

Norvax

เครื่องเป่าก๊าซชีวภาพ



เครื่องเป่าก๊าซชีวภาพ (GAS BLOWER)

1. เครื่องเป่าก๊าซชีวภาพยี่ห้อ : NORVAX
2. เทียบเท่ารุ่น : NVG
3. ผลิตกัณฑ์ที่เสนอผ่านมาตรฐานรับรอง : ISO CERTIFICATE
4. ต้นกำเนิดเครื่องเป่าก๊าซชีวภาพ : Taiwan
- 4.1 ผลิตกัณฑ์รับประกัน : 1 ปี

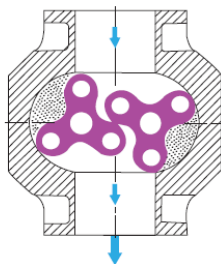
5. เอกสารแนบรายละเอียดเครื่องเป่าก๊าซชีวภาพ

5.1 Construction + Material

5.2 Capacity + Pressure + Power

5.3 Dimension

5.4 Noise



6. คุณสมบัติเครื่องเป่าก๊าซชีวภาพ

6.1 เครื่องเป่าก๊าซชีวภาพแบบ **Positive displacement ชนิด Three Lobe Roots Blower** ออกแบบให้ขับเคลื่อนด้วยสายพานและมูเลย์ โดยมีขนาดท่อส่งก๊าซตั้งแต่ 65- 300 มิลลิเมตร หรือ 2½ - 12 นิ้ว

6.2 เครื่องเป่าก๊าซชีวภาพออกแบบโครงสร้างภายใน **Lobe Roots Blower** ส่วนสัมผัสก๊าซชีวภาพ ด้วยการพ่นสาร **Teflon** ปกป้องการกัดเซาะจากกรดกร่อน ความชื้น และสนิมเพื่อเพิ่มประสิทธิภาพใช้งาน

6.3 เครื่องเป่าก๊าซชีวภาพออกแบบแรงดันใช้งานช่วง 98.0 – 980.7 มิลลิบาร์

6.4 เครื่องเป่าก๊าซชีวภาพออกแบบให้มีการหล่อลื่นลูกปืนและเฟืองขับแบบน้ำมัน Oil Lubricant Bearing

6.5 เครื่องเป่าก๊าซชีวภาพออกแบบอุปกรณ์ร่วมการทำงานส่วนสัมผัสก๊าซชีวภาพแบบ Stainless Steel

อาทิเช่น Inlet silencer, Outlet silencer, Check valve เพื่อเพิ่มประสิทธิภาพใช้งาน

6.6 เครื่องเป่าก๊าซชีวภาพที่ออกแบบฐานรองรับมอเตอร์และเครื่องเป่าแบบ Complete Set บนฐานเดียวกัน

7. รายละเอียดโครงสร้างและส่วนประกอบของเครื่องเป่าก๊าซชีวภาพ

7.1 โครงสร้าง

7.1.1 ตัวเรือน	Casing	Cast Iron
7.1.2 เรือนรองรับลูกปืน	Bearing Housing	Cast Iron
7.1.3 เรือนหุ้มน้ำมัน	Oil Box	Cast Iron
7.1.4 เฟืองเกียร์	Gear	Alloy Steel
7.1.5 ลูกปืน	Bearing	Deep Groove Ball Bearing
7.1.6 เพลาตาม	Driven rotor	Ductile Iron Coating Teflon
7.1.7 เพลาขับ	Drive rotor	Ductile Iron Coating Teflon
7.1.8 ซีล	Oil Seal	Viton

7.2 ส่วนประกอบ

7.2.1 ท่อเก็บเสียงด้านส่ง	Outlet Silencer	Stainless Steel
7.2.2 ข้อต่อยางกันสะเทือน	Flexile Connector	Stainless Steel
7.2.3 หน้าปัดแรงดัน	Pressure Gauge	Oil Lubricants
7.2.4 หน้าปัดแรงดัน	Vacuum Gauge	Oil Lubricants
7.2.5 วาล์วกันย้อนกลับ	Check Valve	Stainless Steel
7.2.6 ท่อเก็บเสียงด้านดูด	Suction Silencer	Stainless Steel
7.2.7 ตัวเครื่องเป่า	Blower Body	Cast Iron
7.2.8 ฐานรองรับ	Foundation	Steel
7.2.9 สายพาน	Driving Belt	Heavy-Duty V-Belts
7.2.10 มอเตอร์	Motor	Explosion Proof Electric Motor
7.2.11 ฝาครอบสายพาน	Belt Cover	Steel
7.2.12 วาล์ว	Safety Valve	Stainless Steel

8.รายละเอียดมอเตอร์เครื่องเป่าก๊าซชีวภาพ

8.1 มอเตอร์

8.1.1 ยี่ห้อ	Require: ABB หรือเทียบเท่า	
8.1.2 มอเตอร์แบบ	Explosion proof Electric Motor Squirrel Cage Induction Motor Totally Enclosed Fan Cooled /T.E.F.C	
8.1.3 ตัวเรือนมอเตอร์	Cast Iron	
8.1.4 ความเร็วรอบ	1450 - 3000	รอบ / นาที
8.1.5 ความถี่	50	เฮิรตซ์
8.1.6 การป้องกันน้ำแบบ	IP55	
8.1.7 ชนิดของฉนวนเป็น	Class F	

