

M.K. plastics

CORPORATION

SERVING THE NEEDS OF MODERN INDUSTRY



RBK

ROOF UPBLAST &
SIDEWALL CENTRIFUGAL
FIBERGLASS EXHAUST FAN



We are pleased to provide you with this Engineering brochure for the RBK Roof Upblast & Sidewall Centrifugal Fiberglass Exhaust Fans. The information contained within is also available on the M.K.Plastics Electronic Catalog (CD ROM). This CD includes information on all of the M.K.Plastics fans, exhaust systems and their components, and is available from your technical sales representative or M. K. Plastics directly. We look forward to assisting you with your important application.

For over 40 years, M.K.Plastics has been engineering, designing, and fabricating thermoplastic and FRP ventilation components and systems for institutional and industrial applications. Founded in 1963, today M.K.Plastics has facilities and offices in Montréal, Québec, Canada; Spiez, Switzerland; Troy, OH and Mooers, NY, USA. In major cities throughout the United States and Canada, M.K. Plastics is represented by technical sales representatives.

Other quality corrosion resistant fans are available from M.K.Plastics. Your local M.K.Plastics representative will be pleased to provide you with technical information upon request.

Axijet® High Plume Dilution Fan
Axijet® LEADLAG™ Exhaust Fan Control System
Plastifer® Venturi Exhaust System
DHK Medium Pressure Centrifugal Fan
DHK-NW High Pressure Centrifugal Fan
CNW Centrifugal Fiberglass Fan
AXT Axial Tubular Fan
AXTC Centrifugal Inline Fan
PRVS High Pressure/Low Volume Centrifugal Blower
AXPR Axial Panel Fan
FRP & PVC Control Dampers & Gravity Backdraft Dampers
FRP & PVC Duct and Fittings



INTRODUCTION

M.K.Plastics Corporation's RBK is a centrifugal exhaust fan that can be either roof or wall mounted. The impeller and housing are completely fabricated of fiberglass reinforced plastic (FRP). A revolution in fiberglass fan manufacturing, the impeller of the RBK is the result of years of R & D. The impeller is manufactured with high quality corrosion resistant resins and fiberglass reinforced. This innovative design has no metal in the air stream, for superior corrosion resistance and long life in corrosive atmospheres.

The RBK exhaust fans can be used in applications where corrosive elements exist in fume and vapor form such as the Chemical Industry, Storage Facilities, Wastewater / Odor Control Stations, laboratories, Pulp & Paper, aquariums, indoor swimming pools and other areas where corrosive exhaust may cause a problem.

M.K.PLASTICS QUALITY ASSURANCE

Each RBK fan is statically & dynamically balanced to AMCA Standards 204-96 "Balance Quality and Vibration Levels for Fans", and test run with vibration measurements taken before shipment.

DESIGN AND CONSTRUCTION

- Seven sizes are available, (in both belt and direct drive) - 12", 15", 18", 24", 30" 36" and 40", with capacities from 200 to 35,000 cfm and up to 2½" of S.P.
- The RBK impeller is backward inclined, flat bladed design, single piece completely manufactured in solid fiberglass and coated with corrosion resistant vinyl ester resin. It is Class II and tested for its integrity at a minimum 50% higher speed than the maximum stated catalog performance. The impeller is electronically statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" for Fan Application Category BV-3, Balance Quality Grade G6.3.
- RBK fans are manufactured with high quality, corrosion resistant resins and are fiberglass reinforced, able to withstand temperatures up to 210 deg. F., subject to the exhaust chemicals and their concentrations. UV inhibitors are added to the resins and are flame retardant class 1 of 25 or less. The molded dome housings are smooth both exterior for aesthetic appearance and interior for unrestricted airflow, are virtually impossible to crack, dent or break and is resistant to weather, salt spray and most chemicals, (refer to the Chemical Resistance Guide on Page. 9).
- There is no exposed metal in the exhaust airstream. All hardware is 304 stainless steel and completely encapsulated in fiberglass where exposed to the exhaust. The motor is ventilated with air infiltrating through specially positioned openings and exhausting at the top of the motor cover.
- Built in compliance with ASTM Standard D4167-97, for Fiber-Reinforced Plastic Fans and Blowers.
- A neoprene hub seal is standard on all RBK fans to minimize air leakage. A Teflon seal is available for more severe environments.
- The standard blower shaft is carbon steel (C1045) and isolated from the corrosive airstream by the FRP impeller hub and internally by a FRP cap and O-ring. Shafts are turned, ground, polished and keyed at both ends. They are sized to operate well below critical speed. 304 or 316 stainless steel shaft is available when required, at an extra cost.
- RBK fan bearings (belt drive) are heavy-duty, self-aligning, pillow block type, as standard. Bearings are selected for a minimum L-10 life of 40,000 hours at the maximum fan RPM.
- Motors may be direct or belt drive with standard T-frames with maximum frame sizes as shown on the catalog performance tables. Motors are available in single or three phase with TEFC as standard and two-speed, explosion proof offered at an extra cost, where applicable.



