

High-pressure fans

We make air work on your behalf



When the pressure's on High-pressure fans from Venti ...



Type HV-M

Venti high-pressure fans combine intelligent technology with outstanding quality. They are the first choice where safe operation and high availability are required alongside optimum efficiency and low energy consumption.

Venti high-pressure fans can be used in almost limitless ways. They are used as pressure-increase fans in industrial processing and chemical engineering, for the fluidisation of powders, dusts and granulates in the cement, paint and plastics industry, as forced-draft fans for firing plants, as combustion air fans in industrial furnaces, glass-melting pans and smelting plants.

Venti high-pressure fans are compact and strongly built. Flat performance curves permit wide variations in the flow volume at a constant pressure increase.

Venti manufactures high-pressure fans in a strong, welded construction. The fan scroll of the single inlet centrifugal fan is arranged in front of the motor pedestal so that it can be rotated, which means the fan casing can be positioned in 45° steps.

Light impellers make for easy starting up, which is why we manufacture them not only in welded steel but also in welded aluminium.



Type HV-K

Venti balances the impeller electro-dynamically in two planes, and arranges it in an overhung position directly on the motor shaft end or the end of the drive shaft. The perfect balancing of impeller and casing keeps noise levels low.

By loosening the mounting plate, the impeller can easily be inspected, fitted or removed.

Type HV-M

High-pressure fan with direct motor drive

- Drive motor: arranged on the motor pedestal, which is attached to the scroll.
- Pressure range: 30 to 125 mbar

... outstanding in every situation



Type HV-ZM

Type HV-K

High-pressure fan with indirect motor drive through shaft and coupling

- Drive shaft: mounted in two roller bearings, two bearing housing with lubricant regulators
- Coupling and motor: flexible coupling joins shaft and motor. Motor and two bearing housing mounted on a common motor pedestal.
- Pressure range: 30 to 160 mbar

Type HV-ZM

High-pressure fan in the form of a two-stage fan combination with direct motor drive

- Impellers: overhung arrangement on the common motor shaft
- Drive motor: mounted on a common motor pedestal between the fan scrolls. The two fan stages are coupled together by a steel pipe.
- Pressure range: 200 to 250 mbar



Special features

Venti can fit v-belt drives to its high-pressure fans – both the single- and the two-stage models. The fans can be built using heat- and acid-proof materials if required. Explosion-protection features and gas-tight versions are also included in the Venti range.



Star turn High-pressure fans with rotatable casings ...

Total pressure difference Δp_t :

30 mbar – 160 mbar (at 20 °C and $\rho = 1.205 \text{ kg/m}^3$)

1 mbar $\hat{=}$ 100 Pa \approx 10.2 mm WC

Dust level: max. 50 mg/m³

Motor rating

Rated speed: $n = 3000 \text{ rpm}$, frequency: 50 Hz

¹⁾ „A“-rated sound pressure level as per DIN 45635 with inlet and outlet connected, under free field conditions

²⁾ „A“-rated sound pressure level measured at a distance of 1 m at an angle of 45° from the inlet, with outlet connected, under free field conditions

³⁾ Total weight based on three-phase motor with grey cast-iron casing

⁴⁾ Approximate dimensions, dependent on motor manufacturer

⁵⁾ Motor with PTC thermistor

	Impeller made from welded aluminium
	Impeller made from steel

Subject to technical revisions.

