

Accessories to optimally satisfy all building requirements.



The development of accessories optimally tailored to the corresponding fan ranges is part of Helios' corporate philosophy.

SHUTTERS. GRILLES. WALL AND ROOF DUCTS.

Helios backdraught shutters, weather protection and ventilation grilles and roof and wall ducts are popular due to their pleasant shapes, practical handling and robustness.

Noise-damping volume elements and volumetric flow stabilisers are simply pushed into the duct and are efficient solutions for reducing the sound level and to adjust or stabilise the air flow volume.

488^{on}

EXHAUST, SUPPLY AND OUTDOOR AIR ELEMENTS. VALVES.

The current ventilation valves with their award-winning design, innovative exhaust air elements for demand-based functionality, preliminary filter elements, poppet valves for supply and exhaust air operation and incoming air elements for the controlled supply of outdoor air. The Helios range has ideal solutions for any type of room and use.

500^{on}

FIRE SAFETY SYSTEMS AND SHUTTER ELEMENTS.

In order to prevent the spread of fire to adjacent floors and rooms in multi-storey buildings, openings for ventilation ducts that cross fire sections are to be equipped with shut-off elements. Helios offers these for a wide range of installations and all required classifications.

516^{on}



- **Special characteristics**
 - Made of non-corrosive, weather proof, long life and ultra-violet stable polymers, colour light grey (VK 160 in white).
 - Resists most harmful atmospheres.
 - External building cladding stays clean longer as air flow channelled straight through the shutter.
 - Easy and quick installation.
 - Flat design.
 - Attractive appearance.

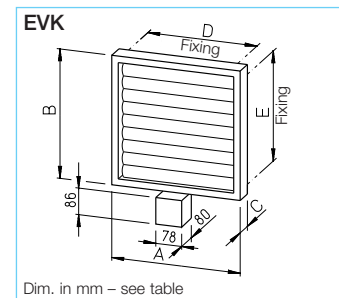
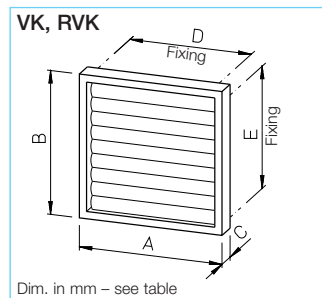
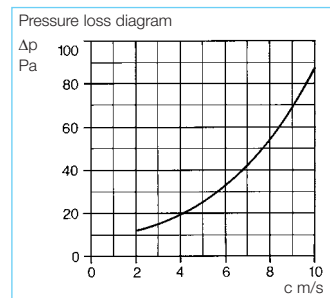
- **Automatic**
 - Air stream operated louvres in a compact flat design to cover exhaust air openings in walls.
 - Automatic operation; opens and closes when the fan is switched on and off.
 - Fixed to wall by means of four concealed holes in corners.
 - Supplied in individual boxes including mounting materials.
 - Maximum air flow velocity = 8 m/s.
 - Sizes 630 and 710 have an additional centre mullion to increase overall stability and sizes 800 and 900 have two mullions resulting in several louvre panels.

- **Manually adjustable**
 - To cover intake and exhaust air openings in external walls. Compact flat design. Suitable for reversible axial fans (intake and extract) as air flow in either direction is possible.
 - Rattle-free and tight insulated, as the louvres are closed by spring force via mullions.
 - Manual operation by means of pull cord via guide roller.
 - Supplied with pull cord protection, guide roller, fixing hook and mounting materials.
 - Frames, louvres with axis and adjusting parts made of UV resistant, impact resistant polymer in light grey.
 - Up to nominal size 500 the louvre has one centre mullion. For larger sizes (see "custom sizes") the models have an additional centre mullion to increase overall stability and result in several louvre panels. Each part has a separate pull cord.

- **Electrically adjustable**
 - External shutters to cover intake and exhaust air openings.
 - Automatic operation linked with fan controller. It can be wired so that the fan start is delayed until the shutter is fully opened.
 - Control of fan and shutter via remote switch to be installed on site. The limit switch in servo motor connects the fan circuit when the shutter is fully opened. Max. current 1 A (ind.). With higher currents or 3 phase fans an auxiliary relay is required (contactor, Ref. no. 99611).
 - If the fan is operated by a speed controller the shutter must be controlled via a relay installed on site.
 - Ready for installation with a lead (5 x 1,5 mm², approx. 1,5 m long). Connection according to wiring diagram no. 39 and 73.
 - Water proof motor housing, protected to IP 55, made of polymer; includes maintenance free gear box motor 230 V~, 50 Hz.
 - Made of light grey polymer, rattle free operation and tight closing.

- **Pressure loss**

When selecting a fan the pressure drop of all components of the system like ducting and shutters must be considered. The diagram shows the resistance subject to air velocity.



■ **Model ranges**

Automatic Type	Ref. no.	Manually adjustable Type	Ref. no.	Electric control Type	Ref. no.	Fits fan nominal size mm	Dimensions				
							A mm	B mm	C mm	D mm	E mm
VK 160 ¹⁾	0892	—	—	1)	1)	150/160	190	190	25	131	131
VK 200	0758	RVK 200	0766	EVK 200	0774	180/200	240	240	28	193	167
VK 250	0759	RVK 250	0767	EVK 250	0775	225/250	290	290	28	243	217
VK 315	0760	RVK 315	0768	EVK 315	0776	280/315	340	340	28	293	267
VK 355	0761	RVK 355	0769	EVK 355	0777	355	390	390	28	343	317
VK 400	0762	RVK 400	0770	EVK 400	0778	400	440	440	28	393	367
VK 450	0763	RVK 450	0771	EVK 450	0779	450	490	490	30	443	417
VK 500	0764	RVK 500	0772	EVK 500	0780	500	540	540	30	493	467
VK 630	0836			EVK 630	0781	560/630	686	690	40	520	630
VK 710	0838			EVK 710	0784	710	785	785	40	771	685
VK 800	0839					800	876	885	40	862	785
VK 900	0841					900	1026	985	40	1012	885

Larger sizes are available on request, also see custom models.

¹⁾For specification, design and dimensions of smaller shutters see following page.

■ **Accessories**

Adapter F allows installation of these shutters (up to nominal diameter 710) on circular ducting. For selection and specification see page 496.



- **Small automatic shutters made of polymer for Ø 100, 125 and 160 mm**
Airstream operated louvres to cover exhaust air openings.
- Suitable as extract outlet of small fans, cooker hoods, tumble dryers and others.
- Made of UV-resistant and impact resistant polymer.
- Fixing via spigot or masonry plugs. Sealing foam strip included in contents.

■ Model range

Type	Ref. no.	Colour	Spigot Ø mm	Qty
VK 100	0757	white	100	1
VK 100 B	0765	brown	100	1
VK 100 VE*	0885	white	100	24
VK 125	0857	white	125	1
VK 160	0892	white	150/160	1

* low-cost bulk pack



- **Small electric shutter**
To cover intake and exhaust air openings in all types of rooms.
- Attractive design blends into any decor. The view into the duct is obscured even when the shutter is open.
- Maximum air flow velocity approx. 6 m/s.
- Noise free operation with a 60 second opening delay.
- Control via on/off switch, wired in parallel by preference.

■ Model range

Type	Ref. no.	Spigot Ø mm	Weight kg
EVK 100	0453	100	0,26
EVK 150	0251	150	0,44

Break-proof polymer, alpine white.
Wiring diagram no. 479
Voltage/Frequency 230 V~, 50/60 Hz
Power consumption approx. 6 W

■ Note

Operating temp. EVK 100, EVK 150: 0 to +40 °C, for all other polymer backdraught shutters: -30 to +60 °C.



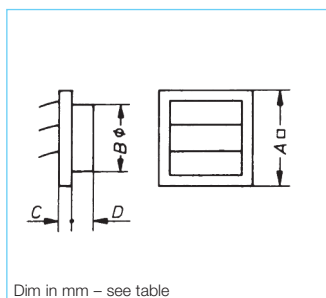
- **Rectangular shutter**
In landscape format, to cover exhaust air openings in external walls.
- Dimensions fit Helios rectangular fan range.
- Automatic operation.
- All parts made of high quality, light grey polymer.
- Fixing via dowels.
- Maximum air flow velocity = 10 m/s.

■ Model range

Type	Ref. no.	Duct nominal size cm
VK 30/15	0735	30 x 15
VK 40/20	0874	40 x 20
VK 50/25	0875	50 x 25
VK 50/30	0876	50 x 30
VK 60/30	0877	60 x 30
VK 60/35	0878	60 x 35
VK 70/40	0879	70 x 40
VK 80/50	0880	80 x 50
VK 100/50	0881	100 x 50

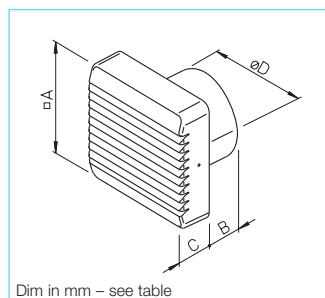


- **Custom sizes**
The shutter ranges
- automatic (airstream operated)
- manually adjustable
- electrical control are available in project specific custom sizes.
- The dimensions can be varied within steps of 50 mm. Any rectangular portrait, landscape or square dimensions are available. The shutters are manufactured to order and are non-exchangeable or returnable. Therefore the dimensions must be defined accurately.
- For more stability, an additional vertical centre mullion is fitted over 40 cm louvre length and a horizontal centre mullion over 100 cm louvre length. Large shutters are supplied in segments for stability and transport reasons and have to be assembled on frames.
- The maximum air flow velocity for standard models is 10 m/s.
- All parts (frames, shutters and their stocks) made of light grey, high quality, UV resistant polymer.



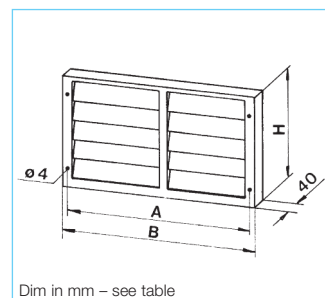
Dim in mm – see table

Type	Dim. in mm			
	A	Ø B	C	D
VK 100	140	98	15	28
VK 125	160	120-125	20	30
VK 160	190	145	25	35



Dim in mm – see table

Type	Dim. in mm			
	□ A	B	C	Ø D
EVK 100	140	58	38,5	97
EVK 150	190	62	43	145



Dim in mm – see table

Type	Dim. in mm				Weight kg
	A	B	H		
VK 30/15	381	395	235		1.0
VK 40/20	473	485	285		1.3
VK 50/25	574	585	335		2.0
VK 50/30	574	585	385		2.2
VK 60/30	674	685	385		2.4
VK 60/35	674	685	435		2.6
VK 70/40	774	785	485		3.1
VK 80/50	864	876	585		4.4
VK 100/50	1162	1176	585		5.5



■ Air tight in-duct backdraught shutter RVE

- In-duct mounted, ideal for retrofit installation.
- Polymer ring with surrounding double lip seal and tight adjacent rubber membrane, which opens at low and high pressure.
- Supplied with two membranes for air flow velocity up to approx. 3.5 m/s or 6 m/s.
- At horizontal air flow the rotation axis must be in vertical position.
- Temperature range -20 to +90 °C.



■ Backdraught shutters RSK

- Automatic shutters for in-duct installation.
- Prevents back draughts (extract of warm air or intake of cold air) when the fan is switched off.
- Automatic operation at low and high pressure (rotatable mounting position) through spring blades.
- At horizontal air flow the rotation axis must be in vertical position. If installed vertically it only operates with rising air flow. To cover further requests and severe conditions use RVS or RVM.



Automatic backdraught shutter with spring release

For all horizontal ducting and vertical with the air flow upwards i.e. blades opening upwards. Blades open in air flow direction automatically by the airflow (fan operation). The spring mechanism is outside the air flow. Closing force, fan power and installation position can be adjusted. Blades and casing made of galvanised steel, at dia. 225 – 560 mm blades are made of aluminium. Flanged on both ends. Fixing holes DIN 24155, Pt. 2. Ambient temperature -30 to +100 °C



Motorised backdraught shutter¹⁾

As RVS, but with built-on spring release motor (outside the air flow), can be installed horizontally and vertically in any direction. Electrical control wired in parallel with the fan; for installation supplied with a 0.9 m long lead, closed when currentless. Ambient temperature -30 to +60 °C Protection to IP 54 Voltage/Frequency 230 V AC, 50/60 Hz Power consumption - to Ø 560 14 W - from Ø 630 6,5 W Opening time of flaps, approx. 75 sec. Wiring diagram no. 380.1

Type	Ref. no.	Ø D1	Ø D2	L	Wgt. kg
RVE 80	2584	75	83	20	0,1
RVE 100	2587	95	103	20	0,1
RVE 125	2588	120	128	20	0,1
RVE 160	2589	155	163	20	0,2
RVE 200	2618	195	203	20	0,2

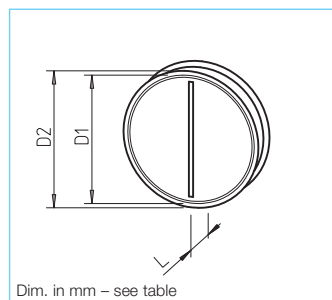
Type	Ref. no.	Ø D	L	S	Wgt. kg
RSKK 100*	5106	97	57	2,0	0,1
RSKK 125*	5107	121	57	2,0	0,1
RSK 150	5073	149	100	1,25	0,5
RSK 160	5669	159	100	1,25	0,5
RSK 180	5662	170	70	0,5	0,3
RSK 200	5074	199	140	1,25	1,0
RSK 250	5673	248,5	140	1,25	1,2
RSK 315	5674	312,5	140	1,25	1,5
RSK 355	5650	352	160	0,75	1,3
RSK 400	5651	397	160	0,75	1,4

* made of polymer (temp. max. +70 °C). Remaining models made of galvanised steel, flaps made of aluminium and springs made of stainless steel.

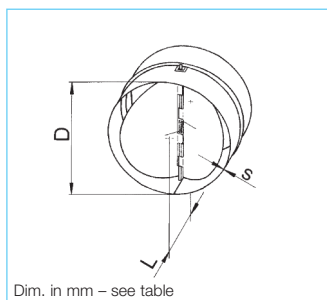
Automatic		Motorised ¹⁾		Dim. in mm							Weight
Type	Ref. no.	Type	Ref. no.	Ø D i.L.	A	B	C	L	Ø LK	kg	
RVS 225	2591	RVM 225	2575	225	-	95	130	300	259	3,3	
RVS 250	2592	RVM 250	2576	250	-	95	130	300	286	3,7	
RVS 280	2593	RVM 280	2577	280	-	95	130	300	322	4,2	
RVS 315	2594	RVM 315	2578	315	-	95	130	300	356	4,6	
RVS 355	2595	RVM 355	2579	355	-	95	130	300	395	5,3	
RVS 400	2596	RVM 400	2580	400	-	95	130	330	438	7,5	
RVS 450	2597	RVM 450	2581	454	15	95	130	330	487	10,7	
RVS 500	2598	RVM 500	2582	504	40	95	130	330	541	12,0	
RVS 560	2599	RVM 560	2583	560	65	95	130	330	605	16,4	
RVS 630	2600	RVM 630	2609	630	115	150	225	400	674	21,0	
RVS 710	2601	RVM 710	2610	710	155	150	225	400	751	28,0	
RVS 800	2602	RVM 800	2614	800	200	150	225	420	837	37,8	
RVS 900	2603	RVM 900	2615	900	250	150	225	420	934	42,3	
RVS 1000	2604	RVM 1000*	2616	1000	300	150	225	420	1043	47,8	

¹⁾ Typen RVM not suitable for explosion proof areas.

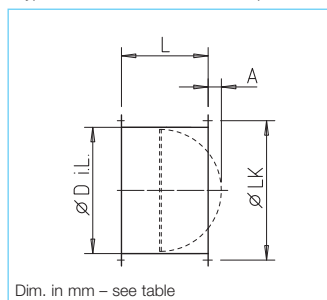
* RVM 1000 only for horizontal through flow.



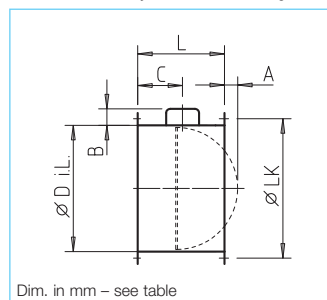
Dim. in mm – see table



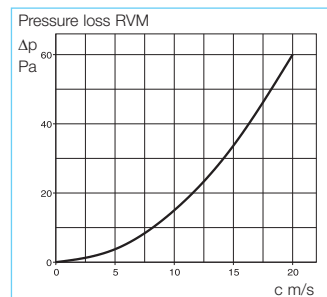
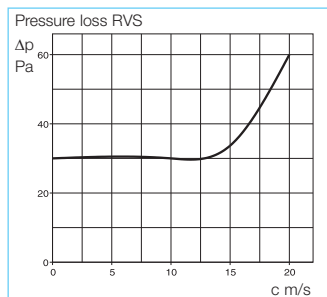
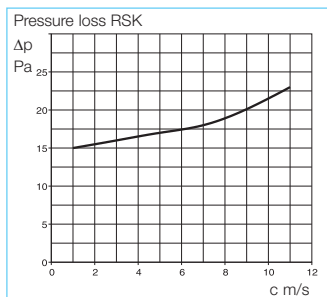
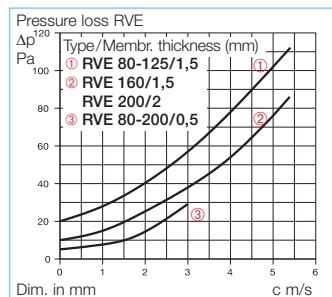
Dim. in mm – see table



Dim. in mm – see table



Dim. in mm – see table



RAG



WSG



■ Rain repellent grille RAG

To cover intake and exhaust air openings in facades, made of polymer.

- Attractive, corrosion and weather resistant finish in light grey colour prevents rain, snow and insects from entering the system.
- Frame with louvres made of UVresistant, impact resistant polymer. Mesh guard made of galvanised steel and coated with polymer. Mesh size 8 mm.
- Simple (also available as surface mounted or integrated in cladding) installation via dowels (mounting materials included). With adapter F (accessory) also suitable for circular ducting.

■ Weather proof grille WSG

In square or rectangular landscape format; to cover intake or exhaust air openings in facades.

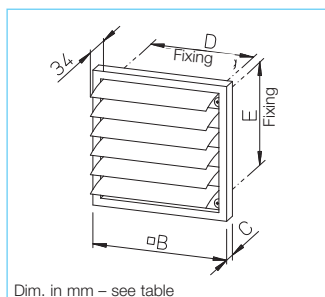
- Attractive finish protecting against rain, snow and vermin from entering the ducting. Suitable for square, rectangular and circular ducts.
- Solid construction made of aluminium extrusion profile, natural colour, anodised.
- Installation: Flush mounted or integrated in cladding.
- Fixed louvres and mesh guard behind made of galvanised steel. Mesh size: 16 mm.

