

Technical Data Sheet



AirQon Synergies

Blowers & Fans

AirQon Blower & Fans Series are ideally suited for a variety of industrial, commercial, and OEM ventilation applications including Various types of blowers and Fans

Blowers or Fans are basically categorized on the basis of two types that are volume and static pressure. As per application, the type of blower or fan is selected.

Types of blowers available includes:

Forward Curved multi Vane blower

Backward Inclined Blower

Backward Curved Blower

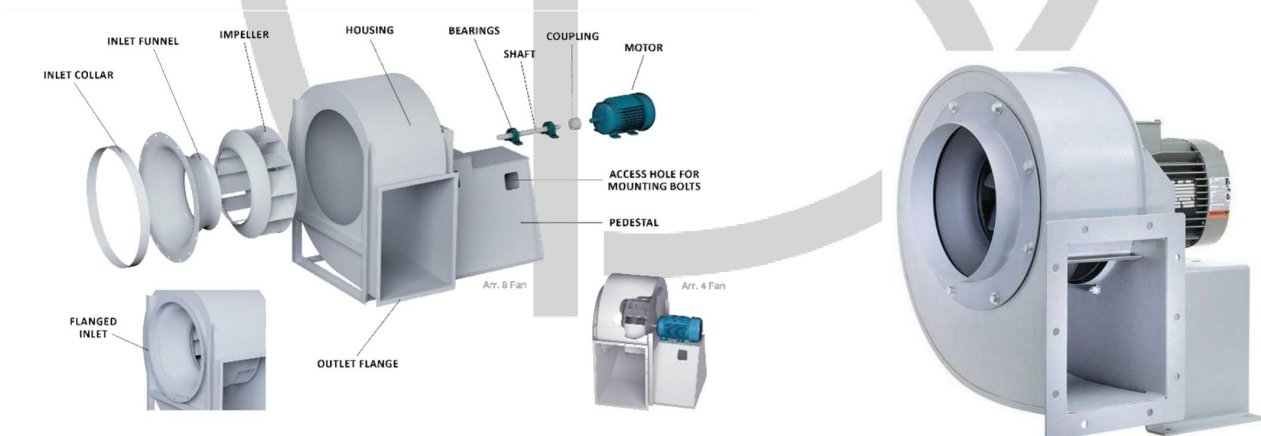
Whereas, Fans have Propellers in it which helps in moving larger volume of air. Propeller are usually depended on blade material, no. of blades, shape of blade, blade pitch angle.

Centrifugal backward Blowers

Centrifugal Fans and Blowers are used for delivering air at substantial pressure. Eminent Systems Centrifugal Air Blowers are designed to work at precise operating flow and pressure condition.

Centrifugal blowers are categorized into two types; Direct Driven and Belt Driven

Direct Driven blowers:



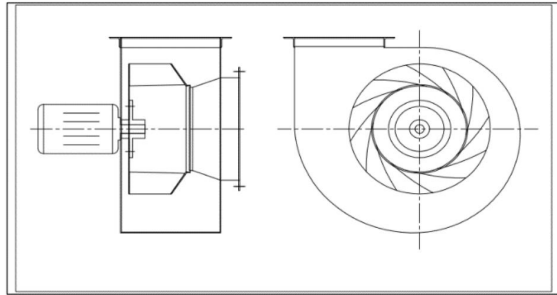
Direct Driven Centrifugal Blower

Exploded View

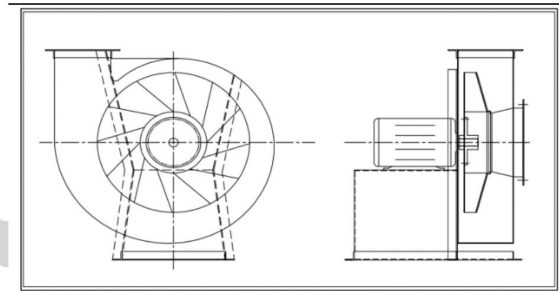
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AirQon Synergies