9.รายละเอียดสัญลักษณ์เครื่องเป่าก๊าซชีวภาพ

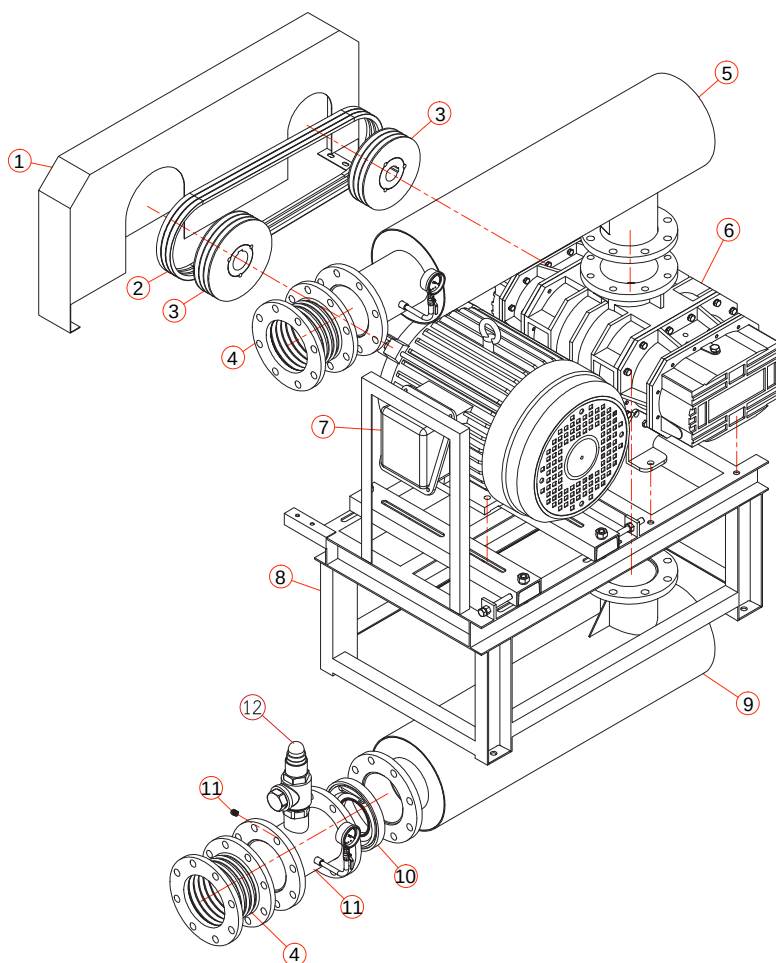


NVG - 65

Diameter: mm

NVG-Norvax Bio Gas High Efficiency Three lobe roots blower

■ Package Complete Set Gas Blower



Externality construction

No	Name	Material	Q'TY
01	Cover	SS400	1
02	Belt	Rubber	-
03	Pulley	FC250	2
04	Flexible Joint	SS400 + SUS304	2
05	Suction Silencer	SUS304	1
06	Roots Blower	Assembly	1
07	Motor	Explosion - Proof	1
08	Base	SS400	1
09	Discharge Silencer	SUS304	1
10	Check Valve	SUS304	1
11	T - Joint	SUS304	1
12	Pressure Relief Valve	SUS304	1

Performance parameters

QS = m3/min, Pressure(mmAq)

Type	RPM	1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq		9000mmAq		10000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
NVG-65	1950	2.74	0.96	2.61	1.46	2.51	1.96	2.43	2.46	2.36	2.96	2.29	3.46	2.23	3.96	2.17	4.46	2.12	4.96	2.07	5.45
	2050	2.90	1.01	2.77	1.54	2.67	2.06	2.59	2.58	2.51	3.11	2.45	3.63	2.38	4.16	2.33	4.68	2.27	5.21	2.22	5.73
	2150	3.06	1.06	2.93	1.61	2.83	2.16	2.74	2.71	2.67	3.26	2.60	3.81	2.54	4.36	2.48	4.91	2.43	5.46	2.38	6.01
	2250	3.21	1.11	3.08	1.69	2.98	2.26	2.90	2.84	2.83	3.41	2.76	3.99	2.70	4.57	2.64	5.14	2.59	5.72	2.54	6.29
	2350	3.37	1.16	3.24	1.76	3.14	2.36	3.06	2.96	2.98	3.56	2.92	4.17	2.85	4.77	2.80	5.37	2.74	5.97	2.69	6.57
	2450	3.53	1.21	3.40	1.83	3.30	2.46	3.21	3.09	3.14	3.72	3.07	4.34	3.01	4.97	2.95	5.60	2.90	6.23	2.85	6.85
	2550	3.68	1.26	3.55	1.91	3.45	2.56	3.37	3.22	3.30	3.87	3.23	4.52	3.17	5.17	3.11	5.83	3.06	6.48	3.01	7.13
	2650	3.84	1.31	3.71	1.98	3.61	2.66	3.53	3.34	3.45	4.02	3.39	4.70	3.32	5.38	3.27	6.06	3.21	6.73	3.16	7.41
	2750	4.00	1.36	3.87	2.06	3.77	2.76	3.68	3.47	3.61	4.17	3.54	4.88	3.48	5.58	3.42	6.28	3.37	6.99	3.32	7.69
	2850	4.15	1.40	4.02	2.13	3.92	2.86	3.84	3.59	3.77	4.32	3.70	5.05	3.64	5.78	3.58	6.51	3.53	7.24	3.48	7.97
	2950	4.31	1.45	4.18	2.21	4.08	2.96	4.00	3.72	3.92	4.48	3.86	5.23	3.79	5.99	3.74	6.74	3.68	7.50	3.63	8.25
	3050	4.47	1.50	4.34	2.28	4.24	3.07	4.15	3.85	4.08	4.63	4.01	5.41	3.95	6.19	3.89	6.97	3.84	7.75	3.79	8.53
	3150	4.62	1.55	4.49	2.36	4.39	3.17	4.31	3.97	4.24	4.78	4.17	5.59	4.11	6.39	4.05	7.20	4.00	8.00	3.95	8.81
	3250	4.78	1.60	4.65	2.43	4.55	3.27	4.47	4.10	4.39	4.93	4.33	5.76	4.27	6.59	4.21	7.43	4.15	8.26	4.10	9.09
	3350	4.94	1.65	4.81	2.51	4.71	3.37	4.62	4.22	4.55	5.08	4.48	5.94	4.42	6.80	4.36	7.66	4.31	8.51	4.26	9.37
	3450	5.09	1.70	4.96	2.58	4.86	3.47	4.78	4.35	4.71	5.23	4.64	6.12	4.58	7.00	4.52	7.88	4.47	8.77	4.42	9.65
NVG-80	1950	4.69	1.40	4.52	2.23	4.39	3.06	4.28	3.89	4.18	4.73	4.10	5.56	4.02	6.39	3.94	7.22	3.87	8.06	3.81	8.89
	2050	4.95	1.47	4.78	2.35	4.65	3.22	4.54	4.09	4.44	4.97	4.36	5.84	4.28	6.72	4.20	7.59	4.13	8.47	4.07	9.34
	2150	5.21	1.54	5.04	2.46	4.91	3.38	4.80	4.29	4.71	5.21	4.62	6.13	4.54	7.05	4.46	7.96	4.39	8.88	4.33	9.80
	2250	5.47	1.61	5.30	2.57	5.17	3.53	5.06	4.49	4.97	5.45	4.88	6.41	4.80	7.37	4.73	8.33	4.66	9.29	4.59	10.25
	2350	5.73	1.69	5.56	2.69	5.43	3.69	5.32	4.69	5.23	5.70	5.14	6.70	5.06	7.70	4.99	8.70	4.92	9.71	4.85	10.71
	2450	5.99	1.76	5.82	2.80	5.70	3.85	5.59	4.89	5.49	5.94	5.40	6.98	5.32	8.03	5.25	9.08	5.18	10.12	5.11	11.17
	2550	6.25	1.83	6.09	2.92	5.96	4.01	5.85	5.09	5.75	6.18	5.66	7.27	5.58	8.36	5.51	9.45	5.44	10.53	5.37	11.62
