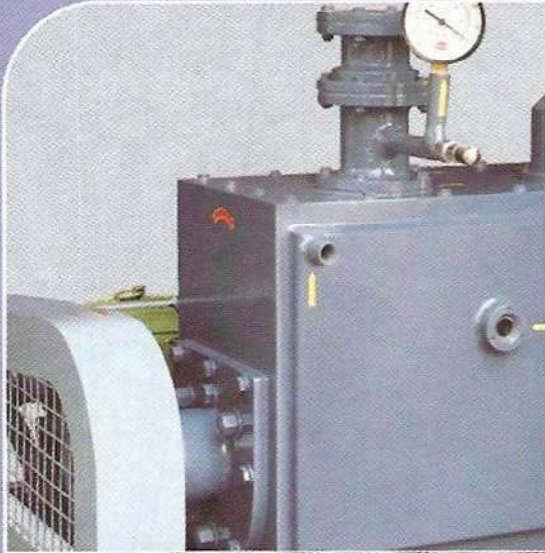




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PIONEER IN VACUUM PUMPS



OIL SEALED ROTARY HIGH VACUUM PUMPS

These are oil-immersed, rotary vane type pumps. The rotor, with two spring loaded vanes, is mounted eccentric in the stator body. As the rotor rotates, the vanes sweep the crescent shape air space twice in each revolution. There is inbuilt non-return valve which prevents back flow of air. Manufactured from graded material/all moving parts are precisely machined/ground and assembled with close tolerances. This results in increased efficiency and long trouble free operating life.

**ACCESSORIES :**

- ◆ Moisture Trap. Inlet Dust Filter. Vacuum Gauge with Regulator. Trolley for small Pumps.
- ◆ Use Oil : ENCL0-46 (HP) SAE-30 or Equivalent, Vacuum Oil.
- ◆ Model HL-300-II and above, are provided with water cooling jacket.
- ◆ Vacuum measured by Mcleod gauge at Suction port of the pump

APPLICATIONS:

Distillation, Dehydration and Filtration Processes, Exhausting Electronic Tubes, GLS Lamps/Mercury Vapour Lamps & Tubes, Vacuum Metallurgy, Vacuum Sublimation, Vacuum Impregnation, Thin Film Coating, Refrigerator and Air-Conditioner Servicing.

MODEL NO.	NO. OF STAGES	FREE AIR DISPLACEMENT		ULTIMATE VACUUM mm of Hg.	DRIVE MOTOR REQD. HP.	APPROX. OIL FILLING Ltrs.
		Lt./Min.	C.F.M.			
HL - 50	1 / 2	50 / 50	1.8 / 1.8	0.05 / 0.005	0.25 / 0.25	2 / 2
HL - 100	1 / 2	100 / 100	3.5 / 3.5	0.05 / 0.005	0.25 / 0.5	2 / 3
HL - 150	1 / 2	150 / 150	5.3 / 5.3	0.05 / 0.005	0.5 / 1.0	3 / 4
HL - 300	1 / 2	300 / 300	10.6 / 10.6	0.05 / 0.005	1.0 / 1.5	6 / 8
HL - 500	1 / 2	500 / 500	17.6 / 17.6	0.05 / 0.005	1.5 / 2.0	7 / 8
HL - 750	1 / 2	750 / 750	26.5 / 26.5	0.05 / 0.005	2.0 / 3.0	8 / 10
HL - 1000	1 / 2	1000 / 1000	35.3 / 35.3	0.05 / 0.005	2.0 / 3.0	15 / 20
HL - 1500	1 / 2	1500 / 1500	53.0 / 53.0	0.05 / 0.005	3.0 / 5.0	20 / 25
HL - 2000	1 / 2	2000 / 2000	70.6 / 70.6	0.05 / 0.005	3.0 / 5.0	25 / 30
HL - 3000	1 / 2	3000 / 3000	106.0 / 106.0	0.05 / 0.005	5.0 / 7.5	35 / 40
HL - 5000	1 / 2	5000 / 5000	176.5 / 176.5	0.05 / 0.005	7.5 / 10.0	40 / 45
HL - 7500	1 / 2	7500 / 7500	265.0 / 265.0	0.05 / 0.005	10.0 / 15.0	60 / 65
HL - 10000	1 / 2	10000 / 10000	353.0 / 353.0	0.05 / 0.005	15.0 / 20.0	65 / 75

A) Ultimate Vacuum : Single Stage : 0.05 mm of Hg., Double Stage : 0.005 mm of Hg.

B) Motor RPM : 1440 (C) Pump RPM : 500

DIAPHRAGM PUMP

There are, Diaphragm type Vacuum Pumps-cum -oil free Air Compressors. Being manufactured from High Grade Aluminum Alloys, they are portable and easy to carry at sites.

