

ENERGY EFFICIENT VENTILATORS

HVAC fact sheet



START SAVING NOW — with low-cost, easy to control, electronically commutated motor (ECM) on Dayton power roof ventilators. Dayton's Variable-Speed Motors blend technology, controllability and energy efficiency into a low maintenance package that is changing the way the industry designs, specifies and operates air movement equipment. Electronic commutation uses electronic circuitry to control the motor's functions:

- New consolidated motor can be easily changed from the potentiometer dial adjustment to the 0-10 Vdc adjustment simply by purchasing the remote dial speed control Sku No. 43Y140.
- Solid state circuitry controls the output of power and the speed of rotation. Internal circuitry converts AC power to DC voltage for increased efficiencies and full controllability of speed.
- Optional speed control kit (Sku No. 43Y140) is designed to maximize the efficiency of ventilation systems, manually control up to four variable-speed exhaust ventilators from one remote location.

VARIABLE-SPEED EXHAUST VENTILATORS

Dayton variable speed ventilators allow up to 80% useable turndown and eliminates the need for a speed control. These units are available in the following configurations:

- Upblast Roof-Mount (See page 2)
(Sku Nos. 5DVR2-5DVR4, 48C178-48C182)
- Upblast Wall-Mount (See page 2)
(Sku Nos. 6KWH9, 6KWJ0, 6KWJ1, 48C183-48C187)
- Downblast Roof-Mount (See page 2)
(Sku Nos. 5DVT2-5DVT4, 48C188-48C190 and 48C192)



5DVT2
Variable-Speed Ventilators



43Y140
Speed Control Kit

VARIABLE-SPEED POWER PACK REPLACEMENT

Convert your existing Dayton centrifugal upblast exhaust ventilator to an energy efficient exhaust ventilator with a variable-speed UL recognized EC motor. Completely assembled motor pack allows quick and easy installation. Includes potentiometer dial on motor, support pan and aluminum backward-inclined wheel. Optional speed control kit is available (Sku No. 43Y140).

- Upblast Roof-Mount (See page 3)
- Upblast Wall-Mount (See page 4)

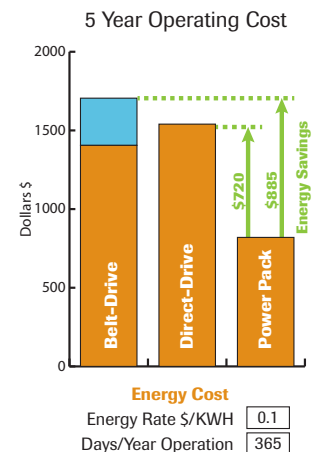
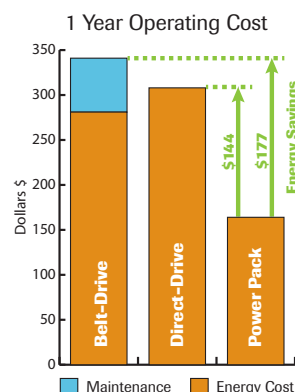


16D517
Variable-Speed Power Pack

24 HOUR ENERGY SAVINGS ANALYSIS

BELT-DRIVE 5DVL4 - 1/2 HP		DIRECT-DRIVE 5DVP8 - 1/2 HP		VARIABLE-SPEED* 48C180/16D518 - 1/2 HP	
Operating Point (1725) 8 Hours/Day					
Watts	497	Watts	415	Watts	341
RPM	1743	RPM	1733	RPM	1744
Operating Cost (1140) 16 Hours/Day					
Watts	232	Watts	320	Watts	111
RPM	1164	RPM	1158	RPM	1167
Yearly Operating Cost Results					
\$/Year	281	\$/Year	308	\$/Year	164
Maintenance	60	Maintenance	0	Maintenance	0
341 - \$164 = \$ Savings	177	\$308 - \$164 = \$ Savings	144		

Ventilators running at same rpm and producing the exact same cfm. *Variable-Speed Ventilator or powerpack.



ENERGY EFFICIENT VENTILATORS AND POWER PACKS

Features

- Electronically commutated motor (ECM) technology
- Variable speed motor, RPM range 300 - 1725
- Direct-Drive, no belts or pulleys to maintain
- Potentiometer dial pre-mounted on motor to control speed, optional speed control kit can be purchased separately
- Motor runs quieter and cooler
- 80% motor turn down capability

Benefits

- Energy savings of 40 to 50%
- No belt or pulley maintenance required
- Flexibility to adjust motor speed (fan airflow) based on your facilities needs - just turn dial on motor or purchase speed control kit
- Quieter environment for workers
- Increases motor life due to lower running temperature