	2650	6.52	1.90	6.35	3.03	6.22	4.16	6.11	5.29	6.01	6.42	5.93	7.55	5.85	8.69	5.77	9.82	5.70	10.95	5.64	12.08
	2750	6.78	1.97	6.61	3.15	6.48	4.32	6.37	5.49	6.27	6.67	6.19	7.84	6.11	9.01	6.03	10.19	5.96	11.36	5.90	12.53
	2850	7.04	2.04	6.87	3.26	6.74	4.48	6.63	5.69	6.53	6.91	6.45	8.12	6.37	9.34	6.29	10.56	6.22	11.77	6.16	12.99
	2950	7.30	2.12	7.13	3.37	7.00	4.63	6.89	5.89	6.80	7.15	6.71	8.41	6.63	9.67	6.55	10.93	6.48	12.19	6.42	13.45
	3050	7.56	2.19	7.39	3.49	7.26	4.79	7.15	6.09	7.06	7.39	6.97	8.69	6.89	10.00	6.82	11.30	6.75	12.60	6.68	13.90
	3150	7.82	2.26	7.65	3.60	7.52	4.95	7.41	6.29	7.32	7.64	7.23	8.98	7.15	10.32	7.08	11.67	7.01	13.01	6.94	14.36
	3250	8.08	2.33	7.91	3.72	7.79	5.10	7.68	6.49	7.58	7.88	7.49	9.27	7.41	10.65	7.34	12.04	7.27	13.43	7.20	14.81
	3350	8.34	2.40	8.18	3.83	8.05	5.26	7.94	6.69	7.84	8.12	7.75	9.55	7.67	10.98	7.60	12.41	7.53	13.84	7.46	15.27
	3450	8.61	2.47	8.44	3.95	8.31	5.42	8.20	6.89	8.10	8.36	8.02	9.84	7.94	11.31	7.86	12.78	7.79	14.25	7.73	15.72
	3550	8.87	2.55	8.70	4.06	8.57	5.58	8.46	7.09	8.36	8.61	8.28	10.12	8.20	11.64	8.12	13.15	8.05	14.66	7.99	16.18
	3650	9.13	2.62	8.96	4.18	8.83	5.73	8.72	7.29	8.62	8.85	8.54	10.41	8.46	11.96	8.38	13.52	8.31	15.08	8.25	16.64
	3750	9.39	2.69	9.22	4.29	9.09	5.89	8.98	7.49	8.89	9.09	8.80	10.69	8.72	12.29	8.64	13.89	8.57	15.49	8.51	17.09
	3850	9.65	2.76	9.48	4.40	9.35	6.05	9.24	7.69	9.15	9.33	9.06	10.98	8.89	12.62	8.91	14.26	8.84	15.90	8.77	17.55
	3950	9.91	2.83	9.74	4.52	9.61	6.20	9.50	7.89	9.41	9.58	9.32	11.26	9.24	12.95	9.17	14.63	9.10	16.32	9.03	18.00
NVG-100	2050	9.22	2.67	8.97	4.28	8.78	5.88	8.62	7.49	8.48	9.09	8.35	10.70	8.23	12.30	8.12	13.91	8.02	15.51	7.92	17.12
	2150	9.70	2.81	9.45	4.49	9.26	6.17	9.10	7.85	8.96	9.54	8.83	11.22	8.71	12.90	8.60	14.59	8.50	16.27	8.40	17.95
	2250	10.18	2.94	9.93	4.70	9.74	6.46	9.58	8.22	9.44	9.98	9.31	11.74	9.19	13.50	9.08	15.27	8.98	17.03	8.88	18.79
	2350	10.66	3.07	10.41	4.91	10.22	6.75	10.06	8.59	9.92	10.43	9.79	12.27	9.67	14.10	9.56	15.94	9.46	17.78	9.36	19.62
	2450	11.14	3.20	10.89	5.11	10.70	7.03	10.54	8.95	10.40	10.87	10.27	12.79	10.15	14.71	10.04	16.62	9.94	18.54	9.84	20.46
	2550	11.62	3.33	11.37	5.32	11.18	7.32	11.02	9.32	10.88	11.31	10.75	13.31	10.63	15.31	10.52	17.30	10.42	19.30	10.32	21.29
	2650	12.10	3.46	11.85	5.53	11.66	7.61	11.50	9.68	11.35	11.76	11.23	13.83	11.11	15.91	11.00	17.98	10.89	20.05	10.80	22.13
	2750	12.58	3.59	12.33	5.74	12.14	7.89	11.98	10.05	11.83	12.20	11.71	14.35	11.59	16.51	11.48	18.66	11.37	20.81	11.28	22.96
	2850	13.06	3.72	12.81	5.95	12.62	8.18	12.46	10.41	12.31	12.64	12.19	14.87	12.07	17.11	11.96	19.34	11.85	21.57	11.76	23.80
	2950	13.54	3.85	13.29	6.16	13.10	8.47	12.94	10.78	12.79	13.09	12.66	15.40	12.55	17.71	12.44	20.02	12.33	22.33	12.24	24.63
	3050	14.02	3.98	13.77	6.37	13.58	8.76	13.41	11.14	13.27	13.53	13.14	15.92	13.03	18.31	12.92	20.69	12.81	23.08	12.71	25.47
	3150	14.50	4.11	14.25	6.58	14.06	9.04	13.89	11.51	13.75	13.97	13.62	16.44	13.50	18.91	13.39	21.37	13.29	23.84	13.19	26.30
	3250	14.98	4.24	14.73	6.78	14.53	9.33	14.37	11.87	14.23	14.42	14.10	16.96	13.98	19.51	13.87	22.05	13.77	24.60	13.67	27.14
	3350	15.45	4.37	15.21	6.99	15.01	9.62	14.85	12.24	14.71	14.86	14.58	17.48	14.46	20.11	14.35	22.73	14.25	25.35	14.15	27.97