The Diaphragm can be from 2-Ply-Nylon reinforced Neoprene rubber or Teflon as required. The valve plates are SS 316 or special alloys, if required. The crank bearings are lubricated for life.

**SALIENT FEATURES :**

- ◆ Oil free air and maintenance free operation-as no lubrication is required.
- ◆ Practically Noiseless operation.
- ◆ Available with 24V/48V DC or 110V AC supply voltage.
- ◆ Available with Chemical resistant parts made from PP/PVC/Teflon/SS.
- ◆ Available as Single Stage/Double Stage/Double Stage Parallel operation pumps.
- ◆ Standard Models are with Aluminum contact parts.
- ◆ CRP Models are with PP and/or PVC/Teflon contact parts.

**: TECHNICAL SPECIFICATIONS :**

MODEL No.	MAX.FLOW (Ltrs/min)	MAX. VACUUM (Inches Hg)	MAX. PRESS. (PSIG)	MOTOR HP	APPROX. Weight (Kg)	APPROX. Dimensions(mm)
SD - 15	15	22"	25	1/20	2.7	175x110x150
SD - 15 - CRP	15	22"	25	1/20	2.5	175x110x150
SD - 15 - DS	15	27"	35	1/16	4.1	220x110x150
SD - 15 - DS - CRP	15	27"	35	1/16	4.1	220x110x150
SD - 15-DP	25	22"	25	1/16	4.2	220x110x150
SD - 15 - DP - CRP	25	22"	25	1/16	4.2	220x110x150
SD - 45-	45	22"	35	1/8	6.2	200x125x200
SD - 45 - CRP	30	22"	25	1/8	5.8	220x150x220
SD - 45 - DS	45	27"	40	1/4	9.0	300x130x200
SD - 45 - DS - CRP	40	22"	40	1/4	9.0	300x130x200
SD - 45 - DP	75	22"	40	1/4	9.0	300x130x200
SD - 45 - DP - CRP	50	22"	25	1/4	8.7	300x130x200

WATER-RING VACUUM PUMPS :

OPERATING PRINCIPLE:

The working parts of the pump consists of a multi-vane impeller mounted eccentrically in a round casing which is partly filled with liquid (usually water). As the impeller rotate the liquid is thrown by centrifugal force to form a liquid ring which is concentric with the periphery of the casing. Due to the eccentric position of the impeller relative to the casing and liquid ring, the spaces between the impeller vanes fill with liquid during rotation and any air or gas trapped in the impeller space or cell is compressed and discharged from the casing through the outlet part leaving the cell available to receive air or gas as it is presented to the inlet port of the liquid ring performs three other important functions. It absorbs the heat any liquid slugs or vapour entering with the gas stream. It will also absorb and wash out contaminants entrained in the gas.

FEATURES :

Condensable vapours, or occasional slugs of liquid can be handled without damage to the pump or significant effect on capacity. No Lubricant or oil is required with the pump itself. Thus the air or other discharge gases are not contaminated. A wide selection of materials and seal liquids can be used. The only moving part is a balanced impeller which reduced noise and vibration. Mechanical seals can be provided as an option. Small entrained solid will pass through the pump. However, abrasive particles will result in reduced pump life.

WIDE CHOICE OF MATERIALS :

Standard materials of construction is cast iron with semi-steel rotor. Shaft material is stainless steel for model PW-2 to PW-4, larger size are carbon steel with brass or stainless steel shaft sleeves for wetted parts. Alternate combination materials are available for special application.



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SOME SPECIFIC APPLICATIONS

ARE: Draining paper Webs. Evacuating condensers and piping. Priming Pumps. Drying resins, paints and chemicals. Conveying wheat, sugar and chemical products. Lifting and transporting wood and plates.

MODEL NO	SUNCTION M ³ /Hr	ELE. CFM.	MOTOR H.P.	RPM.	WATER Lt/Min.	SUNCTION KØ	WATER N.B.	WATER CONN.
PW-2	50	30	3	2880	7	25	1"	1/2"
PW-3	80	50	5	2880	10	30	1 1/4"	1/2"
PW-4	120	75	7.5	2880	14	36	1 1/2"	1/2"
PW-5	160	95	7.5	1440	15	50	2"	1/2"
PW-6	220	130	10	1440	20	60	2 1/2"	3/4"
PW-7	330	195	15	1440	30	80	3"	3/4"
PW-8	440	260	20	1440	40	80	3"	3/4"
PW-9	720	410	30	980	60	125	5"	3/4"
PW-10	845	490	35	980	80	125	5"	3/4"
PW-11	1080	650	40	980	100	125	5"	3/4"

APPLICATIONS:

In Vacuum Impregnation Process, the parts to be impregnated are put in the enclosure/tank and a vacuum is created to remove the air trapped inside. the varnish or impregnating fluid is then allowed to enter the tank, which reaches each and every pore/cavity creating a solid winding/product. The varnish and winding product can be heated before impregnation to release any air and/or moisture trapped inside. They may be heated in oven to dry the varnish/impregnated fluid.



