BAUM

OPERATING CONDITIONS

To permit continued satisfactory performance, a Roots blower must be operated within certain approved limiting conditions. The Manufacturer's warranty, is of course, also contingent on such operation.

Maximum limits for pressure, temperature and speed are specified below for various sizes of blowers. These limits apply to *all blowers of standard construction*, having operating clearances as listed in Sec. 7, when operated under standard atmospheric conditions. **Do not exceed any one of these limits.**

Example: The listed maximum allowable temperature rise (increase in air temperature between inlet and discharge) for any particular blower may occur well before maximum speed or maximum pressure rating is reached. *Temperature rise then is the limiting condition.* In other words, the operating limit is always to be determined by the maximum rating reached first. It can be any one of the three: pressure, temperature or speed.

Be sure to arrange connections or taps for thermometers and mercury type pressure or vacuum gauges at or near the inlet and discharge connections of the blower. These, along with a good tachometer, will enable periodic checks of operating conditions to be made easily.

PRESSURE—On pressure service, the pressure rise in pounds per square inch (kPa) (between blower inlet and discharge) must not exceed the figure listed for the specific blower frame size concerned. Also, in any system where the blower inlet is at a positive pressure above atmosphere, the discharge pressure *must never exceed 25 PSI (172kPa) gauge* regardless of blower size.

On vacuum service, with the discharge going to atmospheric pressure, the inlet suction or vacuum in inches of mercury (kPa) must not be greater than the values listed for the specific frame size.

TEMPERATURE — Various blower frame sizes are approved only for installations where the following temperature limitations can be maintained in service.

A. Maximum temperature rise (T.R.) in Fahrenheit degrees (C°) must not exceed listed values when the inlet is at ambient temperature. Ambient is considered as the general temperature of the space around the blower. This is not outdoor temperature unless the blower is installed outdoors.

B. If inlet temperature is higher than ambient, the listed allowable temperature rise values must be reduced by 2/3 of the difference between the actual measured inlet temperature and the ambient temperature.

FRAME	DISPLACEMENT		1 PSI APPLICATION SLIP RAS-J AND RGS-J		FRICTION HP	ALLOWABLE TEMPERATURE RISE/RAS-J & RGS-J		MAXIMUM SPEED (RPM)		MAXIMUM PRESSURE	MAXIMUM VACUUM	
	RAS-J RGS-J	VJ	NORMAL CLEARANCES	OPEN CLEARANCES	RAS-J VJ RGS-J	NORMAL CLEARANCES	OPEN CLEARANCES	RAS-J RGS-J	VJ	RAS-J/RGS-J	RAS-J RGS-J	VJ
										PSI	HG.	HG.
1009	1.23	1.198	84	101	18	205°F	280°F	1800	1440	20.0	16	22
1012	1.64	1.597	84	101	18	205°F	280°F	1800	1440	15.0	16	22
1016	2.26	2.195	70	84	18	148°F	240°F	1800	1440	10.9	16	22
1018	2.57	2.495	70	84	18	148°F	240°F	1800	1440	9.6	16	22
1021	2.88	2.795	70	84	18	148°F	240°F	1800	1440	8.5	16	20
1024	3.29	3.19	70	84	18	148°F	240°F	1800	1440	7.5	15	15.3
1030	4.11	3.99	70	84	18	148°F	240°F	1800	1440	6.0	12	12
1212	2.35	2.295	61	73	23	223°F	270°F	1500	1200	18.0	16	22
1216	3.16	3.06	61	—	23	223°F	—	1500	1200	13.5	16	22
1220	3.94	3.82	51	61	23	148°F	235°F	1500	1200	10.8	16	22
1222	4.44	4.31	51	61	23	148°F	235°F	1500	1200	9.6	16	20
1225	4.93	4.87	51	61	23	148°F	235°F	1500	1200	8.6	16	17.5
1228	5.62	5.44	51	61	23	148°F	235°F	1500	1200	7.5	15	15.4
1236	7.09	6.88	51	61	23	148°F	235°F	1500	1200	6.0	12	12
1414	3.90	3.78	50	—	30	230°F	—	1285	1030	17.4	16	
1418	4.98	4.83	50	—	30	230°F	—	1285	1030	13.8	16	22
1422	6.05	5.88	42	50	30	140°F	230°F	1285	1030	11.2	16	22
1425	6.72	6.53	42	50	30	140°F	230°F	1285	1030	10.0	16	20
1428	7.53	7.31	42	50	30	140°F	230°F	1285	1030	9.0	16	18
1431	8.46	8.22	42	50	30	140°F	230°F	1285	1030	8.0	16	16.5
1435	9.42	9.14	42	50	30	140°F	230°F	1285	1030	7.2	14	15
1442	11.30	10.96	42	50	30	140°F	230°F	1285	1030	6.0	12	12
1616	5.62	5.46	42	—	37	230°F	—	1125	900	18.0	16	22
1620	7.02	6.82	42	—	37	230°F	—	1125	900	14.4	16	22
1625	8.77	8.52	42	—	37	230°F	—	1125	900	11.5	16	22
1627	9.48	9.18	35	42	37	140°F	—	1125	900	10.7	16	22
1630	10.52	10.22	35	42	37	140°F	230°F	1125	900	9.6	16	20
1633	11.58	11.22	35	42	37	140°F	230°F	1125	900	8.7	16	17.5
1639	13.69	13.3	35	42	37	140°F	230°F	1125	900	7.4	15	15
1643	15.05	14.62	35	42	37	140°F	230°F	1125	900	6.7	13.5	13.5
1648	16.85	16.35	35	42	37	140°F	230°F	1125	900	6.0	12	12
1821	9.33	9.05	36	—	44	230°F	—	1000	800	15.4	16	22
1824	10.67	10.34	36	—	44	230°F	—	1000	800	13.5	16	22
1827	11.96	11.62	36	—	44	230°F	—	1000	800	12.0	16	22
1830	13.30	12.95	36	—	44	140°F	230°F	1000	800	10.8	16	20
1833	14.87	14.41	30	36	44	140°F	230°F	1000	800	9.6	16	20
1841	18.20	17.68	30	36	44	140°F	230°F	1000	800	7.9	16	16
1845	19.98	19.4	30	36	44	140°F	230°F	1000	800	7.2	14	15
1849	21.73	21.11	30	36	44	140°F	230°F	1000	800	6.6	13.5	13.5
1854	23.98	23.24	30	36	44	140°F	230°F	1000	800	6.0	12	12
2022	12.06	11.96	30	—	49	225°F	—	900	720	16.3	16	22
2026	14.52	14.1	30	—	49	225°F	—	900	720	13.6	16	22
2033	18.36	17.81	25	30	49	135°F	225°F	900	720	10.7	16	22
2037	20.53	19.95	25	30	49	135°F	225°F	900	720	9.6	16	20
2044	24.11	23.41	25	30	49	135°F	225°F	900	720	8.2	16	16.6
2050	27.40	26.6	25	30	49	135°F	225°F	900	720	7.2	14	15
2055	30.12	29.26	25	30	49	135°F	225°F	900	720	6.5	13.3	13.3
2060	32.88	31.92	25	30	49	135°F	225°F	900	720	6.0	12	12