

Norvax

ROOTS BLOWER

ROOTS VACUUM PUMP



บริษัท ยูโรฮาสคอน จำกัด

206 ม.12 ต.ท่าช้าง อ.บางกุ่ม จ.สงขลา 90110

Tel. 074-457395-7 Fax. 074-457397

Mobile 089-2936633, 081-5408734

Website : www.eurohascon.com

E-mail : eurohascon@hotmail.com

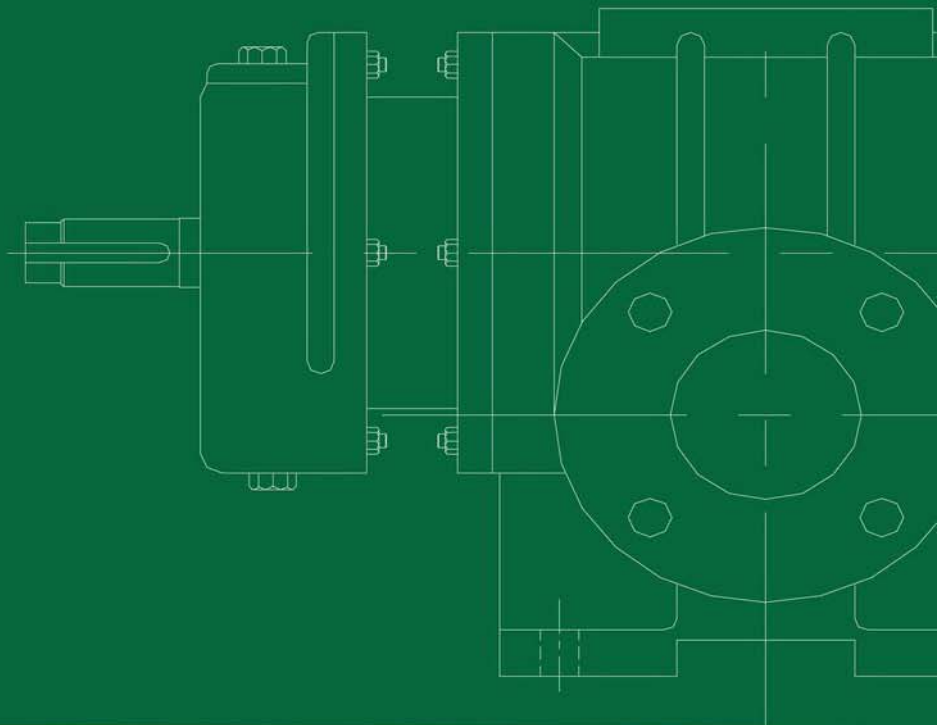
Norvax



ROOTS BLOWER



ROOTS VACUUM PUMP



THREE LOBE ROOTS BLOWER

APPLICATIONS

- Waste water treatment,dust collecting after burning
- Equipment of dust collection
- Vacuum dehydration for dying,paper industry
- flue gas desulfurization,facility of environmental regulation
- Exhausting, drying and air transportation
- transportation of gas and power, aquiculture
- Conveyance by air,liquid agitation

FEATURES

1. Wide range of capacity and pressure
Calibre: 40mm-300mm(1.5"-12")
Capacity: 0.6-160m³/min(12-5700CFM)
Pressure:The pressure of one-stage GRB type up to 8000mmAq(0.8kgf/cm²)
2. Delivers completely oil-free air.
3. Low oscillation and low noise by dynamic balance which revised by computer.
4. Smaller change in capacity against change in pressure.
5. High efficiency due to special impeller design.
6. Simpler and solidier structure, less trouble.
7. Highest quality pilot & accurate great applied, long life and low noise assured.
8. Standardized product with strict quality control.
9. Our rotor has used the most advanced technic, one time for all working process of the four-shaft method, to enhance the precision of leave wheel.

TYPE DESCRIPTION

NVD - 125

PIPE DIAMETER(mm)

NVD : Horizontal Discharge

NVV : Vertical Discharge

NVG : Horizontal Discharge with Vertical silencer

WORKING DIRECTIONS OF PERFORMANCE TABLE

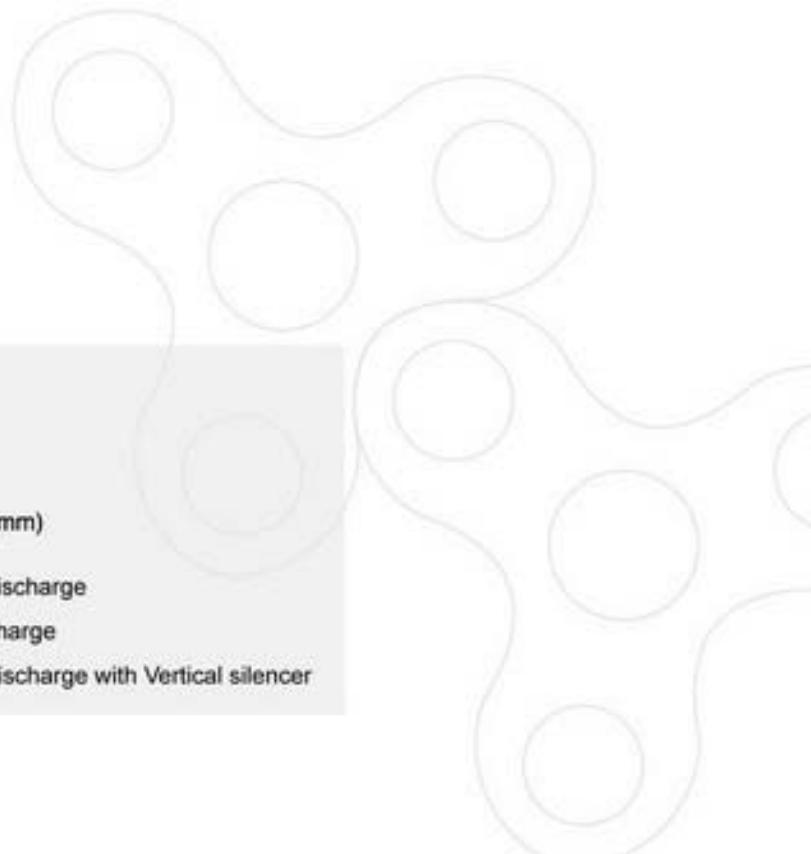
1. The performance parameter indicate the type, caliber, revolutions, discharge pressure, actual inlet air capacity and shaft power of the blower.
2. The performance parameter indicate the air quantity in standard suction condition (temperature 20°C, absolute pressure 1.0332 kgf/cm² and relative humidity 65%) .
3. The reference air capacity (0°C temperature and 1.0332 kgf/cm² absolute pressure) is generally indicated in Nm³/min.
4. The inlet air capacity can be converted as following.

$$Q_2=Q_1 \times \frac{P_1}{P_2} \times \frac{273+T_2}{273+T_1}$$

Q₁: Air capacity (m³/min) based on absolute pressure P₁ (mmAq) temperature T₁ (°C)

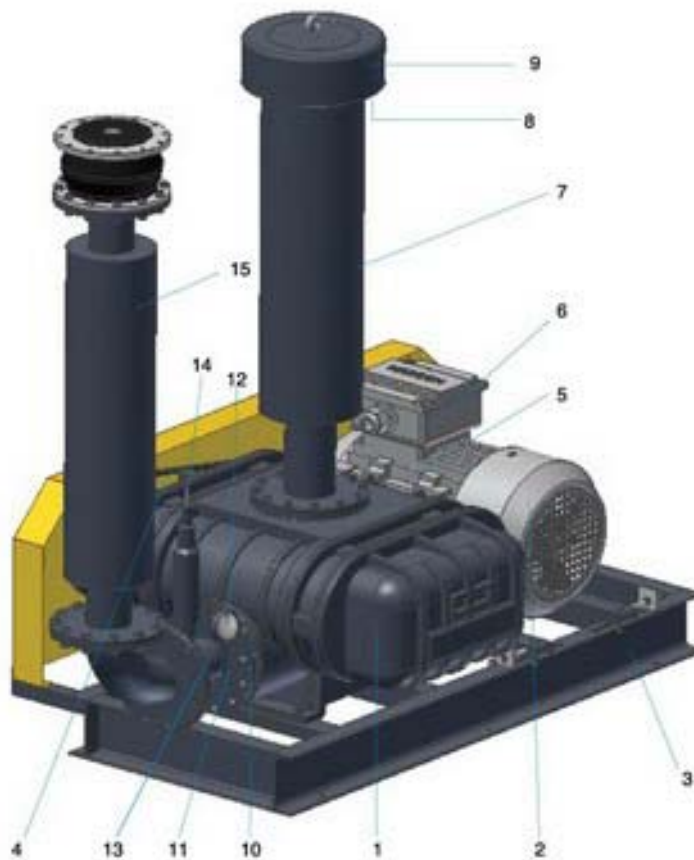
Q₂: Air capacity (m³/min) based on absolute pressure P₂ (mmAq) temperature T₂ (°C)

5. The motor power is 1.1-1.3 multiple of shaft power.
6. The error of the parameter is about 5%.



ROOTS BLOWER
ROOTS VACUUM PUMP

EXTERNALITY CONSTRUCTION



No.	Accessories
1	Blower body
2	Motor
3	Foundation
4	Pulley
5	Driving belt
6	Belt cover
7	Suction silencer
8	Air filter
9	Rain cover
10	Check valve
11	Gauge pipe
12	Outlet pressure gauge
13	T-joint
14	Safety valve
15	Outlet silencer

