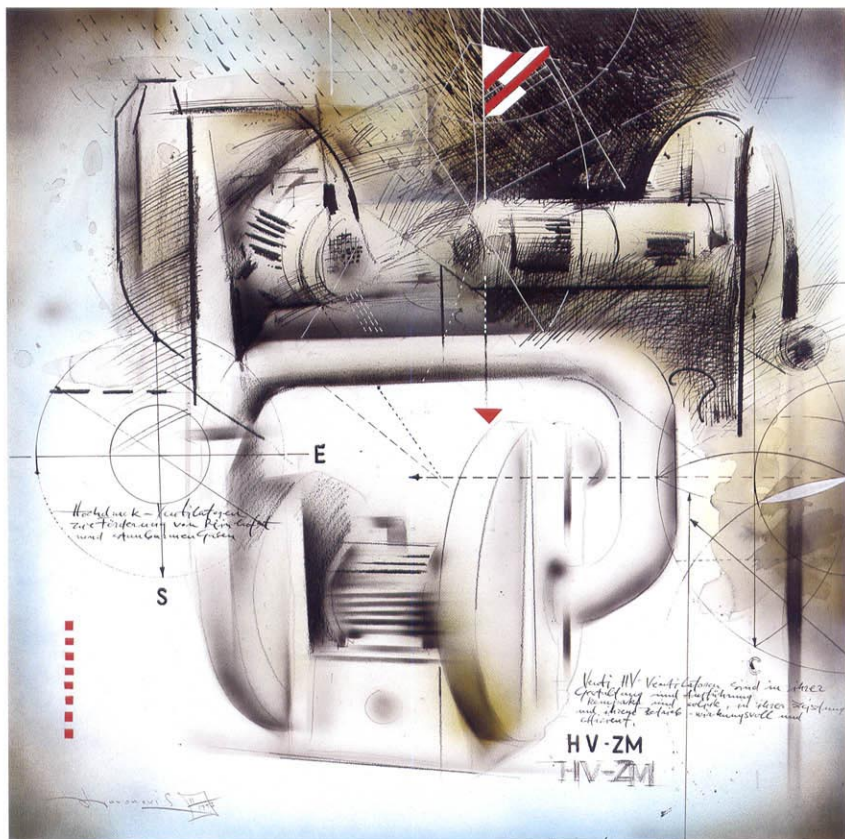


High-Pressure Fans to handle clean air and low-dust gases



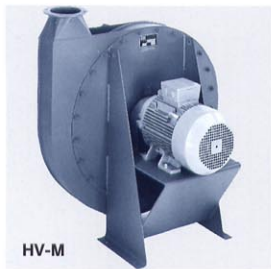
Hochdruck-Ventilatoren zur Förderung von Reinluft und Staubmengen

S

Venti HV Ventilatoren sind in ihrer Ausführung und Ausführung einzigartig und wirksam; sie sind wirksam und effizient.

HV-ZM
HV-ZM

HV-Fans...



HV-M

The Design

In their design Venti HV-fans are

- compact and robust;
- in their performance and operation
- reliable and efficient.

Their high efficiency ensures a low power consumption.

Flat performance curves permit wide variations in the flow volume at a nearly constant pressure increase.

Light impellers – also in cast or welded aluminium – make for easy starting up.

The perfect coordination of impeller and casing provides a low sound level.

The Construction

HV-fans are of solid welded construction.

The fan scroll of the single inlet centrifugal fan is arranged so that it can be rotated in front of the motor pedestal. This means that any required fan casing position can be supplied.

The impeller, welded from steel or aluminium or made from cast aluminium alloy, is electro-dynamically balanced in two planes, and



HV-K

arranged in overhung position directly on the motor shaft end or on the end of the drive shaft. Simply by loosening the mounting plate, the impeller can be inspected, mounted or dismantled from the drive side of the fan.

