

# *Model VBO-HV* High-Velocity Upblast

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# Model VBO-HV High-Velocity Belt-Drive Fan

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## Model VBO-HV Exhauster Description

### PRODUCT DESCRIPTION

Designed to meet the normal ventilation needs of many industries, as well as the removal of smoke and fumes during a fire emergency, these high volume, high velocity exhausters are the ideal choice where reliable venting systems are required. The high-velocity output pushes exhaust air away from the building, reducing the chance of contaminated air reentering the airstream. In addition, high temperature exhaust air will not contribute to roof or roof mounted equipment damage.

Engineered to meet the high temperature requirements of the Uniform Fire Code of 1000°F for a minimum of 15 minutes, and the IRI requirements of 500°F for a minimum of 4 hours. Tests were conducted by an independent testing organization and witnessed by UL engineers. Temperature ratings were tested in accordance with UL smoke control systems standards. The test conclusively proved that the VBO-HV could be operated at these elevated temperatures without failure.

### STANDARD FEATURES

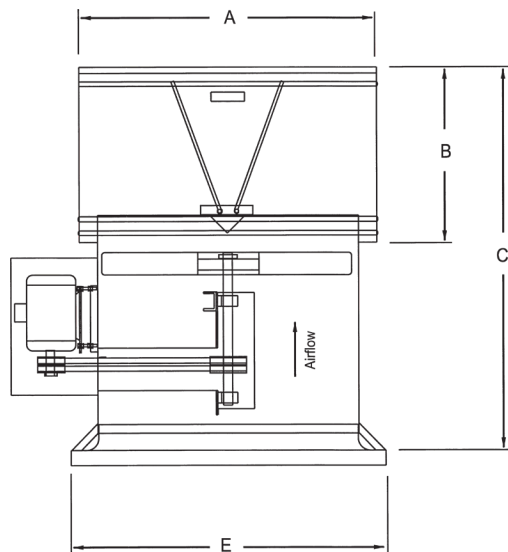
- Drive: Heat-resistant remote belt drive, variable pitch to 7-1/2 HP. Adjustable for final system RPM. Belts sized for 165% HP. Minimum of 2 belts shall be oil resistant non static.
- Propeller: Fabricated steel, statically and dynamically balanced.
- Construction
  - Fan Tube: All-welded
  - Curb Cap: All-welded
- Wind band: Heavy gauge galvanized steel beaded for additional strength.
- Bearing Support Plates: minimum of 1/4" thick plate welded to interior steel channels.
- Bearings: minimum (L50) life more than 200,000 hours at maximum cataloged operating speeds.
- Dampers: Steel butterfly dampers w/ water runoff troughs for sizes 24" through 60".
- Lubrication: Extended lubrication lines with grease fittings.
- Motor: Enclosed, fan-cooled motor
- Motor Frame: Heavy-duty, all-welded frame
- Certification: UL705 listing is available on TEFC models up to 10 Hp.
- Rating: Tested and rated in accordance with AMCA 211 test code.

### OPTIONAL FEATURES

- High Temperature Options
- Protective Guards:
  - Inlet Guard
  - Outlet Guard
- Magnetic Damper Latches
- Disconnect Switches:
  - NEMA 3R Rainproof
  - NEMA 4 Watertight
- Roof Curbs:
  - Self-flashing (Type SF)
  - Roofed over (Type CF)
- Special Coatings; Color to match
  - Enamel
  - Epoxies
  - Urethane powder coatings
- Fusible link damper lifter

# Model VBO-HV High-Velocity Belt-Drive Fan

## Model VBO-HV Dimensional Data



SIZE	STEEL GAUGE							
	A	B	C	E	BASE	SECT.	BAND	WT
24	31	19	47	34	16	16	20	390
30	37	23	52	40	16	16	20	440
36	43	25	60	46	14	16	20	575
42	49	27	63	52	14	16	20	725
48	55	31	67	56	14	16	20	810
54	61	35	77	64	21	14	20	1005
60	67	36	78	68	12	14	18	1150