In case of wooden articles/boards, the solutions reach vary deep eliminating attacks by termites etc. from within and also from outside.

Vacuum Impregnation systems are used for impregnating windings coils of electric motor stators, transformers, current coils, ballasts, chocks, submersible pump motors and similar electric items by varnishes and wooden boards, furniture items and like products by Anti-terminate, Fire retardant solution.

These systems are custom designed to suit specific application. These are easily operated and maintenance free, backed by efficient sales and service.

STD. SIZES AVAILABLE :

With Cylindrical Tanks and ready to use with interconnecting piping etc.

Size of Impregnation & Varnish Chamber Dia. x Ht. (in mm)	Approx. Volume Ltrs.	Size of Pump required	
		Displacement LPM	HP
300 x 300	20	150	0.5
450 x 450	70	300	1.0
600 x 600	170	500	1.5
750 x 600	260	500	1.5
910 x 750	480	750	2.0

Also offered are :

1. Epoxy casting vacuum systems.
2. Poly Urethane moulding vacuum systems for specific applications.

FLUID COUPLINGS :**PRINCIPLE :**

Fluid Couplings (Models C") are basically, 'constant speed, constant filling, hydrodynamic fluid couplings, The basic power transmission is through a stream of 'fluid'-most commonly, oil, circulating between an impeller and a runner. The kinetic energy of oil leaving impeller is taken-up by runner and the oil is returned back to impeller. In Operation, impeller is driven by the prime-mover-generally electric motor, and the runner drives the machine.

OPERATION :

When the motor fitted with a fluid coupling, is started the motor accelerate and continues to run at near to its rated speed the torque builds up gradually. During this start-up, the difference of speeds, between impeller and runner-the slip is maximum. Because of this slip, the output-torque is

greater than the input torque, due to the multiplied kinetic energy imparted to the oil, by impeller. This increased output torque enables the motor to start and accelerate, machines of higher inertia. Once the machine, is accelerated and is running at constant speed, the input and output torques are equal. But to transmit this torque, there is an inherent slip of about 3% to 5% between input and output speeds. This indicates the efficiency of a coupling. So, in normal operations, the input and output torque of a coupling are equal but the speeds are reduced by 3% to 5%.

TYPICAL APPLICATIONS :

Agitators, Ball and Tube Mills, Centrifuges, Centrifugal Crushers, Cable Drum Transmission, Construction Machinery, Cement Plants Machinery, Elevators, Fans/Heavy Trucks, Kneaders, Locomotives, Marine Propulsion, Mixers, Pulverisers, Paper Plant Machineries, Rotary Kilns, Ropeways, Steel Rolling Mills Soaps Plodders, Sugar Mill Machinery, Textile Machineries, Tractors, Wire Drawing, Stranding and Cabling Machines.

The Fluid couplings are available as : A)In-line type, when machine & motor shafts are inline. B)Pulley type, when machine & motor shafts are parallel & driven by V-belts.

CAPACITY RPM/HP	MODEL												
	C-01	C-02	C-03	C-04	C-05	C-06	C-07	C-08	C-85	C-09	C-10	C-105	C-11
960	-	0.3	1.5	2.5	5.0	10.0	20.0	35.0	50.0	75.0	120.0	200.0	300.0
1440	1.0	2.0	3.0	7.5	15.0	25.0	50.0	75.0	130.0	200.0	300.0	500.0	750.0
2880	5.0	10.0	15.0	25.0	40.0	60.0	100.0	-	-	-	-	-	-

These are combined Vacuum-cum-pressure pumps, designed and manufactured for long trouble free operating life. These are basically air-cooled, rotary pumps. Being compact, light weight and easily assembled, they require minimum attention even in continuous operation. Accessories like Vacuum and pressure regulators, Vacuum and Pressure Gauges, Relief Valves, Inlets Filters, Exhaust Oil Baffle etc. are available for different models.



APPLICATIONS :

- ◆ Vacuum Lifting & Vacuum Forming.
- ◆ Paper and label handling in printing and labeling machine.
- ◆ Evacuation of containers in food-packing.
- ◆ Air Stamping & Bottle Filling.

MODEL NO.	FREE AIR DISPLACEMENT		ULTIMATE VACUUM Inch of Hg.	PRESSURE PSIG	MOTOR REQD. HP
	Lt./Min.	C.F.M.			
DA - 75	75	2.6	28"	10	0.25
DA - 150	150	5.3	28"	10	0.5
DA - 300	300	10.6	26"	10	0.75
DA - 500	500	17.7	26"	10	1.0

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