Flange Mounted Direct Driven Centrifugal Blower



Pedestal Mounted Direct Driven Centrifugal Blower

Model Number	Volume Flow	Volume Flow	Static Pressure	Static Pressure	Fan Speed	Motor Rating
	cfm	m ³ /hr	in. of wc	mm of wc	RPM	HP
DD5h2	500	850	2	51	1440	0.5
DD15k2	1500	2549	2	51	1440	0.75
DD2k2	2000	3398	2	51	1440	1
DD3k2	3000	5098	2	51	1440	1.5
DD4k2	4000	6797	2	51	1440	2
DD5k2	5000	8496	2	51	1440	3
DD8k2	8000	13594	2	51	1440	5
DD11k2	11500	19541	2	51	1440	7.5
DD5h3	500	850	3	76	1440	0.5
DD9h3	900	1529	3	76	1440	0.75
DD1k3	1200	2039	3	76	1440	1
DD2k3	1900	3229	3	76	1440	1.5
DD25h3	2500	4248	3	76	1440	2
DD37h3	3750	6372	3	76	1440	3
DD6k3	6000	10195	3	76	1440	5
DD8k3	8000	13594	3	76	1440	7.5
SS10k3	10000	16992	3	76	1440	10
DD13k3	13000	22090	3	76	1440	12.5
DD16k3	16000	27188	3	76	1440	15
DD4h4	400	680	4	102	2850	0.5
DD75h4	750	1274	4	102	1440	0.75
DD75h4	750	1274	4	102	2850	0.75
DD1k4	1000	1699	4	102	1440	1
DD17h4	1000	1699	4	102	2850	1
DD15h4	1500	2549	4	102	1440	1.5

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DD15h5	1500	2549	4	102	2850	1.5
DD2k4	2000	3398	4	102	1440	2
DD2k4	2000	3398	4	102	2850	2
DD3k4	3000	5098	4	102	1440	3
DD3k4	3000	5098	4	102	2850	3
DD85h4	5000	8496	4	102	1440	5
DD76h4	4500	7647	4	102	2850	5
DD72h4	7250	12319	4	102	1440	7.5
DD9k4	9000	15293	4	102	1440	10
DD11k4	11000	18692	4	102	1440	12.5
DD21k4	12500	21240	4	102	1440	15
DD15k4	15000	25489	4	102	1440	20
DD3h6	300	510	6	152	2850	0.5
DD5h6	500	850	6	152	2850	0.75
DD6h6	650	1105	6	152	1440	1
DD7h6	700	1189	6	152	2850	1
DD1k6	1000	1699	6	152	1440	1.5
DD1k6	1000	1699	6	152	2850	1.5
DD14h6	1400	2379	6	152	1440	2
DD12h6	1250	2124	6	152	2850	2
DD2k6	2000	3398	6	152	1440	3
DD18h6	1850	3144	6	152	2850	3
DD35h6	3500	5947	6	152	1440	5
DD3k6	3000	5098	6	152	2850	5
DD45h6	4500	7647	6	152	1440	7.5
DD42h6	4250	7222	6	152	2850	7.5
DD65h6	6500	11045	6	152	1440	10
DD8k6	8000	13594	6	152	1440	12.5
DD95h6	9500	16143	6	152	1440	15
DD21k6	12500	21240	6	152	1440	20
DD15k6	15000	25489	6	152	1440	25
DD3h8	300	510	8	203	2850	0.75
DD4h8	400	680	8	203	2850	1
DD7h8	700	1189	8	203	2850	1.5
DD1k8	1000	1699	8	203	1440	2
DD2k8	1000	1699	8	203	2850	2
DD15h8	1500	2549	8	203	1440	3
DD15h8	1500	2549	8	203	2850	3
DD25h8	2500	4248	8	203	1440	5
DD25h8	2500	4248	8	203	2850	5

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DD35h8	3500	5947	8	203	1440	7.5
DD37h8	3750	6372	8	203	2850	7.5
DD47h8	4750	8071	8	203	1440	10
DD5k8	5000	8496	8	203	2850	10
DD6k8	6000	10195	8	203	1440	12.5
DD6k8	6000	10195	8	203	2850	12.5
DD75h8	7500	12744	8	203	1440	15
DD67h8	6750	11470	8	203	2850	15
DD95h8	9500	16143	8	203	1440	20
DD11h8	11500	19541	8	203	1440	25
DD12k8	13000	22090	8	203	1440	30
DD3h10	350	595	10	254	2850	1
DD6h19	600	1020	10	254	2850	1.5
DD8h10	800	1359	10	254	2850	2
DD12h10	1250	2124	10	254	1440	3
DD13h10	1300	2209	10	254	2850	3
DD2k10	2000	3398	10	254	1440	5
DD2k10	2000	3398	10	254	2850	5
DD3k10	3000	5098	10	254	1440	7.5
DD3k10	3000	5098	10	254	2850	7.5
DD4k10	4000	6797	10	254	1440	10
DD4k10	4000	6797	10	254	2850	10
DD5k10	5000	8496	10	254	1440	12.5
DD5k10	5000	8496	10	254	2850	12.5
DD6k10	6000	10195	10	254	1440	15
DD6k10	5750	9771	10	254	2850	15
DD8k10	8250	14019	10	254	1440	20
DD7k10	7250	12319	10	254	2850	20
DD10k10	10000	16992	10	254	1440	25
DD12k10	12000	20391	10	254	1440	30
DD25h12	250	425	12	305	2850	1
DD45h12	450	765	12	305	2850	1.5
DD6h12	600	1020	12	305	2850	2
DD1k12	1000	1699	12	305	2850	3
DD17h12	1750	2974	12	305	1440	5
DD18h12	1800	3059	12	305	2850	5
DD25h12	2500	4248	12	305	1440	7.5
DD25h12	2500	4248	12	305	2850	7.5
DD35h12	3500	5947	12	305	1440	10
DD32h12	3250	5523	12	305	2850	10