Performance parameters

QS = m3/min, Pressure(mmAq)

Type	RPM	1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq		9000mmAq		10000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
NVG-100	3450	15.93	4.50	15.68	7.20	15.49	9.90	15.33	12.60	15.19	15.31	15.06	18.01	14.94	20.71	14.83	23.41	14.73	26.11	14.63	28.81
	3550	16.41	4.63	16.16	7.41	15.97	10.19	15.81	12.97	15.67	15.75	15.54	18.53	15.42	21.31	15.31	24.09	15.21	26.87	15.11	29.64
	3650	16.89	4.76	16.64	7.62	16.45	10.48	16.29	13.33	16.15	16.19	16.02	19.05	15.90	21.91	15.79	24.76	15.69	27.62	15.59	30.48
	3750	17.37	4.89	17.12	7.83	16.93	10.76	16.77	13.70	16.63	16.64	16.50	19.57	16.38	22.51	16.27	25.44	16.17	28.38	16.07	31.32
	3850	17.85	5.02	17.60	8.04	17.41	11.05	17.25	14.07	17.11	17.08	16.98	20.09	16.86	23.11	16.75	26.12	16.65	29.14	16.55	32.15
NVG-125	2050	11.60	3.34	11.32	5.35	11.11	7.36	10.93	9.36	10.76	11.37	10.62	13.37	10.49	15.38	10.36	17.39	10.25	19.39	10.14	21.40
	2150	12.20	3.51	11.92	5.61	11.71	7.71	11.52	9.82	11.36	11.92	11.22	14.03	11.09	16.13	10.96	18.23	10.85	20.34	10.74	22.44
	2250	12.80	3.67	12.52	5.87	12.31	8.07	12.12	10.28	11.96	12.48	11.82	14.68	11.69	16.88	11.56	19.08	11.44	21.28	11.33	23.49
	2350	13.40	3.83	13.12	6.13	12.90	8.43	12.72	10.73	12.56	13.03	12.42	15.33	12.28	17.63	12.16	19.93	12.04	22.23	11.93	24.53
	2450	14.00	4.00	13.72	6.39	13.50	8.79	13.32	11.19	13.16	13.59	13.02	15.98	12.88	18.38	12.76	20.78	12.64	23.18	12.53	25.57
	2550	14.60	4.16	14.32	6.65	14.10	9.15	13.92	11.65	13.76	14.14	13.62	16.64	13.48	19.13	13.36	21.63	13.24	24.12	13.13	26.62
	2650	15.20	4.32	14.92	6.92	14.70	9.51	14.52	12.10	14.36	14.70	14.21	17.29	14.08	19.88	13.96	22.48	13.84	25.07	13.73	27.66
	2750	15.80	4.49	15.52	7.18	15.30	9.87	15.12	12.56	14.96	15.25	14.81	17.94	14.68	20.63	14.56	23.32	14.44	26.01	14.33	28.71
	2850	16.40	4.65	16.12	7.44	15.90	10.23	15.72	13.02	15.56	15.80	15.41	18.59	15.28	21.38	15.16	24.17	15.04	26.96	14.93	29.75
	2950	17.00	4.81	16.71	7.70	16.50	10.59	16.32	13.47	16.16	16.36	16.01	19.25	15.88	22.13	15.76	25.02	15.64	27.91	15.53	30.79
	3050	17.60	4.97	17.31	7.96	17.10	10.94	16.92	13.93	16.76	16.91	16.61	19.90	16.48	22.88	16.35	25.87	16.24	28.85	16.13	31.84
	3150	18.19	5.14	17.91	8.22	17.70	11.30	17.52	14.39	17.36	17.47	17.21	20.55	17.08	23.63	16.95	26.72	16.84	29.80	16.73	32.88
	3250	18.79	5.30	18.51	8.48	18.30	11.66	18.11	14.84	17.95	18.02	17.81	21.20	17.68	24.38	17.55	27.56	17.44	30.74	17.33	33.92
	3350	19.39	5.46	19.11	8.74	18.90	12.02	18.71	15.30	18.55	18.58	18.41	21.86	18.28	25.13	18.15	28.41	18.04	31.69	17.93	34.97
	3450	19.99	5.63	19.71	9.00	19.49	12.38	19.31	15.76	19.15	19.13	19.01	22.51	18.87	25.88	18.75	29.26	18.63	32.64	18.52	36.01
	3550	20.59	5.79	20.31	9.26	20.09	12.74	19.91	16.21	19.75	16.69	19.61	23.16	19.47	26.63	19.35	30.11	19.23	33.58	19.12	37.06
NVG-125A	1650	19.17	5.52	18.71	8.84	18.36	12.15	18.06	15.46	17.79	18.78	17.55	22.09	17.34	25.40	17.13	28.72	16.94	32.03	16.76	35.35
	1750	20.40	5.86	19.94	9.37	19.58	12.89	19.29	16.40	19.02	19.92	18.78	23.43	18.57	26.94	18.36	30.46	18.17	33.97	17.99	37.49
	1850	21.63	6.19	21.17	9.91	20.81	13.62	20.52	17.34	20.25	21.05	20.01	24.77	19.79	28.48	19.59	32.20	19.40	35.91	19.22	39.63
	1950	22.86	6.53	22.40	10.44	22.04	14.36	21.74	18.28	21.48	22.19	21.24	26.11	21.02	30.02	20.82	33.94	20.63	37.86	20.45	41.77
	2050	24.09	6.86	23.63	10.98	23.27	15.10	22.97	19.21	22.71	23.33	22.47	27.45	22.25	31.56	22.05	35.68	21.86	39.80	21.68	43.91
	2150	25.32	7.20	24.86	11.51	24.50	15.83	24.20	20.15	23.94	24.47	23.70	28.79	23.48	33.10	23.28	37.42	23.09	41.74	22.91	46.06
	2250	26.55	7.53	26.09	12.05	25.73	16.57	25.43	21.09	25.17	25.61	24.93	30.12	24.71	34.64	24.51	39.16	24.32	43.68	24.14	48.20
	2350	27.78	7.87	27.32	12.59	26.96	17.30	26.66	22.02	26.40	26.74	26.16	31.46	25.94	36.18	25.74	40.90	25.55	45.62	25.37	50.34
	2450	29.01	8.20	28.55	13.12	28.19	18.04	27.89	22.96	27.63	27.88	27.39	32.80	27.17	37.72	26.97	42.64	26.78	47.56	26.60	52.48
	2550	30.24	8.54	29.78	13.66	29.42	18.78	29.12	23.90	28.86	29.02	28.62	34.14	28.40	39.26	28.20	44.38	28.01	49.50	27.83	54.63
	2650	31.47	8.87	31.01	14.19	30.65	19.51	30.35	24.84	30.09	30.16	29.85	35.48	29.63	40.80	29.43	46.12	29.24	51.45	29.06	56.77
	2750	32.70	9.20	32.23	14.73	31.88	20.25	31.58	25.77	31.32	31.30	31.08	36.82	30.86	42.34	30.66	47.86	30.47	53.39	30.28	58.91
	2850	33.93	9.54	33.46	15.26	33.11	20.99	32.81	26.71	32.55	32.43	32.31	38.16	32.09	43.88	31.89	49.60	31.70	55.33	31.51	61.05
	2950	35.16	9.87	34.69	15.80	34.34	21.72	34.04	27.65	33.78	33.57	33.54	39.50	33.32	45.42	33.12	51.34	32.92	57.27	32.74	63.19
	3050	36.39	10.21	35.92	16.33	35.57	22.46	35.27	28.58	35.01	34.71	34.77	40.83	34.55	46.96	34.35	53.09	34.15	59.21	33.97	65.34
	3150	37.62	10.54	37.15	16.87	36.80	23.20	36.50	29.52	36.24	35.85	36.00	42.17	35.78	48.50	35.58	54.83	35.38	61.15	35.20	67.48
	3250	38.84	10.88	38.38	17.41	38.03	23.93	37.73	30.46	37.47	36.99	37.23	43.51	37.01	50.04	36.80	56.57	36.61	63.09	36.43	69.62
	3350	40.07	11.21	39.61	17.94	39.26	24.67	38.96	31.40	38.70	38.12	38.46	44.85	38.24	51.58	38.03	58.31	37.84	65.03	37.66	71.76
	3450	41.30	11.55	40.84	18.48	40.29	25.40	40.19	32.33	39.92	39.26	39.69	46.19	39.47	53.12	39.26	60.05	39.07	66.98	38.89	73.90
	3550	42.53	11.88	42.07	19.01	41.72	26.14	41.42	33.27	41.15	40.40	40.92	47.53	40.70	54.66	40.49	61.79	40.30	68.92	40.12	76.05
NVG-150	1650	28.40	8.07	27.88	12.91	27.48	17.76	27.15	22.60	26.85	27.44	26.58	32.29	26.34	37.13	26.11	41.97	25.89	46.82	25.69	51.66
	1750	30.20	8.56	29.68	13.70	29.28	18.83	28.94	23.97	28.65	29.11	28.38	34.24	28.13	39.38	27.90	44.52	27.69	49.65	27.49	54.79
	1850	31.99	9.05	31.47	14.48	31.08	19.91	30.74	25.34	30.44	30.77	30.18	36.20	29.93	41.63	29.70	47.06	29.49	52.49	29.28	57.92
	1950	33.79	9.54	33.27	15.26	32.87	20.99	32.54	26.71	32.24	32.43	31.97	38.16	31.73	43.88	31.50	49.60	31.28	55.33	31.08	61.05
	2050	35.59	10.03	35.07	16.05	34.67	22.06	34.33	28.08	34.04	34.10	33.77	40.11	33.52	46.13	33.30	52.15	33.08	58.17	32.88	64.18
	2150	37.38	10.52	36.86	16.83	36.47	23.14	36.13	29.45	35.83	35.76	35.57	42.07	35.32	48.38	35.09	54.69	34.88	61.00	34.67	67.31
	2250	39.18	11.01	38.66	17.61	38.26	24.22	37.93	30.82	37.63	37.42	37.36	44.03	37.12	50.63	36.89	57.24	36.67	63.84	36.47	70.44
	2350	40.98	11.50	40.46	18.39	40.06	25.29	39.72	32.19	39.43	39.09	39.16	45.98	38.92	52.88	38.69	59.78	38.47	66.68	38.27	73.57
	2450	42.77	11.99	42.26	19.18	41.86	26.37	41.52	33.56	41.23	40.75	40.96	47.94	40.71	55.13	40.48	62.32	40.27	69.51	40.07	76.71
	2550	44.57	12.47	44.05	19.96	43.65	27.44	43.32	34.93	43.02	42.41	42.76	49.90	42.51	57.38	42.28	64.87	42.07	72.35	41.86	79.84



