ECT PUMP

ROOTS BLOWER

Roots Type Blower & Vacuum Pump

Three-lobe reduce vibration and noise

Three-lobe blowers are new series roots type blowers.
We made precise rotors by CNC machine to promote performance,less down noise and vibration.

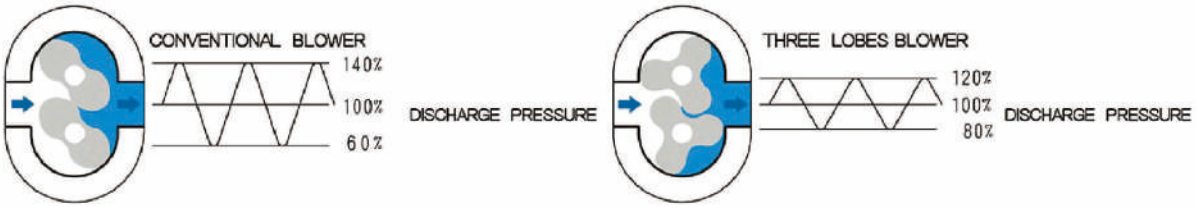
FEATURE

- Wide rang for air volume、pressure and vacuum.
  1.Bore : 50~250(2"~10")
  2.Capacity : 0.15~79 m^3 / min
  3.Pressure : 0~8000mmAq
  4.Vacuum : -5000mmAq
- Satble air flow and less pressure variation.
- Clean air without oil moist.
- Construction simple and easy maintenance.
- Bearings are all lubricated by oil moist.

Why you choose Three-Lobe Roots Blower?

■ LOWER ENERGY CONSUMPTION

Three-lobe design controls pressure of rotor to reduce energy consumption.



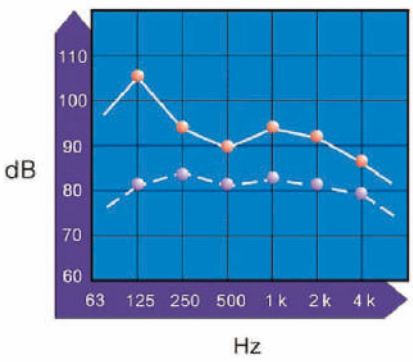
■ LOWER NOISE

Pressure pluse is the major noise source of blower.
Three-lobe design can efficiently reduce noise by approximately 5dB.

■ LONGER BEARING LIFE

Less vibration transmitted through the lobe extend 20% longer bearing life.

Conventional blowers pressure pluses cause noise and vibration, shorten the life time of bearing , gear and other drive components.



LTU TYPE PERFORMANCE TABLE (FOR PRESSURE)