### HIGH TEMPERATURE OPTIONS FOR EMERGENCY SMOKE REMOVAL APPLICATION

VERTIBLOW VBO-HV FEATURES	HIGH-TEMPERATURE CONSTRUCTION	HIGH-TEMPERATURE CONSTRUCTION W/ DAMPER OPENERS	HIGH-TEMPERATURE CONSTRUCTION W/ U.L.-793 SNOW LOAD TEST
UFC Temp. Req. - 1000°F - min of 15 min.	X	X	X
IRI Temp. Req. - 500°F - min. 4 hours	X	X	X
Minimum 2 Belt Drive	X	X	X
Protective Belt Tube	X	X	X
Steel Dampers	X	X	X
Fusible Link Activated Damper Opener	X	X	X
Snow Load Test for Dampers UL-793 (10 lbs./sq. ft.)		X	X
U.L. Listed "Power Ventilators for Smoke Control Systems"			X

- OPTION 1 – STANDARD HIGH-TEMPERATURE CONSTRUCTION:** The standard VBO-HV construction meets specifications for the Uniform Fire Code Standard 81-3 (Mechanical Smoke-Removal Systems) where the exhaust fans will provide continued operation for not less than 15 minutes while exposed to a temperature of 1,000°F.
- OPTION 2 – HIGH-TEMPERATURE CONSTRUCTION W/ DAMPER OPENERS:** Standard high temperature construction with fusible link damper openers automatically opens the fan dampers when the air temperature below the dampers exceeds 165°F. This provides smoke and heat relief in the case of power failure.
- OPTION 3 – HIGH-TEMPERATURE CONSTRUCTION - U.L. LISTED:** UL listed for "POWER VENTILATOR FOR SMOKE CONTROL SYSTEMS" – Includes Snow Load Test for Damper in UL-793 This construction meets the UL listing requirement and IRI requirements of 500°F for a minimum of 15 minutes. The Snow Load Test for dampers in UL-793 (10 lbs. sq. ft) is part of this requirement.