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DD42h12	4250	7222	12	305	1440	12.5
DD4k12	4000	6797	12	305	2850	12.5
DD5k12	5000	8496	12	305	1440	15
DD5k12	4750	8071	12	305	2850	15
DD65h12	6500	11045	12	305	1440	20
DD6k12	6000	10195	12	305	2850	20
DD8k12	8000	13594	12	305	1440	25
DD7k12	7250	12319	12	305	2850	25
DD10k12	10000	16992	12	305	1440	30
DD9k12	8750	14868	12	305	2850	30
DD2k15	2000	3398	15	381	1440	7.5
DD3k15	2750	4673	15	381	1440	10
DD35h15	3500	5947	15	381	1440	12.5
DD4k15	4000	6797	15	381	1440	15
DD55h15	5500	9346	15	381	1440	20
DD7k15	7000	11895	15	381	1440	25
DD85h15	8500	14444	15	381	1440	30
DD3h16	300	510	16	406	2850	1.5
DD45h16	450	765	16	406	2850	2
DD7h16	700	1189	16	406	2850	3
DD12h16	1200	2039	16	406	2850	5
DD17h16	1750	2974	16	406	2850	7.5
DD25h16	2500	4248	16	406	2850	10
DD3k16	3000	5098	16	406	2850	12.5
DD4k16	4000	6797	16	406	2850	15
DD53h16	5300	9006	16	406	2850	20
DD62h16	6250	10620	16	406	2850	25
DD72h16	7250	12319	16	406	2850	30
DD3h20	350	595	20	508	2850	2
DD5h20	550	935	20	508	2850	3
DD1k20	1000	1699	20	508	2850	5
DD15h20	1500	2549	20	508	2850	7.5
DD2k20	2000	3398	20	508	2850	10
DD25h20	2500	4248	20	508	2850	12.5
DD3k20	3000	5098	20	508	2850	15
DD4k20	4000	6797	20	508	2850	20
DD5k20	4750	8071	20	508	2850	25
DD55h20	5500	9346	20	508	2850	30
DD3h24	300	510	24	610	2851	2
DD5h24	500	850	24	610	2850	3

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DD8h24	850	1444	24	610	2850	5
DD12h24	1250	2124	24	610	2850	7.5
DD17h24	1750	2974	24	610	2850	10
DD21h24	2150	3653	24	610	2850	12.5
DD25h24	2500	4248	24	610	2850	15
DD32h24	3250	5523	24	610	2850	20
DD4k24	4000	6797	24	610	2850	25
DD5k24	4750	8071	24	610	2850	30
DD4h28	400	680	28	711	2850	3
DD6h28	650	1105	28	711	2850	5
DD1k28	1100	1869	28	711	2850	7.5
DD15h28	1500	2549	28	711	2850	10
DD17h28	1750	2974	28	711	2850	12.5
DD22h28	2200	3738	28	711	2850	15
DD3k28	3000	5098	28	711	2850	20
DD37h28	3750	6372	28	711	2850	25
DD45h28	4500	7647	28	711	2850	30
DD6h32	600	1020	32	813	2850	5
DD9h32	950	1614	32	813	2850	7.5
DD12h32	1250	2124	32	813	2850	10
DD16h32	1600	2719	32	813	2850	12.5
DD2k32	1900	3229	32	813	2850	15
DD25h32	2500	4248	32	813	2850	20
DD32h32	3250	5523	32	813	2850	25
DD4k32	3900	6627	32	813	2850	30
DD5h36	550	935	36	914	2850	5
DD8h36	850	1444	36	914	2850	7.5
DD1k36	1150	1954	36	914	2850	10
DD14h36	1400	2379	36	914	2850	12.5
DD17h36	1700	2889	36	914	2850	15
DD2k36	2000	3398	36	914	2850	20
DD3k36	2850	4843	36	914	2850	25
DD34h36	3450	5862	36	914	2850	30
DD7h40	750	1274	40	1016	2850	7.5
DD1k40	1000	1699	40	1016	2850	10
DD12h40	1250	2124	40	1016	2850	12.5
DD15h40	1500	2549	40	1016	2850	15
DD2k40	2000	3398	40	1016	2850	20
DD25h40	2500	4248	40	1016	2850	25
DD3k40	3050	5183	40	1016	2850	30