VARIABLE-SPEED EXHAUST VENTILATOR PERFORMANCE

SKU NO.		VOLTS 60HZ	SPEED CONTROL	WHEEL DIA. (IN.)	FAN HP	FAN RPM	MAX BHP	SONES @ .250" SP	CFM AIR DELIVERY @STATIC PRESSURE SHOWN							
ROOF MOUNT	WALL MOUNT								.000"	.125"	.250"	.375"	.500"	.750"	1.00"	
DIRECT-DRIVE UPBLAST																
48C178	48C183	115	43Y140	8-1/4	1/6	860 1140 1725	0.01 0.02 0.06	— — 6.1	235 312 472	95 222 4113	— — 355	— — 289	— — 289	— — 199	— — —	
48C179	48C184	115	43Y140	11	1/6	860 1140 1725	0.02 0.04 0.12	— 4.6 9.4	450 596 903	324 505 842	— 395 782	— — 722	— — 652	— — 420	— — —	
5DVR2	6KWH9	115	43Y140	11	1/4	860 1140 1725	0.04 0.09 0.29	0.6 6.5 12.5	732 970 1468	625 897 1422	481 806 1373	— 707 1315	— — 1255	— — 1129	— — 970	
48C180	48C185	115	43Y140	12-1/2	1/2	860 1140 1725	0.06 0.14 0.48	5.6 8.2 16.7	1015 1346 2037	905 1261 1979	781 1180 1923	581 1091 1869	— 981 1816	— — 1710	— — 1571	
48C181	48C186	115	43Y140	13-1/4	3/4	860 1140 1725	0.08 0.17 0.60	7.7 11.8 18.4	1180 1564 2366	1057 1471 2305	914 1379 2244	675 1280 2183	— 1144 2122	— — 1994	— — 1838	
5DVR3	6KWJ0	115	43Y140	14-3/4	3/4	1050 1300 1550	0.22 0.43 0.72	9.8 12.8 17.5	1902 2355 2808	1800 2277 2743	1680 2186 2671	1540 2086 2594	1372 1979 2509	— 1717 2329	— 1269 2110	
5DVR4	6KWJ1	115	43Y140	16-1/2	3/4	550 860 1140	0.07 0.25 0.58	— 9.9 14.8	1581 2472 3277	1303 2315 3161	— 2156 3035	— 1918 2896	— 1680 2745	— — 2421	— — 1983	
48C182	48C187	115	43Y140	18-1/2	1	745 860 1000	0.26 0.40 0.63	8.1 11.1 14.7	2815 3249 3778	2617 3074 3625	2448 2922 3486	2143 2732 3362	1763 2474 3190	— — 2738	— — —	
DIRECT-DRIVE DOWNBLAST																
48C188	—	115	43Y140	8-1/4	1/6	860 1140 1725	860 1140 1725	— 4.5 9.3	326 432 654	208 349 602	— 247 544	— 314 486	— — 237	— — 222	— — —	
48C189	—	115	43Y140	8-1/4	1/6	860 1140 1725	860 1140 1725	— 4.6 9.4	426 565 855	298 474 794	— 367 735	— — 671	— — 600	— — 406	— — —	
5DVT2	—	115	43Y140	11	1/4	860 1140 1725	0.04 0.09 0.31	2.9 5.7 11.7	729 966 1462	623 883 1405	473 805 1351	— 702 1298	— 507 1250	— — 1126	— — 955	
5DVT3	—	115	43Y140	13-1/4	1/2	860 1140 1725	0.06 0.14 0.50	5.2 8.4 17.0	1043 1383 2093	932 1300 2038	796 1213 1984	580 1112 1928	— 993 1871	— — 1743	— — 1600	
48C190	—	115	43Y140	13-3/4	3/4	860 1140 1725	0.07 0.17 0.60	6.3 9.6 16.7	1221 1618 2448	1106 1535 2393	962 1444 2338	727 1340 2281	— 1211 2220	— — 2089	— — 1935	
5DVT4	—	115	43Y140	14-3/4	3/4	1050 1300 1550	0.24 0.46 0.79	9.0 12.9 17.4	1948 2412 2875	1833 2318 2797	1719 2228 2719	1590 2135 2644	1418 2033 2566	— 1777 2396	— 1355 2191	
48C192	—	115	43Y140	18-1/2	1	730 810 900	0.26 0.35 0.48	7.2 8.7 10.9	2839 3150 3500	2668 2997 3364	2469 2832 3219	2213 2624 3052	1882 2375 2858	— — 2347	— — —	

Performance certified is for installation type A: Free inlet, Free outlet. Performance ratings include the effects of a birdscreen in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: Free inlet hemispherical sone levels.