RBK—Belt Drive (100% Full Wheel Width)

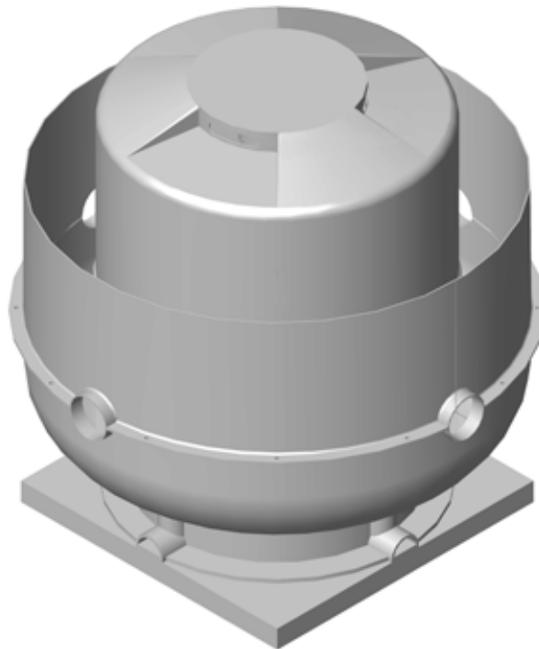
Size	Motor		RPM	Cubic Feet Per Minute vs. Static Pressure													Outlet Area [ft ²]	Wheel Dia. [in]
	HP	BHP		0"	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/2"		
12	1/4	0.21	1400	1227	1162	1097	1025	942	846	728							1.98	12.89
	1/2	0.38	1700	1490	1437	1384	1329	1270	1210	1136	967	723						
	3/4	0.62	2000	1753	1707	1662	1617	1572	1521	1470	1357	1224	1061	825				
	1	0.94	2300	2015	1976	1937	1898	1859	1820	1776	1688	1594	1479	1353	1211	708		
	1 1/2	1.36	2600	2278	2244	2209	2174	2140	2105	2070	1995	1917	1838	1740	1638	1398		
15	1/4	0.19	1000	1491	1384	1268	1131	957	697								2.79	15.39
	1/2	0.41	1300	1939	1856	1773	1684	1590	1479	1357	1018							
	1	0.77	1600	2386	2319	2252	2185	2113	2038	1962	1778	1561	1273	771				
	1 1/2	1.29	1900	2834	2777	2720	2664	2607	2551	2487	2359	2219	2052	1864	1645	844		
	2	2.00	2200	3281	3232	3183	3134	3085	3037	2988	2882	2771	2661	2526	2382	2049		
18	1/2	0.32	900	2680	2495	2296	2081	1842	1557	1162							4.09	18.63
	1	0.77	1200	3573	3434	3295	3147	2992	2832	2659	2277	1775						
	1 1/2	1.35	1450	4317	4202	4088	3973	3852	3723	3595	3322	3032	2698	2283	1754			
	3	2.18	1700	5062	4964	4866	4768	4670	4571	4461	4242	4016	3772	3519	3234	2531		
	5	3.29	1950	5806	5721	5635	5550	5464	5379	5293	5107	4916	4725	4517	4304	3840		
	5	4.73	2200	6551	6475	6399	6323	6247	6172	6096	5944	5777	5608	5438	5269	4890		
24	3/4	0.66	700	5041	4721	4383	4022	3623	3168	2591							5.61	25.00
	1 1/2	1.41	900	6481	6232	5984	5720	5442	5158	4848	4169	3292	2081					
	3	2.58	1100	7921	7718	7514	7311	7101	6873	6646	6169	5661	5081	4390	3510			
	5	4.25	1300	9361	9189	9017	8845	8673	8501	8312	7927	7542	7113	6684	6195	5041		
	7 1/2	6.53	1500	10801	10625	10503	10354	10205	10056	9906	9589	9255	8922	8576	8203	7431		
	10	9.51	1700	12241	12110	11978	11847	11715	11584	11452	11189	10908	10614	10319	10025	9388		
30	3/4	0.67	500	6619	6070	5467	4799	4022	2880								6.06	30.63
	2	1.83	700	9266	8874	8483	8057	7619	7149	6660	5518	3842						
	5	3.89	900	11913	11609	11304	11000	10686	10345	10005	9293	8532	7666	6640	5332			
	7 1/2	7.11	1100	14561	14312	14063	13813	13564	13315	13054	12496	11939	11342	10720	10068	8553		
	15	11.73	1300	17208	16997	16787	16576	16365	16154	15943	15517	15045	14573	14102	13605	12552		
	15	14.66	1400	18532	18336	18140	17945	17749	17553	17357	16966	16552	16114	15676	15238	14298		
36	1	0.91	400	9528	8695	7772	6743	5457	3520								7.33	37.25
	3	3.07	600	14292	13736	13181	12590	11968	11329	10635	9108	7100						
	7 1/2	7.28	800	19056	18639	18223	17806	17389	16941	16475	15543	14527	13486	12278	10914	7040		
	15	14.22	1000	23820	23487	23153	22820	22487	22153	21820	21107	20361	19615	18835	18003	16258		
	20	18.93	1100	26202	25899	25596	25293	24990	24687	24384	23778	23109	22431	21753	21074	19561		
	25	24.57	1200	28584	28306	28028	27751	27473	27195	26917	26362	25801	25179	24558	23936	22657		
40	1 1/2	1.48	400	12770	11851	10859	9780	8569	7071	4958							7.33	41.07
	5	3.85	550	17559	16891	16223	15515	14768	14008	13174	11357	9020	5346					
	10	7.95	700	22348	21823	21298	20773	20248	19664	19077	17893	16582	15187	13658	11680			
	20	16.89	900	28733	28325	27916	27508	27100	26691	26283	25404	24490	23577	22610	21590	19428		
	25	23.17	1000	31925	31558	31190	30823	30456	30088	29721	28986	28176	27354	26531	25709	23876		
30	30.83	1100	35118	34784	34450	34116	33782	33448	33114	32445	31777	31031	30283	29536	28016			

1. Performance shown is for installation Type A: Free Inlet/Free Outlet.
2. Performance ratings do not include the effects of appurtenances (accessories).
3. Power rating (BHP) does not include drive losses.
4. Performance data is based on standard conditions (70°F–0.075 lb/ft³).