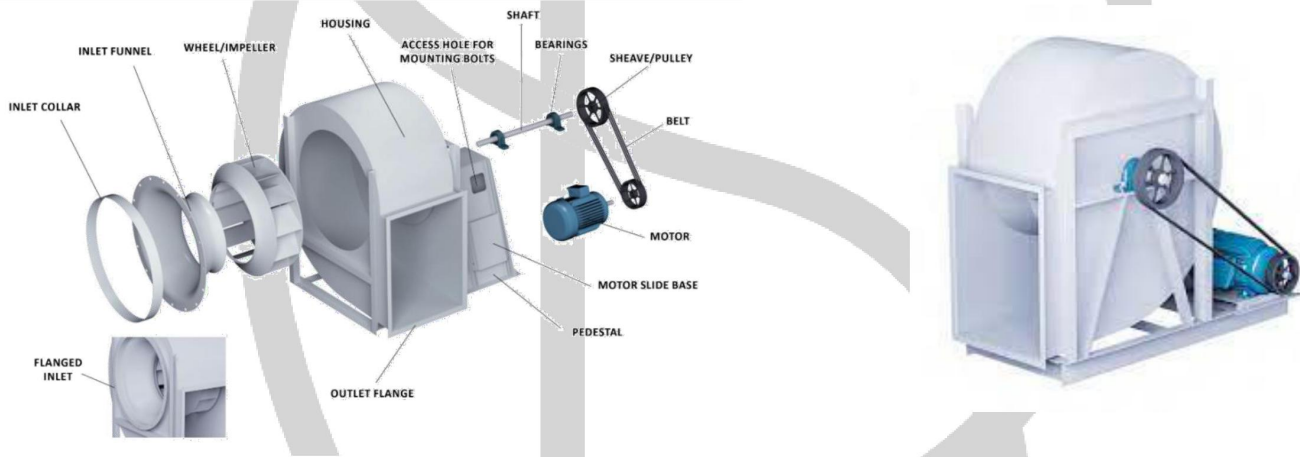
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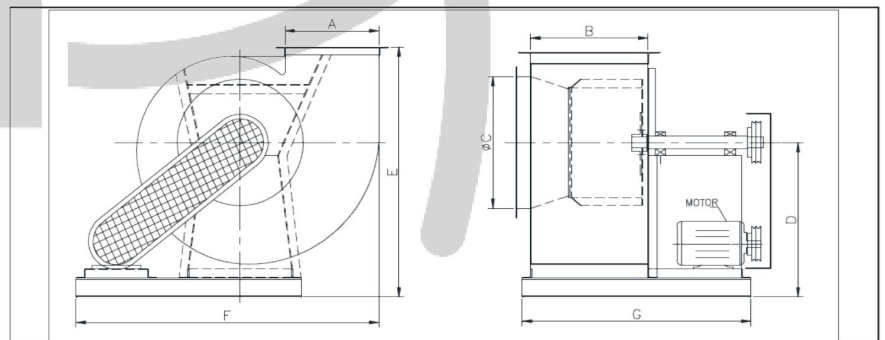
DD9h44	900	1529	44	1118	2850	10
DD1k44	1150	1954	44	1118	2850	12.5
DD12h44	1250	2124	44	1118	2850	15
DD17h44	1700	2889	44	1118	2850	20
DD23h44	2300	3908	44	1118	2850	25
DD28h44	2800	4758	44	1118	2850	30
DD8h48	850	1444	48	1219	2850	10
DD1k48	1050	1784	48	1219	2850	12.5
DD12h48	1250	2124	48	1219	2850	15
DD17h48	1700	2889	48	1219	2850	20
DD21h48	2100	3568	48	1219	2850	25
DD25h48	2500	4248	48	1219	2850	30