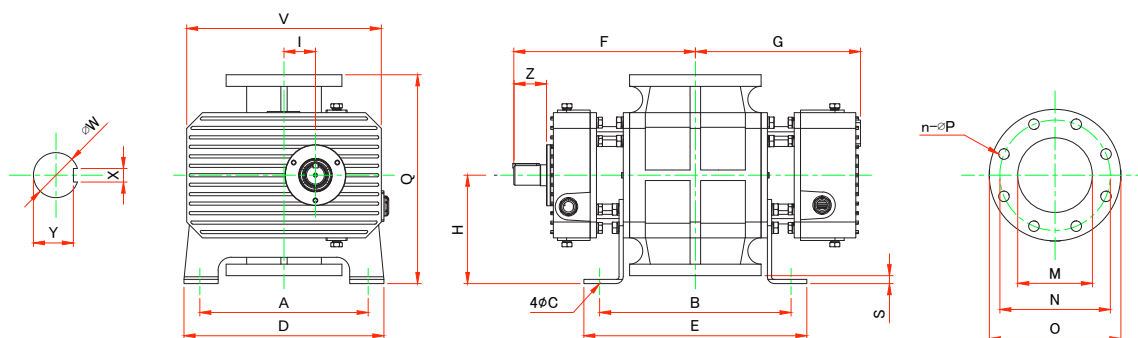
High Efficiency Three Lobe Roots Blower: For Gas Blower / NVG

Performance parameters

QS = m3/min, Pressure(mmAq)

