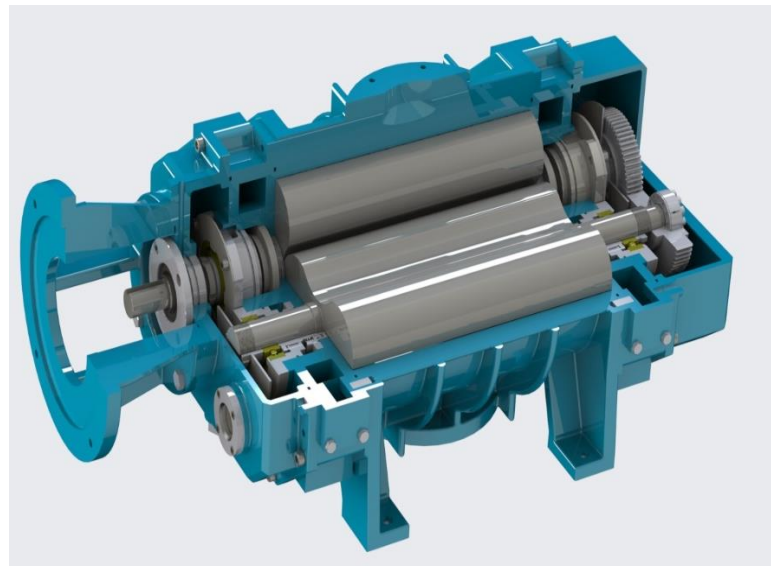
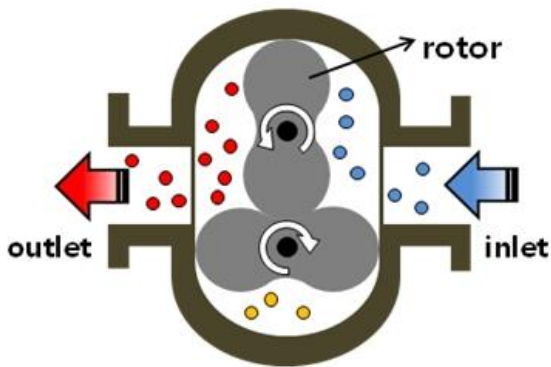
MECH. VACUUM BOOSTER

In the Roots high vacuum booster, two peanut-shaped rotors in the casing are fixed to the shaft. Rotors rotate in opposite directions at the same period by the timing gear. The gas flowing into the suction line is sealed in the space between the casing and the rotor and then discharged to the exhaust line by the rotation of the rotor, and the primary pump releases it into the atmosphere.

Rotor and Rotor, Rotor and Casing rotate in a very narrow Clearance (0.2~0.5mm), so it is possible to clean vacuum exhaust without lubricating oil inside the cylinder and rotor. In addition, the rotor has no friction with the casing during high-speed rotation (Max. 3500rpm), so there is no wear and it can be used semi-permanently.

In particular, high-strength, high-purity ductile cast iron (FCD55) is used for the material, and coating (surface treatment) is performed to prevent corrosion and improve strength on the surface of the base material.

Mechanical seal is not used and Bearings are used for a long time without contamination.