■ The rectangular models

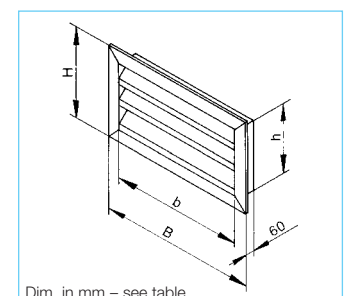
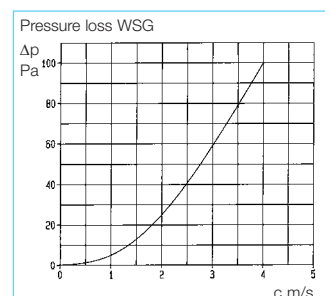
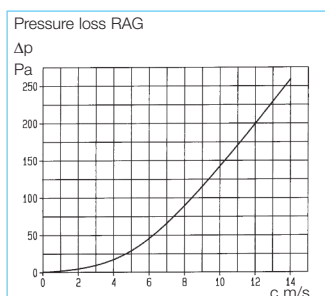
fit the Helios rectangular fan range and therefore can be fitted to rectangular ducting.

Type	Ref. no.	to fan nominal size mm	Dimensions in mm				Weight kg
			□ B	C	D	E	
RAG 200	0750	180/200	240	28	193	167	0,35
RAG 250	0751	225/250	290	28	243	217	0,45
RAG 315	0752	280/315	340	28	293	267	0,60
RAG 355	0753	355	390	28	343	317	0,75
RAG 400	0754	400	440	28	393	367	1,00
RAG 450	0755	450	490	30	443	417	1,35
RAG 500	0756	500	540	30	493	467	1,60

Type	Ref. no.	Fits to		Dim. in mm		Weight kg
		fan nom. size	spigot in mm	□ b	□ B	
WSG 200	0117	180/200	□ 200	195	271	0,8
WSG 250	0118	225/250	□ 250	245	321	1,0
WSG 315	0119	280/315	□ 315	310	386	1,5
WSG 355	0120	355	□ 355	350	426	2,0
WSG 400	0121	400	□ 400	395	471	2,5
WSG 450	0122	450	□ 450	445	521	3,0
WSG 500	0123	500	□ 500	495	571	3,5
WSG 630	0124	600/630	□ 630	625	701	4,0
WSG 710	0125	710	□ 710	705	781	4,5



Type	Ref. no.	Fits to nominal size duct in mm	Dim. in mm				Weight kg
			b	B	h	H	
WSG 30/15	0108	300 x 150	296	370	146	220	0,9
WSG 40/20	0109	400 x 200	396	470	196	270	1,2
WSG 50/25	0110	500 x 250	496	570	246	320	1,9
WSG 50/30	0111	500 x 300	496	570	296	370	2,0
WSG 60/30	0112	600 x 300	596	670	296	370	2,2
WSG 60/35	0113	600 x 350	596	670	346	420	2,4
WSG 70/40	0114	700 x 400	696	770	396	470	2,9
WSG 80/50	0115	800 x 500	796	870	496	570	4,0
WSG 100/50	0116	1000 x 500	996	1070	496	570	5,0



LGR



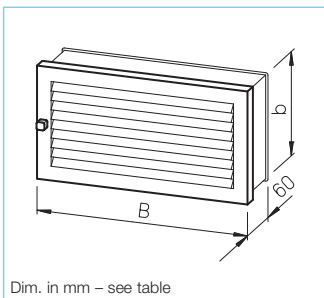
Grilles LGR

Rectangular with adjustable louvres.

- To cover rectangular intake or exhaust air openings especially for flat ducting.
- Centrally adjustable louvres allow the adjustment of air flow volume.
- Corrosion resistant design made of galvanised steel in a white epoxy finish.
- Includes mounting frame which allows universal installation. When installing in thin walled ducts it must be fixed with 4 screws.

Model range

Type	Ref. no.	Fits nominal duct openings in mm
LGR 250/150	0927	228 x 128
LGR 450/150	0928	428 x 128
LGR 350/230	0929	328 x 208
LGR 450/230	0930	428 x 208



Dim. in mm – see table

Type	Free cross section cm ²	Dim. in mm B	Dim. in mm b	Wgt. kg
LGR 250/150	160	250	150	0,6
LGR 450/150	320	450	150	1,0
LGR 350/230	430	350	230	1,2
LGR 450/230	575	450	230	1,5

QVK



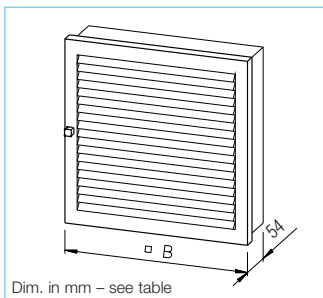
Grilles QVK

Square, with adjustable louvres.

- To cover intake or exhaust air openings with a square cross section.
- Centrally adjustable louvres allow the adjustment of air flow volume.
- Corrosion resistant design made of galvanised steel in a white epoxy finish.
- Includes mounting frame. Thereby suitable for flush mounted wall installation and without frame suitable for fixing via screws.

Model range

Type	Ref. no.	Fits up to fan size nominal size mm
QVK 200	0791	200
QVK 250	0792	250
QVK 315	0793	315
QVK 355	0794	355
QVK 400	0795	400



Dim. in mm – see table

Type	Free cross section cm ²	Dim. in mm B	Weight kg
QVK 200	320	□ 250	0,8
QVK 250	490	□ 300	1,0
QVK 315	680	□ 350	1,3
QVK 355	920	□ 400	1,8
QVK 400	1190	□ 450	3,2

G 200–500



Grilles G fixed

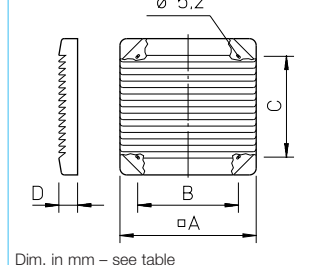
To cover vents on walls and ceilings.

- Made of high quality, UV-resistant and impact resistant polymer.
- Compact flat design. Simple fixing via mounting materials which are included.
- Some models obscure view into ducting when installed.

Model range

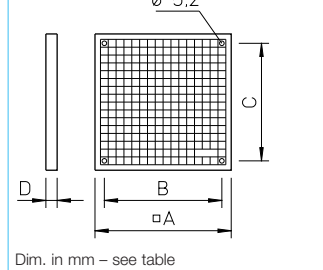
Type	Ref. no.	Colour	Fits to fan size mm
G 200	0255	white	200
G 250	0256	white	250/280
G 315	0798	white	315
G 355	0799	white	355
G 400	0800	white	400
G 500	0801	light grey	450/500

G 200 and 250



Dim. in mm – see table

G 315 – 500



Dim. in mm – see table

Type	□ A	Dim. in mm B	Dim. in mm C	Dim. in mm D	Ø	Wgt. kg
G 200	287	210	210	39	5,2	0,7
G 250	337	240	240	39	5,2	0,9
G 315	340	300	300	22	5,2	0,4
G 355	390	350	350	22	5,2	0,4
G 400	440	400	400	22	5,2	0,6
G 500	540	490	465	30	5,2	1,8

G 100, 160



Grilles G fixed

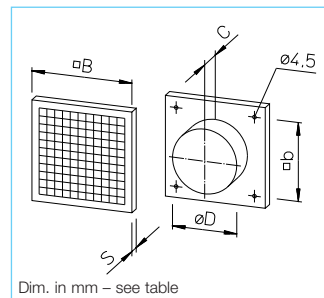
To cover and insert in circular vent openings.

- Made of high quality and impact resistant polymer. Corrosion resistant and therefore suitable for indoor and outdoor applications.
- Simple installation using rear connecting sockets with conical shape. Foam strip for air tight connection is included. Fixed installation is ensured via four corner holes. Egg grille inserts can easily be removed for cleaning even when fixed.

Model range

Type	Ref. no.	Nom. size in mm	Colour	Qty
G 100	0796	90/100	white	1
G 100 B	0782	90/100	brown	1
G 100 VE*	0828	90/100	white	12
G 160	0893	150/160	white	1

* low cost quantity pack



Dim. in mm – see table

Type	□ b	□ B	Dim. in mm C	Dim. in mm S	Ø D	Wgt. kg
G 100	90	140	28	15	100	0,8
G 160	130	190	40	24	150	0,3

LG



■ Grilles LG

With pitched louvres to cover circular vent openings of Ø 80, 100, 125 and 160 mm.

- High quality and attractively designed cover.
- Pitched louvres obscure the view into ducting when installed.
- Made of corrosion resistant die casting aluminium, powder coated. Colour: White. LGK 80 made of high quality and impact resistant polymer, Colour: White.
- Simple installation in ducting using rear spigots fixing springs and sealing tape.

LTG



■ Door grilles LTG

Fixed air transfer grilles for installation into door leaves.

- Attractive and unobtrusive design, made of high quality and impact resistant polymer in light grey or brown.
- With wide surroundings and pitched louvres to obscure view. Only 3 mm visible thickness.
- Two telescopic parts. Installation: One element of the grille to be pushed in from either side of the door. Pulled together and tightened by the fixing screws.

■ Model range

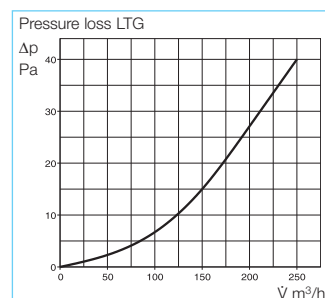
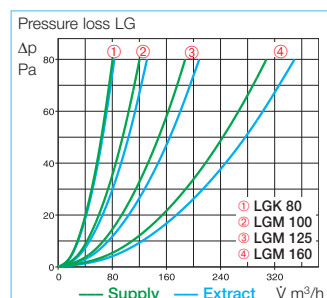
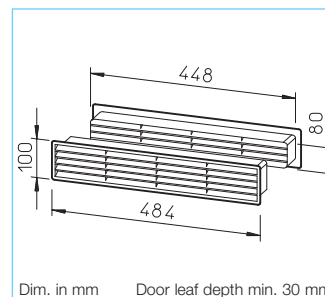
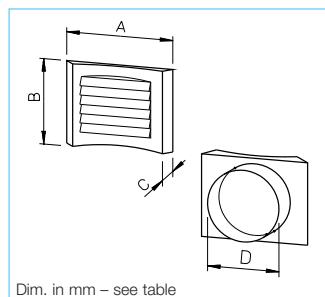
Type	Ref. no.	Weight in grams
LGK 80*	0259	120
LGM 100	0254	300
LGM 125	0258	450
LGM 160	0261	750

* made of polymer

Type	Dim. in mm			
	A	B	C	D
LGK 80	135	105	14	80
LGM 100	155	127	16	95
LGM 125	195	150	25	120
LGM 160	252	190	25	155

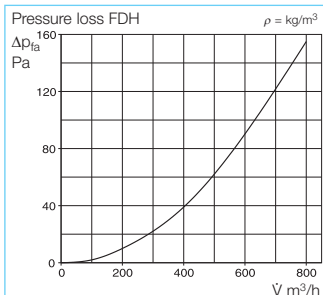
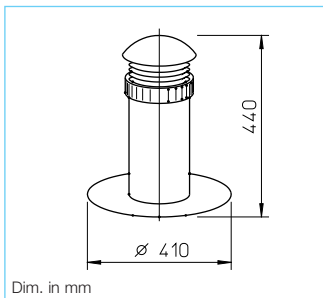
■ Model range

Type	Ref. no.	Colour
LTGW	0246	white
LTGB	0247	brown



Roof appliances

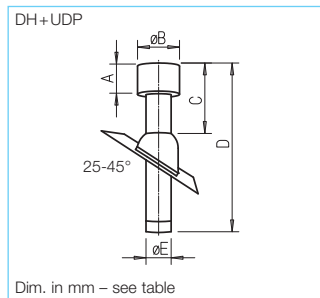
FDH



Type FDH Ref. no. 1477
Flat roof outlet

For connection of vent openings, up to 160 mm diameter, via the roof. Made of weather resistant polymer with a wide frame for fixing. Cold and heat resistant up to +200 °C. Cowl can be removed by insertion of a supplied ladder strip or insulation material (on site) to prevent the occurrence of condensation.

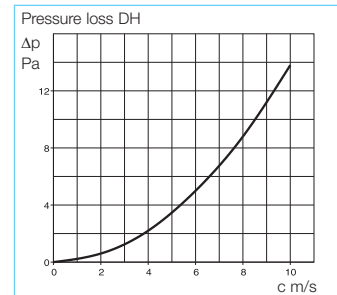
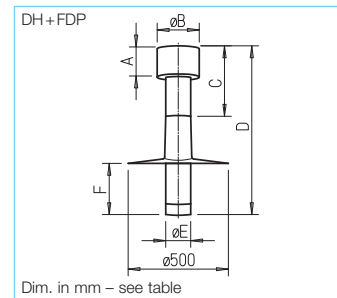
Roof outlet DH with roof pantiles FDP, UDP and connector STV



Roof outlet DH

The ideal solution for ventilation system, without static pressure drop. Made of weather resistant polypropylene, removable exhaust outlet with protection against driving rain. Connection with ducting by means of the connector STV (accessory), which obstructs the escape of condensation at the juncture. For the installation of the roof outlet, the following roof pantiles should be used:

- **Roof pantile UDP**, fits almost to every brick model, in black or brick-red. For roofs with inclinations of 25–45°.



- **Flat roof pantile FDP** made of aluminium for flat roofs.

■ **Model range: Outlet, pantile, connector to be ordered separately.**

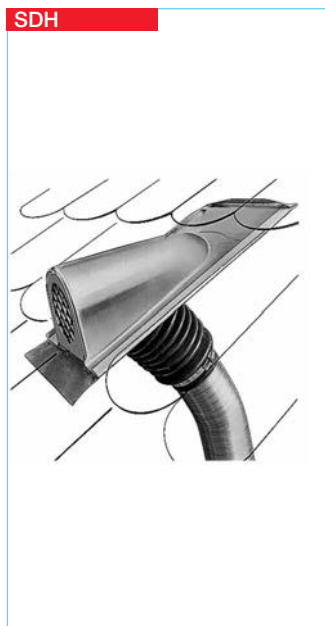
DN mm	Roof outlet*		Roof pantile*, lead		Roof pantile for flat roof, alu.		Connector	
	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
100	DH 100 R	2014	UDP 100 R	2020	FDP 100	2024	STV 100	2026
	DH 100 S	2015	UDP 100 S	2021				
125	DH 125 R	2016	UDP 125 R	2020	FDP 125	2013	STV 125	2027
	DH 125 S	2017	UDP 125 S	2021				
160	DH 160 S	2019	UDP 160 S	2023	FDP 160	2025	STV 160	2028

* R = Brick-red, S = Black

■ **Dimensions: Roof outlet DH with roof pantile UDP or FDP**

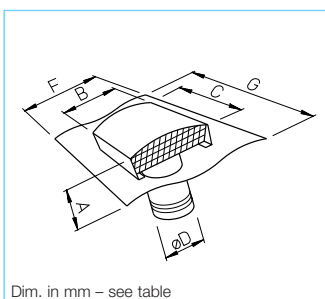
DN mm	Dimensions in mm					
	A	ø B	C	D	ø E	F
100	120	170	320	785	100	225
125	140	210	335	825	125	255
160	180	265	365	1113	160	345

Roof and wall appliances

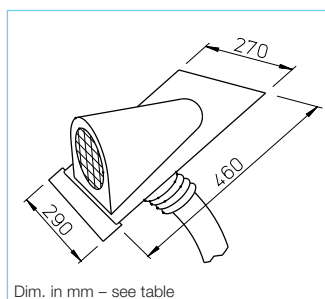


Universal roof appliances

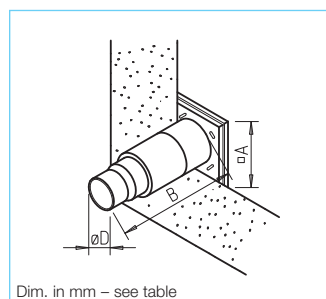
For air inlet/outlet or for connection to ducting of \varnothing 125 – 400 mm. Cowl brick-red or slate grey as optional. A large leaded sheet allows adaptation to all tile profiles on pitched roofs. Also suitable for flat roofs. Carrier plate for fixing. All remaining parts made of galvanised steel.



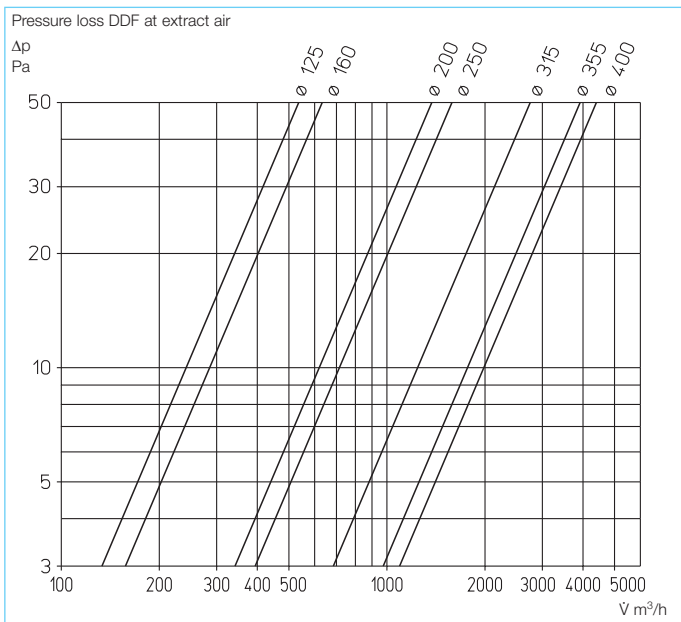
Dim. in mm – see table



Dim. in mm – see table



Dim. in mm – see table



Type SDH Ref. no. 1476

Pitched roof outlet

Universal design, suitable for most tile profiles. The large leaded sheet allows adaptation to different tile profiles. Cowl and mounting plate made of galvanised steel. Flexible polymer tube with stepped spigot for connection of all duct diameters from 70 – 115 mm. Duct fixing via supplied hose clamp.

Telescopic wall sleeve

For wall applications of supply and extract air ducting. Two telescopic polymer sleeves can be adapted to suit the wall thickness with air stream operated outdoor shutter or grille. Internal spigot suitable for connection of ducting. TMK 125/150 with stepped spigot in \varnothing 125, 150 and 160 mm. TMK 100 for duct \varnothing 100 mm.