Type	RPM	1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq		9000mmAq		10000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
NVG-150	2650	46.37	12.96	45.85	20.74	45.45	28.52	45.12	36.30	44.82	44.08	44.55	51.85	44.31	59.63	44.08	67.41	43.86	75.19	43.66	82.97
	2750	48.17	13.45	47.65	21.52	47.25	29.60	46.91	37.67	46.62	45.74	46.35	53.81	46.10	61.88	45.87	69.95	45.66	78.03	45.46	86.10
NVG-200	1470	33.69	9.71	32.88	15.53	32.26	21.35	31.74	27.17	31.27	33.00	30.86	38.82	30.47	44.64	30.12	50.74	29.78	56.29	29.46	62.11
	1560	35.88	10.30	35.07	16.48	34.44	22.66	33.92	28.84	33.46	35.02	33.04	41.20	32.66	47.38	32.30	53.56	31.96	59.74	31.64	65.92
	1650	38.06	10.89	37.25	17.43	36.63	23.97	36.10	30.50	35.64	37.04	35.22	43.57	34.84	50.11	34.48	56.65	34.15	63.18	33.83	69.72
	1750	40.49	11.55	39.67	18.49	39.05	25.42	38.53	32.35	38.07	39.28	37.65	46.22	37.26	53.15	36.91	60.08	36.57	67.01	36.25	73.94
	1850	42.91	12.21	42.10	19.54	41.48	26.87	40.95	34.20	40.49	41.53	40.07	48.86	39.69	56.18	39.33	63.51	39.00	70.84	38.68	78.17
	1950	45.34	12.87	44.52	20.60	43.90	28.32	43.38	36.05	42.92	43.77	42.50	51.50	42.11	59.22	41.76	66.95	41.42	74.67	41.10	82.39
	2050	47.76	13.53	46.95	21.66	46.33	29.78	45.80	37.90	45.34	46.02	44.92	54.14	44.54	62.26	44.18	70.38	43.85	78.50	43.53	86.62
	2150	50.19	14.19	49.38	22.71	48.75	31.23	48.23	39.74	47.77	48.26	47.35	56.78	46.96	65.30	46.61	73.81	46.27	82.33	45.95	90.85
	2250	52.61	14.85	51.80	23.77	51.18	32.68	50.65	41.59	50.19	50.51	49.77	59.42	49.39	68.33	49.03	77.25	48.70	86.16	48.38	95.07
	2350	55.04	15.52	54.23	24.82	53.60	34.13	53.08	43.44	52.62	52.75	52.20	62.06	51.82	71.37	51.46	80.68	51.12	89.99	50.80	99.30
	2450	57.46	16.18	56.65	25.88	56.03	35.59	55.50	45.29	55.04	55.00	54.62	64.70	54.24	74.41	53.88	84.11	53.55	93.82	53.23	103.52
	2550	59.89	16.84	59.08	26.94	58.45	37.04	57.93	47.14	57.47	57.24	57.05	67.34	56.67	77.44	56.31	87.54	55.97	97.65	55.65	107.75
	2650	62.31	17.50	61.50	27.99	60.88	38.49	60.36	48.99	59.89	59.49	59.48	69.98	59.09	80.48	58.73	90.98	58.40	101.47	58.08	111.97
NVG-250	1320	60.63	17.17	59.62	27.48	58.84	37.78	58.18	48.08	57.61	58.38	57.08	68.69	56.60	78.99	56.16	89.29	55.74	99.60	55.34	109.90
	1390	63.98	18.08	62.96	28.93	62.19	39.78	61.53	50.63	60.95	61.48	60.43	72.33	59.95	83.18	59.50	94.03	59.08	104.88	58.68	115.73
	1480	68.28	19.25	67.26	30.81	66.49	42.36	65.83	53.91	65.25	65.46	64.73	77.01	64.25	88.57	63.80	100.12	63.38	111.67	62.99	123.22
	1560	72.10	20.29	71.09	32.47	70.31	44.65	69.65	56.82	69.08	69.00	68.55	81.18	68.07	93.35	67.63	105.53	67.21	117.71	66.81	129.88
	1650	76.40	21.46	75.39	34.34	74.61	47.22	73.95	60.10	73.38	72.98	72.85	85.86	72.37	98.74	71.93	111.62	71.51	124.50	71.11	137.38
	1750	81.18	22.77	80.17	36.43	79.39	50.08	78.73	63.74	78.16	77.40	77.63	91.06	77.15	104.72	76.71	118.38	76.29	132.04	75.89	145.70
	1850	85.96	24.07	84.95	38.51	84.17	52.95	83.51	67.39	82.93	81.83	82.41	96.27	81.93	110.71	81.48	125.15	81.06	139.59	80.67	154.03
	1950	90.74	25.37	89.73	40.59	88.95	55.81	88.29	71.03	87.71	86.25	87.19	101.47	86.71	116.69	86.26	131.91	85.84	147.13	85.45	162.35
	2050	95.52	26.67	94.50	42.67	93.73	58.67	93.07	74.67	92.49	90.67	91.97	106.67	91.49	122.68	91.04	138.68	90.62	154.68	90.23	170.68
	2150	100.30	27.97	99.28	44.75	98.51	61.53	97.85	78.31	97.27	95.10	96.75	111.88	96.27	128.66	95.82	145.44	95.40	162.22	95.00	179.00
NVG-300A	1050	64.04	18.21	62.85	29.14	61.94	40.07	61.17	51.00	60.50	61.92	59.88	72.85	59.32	83.78	58.80	94.71	58.31	105.63	57.84	116.56
	1110	67.86	19.25	66.67	30.81	65.76	42.36	64.99	53.91	64.32	65.46	63.71	77.01	63.14	88.57	62.62	100.12	62.13	111.67	61.66	123.22
	1180	72.32	20.47	71.13	32.75	70.22	45.03	69.46	57.31	68.78	69.59	68.17	81.87	67.60	94.15	67.08	106.43	66.59	118.71	66.12	130.99
	1250	76.78	21.68	75.59	34.69	74.68	47.70	73.92	60.71	73.24	73.72	72.63	86.73	72.06	99.74	71.54	112.75	71.05	125.75	70.58	138.76
	1320	81.24	22.90	80.05	36.63	79.14	50.37	78.38	64.11	77.70	77.85	77.09	91.58	76.53	105.32	76.00	119.06	75.51	132.80	75.04	146.53
	1390	85.70	24.11	84.51	38.58	83.60	53.04	82.84	67.51	82.16	81.97	81.55	96.44	80.99	110.91	80.46	125.37	79.97	139.84	79.50	154.30
	1480	91.44	25.67	90.25	41.07	89.34	56.48	88.57	71.88	87.89	87.28	87.28	102.68	86.72	118.09	86.20	133.49	85.70	148.89	85.24	164.30
	1560	96.53	27.06	95.35	43.29	94.44	59.53	93.67	75.76	92.99	92.00	92.38	108.24	91.82	124.47	91.29	140.71	90.80	156.94	90.34	173.18
	1650	102.27	28.62	101.08	45.79	100.17	62.96	99.40	80.14	98.73	97.31	98.11	114.48	97.55	131.65	97.03	148.82	96.54	166.00	96.07	183.17
	1750	108.64	30.35	107.45	48.57	106.54	66.78	105.77	84.99	105.10	103.21	104.49	121.42	103.92	139.63	103.40	157.84	102.91	176.06	102.44	194.27
	1850	115.01	32.09	113.82	51.34	112.91	70.60	112.15	89.85	111.47	109.10	110.86	128.36	110.30	147.61	109.77	166.86	109.28	186.12	108.82	205.37
NVG-300	1050	91.19	25.88	89.58	41.40	88.35	56.93	87.31	72.46	86.40	87.98	85.57	103.51	84.81	119.04	84.10	134.56	83.44	150.09	82.81	165.62
	1110	96.62	27.36	95.01	43.77	93.78	60.18	92.74	76.60	91.83	93.01	91.00	109.42	90.24	125.84	89.53	142.25	88.87	158.67	88.24	175.08
	1180	102.95	29.08	101.35	46.53	100.12	63.98	99.08	81.43	98.17	98.88	97.34	116.32	96.58	133.77	95.87	151.22	95.21	168.67	94.58	186.12
	1250	109.29	30.81	107.69	49.29	106.46	67.77	105.42	86.26	104.50	104.74	103.68	123.23	102.92	141.71	102.21	160.19	101.54	178.68	100.92	197.16
	1320	115.63	32.53	114.02	52.05	112.79	71.57	111.76	91.09	110.84	110.61	110.01	130.13	109.25	149.65	108.55	169.16	107.88	188.68	107.25	208.20
	1390	121.97	34.26	120.36	54.81	119.13	75.36	118.09	95.92	117.18	116.47	116.35	137.03	115.59	157.58	114.88	178.13	114.22	198.69	113.59	219.24
	1480	130.11	36.47	128.51	58.36	127.38	80.24	124.24	102.13	125.33	124.01	124.50	145.90	123.74	167.78	123.03	189.67	122.37	211.55	121.74	233.44
	1560	137.36	38.45	135.75	61.51	134.52	84.58	133.48	107.65	132.57	130.72	131.74	153.79	130.98	176.85	130.27	199.92	129.61	222.99	128.98	246.06
	1650	145.51	40.66	143.90	65.06	142.67	89.46	141.63	113.86	140.72	138.26	139.89	162.66	139.13	187.06	138.42	211.46	137.76	235.85	137.13	260.25
	1750	154.56	43.13	152.95	69.01	151.72	94.88	150.68	120.76	149.77	146.64	148.94	172.52	148.18	198.39	147.48	224.27	146.81	250.15	146.18	276.03
	1850	163.61	45.59	162.01	72.95	160.78	100.31	159.74	127.66	158.82	155.02	158.00	182.37	157.24	209.73	156.53	237.09	155.86	264.44	155.24	291.80