Belt Driven Blower



Belt Driven Centrifugal Blower

Exploded View



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AirQon Synergies

Model Number	Volume Flow	Volume Flow	Total Pressure	Total Pressure	Fan Speed	Motor Rating
	CFM	m ³ /hr	In of wc	mm of wc	RPM	HP
BD6k1	6000	10195	1.5	38	1100	3
BD11k1	11000	18692	1.5	38	960	5
BD15k1	15000	25489	1.5	38	850	7.5
BD20k1	20000	33985	1.5	38	740	10
BD5k2	5000	8496	2	51	1440	3
BD8k2	8000	13594	2	51	1440	5
BD12k2	12000	20391	2	51	1250	7.5
BD16k2	16000	27188	2	51	1100	10
BD19k2	19500	33135	2	51	960	12.5
BD23k2	23000	39082	2	51	850	15
BD6k3	3500	5947	3	76	1440	3
BD6k3	6000	10195	3	76	1440	5
BD8k3	8500	14444	3	76	1440	7.5
BD11k3	11000	18692	3	76	1250	10
BD13k3	13500	22940	3	76	1100	12.5
BD16k3	16000	27188	3	76	1100	15
BD21k3	21500	36534	3	76	960	20
BD3k4	2750	4673	4	102	1600	3
BD8k4	4500	7647	4	102	1440	5
BD7k4	6750	11470	4	102	1440	7.5
BD9k4	9000	15293	4	102	1250	10
BD11k4	11000	18692	4	102	1100	12.5
BD13k4	13000	22090	4	102	960	15
BD22k4	17000	28887	4	102	850	20
BD21k4	21000	35684	4	102	850	25
BD42k4	24750	42056	4	102	740	30
BD3k6	1750	2974	6	152	2200	3
BD3k6	3000	5098	6	152	1950	5
BD4k6	4500	7647	6	152	1600	7.5
BD6k6	6000	10195	6	152	1600	10
BD7k6	7500	12744	6	152	1440	12.5
BD9k6	8750	14868	6	152	1440	15
BD11k6	11500	19541	6	152	1250	20
BD14k6	14000	23789	6	152	1250	25
BD16k6	16500	28037	6	152	1100	30
BD1k8	1300	2209	8	203	2450	3
BD22h8	2250	3823	8	203	2200	5
BD35h8	3500	5947	8	203	1950	7.5

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BD45h8	4500	7647	8	203	1750	10
BD55h8	5500	9346	8	203	1600	12.5
BD65h8	6500	11045	8	203	1440	15
BD85h8	8500	14444	8	203	1440	20
BD10k8	10750	18267	8	203	1250	25
BD12k8	12500	21240	8	203	1250	30
BD12h10	1200	2039	10	254	2850	3
BD4k10	2000	3398	10	254	2450	5
BD27h10	2750	4673	10	254	2200	7.5
BD4k10	3750	6372	10	254	1950	10
BD5k10	4750	8071	10	254	1750	12.5
BD6k10	5750	9771	10	254	1600	15
BD7k10	7000	11895	10	254	1440	20
BD9k10	9000	15293	10	254	1440	25
BD11k10	10750	18267	10	254	1250	30
BD8h12	850	1444	12	305	2850	3
BD15h12	1500	2549	12	305	2850	5
BD2k12	2100	3568	12	305	2450	7.5
BD3k12	2750	4673	12	305	2450	10
BD3k12	3500	5947	12	305	1950	12.5
BD4k12	4250	7222	12	305	1950	15
BD6k12	5750	9771	12	305	1750	20
BD7k12	7250	12319	12	305	1750	25
BD15k12	8750	14868	12	305	1600	30
BD6h16	600	1020	16	406	2850	3
BD1k16	1000	1699	16	406	2850	5
BD15h16	1500	2549	16	406	2850	7.5
BD2k16	2000	3398	16	406	2850	10
BD25h16	2500	4248	16	406	2450	12.5
BD3k16	3100	5268	16	406	2450	15
BD4k16	4250	7222	16	406	1950	20
BD5k16	5250	8921	16	406	1950	25
BD6k16	6250	10620	16	406	1750	30
BD5h20	500	850	20	508	2850	3
BD8h20	800	1359	20	508	2850	5
BD12h20	1250	2124	20	508	2850	7.5
BD17h20	1750	2974	20	508	2850	10
BD2k20	2000	3398	20	508	2850	12.5
BD25h20	2500	4248	20	508	2850	15
BD32h20	3250	5523	20	508	2850	20

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BD4k20	4000	6797	20	508	2450	25
BD5k20	5000	8496	20	508	1950	30
BD7h24	700	1189	24	610	2850	5
BD1k24	1000	1699	24	610	2850	7.5
BD13h24	1350	2294	24	610	2850	10
BD17h24	1750	2974	24	610	2850	12.5
BD2k24	2000	3398	24	610	2850	15
BD27h24	2750	4673	24	610	2850	20
BD32h24	3250	5523	24	610	2850	25
BD4k24	4000	6797	24	610	2450	30
BD5h28	550	935	28	711	2850	5
BD8h28	850	1444	28	711	2850	7.5
BD11h28	1150	1954	28	711	2850	10
BD15h28	1500	2549	28	711	2850	12.5
BD17h28	1750	2974	28	711	2850	15
BD22h28	2250	3823	28	711	2850	20
BD3k28	2850	4843	28	711	2850	25
BD6k28	3500	5947	28	711	2850	30
BD5h32	500	850	32	813	2850	5
BD7h32	750	1274	32	813	2850	7.5
BD1k32	1000	1699	32	813	2850	10
BD12h32	1250	2124	32	813	2850	12.5
BD15h32	1500	2549	32	813	2850	15
BD2k32	2000	3398	32	813	2850	20
BD25h32	2500	4248	32	813	2850	25
BD3k32	3000	5098	32	813	2850	30
BD6h36	650	1105	36	914	2850	7.5
BD9h36	900	1529	36	914	2850	10
BD11h36	1100	1869	36	914	2850	12.5
BD13h36	1350	2294	36	914	2850	15
BD17h36	1750	2974	36	914	2850	20
BD22h36	2250	3823	36	914	2850	25
BD27h36	2700	4588	36	914	2850	30
BD6h40	600	1020	40	1016	2850	7.5
BD8h40	800	1359	40	1016	2850	10
BD1k40	1000	1699	40	1016	2850	12.5
BD12h40	1200	2039	40	1016	2850	15
BD16h40	1600	2719	40	1016	2850	20
BD2k40	2000	3398	40	1016	2850	25
BD24h40	2400	4078	40	1016	2850	30