TYPE	RPM	Qs(m3/min) PRESSURE(mmAq) La(Kw)															
		WOOmmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La
LTU-050	850	0.99	0.41	0.79	0.80	0.64	1.16	0.50	1.51	0.38	1.84	0.29	2.15	0.21	2.45	0.15	2.74
	1000	1.31	0.48	1.11	0.94	0.96	1.37	0.82	1.77	0.70	2.16	0.61	2.53	0.53	2.88	0.47	3.22
	1150	1.63	0.56	1.44	1.08	1.28	1.57	1.15	2.04	1.02	2.49	0.93	2.91	0.86	3.32	0.79	3.71
	1300	1.95	0.63	1.76	1.22	1.61	1.78	1.47	2.31	1.34	2.81	1.25	3.29	1.18	3.75	1.12	4.19
	1450	2.27	0.70	2.08	1.36	1.93	1.98	1.79	2.57	1.67	3.13	1.58	3.67	1.50	4.18	1.44	4.67
	1600	2.60	0.77	2.40	1.50	2.25	2.19	2.11	2.84	1.99	3.46	1.90	4.05	1.82	4.61	1.76	5.16
	1750	292	0.85	2.72	1.64	2.57	2.39	2.43	3.11	2.31	3.78	2.22	4.43	2.14	5.05	2.08	5.64
LTU-065	850	2.07	0.62	1.89	1.21	1.71	1.76	1.55	2.29	1.41	2.78	1.29	3.26	1.19	3.71	1.09	4.15
	1000	2.58	0.73	2.41	1.42	2.22	2.07	2.07	2.69	1.93	3.27	1.81	3.83	1.71	4.37	1.60	4.88
	1150	3.10	0.84	2.93	1.64	2.74	2.38	2.58	3.09	2.45	3.77	2.33	4.41	2.22	5.03	212	5.62
	1300	3.62	0.95	3.45	1.85	3.26	2.69	3.10	3.50	2.96	4.26	2.84	4.99	2.74	5.68	2.64	6.35
	1450	4.13	1.06	3.96	2.06	3.77	3.01	3.62	3.90	3.48	4.75	3.36	5.56	3.26	6.34	3.15	7.08
	1600	4.65	1.17	4.48	2.28	4.29	3.32	4.13	4.30	4.00	5.24	3.88	6.14	3.77	6.99	3.67	7.81
	1750	5.17	1.28	5.00	2.49	4.81	3.63	4.65	4.71	4.51	5.73	4.39	6.71	4.29	7.65	4.19	8.55
LTU-080	850	3.24	1.12	2.87	2.14	2.54	3.08	2.23	3.94	1.95	4.73	1.70	5.47	1.48	6.15	1.28	6.79
	1000	4.14	1.32	3.77	2.52	3.44	3.62	3.13	4.63	2.85	5.57	2.60	6.44	2.38	7.24	2.18	7.99
	1150	5.04	1.51	4.67	2.90	4.34	4.16	4.03	5.33	3.75	6.40	3.50	7.40	3.28	8.33	3.08	9.19
	1300	5.94	1.71	5.57	3.27	5.24	4.71	4.93	6.02	4.65	7.24	4.40	8.37	4.18	9.41	3.98	10.39
	1450	6.84	1.91	6.47	3.65	6.14	5.25	5.83	6.72	5.55	8.07	5.30	9.33	5.08	10.50	4.88	11.58
	1600	7.74	2.11	7.37	4.03	7.04	5.79	6.73	7.41	6.45	8.91	6.20	10.30	5.98	11.58	5.78	12.78
	1750	8.64	2.30	8.27	4.41	7.94	6.33	7.63	8.11	7.35	9.75	7.10	11.26	6.88	12.67	6.68	13.98
LTU-100	850	5.80	1.57	5.19	3.00	4.65	4.31	4.16	5.51	3.74	6.63	3.36	7.66	3.03	8.62	2.74	9.51
	1000	7.06	1.84	6.45	3.53	5.91	5.07	5.42	6.49	5.00	7.80	4.62	9.01	4.29	10.14	4.00	11.19
	1150	8.32	2.12	7.71	4.05	7.17	5.83	6.68	7.46	6.26	8.97	5.88	10.36	5.55	11.66	5.26	12.86
	1300	9.58	2.40	8.97	4.58	8.43	6.59	7.94	8.43	7.52	10.14	7.14	11.71	6.81	13.18	6.52	14.54
	1450	10.84	2.67	10.23	5.11	9.69	7.35	9.20	9.41	8.78	11.31	8.40	13.06	8.07	14.70	7.78	16.22
	1600	12.10	2.95	11.49	5.64	10.95	8.11	10.46	10.38	10.04	12.47	9.66	14.42	9.33	16.22	9.04	17.90
	1750	13.36	3.23	12.75	6.17	12.21	8.87	11.72	11.35	11.30	13.64	10.92	15.77	10.59	17.74	10.30	19.57
LTU-125	750	10.29	2.59	9.42	4.96	8.62	7.13	7.88	9.12	7.25	10.97	6.66	12.67	6.11	14.26	5.65	15.74
