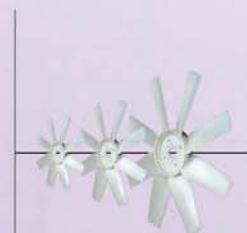


V English/metric



Diameter 180 - 720 mm

Series V one-piece impellers

V

compressors, construction machines, cooling installations, electric motors, fork lift trucks, gearboxes, generator sets, harvesting machines, internal combustion engines, municipal service vehicles, vehicles



www.wingfan.com

V



The blades and hub of the impellers of the series V are fixed to each other, that means, they are made of one piece. They are designed for large quantities and have a fixed direction of rotation.

They are available with standardized spigot holes and corresponding bolt patterns, suited for some of the well-known manufacturers of combustion engines. Designs for specific user applications are available as well.

WingFan impellers of the series V offer the following advantages:

- / Improved efficiency
- / Lower absorbed power
- / Lower noise levels

The Blades

The blades and hubs of the 6- and 8-bladed V-impellers are made completely of high technology plastic. The 9-bladed V-impellers have a galvanized steel plate injected as a hub.

The blades of the V-impellers are fixed to the hub. Therefore, a change of the pitch angle is not possible. The V-impellers offer the advantages of aerofoil profiles and are therefore determined for a certain direction of rotation.



A perfected construction and a responsible choice of material makes WingFan impellers:

- High strength to weight ratio
- High resistance to corrosion
- Optimized impeller design for your specific application requirements



The blade materials

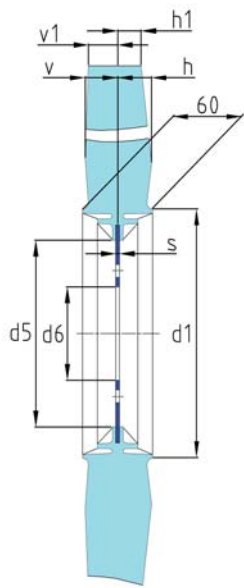
PA _____	PAG _____
Glass fiber reinforced polyamid (nylon 6, black)	Glass fiber reinforced polyamid (nylon 6, beige)
-40°C to 110°C	-40°C to 110°C
Heat ageing stabilized	Heat ageing stabilized
Standard Duty	Heavy Duty

Leading / Trailing Edge

v (+/- 2)			h (+/- 2)			v_1 (+/- 4)			h_1 (+/- 4)						
Series	27°	28°	38°	Series	27°	28°	38°	Series	27°	28°	38°	Series	27°	28°	38°
6-bladed VL	-	-	28	6-bladed VL	-	-	26	6-bladed VL	-	-	20	6-bladed VL	-	-	3
8-bladed VR	17	-	-	8-bladed VR	21	-	-	8-bladed VR	11	-	-	8-bladed VR	2	-	-
9-bladed VL	-	29	-	9-bladed VL	-	28	-	9-bladed VL	-	26	-	9-bladed VL	-	3	-

The measurements v_1 and h_1 are valid for the maximum impeller diameter. For smaller impeller diameters the information is available on application.

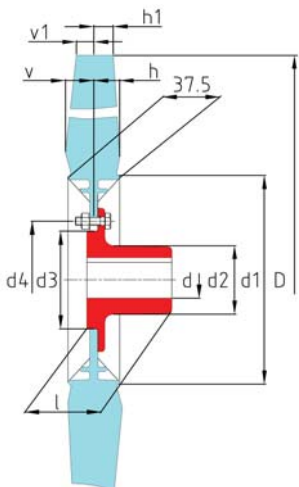
Flange Mount Version



Hub size	IMPELLER Diameter D			HUB								
	min	max		min	max	min	max	Hub width	Spigot hole	face dia	Thick-ness	Bolt pattern
	VL (Suction)	VR (Pressure)	VL (Suction)	d1	b	d6	d6	d5	s	d4		
6 / PA												
6 / PA	180	504	-	115	60	41	H10	85	7,5	4 x 9,5 on BCD 64		
6 / PAG						41	H10					
8 / PAG						40	H10					
8 / PA	-	220	560	160	37,5	74,76	H10	120	6,8	8 x 7 on BCD 55 ¹ 5 x 6,7 on BCD 90		
9 / PAG						28,6	H10					
9 / PA						28,6	H10					
9 / PA						36	H10			4 x 7 on BCD 55		
9 / PAG						41	H10			4 x 8,5 on BCD 63,5		
9 / PA						41	H10			4 x 8,5 on BCD 63,5		
9 / PA	-	-	300	720	200	60	55	H10	145	3	4 x 9,0 on BCD 72	
9 / PAG						74,76	H10			5 x 6,7 on BCD 90		
9 / PA						74,76	H10			5 x 6,7 on BCD 90		
9 / PAG						75	H7			8 x 9,0 on BCD 94		
9 / PAG						82,6	H10			4 x 9,0 on BCD 96,8		
9 / PA						82,6	H10			4 x 9,0 on BCD 96,8		