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BD5h44	550	935	44	1118	2850	7.5
BD7h44	750	1274	44	1118	2850	10
BD9h44	900	1529	44	1118	2850	12.5
BD1k44	1100	1869	44	1118	2850	15
BD14h44	1450	2464	44	1118	2850	20
BD18h44	1800	3059	44	1118	2850	25
BD22h44	2200	3738	44	1118	2850	30
BD5h48	500	850	48	1219	2850	7.5
BD7h48	700	1189	48	1219	2850	10
BD8h48	850	1444	48	1219	2850	12.5
BD1k48	1000	1699	48	1219	2850	15
BD13h48	1350	2294	48	1219	2850	20
BD17h48	1700	2889	48	1219	2850	25
BD2k48	2000	3398	48	1219	2850	30

Difference Between Direct Driven & Belt Driven Centrifugal Blower Fans:

While both are equally Good power transmission mechanisms, there are some Gross differences, and paying attention to detail would give you the best out of the transmission system.

Direct driven fans have been becoming increasingly more popular in recent times compared to belt-driven blowers but both have their respective advantages and limitations which should be considered and that will help determine your choice.

Construction-wise, direct-driven fans have the blower and motor mounted on a common shaft whereas, in belt-driven fans, the blower and motor are mounted independently and coupled through a drive.

Efficiency: Belt driven < Direct driven (0-1)

Direct driven blowers have slightly better efficiency as compared to belt driven. Belt driven fans undergo power transmission losses due to the use of drives such as belts and pulleys whereas direct driven fans have the blower and motor rotate on a common single shaft thereby omitting the drive arrangement.

Flexibility: Belt driven > Direct driven (1-1)

Belt driven fans are more flexible with speeds as the desired air discharge can simply be achieved by changing of pulleys. Direct driven fans will have to involve a VFD to achieve these variations.

Maintenance: Belt driven < Direct driven (1-2)

Frequency of maintenance required for direct driven fans is less due to the absence of drives & bearings. Belt driven fans on the other hand are more prone to wear & tear due to the use of belts, pulleys and bearings and require regular maintenance.

Technical Data Sheet



AirQon Synergies

Sound: Belt driven > Direct driven (2-2)

For the same air discharge, belt driven blowers are slightly less noisy compared to direct driven blowers (measured from a distance of 3 meters).

Flameproof: Belt driven < Direct driven (2-3)

Direct driven fans are the usual choice for flameproof applications because of the absence of bearings & provision of a copper ring between the impeller and inlet cone to avoid sparks. Belt driven fans have bearings on both the inlets and hence not recommended where fire hazard is a concern.

Replacement: Belt driven > Direct driven (3-3)

The blower and motor in belt driven fans are mounted independently and replacing either can be done easily. In case of direct driven fans, the blower-motor arrangement will have to be dismantled first and replacing either and balancing them again requires high expertise.

Compactness: Belt driven < Direct driven (3-4)

Direct driven fans have compact designs and hence occupy less space within an Air Handling unit in comparison to belt driven fans.

Cost Advantage: Belt driven > Direct driven (4-4)

For the same air discharge, belt driven fans are cheaper compared to direct driven. They have two inlets unlike direct driven that has one so the selection for direct driven is usually a model higher. Also, most cases direct driven fans run with a VFD thereby boosting the price more.

Energy Efficiency: Belt driven < Direct driven (4-5)

Direct driven fans have better compatibility with VFDs and consume less power compared to belt driven fans coupled with VFDs.