HVM/ HVK type	Flow volume (m ³ /h)	Motor output (kW)	Sound pressure level (dB(A))		Weight with motor (kg)		Arrangement M + K (dimensions in mm)						Arrangement M (dimensions in mm)				Arrangement K (dimensions in mm)			
			Lp ¹⁾	Lp ²⁾	M ³⁾	K ³⁾	a	øD	ød	b	c	e	f	g	h	k ⁴⁾	m	n	o	p ⁴⁾

Pressure range 30 mbar $\hat{=}$ 3000 Pa \approx 300 mm WC

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	1.1	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	800
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	105	120	360	420	125	340	360	880
30-200	2750	4.0	75	80	102	139	560	224	200	170	433	345	105	120	360	440	125	340	360	900
30-224	3450	5.5	78	86	120	157	560	224	224	170	433	345	105	120	360	500	125	360	360	970

Pressure range 40 mbar $\hat{=}$ 4000 Pa \approx 400 mm WC

40- 63	315	1.5 ⁵⁾	70	76	57	94	355	112	63	150	384	267	85	120	360	320	105	300	400	780
40- 80	500	1.5 ⁵⁾	72	77	57	94	355	112	80	150	384	267	85	120	360	320	105	300	400	780
40-100	800	2.2 ⁵⁾	72	78	60	97	355	112	100	150	384	267	85	120	360	345	105	310	400	810
40-125	1000	2.2 ⁵⁾	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	76	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	500	150	375	400	970

Pressure range 50 mbar $\hat{=}$ 5000 Pa \approx 500 mm WC

50- 63	350	1.5 ⁵⁾	73	77	67	105	400	112	63	145	411	297	80	120	360	325	100	300	360	785
50- 80	500	2.2 ⁵⁾	75	77	67	105	400	112	80	145	411	297	80	120	360	350	100	310	360	810
50-100	900	2.2 ⁵⁾	75	78	80	109	400	112	100	145	411	297	80	120	360	350	100	310	360	810
50-125	1300	3.0 ⁵⁾	72	78	87	123	450	160	125	156	450	334	86	150	415	415	112	350	415	860
50-140	1750	4.0	75	81	104	140	450	160	140	156	450	334	86	150	415	435	112	350	415	885
50-160	2250	5.5	77	83	120	158	450	160	160	156	450	334	86	150	415	500	137	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

Pressure range 63 mbar $\hat{=}$ 6300 Pa \approx 630 mm WC

63- 63	400	2.2 ⁵⁾	73	77	77	123	450	112	63	145	443	328	80	120	415	350	100	350	415	880
63- 80	600	2.2 ⁵⁾	74	79	77	123	450	112	80	145	443	328	80	120	415	350	100	350	415	880
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	83	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

... for different pressure ranges

HVM/ HVK Typ	Flow volume (m ³ /h)	Motor output (kW)	Sound pressure level (dB (A))		Weight with motor (kg)		Arrangement M + K (dimensions in mm)						Arrangement M (dimensions in mm)				Arrangement K (dimensions in mm)			
			Lp ¹⁾	Lp ²⁾	M ³⁾	K ³⁾	a	øD	ød	b	c	e	f	g	h	k ⁴⁾	m	n	o	p ⁴⁾

Pressure range 80 mbar ± 8000 Pa ≈ 800 mm WC

80- 63	450	3.0 ⁵⁾	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	18.5	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

Pressure range 100 mbar ± 10000 Pa ≈ 1000 mm WC

100- 63	500	7.5	80	84	125	181	500	112	63	145	518	411	100	150	415	490	150	425	415	1100
100- 80	800	7.5	80	85	141	197	500	112	80	145	518	411	100	150	415	490	150	425	415	1100
100-100	1250	7.5	80	85	148	204	500	112	100	145	518	411	100	150	415	490	150	425	415	1100
100-125	2000	11.0	81	87	192	253	560	160	125	162	528	425	118	200	460	615	168	475	460	1240
100-140	2300	11.0	81	87	196	253	560	160	140	162	528	425	118	200	460	615	168	475	460	1240
100-160	3150	15.0	84	90	207	264	560	160	160	162	528	425	118	200	460	615	168	475	460	1240
100-180	4000	18.5	85	92	286	328	710	224	180	180	601	482	135	175	560	665	185	475	560	1290
100-200	4700	22.0	87	94	332	375	710	224	200	180	601	482	135	175	560	690	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	1400