	900	12.69	3.11	11.81	5.95	11.01	8.55	10.28	10.95	9.64	13.16	9.05	15.21	8.51	17.11	8.04	18.89
	1050	15.08	3.63	14.20	6.94	13.41	9.98	12.67	12.77	12.03	15.35	11.44	17.74	10.90	19.97	10.44	22.04
	1200	17.48	4.15	16.60	7.93	15.80	11.40	15.07	14.59	14.43	17.55	13.84	20.28	13.29	22.82	12.83	2518
	1350	19.87	4.66	18.99	8.92	18.19	12.83	17.46	16.42	16.82	19.74	16.23	22.81	15.69	25.67	15.23	28.33
	1500	22.26	5.18	21.39	9.91	20.59	14.25	19.85	18.24	19.22	21.93	18.63	25.35	18.08	28.52	17.62	31.48
	1650	24.66	5.70	23.78	10.90	22.98	15.68	22.25	20.07	21.61	24.13	21.02	27.88	20.48	31.38	20.01	34.63
LTU-150	750	13.32	3.34	12.62	6.39	11.98	9.19	11.40	11.76	10.87	14.14	10.39	16.34	10.00	18.39	9.61	20.30
	900	16.40	4.01	15.70	7.67	15.06	11.03	14.49	14.11	13.95	16.97	13.48	19.61	13.09	22.07	12.70	24.36
	1050	19.49	4.68	18.79	8.95	18.15	12.86	17.58	16.47	17.04	19.80	16.57	22.88	16.18	25.75	15.78	28.41
	1200	22.58	5.35	21.88	10.23	21.24	14.70	20.66	18.82	20.13	22.62	19.65	26.15	19.26	29.42	18.87	32.47
	1350	25.66	6.02	24.96	11.50	24.33	16.54	23.75	21.17	23.21	25.45	22.74	29.42	22.35	33.1	21.96	36.53
	1500	28.75	6.68	28.05	12.78	27.41	18.38	26.84	23.52	26.30	28.28	25.83	32.69	25.44	36.78	25.05	40.59
	1650	31.84	7.35	31.14	14.06	30.50	20.21	29.92	25.88	29.39	31.11	28.91	35.96	28.52	40.46	28.13	44.65
LTU-200	600	17.01	4.84	15.95	9.27	15.04	13.32	14.21	17.06	13.53	20.51	12.93	23.71	12.40	26.68	11.98	29.45
	750	22.68	6.05	21.62	11.58	20.71	16.65	19.88	21.32	19.20	25.64	18.60	29.64	18.07	33.36	17.65	36.82
	900	28.35	7.27	27.29	13.90	26.38	19.98	25.55	25.59	24.87	30.77	24.27	35.57	23.74	40.03	23.32	44.18
	1050	34.02	8.48	32.96	16.22	32.05	23.32	31.22	29.85	30.54	35.89	29.94	41.49	29.41	46.70	28.99	51.55
	1200	39.69	9.69	38.63	18.53	37.72	26.65	36.89	34.12	36.21	41.02	35.61	47.42	35.08	53.37	34.66	58.91
	1350	45.36	10.90	44.30	20.85	43.39	29.98	42.56	38.38	41.88	46.15	41.28	53.35	40.75	60.04	40.33	66.27
	1500	51.03	12.11	49.97	23.17	49.06	33.31	48.23	42.65	47.55	51.28	46.95	59.28	46.42	66.71	46.00	73.64
LTU-250	600	27.72	7.40	26.22	14.16	24.89	20.35	23.68	26.06	22.58	31.34	21.60	36.23	20.73	40.77	19.98	45.00
	750	36.38	9.25	34.88	17.70	33.55	25.44	32.34	32.58	31.24	39.17	30.26	45.28	29.39	50.96	28.64	56.25
	900	45.05	11.10	43.54	21.24	42.22	30.53	41.00	39.09	39.91	47.01	38.92	54.34	38.06	61.15	37.31	67.50
	1050	53.71	12.95	52.21	24.77	50.88	35.62	49.67	45.61	48.57	54.84	47.59	63.39	46.72	71.34	45.97	78.75
	1200	62.37	14.80	60.87	28.31	59.54	40.71	58.33	52.12	57.23	62.67	56.25	72.45	55.38	81.54	54.63	90.00
	1350	71.03	16.65	69.53	31.85	68.20	45.80	66.99	58.64	65.89	70.51	64.91	81.51	64.04	91.73	63.29	101.2
	1500	79.70	18.50	78.19	35.39	76.87	50.89	75.65	65.16	74.56	78.34	73.57	90.56	72.71	101.9	71.96	112.5