The Standard Types

Type HV-M

- Arrangement: HV-fan with direct motor drive
- Drive motor: arranged on motor pedestal which is attached to the scroll
- Max. pressure increase 125 mbar

Type HV-K

- Arrangement: HV-fan with indirect motor drive through shaft and coupling
- Drive shaft: mounted in two roller bearings; thrust block housing with lubricant volume regulators
- Coupling and motor: flexible coupling joins shaft and motor. Motor and thrust block bearing are mounted on a common motor pedestal
- Max. pressure increase 160 mbar



HV-ZM

Type HV-ZM

- Arrangement: two-stage fan combination with direct motor drive
- Impellers: overhung arrangement on the common motor shaft
- Motor: mounted on a common motor pedestal between the fan scrolls. The two fan stages are coupled with one another by steel pipe-work
- Max. pressure increase 250 mbar

Accessories

Depending on the individual application, Venti HV-fans can be equipped with:

- lockable damper valves or other regulating equipment
- disc-, cylindrical or baffle silencers
- noise reduction enclosure, with sound level reduction of up to 25 dB
- regenerable round filters with high filtration efficiency
- flexible joints made from fabric, rubber or steel
- vibration dampers for vibration-free mounting



As pressure increase fans in industrial processing and chemical engineering; for the fluidization of powders, dusts and granulate in the cement, paint and synthetic industries; as forced-draft fans for heating plants; as combustion air fans on industrial furnaces, on continuous glass-melting furnaces and metal smelting plants. The possibilities for the use of HV-fans are just about limitless.

Venti HV-fans are used where well-planned engineering, excellent quality, high-operating safety and availability, the best possible efficiency and low energy consumption are demanded.

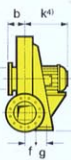


Special Features

HV-fans can be fitted with v-belt drive, not only in the single-stage version, but also for the two-stage fan type. When required, HV-fans can be constructed from heat- or acid-resistant materials. Wear and explosion prevention as well as gastight design are, of course, included in the Venti manufacturing programme.

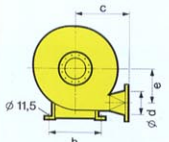
High-pressure fans with rotatable casings...

Pressure Range 30 mbar \approx 3000 Pa \approx 300 mm WG



HVM/HVK	flow volume (m ³ /h)	motor output (kW)	sound pressure level:		weight with motor		arrangement M + K					arrangement M				arrangement K				
			Lp ¹	Lp ²	M	K	a	β D	β d	b	c	e	f	g	h	k	m	n	o	p
30-63	270	0.75	69	70	45	74	355	112	63	145	355	246	80	120	310	300	100	300	310	760
30-80	440	1.1	70	72	47	75	355	112	80	145	355	246	80	120	310	300	100	300	310	760
30-100	690	1.5	71	73	47	75	355	112	100	145	355	246	80	120	310	300	100	300	310	760
30-125	1000	1.5	71	75	61	91	450	160	125	162	377	303	98	120	360	350	118	300	360	820
30-140	1360	2.2	72	79	64	95	450	160	140	162	377	303	98	120	360	375	118	310	360	825
30-160	1750	3.0	74	80	69	100	450	160	160	162	377	303	98	120	360	415	118	325	360	826
30-180	2250	3.0	75	80	87	122	560	224	180	170	433	345	125	120	360	420	125	340	360	880
30-200	2750	4.0	75	80	102	139	560	224	200	170	433	345	125	120	360	440	125	340	360	900
30-224	3450	5.5	78	86	120	157	560	224	224	170	433	345	125	120	360	500	125	360	360	970

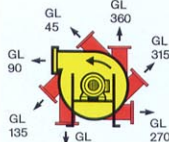
Pressure Range 40 mbar \approx 4000 Pa \approx 400 mm WG



HVM/HVK	flow volume (m ³ /h)	motor output (kW)	sound pressure level:		weight with motor		arrangement M + K					arrangement M				arrangement K				
			Lp ¹	Lp ²	M	K	a	β D	β d	b	c	e	f	g	h	k	m	n	o	p
40-63	315	1.5	70	76	57	94	355	112	63	150	384	267	85	120	360	320	105	300	400	780
40-80	500	1.5	72	77	57	94	355	112	80	150	384	267	85	120	360	320	105	300	400	810
40-100	800	2.2	72	78	60	97	355	112	100	150	384	267	85	120	360	345	105	310	400	810
40-125	1000	2.2	74	79	70	109	450	160	125	162	389	299	98	120	360	370	118	310	400	815
40-140	1600	3.0	75	82	75	116	450	160	140	162	389	299	98	120	360	410	118	350	400	855
40-160	2000	4.0	78	84	92	133	450	160	160	162	389	299	98	120	360	430	118	350	400	880
40-180	2500	5.5	78	85	131	175	560	224	180	170	473	386	125	140	360	500	150	375	400	970
40-200	3000	5.5	79	85	131	175	560	224	200	170	473	386	125	150	360	500	150	375	400	970
40-224	4000	7.5	81	88	148	183	560	224	224	170	473	386	125	150	360	600	150	375	400	970