Pressure range 125 mbar ± 12500 Pa ≈ 1250 mm WC

125- 63	580	11.0	85	86	173	235	560	125	63	145	566	437	100	125	570	630	125	500	570	1240
125- 80	900	11.0	85	87	201	264	560	125	80	145	566	437	100	125	570	630	150	500	570	1240
125-100	1500	15.0	86	89	212	275	560	125	100	145	566	437	100	125	570	630	150	500	570	1240
125-125	2250	15.0	87	91	232	295	630	180	125	162	616	446	118	125	570	630	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	1280
125-160	3750	22.0	89	94	297	371	630	180	160	162	616	446	118	125	570	690	168	500	570	1310
125-180	4600	30.0	90	95	–	476	710	224	180	180	648	534	–	–	570	–	185	525	570	1400
125-200	5800	37.0	91	97	–	476	710	224	200	180	648	534	–	–	570	–	185	525	570	1400
125-224	7400	45.0	92	99	–	501	710	224	224	180	648	534	–	–	570	–	185	525	570	1450

Pressure range 140 mbar ± 14000 Pa ≈ 1400 mm WC equipped with start-up coupling

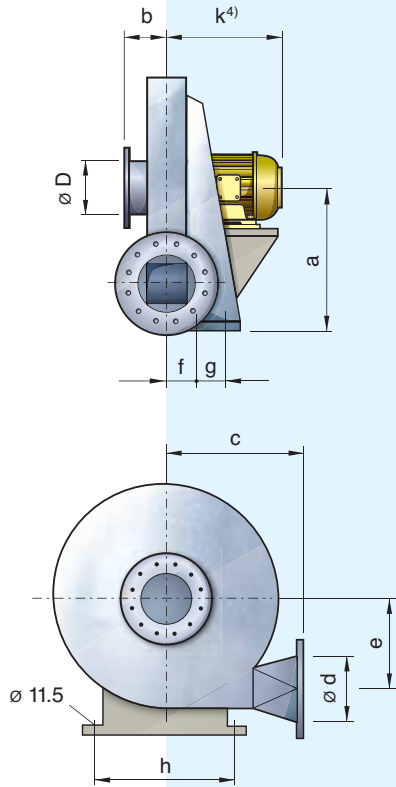
140- 63	600	11.0	86	87	–	326	650	125	63	145	629	540	–	–	–	–	–	500	498	1315
140- 80	950	11.0	87	89	–	326	650	125	80	145	629	540	–	–	–	–	–	500	498	1315
140-100	1500	15.0	88	91	–	327	650	125	100	145	629	540	–	–	–	–	–	500	498	1315
140-125	1850	15.0	88	92	–	330	650	180	125	162	654	520	–	–	–	–	–	500	498	1290
140-140	2350	18.5	89	93	–	360	650	180	140	162	654	520	–	–	–	–	–	500	498	1290
140-160	3000	22.0	90	95	–	420	650	180	160	162	654	520	–	–	–	–	–	550	498	1400
140-180	3750	30.0	91	96	–	520	650	224	180	180	679	490	–	–	–	–	–	550	614	1500
140-200	4650	37.0	92	98	–	521	650	224	200	180	679	490	–	–	–	–	–	550	614	1500
140-224	5800	45.0	93	99	–	589	650	224	224	180	679	490	–	–	–	–	–	600	614	1640