RBK—Belt Drive (66% Narrow Wheel Width)

Size	Motor		RPM	Cubic Feet Per Minute vs. Static Pressure													Outlet Area [ft ²]	Wheel Dia. [in]
	HP	BHP		0"	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/2"		
12	1/4	0.11	1400	1132	1020	924	855	790	708	612							1.98	12.89
	1/3	0.21	1700	1374	1283	1197	1118	1061	1008	953	815	625						
	1/2	0.33	2000	1617	1539	1461	1393	1326	1273	1227	1137	1023	892	718				
	3/4	0.51	2300	1859	1791	1724	1658	1600	1541	1488	1409	1330	1238	1137	1018	623		
	1	0.73	2600	2102	2042	1982	1922	1866	1814	1763	1670	1601	1531	1459	1370	1175		
15	1/3	0.22	1300	1789	1645	1517	1439	1326	1240	1134	883						2.79	15.39
	1/2	0.41	1600	2201	2085	1970	1870	1771	1703	1636	1490	1316	1102	674				
	3/4	0.69	1900	2614	2516	2418	2325	2240	2156	2082	1969	1855	1717	1571	1392	532		
	1 1/2	1.08	2200	3027	2942	2858	2773	2693	2620	2547	2413	2315	2217	2119	1993	1724		
	2	1.58	2500	3439	3365	3291	3216	3142	3071	3007	2879	2756	2670	2584	2498	2302		
18	1/3	0.24	900	2084	1910	1756	1608	1460	1257	912							4.09	18.63
	3/4	0.56	1200	2779	2648	2517	2404	2292	2181	2070	1812	1429						
	1 1/2	0.99	1450	3357	3249	3141	3033	2939	2847	2755	2571	2388	2149	1841	1349			
	2	1.6	1700	3936	3844	3752	3659	3567	3486	3407	3249	3092	2936	2780	2573	2036		
	3	2.41	1950	4515	4435	4354	4274	4193	4112	4037	3900	3763	3625	3489	3353	3051		
	5	3.46	2200	5094	5023	4951	4880	4809	4737	4666	4534	4412	4290	4168	4046	3805		

1. Performance shown is for installation Type A: Free Inlet/Free Outlet.
2. Performance ratings do not include the effects of appurtenances (accessories).
3. Power rating (BHP) does not include drive losses.
4. Performance data is based on standard conditions (70°F–0.075 lb/ft³).



RBK—Direct Drive (100% Full Wheel Width)

Size	Motor		RPM	Cubic Feet Per Minute vs. Static Pressure												Outlet Area [ft ²]	Wheel Dia. [in]	
	HP	BHP		0"	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"			2 1/2"
12	5	3.18	3450	3023	2997	2971	2945	2919	2892	2866	2814	2762	2708	2649	2590	2473	1.98	12.89
	1/2	0.41	1750	1533	1482	1430	1379	1321	1263	1197	1040	828	298					
	1/4	0.12	1160	1016	939	854	752	621	390									
15	1	1.01	1750	2610	2548	2487	2425	2364	2297	2227	2087	1906	1703	1448	1065		2.79	15.39
	1/3	0.29	1160	1160	1730	1637	1543	1438	1317	1175	996							
18	3	2.38	1750	5211	5115	5020	4925	4830	4734	4630	4417	4204	3968	3730	3461	2827	4.09	18.63
	3/4	0.70	1160	3454	3310	3167	3011	2850	2679	2500	2091	1487						
24	10	10.38	1750	12601	12474	12346	12218	12090	11962	11835	11579	11314	11028	10742	10456	9854	5.61	25.00
	3	3.02	1160	8353	8160	7967	7774	7582	7369	7153	6722	6240	5735	5174	4470	2248		
	1 1/2	1.25	870	6265	6008	5750	5473	5185	4881	4560	3834	2781						
30	10	8.34	1160	15355	15119	14883	14646	14410	14174	13938	13415	12886	12358	11768	11178	9858	6.06	30.63
	5	3.52	870	11516	11201	10886	10571	10237	9885	9532	8777	7967	7050	5863	4241			
36	25	22.19	1160	27631	27344	27057	26769	26482	26195	25907	25333	24730	24087	23444	22801	21432	7.33	37.25
	10	9.36	870	20723	20340	19957	19574	19191	18808	18387	17529	16672	15715	14758	13664	11075		
40	40	36.16	1160	37034	36717	36400	36083	35766	35450	35133	34499	33866	33200	32491	31782	30365	7.33	41.07
	15	15.26	870	27775	27353	26930	26508	26086	25663	25241	24309	23364	22419	21372	20317	17975		

1. Performance shown is for installation Type A: Free Inlet/Free Outlet.
2. Performance ratings do not include the effects of appurtenances (accessories).
3. Performance data is based on standard conditions (70°F–0.075 lb/ft³).