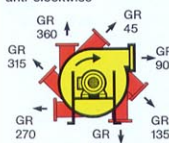
Arrangement M

Pressure Range 50 mbar \approx 5000 Pa \approx 500 mm WG



HVM/HVK	flow volume (m ³ /h)	motor output (kW)	sound pressure level:		weight with motor		arrangement M + K					arrangement M				arrangement K				
			Lp ¹	Lp ²	M	K	a	β D	β d	b	c	e	f	g	h	k	m	n	o	p
50-63	350	1.5	73	77	67	106	400	112	63	145	411	297	80	120	360	325	100	300	360	785
50-80	500	2.2	75	77	67	106	400	112	80	145	411	297	80	120	360	350	100	310	360	810
50-100	900	2.2	75	78	80	109	400	112	100	145	411	297	80	120	360	350	100	310	360	810
50-125	1300	3.0	72	78	87	123	450	160	125	156	400	334	86	150	415	415	112	350	415	860
50-140	1750	4.0	75	81	104	140	450	160	140	156	400	334	86	150	415	435	112	350	415	885
50-160	2250	5.5	77	83	120	158	450	160	160	156	400	334	86	150	415	500	127	375	415	950
50-180	2800	7.5	78	83	141	180	500	224	180	180	478	338	135	200	415	490	160	375	415	955
50-200	3300	7.5	79	88	143	180	500	224	200	180	478	338	135	200	415	490	160	375	415	955
50-224	4500	11.0	82	88	173	211	500	224	224	180	478	338	135	200	415	625	185	425	415	1100

anti-clockwise



clockwise

Pressure Range 63 mbar \approx 6300 Pa \approx 630 mm WG

HVM/HVK	flow volume (m ³ /h)	motor output (kW)	sound pressure level:		weight with motor		arrangement M + K					arrangement M				arrangement K				
			Lp ¹	Lp ²	M	K	a	β D	β d	b	c	e	f	g	h	k	m	n	o	p
63-63	400	2.2	73	77	77	123	450	112	63	145	443	328	80	120	415	350	100	350	415	890
63-80	600	2.2	74	79	77	123	450	112	80	145	443	328	80	120	415	350	100	350	415	890
63-100	1000	4.0	76	82	82	128	450	112	100	145	443	328	80	120	415	410	125	350	415	945
63-125	1350	4.0	74	85	109	154	500	160	125	162	445	346	118	150	415	430	144	350	415	945
63-140	2000	5.5	76	85	125	173	500	160	140	162	445	346	118	150	415	490	144	400	415	1010
63-160	2500	7.5	79	84	132	180	500	160	160	162	445	346	118	150	415	490	144	400	415	1010
63-180	3150	11.0	81	85	192	240	560	224	180	180	520	398	135	200	460	620	185	450	460	1155
63-200	3600	11.0	82	85	194	242	560	224	200	180	520	398	135	200	460	620	185	450	460	1155
63-224	5000	15.0	85	92	205	251	560	224	224	180	520	398	135	200	460	620	185	450	460	1155

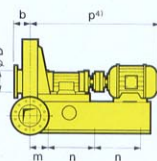
Pressure Range 80 mbar \approx 8000 Pa \approx 800 mm WG