Pressure range 160 mbar ± 16000 Pa ≈ 1600 mm WC equipped with start-up coupling

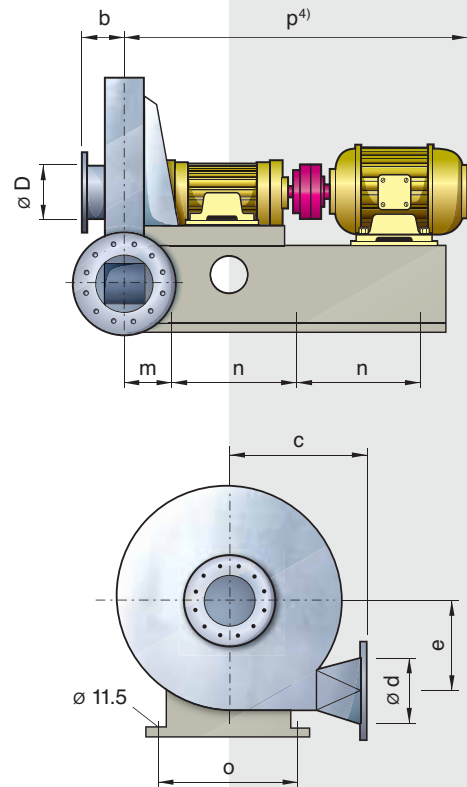
160- 63	630	11.0	87	91	–	364	730	125	63	145	683	602	–	–	–	–	152	575	500	1430
160- 80	1000	15.0	88	91	–	364	730	125	80	145	683	602	–	–	–	–	152	575	500	1435
160-100	1580	18.5	88	93	–	395	730	125	100	145	683	602	–	–	–	–	152	575	500	1485
160-125	2500	22.0	89	95	–	506	730	180	125	162	708	528	–	–	–	–	170	575	500	1500
160-140	3150	30.0	90	96	–	637	730	180	140	162	708	528	–	–	–	–	170	625	690	1595
160-160	4000	37.0	91	97	–	652	730	180	160	162	708	528	–	–	–	–	170	625	690	1600
160-180	5000	45.0	92	98	–	766	730	224	180	180	733	552	–	–	–	–	188	625	690	1630
160-200	6300	45.0	93	99	–	772	730	224	200	180	733	552	–	–	–	–	188	625	690	1640
160-224	8000	55.0	94	101	–	899	730	224	224	180	733	552	–	–	–	–	188	675	690	1750

... in a variety of versions

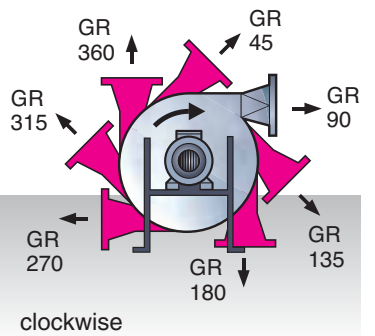
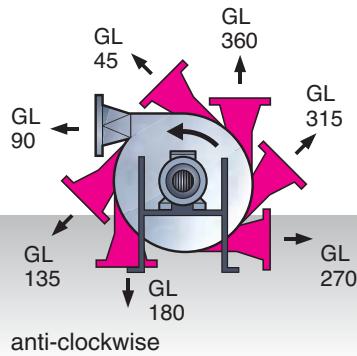
Arrangement M