Dayton®

ROOF – VARIABLE-SPEED POWER PACK REPLACEMENT PERFORMANCE

MY EXISTING FAN SKU NO.		RPM	SONES @ .250" SP @ 5FT.	CFM AIR DELIVERY @ STATIC PRESSURE SHOWN					POWER PACK REPLACEMENT					
				.000"	.125"	.250"	.500"	1.00"	1.50"	VOLTS 60HZ	MOTOR HP	RPM FAN RANGE	FULL LOAD AMPS	SPEED CONTROL
DIRECT-DRIVE VENTILATORS									POWER PACK REPLACEMENT					
4HZ36	1140	8.3	780	656	502	—	—	—	115	1/4	300-1725	3.9	43Y140	48C155
4HZ37	1725	13.0	1180	1094	1017	824	—	—						
4HZ40	1140	6.5	970	897	806	—	—	—	115	1/4	300-1725	3.9	43Y140	16D517
4HZ41	1725	12.5	1468	1422	1373	1255	970	—						
5DVP8	1725	16.7	2037	1979	1923	1816	1571	1176	115	1/2	300-1725	6.2	43Y140	16D518
4HZ44	860	7.7	1180	1057	914	—	—	—	115	3/4	300-1725	10.1	43Y140	16D519
4HZ45	1725	18.4	2366	2305	2244	2122	1838	1365						
4HZ48	860	7.1	1558	1427	1264	—	—	—	115	3/4	300-1550	10.1	43Y140	16D520
4HZ49	1140	11.0	2065	1973	1864	1605	—	—						
4HZ52	860	9.9	2472	2315	2126	1680	—	—	115	3/4	300-1300	10.1	43Y140	16D521
4HZ53	1140	14.8	3277	3161	3035	2745	1983	—	115	1	300-1300	12.4	43Y140	48C156
4HZ56	860	11.1	3249	3074	2922	2474	—	—	115	1	300-1000	12.4	43Y140	48C157
BELT-DRIVE VENTILATORS									POWER PACK REPLACEMENT					
4YY13	1140	8.3	780	656	502	—	—	—	115	1/4	300-1725	3.9	43Y140	48C155
4YY13, 1MBE6	1725	13.0	1180	1094	1017	824	—	—						
16D522, 4YY14	1660	12.0	1413	1365	1313	1189	861	—	115	1/4	300-1725	3.9	43Y140	16D517
16D523, 5DVL4	1410	12.2	1665	1595	1528	1398	965	—	115	1/2	300-1725	6.2	43Y140	16D518
	1545	14.0	1824	1760	1699	1580	1262	—						
	1725	16.7	2037	1979	1923	1816	1571	1176						
4YY15	1305	13.9	1790	1709	1629	1458	—	—	115	3/4	300-1725	10.1	43Y140	16D519
	1435	15.1	1968	1895	1822	1671	1198	—						
4YY15, 1MBE8	1645	17.4	2256	2192	2128	2001	1684	—	115	3/4	300-1550	10.1	43Y140	16D520
4YY16, 16D524	1105	10.6	2001	1906	1793	1515	—	—						
	1210	11.7	2192	2106	2006	1773	—	—						
4YY16, 16D524, 3ATT8	1390	14.2	2518	2445	2362	2174	1643	—						
4YY16, 16D524, 5PV06	1595	18.5	2889	2826	2757	2602	2225	1568	115	3/4	300-1300	10.1	43Y140	16D521
	875	10.1	2515	2362	2177	1744	—	—						
	965	11.5	2774	2637	2477	2109	—	—						
1110	14.2	3191	3072	2941	2641	1770	—							
4YY17, 16D525	1265	17.7	3636	3532	3426	3172	2583	—	115	3/4	300-1300	10.1	43Y140	16D521
	4YY17, 16D525, 3ATU2	1390	21.0	3996	3901	3806	3584	3078						
4YY17, 16D525	875	10.1	2515	2362	2177	1744	—	—	115	1	300-1300	12.4	43Y140	48C156
	965	11.5	2774	2637	2477	2109	—	—						
	1110	14.2	3191	3072	2941	2641	1770	—						
4YY17, 16D525, 3ATU2	1265	17.7	3636	3532	3426	3172	2583	—						
4YY17, 16D525, 1MBE9	1390	21.0	3996	3901	3806	3584	3078	2394	115	1	300-1000	12.4	43Y140	48C157
	745	8.1	2815	2617	2448	1763	—	—						
	820	10.0	3098	2916	2759	2257	—	—						
940	13.1	3551	3389	3243	2879	—	—							
4YY18, 3ATU4	1075	15.8	4061	3919	3786	3554	2652	—	115	1	300-750	12.4	43Y140	48C158
4YY19	605	6.7	3403	3054	2675	—	—	—						
	665	8.1	3740	3422	3096	2073	—	—						
	760	10.9	4275	3994	3718	3048	—	—						

IMPORTANT: Customer should check existing fan speed to ensure performance of the power pack at the maximum speed shown is acceptable. Power Pack performance and use is specifically for Single-Phase, 60Hz, 115 Volt motors. Customer should check existing motor to ensure Power Pack compatibility.