Type NVD-40 without outlet silencer

CONVERSION TABLE

PRESSURE	atm	kPa	bar	lb/in ²	kg/cm ²	in Hg	ftAq	mmHg(Torr)	mmAq
1 atm	1	101.325	1.01325	14.696	1.0333	29.921	33.914	760	10333
1 kPa	0.0099	1	0.01	0.145	0.0102	0.295	0.335	7.5	102
1bar	0.9869	100	1	14.504	1.0198	29.53	33.47	750	10198
1 lb/in ² (psi)	0.068	6.894	0.0689	1	0.0703	2.036	2.308	51.71	703
1 kg/cm ²	0.968	98.062	0.981	14.228	1	28.96	32.82	735.53	10000
1 inHg	0.0334	3.3863	0.0339	0.491	0.0345	1	1.133	25.4	345.3
1 ftAq	0.0295	2.99	0.0299	0.434	0.0305	0.882	1	22.42	304.8
1 mmHg(Torr)	0.013	0.1338	0.00138	0.019	0.0014	0.04	0.045	1	13.6
1 mmAq	0.000097	0.0098	0.000098	0.0014	0.0001	0.003	0.0033	0.074	1

CAPACITY	m ³ /min	l/min	cm ³ /s	in ³ /s	ft ³ /min(cfm)
1 m ³ /min	1	1000	16667	1016	35.288
1 l/min	0.001	1	16.67	1.02	0.0353
1 cm ³ /s	0.00006	0.06	1	0.061	0.002
1 in ³ /s	0.00098	0.983	16.39	1	0.035
1 ft ³ /min(cfm)	0.028	28.32	471.95	28.8	1

POWER	Kg-m/sec	KW	HP	PS
1Kg-m/sec	1	0.01	0.013	0.013
1KW	101.97	1	1.341	1.360
1HP	76.038	16.67	1	1.014
1PS	75	0.7336	0.986	1

Pressure Conversion Formula
 1 kPa=1000Pa=1000N/m²
 1mbar=10.198mmAq
 1mmHg(torr)=133.8Pa

PERFORMANCE PARAMETER

Q (m³/min)

Type	RPM	1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW
NVD-40	850	1.02	0.23	0.85	0.47	0.67	0.70	0.46	0.94	0.23	1.17	-	-	-	-	-	-
	950	1.18	0.26	1.00	0.53	0.83	0.79	0.60	1.05	0.44	1.31	-	-	-	-	-	-
	1050	1.33	0.29	1.16	0.58	0.99	0.87	0.75	1.16	0.62	1.45	-	-	-	-	-	-
	1150	1.49	0.32	1.31	0.64	1.14	0.95	0.89	1.27	0.76	1.59	-	-	-	-	-	-
	1250	1.64	0.35	1.47	0.69	1.30	1.04	1.12	1.38	0.90	1.73	0.90	2.07	0.67	2.42	0.52	2.76
	1350	1.80	0.37	1.62	0.75	1.45	1.12	1.28	1.49	1.16	1.87	1.05	2.24	0.99	2.61	0.82	2.99
	1450	1.96	0.4	1.78	0.80	1.61	1.20	1.43	1.60	1.31	2.00	1.21	2.40	1.15	2.81	1.11	3.21
	1550	2.11	0.43	1.93	0.86	1.76	1.29	1.59	1.71	1.47	2.14	1.37	2.57	1.30	3.00	1.26	3.43
	1650	2.27	0.46	2.09	0.91	1.92	1.37	1.74	1.82	1.63	2.28	1.52	2.74	1.46	3.19	1.42	3.65
	1750	2.42	0.48	2.25	0.97	2.08	1.45	1.90	1.93	1.78	2.42	1.68	2.90	1.61	3.39	1.57	3.87
	1850	2.58	0.51	2.40	1.02	2.23	1.53	2.06	2.05	1.94	2.56	1.83	3.07	1.77	3.58	1.73	4.09
1950	2.73	0.54	2.56	1.08	2.39	1.62	2.21	2.16	2.09	2.70	1.99	3.23	1.92	3.77	1.88	4.31	
NVD-50	850	1.63	0.39	1.29	0.78	0.96	1.17	0.73	1.57	0.57	1.96	0.43	2.35	0.26	2.74	0.18	3.13
	950	1.89	0.44	1.55	0.88	1.22	1.31	0.99	1.75	0.83	2.19	0.67	2.63	0.61	3.06	0.45	3.50
	1050	2.14	0.48	1.81	0.97	1.48	1.45	1.25	1.93	1.09	2.42	0.91	2.90	0.88	3.39	0.80	3.87
	1150	2.40	0.53	2.07	1.06	1.74	1.59	1.51	2.12	1.35	2.65	1.15	3.18	1.15	3.71	1.06	4.24
	1250	2.66	0.58	2.33	1.15	2.00	1.73	1.77	2.30	1.61	2.88	1.45	3.46	1.43	4.03	1.32	4.61
	1350	2.92	0.62	2.59	1.24	2.26	1.87	2.03	2.49	1.87	3.11	1.77	3.73	1.72	4.35	1.58	4.98
	1450	3.18	0.67	2.84	1.34	2.52	2.00	2.29	2.67	2.13	3.34	2.03	4.01	1.98	4.68	1.84	5.34
	1550	3.44	0.71	3.10	1.43	2.78	2.14	2.54	2.86	2.39	3.57	2.29	4.28	2.24	5.00	2.10	5.71
	1650	3.62	0.76	3.36	1.52	3.03	2.28	2.80	3.04	2.65	3.80	2.55	4.56	2.50	5.32	2.36	6.08
	1750	3.76	0.81	3.62	1.61	3.29	2.42	3.06	3.22	2.91	4.03	2.81	4.84	2.76	5.64	2.62	6.45
	1850	4.01	0.85	3.88	1.70	3.55	2.56	3.32	3.41	3.17	4.26	3.07	5.11	3.02	5.97	2.87	6.82
1950	4.26	0.90	4.14	1.80	3.81	2.70	3.58	3.59	3.43	4.49	3.32	5.39	3.28	6.29	3.13	7.19	
NVD-65	850	2.15	0.51	2.04	1.02	1.76	1.53	1.65	2.04	1.49	2.55	1.37	3.05	1.28	3.56	1.14	4.07
	950	2.48	0.57	2.40	1.14	2.10	1.71	1.98	2.28	1.83	2.84	1.71	3.41	1.62	3.98	1.47	4.55
	1050	2.82	0.63	2.77	1.26	2.43	1.89	2.32	2.52	2.17	3.14	2.04	3.77	1.95	4.40	1.81	5.03
	1150	3.16	0.69	3.13	1.38	2.77	2.07	2.66	2.75	2.50	3.44	2.38	4.13	2.29	4.82	2.15	5.51
	1250	3.49	0.75	3.24	1.50	3.11	2.25	3.00	2.99	2.84	3.74	2.72	4.49	2.63	5.24	2.49	5.99
	1350	3.83	0.81	3.57	1.62	3.45	2.43	3.33	3.23	3.18	4.04	3.06	4.85	2.97	5.66	2.82	6.47
	1450	4.17	0.87	3.91	1.74	3.78	2.61	3.67	3.47	3.52	4.34	3.39	5.21	3.30	6.08	3.16	6.95
	1550	4.51	0.93	4.25	1.86	4.12	2.78	4.01	3.71	3.85	4.64	3.73	5.57	3.64	6.50	3.50	7.43
	1650	4.84	0.99	4.59	1.98	4.46	2.96	4.35	3.95	4.19	4.94	4.07	5.93	3.98	6.92	3.83	7.91
	1750	5.18	1.05	4.92	2.10	4.79	3.14	4.68	4.19	4.53	5.24	4.14	6.29	4.32	7.34	4.17	8.38
	1850	5.52	1.11	5.26	2.22	5.13	3.32	5.02	4.43	4.87	5.54	4.74	6.65	4.65	7.76	4.51	8.86
1950	5.86	1.17	5.60	2.34	5.47	3.50	5.36	4.67	5.20	5.84	5.08	7.01	4.99	8.17	4.85	9.34	