HVM/HVK	flow volume (m ³ /h)	motor output (kW)	sound pressure level:		weight with motor		arrangement M + K					arrangement M				arrangement K				
			Lp ¹	Lp ²	M	K	a	β D	β d	b	c	e	f	g	h	k	m	n	o	p
80-63	450	3.0	74	79	95	151	500	112	63	145	482	367	100	150	415	410	125	375	415	1020
80-80	700	4.0	74	79	112	167	500	112	80	145	482	367	100	150	415	430	125	375	415	1045
80-100	1150	5.5	80	84	128	185	500	112	100	145	482	367	100	150	415	490	150	400	415	1100
80-125	1750	7.5	78	85	150	198	500	160	125	162	485	383	118	200	460	500	168	400	460	1100
80-140	2000	7.5	78	85	150	198	500	160	140	162	485	383	118	200	460	500	168	400	460	1100
80-160	2800	11.0	82	90	178	233	500	160	160	162	485	383	118	200	460	630	168	500	460	1240
80-180	3500	15.0	85	92	235	278	630	224	180	180	561	448	135	150	570	630	185	500	570	1250
80-200	4500	18.0	85	92	257	299	630	224	200	180	561	448	135	150	570	665	185	500	570	1290
80-224	5600	22.0	86	93	305	347	630	224	224	180	561	448	135	150	570	700	185	500	570	1320

...a brilliant performance in any position!

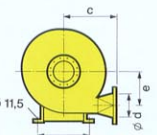
Pressure Range 100 mbar \triangleq 10000 Pa \approx 1000 mm WG

HVM/ HWK	flow volume (m ³ /h)	motor output (kW)	sound pressure level		weight with motor		arrangement M + K						arrangement M						arrangement K					
			Lp ¹⁾	Lp ²⁾	M	K	a	ø D	ø d	b	c	e	f	g	h	k	m	n	o	p				
100-63	500	7.5	80	84	125	181	500	112	63	145	518	411	100	150	415	490	150	150	425	415	1100			
100-80	800	7.5	80	85	141	197	500	112	80	145	518	411	100	150	415	490	150	150	425	415	1100			
100-100	1250	7.5	80	85	148	204	500	112	100	145	518	411	100	150	415	490	150	150	425	415	1100			
100-125	2000	11.0	81	87	192	253	560	160	125	162	528	425	118	200	460	615	168	168	475	460	1240			
100-140	2300	11.0	81	87	198	263	560	160	140	162	528	425	118	200	460	615	168	168	475	460	1240			
100-160	3150	15.0	84	90	207	264	560	160	160	162	528	425	118	200	460	615	168	168	475	460	1240			
100-180	4000	18.5	85	92	286	328	710	224	180	180	601	482	135	175	560	665	185	185	500	560	1290			
100-200	4700	22.0	87	94	332	375	710	224	200	180	601	482	135	175	560	660	185	500	560	1315				
100-224	6300	30.0	89	96	405	448	710	224	224	180	601	482	135	175	560	780	185	500	560	1440				



Pressure Range 125 mbar \triangleq 12500 Pa \approx 1250 mm WG

HVM/ HWK	flow volume (m ³ /h)	motor output (kW)	sound pressure level		weight with motor		arrangement M + K						arrangement M						arrangement K					
			Lp ¹⁾	Lp ²⁾	M	K	a	ø D	ø d	b	c	e	f	g	h	k	m	n	o	p				
125-63	580	11	85	86	173	235	560	125	63	145	566	437	100	125	570	630	125	500	570	1240				
125-80	900	11	85	87	201	264	560	125	80	145	566	437	100	125	570	630	150	500	570	1240				
125-100	1500	15	86	89	212	275	560	125	100	145	566	437	100	125	570	630	150	500	570	1240				
125-125	2250	15	87	91	232	295	630	180	125	162	616	446	118	125	570	620	168	500	570	1240				
125-140	3000	18.5	88	93	251	319	630	180	140	162	616	446	118	125	570	660	168	500	570	1260				
125-160	3750	22	89	94	297	371	630	180	160	162	616	446	118	125	570	690	168	500	570	1310				
125-180	4600	30	90	95	476	710	224	180	180	160	648	534	-	-	570	-	185	525	570	1400				
125-200	5600	37	91	97	-	476	710	224	200	180	648	534	-	-	570	-	185	525	570	1400				
125-224	7400	45	92	99	-	501	710	224	224	180	648	534	-	-	570	-	185	525	570	1450				