Model range and dimensions

Type	TMK 100	TMK 125 / 150
Ref. no.	0844	0845
Dim. A mm	140 □	190 □
B max.	500	500
Ø D	100	125/150/160

Model range and dimensions DDF

Type ¹⁾	Ref. no.	Type ²⁾	Ref. no.	Dimensions in mm						Weight kg
				A	B	C	Ø D	F	G	
DDF 125	1964	DDF 125 G	1848	124	200	328	125	500	400	4
DDF 160	1965	DDF 160 G	1849	135	248	396	160	500	400	4
DDF 200	1966	DDF 200 G	1850	185	333	495	200	600	600	8
DDF 250	1967	DDF 250 G	1851	185	333	495	250	600	600	8
DDF 315	1968	DDF 315 G	1852	197	420	666	315	600	600	9
DDF 355	1969	DDF 355 G	1853	350	550	900	355	900	750	17
DDF 400	1970	DDF 400 G	1854	350	550	900	400	900	750	17

¹⁾ Outlet brick-red painted (RAL 8012)

²⁾ Outlet slate grey painted (RAL 7024)



T-pieces
made of galvanised steel.

Type	Ref. no.	Nominal Ø mm
TS 100	1479	100
TS 125	5720	125
TS 160	5805	160



Duct connector
made of galvanised steel.

Type	Ref. no.	Nominal Ø mm
RVB 80	5993	80
RVB 100	5994	100
RVB 125	5995	125
RVB 160	5987	160
RVB 200	5997	200
RVB 250	5998	250
RVB 315	5999	315
RVB 355	5991	355
RVB 400	5992	400



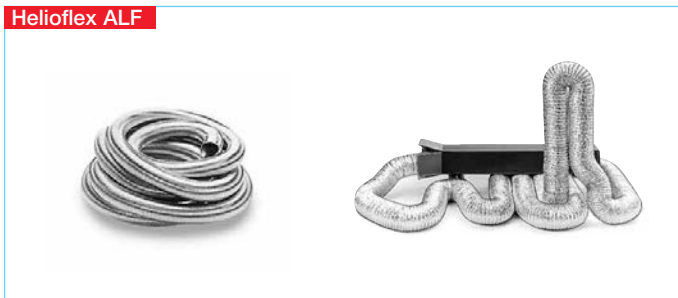
Reducers
made of galvanised steel or polymer.*

Type	Ref. no.	Nominal Ø mm	reduced Ø mm
RZ 100/80*	5223	100	80
RZ 125/100*	5222	125	100
RZ 160/125	5729	160	125
RZ 160/150*	7684	160	150
RZ 200/160	5710	200	160



Hose clamps
A steel band with a snap on tension lock. Supplied in quantities of 10 pieces.

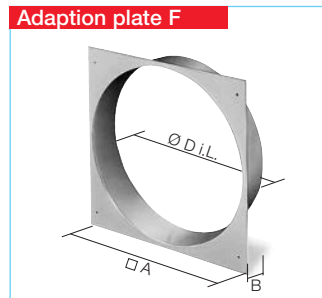
Type	Ref. no.	Nominal Ø mm
SCH 80/100	5722	80 – 115
SCH 125/160	5723	115 – 165
SCH 200	5724	165 – 215
SCH 250	5725	215 – 265
SCH 315/355	5727	265 – 375
SCH 400	5728	375 – 425



■ Flexible ducting for universal use in the most industrial, commercial and domestic applications such as general ventilation and air-conditioning technology, outlets of cooker hoods and tumble dryers etc.

- **Special characteristics**
 - Avoids storage, transportation and capacity issues.
 - A carton of approx. 60 cm length incorporates 10 m ducting.
 - Optimal in handling and finish.
 - Smallest possible bending radius.
 - Super elastic, can be bent repeatedly with no fatigue of material or leakage.
 - Self extinguishing in the event of fire.
- **Specification**
 - Two layers of polyester foil, aluminium coated.
 - Incorporated spring steel spiral for rigidity.
 - No toxic fumes in event of fire.
 - Temperature range from -20 to +100 °C.
 - Maximum pressure: 2500 Pa
 - Maximum allowed air flow speed: 20 m/s.

Type	Ref. no.	Nominal Ø mm	Inner Ø mm	Weight for 10 m	Contents per unit
ALF 80	5711	80	80	1.2	10 m
ALF 100	5712	100	102	1.4	10 m
ALF 125	5713	125	127	1.9	10 m
ALF 160	5757	160	160	2.5	10 m
ALF 200	5715	200	203	4.8	10 m
ALF 250	5716	250	254	5.3	10 m
ALF 315	5717	315	315	9.3	10 m
ALF 355	5758	355	356	9.7	10 m
ALF 400	5759	400	406	11.2	10 m



- **Adaption plate F to square shutters for circular ducting / fans.**
 - Use: By using this adaptor, the shutter ranges VK, RVK, EVK and RAG can be mounted directly to circular ducting or fan spigots (HQ/HW).
 - Installation: The four holes in the corners match the fixing points of the shutters. The circular spigot fits over the fan's casing and is fixed with screws.
 - Material: Made of galvanised steel.

■ **Model range**

Type	Ref. no.	Shutter size cm	Dim. in mm		
			□ A	B	Ø D. i. L.
F 200	0804	20	240	55	210
F 250	0805	25	290	55	259
F 315	0807	30	340	55	324
F 355	0808	35	390	55	364
F 400	0809	40	440	55	409
F 450	0810	45	490	55	460
F 500	0811	50	540	55	510
F 560/630	0257	63	685	55	570
F 630 ¹⁾	0813	63	685	55	640
F 630 ²⁾	0826	63	685	55	630
F 710 ¹⁾	0824	71	785	55	717
F 710 ³⁾	0825	71	785	55	710

¹⁾ For Type HQ ²⁾ For Type HW
³⁾ For Type AVD DK



Type AS 100 Ref. no. 5224
Connection spigot
square flange plate (102 x 102 mm) with circular spigots (50 mm long), made of polymer.
To connect ducting (DN 100 mm) on flat surfaces.

- The innovative SVE elements have low cost solutions for:
- Air flow volume adjustment and optimised distribution in ducting system of centralised ventilation units.
 - Sound level reduction through absorption of air flow and fan noises.

In order to increase the sound level reduction, several elements can be mounted in series, one after the other. Two elements virtually doubling the insertion loss.

Performance figures and insulation standards

The diagrams give an overview about air flow volumes and pressure levels according to the number of holes. The red lines and dB(A) values show the noise levels of elements (L_{WA}). The sound power levels for the related frequency (noise level of SVE elements) are available as sum levels in the installation manuals and operating instructions. The values on the table give the insulation standard D_e for the corresponding frequency.

Material

- Fire retardant foam material with protection against mould.
- Meets the requirements of the emission category M1.
- No harmful toxic fumes in event of fire.
- Complies with fire class B.

Advantages

- Cost effective solution for prevention of noise transfer in ventilation ducting systems.
- Simple installation through insertion into the ducting.
- Simple adjustment thanks to pre-punched holes.
- Minimises the system costs by using low cost ducting.
- Can be used with all types of dampers, grilles and valves.
- Can be easily cleaned with a vacuum cleaner.

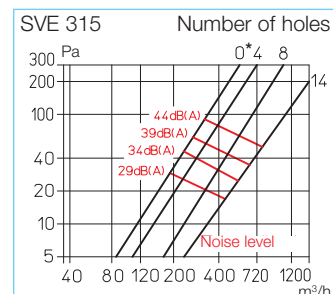
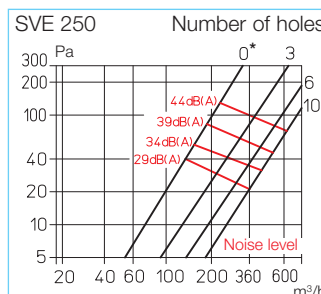
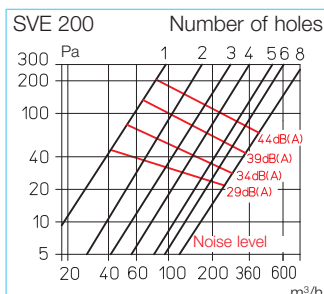
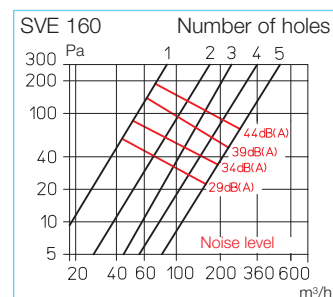
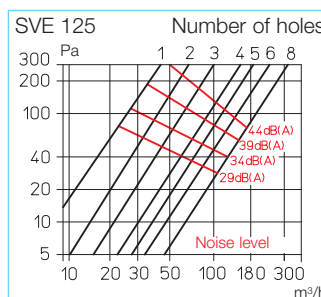
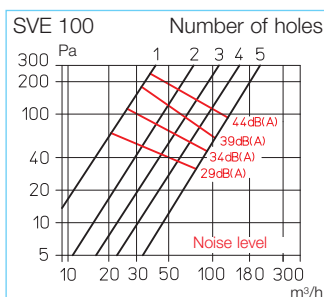
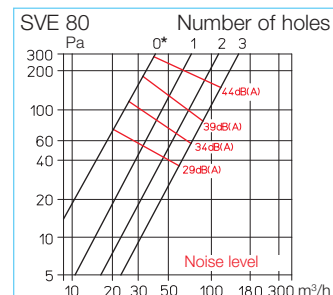
Delivery

Each element is delivered in a separate poly-bag.

Installation

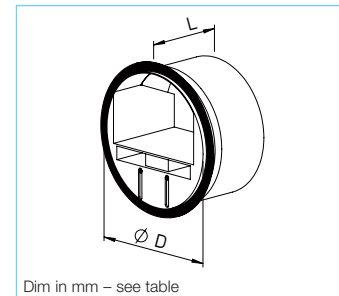
SVE to be inserted into the ducting and a valve grille or exhaust element can be used as wall termination. By removing the elliptical plugs, the air flow can be adjusted to the desired volume in accordance with the diagrams above.

SVE



Ordering data						Insulation standard D_e dB bei Hz							
Type	Ref. no.	for DN (mm)	Thick. in mm	Weight in g	Holes	125	250	500	1000	2000	4000	8000	
SVE 80	8309	80	50	32	0*	9.0	5.0	11.5	14.5	18.0	20.0	24.0	
					1	4.5	3.5	7.5	11.5	10.5	17.5	21.0	
					3	4.5	2.5	5.0	8.0	9.5	13.0	15.5	
SVE 100	8310	100	50	60	1	7.0	4.0	9.5	12.5	16.0	17.5	22.0	
					3	3.5	2.5	5.5	8.5	8.5	14.5	19.0	
					5	2.5	1.5	3.5	6.0	6.5	12.0	16.5	
SVE 125	8311	125	50	70	2	6.0	5.0	5.0	12.0	12.5	19.0	21.0	
					5	2.0	2.5	3.0	8.5	8.0	13.5	19.0	
					8	1.5	1.5	2.5	6.0	5.0	11.0	17.5	
SVE 160	8312	160	50	140	1	7.0	4.0	9.5	12.5	16.0	17.5	22.0	
					3	3.5	2.5	5.5	8.5	8.5	14.5	19.5	
					5	2.5	1.5	3.5	6.0	6.0	12.0	16.5	
SVE 200	8313	200	50	190	2	6.5	2.5	5.5	13.0	14.0	18.0	15.5	
					5	3.0	1.5	2.5	9.5	8.5	14.0	14.5	
					8	2.0	1.0	1.5	7.0	7.0	13.0	13.5	
SVE 250	8314	250	75	480	0*	4.0	3.0	7.0	13.0	18.0	18.0	17.0	
					5	2.0	2.0	5.0	9.0	13.0	15.0	15.0	
					10	2.0	1.0	3.0	7.0	11.0	14.0	13.0	
SVE 315	8315	315	75	690	0*	5.0	3.0	6.0	12.0	15.0	16.0	18.0	
					8	3.0	2.0	3.0	8.0	12.0	13.0	15.0	
					14	1.0	1.0	2.0	7.0	8.0	10.0	13.0	

* Minimum air flow volume ensured by lateral recesses



Dim in mm – see table

Automatically achieving constant air flow volume the VKH is an easy and low cost solution that ensures a constant air flow volume desired for a wide range of pressures.

■ Operation

Simply insert the automatic volume stabiliser in the duct or duct components, either supply or extract. The VKH gives the preset air volume over a differential pressure range of approx. 50 – 200 Pa.

■ Advantages

- Measuring and balancing on building site omitted; thereby the system can be commissioned faster.
- Secure and simple design.
- Ensuring a constant air flow volume, even at low counter pressure.

- Easy change of air flow volume for each diameter of VKH. Thereby the other system inlets and outlets are not affected.

- Automatic adjustment to give constant air flow volume over a wide pressure range.

- Quick installation.

- Made of flame retardant polymer, class B1 DIN 4102-1.

■ Function

- With an increasing pressure level the air flow velocity increases. The pressure against the butterfly valve decreases the opening cross section and keeps the air flow volume constant.

- At the minimum static pressure level the butterfly valve opens the cross section completely.

- The guiding cylinder is responsible for an equal movement of flaps and controls therefore the relation between pressure and air flow volume.

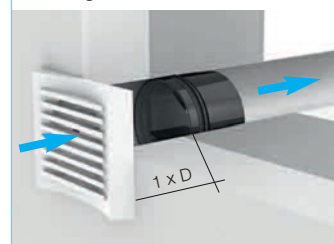
■ Installation

- Simple insertion in vertical or horizontal ducts, matching nominal duct diameter.

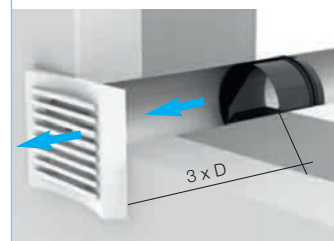
- The direction shown for the air flow must be considered.

- Perfect fitting and tightness is ensured due to textile sealing strip.

**Installation extract:
Discharge = 1 x D**



**Installation supply:
Discharge = 3 x D**



Model range	Dim. in mm			Air flow range
	Ø nom. duct	Ø D	L	m³/h
VKH 80	80	76	55	15-50
VKH 100	100	96	70	15-100
VKH 125	125	120	86	100-180
VKH 150-160	150-160	146	91	180-300
VKH 200	200	190	91	300-500
VKH 250	250	245	127	500-700

m³/h	Selection chart					
	Ø 80	Ø 100	Ø 125	Ø 150-160	Ø 200	Ø 250
15-50	80/15-50	100/15-50	125/15-50			
50-100		100/50-100	125/50-100	150-160/50-100		
100-180			125/100-180	150-160/100-180	200/100-180	
180-300				150-160/180-300	200/180-300	250/180-300
300-500					200/300-500	250/300-500
500-700						250/500-700

Assembly

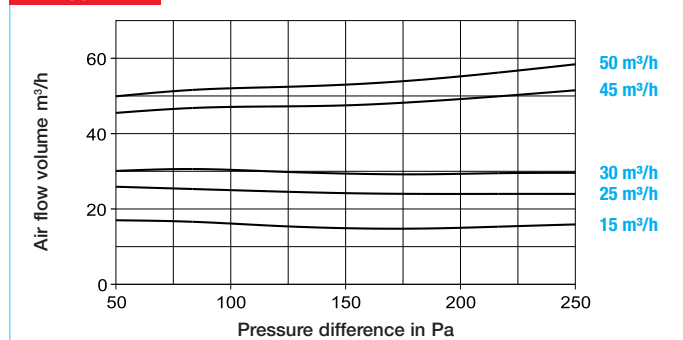


Ø 80 mm nominal duct diameter

Ref. no.	Type	Air flow volume* m³/h	Sound L _w in dB(A) at			
			50 Pa	100 Pa	150 Pa	250 Pa
0001	VKH 80/15-50	15-50	25	29	32	35

* Tolerance range (50-250 Pa) for nominal air flow volume +/- 10%.

VKH 80

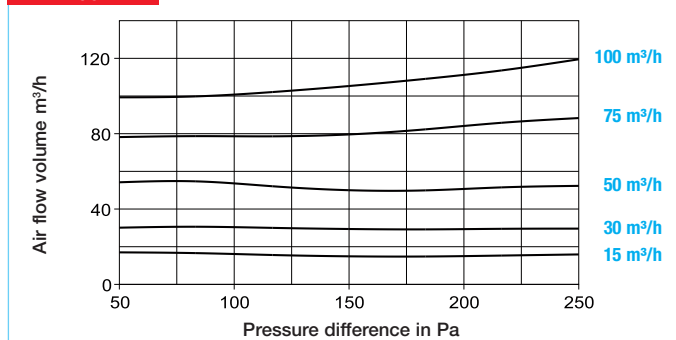


Ø 100 mm nominal duct diameter

Ref. no.	Type	Air flow volume* m³/h	Sound L _w in dB(A) at			
			50 Pa	100 Pa	150 Pa	250 Pa
0002	VKH 100/15-50	15-50	25	29	32	35
0003	VKH 100/50-100	50-100	32	37	39	42

* Tolerance range (50-250 Pa) for nominal air flow volume +/- 10%.

VKH 100

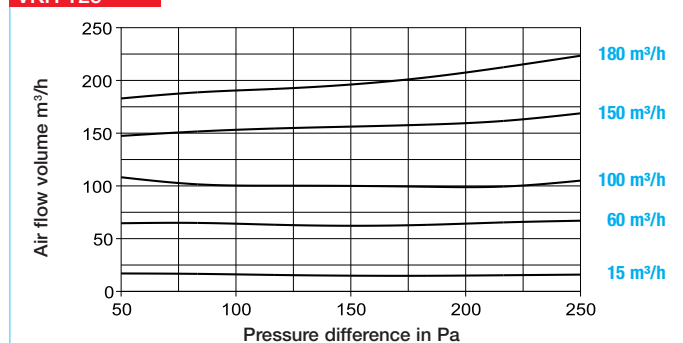


Ø 125 mm nominal duct diameter

Ref. no.	Type	Air flow volume* m³/h	Sound L _w in dB(A) at			
			50 Pa	100 Pa	150 Pa	250 Pa
0004	VKH 125/15-50	15-50	25	29	32	35
0005	VKH 125/50-100	50-100	32	37	39	42
0006	VKH 125/100-180	100-180	30	37	39	42

* Tolerance range (50-250 Pa) for nominal air flow volume +/- 10%.

VKH 125

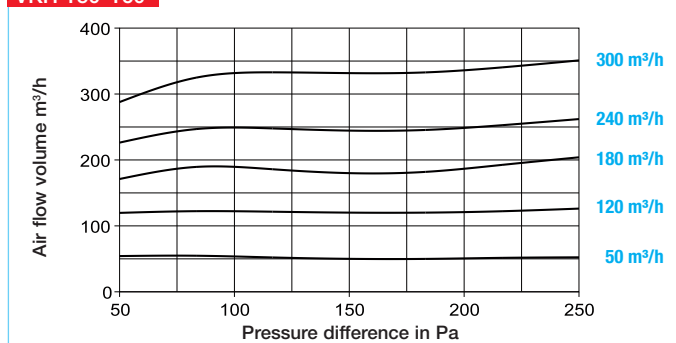


Ø 150-160 mm nominal duct diameter

Ref. no.	Type	Air flow volume* m³/h	Sound L _w in dB(A) at			
			50 Pa	100 Pa	150 Pa	250 Pa
0007	VKH 150-160/50-100	50-100	32	37	39	42
0008	VKH 150-160/100-180	100-180	30	37	39	42
0009	VKH 150-160/180-300	180-300	34	40	42	44

* Tolerance range (50-250 Pa) for nominal air flow volume +/- 10%.