LTU-V TYPE PERFORMANCE TABLE (FOR VACUUM)

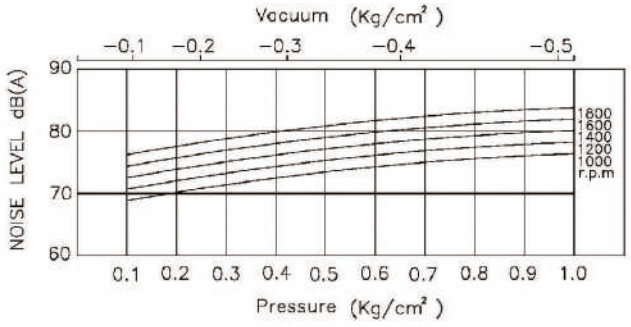
TYPE	RPM	Qs(m3/min) PRESSURE(mmAq)										La(Kw)					
		-100mmAq		-2000mmAq		-2500mmAq		-3000mmAq		-3500mmAq		-4000mmAq		-4500mmAq		-5000mmAq	
		Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	E2	Qs	La
LTU-050V	850	0.99	0.41	0.82	0.80	0.72	0.98	0.61	1.16	0.51	1.34	0.36	1.51	0.27	1.67	0.14	1.84
	1000	1.31	0.48	1.14	0.94	1.04	1.16	0.93	1.37	0.83	1.57	0.69	1.77	0.59	1.97	0.46	2.16
	1150	1.63	0.56	1.47	1.08	1.36	1.33	1.25	1.57	1.15	1.81	1.01	2.04	0.91	2.27	0.79	2.49
	1300	1.95	0.63	1.79	1.22	1.69	1.50	1.58	1.78	1.48	2.05	1.33	2.31	1.24	2.56	1.11	2.81
	1450	2.27	0.70	2.11	1.36	2.01	1.68	1.90	1.98	1.80	2.28	1.65	2.57	1.56	2.86	1.43	3.13
	1600	2.60	0.77	2.43	1.50	2.33	1.85	2.22	2.19	2.12	2.52	1.97	2.84	1.88	3.15	1.75	3.46
	1750	2.92	0.85	2.75	1.64	2.65	2.02	2.54	2.39	2.44	2.75	2.29	3.11	2.20	3.45	2.07	3.78
LTU-065V	850	2.09	0.66	1.91	1.28	1.80	1.58	1.68	1.87	1.55	2.15	1.41	2.42	1.26	2.69	1.09	2.95
	1000	2.60	0.78	2.43	1.51	2.32	1.86	2.19	2.20	2.07	2.53	1.92	2.85	1.77	3.16	1.60	3.47
	1150	3.12	0.89	2.95	1.73	2.84	2.14	2.71	2.53	2.58	2.91	2.44	3.28	2.29	3.64	2.12	3.99
	1300	3.64	1.01	3.46	1.96	3.35	2.41	3.23	2.86	3.1	3.29	2.96	3.71	2.81	4.11	2.64	4.51
	1450	4.15	1.13	3.98	2.19	3.87	2.69	3.74	3.19	3.62	3.67	3.47	4.13	3.32	4.59	3.15	5.03
	1600	4.67	1.24	4.50	2.41	4.39	2.97	4.26	3.52	4.13	4.05	3.99	4.56	3.84	5.06	3.67	5.55
	1750	5.19	1.36	5.01	2.64	4.90	3.25	4.78	3.85	4.65	4.42	4.51	4.99	4.36	5.54	4.19	6.08
LTU-080V	850	3.24	1.12	2.83	2.14	2.60	2.62	2.36	3.08	2.10	3.52	1.83	3.94	1.54	4.34	1.23	4.73
	1000	4.14	1.32	3.73	2.52	3.50	3.08	3.26	3.62	3.00	4.14	2.73	4.63	2.44	5.11	2.13	5.57
	1150	5.04	1.51	4.63	2.90	4.40	3.54	4.16	4.16	3.90	4.76	3.63	5.33	3.34	5.88	3.03	6.40
	1300	5.94	1.71	5.53	3.27	5.30	4.01	5.06	4.71	4.80	5.38	4.53	6.02	4.24	6.64	3.93	7.24
	1450	6.84	1.91	6.43	3.65	6.20	4.47	5.96	5.25	5.70	6.00	5.43	6.72	5.14	7.41	4.83	8.08
	1600	7.74	2.11	7.33	4.03	7.10	4.93	6.86	5.79	6.60	6.62	6.33	7.41	6.04	8.18	5.73	8.91
	1750	8.64	2.30	8.23	4.41	8.00	5.39	7.76	6.33	7.50	7.24	7.23	8.11	6.94	8.94	6.63	9.75
LTU-100V	850	5.79	1.57	5.19	3.00	4.85	3.67	4.48	4.31	4.09	4.92	3.67	5.51	3.22	6.08	2.74	6.63
	1000	7.05	1.84	6.45	3.53	6.11	4.31	5.74	5.07	5.35	5.79	4.93	6.49	4.48	7.15	4.00	7.80
	1150	8.31	2.12	7.71	4.05	7.37	4.96	7.00	5.83	6.61	6.66	6.19	7.46	5.74	8.23	5.26	8.97
	1300	9.57	2.40	8.97	4.58	8.63	5.61	8.26	6.59	7.87	7.53	7.45	8.43	7.00	9.30	6.52	10.14
	1450	10.83	2.67	10.23	5.11	9.89	6.25	9.52	7.35	9.13	8.40	8.71	9.41	8.26	10.37	7.78	11.31
	1600	12.09	2.95	11.49	5.64	11.15	6.90	10.78	8.11	10.39	9.27	9.97	10.38	9.52	11.45	9.04	12.47
	1750	13.35	3.23	12.75	6.17	12.41	7.55	12.04	8.87	11.65	10.14	11.23	11.35	10.78	12.52	10.30	13.64