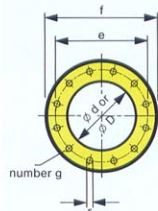
Arrangement K

Pressure Range 140 mbar \triangleq 14000 Pa \approx 1400 mm WG

flited with starting coupling

HVM/ HWK	flow volume (m ³ /h)	motor output (kW)	sound pressure level		weight with motor		arrangement M + K						arrangement M						arrangement K					
			Lp ¹⁾	Lp ²⁾	M	K	a	ø D	ø d	b	c	e	f	g	h	k	m	n	o	p				
140-63	600	11	86	87	-	326	650	125	63	145	629	540	-	-	-	-	-	-	-	500	498	1315		
140-80	950	11	87	89	-	326	650	125	80	145	629	540	-	-	-	-	-	-	-	500	498	1315		
140-100	1500	15	88	91	-	327	650	125	100	145	629	540	-	-	-	-	-	-	-	500	498	1315		
140-125	1850	16	88	92	-	330	650	180	125	162	654	520	-	-	-	-	-	-	-	500	498	1320		
140-140	2350	18.5	89	93	-	360	650	180	140	162	654	520	-	-	-	-	-	-	-	500	498	1290		
140-160	3000	22	90	95	-	420	650	180	160	162	654	520	-	-	-	-	-	-	-	500	498	1400		
140-180	3750	30	91	96	-	520	650	224	180	180	679	490	-	-	-	-	-	-	-	550	614	1500		
140-200	4650	37	92	98	-	521	650	224	200	180	679	490	-	-	-	-	-	-	-	550	614	1500		
140-224	5900	45	93	99	-	569	650	224	224	180	679	490	-	-	-	-	-	-	-	600	614	1640		

Flange dimensions for flanges on inlet and discharge side



Pressure Range 160 mbar \triangleq 16000 Pa \approx 1600 mm WG

flited with starting coupling

HVM/ HWK	flow volume (m ³ /h)	motor output (kW)	sound pressure level		weight with motor		arrangement M + K						arrangement M						arrangement K					
			Lp ¹⁾	Lp ²⁾	M	K	a	ø D	ø d	b	c	e	f	g	h	k	m	n	o	p				
160-63	630	11	87	91	-	364	730	125	63	145	683	602	-	-	-	-	-	-	-	152	575	500	1430	
160-80	1000	15	88	91	-	364	730	125	80	145	683	602	-	-	-	-	-	-	-	152	575	500	1435	
160-100	1580	18.5	88	93	-	395	730	125	100	145	683	602	-	-	-	-	-	-	-	152	575	500	1485	
160-125	2500	22	89	95	-	506	730	180	125	162	708	528	-	-	-	-	-	-	-	170	575	500	1500	
160-140	3150	30	90	96	-	637	730	180	140	162	708	528	-	-	-	-	-	-	-	170	625	690	1595	
160-160	4000	37	91	97	-	652	730	180	160	162	708	528	-	-	-	-	-	-	-	170	625	690	1600	
160-180	5000	45	92	98	-	766	730	224	180	180	733	552	-	-	-	-	-	-	-	188	625	690	1630	
160-200	6300	45	93	99	-	772	730	224	200	180	733	552	-	-	-	-	-	-	-	188	625	690	1640	
160-224	8000	55	94	101	-	899	730	224	224	180	733	552	-	-	-	-	-	-	-	188	675	690	1750	

ø D or ø d	e	f	no. g	r
63	102	126	4	9.5
80	118	144	4	9.5
100	139	165	4	9.5
112	151	177	4	9.5
125	165	191	4	9.5
140	182	216	8	11.5
160	200	234	8	11.5
180	219	253	8	11.5
200	241	275	8	11.5
224	265	299	8	11.5

Total pressure difference Δp_t :
30 mbar - 160 mbar
(at 20° C and $\rho = 1.205 \text{ kg/m}^3$)
1 mbar \triangleq 100 Pa \approx 10.2 mm WG

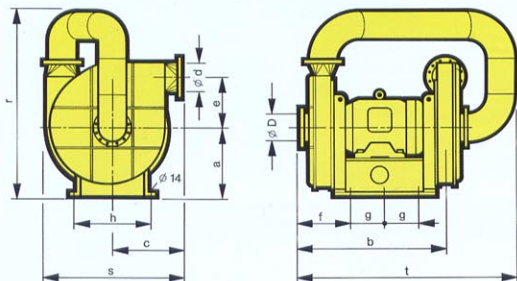
rotating speed: $n = 2900 \text{ rpm}$
enclosure: IP 54

Lp¹⁾ = „A“-rated sound pressure level measured in accordance with DIN 45635, ducted inlet and outlet sides, under free field conditions.