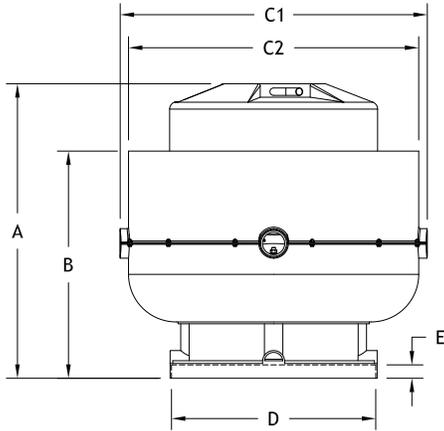
RBK—Direct Drive (66% Narrow Wheel Width)

Size	Motor		RPM	Cubic Feet Per Minute vs. Static Pressure												Outlet Area [ft ²]	Wheel Dia. [in]	
	HP	BHP		0"	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"			2 1/2"
12	2	1.71	3450	2789	2744	2698	2653	2608	2563	2518	2439	2361	2283	2218	2166	2061	1.98	12.89
	1/4	0.22	1750	1415	1326	1242	1165	1105	1053	1001	872	714						
	1/4	0.06	1160	938	809	713	630	522	346									
15	3/4	0.54	1750	2408	2301	2195	2099	2008	1923	1862	1739	1595	1436	1240	954		2.79	15.39
	1/4	0.16	1160	1596	1436	1297	1200	1104	985	844								
18	2	1.74	1750	4052	3962	3873	3783	3693	3611	3534	3381	3228	3076	2925	2750	2284	4.09	18.63
	3/4	0.51	1160	2686	2551	2416	2301	2185	2070	1956	1669	1164						

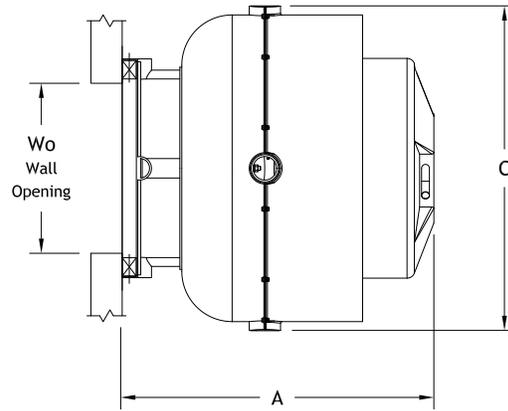
1. Performance shown is for installation Type A: Free Inlet/Free Outlet.
2. Performance ratings do not include the effects of appurtenances (accessories).
3. Performance data is based on standard conditions (70°F–0.075 lb/ft³).

ROOF UPBLAST & SIDEWALL CENTRIFUGAL FIBERGLASS EXHAUST FAN

Upblast Roof Mounted

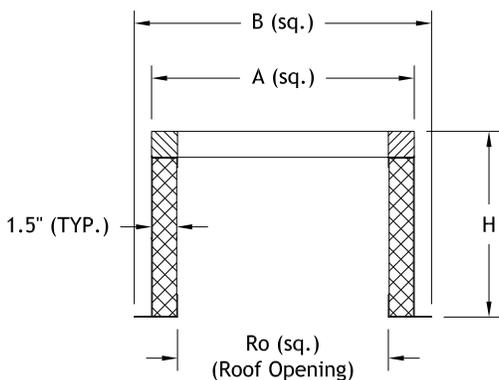


Wall Mounted



Fan Size	A	B	C1	C2	D	E	Wo	Bare Fan Weight [lbs]	Max. Motor Frame Size
12	30.69	21.69	28.88	27.13	19.63	1.81	13.00	114	56
15	32.44	25.19	34.00	32.13	23.63	1.81	15.00	139	145T
18	39.88	30.75	41.50	39.25	27.63	1.81	19.00	224	184T
24	46.25	37.63	53.00	50.00	35.63	1.94	25.00	322	215T
30	53.56	44.44	57.00	54.00	43.50	1.94	31.00	506	254T
36	66.56	52.44	67.00	64.00	56.00	1.94	37.00	676	284T
40	66.56	52.44	67.00	64.00	56.00	1.94	41.00	718	286T