# Model VBO-HV High-Velocity Belt-Drive Fan

## Model VBO-HV Performance Data

MODEL	HP	RPM	MAX BHP	*SONES	STATIC PRESSURE / CAPACITY							
					0.000	0.100	0.125	0.250	0.375	0.500	0.750	
VBO-244	3/4	1059	6654	.68	16.2	6424	5968	5867	5216			
VBO-244	3/4	1097	6893	.75	17.1	6655	6211	6113	5512			
VBO-245	1	1156	7263	.90	19.0	7012	6590	6493	5965	5066		
VBO-245	1	1198	7527	1.00	20.8	7267	6860	6762	6283	5506		
VBO-246	1-1/2	1312	8244	1.35	23.0	7959	7587	7494	7078	6505	5606	
VBO-246	1-1/2	1371	8614	1.50	25.7	8317	7961	7872	7468	6963	6229	
VBO-247	3/4	795	6244	.68	15.8	8886	8129	7904	5794			
VBO-247	3/4	829	6511	.75	16.7	9266	8549	8342	6398			
VBO-304	1	858	6739	.90	17.7	9590	8905	8705	6908	5099		
VBO-304	1	897	7045	1.00	19.3	10026	9380	9190	7580	5790		
VBO-305	1-1/2	983	7720	1.35	22.4	10987	10420	10246	8988	7257	5748	
VBO-305	1-1/2	1024	8042	1.50	23.4	11445	10908	10744	9635	7990	6479	
VBO-306	2	1037	8145	1.80	23.8	11591	11060	10901	9838	8219	6707	
VBO-306	2	1102	8655	2.00	26.0	12371	11817	11685	10839	9341	7820	
VBO-307	1	629	5928	.90	17.1	12471	11144	10777	8015			
VBO-307	1	655	6173	1.00	18.3	12987	11714	11371	8781			
VBO-365	1-1/2	700	6597	1.30	20.7	13879	12691	12388	10070	7658		
VBO-365	1-1/2	741	6984	1.50	23.2	14692	13573	13286	11339	8931		
VBO-366	2	796	7502	1.80	25.7	15783	14745	14478	12987	10573		
VBO-366	2	829	7813	2.00	26.8	16473	15443	15186	13826	11529		
VBO-367	3	909	8567	2.70	31.6	18023	17120	16888	15687	13932	11911	
VBO-367	3	947	8925	3.00	34.2	18776	17910	17690	16551	15078	13018	
VBO-368	5	1071	10094	4.50	40.7	21235	20469	20277	19291	18240	16735	
VBO-368	5	1117	10528	5.00	44.1	22147	21412	21229	20287	19297	18110	
VBO-369	1-1/2	584	6421	1.30	20.3	17143	15633	15262	12698	8655		
VBO-369	1-1/2	614	6751	1.50	21.9	18023	16585	16232	13942	10325		
VBO-425	2	645	7092	1.80	23.5	18933	17561	17225	15199	11992	8678	
VBO-426	2	674	7411	2.00	25.4	19784	18469	18148	16335	13506	9974	
VBO-426	3	748	8225	2.70	31.1	21957	20766	20476	18932	16911	14018	
VBO-427	3	776	8533	3.00	33.0	22778	21631	21348	19895	18052	15478	
VBO-427	5	898	9874	4.50	41.4	26360	25368	25120	23908	22559	20924	
VBO-428	5	933	10259	5.00	45.1	27387	26433	26194	25024	23769	22326	
VBO-428	7-1/2	1021	11227	6.75	51.3	29970	29098	28880	27803	26742	25494	
VBO-429	7-1/2	1061	11666	7.50	54.1	31144	30305	30095	29056	28035	26883	
VBO-429	1-1/2	505	6346	1.30	16.1	21866	19327	18707				
VBO-4210	1-1/2	531	6673	1.50	17.5	22992	20540	19982				
VBO-4210	2	551	6924	1.80	18.6	23858	21463	20952	17601			
VBO-486	2	572	7188	2.00	19.9	24767	22427	21957	18976			
VBO-486	3	627	7879	2.70	23.3	27148	24900	24501	22001	18221		
VBP-487	3	651	8181	3.00	25.0	28188	26103	25600	23290	19912		
VBO-487	5	745	9362	4.50	33.1	32258	30258	29855	27968	25699	22523	
VBO-488	5	773	9714	5.00	34.1	33476	31543	31110	29329	27220	24465	
VBO-488	7-1/2	840	10556	6.60	38.6	36371	34598	34154	32496	30683	28562	
VBO-489	7-1/2	880	11058	7.50	43.2	38103	36410	35987	34341	32664	30750	
VBO-489	3	534	7549	2.70	22.5	31283	29146	28580				
VBO-4810	3	554	7832	3.00	23.9	32454	30395	29878				
VBO-4810	5	625	8836	4.50	29.6	36614	34788	34332	31782			
VBO-548	5	650	9189	5.00	32.0	38078	36323	35884	33469			
VBO-548	7-1/2	695	9825	6.70	37.5	40714	39073	38662	36468	34088	30862	
VBO-549	7-1/2	727	10278	7.50	41.3	42589	41020	40627	38576	36300	33493	
VBO-549	10	780	11027	9.00	44.1	45694	44231	43865	42029	39908	37744	
VBO-5410	10	811	11465	10.00	46.6	47510	46103	45751	43992	41991	39950	
VBO-5410	3	422	6629	2.70	18.6	36779	32399	31304	25723			
VBO-5411	3	438	6880	3.00	20.0	38174	33953	32898	28164			
VBO-5411	5	501	7870	4.50	24.6	43665	39975	39052	34480	29037		
VBO-608	5	519	8152	5.00	25.9	45233	41672	40781	36329	31837		
VBO-608	7-1/2	571	8969	6.70	30.5	49765	46528	45719	41672	38015	32344	
VBO-609	7-1/2	593	9315	7.50	32.5	51683	48565	47786	43889	40203	35791	
VBO-609	10	631	9912	9.00	36.9	54995	52065	51333	47671	44009	41038	
VBO-6010	10	654	10273	10.00	39.8	56999	54173	53466	49933	46400	43361	
VBO-6010	3/4	1059	6654	.68	16.2	6424	5968	5867	5216			
VBO-6011	3/4	1097	6893	.75	17.1	6655	6211	6113	5512			
VBO-6011	1	1156	7263	.90	19.0	7012	6590	6493	5965	5066		

Moffitt certifies that the fans shown have been tested and rated in accordance with AMCA Bulletin 211 and are guaranteed by the manufacturer to deliver rated performance. \*Sones shown apply to the highest cataloged CFM at each fan RPM.