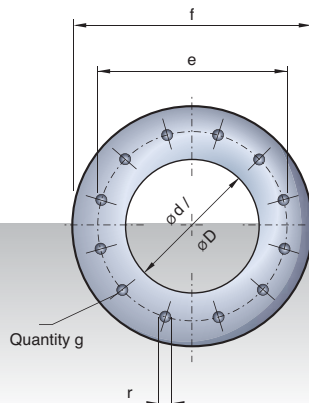
Arrangement K



Direction of rotation and discharge positions



**Dimensions
Inlet (øD) and outlet flange (ød)**

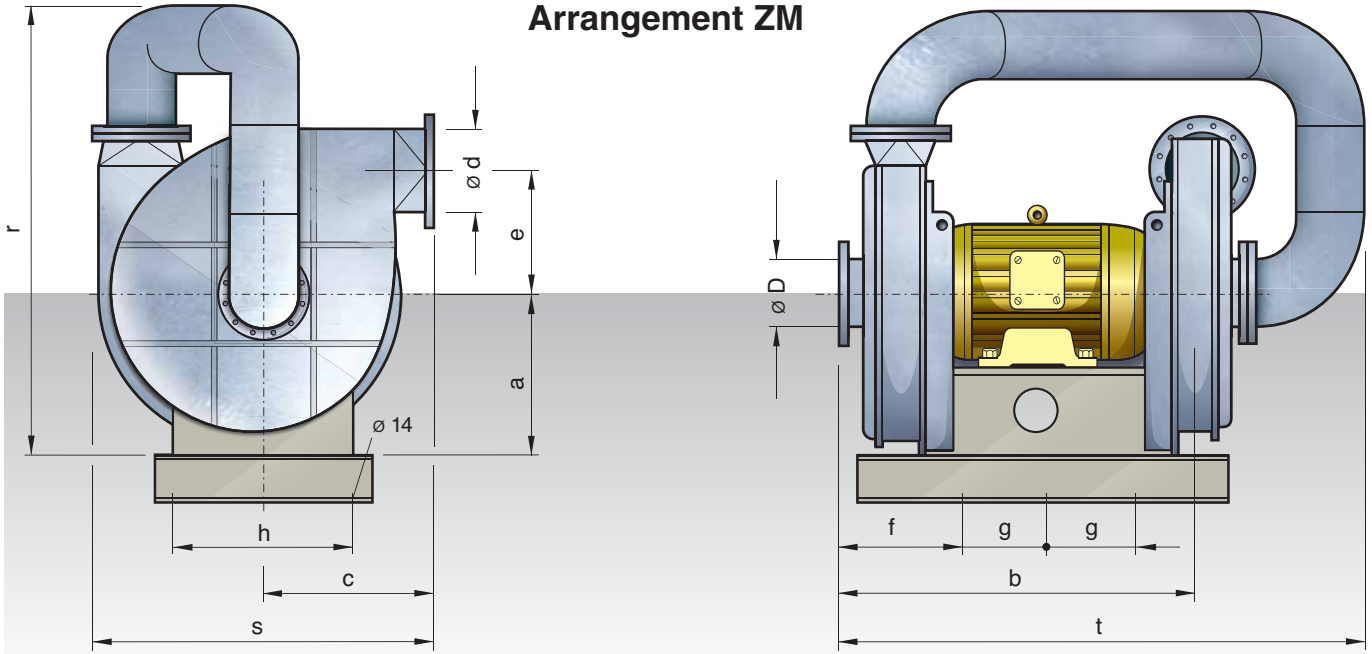


ød / øD (mm)	e (mm)	f (mm)	Quantity g	r (mm)
63	102	128	4	9.5
80	118	144	4	9.5
100	139	165	4	9.5
112	151	177	4	9.5
125	165	191	4	9.5
140	182	216	8	11.5
160	200	234	8	11.5
180	219	253	8	11.5
200	241	275	8	11.5
224	265	299	8	11.5

Double-barrelled performance

Two stages for maximum pressure

Arrangement ZM



HV-ZM type	Flow volume (m³/h)	Motor output (kW)	Sound pressure level (dB(A))		Dimensions in mm											
			Lp ¹⁾	Lp ²⁾	a	øD	ød	b	c	e	f	g	h	r	s	t

Pressure range 200 mbar ± 20000 Pa ≈ 2000 mm WC

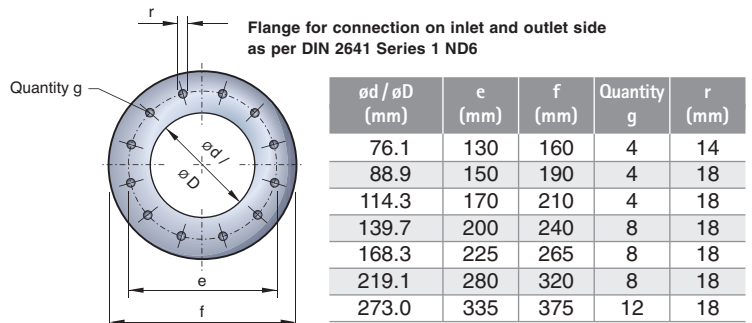
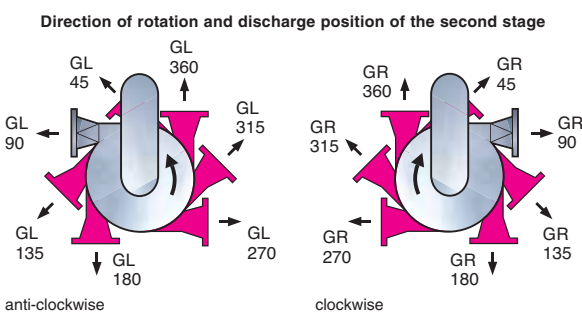
Impeller made of steel