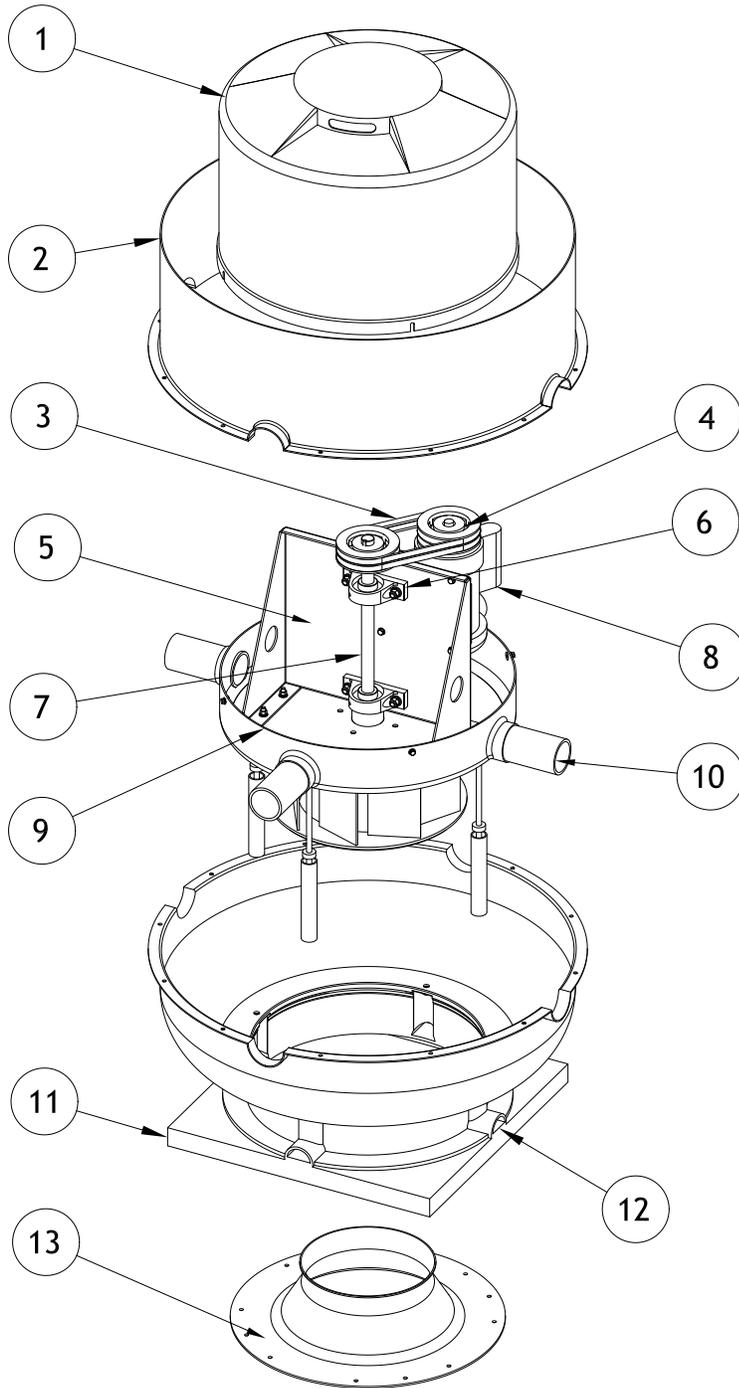
Prefabricated Curbs



Fan Size	12	15	18	24	30	36	40
A	18.63	22.63	26.63	34.63	42.50	55.00	55.00
B	22.63	26.63	30.63	38.63	46.50	59.00	59.00
*H	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Ro	14.00	18.00	22.00	30.00	38.00	51.00	51.00

1. *Standard curb height is 12", other heights are available.
2. Roof curbs are available in fiberglass or 18 Ga. galvanized steel.
3. All curbs are insulated and come with wood nailer strips on the top for fan attachment.
4. Curbs are available for sloped or peaked roofs.

Dimensions are in inches. Dimensions are subject to change. Certified prints are available.



Part No.	Description
1.	Weather cover
2.	Windband
3.	Belts
4.	Pulley
5.	Bearing support
6.	Pillow block bearing
7.	Shaft
8.	Motor
9.	Assembly support set
10.	Cooling tubes
11.	Curb cap
12.	Drain trough
13.	Inlet cone

Maximum allowed temperature °F. All concentrations are 100% of saturated solutions, unless otherwise stated.