PERFORMANCE PARAMETER

Type	RPM	Q(m ³ /min)															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW
NVD-80	800	3.83	0.85	3.41	1.70	3.06	2.55	2.59	3.40	2.26	4.25	1.97	5.10	1.55	5.95	1.14	6.80
	900	4.42	0.96	4.01	1.91	3.66	2.87	3.19	3.83	2.86	4.78	2.57	5.74	2.15	6.70	1.74	7.65
	1000	5.02	1.06	4.61	2.13	4.26	3.19	3.79	4.25	3.46	5.32	3.17	6.38	2.75	7.44	2.33	8.50
	1100	5.62	1.17	5.20	2.34	4.86	3.51	4.39	4.68	4.06	5.85	3.77	7.02	3.35	8.19	2.93	9.35
	1200	6.22	1.28	5.80	2.55	5.46	3.83	4.99	5.10	4.66	6.38	4.36	7.65	3.95	8.93	3.53	10.21
	1300	6.82	1.38	6.40	2.76	6.05	4.15	5.59	5.53	5.26	6.91	4.96	8.29	4.55	9.67	4.13	11.06
	1400	7.42	1.49	7.00	2.98	6.65	4.46	6.19	5.95	5.86	7.44	5.56	8.93	5.15	10.42	4.73	11.91
	1500	8.02	1.59	7.60	3.19	7.25	4.78	6.79	6.38	6.45	7.97	6.16	9.57	5.75	11.16	5.33	12.76
	1600	8.62	1.70	8.20	3.40	7.85	5.10	7.38	6.80	7.05	8.50	6.76	10.21	6.34	11.91	5.93	13.61
	1650	8.92	1.75	8.50	3.51	8.15	5.26	7.68	7.02	7.35	8.77	7.06	10.52	6.64	12.28	6.23	14.03
	1750	9.51	1.86	9.10	3.72	8.75	5.58	8.28	7.44	7.95	9.30	7.66	11.16	7.24	13.02	6.82	14.88
	1850	10.11	1.97	9.70	3.93	9.35	5.90	8.88	7.87	8.55	9.83	8.26	11.80	7.84	13.77	7.42	15.73
	1950	10.71	2.07	10.29	4.15	9.95	6.22	9.48	8.29	9.15	10.36	8.85	12.44	8.44	14.51	8.02	16.58
NVD-100	850	5.69	1.19	5.10	2.38	4.52	3.57	4.19	4.76	3.96	5.95	3.81	7.14	3.48	8.33	3.34	9.52
	950	6.53	1.34	5.94	2.68	5.36	4.02	5.03	5.36	4.79	6.70	4.65	8.04	4.32	9.38	4.18	10.72
	1000	7.37	1.49	6.77	2.98	6.20	4.46	5.87	5.95	5.63	7.44	5.49	8.93	5.16	10.42	5.02	11.91
	1100	8.21	1.64	7.61	3.27	7.04	4.91	6.71	6.55	6.47	8.19	6.33	9.82	6.00	11.46	5.86	13.10
	1200	9.04	1.79	8.45	3.57	7.87	5.36	7.55	7.14	7.31	8.93	7.17	10.72	6.83	12.50	6.69	14.29
	1300	9.88	1.93	9.29	3.87	8.71	5.80	8.38	7.74	8.15	9.67	8.01	11.61	7.67	13.54	7.53	15.48
	1400	10.72	2.08	10.13	4.17	9.55	6.25	9.22	8.33	8.99	10.42	8.84	12.50	8.51	14.59	8.37	16.67
	1500	11.56	2.23	10.97	4.46	10.39	6.70	10.06	8.93	9.82	11.16	9.68	13.39	9.35	15.63	9.21	17.86
	1600	12.40	2.38	11.80	4.76	11.23	7.14	10.90	9.52	10.66	11.91	10.52	14.29	10.19	16.67	10.05	19.05
	1650	12.82	2.46	12.22	4.91	11.65	7.37	11.32	9.82	11.08	12.28	10.94	14.73	10.61	17.19	10.47	19.65
	1750	13.65	2.60	13.06	5.21	12.49	7.81	12.16	10.42	11.92	13.02	11.78	15.63	11.45	18.23	11.30	20.84
	1850	14.49	2.75	13.90	5.51	13.32	8.26	12.99	11.01	12.76	13.77	12.62	16.52	12.28	19.27	12.14	22.03
	1950	15.33	2.90	14.74	5.80	14.16	8.71	13.83	11.61	13.60	14.51	13.45	17.41	13.12	20.31	12.98	23.22
NVD-125A	780	8.29	1.70	7.60	3.40	6.98	5.10	6.28	6.80	5.55	8.50	5.11	10.21	4.74	11.91	4.24	13.61
	830	8.90	1.81	8.22	3.62	7.59	5.43	6.89	7.24	6.16	9.05	5.72	10.86	5.35	12.67	4.85	14.48
	880	9.52	1.92	8.83	3.84	8.21	5.76	7.51	7.68	6.78	9.59	6.34	11.51	5.97	13.43	5.46	15.35
	990	10.87	2.16	10.18	4.32	9.56	6.48	8.86	8.64	8.13	10.79	7.69	12.95	7.32	15.11	6.81	17.27
	1050	11.61	2.29	10.92	4.58	10.30	6.87	9.59	9.16	8.86	11.45	8.42	13.74	8.06	16.03	7.55	18.32
	1100	12.22	2.40	11.53	4.80	10.91	7.20	10.21	9.59	9.48	11.99	9.04	14.39	8.67	16.79	8.17	19.19
	1180	13.20	2.57	12.51	5.15	11.89	7.72	11.19	10.29	10.46	12.87	10.02	15.44	9.65	18.01	9.15	20.59
	1250	14.06	2.73	13.37	5.45	12.75	8.18	12.05	10.90	11.32	13.63	10.88	16.35	10.51	19.08	10.01	21.81
	1320	14.92	2.88	14.23	5.76	13.61	8.64	12.91	11.51	12.18	14.39	11.74	17.27	11.37	20.15	10.87	23.03
	1390	15.78	3.03	15.09	6.06	14.47	9.09	13.77	12.12	13.04	15.16	12.60	18.19	12.23	21.22	11.73	24.25
	1470	16.77	3.21	16.08	6.41	15.45	9.62	14.75	12.82	14.02	16.03	13.58	19.23	13.21	22.44	12.71	25.64
	1560	17.87	3.40	17.18	6.80	16.56	10.21	15.86	13.61	15.13	17.01	14.69	20.41	14.32	23.81	13.82	27.21
	1650	18.98	3.60	18.29	7.20	17.66	10.79	16.96	14.39	16.23	17.99	15.79	21.59	15.42	25.19	14.92	28.78
1750	20.20	3.82	19.52	7.63	18.89	11.45	18.19	15.26	17.46	19.08	17.02	22.90	16.65	26.71	16.15	30.53	
1850	21.43	4.03	20.74	8.07	20.12	12.10	19.42	16.14	18.69	20.17	18.25	24.21	17.88	28.24	17.38	32.27	



PERFORMANCE PARAMETER

Type	RPM	Q(m ³ /min)															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW
NVD-125	780	11.73	2.49	10.57	4.97	9.79	7.46	8.94	9.94	8.51	12.43	7.88	14.92	7.62	17.40	7.17	19.89
	830	12.63	2.65	11.47	5.29	10.69	7.94	9.83	10.58	9.40	13.23	8.78	15.87	8.71	18.52	8.07	21.16
	880	13.53	2.80	12.37	5.61	11.59	8.41	10.73	11.22	10.30	14.02	9.67	16.83	9.61	19.63	8.97	22.44
	990	15.50	3.16	14.34	6.31	13.56	9.47	12.71	12.62	12.28	15.78	11.65	18.93	11.59	22.09	10.94	25.24
	1050	16.58	3.35	15.42	6.69	14.64	10.04	13.78	13.39	13.35	16.73	12.72	20.08	12.66	23.43	12.02	26.77
	1100	17.48	3.51	16.32	7.01	15.54	10.52	14.68	14.02	14.25	17.53	13.62	21.04	13.56	24.54	12.92	28.05
	1180	18.92	3.76	17.76	7.52	16.97	11.28	16.12	15.04	15.69	18.80	15.06	22.56	15.00	26.33	14.35	30.09
	1250	20.17	3.98	19.01	7.97	18.23	11.95	17.37	15.94	16.94	19.92	16.31	23.90	16.25	27.89	15.61	31.87
	1320	21.43	4.21	20.27	8.41	19.49	12.62	18.63	16.83	18.20	21.04	17.57	25.24	17.51	29.45	16.87	33.66
	1390	22.69	4.43	21.53	8.86	20.74	13.29	19.89	17.72	19.46	22.15	18.83	26.58	18.77	31.01	18.12	35.44
	1470	24.12	4.69	22.96	9.37	22.18	14.06	21.32	18.74	20.89	23.43	20.26	28.11	20.20	32.08	19.56	37.48
	1560	25.74	4.97	24.58	9.94	23.79	14.92	22.94	19.89	22.51	24.86	21.88	29.83	21.82	34.80	21.17	39.78
	1650	27.35	5.26	26.19	10.52	25.41	15.78	24.55	21.04	24.12	26.29	23.50	31.55	23.43	36.81	22.79	42.07
	1750	29.15	5.58	27.99	11.15	27.20	16.73	26.35	22.31	25.92	27.89	25.29	33.46	25.23	39.04	24.59	44.62
	1850	30.94	5.90	29.78	11.79	29.00	17.69	28.14	23.58	27.71	29.48	27.09	35.38	27.02	41.27	26.38	47.17
	NVD-150	780	15.04	3.21	13.49	6.41	12.70	9.62	11.98	12.82	11.51	16.03	10.79	19.23	10.19	22.44	9.72
830		16.20	3.41	14.65	6.82	13.86	10.23	13.13	13.64	12.66	17.06	11.95	20.47	11.35	23.88	10.88	27.29
880		17.36	3.62	15.81	7.23	15.02	10.85	14.29	14.47	13.82	18.08	13.11	21.70	12.51	25.32	12.04	28.93
990		19.90	4.07	18.35	8.14	17.56	12.21	16.84	16.27	16.37	20.34	15.65	24.41	15.05	28.48	14.58	32.55
1050		21.29	4.32	19.74	8.63	18.95	12.95	18.23	17.26	17.76	21.58	17.04	25.89	16.44	30.21	15.97	34.52
1100		22.45	4.52	20.90	9.04	20.11	13.56	19.38	18.08	18.91	22.60	18.20	27.12	17.60	31.64	17.13	36.17
1180		24.30	4.85	22.75	9.70	21.96	14.55	21.23	19.40	20.77	24.25	20.05	29.10	19.45	33.95	18.98	38.80
1250		25.92	5.14	24.37	10.27	23.58	15.41	22.86	20.55	22.39	25.89	21.67	30.82	21.07	35.96	20.60	41.10
1320		27.54	5.42	25.99	10.85	25.20	16.27	24.48	21.70	24.01	27.12	23.29	32.55	22.69	37.97	22.22	43.40
1390		29.16	5.71	27.61	11.42	26.82	17.14	26.10	22.85	25.63	28.56	24.91	34.27	24.31	39.99	23.84	45.70
1470		31.02	6.04	29.46	12.08	28.68	18.12	27.95	24.17	27.48	30.21	26.76	36.25	26.17	42.29	25.69	48.33
1560		33.10	6.41	31.55	12.82	30.76	19.23	30.03	25.64	29.56	32.06	28.85	38.47	28.25	44.88	27.78	51.29
1650		35.18	6.78	33.63	13.56	32.84	20.34	32.11	27.12	31.65	33.91	30.93	40.69	30.33	47.47	29.86	54.25
1750		37.50	7.19	35.95	14.38	35.16	21.58	34.43	28.77	33.96	35.96	33.24	43.15	32.65	50.34	32.18	57.54
1850		39.81	7.60	38.26	15.21	37.47	22.81	36.74	30.41	36.28	38.01	35.56	45.62	34.96	53.22	34.49	60.82
NVD-200A		620	18.86	5.83	17.50	9.62	16.52	13.41	15.65	17.20	14.87	21.38	14.19	25.27	13.50	28.19	12.80
	660	20.22	6.12	18.95	10.30	17.98	14.19	17.11	18.27	16.33	22.36	15.65	26.24	14.97	30.13	14.30	34.02
	700	21.68	6.42	20.41	10.79	19.34	14.97	18.47	19.44	17.69	23.33	17.01	28.19	16.43	32.08	15.71	37.97
	740	23.13	6.90	21.77	11.37	20.80	15.94	19.93	20.40	19.14	25.30	18.47	29.20	17.89	34.00	17.22	38.80
	780	24.59	7.20	23.23	11.86	22.26	16.82	21.28	22.40	20.61	26.20	19.73	31.10	19.25	36.90	18.64	42.70
	830	26.34	7.58	24.98	12.73	24.01	17.79	23.13	23.33	22.36	28.19	21.68	33.05	21.09	38.88	20.43	44.71
	880	28.09	7.97	26.73	13.40	25.76	18.76	24.88	24.30	24.11	29.16	23.43	34.90	22.84	40.82	22.10	46.60
	930	29.94	8.36	28.58	14.09	27.89	19.44	26.73	25.27	25.95	31.10	25.27	36.94	24.59	42.77	23.92	48.70
	990	32.08	8.94	30.72	14.87	29.74	21.38	28.87	27.22	28.10	33.05	27.41	39.85	26.73	45.68	26.00	51.50
	1050	34.21	9.43	32.85	15.84	31.88	22.36	31.01	28.19	30.23	35.97	29.55	41.80	28.87	48.60	28.24	55.40
	1110	36.35	9.91	34.99	16.62	34.02	23.33	33.15	30.13	32.37	37.91	31.69	44.71	31.01	50.54	30.32	56.30
	1180	38.78	10.50	37.52	17.69	36.45	25.27	35.58	32.08	34.90	39.85	34.12	46.66	33.53	53.46	32.83	60.10
	1250	41.31	11.08	39.95	18.86	38.98	26.24	38.10	34.02	37.33	41.80	36.64	49.57	36.06	57.35	35.41	65.00
	1320	43.84	11.66	42.48	19.44	41.41	28.19	40.63	36.94	39.85	44.71	39.17	52.49	38.49	60.26	37.80	68.10
	1390	46.27	13.34	45.00	20.41	43.93	29.16	43.06	37.91	42.26	46.66	41.60	55.40	41.02	63.18	40.31	71.00