VKH 150-160

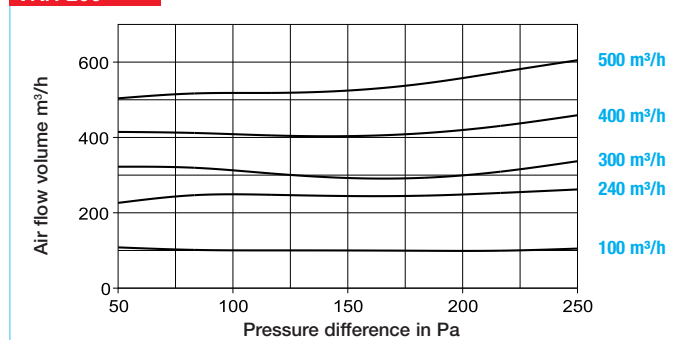


Ø 200 mm nominal duct diameter

Ref. no.	Type	Air flow volume* m³/h	Sound L _w in dB(A) at			
			50 Pa	100 Pa	150 Pa	250 Pa
0010	VKH 200/100-180	100-180	30	37	39	42
0011	VKH 200/180-300	180-300	34	40	42	44
0012	VKH 200/300-500	300-500	35	40	44	47

* Tolerance range (50-250 Pa) for nominal air flow volume +/- 10%.

VKH 200

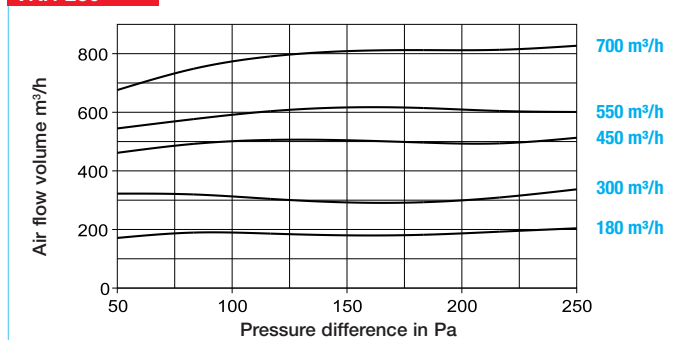


Ø 250 mm nominal duct diameter

Ref. no.	Type	Air flow volume* m³/h	Sound L _w in dB(A) at			
			50 Pa	100 Pa	150 Pa	250 Pa
0013	VKH 250/180-300	180-300	30	37	39	42
0014	VKH 250/300-500	300-500	35	40	44	47
0015	VKH 250/500-700	500-700	36	40	46	49

* Tolerance range (50-250 Pa) for nominal air flow volume +/- 10%.

VKH 250



The ideal solution for all
types of room and use.



**OUTSIDE AIR FLOW
SUPPLY ELEMENTS**

EXTRACT AIR ELEMENTS

Alongside the fan, extract air elements form the basis for demand-optimised function in central ventilation systems. By equipping them with varying air flow volumes or time, motion and moisture control fulfil, the innovative extract air elements (AE) from Helios are ideal for fulfilling requirements in this area.

501^{on}

**FILTER ELEMENTS
ATTENUATORS**

Preliminary filter elements prevent the build-up of fat and dust on extract air elements and poppet valves, as well as in the ducting system.

Slide-in cross-talk sound attenuators reduce the noise from the ducting system and telephony from one residential unit to another.

504

**VENTILATION AND
POPPET VALVES**

The ventilation valves (DLV), the design of which has won several awards, fit in beautifully and inconspicuously in any home atmosphere.

Conventional poppet valves for exhaust air and supply air operation are ideally suited for various industrial and commercial applications.

506^{on}




Outside air elements are the most efficient way of ensuring the scheduled supply of air in compliance with the standards. The number, size and placement of the elements are to be defined such that the required volume can be dosed and can flow in without causing a draught. According to DIN 1946-6, it should be taken into account when sizing the extract air elements that an indoor pressure is not more than around 8 Pa below the outside pressure.

512^{on}

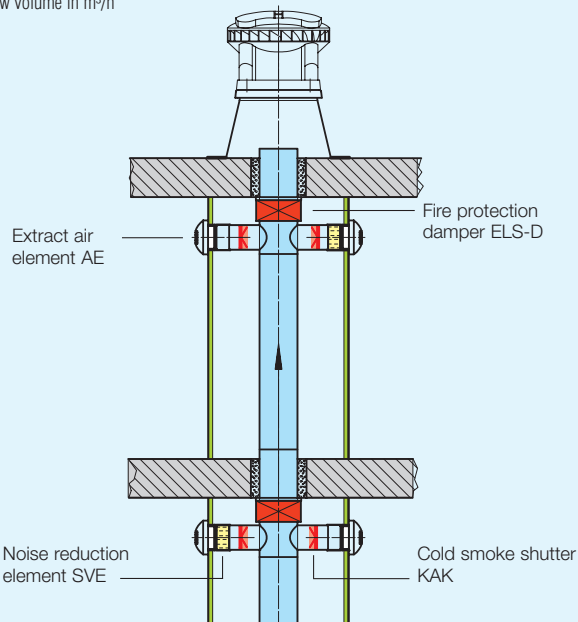


Selection

Extract air elements only optimally perform the required function when they are coordinated with the task. Use the chart below to select the correct extract element where the selection depends on volume and application. There is a choice of element designs, with constant air flow volume with and without on demand ventilation, with timer, motion or humidity controlled operation.

Bathroom 		WC 		Kitchen 	
Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
Constant air flow volume controller, self-adjusting					
AE 45*	2031	AE 30*	2030	AE 75*	2033
Two air flow volumes (std. and demand-based ventilation), constant air flow control, self-adjusting					
AE GB 20/75*	2036	AE GB 15/30*	2035	AE GB 45/120*	2038
Two air flow volumes with electrical timer (without constant air flow volume control)					
AE GBE 30/60*	2047	AE GBE 15/30*	2044	AE GBE 45/120*	2048
Two air flow volumes with electrical timer and motion sensor, page 503					
		AE B 15/30*	2055	(without constant air flow control)	
Humidity controlled with variable, limited air flow volume, page 503					
AE Hygro 10/45*	2049				
Humidity controlled with electrically controlled on demand ventilation, page 503					
AE Hygro GBE 5/40/75*	2053			AE Hygro GBE 10/45/120*	2054
With filter and air flow volume adjustment					
AE FV 125	9478			AE FV 125	9478

* Air flow volume in m³/h



Acoustic data for extract air elements of series AE

The following sound levels are relevant for the extract air elements:
 – Sound power level for permanent air flow (L_w in dB (A))
 – Sound insulation between ducting system and ventilated room ($D_{n,e}$ in dB (A)).

This sound data is specified in the respective type table. They were measured according to the standard EN 13141.

The sound insulation value can be increased by using attenuator "AESD" or "AESE" (accessories), which is to be positioned and simply inserted behind the extract air element.

Cross talk attenuators are available for further noise reduction (p. 505).

Operation

Extract air elements with self adjusting constant air flow volume controllers are the ideal components for extraction in kitchens, bathrooms and toilets for central ventilation systems in houses.

Advantages

- Constant air flow volume between 40 and 160 Pa.
- No need for adjustment or balancing of the system.
- Attractive design.
- High quality construction in an aerodynamic shape with low sound levels.
- The cover and optimised height of the inlet nozzle offer an airtight seal against the wall.
- Easy cleaning without a risk of air flow volume change.

Design

Extract air element with mounting ring, ready to install, made of white polymer to be inserted in ducts with a nominal diameter of 125 mm. A rubber seal on the mounting ring to avoid leakage. As a result, the discolouration of decor is minimised.

Function

Ensures constant air flow volume under different pressure conditions between 40 and 160 Pa.

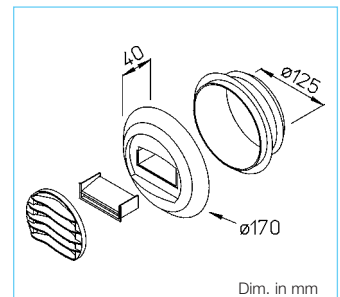
Delivery

Supplied as one element incl. mounting ring in separate poly bag.

Accessories

- Attenuator AESD to be inserted behind the element (Ref. no. 2059)
- Adapter filter element VFE 70 (Ref. no. 2552).

AE

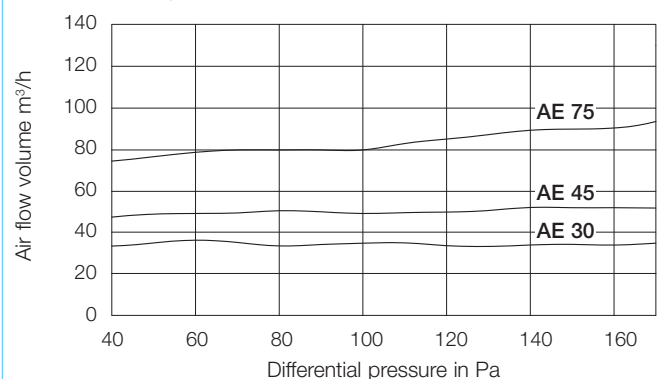


Dim. in mm

Installation

Suitable for wall and ceiling installation. The mounting ring, to be fixed via screws on duct or wall openings and the extract air element to be inserted. For an equal inlet and outlet air flow a straight duct of at least 300 mm is required.

Air flow volume performance curve AE



Type	Ref. no.	Sound power level L_w in dB (A)			Sound insulation $D_{n,e}$ in dB (A)	
		100 Pa	130 Pa	160 Pa	without AESD	with AESD
AE 30*	2030	30	33	36	60	64 ¹⁾
AE 45*	2031	33	34	37	56	63 ¹⁾
AE 75*	2033	35	36	39	57	64 ¹⁾

¹⁾ Equipped with attenuator AESD (accessories) * Air flow volume in m³/h

Operation

Extract air elements for two air flow volumes (basic and boost) with self adjusting constant air flow volume controller are the ideal components for extraction in kitchens, bathrooms and toilets for central ventilation systems in houses.

Advantages

- Two air flow volumes for standard and demand-based ventilation.
- Constant air flow volume between 40 and 160 Pa.
- No need for adjustment or balancing of the system.
- Attractive design.
- High quality construction in an aerodynamic shape with low sound levels.
- The cover and optimised height of the inlet nozzle offer an airtight seal against the wall.
- Easy cleaning without a risk of air flow volume change.

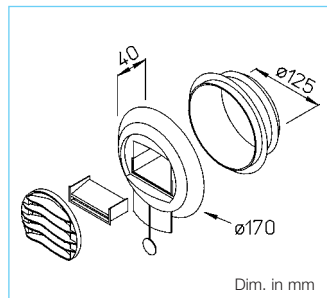
Function AE GB

The self adjusting air flow volume limiter keeps the adjusted nominal air flow volume (between 40 and 160 Pa) constant (see performance curve). Two control steps allow for standard and demand-based ventilation. On/off switching of high air flow volumes manually via pull cord.

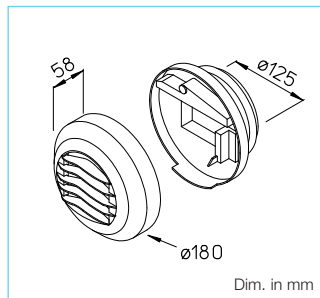
Design (AE GB, AE GBE)

Extract air element with mounting ring, ready to install, made of white polymer to be inserted in ducts with nominal diameter of 125 mm. The rubber seal on the mounting ring avoids leakage of air. As a result, dis-colouration of the decor is minimised.

AE GB



AE GBE



Installation (AE GB, AE GBE)

AE GB for wall, AE GBE also suitable for ceiling installation. The mounting ring, to be fixed via screws on duct or wall openings and the extract air element to be inserted. For an equal inlet and outlet air flow a straight duct of at least 300 mm is required.

Accessories

- Attenuator:
AE GB: AESD, Ref. no. 2059
AE GBE: AESE, Ref. no. 2058
- Adapter filter element
AE GBE: VFE 90, Ref. no. 2553 obstructs grease and dust deposits on extract air elements and in ducting.

Operation

Extract air device with electric timer for two air flow volumes (standard and demand-based ventilation). Ideal components for extraction in kitchens, bathrooms and toilets for central ventilation systems in houses.

Advantages

- Two air flow volumes for standard and demand-based ventilation e.g. via on-site switch.
- No need for adjustment or balancing of the system.
- Attractive design.
- High quality construction in an aerodynamic shape with low sound levels.
- The cover and optimised height of the inlet nozzle offer an airtight seal against the wall.
- Easy cleaning without a risk of air flow volume change.

Function AE GBE

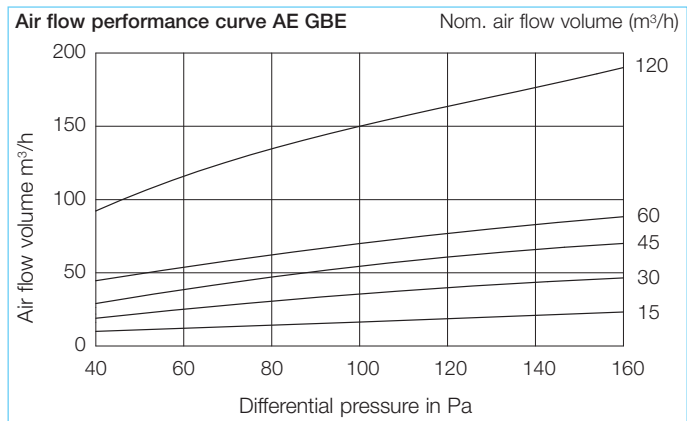
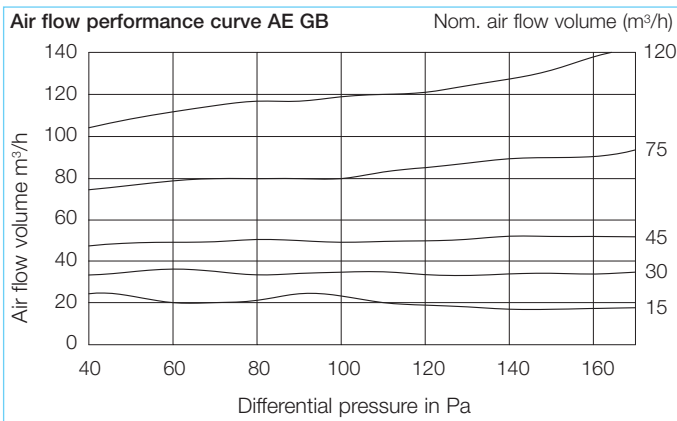
The basic air flow is increased to the higher level of air flow via a switch on-site (by others). After 30 minutes – regardless of the position of the switch on-site – it automatically returns to “standard ventilation”.
230 V, AC 0.5/3 W, IP X1 □

Delivery

Supplied as one element incl. mounting ring in separate Polybag.

Upon request

Type AE FV 125 Extract air element filter and air flow volume adjustment, Ref. no. 9478



Ordering data		Sound power level ²⁾ L _w in dB (A)			Sound insulation D _{n,e} in dB (A)	
Type	Ref. no.	100 Pa	130 Pa	160 Pa	without AESD	with AESD
AE GB 15/30*	2035	27	31	34	60	64 ¹⁾
AE GB 20/75*	2036	27	30	33	57	64 ¹⁾
AE GB 45/120*	2038	33	34	37	56	63 ¹⁾

¹⁾ Equipped with attenuator AESD (accessories) ²⁾ Values are valid for standard ventilation
* Air flow volume in m³/h

Ordering data		Sound power level ²⁾ L _w in dB (A)			Sound insulation D _{n,e} in dB (A)	
Type	Ref. no.	100 Pa	130 Pa	160 Pa	without AESD	with AESD
AE GBE 15/30*	2044	30	33	36	60	64 ¹⁾
AE GBE 30/60*	2047	27	30	33	57	64 ¹⁾
AE GBE 45/120*	2048	29	32	35	57	62 ¹⁾

¹⁾ Equipped with attenuator AESE (accessories) ²⁾ Values are valid for standard ventilation

Operation

Extract air device with motion sensor and timer for two air flows (standard and demand-based ventilation). Ideal for extraction in kitchens, bathrooms and toilets for central ventilation systems in houses.

Advantages

- Two air flow volumes for standard and demand-based ventilation via integrated motion sensor.
- No need for adjustment or balancing of the system.
- Attractive design.
- High quality construction in an aerodynamic shape with low sound levels.
- The cover and optimised height of the inlet nozzle offer an air-tight seal against the wall.
- Easy cleaning without a risk of air flow volume change.

Design

Extract air element with mounting ring, ready to install, made of white polymer to be inserted in ducts with nominal diameter of 125 mm. The rubber seal on the mounting ring avoids air leakage. As a result, discolouration of the decor is minimised.

Function AE B

The basic air flow is to be increased to on demand air flow via an integrated motion sensor. After 30 minutes it automatically returns to "standard ventilation". Electrical supply through three batteries (on site, model LR 03, 1.5 V, operational life span approx. 18 months.).

AE B – with motion sensor



AE Hygro – humidity controlled



Operation

The humidity controlled extract air elements allow a variable air flow volume depending on the relative humidity. They are suitable for the operation control of extract air volumes in bathroom and kitchen for ventilation systems in houses.

Advantages

- Automatically controlled air flow volume depending on the relative humidity between minimum and maximum limits.
- No need for adjustment or balancing of the system.
- Attractive design.
- High quality construction in an aerodynamic shape with low sound levels.
- The cover and optimised height of the inlet nozzle offer an air-tight seal against the wall.
- Easy cleaning without a risk of air flow volume change.

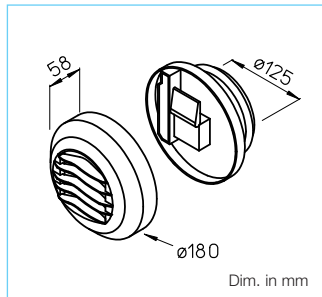
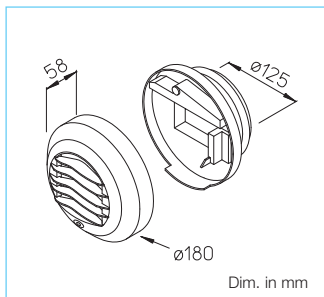
Function AE Hygro

The air flow volume is automatically controlled depending on the relative humidity between minimum and maximum limits. Achieving the defined trickle air flow at Δp of 80 Pa depending on the relative humidity. No need for electric connection.