Chemical	FRP	Chemical	FRP	Chemical	FRP	Chemical	FRP
Acetic Acid, 25%	210	Citric Acid	210	Lactic Acid 25%	210	Sodium Fluoride	*180
Acetone, up to 10%	180	Coconut Oil	210	Lauric Acid	210	Sodium Hydroxide, 70%	*210
Acrylic Acid, up to 25%	100	Copper Acetate	210	Lead Acetate	210	Sodium Hypochlorite	*125
Alum (Aluminum Potassium Sulfate)	210	Copper Chloride	210	Lead Nitrate	210	Sodium Hyposulfite, up to 20%	210
Aluminum Chloride	210	Copper Cyanide	180	Linoleic Acid	100	Sodium Lauryl Sulfate	160
Aluminum Fluoride	*120	Copper Fluoride	170	Linseed Oil	210	Sodium Mono-phosphate	210
Aluminum Hydroxide	210	Copper Nitrate 30%	170	Lithium Bromide	210	Sodium Nitrate	210
Aluminum Nitrate	180	Copper Sulfate	210	Lithium Chloride	210	Sodium Nitrite	210
Aluminum Potassium Sulfate	210	Cresol, up to 10%	80	Magnesium Bicarbonate	210	Sodium Silicate, pH-12	*210
Aluminum Sulfate	210	Crude Oil	210	Magnesium Bisulfite	180	Sodium Sulfate	210
Ammonia, dry gas	*170	Cyclohexane	110	Magnesium Carbonate	180	Sodium Sulfide	210
Ammonium Acetate, up to 65%	100	Dechlorinated Brine Storage	180	Magnesium Chloride	210	Sodium Sulfite	210
Ammonium Carbonate	150	Diallylphthalate	210	Magnesium Hydroxide	*210	Sodium Tetraborate	180
Ammonium Chloride	210	Diammonium Phosphate, up to 65%	210	Magnesium Nitrate	210	Sodium Thiosulfate	180
Ammonium Fluoride 10%	*150	Dibutyl Ether	150	Magnesium Sulfate	210	Sodium Tripolyphosphate	210
Ammonium Hydroxide, up to 10%	150	Dibutyl Phthalate	200	Maleic Acid	210	Sodium Xylene Sulfonate	160
Ammonium Nitrate	210	Diesel Fuel	210	Mercuric Chloride	210	Sorbitol Solution	180
Ammonium Persulfate	210	Diethanolamine	150	Methyl Ethyl Ketone, up to 10%	80	Stannic Chloride	210
Ammonium Phosphate	210	Diethylene Glycol	210	Monochloroacetic Acid	N.R.	Stannous Chloride	210
Ammonium Sulfate	100	Dimethyl Phthalate	170	Nickel Chloride	210	Stearic Acid	210
Ammonium Sulfide	100	Dimethyl Sulfoxide	80	Nickel Nitrate	210	Styrene	80
Ammonium Sulfite	110	Diethyl Phthalate	210	Nickel Sulfate	210	Sulfamic Acid	210
Ammonium Thiocyanate, 60%	*150	Diphenyl Ether	140	Nitric Acid, 30%	140	Sulfated Detergents	210
Amyl Acetate	100	Dipropylene Glycol	180	Nitrous Acid	73	Sulfite Liquors	210
Amyl Alcohol	210	Ethyl Alcohol	120	Oleic Acid	200	Sulfonated Detergents	170
Amyl Chloride	100	Ethylene Chlorohydrin	100	Oxalic Acid 50%	210	Sulfur Dioxide, dry gas	210
Aniline Sulfate	210	Fatty Acids	210	Palmitic Acid 10%	210	Sulfur Dioxide, wet gas	210
Aqua Regia	80	Ferric Chloride	210	Perchloroethylene	100	Sulfur Troxide	210
Arsenic Acid	180	Ferric Nitrate	210	Perchloric Acid, up to 10%	150	Sulfuric Acid, up to 25%	210
Barium Acetate	180	Ferric Sulfate	210	Phenol, up to 10%	80	Sulfuric Acid, up to 50%	210
Barium Carbonate	*210	Ferrous Chloride	210	Phenol	170	Sulfuric Acid, up to 70%	180
Barium Chloride	210	Ferrous Nitrate	210	Phosphoric Acid up to 85%	210	Sulfurous Acid, above 10%	110
Barium Hydroxide, up to 10%	*170	Ferrous Sulfate	210	Phthalic Anhydride	210	Tall Oil	160
Barium Sulfate	210	Fluoboric Acid	*210	Photographic Solution	80	Tannic Acid	210
Barium Sulfide	210	Fluosilicic Acid	150	Picric Acid	170	Tartaric Acid	210
Benzene Sulfonic Acid 10%	210	Formaldehyde 50%	170	Plating Solutions	180	Tetrachloroethylene	100
Benzoic Acid	210	Formic Acid	150	Potassium Aluminum Sulfate	210	Tetrapotassium Pyrophosphate 60%	150
Black Liquor Recovery Gasses	210	Fuel Oil	210	Potassium Bicarbonate, up to 10%	*170	Tetrasodium Ethylene Diamine	120
Bleach Liquor (Pulp mill)	210	Gallic Acid	*80	Potassium Bromide	120	Tetrasodium Pyrophosphate	150
Borax	210	Gasoline	180	Potassium Chloride	210	Toluene	80
Boric Acid	210	Gluconic Acid, up to 50%	180	Potassium Cy-Amp	210	Toluene Di-isocyanate, fumes	80
Brine	210	Glucose	210	Potassium Dichromate	210	Toluene Sulfonic Acid	120
Bromine, dry gas	140	Glycerine	210	Potassium Ferricyanide	210	Trichloroethylene, fumes	170
Bromine, wet gas	100	Glycolic Acid	200	Potassium Ferrocyanide	210	Trichloroacetic Acid, up to 50%	210
Butyl Acetate	100	Green Liquor, Pulp MILL	200	Potassium Hydroxide, up to 25%	*120	Trimethylamine Hydrochloride	210
Butyric Acid	100	Hexachlorocyclopentadiene	100	Potassium Permanganate 10%	210	Triphenyl Phosphite	140
Cadmium Chloride	180	Hydraulic Fluid	180	Potassium Persulfate	210	Trisodium Phosphate	210
Calcium Bisulfate	200	Hydrobromic Acid, up to 20%	170	Potassium Sulfate	210	Turpentine, Pure Gum	150
Calcium Carbonate	180	Hydrochloric Acid, up to 37%	180	Sea Water	180	Urine / Urea	150
Calcium Chlorate	210	Hydrocyanic Acid, up to 10%	170	Sillicic Acid	210	Vegetable Oils	210
Calcium Chloride	210	Hydrofluoric Acid, 20%	*120	Silver Cyanide, up to 5%	200	Vinegar	210
Calcium Hydroxide	*210	Hydrofluosilicic Acid, up to 30%	*120	Silver Nitrate	210	Water, Distilled / Demineralized	180
Calcium Hypochlorite	*150	Hydrogen Bromide, gas	180	Sodium Acetate	210	Water, Organic Vapors	175
Calcium Nitrate	210	Hydrogen Chloride, dry gas	210	Sodium Benzoate	180	Water Sea / Salt	180
Calcium Sulfate	210	Hydrogen Fluoride	*180	Sodium Bisulfate	210	Water, waste	180
Camphor	80	Hydrogen Peroxide, up to 30%	150	Sodium Bisulfite	210	White Liquor, Pulp Mill	180
Carbon Dioxide, gas	210	Hydrogen Sulfide, wet/dry gas	210	Sodium Borate (Borax)	210	Xylene	80
Carbonic Acid	210	Hypiodic Acid, up to 10%	150	Sodium Bromide	210	Zinc Chlorate	210
Carbon Monoxide, gas	210	Hypochlorous Acid, up to 20%	110	Sodium Chlorate	210	Zinc Chloride	210
Carbon Tetrachloride, vapor	200	Iodine (solid, solution and vapor)	170	Sodium Chloride	210	Zinc Nitrate	210
Caustic Soda	130	Isodecanol	180	Sodium Chlorite	150	Zinc Sulfite	210
Chloric Acid 10%	170	Isopropyl Alcohol	120	Sodium Cyanide	210	Zinc Sulfate	210
Chlorine, dry gas	210	Kerosene	210	Sodium Dichromate	210		
Chlorine, wet gas	210			Sodium Di-phosphate	210		
Chlorinated water	210			Sodium Ferricyanide	210		
Chloroacetic acid	120			Sodium Ferrocyanide	210		
Chromic Acid, up to 10%	120						
Chromium Sulfate	180						
Chromous Sulfate	200						