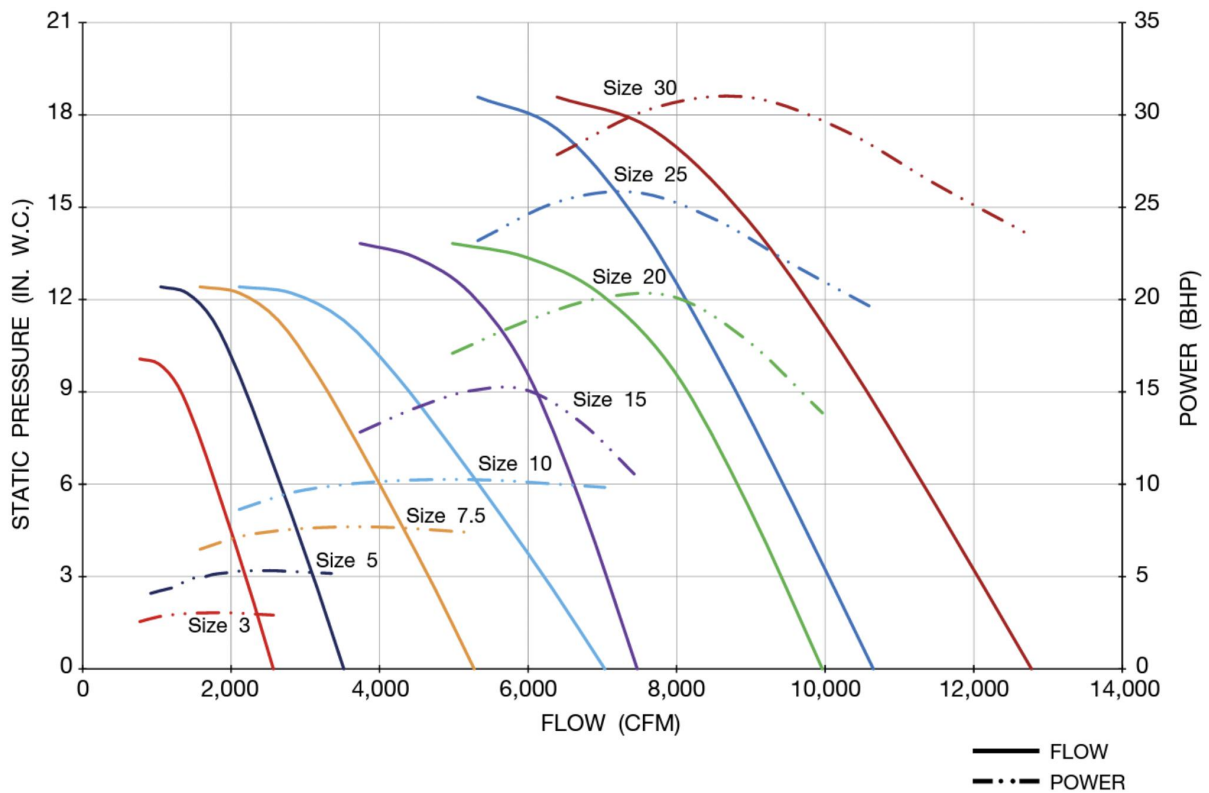
Technical Data Sheet



AirQon Synergies

Performance Curves

Typical Backward Centrifugal Fans



Sound Pressure Data in correspondence with Blower diameter

Fan Size	Sound Without silencer	Sound With Silencer	Pressure Drop
3	87	69	0.4
5	89	68	0.5
7.5	91	70	0.8
10	92	75	1.1
15	98	74	1.1
20	98	76	1.4
25	100	75	0.9
30	100	75	1.4

Technical Data Sheet



AirQon Synergies

Cabinet Centrifugal Blowers

AirQon belt driven DBS (single) and DBT (twin) duct blowers are specifically designed for duct applications handling relatively clean air, including supply, exhaust and return air systems. These fans offer high efficiency and quiet operation in a compact design that can be mounted in bottom horizontal or top horizontal positions. Duct collars are provided for easy mounting connections. The units can be easily serviced through access panels without removing duct connections.