LTU-125V	750	10.29	2.59	9.30	4.96	8.78	6.06	8.20	7.13	7.61	8.14	7.01	9.12	6,34	10.06	5.65	10.97
	900	12.69	3.11	11.70	5.95	11.17	7.28	10.60	8.55	10.01	9.77	9.40	10.95	8.73	12.07	8.04	13.16
	1050	15.08	3.63	14.09	6.94	13.57	8.49	12.99	9.98	12.40	11.40	11.79	12.77	11.12	14.09	10.44	15.35
	1200	17.48	4.15	16.49	7.93	15.96	9.70	15.39	11.40	14.79	13.03	14.19	14.59	13.52	16.10	12.83	17.55
	1350	19.87	4.66	18.88	8.92	18.35	10.92	17.78	12.83	17.19	14.66	16.58	16.42	15.91	18.11	15.23	19.74
	1500	22.26	5.18	21.27	9.91	20.75	12.13	20.17	14.25	19.58	16.29	18.98	18.24	18.31	20.12	17.62	21.93
	1650	24.66	5.70	23.67	10.90	23.14	13.34	22.57	15.68	21.98	17.92	21.37	20.07	20.70	22.14	20.01	24.13
LTU-150V	750	13.32	3.34	12.55	6.39	12.14	7.82	11.69	9.19	11.20	10.50	10.68	11.76	10.13	12.97	9.55	14.14
	900	16.40	4.01	15.64	7.67	15.23	9.38	14.78	11.03	14.28	12.60	13.77	14.11	13.21	15.57	12.64	16.97
	1050	19.49	4.68	18.73	8.95	18.32	10.95	17.86	12.86	17.37	14.70	16.86	16.47	16.30	18.16	15.72	19.80
	1200	22.58	5.35	21.81	10.23	21.40	12.51	20.95	14.70	20.46	16.80	19.94	18.82	19.39	20.76	18.81	22.62
	1350	25.66	6.02	24.90	11.50	24.49	14.07	24.04	16.54	23.54	18.90	23.03	21.17	22.47	23.35	21.90	25.45
	1500	28.75	6.68	27.99	12.78	27.58	15.64	27.12	18.38	26.63	21.00	26.12	23.52	25.56	25.95	24.98	28.28
	1650	31.84	7.35	31.08	14.06	30.66	17.20	30.21	20.21	29.72	23.10	29.20	25.88	28.65	28.54	28.07	31.11
LTU-200V	600	17.01	4.84	15.99	9.27	15.42	11.34	14.86	13.32	14.21	15.23	13.49	17.06	12.78	18.82	11.98	20.51
	750	22.68	6.05	21.66	11.58	21.09	14.17	20.53	16.65	19.88	19.04	19.16	21.32	18.45	23.52	17.65	25.64
	900	28.35	7.27	27.33	13.90	26.76	17.01	26.20	19.98	25.55	22.84	24.83	25.59	24.12	28.23	23.32	30.77
	1050	34.02	8.48	33.00	16.22	32.43	19.84	31.87	23.32	31.22	26.65	30.50	29.85	29.79	32.93	28.99	35.89
	1200	39.69	9.69	38.67	18.53	38.1	22.67	37.54	26.65	36.89	30.46	36.17	34.12	35.46	37.64	34.66	41.02
	1350	45.36	10.90	44.34	20.85	43.77	25.51	43.21	29.98	42.56	34.26	41.84	38.38	41.13	42.34	40.33	46.15
	1500	51.03	12.11	50.01	23.17	49.44	28.34	48.88	33.31	48.23	38.07	47.51	42.65	46.80	47.05	46.00	51.28
LTU-250V	600	27.72	7.40	26.22	14.16	25.35	17.32	24.43	20.35	23.45	23.27	22.35	26.06	21.19	28.75	19.98	31.34
	750	36.38	9.25	34.88	17.70	34.01	21.65	33.09	25.44	32.11	29.08	31.01	32.58	29.86	35.94	28.64	39.17
	900	45.05	11.10	43.54	21.24	42.68	25.98	41.75	30.53	40.77	34.90	39.67	39.09	38.52	43.13	37.31	47.01
	1050	53.71	12.95	52.21	24.77	51.34	30.31	50.42	35.62	49.43	40.72	48.34	45.61	47.18	50.31	45.97	54.84
	1200	62.37	14.80	60.87	28.31	60.00	34.64	59.08	40.71	58.10	46.53	57.00	52.12	55.84	57.50	54.63	62.67
	1350	71.03	16.65	69.53	31.85	68.66	38.97	67.74	45.80	66.76	52.35	65.66	58.64	64.51	64.69	63.29	70.51
	1500	79.70	18.50	78.19	35.39	77.33	43.30	76.40	50.89	75.42	58.16	74.32	65.16	73.17	71.88	71.96	78.34