PERFORMANCE PARAMETER

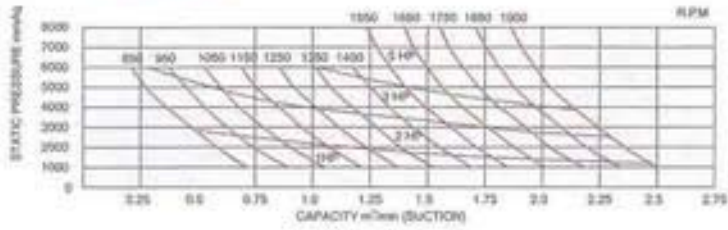
Q (m³/min)

Type	RPM	1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW	Q	kW
NVD-200	620	24.3	7.0	22.6	11.9	21.2	16.8	20.1	22.0	19.2	26.0	18.2	32.0	17.4	37.0	16.7	42.0
	660	26.1	7.5	24.4	12.7	23.1	17.9	22.0	23.0	21.0	28.0	20.1	34.0	19.3	39.0	18.6	44.0
	700	27.9	7.9	26.2	13.4	24.9	18.9	23.8	24.0	22.8	30.0	21.9	37.0	21.1	42.0	20.3	47.0
	740	29.8	8.3	28.1	14.1	26.7	20.0	25.6	26.0	24.7	31.0	23.7	38.0	23.0	44.0	22.3	50.0
	780	31.6	8.7	29.9	14.9	28.6	21.0	27.5	27.0	26.5	33.0	25.6	40.0	24.8	46.0	24.1	52.0
	830	33.9	9.4	32.2	15.9	30.8	23.0	29.7	29.0	28.7	37.0	27.9	43.0	27.1	49.0	26.4	55.0
	880	36.2	10.0	34.4	16.9	33.1	24.0	32.0	31.0	31.1	39.0	30.2	45.0	29.4	52.0	28.7	59.0
	930	38.5	10.4	36.8	17.7	35.4	25.0	34.3	32.0	33.4	40.0	32.5	47.0	31.7	54.0	31.0	61.0
	990	41.2	11.0	39.5	18.8	38.2	26.0	37.1	34.0	36.1	43.0	35.2	50.0	34.4	58.0	33.7	66.0
	1050	44.0	11.6	42.3	20.0	40.9	28.0	39.8	37.0	38.9	45.0	38.0	53.0	37.2	61.0	36.5	69.0
	1110	46.7	12.2	45.0	21.0	43.7	30.0	42.6	39.0	41.8	48.0	40.7	56.0	39.9	65.0	39.2	74.0
	1180	49.9	13.1	48.2	22.0	46.9	31.0	45.8	41.0	44.8	50.0	43.9	59.0	43.1	68.0	42.4	77.0
	1250	53.1	13.8	51.4	24.0	50.1	33.0	49.0	44.0	48.0	53.0	47.1	63.0	46.3	72.0	45.6	83.0
	1320	56.3	14.5	54.6	25.0	53.3	35.0	52.2	46.0	51.2	56.0	50.3	66.0	49.5	77.0	48.8	88.0
1390	59.5	15.2	57.8	26.0	56.5	38.0	55.4	48.0	54.4	59.0	53.6	70.0	52.7	81.0	51.7	92.0	
NVD-250	620	33.0	9.11	31.0	15.65	29.5	22.51	28.2	30.02	27.0	35.38	25.9	42.88	25.4	48.24	24.5	53.60
	660	35.5	9.76	33.5	16.62	32.0	23.58	30.6	31.09	29.5	37.52	28.4	45.02	27.4	50.38	26.5	55.74
	700	37.8	10.29	35.9	17.69	34.3	25.73	33.0	32.16	32.0	40.74	30.9	48.24	29.9	54.67	29.2	61.10
	740	40.3	10.83	38.4	18.65	36.8	26.80	35.5	34.30	34.3	42.88	33.3	50.38	32.4	57.89	31.8	65.40
	780	42.8	11.36	40.7	19.72	39.2	27.87	38.0	36.45	36.8	45.02	35.8	52.53	34.8	61.10	34.0	69.67
	830	45.9	12.00	43.8	20.90	42.2	30.00	41.0	38.60	39.9	48.24	38.8	55.74	37.8	64.32	37.0	72.90
	880	48.9	12.65	46.9	22.51	45.3	31.10	44.1	40.74	42.9	50.38	41.9	58.96	41.0	68.61	40.0	78.26
	930	52.0	13.40	50.0	23.58	48.5	32.16	47.3	42.88	46.0	52.53	44.9	62.18	44.6	71.82	43.5	81.46
	990	55.6	14.15	53.6	24.66	52.1	34.3	50.8	46.10	49.6	55.74	48.7	66.46	47.7	77.18	46.5	87.90
	1050	59.3	15.00	57.4	25.73	55.7	36.45	54.5	48.24	53.3	59.00	52.3	69.88	51.4	81.47	50.6	93.06
	1110	63.0	15.75	61.0	27.87	59.4	39.66	58.1	51.46	57.0	62.18	56.0	73.97	55.0	85.76	54.2	97.55
	1180	67.2	16.72	65.3	28.94	63.7	41.80	62.4	54.67	61.3	66.46	60.3	79.33	59.3	91.12	58.4	102.9
	1250	71.5	17.80	69.6	31.09	68.0	45.02	66.7	58.81	65.5	69.68	64.5	83.62	63.6	96.48	62.7	109.3
	1320	75.8	18.76	73.9	32.16	72.3	47.17	71.0	60.0	69.8	73.97	68.8	87.9	67.9	101.5	67.1	115.1
1390	80.1	19.72	78.0	34.3	76.5	49.31	75.5	63.25	74.1	78.26	73.1	93.26	72.0	106.3	71.2	123.3	
NVD-300A	700	51.6	14.1	48.0	24.2	46.9	35.1	45.1	44.0	43.7	55.7	42.2	65.9	40.7	76.1	39.2	86.3
	850	63.9	17.0	60.7	29.2	58.0	42.6	55.9	53.3	54.1	67.7	52.3	80.0	50.4	92.3	48.5	104.6
	1000	76.8	19.5	74.0	34.0	72.0	47.3	70.1	63.7	68.7	78.9	67.3	92.6	65.8	108.3	64.3	124.0
	1150	90.0	22.5	86.7	39.1	84.4	54.4	82.1	73.2	80.7	88.4	78.9	106.4	77.2	124.4	75.3	142.4
	1300	101.6	25.1	99.0	43.1	96.9	63.2	95.1	80.4	93.5	99.1	92.2	117.8	90.9	136.4	89.6	155.0
	1450	115.5	28.0	112.6	48.1	110.1	70.5	108.3	89.7	106.4	110.6	104.8	134.0	103.2	157.5	101.6	181.0
	1550	126.0	30.0	120.5	51.4	120.2	75.4	117.9	95.9	115.6	122.4	114.2	146.1	112.7	169.8	111.2	193.5
NVD-300	600	71.2	18.1	68.0	33.8	65.3	48.1	62.6	61.4	60.5	73.6	58.5	84.9	56.8	95.5	55.3	105.2
	700	85.5	20.8	81.4	39.2	78.7	55.9	76.0	71.4	73.9	85.6	71.9	98.8	70.2	111.1	68.7	122.5
	800	98.5	23.7	94.8	44.7	92.1	63.8	89.4	81.4	87.3	97.7	85.3	112.7	83.6	126.8	82.1	139.8
	900	111.5	26.6	108.2	50.1	105.6	71.6	102.9	91.4	100.8	109.7	98.8	126.7	97.1	142.4	95.6	157.1
	1000	124.5	29.6	121.6	57.0	118.9	80.9	116.2	102.9	114.1	123.3	112.1	142.1	110.4	159.6	108.9	176.0
	1100	138.1	34.5	135.1	63.9	132.4	90.2	129.7	114.4	127.6	136.8	125.6	157.6	123.9	176.9	122.4	194.8
	1200	151.7	39.5	148.5	70.8	145.8	99.5	143.1	125.9	141.0	150.4	139.0	173.0	137.3	194.1	135.8	213.7
	1300	165.3	44.5	162.1	83.6	159.4	108.6	156.7	137.4	154.8	164.0	152.6	188.4	150.9	211.3	149.4	232.6