¹ irregular partition

Shaft Mount Version



Hub size	IMPELLER Diameter D		Spigot hole		Flanged boss		HUB				
	min	max	min	max	length	Ø	Hub width	Thick-ness	Centre bore	Bolt pattern	
	VR (Pressure)	VL (Suction)	d	d	l	d2	d1	b	s	d3	d4
8	220	560	10,00	17,00	31	28	160	37,5	6,8	74,76	5 x M6 on BCD 90
			12,70	22,23	42	40					
			22,00	25,40	52	45					
			22,00	31,75	62	51					
9	-	300	10,00	17,00	31	28	200	60	3	74,76	5 x M6 on BCD 90
			12,70	22,23	42	40					
			22,00	25,40	52	45					
			22,00	31,75	62	51					
			34,00	42,00	82	73					

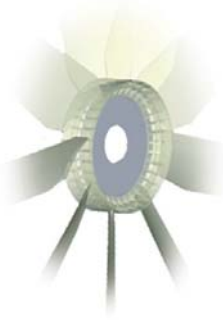
Mounting Arrangement

Wingfan impellers are suitable for all known methods of mounting. Examples include:

- Flanged mount
- Shaft mount (parallel and taper)
- Mounting with taperlock bushings

WingFan would be pleased to offer special fitting solutions to your specific application requirements.

Flange Mount Version



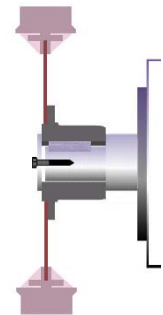
The impeller is supplied with a spigot hole and bolt pattern according to user specifications. The impeller is centred on the spigot hole and fixed with suitable bolts.



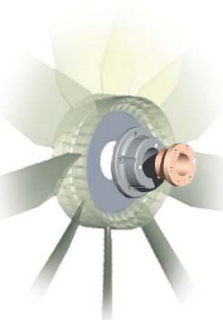
Shaft Mount Version



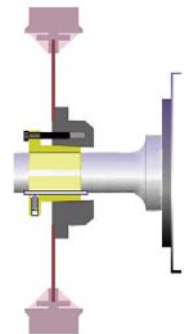
The boss face butts against the shaft shoulder and is located by either an axial bolt in the shaft end or with a radial grub screw. The drive torque is transmitted using a woodruff key.



Taperlock Version



With the taperlock version, the axial positioning of the impeller on the shaft is determined by the keyed taperlock bushing. A woodruff key transmits the drive torque from the shaft to the impeller.



Impeller Sizes

Three V - impellers are available:



VP3L



VP3R



VP4L

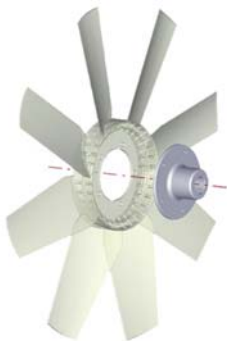
VP3L with 6 blades for counter clockwise rotation (Suction*), pitch angle: 38°

VP3R with 8 blades for clockwise rotation (Pressure*), pitch angle: 27°

VP4L with 9 blades for counter clockwise rotation (Suction*), pitch angle: 28°

* with combustion engine drive

Impeller Design



The VP3R and VP4R impellers are available with a flange hub for shaft mounting.

For flange mounting the 6-, 8- and 9-bladed V-impellers have spigot holes and bolt patterns designed to specific application requirement.

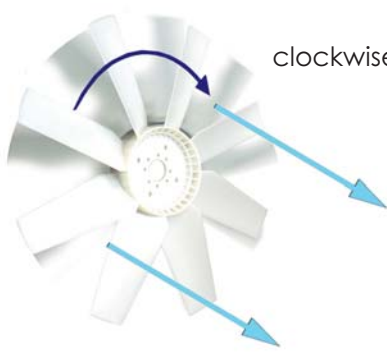


A large assortment of flanged bosses is available for nearly all applications. Forged and heat treated flanged hubs are available for hydraulic drives with their small diameter shafts (parallel or tapered).

The bore diameter, key and, if required, grub screw are supplied to user specified requirements. Unique or special hubs can be machined from solid bar stock.