NOISE LEVEL OF BLOWER

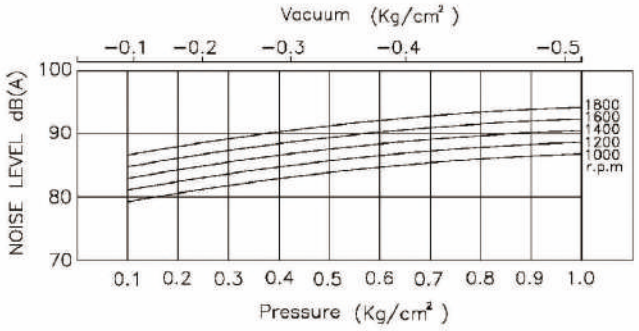
◆ NOISE LEVEL MEASURED AT DISTANCE 1 METER FOR THE BLOWER FITTED WITH STANDARD SILENCER.

◆ NOISE LEVEL MAYBE DIFFERENT ACCORDING TO THE EXTEND PIPE LENGTH AND AMBIENT CONDITION.

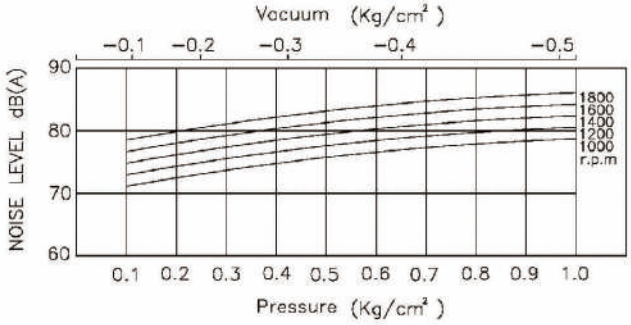
LTU-050 / LTU-050V NOISE CURVE



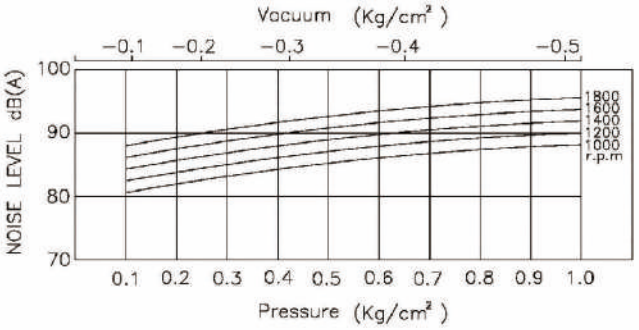
LTU-125 / LTU-125V NOISE CURVE



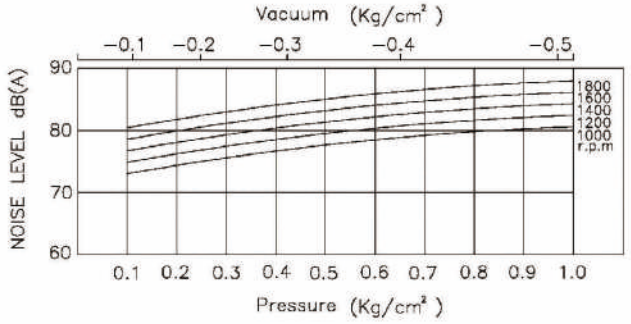
LTU-065 / LTU-065V NOISE CURVE



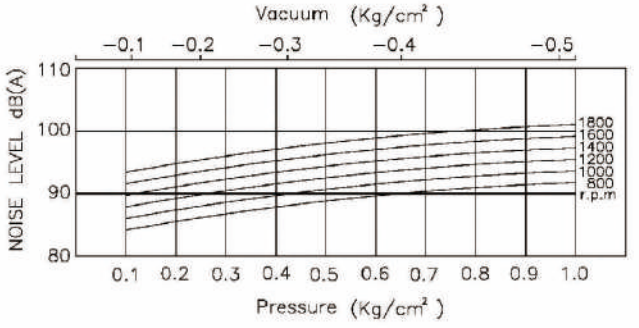
LTU-150 / LTU-150V NOISE CURVE



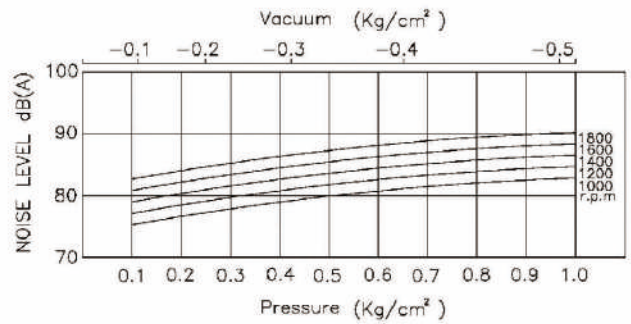
LTU-080 / LTU-080V NOISE CURVE



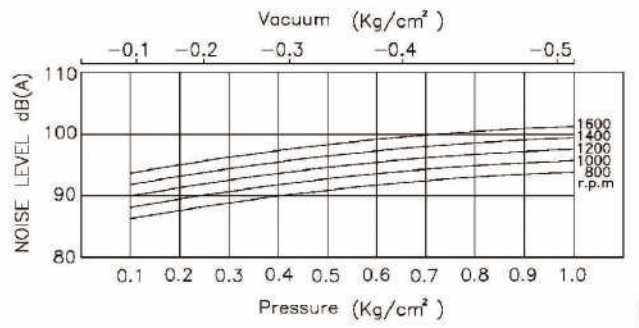
LTU-200 / LTU-200V NOISE CURVE



LTU-100 / LTU-100V NOISE CURVE



LTU-250 / LTU-250V NOISE CURVE



HOW TO USE PERFORMANCE CHART

1. AIR VOLUME IS GENERAL SHOWN IN TERMS OF
   (1)STANDARD STATE (Qs) : AT 20℃ 10332mmAq AND RH 65%
   (2) NORMAL STATE (Qn) : AT 0℃ 10332mmAq AND RH 0%