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	30.0	90	95	560	168.3	139.7	1088	528	425	280	350	560	1415	1049	1565
200-140	2300	30.0	91	96	560	168.3	168.3	1088	528	425	280	350	560	1415	1049	1565
200-160	3150	37.0	92	97	560	168.3	168.3	1088	528	425	280	350	560	1415	1049	1565
200-180	4000	45.0	93	99	630	273.0	219.1	1160	601	482	325	350	600	1765	1219	1860
200-200	4700	55.0	94	100	630	273.0	219.1	1290	601	482	340	400	700	1765	1219	1990
200-224	6300	75.0	95	102	630	273.0	273.0	1395	601	482	370	425	760	1765	1219	2095

Pressure range 250 mbar ± 25000 Pa ≈ 2500 mm WC

Impeller made of steel

250- 63	580	30.0	87	90	560	139.7	76.1	1065	566	437	260	350	560	1400	1084	1470
250- 80	900	30.0	89	93	560	139.7	88.9	1065	566	437	260	350	560	1400	1084	1470
250-100	1500	30.0	91	95	560	139.7	114.3	1065	566	437	260	350	560	1400	1084	1470
250-125	2250	37.0	93	98	630	168.3	139.7	1088	616	446	280	350	560	1570	1178	1565
250-140	3000	45.0	94	99	630	168.3	168.3	1132	616	446	305	350	600	1570	1178	1610
250-160	3600	55.0	95	100	630	168.3	168.3	1262	616	446	320	400	700	1570	1178	1740
250-180	4600	75.0	96	102	710	273.0	219.1	1405	648	534	340	450	760	1890	1318	2085

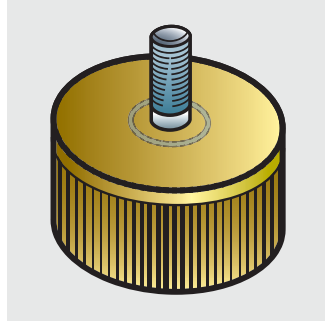


Precision-fitting effectiveness

The ideal accessories for high-pressure fans

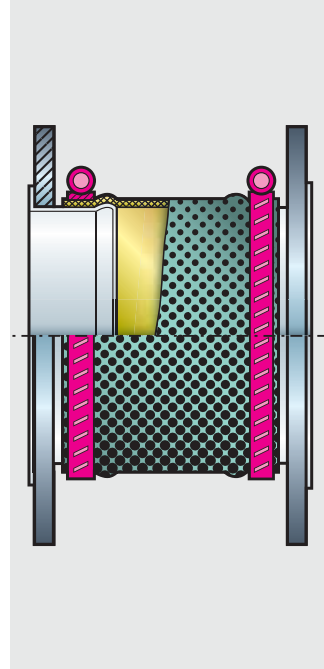
Venti customises its high-pressure fans for each situation, and can fit them with the following components:

- Securable throttle valves for mounting on the outlet side
- Splitter, pipe and disc silencers
- Acoustic enclosures for reducing noise levels by up to 25 dB
- Inlet filters
- Flexible joints and vibration dampers for isolated mounting