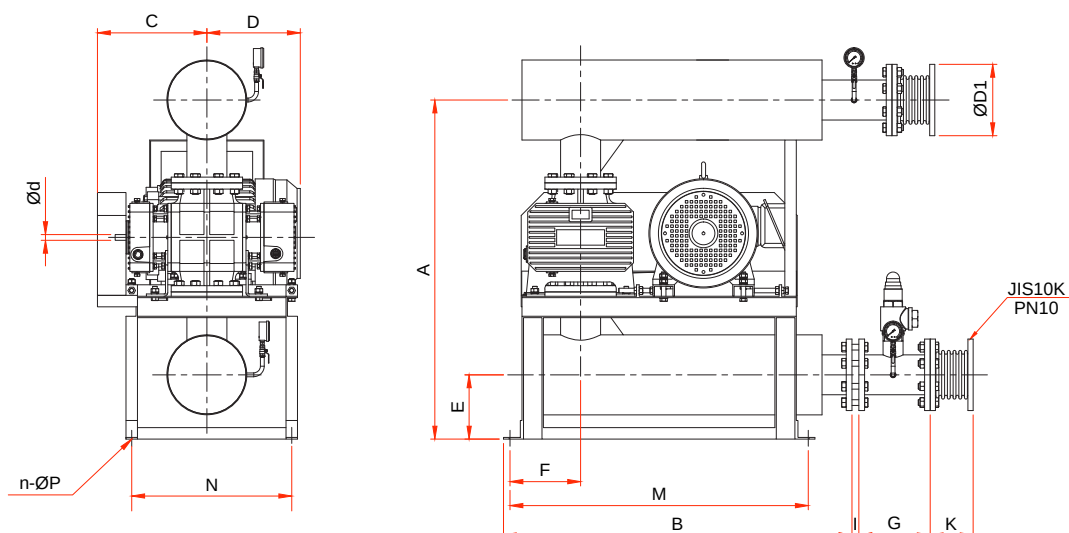
Main-body dimension



Model	A	B	ØC	D	E	F	G	H	I	Q	S	V	ØW	X	Y	Z	M	N	O	n-ØP
NVG-65	240	254	14	290	294	220	242	171	45	315.5	26.5	274	28	8	24	34	75	145	185	4-M16
NVG-80	240	334	14	290	374	260	282	171	45	315.5	26.5	274	28	8	24	34	75	160	200	8-M16
NVG-100	320	314	14	380	374	320	289	206	60	397	15	370	38	10	33	50	116	180	220	8-M16
NVG-125	320	364	14	380	424	345	314	206	60	397	15	370	38	10	33	50	142	210	250	8-M20
NVG-150A	350	406	19	430	446	400	380	248.5	80	481	16	474	48	14	42.5	86	167	240	285	8-M20
NVG-150	350	526	19	430	566	460	440	248.5	80	481	16	474	48	14	42.5	86	167	240	285	8-M20
NVG-200	475	530	19	540	586	476	440	290	100	495	85	590	55	16	49	90	200	295	340	8-M20
NVG-250	510	636	22	620	686	545	592	313	120	620	6	680	65	18	58	84	200	350	395	12-M20
NVG-300A	655	535	24	720	660	514	667	315	120	630	-	680	70	20	62.5	89	300	350	445	12-M20
NVG-300	600	726	24	760	786	697	595	380	150	739	21	870	90	25	81	170	320	400	445	12-M20

Unit : mm

Installation dimension

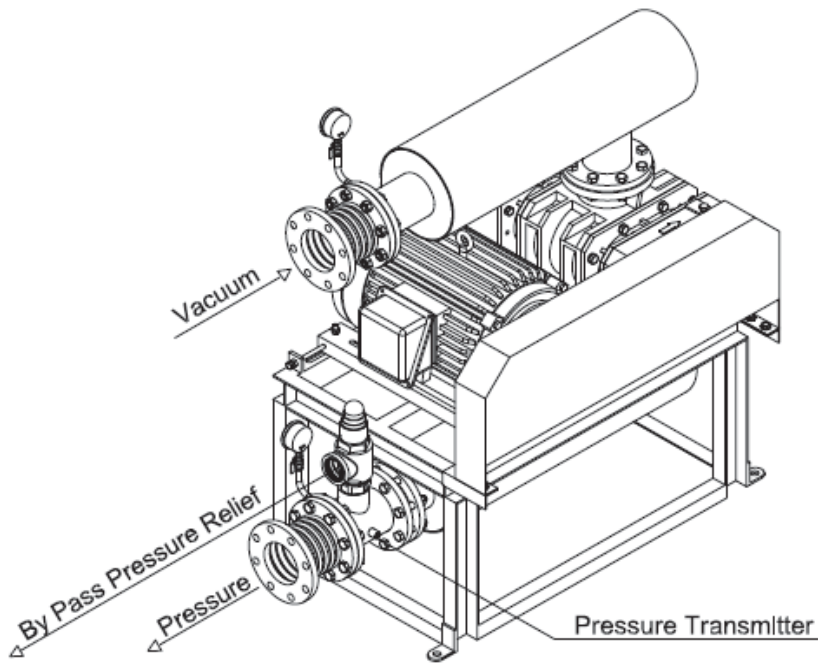


Model	A	B	C	D	ØD1	E	F	G	I	K	M	N	Ød	n-ØP
NVG-65	825.5	790	262	242	160	181.5	187	150	24	115	714	370	28	4-Ø19
NVG-80	1050.5	874	295	282	220	291.5	257	180	24	110	934	450	28	4-Ø19
NVG-100	1127	990	358	289	233	285	247	180	22	136	1044	560	38	4-Ø19
NVG-125	1187	1220	383	314	250	225	247	250	24	174	1044	560	38	4-Ø19
NVG-150A	1321	1246	445	380	330	211	205	250	26	185	1020	630	48	4-Ø19
NVG-150	1276	1246	512	460	330	208.5	205	250	26	185	1020	630	48	4-Ø19
NVG-200	1660	1487.5	545	440	370	320	255	250	27	205	1245	660	60	4-Ø22
NVG-250	1800	1652.5	603	592.5	400	325	365	250	28	240	1510	735	65	4-Ø24
NVG-300A	1880	1902.5	685.5	667.5	500	350	445	300	32	260	1775	845	90	4-Ø24
NVG-300	2030	1950	785	590	500	380	492.5	300	32	260	1825	925	90	4-Ø24