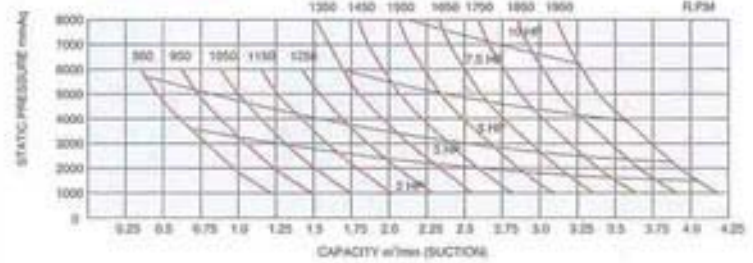


PERFORMANCE CURVE

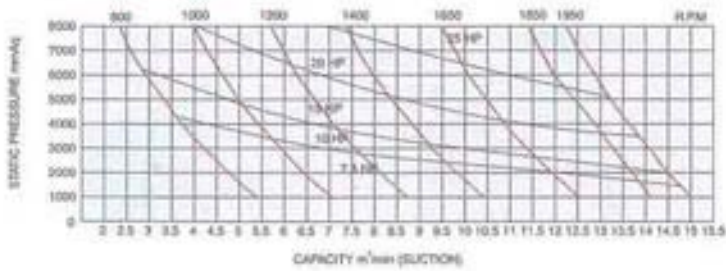
NVD-40



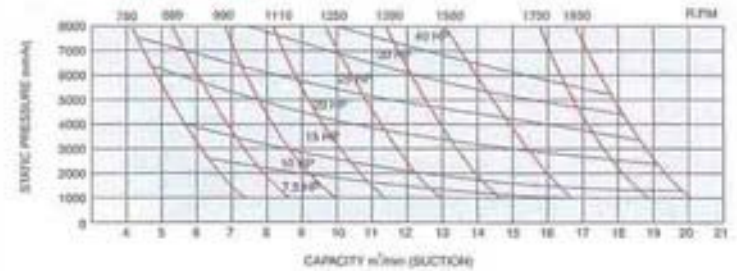
NVD-50



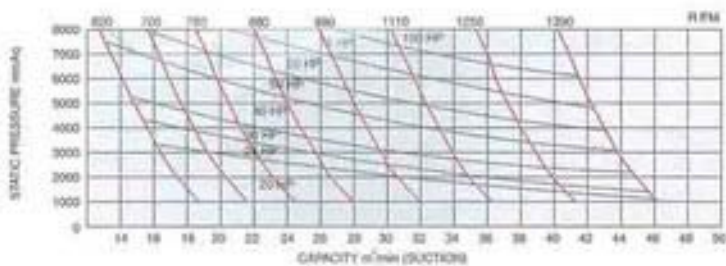
NVD-100



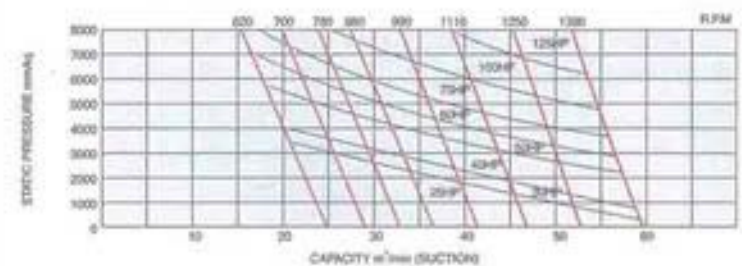
NVD-125A



NVD-200A



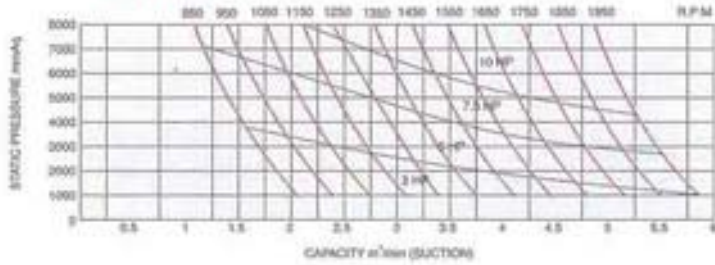
NVD-200



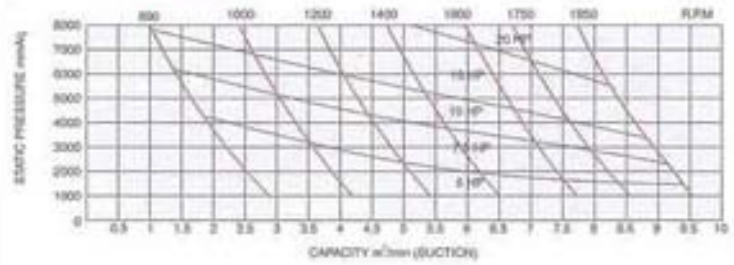
ROOTS BLOWER
ROOTS VACUUM PUMP

PERFORMANCE CURVE

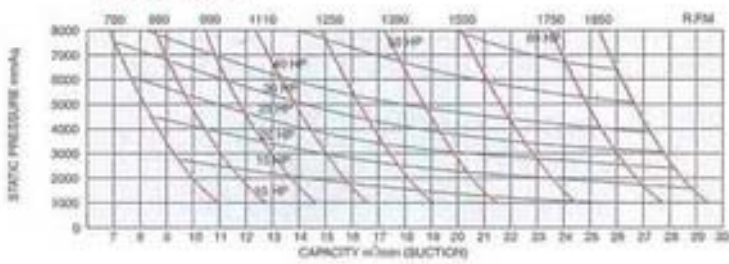
NVD-65



NVD-80



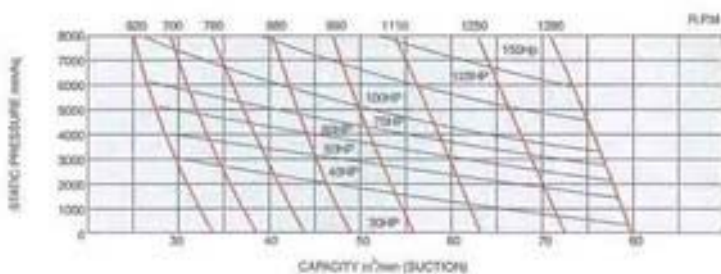
NVD-125



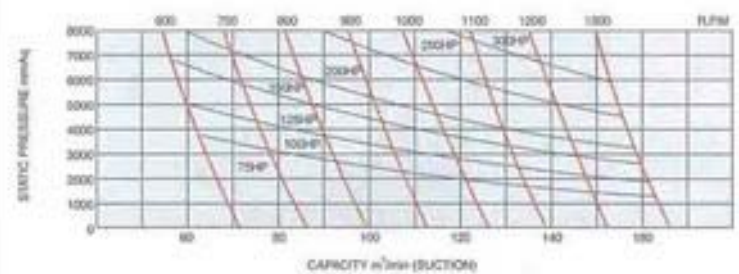
NVD-150



NVD-250

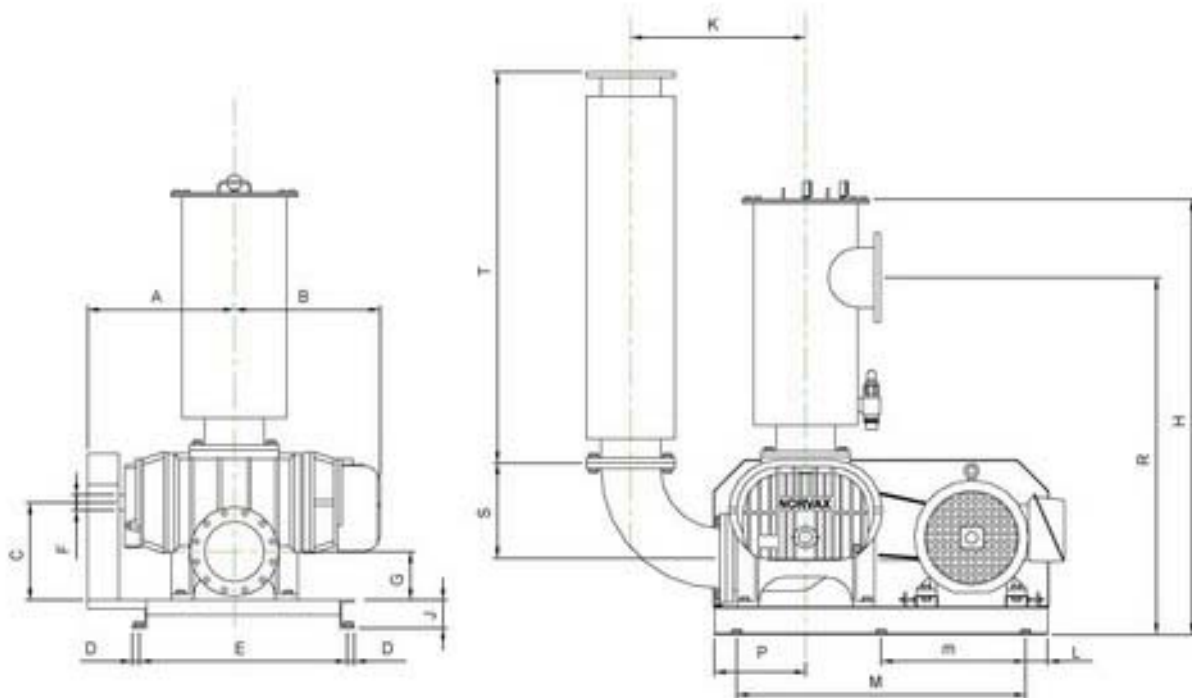


NVD-300

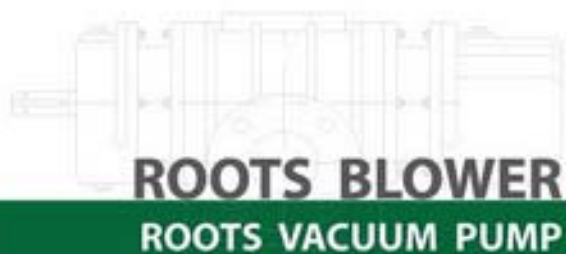


ROOTS BLOWER
ROOTS VACUUM PUMP

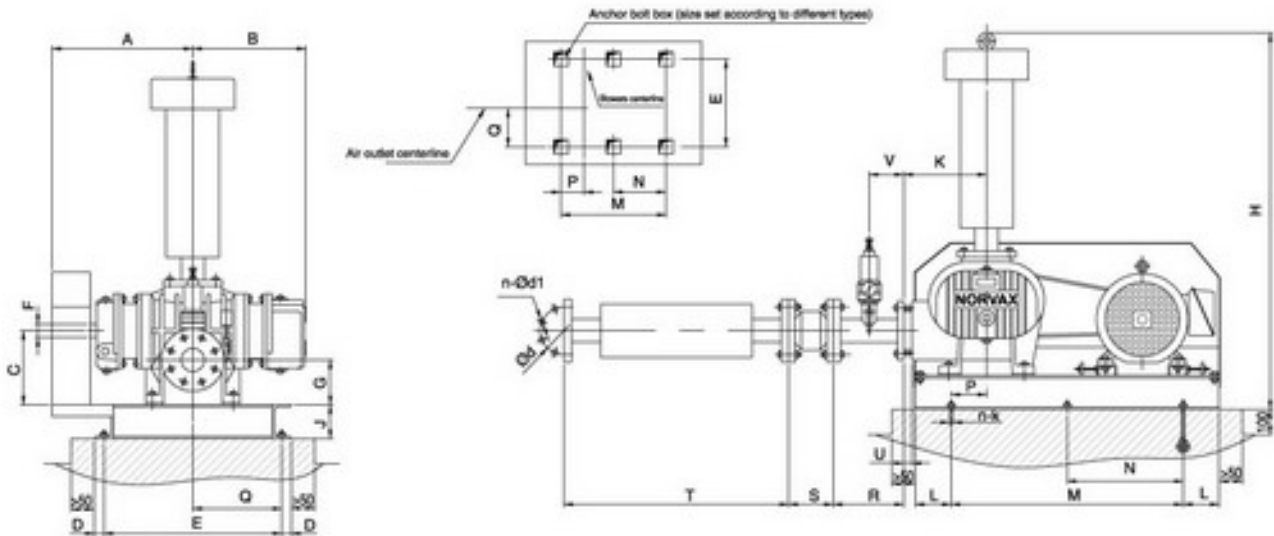
NVV OVERALL DIMENSION (Vertical Discharge)



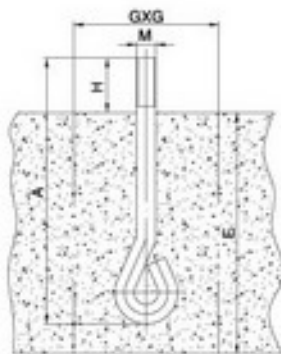
Type	A	B	C	D	E	F	G	H	J	K	L	M	M	P	R	S	T
NVV-50	302	278	175	50	350	28	108	836	75	294	37.5	795	-	245	100	689	592
NVV-65	323	308	173	50	350	28	107	933	75	289	37.5	795	-	245	150	789	598
NVV-80	406	320	213	50	450	38	114	1098	75	332	37.5	945	-	290	180	943	796
NVV-100	467	370	225	25	550	38	120	1286	100	376	100	760	-	240	180	993	796
NVV-125A	440	395	265	25	550	48	143	1294	100	477	100	900	-	238	250	1119	1260
NVV-125	500	455	265	25	550	48	163	1285	100	479	100	900	-	238	250	1110	1260
NVV-150	566	510	295	25	550	48	172	1932	100	517	100	900	-	238	250	1215	1264
NVV-200A	540	497	355	32.5	935	65	194	1680	125	691	100	-	650	410	250	1480	1644
NVV-200	620	547	405	32.5	935	65	198	1780	125	701	100	-	650	410	250	1380	1644
NVV-250	680	622	435	32.5	935	65	216	1945	125	788	100	-	650	410	250	1945	1748
NVV-300A	780	716	415	35	1100	65	255	2270	250	1173	235	-	765	444	481	1920	1848
NVV-300	758	685	550	35	1035	95	300	2510	250	1062	235	-	1000	560	300	2260	1848