Vibration dampers

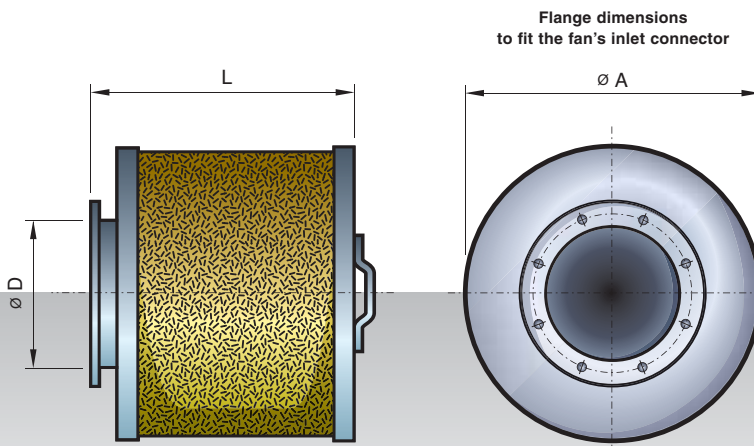
The dynamic forces transmitted into the foundation can be reduced by installing vibration dampers, whose design and distribution depend on the type of fan involved.



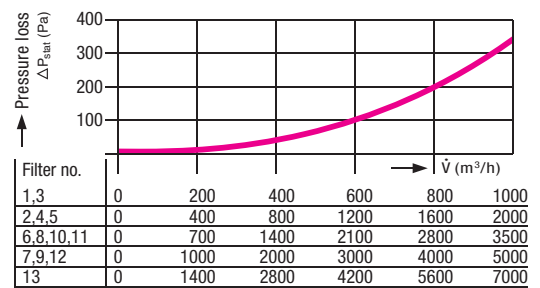
Flexible joints

Venti provides flexible joints for the inlet and outlet side fan connection. The material used for the flexible joint depends on the demands of what is being conveyed, and is usually neoprene, silicon glass or PVC polyester.

Inlet filter



Pressure loss from inlet filter in relation to flow volume



Filter no.	øD (mm)	øA (mm)	L (mm)
1	112	240	210
2	112	360	260
3	125	240	210
4	125	360	260
5	160	360	260
6	160	360	460
7	160	500	460
8	180	360	460
9	180	500	460
10	200	360	460
11	224	360	460
12	224	500	460
13	224	500	660

Working on the quiet

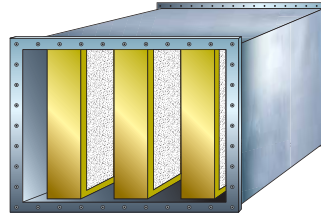
Effective sound insulation for a good working environment