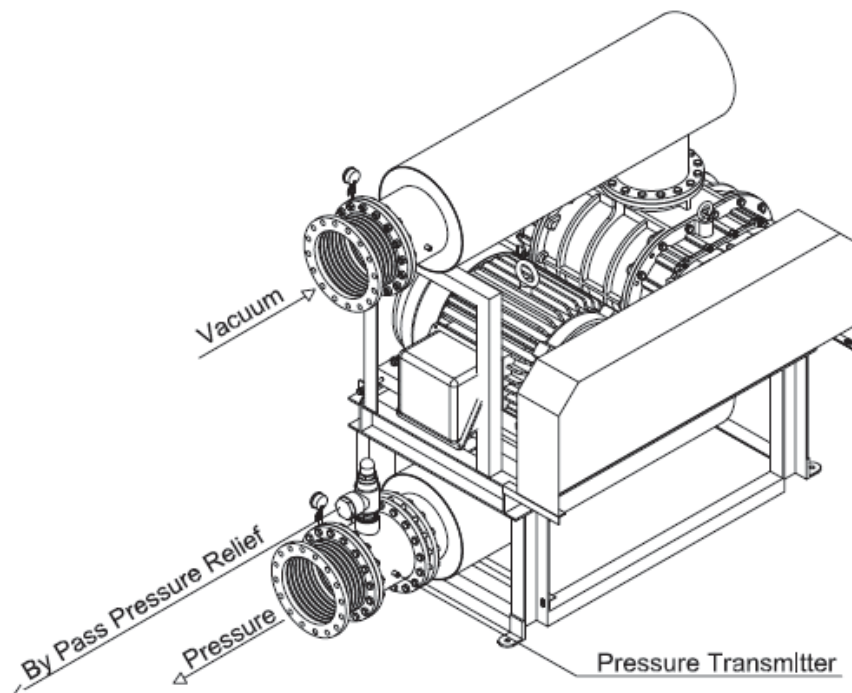
Unit : mm

■ Package Installation Gas Blower

INSTALLATION CONNECTOR

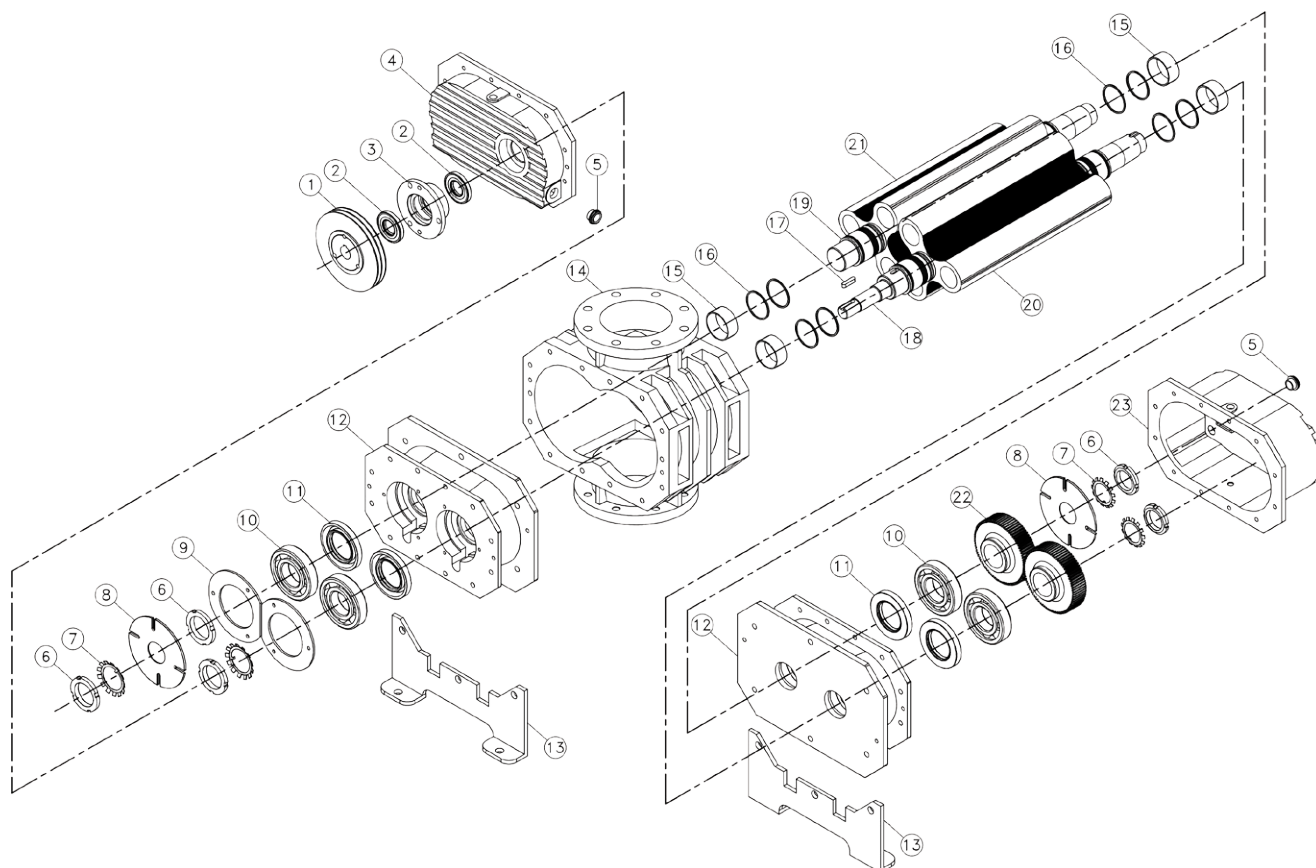


MODEL:65 -100



MODEL: 125 -300

■ Construction Main Body Gas Blower



No	Name	Material		Q'TY	No	Name	Material		Q'TY
		GB	JIS				GB	JIS	
1	Pulley	HT250	FC250	1	13	Support base	Q235	SS400	2
2	Oil Seal	Viton	Viton	2	14	Casing	HT250 + Taflon® coating	FC250 + Taflon® coating	1
3	Seal seat	HT250	FC250	1	15	Sleeve	GCr15	SUJ2	4
4	Oil box	HT250	FC250	1	16	Piston ring	HT250	FC250	8
5	Oil gauge	AL+Glass	AL+Glass	2	17	Key	45	S45C	1
6	Lock nut	45	S45C	5	18	Drive shaft	42CrMn	SCM440	1
7	Lock washer	Q235	SS400	4	19	Driven shaft	42CrMn	SCM440	1
8	Oil splash	Q235	SS400	2	20	Drive lobe	QT500 + Taflon® coating	FCD500 + Taflon® coating	1
9	Bearing washer	Q235	SS400	2	21	Driven lobe	QT500+ Taflon® coating	FCD500 + Taflon® coating	1
10	Bearing	GCr15	SUJ2	4	22	Gear	42CrMnTi	SNCM220	2
11	Oil Seal	Viton	Viton	4	23	Gear box	HT250	FC250	1
12	Bearing housing	HT250 + Taflon® coating	FC250 + Taflon® coating	2					

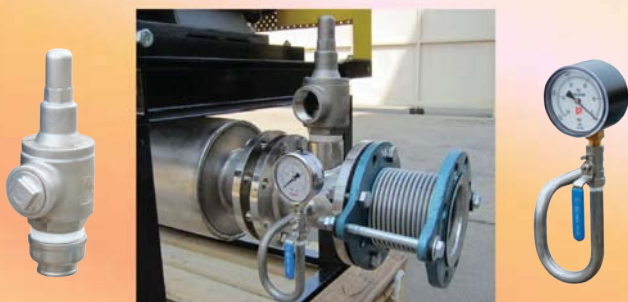
Biogas Roots Blower Package



- Inlet Flexible (SS304)
- Vacuum gauge
- Inlet Silencer (SS304)
- Outlet Flexible (SS304)
- Check valve (SS304)
- Pressure gauge
- Safety valve (SS304)
- Pulley, belt and belt guard
- Outlet Silencer (SS304)
- Baseplate



Inlet Flexible Connector (Stainless Steel 304)
Vacuum Gauge
Bypass Port



Outlet Flexible Connector (Stainless Steel 304)
Pressure Gauge
Safety Valve

Internal Structure, Teflon Coating

- Teflon coating, protect against corrosive liquids and gases



Double Roller Bearing

- Approx. bearing life time > 50000 hrs. at max blower speed and pressure capacity.



Timing Gear

- Gear Profile Design
- Should most continuous contact point, smooth operation
- Minimize backlash