NVD OVERALL DIMENSION (Horizontal Discharge)



Type	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	Ød	n-Ød1	n-k	Weight (kg)
NVD-40	240	238	180	20	350	28	104	780	46	184	50	500	-	98	88	150	95	582	20	75	110	4-Ø18	4-M12X160	103
NVD-50	302	278	175	20	410	28	103.5	946	80	178	50	620	-	119	148	150	105	582	20	75	125	4-Ø18	4-M12X160	146
NVD-65	313	308	175	20	410	28	104	948	80	176	50	620	-	117	138	150	115	596	24	75	145	4-Ø18	4-M12X160	161
NVD-80	406	320	213	20	510	38	106.5	1283	80	204	100	670	-	112	160	180	135	796	24	90	160	8-Ø18	4-M12X160	265
NVD-100	467	320	225	20	560	38	114.5	1324	100	210	100	760	-	90	233	180	150	796	24	90	180	8-Ø18	4-M12X160	311
NVD-125A	440	395	265	22	556	48	134.5	1988	120	275	100	900	-	133	338	250	165	1260	25	125	210	8-Ø18	4-M16X220	468
NVD-125	500	455	265	22	556	48	157.5	1980	120	275	100	900	-	138	278	250	165	1260	25	125	210	8-Ø18	4-M16X220	490
NVD-150	566	510	295	22	556	48	163	1941	120	276	100	900	-	138	212	250	180	1264	26	125	240	8-Ø22	4-M16X220	565
NVD-200A	540	497	355	30	790	65	198	2317	160	385	100	1300	650	313	454	250	190	1644	28	125	295	8-Ø22	6-M20X300	969
NVD-200	590	547	405	30	940	65	194	2417	160	373	100	1300	650	310	580	250	190	1644	28	125	295	8-Ø22	6-M20X300	1209
NVD-250	680	622	435	30	940	65	216	2587	160	384	140	1400	700	270	490	250	230	1748	28	125	350	12-Ø22	6-M20X300	1507
NVD-300A	760	717	415	25	1100	65	255	2682	160	385	140	1400	700	270	575	300	250	1848	30	125	400	12-Ø22	6-M20X300	1800
NVD-300	758	685	550	35	1030	95	300	3122	250	590	235	2000	1000	325	627	300	250	1848	30	150	400	12-Ø22	6-M20X300	2800



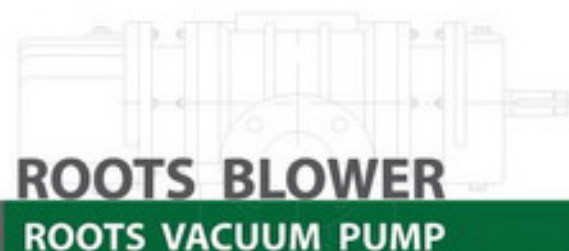
Anchor bolt GB799-88	A	H	E	GxG	Application type
M12	160	36	224	100x100	NVD-40,50,65,80
M16	220	45	275	120x120	NVD-100,125A,125,150
M20	300	55	345	150x150	NVD-200A,200,250,300A,300