Additional function AE Hygro GBE

The basic air flow is increased to the higher level of air flow via a switch on-site (by others). After 30 minutes – regardless of the position of the switch on-site – it automatically returns to "standard ventilation".

230 V, AC 0.5/3 W, IP X1



Delivery and installation

See description Type AE GB.

Accessories

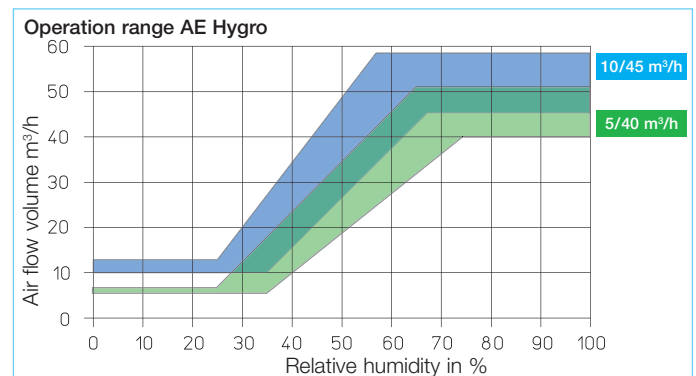
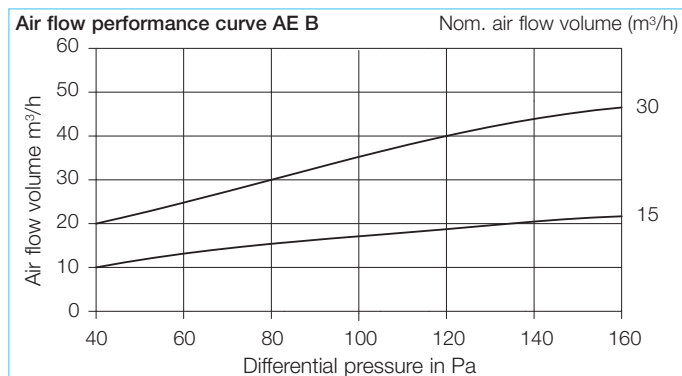
- Attenuator AESE to be inserted behind the element (Ref. no. 2058).

Design, delivery and installation

See description Type AE GB.

Accessories

- Attenuator AESE to be inserted behind the element (Ref. no. 2058).
- Adapter filter element VFE 90 for installation in front of the element (Ref. no. 2553).



Ordering data		Sound power level ²⁾ L _w in dB (A)			Sound insulation D _{n,e} in dB (A)	
Type	Ref. no.	100 Pa	130 Pa	160 Pa	without AESE	with AESE
AE B 15/30*	2055	20	25	28	60	64 ¹⁾

¹⁾ Equipped with attenuator AESE (accessories) ²⁾ Values are valid for standard ventilation

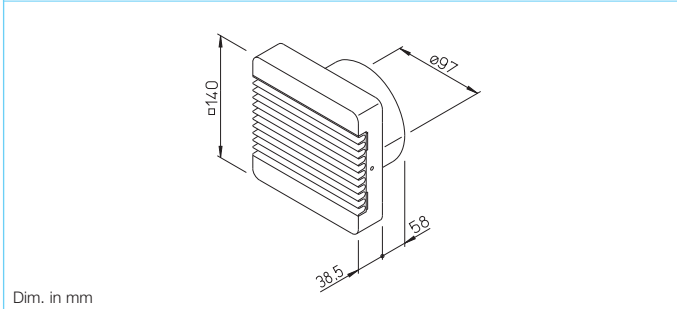
Ordering data		Sound power level ²⁾ L _w in dB (A)			Sound insulation D _{n,e} in dB (A)	
Type	Ref. no.	100 Pa	130 Pa	160 Pa	without AESE	with AESE
AE Hygro 10/45*	2049	29	32	35	57	61 ¹⁾
AE Hygro GBE 5/40/75 ³⁾ *	2053	28	31	34	56	64 ¹⁾
AE Hygro GBE 10/45/120 ³⁾ *	2054	29	32	35	56	62 ¹⁾

¹⁾ Equipped with attenuator AESE (accessories)

²⁾ Values for standard ventilation

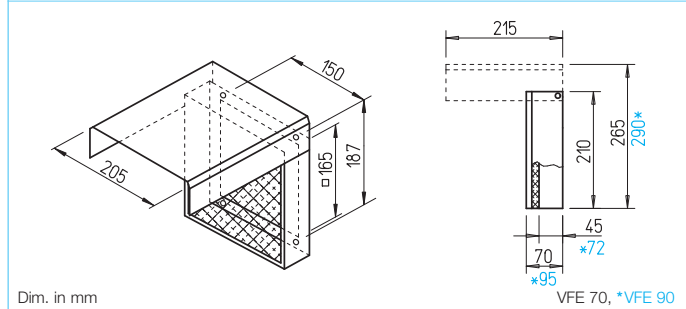
³⁾ For the performance curve of on demand ventilation see AE GBE left page * Air flow vol. in m³/h

ABV 100



Dim. in mm

VFE

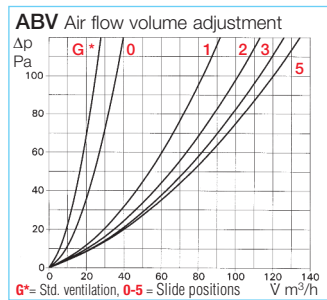


Dim. in mm

VFE 70, *VFE 90

AbluVent ABV 100

Can be used in central ventilation systems in accordance with DIN 18017-3 with variable air flow volumes. Demand-regulated ventilation, e.g. for bathrooms and toilets without windows. All elements in the system must have the same design. Made of high quality polymer, colour: White.



Function

AbluVent is operated via a light switch. The louvres open when the room is in use. Standard ventilation is provided when the room is not in use, a low air flow is extracted when the louvres are closed.

The diagram above shows the air flow in relation to the setting and negative pressure.

Advantages

- Energy saving.
- Low cost.
- Quick installation.
- Always an optimum solution.
- Delayed closure of approx. 5 minutes.
- Stepless adjustment of air flow volume.
- Noiseless operation.
- Changeable filter to keep duct system clean.

Air flow volume

The opening pitch of the louvres can be set stepless between 15 – 80 degrees (covered, inside fascia panel).

Technical data – connection

The unit is operated by a standard on/off switch, ideally combined with a light switch. Supply voltage: ~220/240 V, 3 W. Double insulated, interference-free, protected to IP 44. Casing: polymer, alpine white. The thermal metal shutter works with a short delay opening (approx. 30 sec.) and closing of (approx. 5 min.).

Type ABV 100 Ref. no. 0452

Accessories

Type ELF/ABV Ref. no. 6906
Spare filter mats.
Contents = 5 pcs.

Adapter filter element VFE

Simple and cost effective solution for filtering greasy, contaminated room air. To be installed in front of extract air elements or poppet valves.

Operation

Filter element to cover air vents and prevent dirt deposits from poppet valves, extract air elements and connected ducting. Ideal for use in the kitchen with a central ventilation system in line with DIN 18017.

Advantages

- Prevents grease and dust deposits from extract air elements or poppet valves and connected ducting.
- Filter replacement in a few easy steps.
- The permanent filter can be cleaned in a dishwasher.
- Discreet design in pleasant white.
- Simple installation via four screws.
- Hinders possible contamination areas.
- Less maintenance cost of ducting through longer cleaning periods

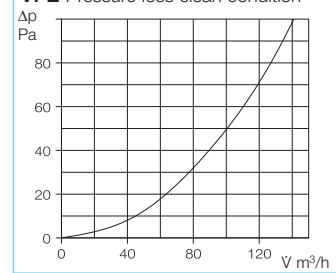
Casing

Robust casing made of galvanised sheet steel, white, powder coated polymer. The fascia panel is pivotable at 90° and prevents the view into the filter and contamination area.

Filter

Dimensionally stable aluminium filter fabric with 324 cm² free filter area and aluminium frame.

VFE Pressure loss clean condition



Installation

Suitable for wall and ceiling installation. Simply fixed with four screws. Elongated slot-fixing holes ensure easy positioning. To be fixed directly over the installed extract air element (max. outer Ø 175 mm). Fascia panel is hinged at 90°; for easy filter removal and a space between the upper edge of the casing and the ceiling (see drawing) is necessary.

Delivery

Each element including installation accessories is packed separately.

Delivery range

Type VFE 70 Ref. no. 2552

Suitable for extract air elements with max. 70 mm installation depth such as AE, MTVA, KTVA, BTV, BTK.

Type VFE 90 Ref. no. 2553

Suitable for extract air elements with max. 90 mm installation depth such as e.g. AE GBE, AE Hygro.

Accessories

Type ELF/VFE Ref. no. 2554

Spare air filter, suitable for the types VFE 70 and VFE 90. Contents = 2 pcs.

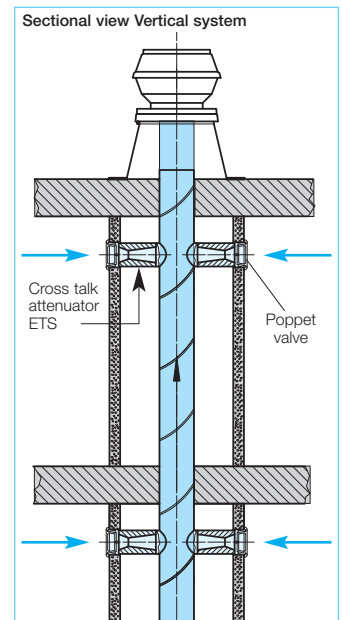
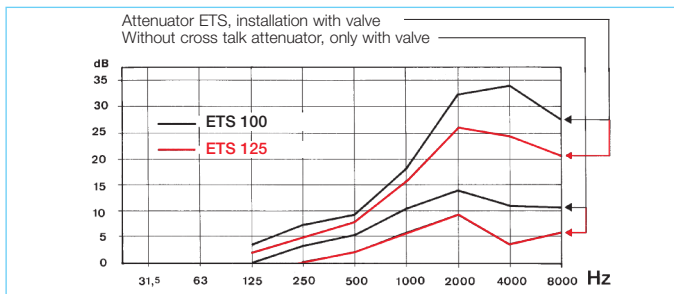
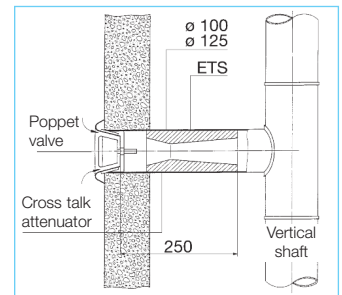
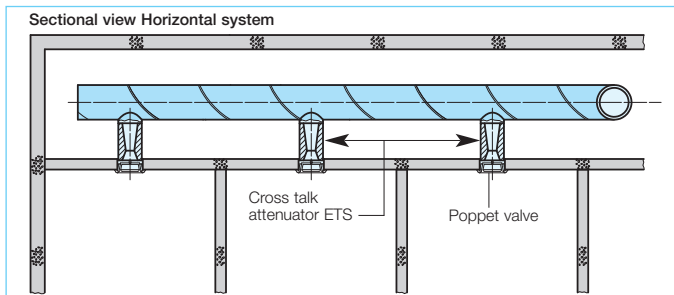
ETS



Surprisingly simple and cost effective solution to reduce noise transmission in central ventilation systems. Easy installation direct into ducting behind the air valve.

Advantages

- Optimum solution for the prevention of noise transmission in ventilation ducting.
- Excellent attenuation figures (see diagram).
- Simple installation by inserting into duct behind the air valve.
- Virtually no additional resistance to the system, as the resistance value is below the setting value of the valve.
- Minimising system costs by using cost effective ducting.
- Can be used with any brand of valves.



Delivery range

Type ETS 100 Ref. no. 4521
 Nominal duct \varnothing 100 mm

Type ETS 125 Ref. no. 4522
 Nominal duct \varnothing 125 mm

Attenuation figure

The attenuation figure can be doubled if you have two facing rooms where both have an ETS attenuator in the ducting.

Material

Flexible polyurethane foam with improved reaction in case of fire, complies with DIN 4102, class B1, UL-94-HF 1, MVSS 302 among others.

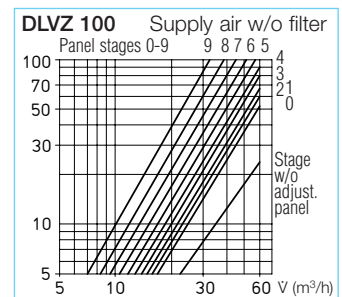
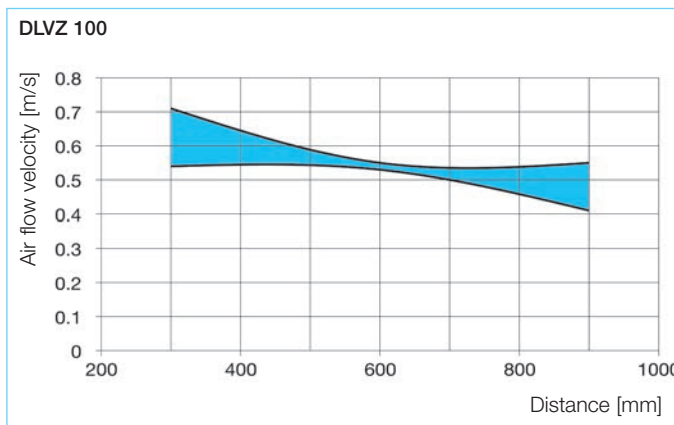


■ Operation

For supply air operation in all rooms without special fire protection requirements. Ideal for wall installation close to the ceiling with the air flow directed into the room.

■ Advantages

- Elegant, square casing made from high-quality polymer.
- Air cone evenly streams to the centre of the room.
- Includes mechanically adjustable volume controller for adjusting the ventilation system. Accessible by removing the casing, with location markers (stages 0 – 9, see diagram).
- Casing can be removed without tools for the simple cleaning of the air-exposed valve parts.
- Sealing ring on spigot for precise positioning and sealing in the ducting, prevents discolouration of the wall.
- Fixing holes in casing base for secure fixation.



■ Design

Casing design made from white, impact-resistant polymer.

- When adjusting the entire system, adjust any air volume settings.
- Upper part of casing attachable without tools.

■ Delivery

Valves individually packaged in polybag, including setting control (mountable if necessary) as well as installation and operating instructions.

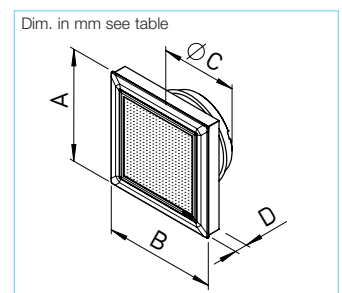
■ Performance data

The diagrams provide an overview of the air volumes and pressure losses for different volume controller settings, as well as the flow velocity of the out-flowing air at 30 m³/h in relation to the valve distance.

■ Installation

- Mount volume controller if necessary. Pre-set air volume according to diagram.
- Position casing base in ventilation duct and fix to the wall.

Ordering data	
Type	DLVZ 100
Ref. no.	3040
Dimensions in mm	
∅ C	100
A	135
B	135
D	20
Weight in g	150





reddot
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award
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2008



Designpreis
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2010
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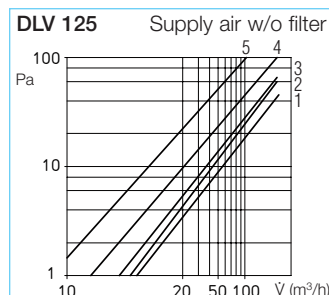
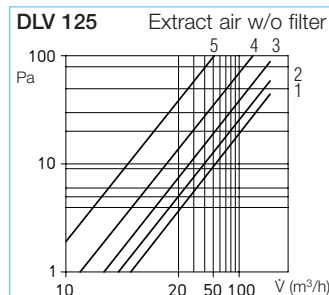
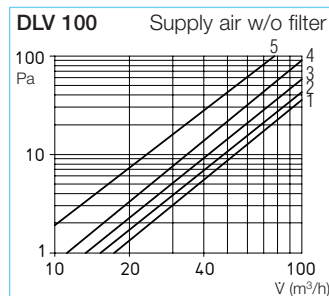
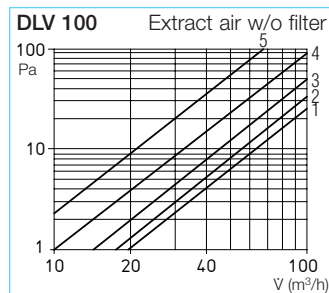


product
design
award
2008



Focus Green
Silber 2008

DLV



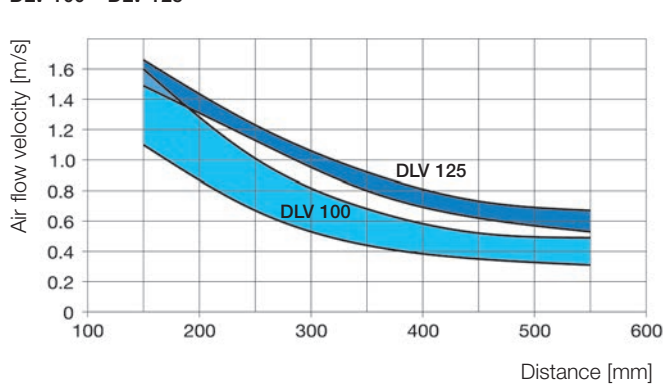
Operation

For supply and extract air operation in all rooms without special fire protection requirements. Ideal for ceiling installation.

Advantages

- Elegant, square casing made from high-quality polymer with covered air intake and discharge area.
- Precise air volume adjustment by turning the elegant front panel in 90° stages, with location markers for adjusting the ventilation system.
- Integrated filter exchangeable without tools and without risk of changing the setting.
- Selected air volume setting can be locked.
- Minimum air volume also ensured for fully closed air volume setting. Full closure only by nur irreversibly removing the minimum air volume stop.
- Front panel can be removed without tools, with adjustment mechanism and filter holder for the simple cleaning of the air-exposed valve parts.
- Sealing ring on spigot for precise positioning and sealing in the ducting.
- Fixing holes in casing base for secure fixation to the ceiling.

DLV 100 – DLV 125



Design

Casing design made from white, impact-resistant polymer. Elegant square appearance with closed front panel.

- When adjusting the entire system, adjust any air volume settings.
- Front panel with adjustment mechanism and filter holder can be attached without tools.

Delivery

Valves individually packaged in polybag, including G2 filter, installation and operating instructions.

Performance data

The diagrams provide an overview of the air volumes and pressure losses for different front panel settings, as well as the flow velocity of the outflowing air at 30 m³/h (DLV 100) or 60 m³/h (DLV 125) in relation to the valve distance.

Installation

- Place G2 filter in the filter holder.
- Pre-set air volume according to diagram.
- Position casing base in ventilation duct and fix to the ceiling.