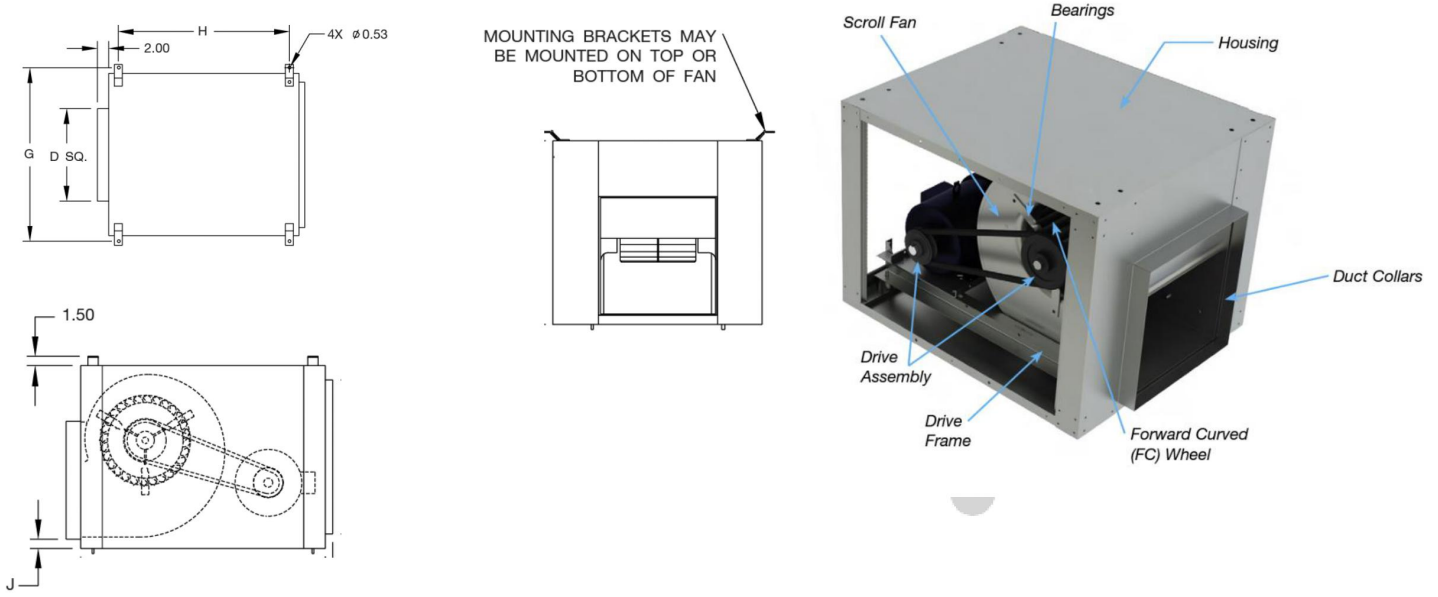


Construction

Housing assembly features heavy-gauge galvanized steel construction. Housing sides and scroll are spot welded on sizes 8"-18". Size 20" housing is lock seam design. Duct collars provide ready attachment to duct work.

Removable side panels provide ea

sy access for service and maintenance without the need to remove duct connections. Complete removal of the power assembly is also possible through side access panels. Forward curved, galvanized steel wheels are statically and dynamically balanced to assure long life and quiet operation. Heavy-duty cast iron adjustable pulleys to permit speed variation. All models are furnished with deep groove, self-aligning ball bearings, permanently lubricated and seal ed S



Technical Data Sheet

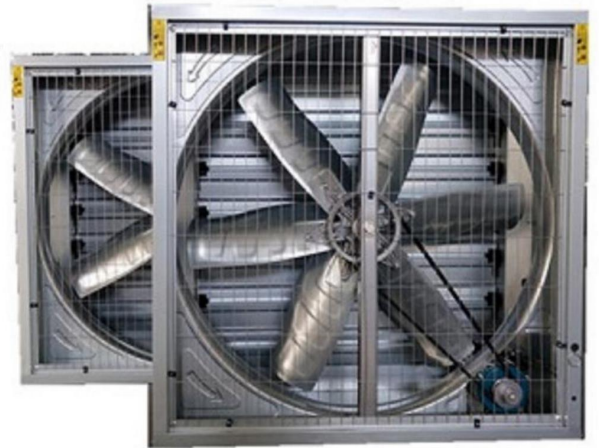


AirQon Synergies

Industrial Exhaust Fans

Industrial Exhaust Fans are wall mounted fans and these fans are used to draw out polluted air from premises and replaces it with fresh air. Air is considered polluted when it contains high amounts of Hot air, moisture, carbon dioxide, vaporized chemicals, dust, fungal spores and unpleasant odors. These Air exhaust fan combat indoor air pollution by ejecting the unclean indoor air into the outside environment and letting in clean air from the outside. These Exhaust fans are necessary because they prevent damage to goods and property due to mildew, chemical deposition and over-heating.

They are also critical for the health of the people living and working in places where there are high levels of indoor staging air. These days self-propelled turbo ventilators are not enough to eliminate the indoor hot air.



Model Number	Powder (hp)	Motor Rotation (RPM)	Air Flow (CFM)	Static Pressure (in.wg)	Noise (db)	Body Size (in)
IEF54	1.5 hp	420	23,520	0.25"	≤69	54" x 54" x 16"
IEF48	1.5 hp	420	22,050	0.25"	≤69	48" x 48" x 16"
IEF42	1.0 hp	460	18,230	0.25"	≤62	42" x 42" x 16"
IEF39	0.75 hp	460	16,200	0.25"	≤60	39" x 39" x 16"
IE36	0.75 hp	460	10,950	0.25"	≤60	36" x 36" x 16"
IEF24	0.50 ho	1400	5,100	0.25"	≤58	24" x 24" x 16"