Safety Valve



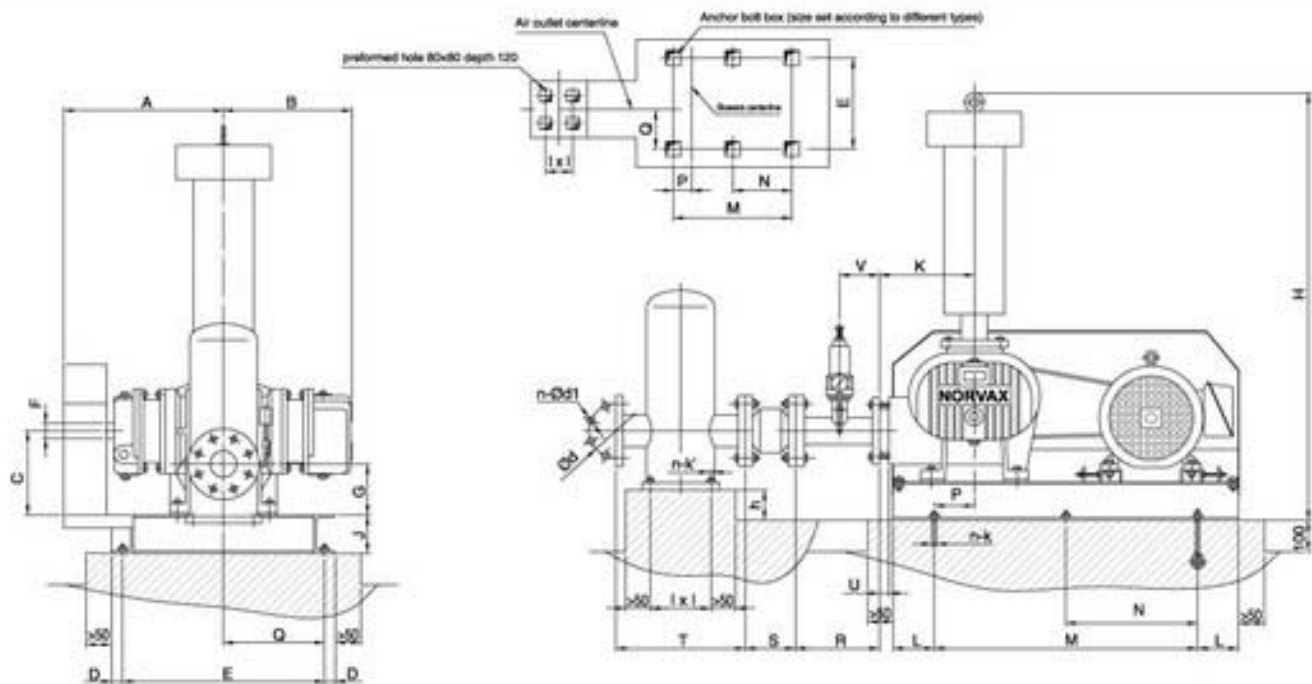
Type	H	ØD	C	Application type
PP1 1/2"	182	71.5	1 1/2"	NVD-40,50,65,80
PP2"	197	85	2"	NVD-100,125A,125,150
PP3"	221	115	3"	NVD-200A,200,250,300A,300

Note: 1. The note E on the drawing is the minimum size, it shall be deepened properly according to the soil condition in the installation place.
2. GxG is the size of the preformed holes for the secondary casting.



ROOTS BLOWER
ROOTS VACUUM PUMP

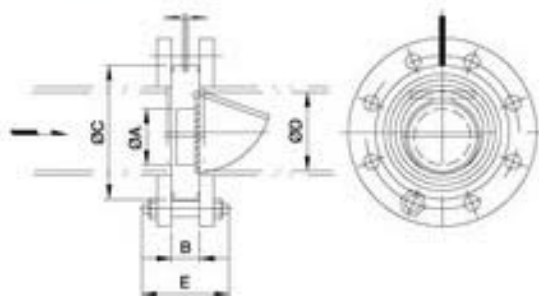
NVG OVERALL DIMENSION (Horizontal Discharge with Vertical silencer)



Type	A	B	C	D	E	F	G	H	h	i	j	k	L	M	N	P	Q	R	S	T	U	V	Ød	n-Ød1	n-k	n-k'	Weight (kg)
NVG-40	240	238	180	20	350	28	104	780	30	125	46	184	50	500	-	98	88	150	95	300	20	75	110	4-Ø18			109
NVG-50	302	278	175	20	410	28	103.5	946	63.5	125	80	178	50	620	-	119	148	150	105	300	20	75	125	4-Ø18	4-M12X160		152
NVG-65	313	308	175	20	410	28	104	948	54	170	80	176	50	620	-	117	138	150	115	350	24	75	145	4-Ø18	4-M12X120		171
NVG-80	406	320	213	20	510	38	106.5	1283	41.5	190	80	204	100	670	-	112	160	180	135	400	24	90	160	8-Ø18			274
NVG-100	467	320	225	20	560	38	114.5	1324	59.5	230	100	210	100	760	-	90	233	180	150	450	24	90	180	8-Ø18			330
NVG-125A	440	395	265	22	556	48	134.5	1988	64.5	240	120	275	100	900	-	133	338	250	165	500	25	125	210	8-Ø18	4-M16X220		489
NVG-125	500	455	265	22	556	48	157.5	1980	87.5	240	120	275	100	900	-	138	278	250	165	500	25	125	210	8-Ø18	4-M12X120		511
NVG-150	566	510	295	22	556	48	163	1941	73	290	120	276	100	900	-	138	212	250	180	600	26	125	240	8-Ø22			616
NVG-200A	540	497	355	30	790	65	198	2317	102	350	160	385	100	1300	650	313	454	250	190	650	28	125	295	8-Ø22			1017
NVG-200	590	547	405	30	940	65	194	2417	98	350	160	373	100	1300	650	310	580	250	190	650	28	125	295	8-Ø22			1257
NVG-250	680	622	435	30	940	65	216	2587	76	400	160	384	140	1400	700	270	490	250	230	750	28	125	350	12-Ø22	6-M20X300		1594
NVG-300A	760	717	415	25	1100	65	255	2682	200	450	160	385	140	1400	700	270	575	300	250	820	30	125	400	12-Ø22	4-M12X120		1847
NVG-300	758	685	550	35	1030	95	300	3122	200	450	250	590	235	2000	1000	325	627	300	250	820	30	150	400	12-Ø22			2847

Note: The weight in the above charts is not including the weight of the motor, belt pulley and fasteners.

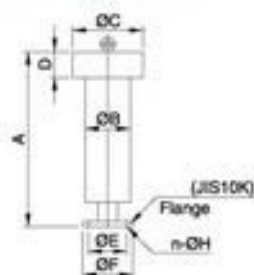
Check Valve



Type	ØA	B	ØC	ØD	E	Weight (kg)	Application type
CV-50	25	20	104	52.7	86	1.1	NVD-40 NVD-50
CV-65	36	24	124	65.9	108	1.4	NVD-65
CV-80	46	24	134	78.1	108	1.6	NVD-80
CV-100	67	24	159	102.3	108	2.3	NVD-100
CV-125	88	25	190	126.6	115	3.4	NVD-125 NVD-125A
CV-150	108	26	220	151	115	5.0	NVD-150
CV-200	138	28	270	200	127	10.0	NVD-200 NVD-200A
CV-250	185	28	335	251.4	127	18.0	NVD-250
CV-220	220	30	370	300	150	22.0	NVD-300 NVD-300A

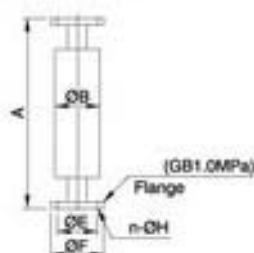
Accessories

Suction Silencer



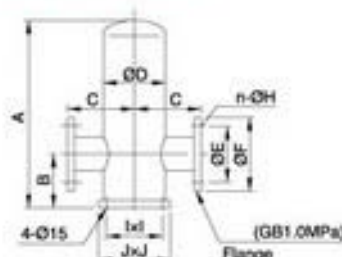
Type	A	DB	DC	D	DE	DF	n-OH	Weight (kg)	Application type
SSC40	400	109	170	70	105	130	4-Ø15	7.0	NVD-40
SSC50	546	140	220	80	120	155	4-Ø18	11.0	NVD-50
SSC65	548	165	235	85	140	175	4-Ø18	14.7	NVD-65
SSC80	818	217	310	160	150	185	8-Ø18	25.4	NVD-80
SSC100	818	240	350	160	175	210	8-Ø18	28.0	NVD-100
SSC125	1310	280	400	185	210	250	8-Ø22	42.0	NVD-125 NVD-125A
SSC150	1312	300	450	190	240	280	8-Ø22	45.3	NVD-150
SSC200	1500	400	500	230	290	330	12-Ø22	67.8	NVD-200 NVD-200A
SSC250	1700	400	500	230	355	400	12-Ø22	81.2	NVD-250
SSC300	1800	500	650	350	400	445	16-Ø22	108.0	NVD-300 NVD-300A

Outlet Silencer



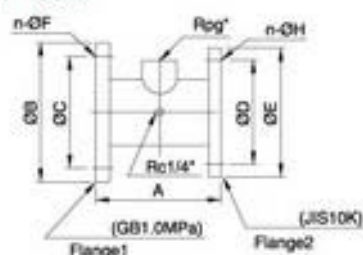
Type	A	DB	DE	DF	n-OH	Weight (kg)	Application type
OSC 40	592	140	110	150	4-Ø18	12.2	NVD-40
OSC 50	592	140	125	165	4-Ø18	13.0	NVD-50
OSC 65	596	165	145	185	4-Ø18	16.8	NVD-65
OSC 80	796	218	160	200	8-Ø18	28.3	NVD-80
OSC 100	796	240	180	220	8-Ø18	33.3	NVD-100
OSC 125	1260	280	210	250	8-Ø18	45.1	NVD-125 NVD-125A
OSC 150	1264	300	240	285	8-Ø22	49.1	NVD-150
OSC 200	1644	400	295	340	8-Ø22	84.0	NVD-200 NVD-200A
OSC 250	1748	400	350	395	12-Ø22	97.0	NVD-250
OSC 300	1800	500	400	445	12-Ø22	135	NVD-300 NVD-300A