Accessories

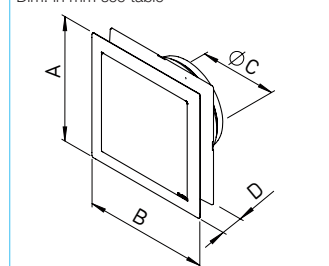
Replacement air filter class G2
Contents: 5 pcs.

Type ELF-DLV 100 No. 3042

Type ELF-DLV 125 No. 3058

Ordering data		
Type	DLV 100	DLV 125
Ref. no.	3039	3049
Dimensions in mm		
Ø C	100	125
A	135	176.5
B	135	176.5
D	10-30	15-30
Weight in g	150	210

Dim. in mm see table



MTVA



■ Operation

For air extract in any room especially where ventilation system components of non flammable materials are required. Suitable for low and high air flow speed. Low noise characteristic.

■ Advantages

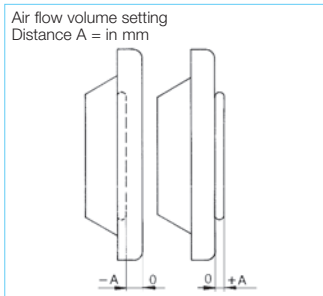
- Technically advanced design, aerodynamically shaped for low sound levels.
- Large cover with optimised height of the inlet ring avoids marking of decor.
- Quick mounting in ceiling and wall without tools.
- Plaster and difference compensation for unevenness, differences in diameter or ducting that has been too deeply plastered.
- Spring mounting clamp offers a direct insertion in ducts or walls up to approx. 20 mm size without an additional mounting ring.

■ Design

Metal construction protected against corrosion by a high quality epoxy paint in white. The foam strip fitted around the valve provides an air tight connection avoiding air leakage and dis-colouration around the valve.

■ Delivery

Each valve is separately supplied in polybag.



■ Accessories

For installation in ducting, walls or thin panels, a mounting ring may be required (see table).

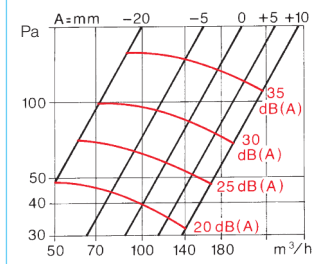
■ Installation

Set valve to required air flow volume according to the diagram. The distance 'A' is given in mm from the 0 point. Then simply press valve into wall or ducting.

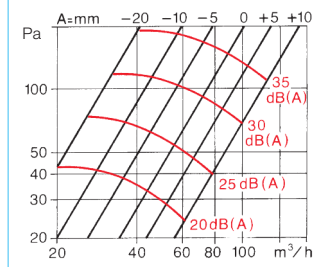
■ Performance data

These diagrams show the relationship between air flow volumes, resistances and sound levels at various adjustments of the distance "A" in mm.

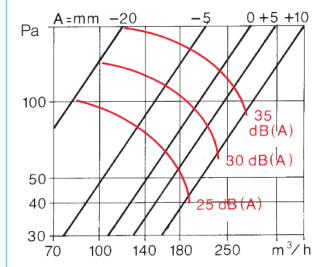
MTVA 125



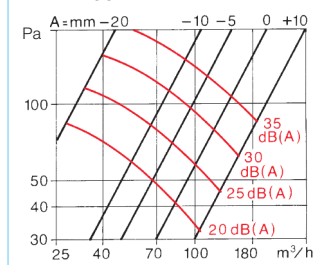
MTVA 75/80



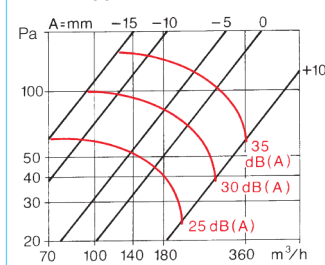
MTVA 160



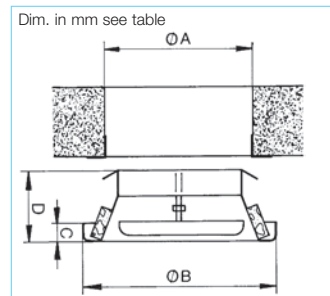
MTVA 100



MTVA 200



Ordering data					
Type	MTVA 75/80	MTVA 100	MTVA 125	MTVA 160	MTVA 200
Ref. no.	8868	8869	8870	8871	8872
Dim. in mm					
Ø A	73 – 85	95 – 105	120 – 130	150 – 165	195 – 205
Ø B	108	135	160	195	230
C	15	15	15	15	18
D	58	59	60	58	63
Weight in g	150	190	255	340	450
Mounting ring					
Type	EBR 75/80	EBR 100	EBR 125	EBR 160	EBR 200
Ref. no.	0952	0953	0954	0955	0956
for DN (mm)	75/80	100	125	150/160	200



KTVA



■ Operation

For air extraction with high and low air flow speeds or resistances.
For all rooms without special fire protection requirements.

■ Advantages

- Installation without tools in seconds.
- High noise attenuation through built-in attenuator in fan.
- High quality anti static polymers suitable for temperatures up to +100 °C.
- Using a mounting ring avoids dis-colouration of surrounding decor.
- Plaster and difference compensation for unevenness, differences in diameter or ducting that has been too deeply plastered.
- Spring fit connector allows direct installation in ducting or wall with a minimum thickness of approx. 20 mm without an additional mounting ring.

■ Design

Aerodynamically shaped made from impact resistant white polymers. Adjustable air flow via rotating valve plate (volume throughput see diagram).

■ Delivery

Each valve is individually supplied in polybag.

■ Accessories

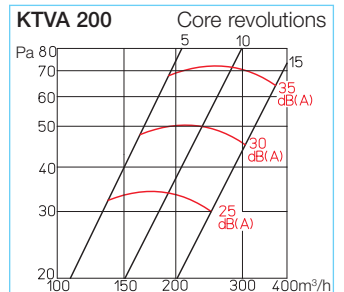
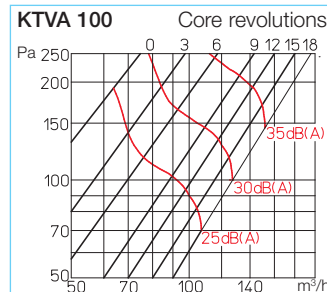
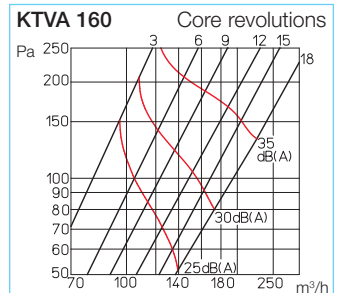
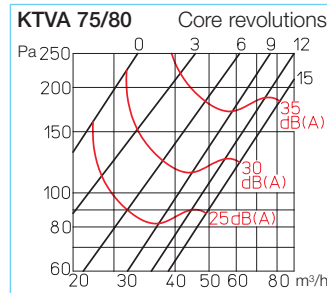
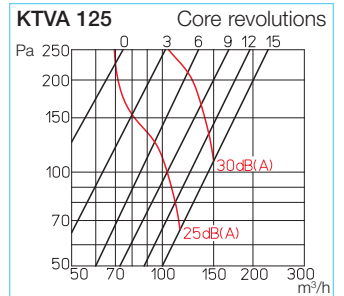
For installation in ducting, walls or thin panels, a mounting ring may be required (see table).

■ Installation

Set valve to required air flow volume according to the diagram through core revolutions then simply press valve into wall or ducting.

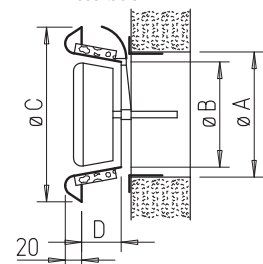
■ Performance data

These diagrams show the relationship between air flow volumes, resistances and sound levels at various core openings.



Ordering data					
Type	KTVA 75/80	KTVA 100	KTVA 125	KTVA 160	KTVA 200
Ref. no.	0940	0941	0942	0943	0944
Dim. in mm					
Ø A	73 – 85	95 – 105	120 – 130	150 – 165	195 – 210
Ø B	45	70	95	125	172
Ø C	120	145	160	195	240
D	35	35	35	35	35
Weight in g	90	115	150	200	340
Mounting ring					
Type	EBR 75/80	EBR 100	EBR 125	EBR 160	EBR 200
Ref. no.	0952	0953	0954	0955	0956
for DN (mm)	75/80	100	125	150/160	200

Dim. in mm see table





■ Operation

For air supply to any room especially where ventilation system components of non flammable materials are required. Suitable for low and high air flow speed. Low noise characteristic.

■ Advantages

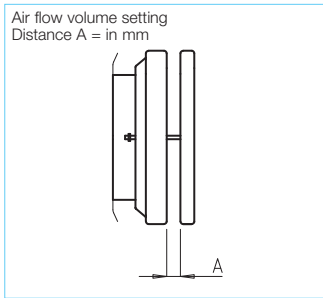
- High-quality metal design, aerodynamically shaped for low sound levels.
- Large cover with optimised height of the inlet ring avoids marking of decor.
- Quick mounting in ceiling and wall without tools.
- Plaster and difference compensation for unevenness, differences in diameter or ducting that has been too deeply plastered.
- Spring mounting clamp offers a direct insertion in ducts or walls up to approx. 20 mm size without an additional mounting ring.

■ Design

Metal construction protected against corrosion by a high quality epoxy paint in white. The foam strip fitted around the valve provides an air tight connection and avoids air leakage and dis-colouration around the valve.

■ Delivery

Each valve is separately supplied in a polybag.

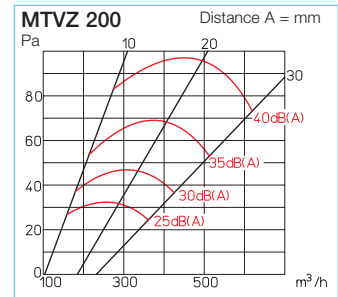
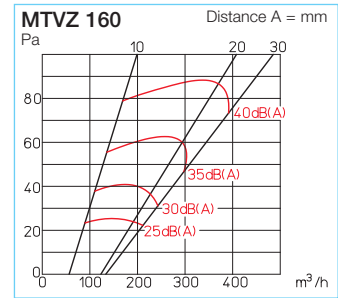
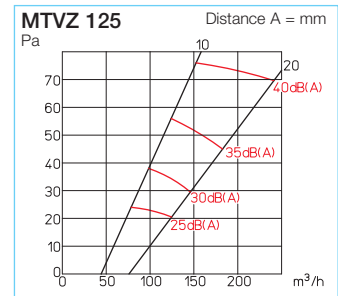
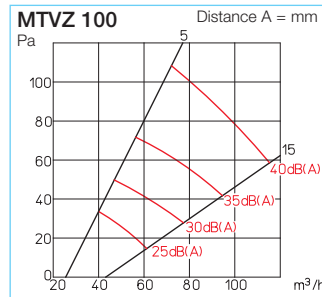
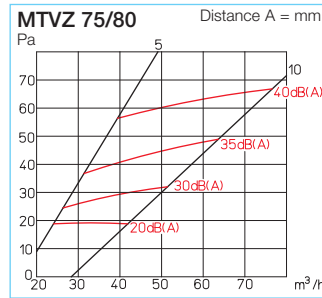


■ Accessories

For installation in ducting, walls or thin panels a mounting ring may be required (see table).

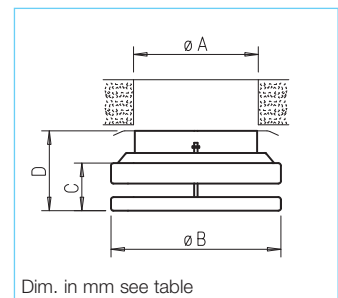
■ Installation

Set valve to required air flow volume according to the diagram. The distance 'A' is given in mm from the 0 point. Then simply press valve into wall or ducting. For an even air flow a straight duct of approximately 300 mm is required.



■ Performance data

These diagrams show the relationship between air flow volumes, resistances and sound levels at various adjustments of the distance "A" in mm.



Dim. in mm see table

Ordering data					
Type	MTVZ 75/80	MTVZ 100	MTVZ 125	MTVZ 160	MTVZ 200
Ref. no.	9603	9604	9605	9606	9607
Dim. in mm					
Ø A	73 – 85	95 – 105	120 – 130	150 – 165	195 – 210
Ø B	108	135	160	195	230
C	26 – 46	26 – 46	26 – 46	26 – 56	26 – 56
D	68	70	70	68	73
Weight approx. g	190	240	300	390	480
Mounting ring					
Type	EBR 75/80	EBR 100	EBR 125	EBR 160	EBR 200
Ref. no.	0952	0953	0954	0955	0956
for DN (mm)	75/80	100	125	160	200

KTVZ



Fig.: Type KTVZ 100 – 200

■ Operation

For air extraction with high and low air flow speeds or resistances.
In all rooms without special fire protection requirements.

■ Advantages

- Installation without tools in seconds.
- Elegant valve plate covering the opening for stepless adjustment. Made from high-quality white polymer, suitable for temperatures up to +100 °C.
- Using a mounting ring avoids dis-colouration of surrounding decor.
- Plaster and difference compensation for unevenness, differences in diameter or ducting that has been too deeply plastered.
- Spring mounting clamp offers a direct insertion in ducts or walls up to approx. 20 mm size without an additional mounting ring.

■ Design

Made from impact resistant white polymers and aerodynamically shaped.
Adjustable air flow via rotating valve plate (volume throughput see diagram).

■ Delivery

Every valve is supplied separately in polybag.

■ Accessories

For installation in ducting, walls or thin panels a mounting ring may be required (see table).

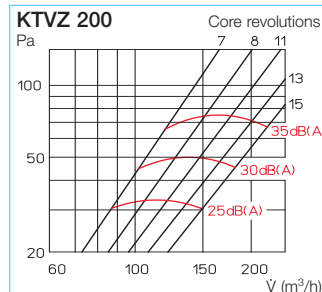
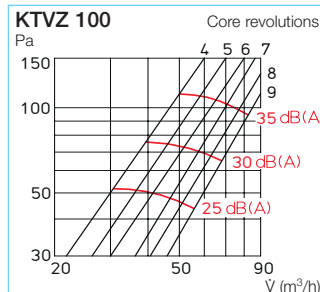
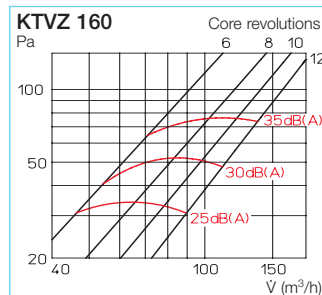
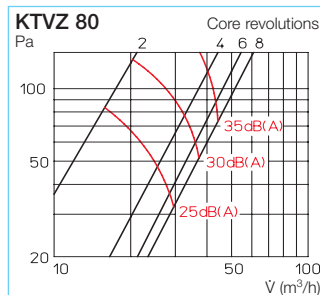
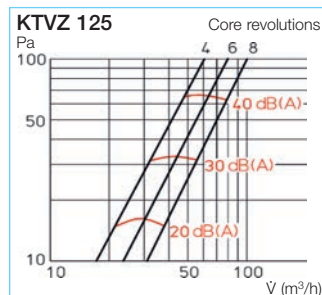
■ Installation

Set valve to required air flow volume through corresponding number of core revolutions according to the diagram. Then simply press valve into wall or ducting. For an even air flow a straight duct of approximately 300 mm is required.

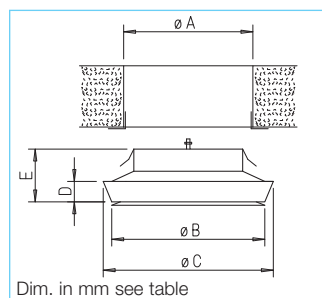
The air flow can be directed in a defined direction through the targeted sealing element, e.g. toward centre of room.

■ Performance data

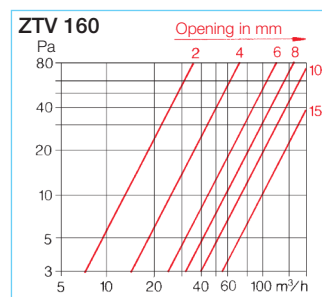
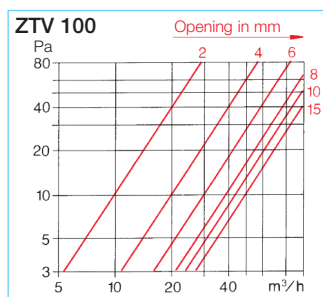
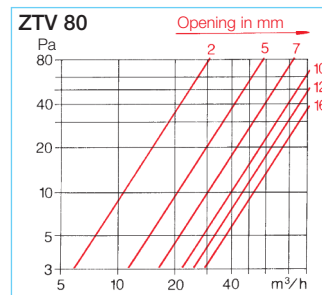
These diagrams show the relationship between air flow volumes, resistances and sound levels at various core openings.



Ordering data					
Type	KTVZ 80	KTVZ 100	KTVZ 125	KTVZ 160	KTVZ 200
Ref. no.	2762	2736	2737	2738	2739
Dim. in mm					
Ø A	70 – 80	95 – 105	120 – 130	145 – 160	195 – 210
Ø B	80	138	170	195	235
Ø C	119	148	180	205	245
D	19,5	17	21	23	22
E	52	47	47	51	56
Weight approx. g	90	100	260	370	600
Mounting ring					
Type	EBR 75/80	EBR 100	EBR 125	EBR 160	EBR 200
Ref. no.	0952	0953	0954	0955	0956
for DN (mm)	75/80	100	125	150/160	200



ZTV



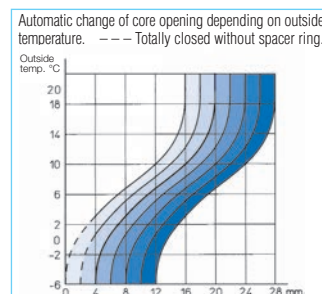
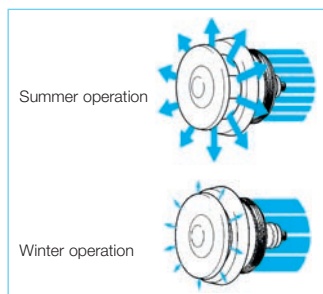
Special features – Operation
 Innovative thermostatic supply air valve for automatic temperature controlled replacement air. Efficiently combines energy savings and permanent ventilation. Permanent control of supply air flow volume with adjustable core for any type of room. Suitable for natural (thermal) and mechanical ventilation as supply air element.

Installation
 ZTV valves can be easily installed in existing supply air openings. They are fixed to ducting by push fit (with rubber gasket) or by three concealed fixing holes in the frame supplied with fixing screws.

Function
 The thermostat operates automatically within a temperature range of -6 °C to +20 °C. Within this range air flow volumes between 0 and 30 m³/h are achieved conforming to DIN guidelines. See performance diagrams on the right. In its standard setting the valve closes completely at outside air temperature of approx. -4 °C. A minimum supply air rate is allowed by the 4 mm wide distance clip. The initial setting of the valve can be changed manually by rotating the centre core. One full rotation equals to a variance of 4 mm gap (see blue marked areas in diagram).