Lp²⁾ = „A“-rated sound pressure level measured at a distance of 1 m at an angle of 45° from the inlet, outlet side ducted, under free field conditions.

- 3) Motor with thermally controlled resistor
- 4) Approx. dim., depending on make of motor

Two-stage high-pressure fans



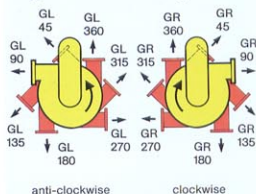
Pressure Range 200 mbar \approx 20000 Pa \approx 2000 mm WG

HV-ZM Type	flow volume (m ³ /h)	motor output (kW)	sound pressure level Lp ^A	a	ϕ D	ϕ d	b	c	e	f	g	h	r	s	t	
200-63	500	18,5	85	88	500	139,7	76,1	955	518	411	255	300	440	1290	989	1360
200-80	800	18,5	87	90	500	139,7	88,9	955	518	411	255	300	440	1290	989	1360
200-100	1250	18,5	89	92	500	139,7	114,3	955	518	411	255	300	440	1290	989	1360
200-125	2000	30	90	95	560	168,3	139,7	1088	528	425	280	350	560	1415	1049	1565
200-140	2300	30	91	98	560	168,3	168,3	1088	528	425	280	350	560	1415	1049	1565
200-160	3150	37	92	97	560	168,3	168,3	1088	528	425	280	350	560	1415	1049	1565
200-180	4000	45	93	99	630	273	219,1	1160	601	482	325	350	600	1765	1219	1860
200-200	4700	55	94	100	630	273	219,1	1290	601	482	340	400	700	1765	1219	1990
200-224	6300	75	95	102	630	273	273	1395	601	482	370	425	760	1765	1219	2050

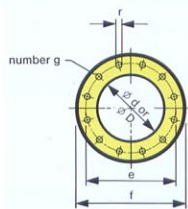
Pressure Range 250 mbar \approx 25000 Pa \approx 2500 mm WG

HV-ZM Type	flow volume (m ³ /h)	motor output (kW)	sound pressure level Lp ^A	Lp ^B	a	ϕ D	ϕ d	b	c	e	f	g	h	r	s	t
250-63	580	30	87	90	560	139,7	76,1	1065	566	437	260	350	560	1400	1084	1470
250-80	900	30	89	93	560	139,7	88,9	1065	566	437	260	350	560	1400	1084	1470
250-100	1500	30	91	95	560	139,7	114,3	1065	566	437	260	350	560	1400	1084	1470
250-125	2250	37	93	98	630	168,3	139,7	1088	616	446	280	350	560	1570	1178	1565
250-140	3000	45	94	99	630	168,3	168,3	1132	616	446	305	350	600	1570	1178	1610
250-160	3600	55	95	100	630	168,3	168,3	1262	616	446	320	400	700	1570	1178	1740
250-180	4600	75	96	102	710	273	219,1	1405	648	534	340	450	760	1890	1319	2085

Direction of rotation and discharge angle of the second stage



Flanges for connection to inlet and outlet sides according to DIN 2641, series 1 ND 6

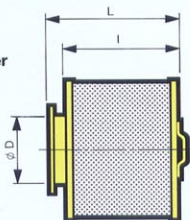


ϕ d or ϕ D	e	f	no. g	r
76,1	130	160	4	14
88,9	150	190	4	18
114,3	170	210	4	18
139,7	200	240	8	18
168,3	225	265	8	18
219,1	280	320	8	18
273	335	375	12	16

Accessories:

ϕ D	V _m /m ³ above to	filter size	ϕ A	L	l
112	270 800	1	240	190	130
112	800 1250	2	360	260	200
125	580 1600	2	360	260	200
160	1000 1600	2	360	260	200
160	1600 2600	3	360	460	400
160	2600 4000	4	500	460	400
180	2250 4000	4	500	460	400
224	2250 2800	3	360	460	400
224	2800 4000	4	500	460	400
224	4000 8000	5	500	660	600