Acoustic enclosures for high-pressure fans

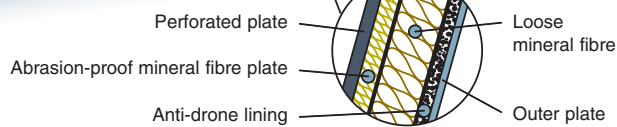
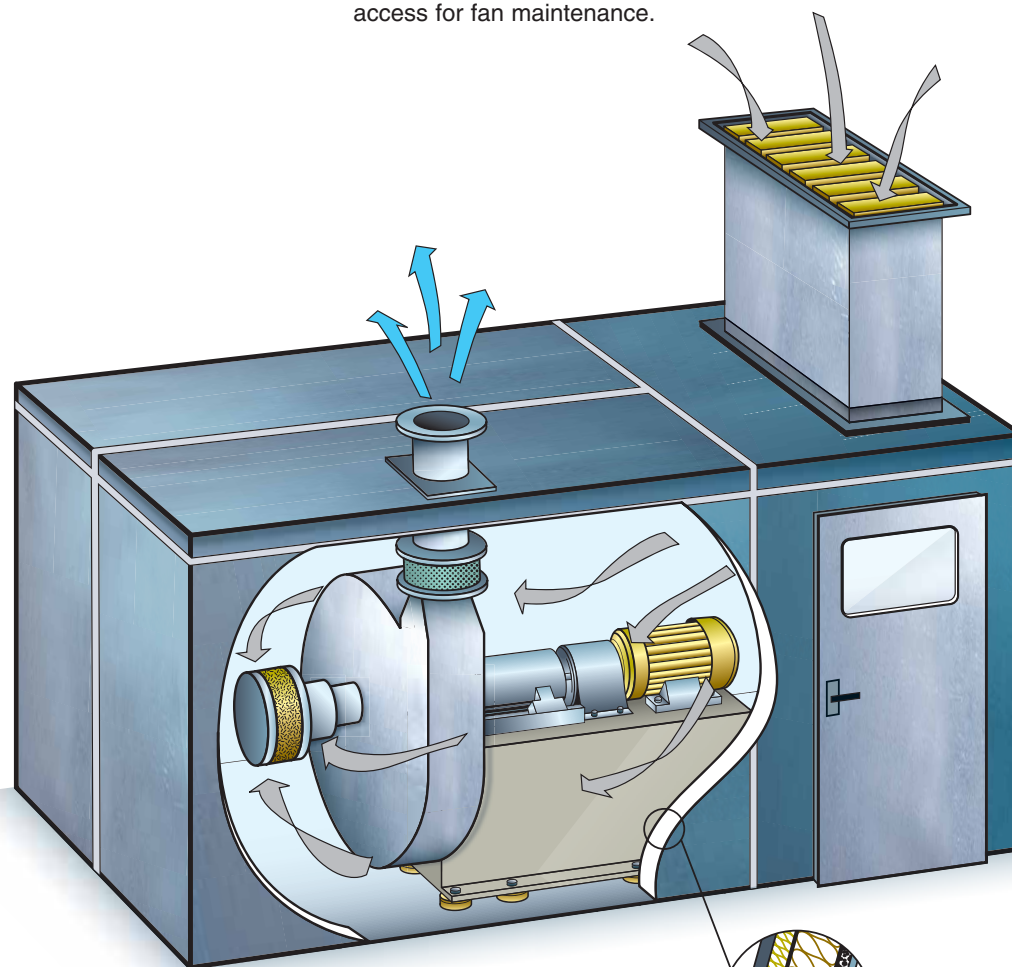
Noise reduction is legally mandatory and improves working conditions, which is why we recommend the use of acoustic enclosures. They effectively absorb the sound energy radiated by the fan.

Venti acoustic enclosures comprise several easy-to-assemble wall and roof sections. There is an access opening, either a door or a flap depending on the size of the enclosure, to allow easy access for fan maintenance.

Absorption silencer with casing



Our splitter silencers are specially designed for you on the basis of the specifications you require, and reduce the pressure only slightly (the amount depends on the specifications).



Construction of insulating walls

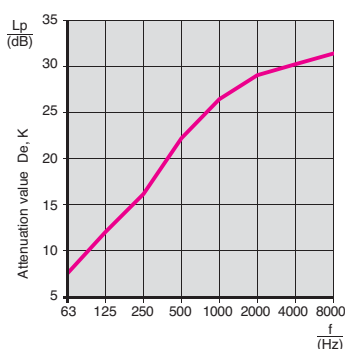
Acoustic enclosures in conjunction with splitter silencers are the ideal way of reducing the sound pressure level.

If the fan is a free-inlet fan, then the acoustic enclosure is normally force-ventilated. In the case of more powerful motors, or if the inlet pipe leads out of the enclosure, then additional ventilation is required in the form of an axial flow fan built into the wall of the enclosure.

Venti also offers simple casing insulation for situations requiring less noise insulation.

Insertion attenuation value of the acoustic enclosure according to VDI 2711

The graph indicates the acoustic insulation value of the acoustic enclosure across the entire frequency range.



- Industrial fans
- Dust collection and process air cleaning plants
- Exhaust air treatment plants
- Ventilating, heating and air conditioning plants
- Recycling and waste processing plants
- Surface technology



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