2. PERFORMANCE TABLE SHOWN THE CAPACITY AT THE STANDARD SUCTION STATE.

3. PERFORMANCE TABLE SHOWN THE PRESSURE AT THE STATIC PRESSURE

4. VOLUME CONVERSION FORMULA

$$Q_2 = Q_1 \cdot \frac{P_1}{P_2} \cdot \frac{T_1}{T_2}$$

Q (m"/min): AIR VOLUME IN P (mmAq) T·(·K)。
Q 2 (m"/min): AIR VOLUME IN P(mmAq) T2(·K)。

5. PRESSURE CONVERSION FORMULA
   (1) FOR PRESSURE

$$P_S = \left(\frac{10332+P_2}{10332+P_1} -1 \right) \cdot 10332$$

   (2) FOR VACUUM

$$P_S = \left(\frac{10332+P_1}{10332+P_2} -1 \right) \cdot 10332$$

   P1 : SUCTION STATIC PRESSURE
   P2 : DISCHARGE STATIC PRESSURE
   Ps : STATIC PRESSURE iN CATALOG

6. EXAMPLE
   OPERATING SPECIFICATIONS:
   AIR VOLUME 5. 16 m%/min
   SUCTION STATIC PRESSURE -500 mmAq
   DISCHARGE STATIC PRESSURE +4260 mmAq
   SUCTION TEMPERATURE 40℃
   CHOICE: AIR VOLUME(5.16 m3/min) CONVERTS TO STP STATE

$$Q = 5.16 \cdot \frac{10332-500}{10332} \cdot \frac{273+20}{273+40} = 4.60 m^3/min$$