WALL – VARIABLE-SPEED POWER PACK REPLACEMENT PERFORMANCE

MY EXISTING FAN SKU NO.	RPM	SONES @ .250" SP @ 5FT.	CFM AIR DELIVERY @ STATIC PRESSURE SHOWN						POWER PACK					
			.000"	.125"	.250"	.500"	1.00"	1.50"	VOLTS 60HZ	MOTOR HP	RPM FAN RANGE	FULL LOAD AMPS	SPEED CONTROL	SKU NO.
DIRECT-DRIVE VENTILATORS									POWER PACK REPLACEMENT					
4HZ38	1140	8.3	780	656	502	—	—	—	115	1/4	300-1725	3.9	43Y140	48C155
4HZ39	1725	13.0	1180	1094	1017	824	—	—						16D517
4HZ42	1140	6.5	970	897	806	—	—	—	115	1/4	300-1725	3.9	43Y140	16D518
4HZ43	1725	12.5	1468	1422	1373	1255	970	—						48C156
5DVP9	1725	16.7	2037	1979	1923	1816	1571	1176	115	1/2	300-1725	6.2	43Y140	16D519
4HZ46	860	7.7	1180	1057	914	—	—	—	115	3/4	300-1725	10.1	43Y140	16D520
4HZ47	1725	18.4	2366	2305	2244	2122	1838	1365						16D521
4HZ50	860	7.1	1558	1427	1264	—	—	—	115	3/4	300-1550	10.1	43Y140	48C157
4HZ51	1140	11.0	2065	1973	1864	1605	—	—						48C158
4HZ54	860	9.9	2472	2315	2126	1680	—	—	115	3/4	300-1300	10.1	43Y140	48C159
4HZ55	1140	14.8	3277	3161	3035	2745	1983	—	115	1	300-1300	12.4	43Y140	48C160
4HZ58	860	11.1	3249	3074	2922	2474	—	—	115	1	300-1000	12.4	43Y140	48C161
BELT-DRIVE VENTILATORS									POWER PACK REPLACEMENT					
5DVL5	1140	8.3	780	656	502	—	—	—	115	1/4	300-1725	3.9	43Y140	48C155
	1725	13.0	1180	1094	1017	824	—	—						16D517
5DVL6	1660	12.0	1413	1365	1313	1189	861	—	115	1/4	300-1725	3.9	43Y140	16D518
5DVL7	1410	12.2	1665	1595	1528	1398	965	—	115	1/2	300-1725	6.2	43Y140	16D519
	1545	14.0	1824	1760	1699	1580	1262	—						
	1725	16.7	2037	1979	1923	1816	1571	1176						
5DVL8	1305	13.9	1790	1709	1629	1458	—	—	115	3/4	300-1725	10.1	43Y140	16D520
	1435	15.1	1968	1895	1822	1671	1198	—						
	1645	17.4	2256	2192	2128	2001	1684	—						
5DVL9	1105	10.6	2001	1906	1793	1515	—	—	115	3/4	300-1550	10.1	43Y140	16D521
	1210	11.7	2192	2106	2006	1773	—	—						
	1390	14.2	2518	2445	2362	2174	1643	—						
	1595	18.5	2889	2826	2757	2602	2225	1568						
5DVN0	875	10.1	2515	2362	2177	1744	—	—	115	3/4	300-1300	10.1	43Y140	16D522
	965	11.5	2774	2637	2477	2109	—	—						
	1110	14.2	3191	3072	2941	2641	1770	—						
	1265	17.7	3636	3532	3426	3172	2583	—						
	1390	21.0	3996	3901	3806	3584	3078	2394						
5DVN1	745	8.1	2815	2617	2448	1763	—	—	115	1	300-1000	12.4	43Y140	48C157
	820	10.0	3098	2916	2759	2257	—	—						
	940	13.1	3551	3389	3243	2879	—	—						
	1075	15.8	4061	3919	3786	3554	2652	—						
5DVN2	605	6.7	3403	3054	2675	—	—	—	115	1	300-750	12.4	43Y140	48C158
	665	8.1	3740	3422	3096	2073	—	—						
	760	10.9	4275	3994	3718	3048	—	—						

IMPORTANT: Customer should check existing fan speed to ensure performance of the power pack at the maximum speed shown is acceptable. Power Pack performance and use is specifically for Single-Phase, 60Hz, 115 Volt motors. Customer should check existing motor to ensure Power Pack compatibility.

Find it at Grainger.



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