- Advantages**
- Fully automatic, demand-regulated air flow control.
 - Maintenance free, no running cost.
 - Individual air flow volume adjustment by rotating the valve plate.
 - Good sound insulation due to the attenuator built into the valve plate.
 - Attractive, functional design.
 - Wide intake ring reduces wall discolouration.
 - Quick and easy installation.

Design
 The Helios supply air thermostat valves are made of impact resistant, white polymer. Aerodynamically shaped and an attractive design. Insulated coating on inner side of the valve plate to prevent condensation.

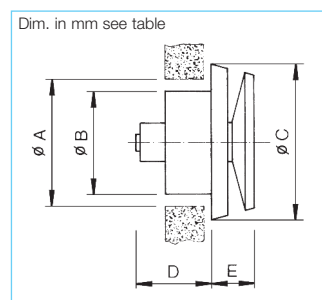


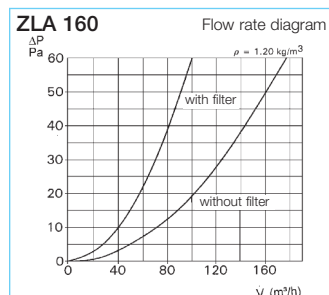
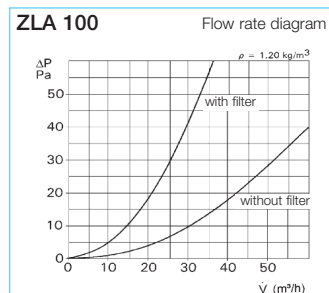
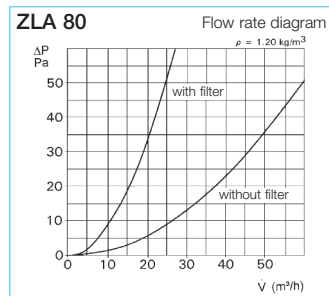
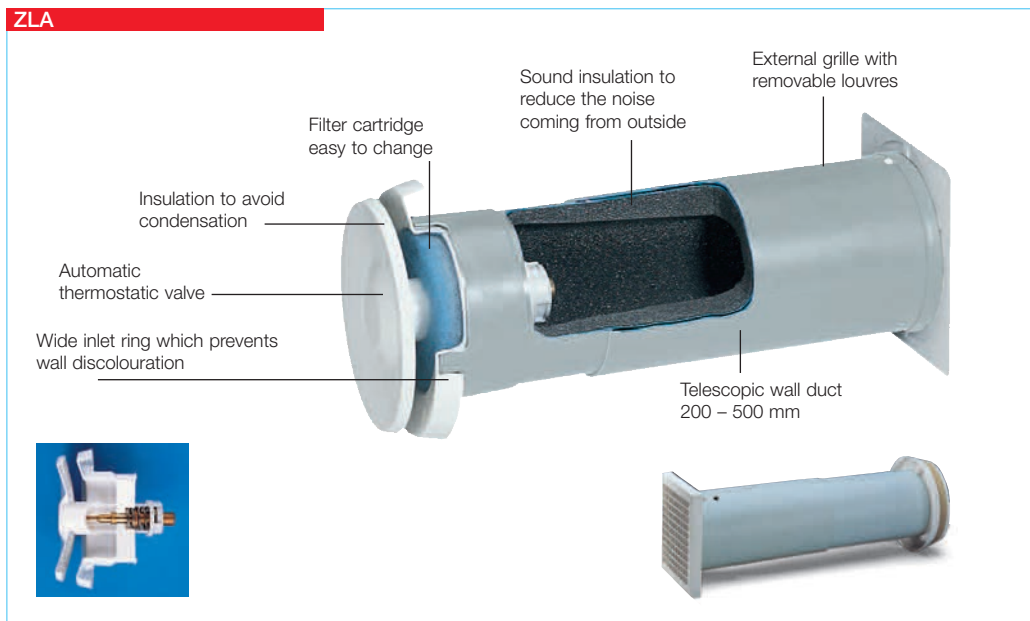
Number of units
 The number of supply air elements necessary is to be defined according to DIN 1946, T.6 depending on the apartment size and wind force (see chart on the right).

Number of units with mechanical demand-based ventilation				
	Apartment size m ²	Number of ZLA / ZLE		Fans
		Extract air (8 Pa)*	Supply air (4 Pa)*	Number/Unit
Hotel room	25 m ²	2	-	1
Apartment	25 m ²	2 (3) **	-	1
Flat	I	2	3 - 4	2
	II > 50, < 80 m ²	3	4	2
	III > 80 m ²	4	5	3
House	up to 120 m ²	4	5	3

* according to DIN 1946, T.6 tab. 10 ** if a kitchenette is also to be extracted

Ordering data			
Type	ZTV 80	ZTV 100	ZTV 160
Ref. no.	0078	0073	0074
Dim. in mm			
∅ A = Duct nominal size	80	100	160
∅ B	77	95	156
∅ C	147	147	207
D	77	77	77
E	49	49	50
Weight approx. g	230	240	370





Special features – Operation

Universally adaptable temperature controlled supply air unit. The energy saving, thermostatic supply valve provides a continuous air exchange at highest efficiency. The supply air volume is controlled depending on the outside air temperature, without any electrical connection. The supply air is evenly distributed, filtered (class G 3) and attenuated.

Advantages

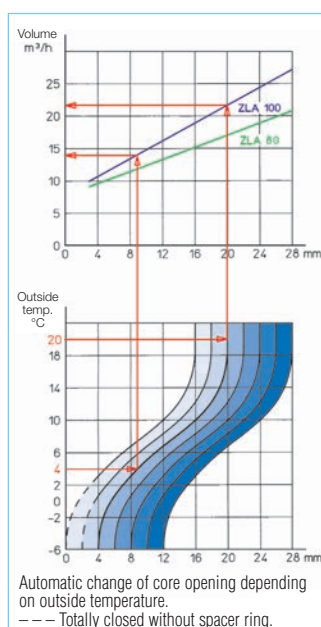
- Fully automatic, on demand air flow control.
- Maintenance free, no running cost.
- Individual air flow volume adjustment by rotating the central core.
- Telescopic wall duct, made of polymer for wall thicknesses between 200 to 500 mm.
- High sound insulation via the built-in attenuator.
- Easily removable filter.
- No electrical supply required.
- Quick and easy installation.

Function

The thermostat operates automatically within a temperature range of $-6 \text{ }^\circ\text{C}$ to $+20 \text{ }^\circ\text{C}$. Within this range air flow volumes between 0 and 30 m³/h are achieved conforming to DIN guidelines. See performance diagrams on the right. In its standard setting the valve closes completely at outside air temperature of approx. $-4 \text{ }^\circ\text{C}$. A minimum supply air rate is allowed by the 4 mm wide distance clip. The initial setting of the valve can be changed manually by rotating the centre core. One full rotation equals to a variance of 4 mm gap (see blue marked areas in diagram).

Installation

Suitable for wall or ceiling openings. Telescopic duct should be inserted from outside and the cover grille should be screwed on. Duct to be cleaned and the valve to be inserted from inside.



Note

The number of supply air units is to be defined according to DIN 1946, T.6 (see chart on the left page).

Performance data

The air flow volume depending on pressure difference is determined by the opening gap of the valve plate. The performance values can be seen from the diagrams above.

Accessories

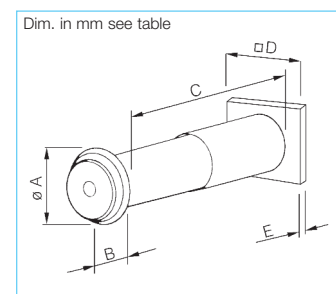
Spare filters class G 3
Contents: 10 pcs.

Type ELFZ 80 Ref. no. 0339

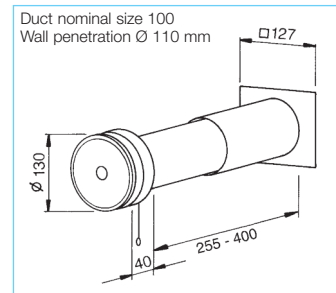
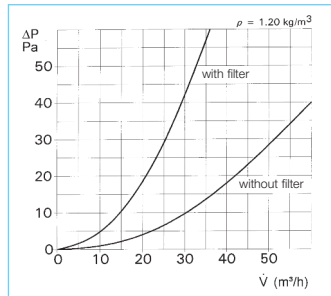
Type ELFZ 100 Ref. no. 0340

Type ELFZ 160 Ref. no. 0341

Ordering data			
Type	ZLA 80	ZLA 100	ZLA 160
Ref. no.	0214	0215	0216
Volume max. with filter m ³ /h	25	35	100
Duct nominal size (mm)	80	100	160
Wall penetration \varnothing mm	96	115	175
$\varnothing A$ mm	147	147	207
B mm	49	49	50
C mm	260–500	260–500	260–500
D mm	107	140	190
E mm	3	15	24
Weight approx. kg	0,7	0,8	1,6
Sound insulation value $D_{n,e}$ 30 to 35 dB (depending on installation or wall thickness; corresponds to double glazing acc. to VDI 2719 protection class 2 or 3).			



ZLE



Special features – Operation

Manually operated supply air element for any kind of room. The air flow volume can be adjusted through a four step ratchet mechanism using a pull cord. The supply air is evenly distributed, filtered (class G 3) and attenuated.

Advantages

- Permanent intake air reduces draughts.
- Adjustable air volume controlled by adjusting the valve plate.
- Simple control via pull cord.
- No electrical supply required.
- Wide intake ring reduces wall discolouration.
- Telescopic wall duct, made of polymer for wall thicknesses between 255 to 400 mm.
- Good sound insulation with the built-in attenuator.
- Easily removable filter.
- Quick and easy installation.

Installation

Simple installation in wall openings. Insert the telescopic duct from outside, adjust to thickness of wall and render.

Push in rain repellent grille from outside, snap lock fixing or can be screwed with masonry plugs. Insert valve from inside. If placed near radiators the supply air is preheated during the cooler periods. Ensure that valve is accessible for filter change.

Design

ZLE comes as a complete unit including:

Valve

Attractive, unobtrusive design made of high quality white polymer. Incorporating a pull cord for three core positions. Insulated coat on inner valve to prevent condensation.

Telescopic wall duct

Two liners, made of impact resistant polymer.

Attenuator

To reduce air sound levels from outside.

Air filter

For clean and dust free air supply (class G 3), replaceable.

Outside wall grille

Fixed, rain repellent, made of UV-stable polymer in white.

Filter change

Easy, without any tool kit. Can be maintained by removing the valve.

Performance data

The air flow volume depending on pressure difference is determined by the opening gap of the valve plate. The performance figures are shown in the diagram above. Sound insulation rate: $D_{n,e}$: 30–35 dB (depending on installation and wall thickness; comparable with double glazing class 2 or 3).

Number of units

The number of required supply air elements is to be defined according to DIN 1946, T.6 independant to the apartment size and wind force (see the following chart).

Type ZLE 100 Ref. no. 0079

Number of units with mechanical demand-based ventilation

	Apartment size m ²	Number of ZLA / ZLE		Fans
		Extract air (8 Pa)*	Supply air (4 Pa)*	Number/Unit
Hotel room	25 m ²	2	–	1
Apartment	25 m ²	2 (3) **	–	1
Flat	I 50 m ²	2	3 – 4	2
	II > 50, < 80 m ²	3	4	2
	III > 80 m ²	4	5	3
House	up to 120 m ²	4	5	3

* according to DIN 1946, T.6 tab. 10

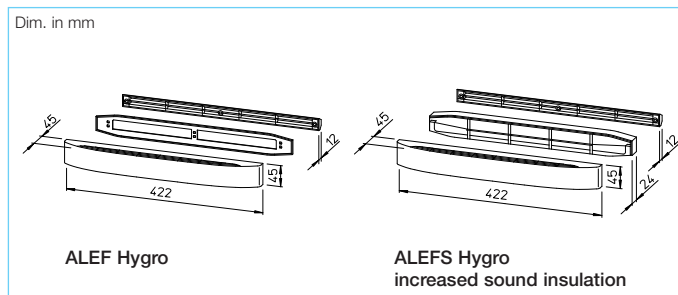
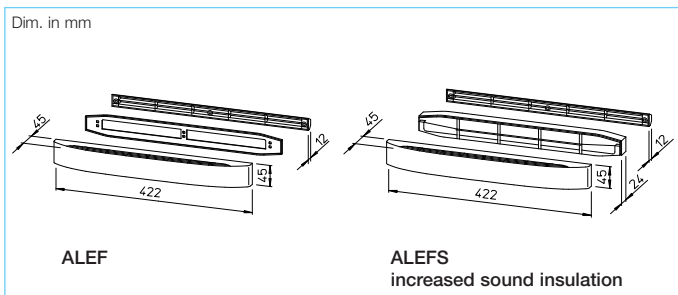
** if a kitchenette is also to be extracted

Accessories

Spare filter class G 3

Type ELF/ZLE 100 Ref. no. 0338

Contents = 10 pcs.



Air flow volume elements ALEF with air flow volume control / limitation, to install in window frames / casements.

■ Operation

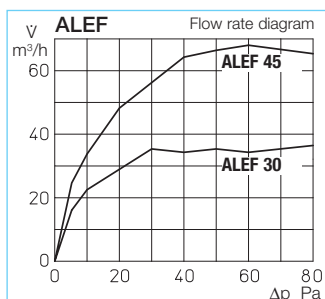
The window element flow is directly related to the differential pressure and supplies the outside air to living rooms and bedrooms. Simple installation, is also suitable for retro-fitting.

■ Design

Ready-to-install unit, contains inner facade with an automatic air flow volume delimiter, installation plate and cover strip. All parts are made of high quality, white polymer. The models ALEFS have an acoustic element for an increased sound insulation.

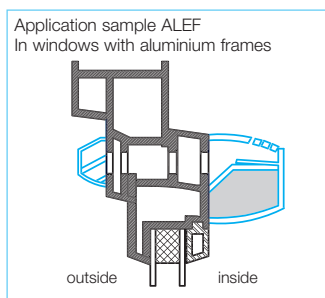
■ Function

Due to the negative pressure of extract air in the kitchen, bathroom and toilet, the element allows a certain amount of air flow volume to enter in the living / bedrooms from outside (see diagram).



■ Installation

In wooden, polymer and metal window frames. Openings by means of milling groups or holes in the upper frame. Simply screw the cover strip to the installation plate and clip the inner facade on.



Humidity controlled air flow volume elements ALEF Hygro with air flow volume control / limitation to install in window frames / casements.

■ Operation

Window elements that allow a controlled air flow volume, dependent on the humidity level in the room, to enter in the living / bedrooms.

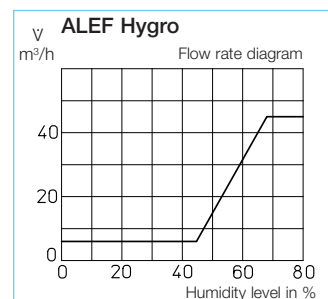
Ideal in combination with humidity controlled extract fans. Simple installation, is also suitable for retro-fitting.

■ Design

Ready-to-install unit, contains inner facade with an automatic air flow volume delimiter, installation plate and cover strip. All parts are made of high quality, white polymer. The models ALEFS Hygro have an acoustic element for an increased sound insulation.

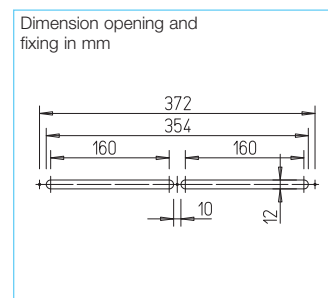
■ Function

Due to the negative pressure of extract air in the kitchen, bathroom and toilet, the element allows a certain amount of air flow volume, which depends on the humidity level in the room, to enter in the living / bedrooms from outside (see diagram).



■ Installation

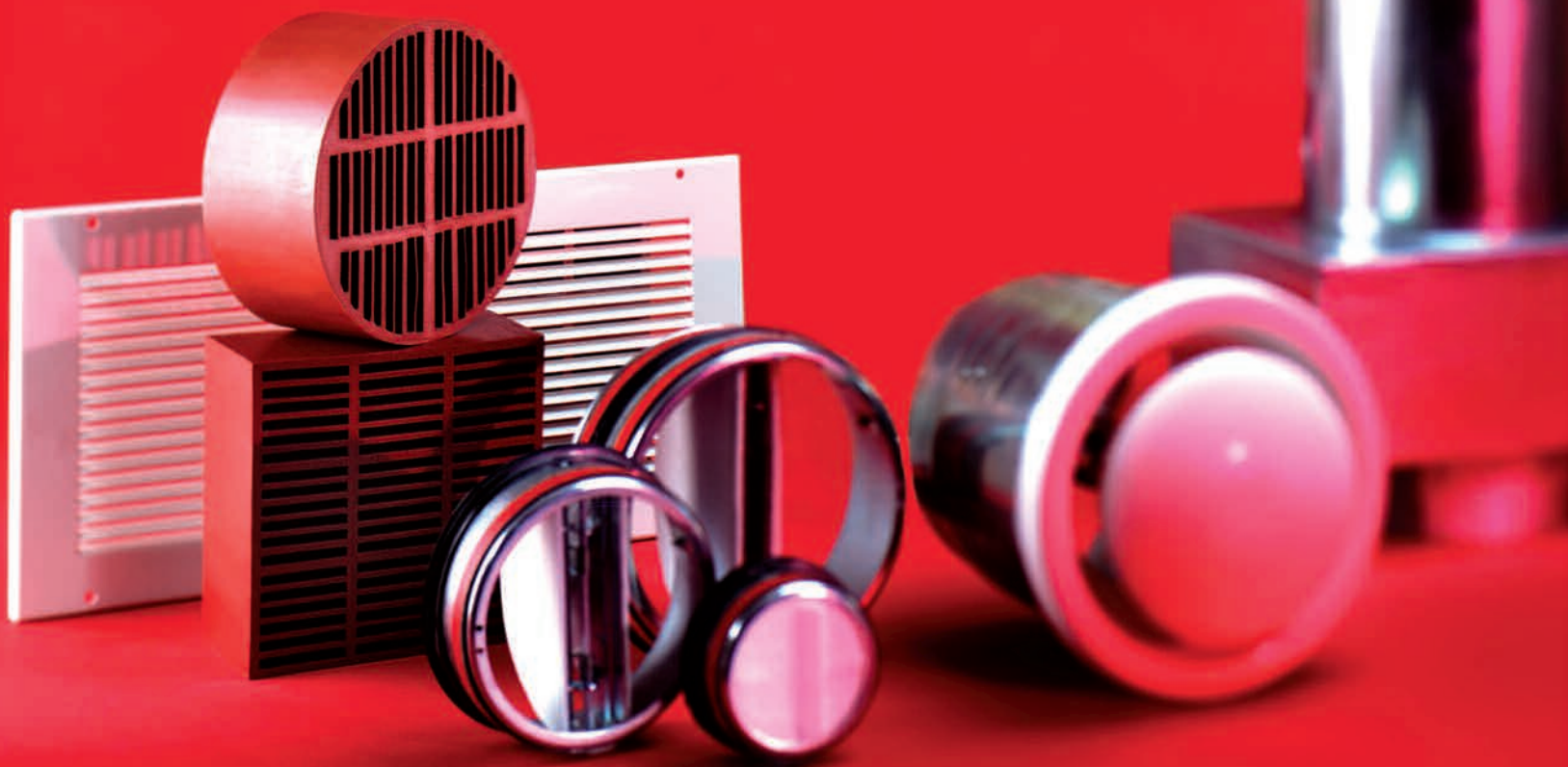
In wooden, polymer and metal window frames. Openings by means of milling groups or holes in the upper frame. Simply screw the cover strip to the installation plate and clip the inner facade on.