*indicates synthetic fiber surfacing mat recommended. N.R. - 'Not Recommended'

FRP - Fiber Reinforced Polyester or Vinyl Ester are Thermosetting Products that use Polyester or Vinyl Ester resins in junction with glass fibers in fabrication of a wide variety of products. They possess outstanding resistance to corrosion by many different chemicals including both acids and alkalis at room and elevated temperatures. They have high impact resistance, excellent electrical and thermal insulation properties. They require little maintenance repair over a long service life and provide high strength at low weight. Industrial applications include process, vessels, storage tanks, piping hoods, scrubbers, ducts and ventilation equipment. All M K Plastics FRP fans have inherent UV inhibitors and are available in different classes of flame spread.

ROOF UPBLAST & SIDEWALL CENTRIFUGAL FIBERGLASS EXHAUST FAN

HUB SEAL

Neoprene hub seal is standard with Teflon seals as an option for more severe environments.

GRAPHITE IMPREGNATION

A graphite liner may be laminated to the inside of the fan casing to remove any build up of static electricity when handling potentially explosive gases. The gas stream surfaces are grounded to the fan base.

DAMPERS

M.K. Plastics series F-BD fiberglass, end pivoted, gravity backdraft dampers and series F-CD, center pivoted control dampers are available, shipped loose for field mounting in the roof curb. These dampers can also be supplied in PVC. Additionally available are round, single blade gravity or control dampers in both FRP or PVC for direct attachment to the fan.



GRAVITY / CONTROL DAMPERS

DISCONNECT SWITCHES

A wide selection of NEMA rated fusible, or non-fusible safety disconnect switches, mounted and pre-wired to the fan motor, if required. Switches enclosures offered: NEMA 1 (indoor general purpose), NEMA 3R (exterior mount, rain tight), NEMA 4 (water tight and duct tight) and NEMA 7 (explosion proof). Please note that explosion proof disconnect switches are not available pre-wired at the factory.

STAINLESS STEEL SHAFTS

304 and 316 stainless steel shafts are available on all RBK fan sizes, where possible corrosion on standard carbon steel shafts may be of concern.

BIRD SCREENS

Bird screens for all belt and direct drive models that protects the fan's discharge from birds or small objects. Available in PVC or stainless steel mesh.

ROOF CURBS

A wide variety of prefabricated roof curbs are available in either fiberglass or galvanized steel with rigid interior insulation and pressure treated wood nailer strip. All curbs are flanged for roof attachment. Curbs for sloping/pitched roofs and sound absorbing curbs are also offered, as required.



PREFABRICATED ROOF CURBS

MOTORS

UL and CSA, Open Drip Proof (ODP), TENV, TEFC, Chem Duty, Washdown and Explosion Proof motors are available. All complying with EPAC standards. Premium High Efficiency are offered, as required.

**ROOF UPBLAST & SIDEWALL
CENTRIFUGAL FIBERGLASS EXHAUST FAN**

PART 1 GENERAL

WORK INCLUDED

- A. Roof Upblast and Sidewall Centrifugal Fiberglass Exhaust Fans.

1.02 RELATED WORK

- A. All sections, drawing plans, and contract documents.

1.03 REFERENCES

- A. AMCA -99 Standards Handbook
- B. AMCA 210 - Laboratory Methods of Testing Fans for Rating Purposes.
- C. AMCA 211 - Certified Ratings Procedure - Air Performance.
- D. AFMBA - Method of Evaluating Load Ratings of Bearings (ASA - B3.1 1).
- E. ANSI/AMCA 204-96 - Balance Quality and Vibration Levels for Fans.
- F. ASTM D4167-97 - Standard Specification for Fiber-Reinforced Plastic Fans and Blowers.

1.04 QUALITY ASSURANCE

- A. Fans shall be tested in accordance with AMCA Standards 210 and conform to AMCA Publication 211.
- B. Classification for Spark Resistant Construction; Conform to AMCA 99.
- C. Each fan shall be tested before shipping. Motors to be tested for amperage drawn.
- D. A certificate to be supplied with each fan as to quality control before shipping and compliance to specifications.

1.05 SUBMITTALS

- A. M. K. Plastics to submit product data on each RBK.
- B. Provide fan curves for each fan at the specified operating point, with the flow, static pressure and horsepower clearly plotted.

PART 2 EQUIPMENT

2.01 GENERAL

- A. Base fan performance at standard conditions (density 0.075 Lb/ft³)
- B. Fans selected shall be capable of accommodating static pressure and airflow of scheduled values.
- C. Each fan shall be belt drive in arrangement #9 or according to drawings.