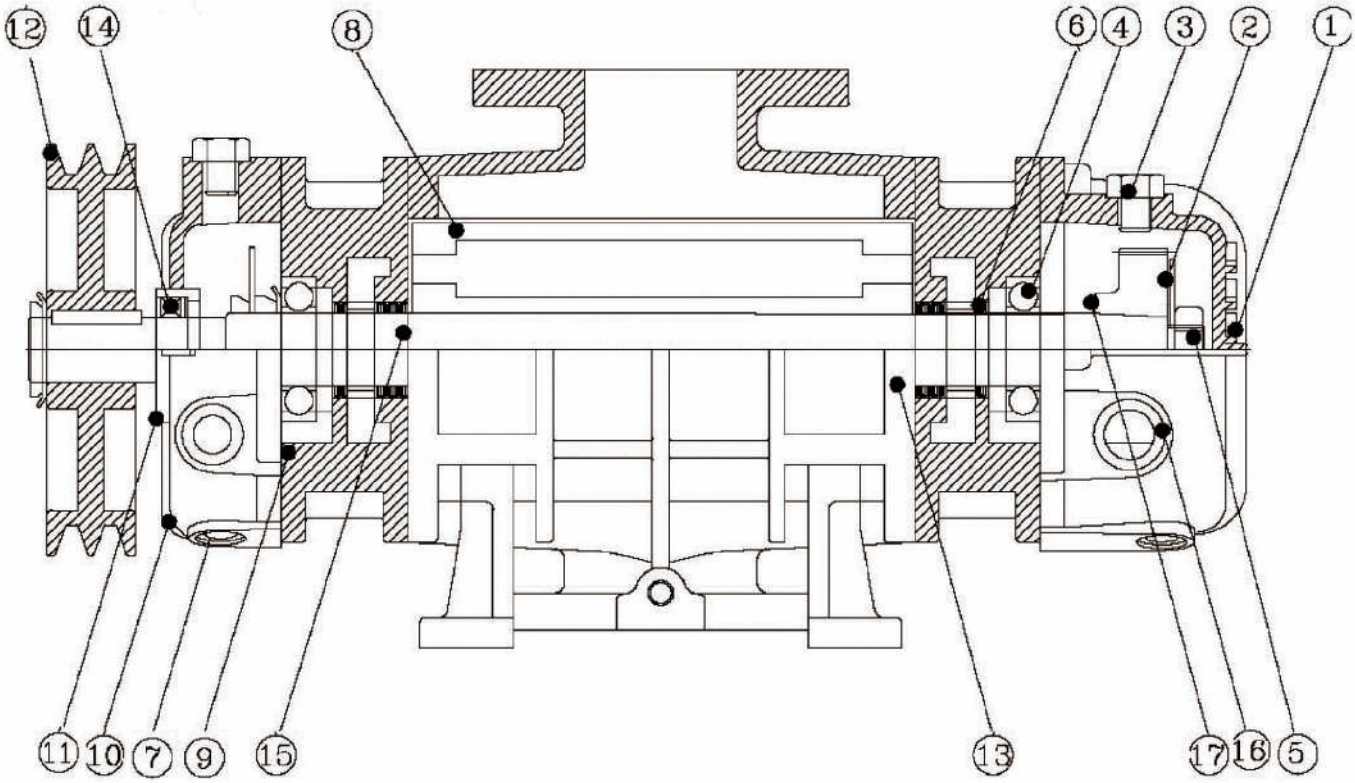
   STATIC PRESSURE CHANGED TO

$$PS = \left(\frac{10332-4260}{10332-500} -1 \right) \cdot 10332 = 5000 \text{ mmAq}$$

SEE THE PERFORMANCE TABLE ,YOU COULD FIND LTU-080、1300RPM、10HP FITS THE SPECIFICATIONS

7. AS THE SELECTION COVERS TWO MODELS YOU MAY SELECT THE SMALLER FOR ECONOMIC, BUT YOU CHOICE THE BIGGER WITH THE ADVANTAGE OF LOWER RPM. PLEASE REFER NOISE CHART IN THE FOLLOWING PAGE

STRUCTURE & MATERIAL LIST



NO.	NAME	MATERIAL	NO.	NAME	MATERIAL
1.	Gear case	FC250	10.	Oil case	FC250
2.	Oil splash	SS400	11.	Seal case	FC250
3.	Oil plug	S45C	12.	Pulley	FC250
4.	Bearing	SUJ2	13.	Main casing	FC250
5.	Nut	SS400	14.	Seal	NBR
6.	Labyrinth seal	SS400	15.	Shaft	SCM440
7.	Oil drain	S45C	16.	Oil gauge	S45C
8.	Rotor	FC250	17.	Timing gear	SCM415
9.	Side cover	FC250			

INSTALLATIONS