

Bulletin: 29-22

TO: All Greenheck Representatives  
 FROM: Matt Gaedtke  
 Segment Manager, Laboratory and Fume Exhaust Systems  
 DATE: June 6, 2022  
 SUBJECT: Vektor-H Direct Drive Update



## Vektor®-H Direct Drive Reduces Power and Maintenance

We continue to see growth in our new Vektor-H direct drive (VK-H Arrangement 4). During development of this model, our engineers had two goals in mind:

- Higher efficiencies than belt drive
- Reduced maintenance versus belt drive

### Improved Efficiency

When comparing the VK-H Arr. 4 versus a belt drive with comparable fan and nozzle size, the direct drive will be more efficient. Part of this is due to avoiding belt, bearing and belt tube losses. Additionally, the VK-H has a highly efficient impeller to drive down energy. The selection below of 1,500 cfm at 1 in. wg shows multiple comparisons where the VK-H Arr. 4 dominates the belt drive option with less HP and higher FEI levels (FEI > 1.0 is required for markets that use ASHRAE 90.1-2019 as baseline energy codes).

Model Name	Drive Type	Relative Cost	Operating Cost / Yr (USD)	Total External SP (in. wg)	Actual Volume (CFM)	Operating Power (hp)	Motor Size NEMA (hp)	Effective Plume Height (ft)	FEI	Inlet dBA (dB)
VK-H-10-8	Belt	1.08	376	1.152	1,500	1.72	2	22.34	0.76	77
VK-H-10-9	Direct	1.00	191	1.152	1,500	0.86	1	20.21	1.05	75
VK-H-10-9	Belt	1.07	313	1.152	1,500	1.47	1 1/2	20.21	0.76	76
VK-H-12-7	Direct	1.04	320	1.077	1,500	1.34	2	25.27	1.08	76
VK-H-12-7	Belt	1.11	474	1.077	1,500	2.28	3	25.14	0.70	76
VK-H-12-8	Direct	1.02	243	1.077	1,500	1.02	1 1/2	22.34	1.09	75



Vektor-H Direct Drive, Arr. 4  
2x1 System

### Reduced Maintenance

The VK-H Arr. 4 is maintenance free with no belts or shaft bearings to maintain. In fact, the motors used are permanently lubricated and sealed. This is truly a fan where you start it up and let it run which is perfect for facilities with limited maintenance staff. If there is ever a need for service, the VK-H Arr. 4 has a simple drive cassette that pulls out of the fan body for access to critical components.

The VK-H Arr. 4 is available in CAPS® and our Vektor Support team is always available to help with selections or support a sales call with your engineers, contractors and owners. Contact us at [vector.support@greenheck.com](mailto:vector.support@greenheck.com)



Removable Drive Cassette