Vertical Outlet Silencer



Type	A	B	C	ØD	ØE	ØF	n-OH	I	J	Weight (kg)	Application type
VDS40	420	120	150	140	110	125	4-Ø18	125	160	18.2	NVD-40
VDS50	420	120	150	140	125	165	4-Ø18	125	160	19	NVD-50
VDS65	480	130	175	191	145	185	4-Ø18	170	210	27	NVD-65
VDS80	595	145	200	216	160	200	8-Ø18	190	235	35.9	NVD-80
VDS100	660	155	225	267	180	220	8-Ø18	230	280	51.8	NVD-100
VDS125	800	190	250	280	210	250	8-Ø18	240	300	65.9	NVD-125 NVD-125A
VDS150	920	210	300	356	240	285	8-Ø22	290	376	99.6	NVD-150
VDS200	1050	256	325	406	295	340	8-Ø22	350	425	131.5	NVD-200 NVD-200A
VDS250	1200	300	375	480	350	395	12-Ø22	400	500	184.3	NVD-250
VDS300	1300	350	410	520	400	445	12-Ø22	450	550	243	NVD-300 NVD-300A

T-Joint



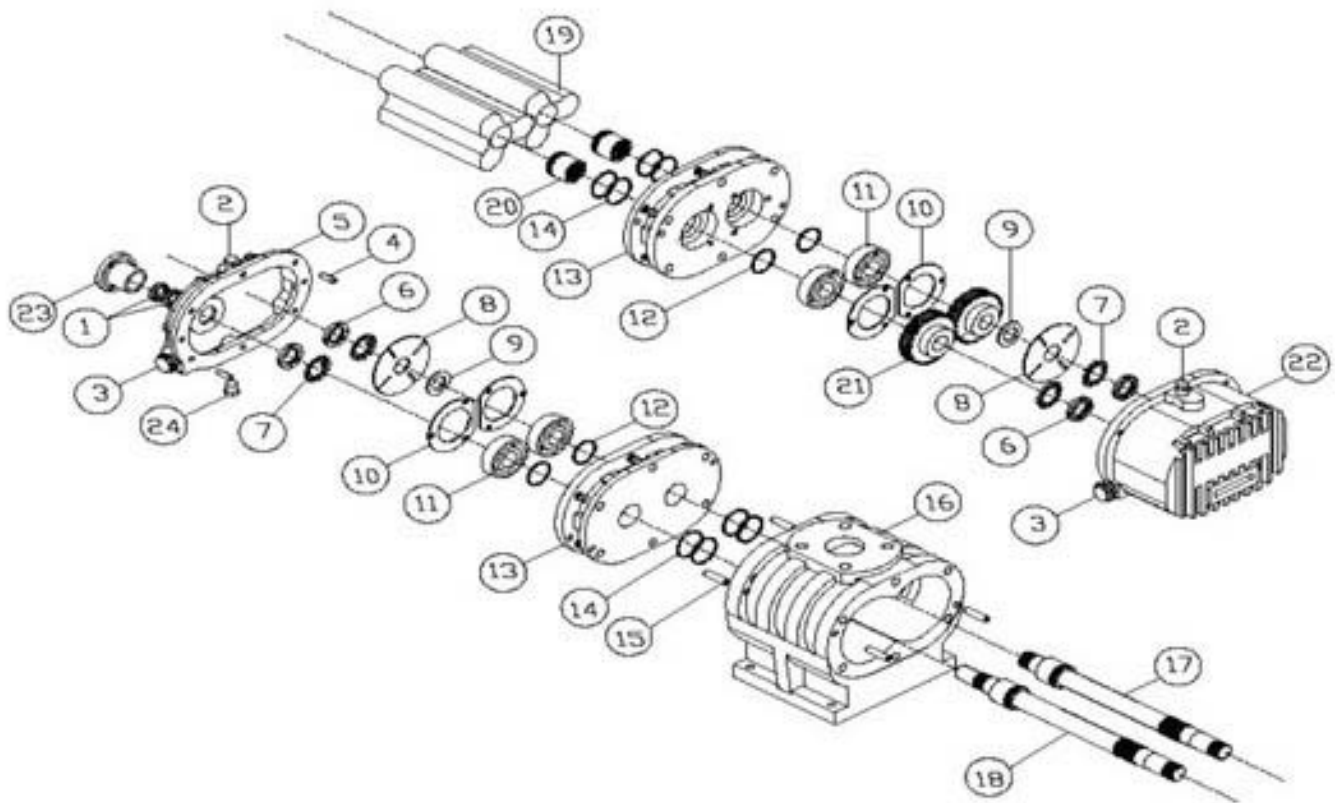
Type	A	DB	DC	n-OF	ØD	ØE	n-OH	g	Weight (kg)	Application type
TJ40	150	150	110	4-Ø18	120	155	4-Ø18	1/4	7.0	NVD-40
TJ50	150	165	125	4-Ø18	120	155	4-Ø18	1/4	7.3	NVD-50
TJ65	150	185	145	4-Ø18	140	175	4-Ø18	1/4	9.0	NVD-65
TJ80	180	200	160	8-Ø18	150	185	8-Ø18	1/4	9.6	NVD-80
TJ100	180	220	180	8-Ø18	175	210	8-Ø18	2	10.7	NVD-100
TJ125	250	250	210	8-Ø18	210	250	8-Ø22	2	14.5	NVD-125 NVD-125A
TJ150	250	285	240	8-Ø22	240	280	8-Ø22	2	20.8	NVD-150
TJ200	250	340	295	8-Ø22	290	330	12-Ø22	3	26.0	NVD-200 NVD-200A
TJ250	250	395	350	12-Ø22	355	400	12-Ø22	3	35.0	NVD-250
TJ300	300	445	400	12-Ø22	400	445	16-Ø22	3	44.7	NVD-300 NVD-300A

Flexible Connector



Type	A	ØE	ØF	n-OH	Weight (kg)	Application type
FC40	95	110	150	4-Ø18	2.5	NVD-40
FC50	105	125	165	4-Ø18	3.0	NVD-50
FC65	115	145	185	4-Ø18	3.5	NVD-65
FC80	135	160	200	8-Ø18	4.0	NVD-80
FC100	150	180	220	8-Ø18	5.0	NVD-100
FC125	165	210	250	8-Ø18	6.5	NVD-125 NVD-125A
FC150	180	240	285	8-Ø22	9.5	NVD-150
FC200	190	295	340	8-Ø22	16.0	NVD-200 NVD-200A
FC250	230	350	395	12-Ø22	25.0	NVD-250
FC300	250	400	445	12-Ø22	42.0	NVD-300 NVD-300A

ASSEMBLED SCHEMATIC DIAGRAM



PARTS MATERIAL TABLE

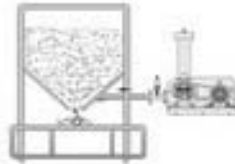
No.	Name	Material	QTY	No.	Name	Material	Number
1	Oil seal	Viton	1	12	V-ring	Viton	4
2	Lubrication plug	S45C	2	13	Bearing case	FC25	2
3	Oil gauge	Plastic	2	14	Seal housing	FC25	1
4	Positioning pin	S45C	2	15	Positioning pin	S45C	4
5	Oil box	FC25	1	16	Casing	FC25	1
6	Lock nut	S45C	4	17	Driven shaft	SCM440	1
7	Washer	S45C	4	18	Drive shaft	SCM440	1
8	Oil splash	SS41	2	19	Rotor	FCD500	2
9	Washer	SS41	2	20	Gear	SNCM220	2
10	Bearing washer	SS41	2	21	Gear case	FC25	1
11	Bearing washer	SUJ2	4	22	Purge plug	S45C	2

APPLICATION

CIRCULATOR



HOPPER



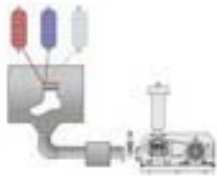
AERATION



ELIMINATOR



SOCKLOOP



VACUUM TRANSFER



PAPER SCRAP



DRYER



REFERENCE



Shrimp farm



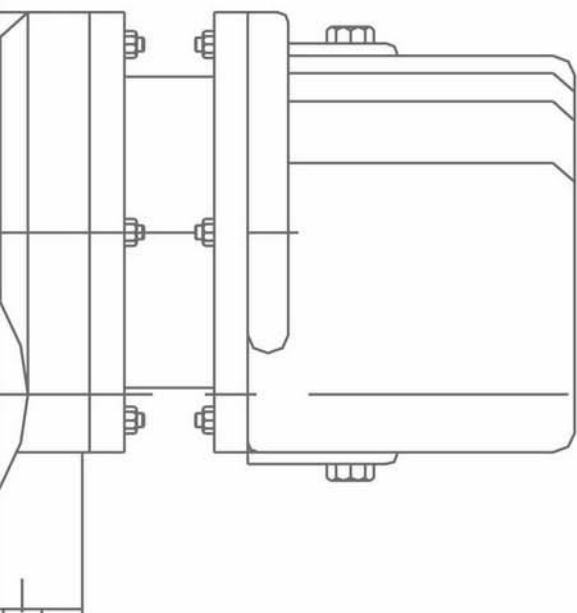
Waste water treatment



Waste water treatment

**ROOTS BLOWER
ROOTS VACUUM PUMP**

Norvax



ROOTS BLOWER
ROOTS VACUUM PUMP