2.02 FAN HOUSING

- A. Fan housing to be aerodynamically designed with high-efficiency inlet venturi, engineered to precisely fit in the wheel inlet ring for maximum efficiency. Molded dome to have a smooth exterior and resin rich interior.
- B. RBK shall be manufactured in specifically formulated resins, for maximum corrosion resistance, UV inhibited and reinforced with fiberglass for structural strength. Fastening bolts shall be 304 stainless steel, and hardware in the exhaust airstream are to be encapsulated in FRP. No coated metal fan parts will be allowed.
- C. The resin shall have antimony trioxide added to provide fire retardancy with a flame spread rating of 25 or less when tested per ASTM-E84.
- D. Hub seal to be neoprene or Teflon (when required).
- E. Standard finish color to be light gray.

2.03 FAN IMPELLER

- A. Impellers should be solid molded FRP with backward inclined, flat blades. The hub to extend outside the casing. Impellers manufactured in steel and coated with a plastic material are not acceptable. The impeller shall be electronically balanced both statically and dynamically in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3.

2.04 FAN MOTORS AND DRIVES

- A. Motors to be TEFC and premium-efficiency with a 1.15 service factor.
- B. Motor to be attached to a steel frame, mounted on a rubber plate, must be protected from the environment in a sealed enclosure. Four air conduits to provide ventilation, warm air to exit at the openings on top of the enclosure.
- C. Belts and pulleys are to be accessible for service and maintenance.
- D. Shafts to be AISI -1045 carbon steel. The shaft shall not be in the corrosive air stream.
- E. Bearings shall be spherical pillow block and have a minimum L-10 life of 40,000 hours life.
- F. Drives shall be sized for a minimum 150% of the motor size power and shall be accessible by easily removing the motor cover.
- G. Fans up to 5 HP motor to have variable pitch.

2.05 ACCEPTABLE MANUFACTURERS

- A. M.K. Plastics Corporation, Model RBK.

CONDITIONS OF SALE

1. Prices quoted are current; prices prevailing at time of shipment will apply. Material in stock is offered subject to prior sale. All Sales Contracts arising out of this quotation shall be subject to our regular conditions shown on this side.
2. All deliveries quoted are based on availability of material and labor at the time of quotation and subject to changes. Deliveries are contingent upon strikes, accidents, fires and other causes and we shall not be liable for any loss or damage caused by delays beyond the control of the company.
3. Goods invoiced up to and including the last day of the calendar month, shall be paid for not later than the last business day of the following month. The Company reserves the right to charge interest at commercial rates on any overdue account.
4. Any order accepted by us cannot be countermanded, revised or cancelled without our written consent and upon such terms as will indemnify us against any loss. The word "loss" as used herein shall include, but not be limited to, cost of materials, special machinery, tools, jigs and fixtures built or purchased for the contract and all parts in process, fabricated in whole or in part by previous customer authorization.
5. No contract arising from the acceptance of this quotation shall be valid and binding until approved by the company, such contract shall be governed by and interpreted in accordance with the laws of the Province of Québec.
6. All memoranda, drawings and information furnished by the company shall remain its property and shall be considered business or trade secrets received in trust and confidence for the sole purpose of assisting the buyer.
7. Orders to customer's drawings or descriptions are filled with the understanding that the customer assumes the obligation to protect M.K. Plastics Corporation from any action for infringements of patents.
8. No modification of the above conditions of Sale shall be effected by our receipt or acknowledgement of a purchase order containing additional or different conditions.

LIMITATION OF WARRANTY AND LIABILITY

We will not be responsible for the damage to equipment or materials through improper installation, storage, improper servicing, or through attempts to operate it in excess of its rated capacity or recommended use, intentional or otherwise. We will not be responsible for consequential damage.

Based on the fact that M.K. Plastics Corp. has no direct control over the actual handling and use of its products in the field, M.K. Plastics Corp. does not assume any liability for any loss of customer or any personnel or any physical damages claimed by anyone due to a failure or cause attributed to the use of its products. In no event shall M.K. Plastics Corp. be responsible for consequential damages of any such defective material or workmanship, including but not limited to the buyer's loss of material or profit, increased expense of operation, downtime or reconstruction of the work and in no event shall M.K. Plastics Corp. obligation under this warranty exceed the original contract price of the defective item.

M.K. Plastics Corp. warrants its equipment, products and parts, to be free from defects in workmanship and material under normal use and service for one (1) year after delivery to the first user. Our obligation under this warranty being limited to repairing or replacing, at our option, without cost at our factory any part, or parts which shall, within such warranty period, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been defective.

M.K. Plastics Corp. will not be responsible for the cost of removal of a defective product or parts or the installation of a replaced product or parts, or for costs due for its removal, crating or shipping.

On account of variables including but not limited to, vibration, system noise characteristics, motor overloading or change in voltage conditions, the specifics of customer application of equipment or other system conditions, M.K. Plastics Corp. does not expressly warrant its equipment for any specific purpose.

The customer and its agents are responsible for the selection and application of M.K. Plastics Corp. products, including their fitness for the purpose and performance intended. Consequently, the customer on behalf of its agents assumes all liability related to the user/misuse, application and selection of the M.K. Plastics Corp. Equipment.

M.K. Plastics
CORPORATION

SERVING THE NEEDS OF MODERN INDUSTRY

4955 De Courtrai Ave., Montreal, Quebec H3W 1A6
Trimex Building, Route 11, Mooers, NY 12958
Spiez, Switzerland

tel: (514) 871-9999 / (888) 278-9988 fax: (514) 871-1753
www.mkplastics.com