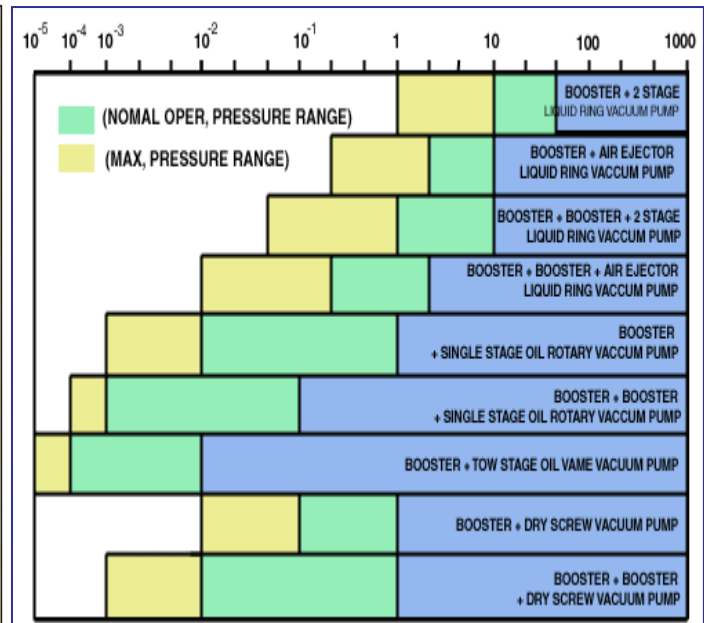
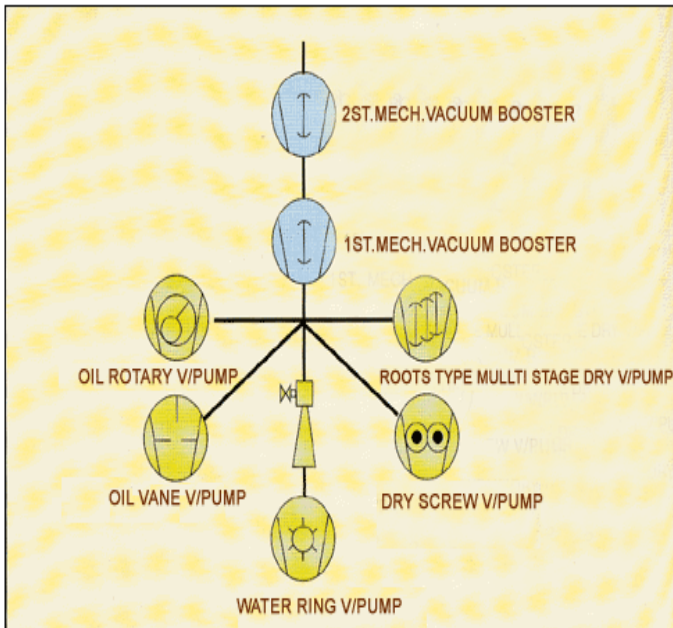
ROOTS MECHANICAL VACUUM BOOSTER

The New Generation of roots pump. Magnetic driving and Compact design.

Advantage & Features

- Compared to foreign boosters, the Performance and Durability are equal, the purchase cost, spare part, and maintenance cost are low. Overall, the maintenance and operation cost is very economical.
- Noise is minimized by using precision timing gear, The rotor minimizes vibration by dynamic balancing work.
- The rotor and casing and the rotor and the rotor do not have contact between metals during rotation, so they can be operated for a long time.
- no problem with booster safety and seal leakage due to long-term use by using magnetic coupling (optional)
- By adopting the direct cooling method of the side plate, the bearing durability is improved due to the rise in temperature even during long-term use
- Easy handling of corrosive and condensable gases by corrosion-resistant coating on the gas contact area
- Applicable to various processes in combination with dry screw pump or water ring pump, widely used with large capacity and high vacuum

Backing V/P Construction & Performance



ROOTS

MECH. VACUUM BOOSTER

Specification

SPECIFICATION	UNIT	DMB-1500 DMB-2400	DMB-3500 DMB-4500	DMB-6000	DMB-8000	DMB-14,000
Nor. Pumping Speed	m ³ /hr	1200 /2400	3500 / 4500	6000	7000 / 8500	10000 / 14000
Ultimate Pressure	Torr	1 X 10 ⁻³	1 X 10 ⁻³	1 X 10 ⁻³	1 X 10 ⁻³	1 X 10 ⁻³
Motor power	Kw	3.75 / 5.5	7.5 / 11	15	18.5	22 / 30
Motor Speed	RPM	1750 / 3500			2900 / 3500	2900
Intake port	mm	100 / 150	150 / 200	200	250	350
Exhaust port	mm	100 / 150	150 / 200	200	250	350
Cooling water	L/min	<5	< 8	< 8	< 10	< 15
Oil (L)	L/min	2	3	4	4	4.5
Lubrication		ISO VG			JIS 5K	JIS 5K
Weight	Kg	250 / 280	300 / 380	420	780	1150