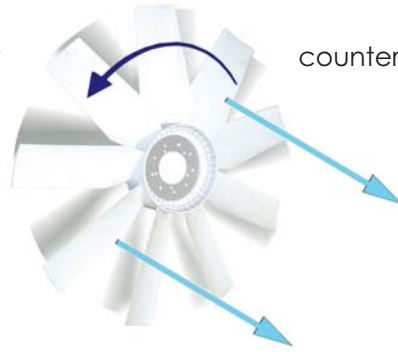


Direction of Rotation



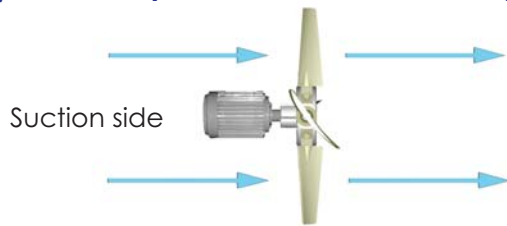
clockwise (RH)

To determine the direction of rotation, the air must blow into the face of the observer. If the rotation is clockwise, then the direction of rotation is right handed – if counter clockwise, then left handed.



counter clockwise (LH)

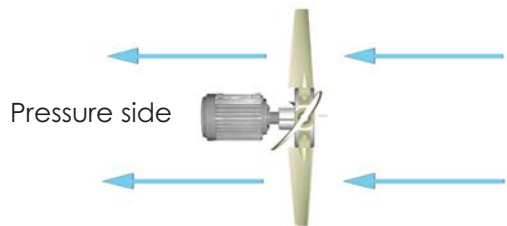
Assembly Form A (Air is sucked across the motor)



Suction side

The assembly form is an indication of how the impeller should be fitted to the motor shaft. If the air is sucked across the motor (the drive motor is upstream of the impeller), this is described as “Assembly form A”.

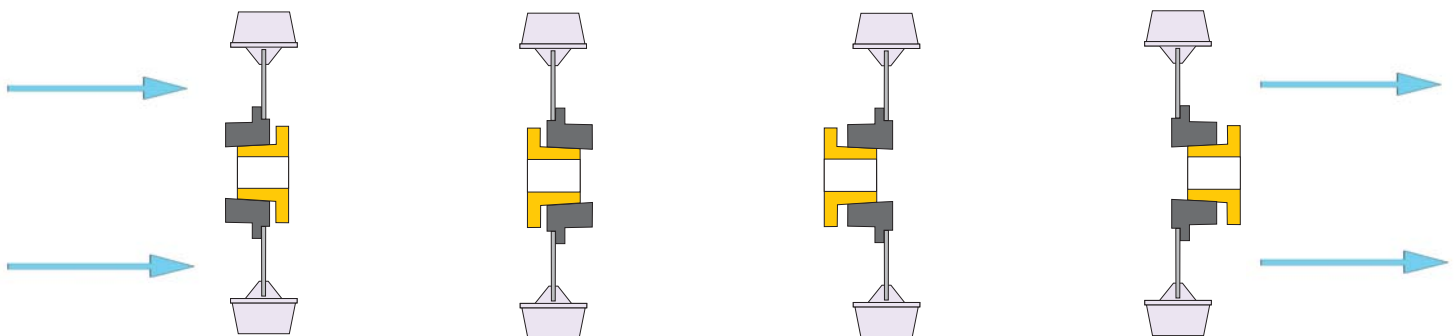
Assembly Form B (Air is blown over the motor)



Pressure side

If the drive motor is on the pressure side of the impeller (the drive motor is downstream of the impeller), then we have “Assembly form B”. It is important to specify form A or form B to ensure that the impeller is assembled for correct airflow direction.

Assembly Form When Using a Taperlock Bushing



Assembly form AS:

Flanged hub suction side,
Taperlock bushing pressure side

Assembly form BS:

Flanged hub pressure side,
Taperlock bushing suction side

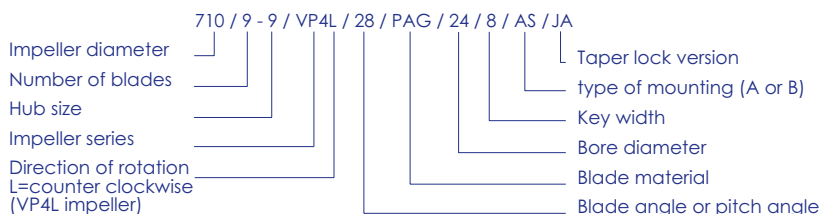
Assembly form AR:

Flanged hub suction side,
Taperlock bushing suction side

Assembly form BR:

Flanged hub pressure side,
Taperlock bushing pressure side

Ordering code*



*For flange mounted impellers, the following information is required:

- Spigot hole diameter
- The number and size of bolt holes including bolt circle dimension (BCD).
- Additional information may be found at the website www.wingfan.com

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