Round filter



Flange dimensions fitting the inlet-side fan connection



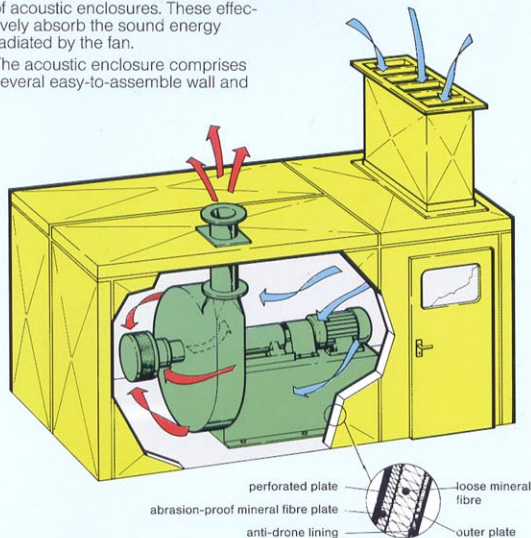
Sound attenuation is worthwhile . . .

Venti acoustic enclosures for HV-fans

Noise reduction improves the working conditions in a factory. For this reason we recommend the use of acoustic enclosures. These effectively absorb the sound energy radiated by the fan.

The acoustic enclosure comprises several easy-to-assemble wall and

roof sections. There is an access opening, either a door or flap, depending on the size of the enclosure, to allow access for maintenance.



Construction of the insulation walls

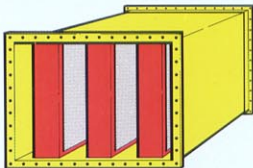
Using acoustic enclosures together with baffle silencers is the best possible solution for decreasing the sound pressure level.

If the fan is a free inlet fan, the acoustic enclosure is generally force-ventilated. When larger motors are used or the inlet duct is outside the

enclosure, then additional ventilation is necessary through an axial-flow fan built into the wall of the enclosure.

Where such extensive noise reduction measures are not necessary Venti can offer simple casing insulation.

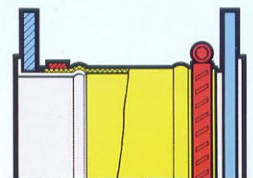
Absorption silencer with casing



Absorption silencer with casing

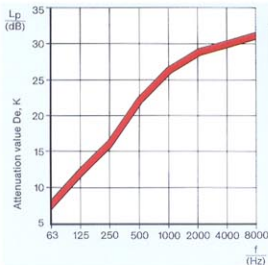
The baffle silencers are specifically designed taking into account the required limit values.

Flexible joints



Flexible joints

for connection to the inlet and outlet sides. Choice of material for the flexible joints depends on the demands made by the medium handled, and is generally neoprene, silicone glass or PVC-polyester.



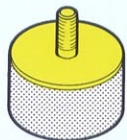
Insertion attenuation value of the acoustic enclosure according to VDI 2711

The graph indicates the acoustic insulation value of the acoustic enclosure throughout the whole frequency range.

Vibration dampers

The dynamic forces which are transmitted to the foundation, can be considerably reduced through the installation of vibration dampers. Construction and distribution depend on the type of fan.

Vibration dampers



Your partner for fan construction

Venti Product Range

VENTI OELDE offers a wide range of products for the removal, handling and separation of air, vapours and gases as well as dust and air-borne solids. This includes:

- Industrial Fans
- Dust Extraction Plants
- Ventilating, Air-Conditioning and Heat Recovery Plants
- Plants for Surface Treatment
- Recycling Systems

Air pollution control, reduction of emissions and improvement of the working environment are our contribution towards a future worth living.

Venti Fan Construction Program

Fans "Made in Oelde, Germany" are a byword for quality all over the world.

Robust heavy-duty fans for the steel, cement and raw materials industries, heat-resistant, corrosion-resistant, gastight, pressure-shock-resistant and noise-reduced high-efficiency fans for the most divergent branches of industry come from Oelde.

Venti Oelde also builds wear-protected and explosion-resistant fans for handling air-borne solids and supplies hot gas circulating fans for a wide variety of applications.

Venti Company Profile

VENTI OELDE, established in 1930, is a medium-sized, family-owned company with 350 employees, located in Westphalia.

With its considerable know-how VENTI OELDE has gained an international reputation as a manufacturer of industrial fans and as a specialist for dust collection plants, surface treatment and recycling technology.

A large number of offices, agencies and licensees ensures that the contact to business partners all round the world is maintained and supports the efficient customer service offered by Venti.



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