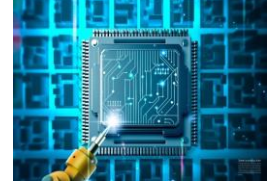
Material Composition

- **Body Casing** : Ductile Iron (FCD 40) **Roots Rotor** : Ductile Iron (FCD 55)
- **Plate / Cover / BRG holder** : Ductile Iron (FCD40)
- **Lip Seal** : Lip-PTFE & Graphite Mix, Casing - SUS316
- **Drive Oil seal** : Viton
- **Sleeve** : Stainless steel (SUS304) + Ceramic Coating, SKD 61
- **Timing Gear** : Alloy Steel (SCM415)
- **Coating Spec.** : Nickel / PTFE Coating

ROOTS MECH. VACUUM BOOSTER

Application

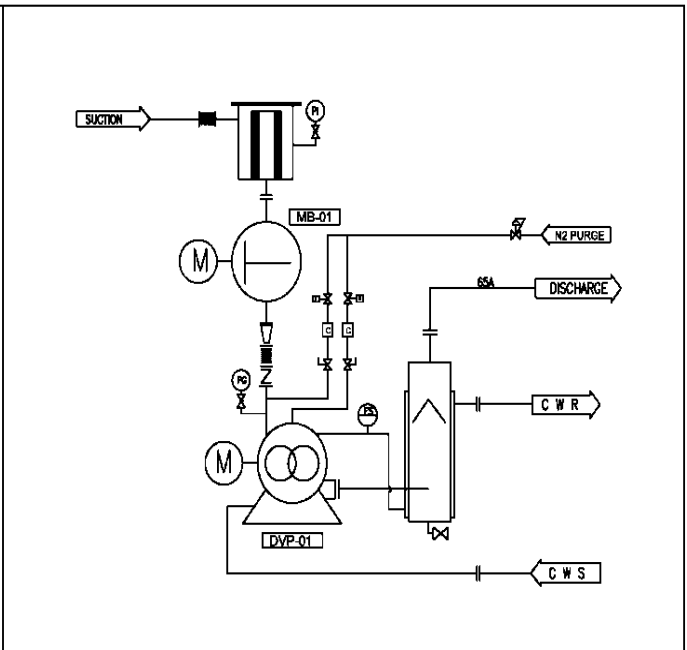
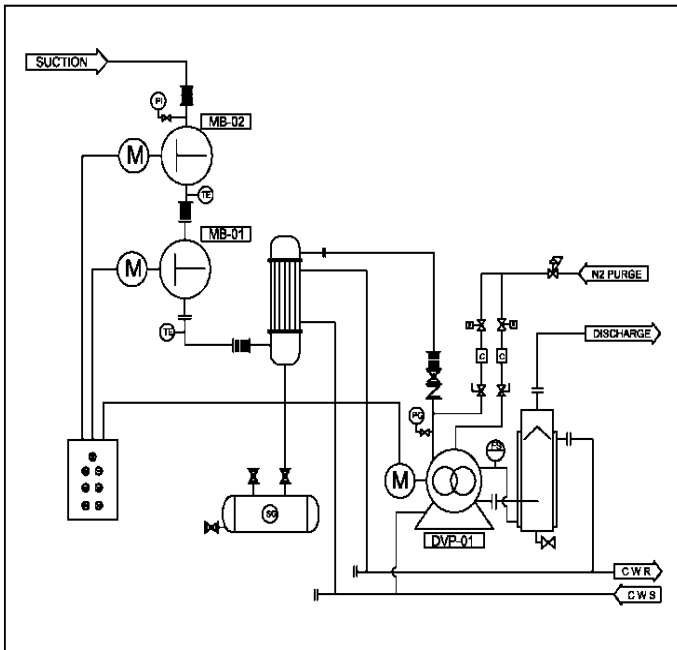
- **Pharmaceuticals** : raw material reaction and drying
- **Chemistry** : Distillation, Purification, Dehydration, polymerization
- **Industry** : coating, deposition, Heat treatment, plasma
- **Solar power** : polysilicon, wafer, INGOT equipment
- **Electronic semiconductor**: LCD, solar cell, LED, semiconductor
- **Steel making, iron ore** : Steel Degassing



Mech. Vacuum Booster System Package

MODEL : DVS-3 stage
CAPACITY : 15,000 M3/HR

MODEL : DVS-2 stage
CAPACITY : 6,000 M3/HR



Roots Vacuum Pump System

- Vacuum system design as customer requirements
- Vacuum package design considering process safety
- Provides a vacuum solution optimized for the process



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