Ordering data	Air flow volume elements to install in window frames			
	ALEF with air flow volume control and limits		ALEFS similar to ALEF, extra attenuation	
Type	ALEF 30	ALEF 45	ALEFS 30	ALEFS 45
Ref. no.	2100	2101	2102	2103
Air flow vol. m³/h	30	45	30	45
Sound insulation D _{n,e} in dB (A)	39	37	41	39
Weight approx. g	190	190	210	210

Ordering data	Air flow volume elements to install in window frames	
	ALEF Hygro – with humidity controlled air flow volume control and limits	ALEFS Hygro similar to ALEF with extra attenuation
Type	ALEF 6/45 Hygro	ALEFS 6/45 Hygro
Ref. no.	2056	2057
Air flow vol. m³/h	6/45	6/45
Sound insulation D _{n,e} in dB (A)	37	39
Weight approx. g	200	220

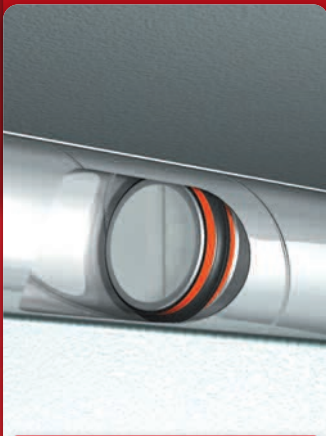
Seal it up if there is a fire.



The aim of preventive fire safety in multi-storey buildings is to prevent the spread of fire to adjacent floors and rooms. The construction ordinances therefore divide apartment units or rooms into so-called units of usable area (fire section), the ceilings and walls of which have to fulfil specific requirements in terms of their fire resistance duration.

As supply lines such as ventilation ducts cross fire sections, their openings are to be fitted with shutter elements with the required classifications.

FIRE SAFETY SHUTTER ELEMENTS



Fire safety shutter elements (BAE/BAK) prevent the transmission of fire and smoke through ventilation ducts or vents into other fire sections.

518

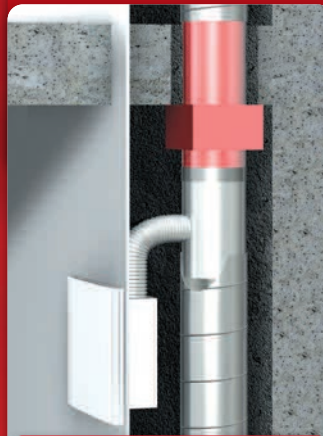
FIRE SAFETY POPPET VALVES



Shutter elements with air flow volume throttling (BTV/BTK) to prevent the transfer of fire and smoke through ventilation ducts or vents.

520

FIRE PROTECTION DAMPERS, COLD SMOKE DAMPERS

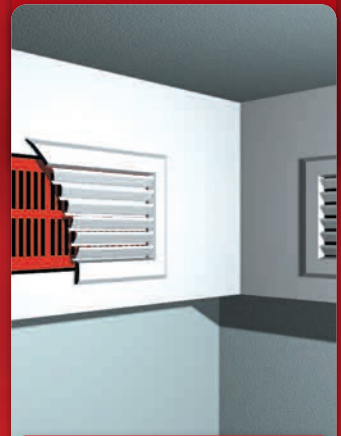


Fire protection dampers (ELS-D) for ventilation ducts according to DIN 18017. With their installation the use of further classified fire protection elements on air intakes / extracts is unnecessary. Ideal for installation shafts with mixed assignments (including those flammable ducting).

Cold smoke dampers (KAK) prevent the ingress of cold smoke into other fire sections. For room-side duct insertion, positioning behind poppet valves or extract air elements.

522

FIRE PROTECTION VENTILATION TILES

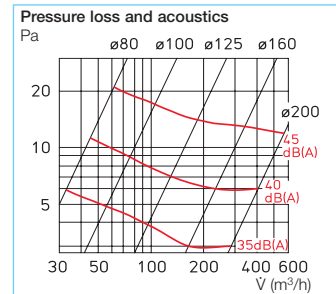


Fire safety ventilation tiles (BLS) enable the static ventilation of trapped persons to prevent the spread of smoke and fire to rooms and chambers to be protected, such as installation shafts, cable channels and the like.

524

BAE

Approval Z-41.3-696
maintenance-free



Operation

Shutter to prevent fire and smoke transmission. Suitable for installation in ventilation shafts and ducting with required fire resistance class K 90-18017. Suitable for insertion into spiral ducting or for wall installation with mounting sleeve EH (accessories) and non-fire-resistant suspended ceilings and fire-resistant ceilings as a damper.

Function

When the ambient temperature of +72 °C is exceeded, the integrated thermal coupling releases the spring loaded semicircle blades. Two safety bows interlock the shutter blades.

Official approval

The suitability of this shutter has been tested for use in ventilation systems to DIN 18017 and approved with the German Institute for Building Technology no. Z-41.3-696.

Special features

- Maintenance free.
- Cleaning and inspection together with the respective fan.
- Insertion in spiral ducting without additional wall mounting frame.
- Can be installed outside the shaft wall.
- For air flow in both directions, suitable for extract and supply air systems.
- Lower flow resistance even with high air flow volumes.
- Can be connected to fume extractors or cooker hoods.
- Low sound levels.
- Can also be used for commercial applications e.g. internal toilets, kitchenettes, etc.

Design

Cylindrical duct sleeve with butterfly shutter and integrated thermal coupling.

Delivery

Individually shrink-wrapped.

Installation and setting

- The installation and operating instructions contain the exact guideline relating to operation and installation.
- The specifications of the respective approval must be observed.

Accessories

Limit switch

To control BAE and report its operating status to the central building management system. For mounting on all DN, simple snap-in mounting.



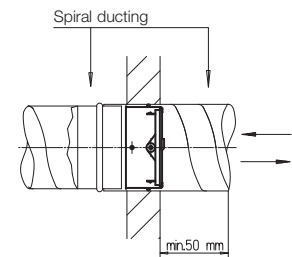
Type BA-S Ref. no. 2585
Switch as change-over IP 67
max. load 5–250 V / 6 A (2 A ind.)
Connect. cable 50 cm long / 3 x 0.34 mm²
Wiring diagram no. 830

Installation examples

Duct installation

The element is to be installed through simple insertion (e.g. in spiral ducting) and to be fixed together with the duct in the wall. Suitable for installation in both directions, independent from air flow direction.

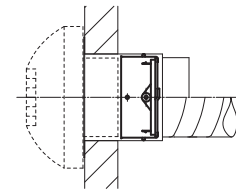
Duct installation



Wall installation

Via mounting sleeve EH (accessory) in walls of brick, thermolite block or plaster panel, shaft partition walls in F 90 and F 30 or system tested walls with more than 40 mm thickness. Suitable for installation in both directions, independent from air flow direction.

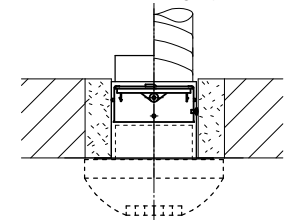
Wall installation with mounting sleeve or spiral duct and plug-in supply / extract air element.



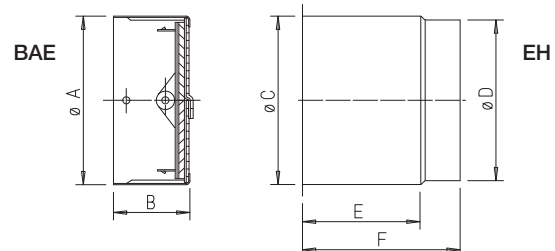
Ceiling installation

- Can be installed in non-fire-resistant suspended ceilings.
- Can be installed in fire-resistant ceilings as a damper unless a free cross-section is required.

Ceiling installation with mounting sleeve and plug-in supply / extract air element. Connection to mains through spiral ducting.



Ordering data					Accessories:						
Type	Ref. no.	Dim. in mm		Weight approx. kg	Mount. sleeve	Ref. no.	Dim. in mm				
		Ø A	B				Ø C	Ø D	E	F	
BAE 80	2624	78	60	0,17							
BAE 100	2625	98	60	0,23	EH 100	2639	100	98	110	140	
BAE 125	2626	123	60	0,30	EH 125	2640	125	123	110	140	
BAE 160	2627	158	60	0,40	EH 160	2641	160	158	110	140	
BAE 200	2628	198	60	0,55	EH 200	2642	200	198	110	140	



Dim. in mm see table

In accordance with the European Construction Products Regulation, fire dampers required an EC certificate of conformity and declaration of performance since 01.07.2013. Helios BAK meet these European requirements.

Operation

Shutter to prevent fire and smoke transmission. Suitable for installation in ventilation shafts or walls which serve as fire section with required fire resistance class EI 90 S or K 90-4102. Suitable for wall and ceiling installation or as overflow opening. Suitable for insertion into spiral ducting. In case of one-sided duct connection, mounting sleeve EH (accessories) recommended.

Function

When the ambient temperature of +72 °C is exceeded, the integrated thermal coupling releases the spring loaded semicircle blades. Two safety bows interlock the shutter blades.

Official approval

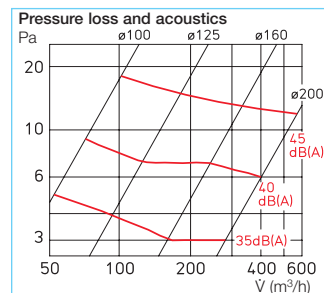
- With EC certificate of conformity and performance declaration according to European Construction Products Regulation 305/2011.
- Test according to EN 1366-2.
- Classified according to EN 13501-3: EI 90 (ve, ho, i→o) S – (300 Pa).
- Corresponds to European Product Standard DIN EN 15650.
- General Technical Approval from German Institute for Building Technology with no. Z-19.18-2180 and Z-41.3-695.

Special features

- Insertion in spiral ducting in space-enclosing component.

BAK

Approval Z-19.18-2180
EC certificate of conformity
BC1-606-0464-15650.69-2517



- For air flow in both directions, suitable for extract and supply air systems.
- Lower flow resistance even with high air flow volumes.
- Simple fixing through mounting sleeve (accessory).

Design

Cylindrical duct sleeve with butterfly shutter and integrated thermal coupling.

Delivery

Individually shrink-wrapped.

Installation and setting

- The installation and operating instructions contain the exact guideline relating to operation and installation.
- The specifications of the respective approval must be observed.

Accessories

Limit switch

To control BAK and report its operating status to the central building management system. For mounting on all DN, simple snap-in mounting.



Type BA-S Ref. no. 2585

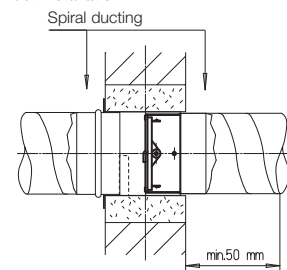
Switch as change-over IP 67
max. load 5–250 V / 6 A (2 A ind.)
Connect. cable 50 cm long / 3 x 0.34 mm²
Wiring diagram no. 830

Installation examples

Duct installation in wall or ceiling

The element is fixed by inserting into the spiral ducting or the mounting sleeve EH (accessories) and then mounted together to the wall, ceiling or shaft wall. Installation is independent from air flow direction. Completed with connection to ducting on both ends of the mounting sleeve.

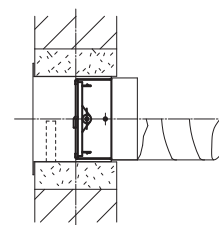
Duct installation



Wall installation

Via mounting sleeve EH (accessory) in walls of brick, thermolite block or plaster panel, shaft partition walls in F 90 and F 30 or system tested walls with more than 40 mm thickness. Suitable for installation in both directions, independent from air flow direction

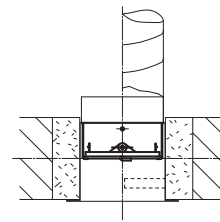
Wall installation in brick, thermolite block or plaster panel.



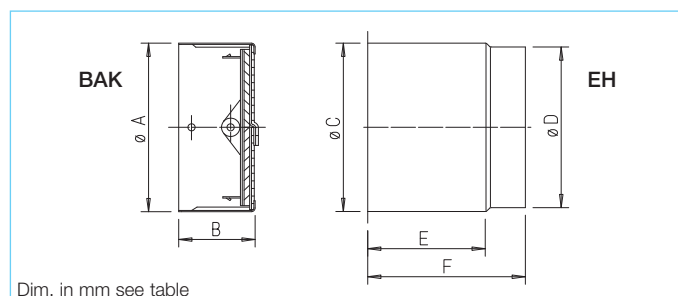
Overflow opening

The technical approval Z-19.18-2180 regulates the use as a shutter for overflow openings. Suitable for installation in tube sleeves from spiral ducting or mounting sleeve EH (accessories).

Ceiling installation in brick, thermolite block or plaster panel.

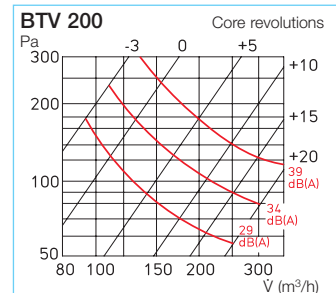
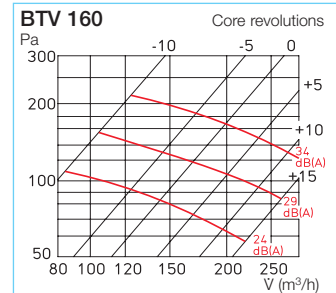
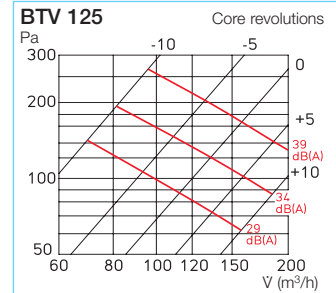
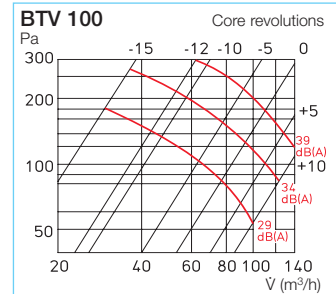


Ordering data					Accessories:					
Type	Ref. no.	Dim. in mm		Weight approx. kg	Mount. sleeve	Ref. no.	Dim. in mm			
		Ø A	B				Ø C	Ø D	E	F
BAK 100	2620	98	60	0,24	EH 100	2639	100	98	110	140
BAK 125	2621	123	60	0,32	EH 125	2640	125	123	110	140
BAK 160	2622	158	60	0,46	EH 160	2641	160	158	110	140
BAK 200	2623	198	60	0,64	EH 200	2642	200	198	110	140



BTV

Approval Z-41.3-694
maintenance-free



Operation

Shutter to prevent fire and smoke transmission. Suitable for installation in ventilation shafts and ducting with required fire resistance class K 90-18017. Suitable for insertion into spiral ducting or for wall and ceiling installation by means of mounting ring (included in the delivery).

Function

When the ambient temperature of +72 °C is exceeded, the thermal coupling trips. The built-in pressure spring closes the valve automatically.

Official approval

The suitability of this shutter has been tested for use in ventilation systems to DIN 18017 and approved with the German Institute for Building Technology no. Z-41.3-694.

Special features

- Maintenance-free.
- Cleaning and inspection together with the respective fan.
- Officially tested fire protection valve with low air noise at high pressure drop.
- Installation in spiral ducting, shaft walls or non-fire-resistant ceilings.
- High attenuation value.
- Attractive, functional shape.
- Simple adjustment that cannot be changed by unauthorised person reduces the amount of work.
- Can be easily removed only by authorised person for maintenance and cleaning purposes.
- Wide operation range.
- Can also be used for commercial applications e.g. internal toilets, kitchenettes, etc.

Design

Sheet steel construction with white powder-coating. Aerodynamically designed with center core and bell mouth ring.

Delivery

One valve in a polybag incl. mounting ring made of galvanised sheet steel.

Installation and setting

- The installation and operating instructions contain the exact guideline relating to operation and installation.
- Fitted with one hand using the mounting ring (included in the delivery).
- The specifications of the respective approval must be observed.
- Air flow volume settings according to the adjacent diagrams.
- Setting stays fixed and cannot be changed by an unauthorised person without dismantling the valve.

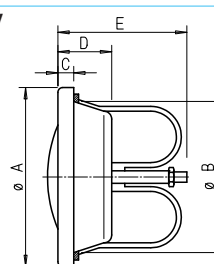


Ordering data

Mounting ring included in the delivery

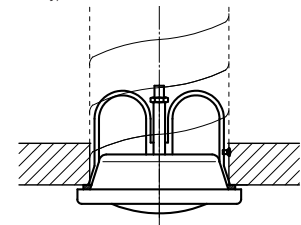
Type	Ref. no.	Dim. in mm					Weight approx. kg
		Ø A	Ø B	C	D	E	
BTV 100	2634	135	99	17	67	91	0,38
BTV 125	2635	161	124	18	68	103	0,48
BTV 160	2636	191	160	18	68	107	0,64
BTV 200	2637	242	199	17	67	124	0,77

BTV



Dim. in mm see table

Installation in walls and non-fire-resistant ceilings with mounting ring (included in the delivery).



BTK

Approval Z-19.18-2180
EC certificate of conformity
BC1-606-0464-15650.69-2517



In accordance with the European Construction Products Regulation, fire dampers required an EC certificate of conformity and declaration of performance since 01.07.2013. Helios BTK meet these European requirements.

Operation

Shutter to prevent fire and smoke transmission. Suitable for installation in ventilation shafts or walls which serve as fire section with required fire resistance class EI 90 S or K 90-4102. Suitable for wall and ceiling installation or as overflow opening. Suitable for insertion into spiral ducting. In case of one-sided duct connection, mounting sleeve EH (accessories) recommended.

Function

When the ambient temperature of +72 °C is exceeded, the thermal coupling trips. The built-in pressure spring closes the valve automatically.

Official approval

- With EC certificate of conformity and performance declaration according to European Construction Products Regulation 305/2011.
- Test according to EN 1366-2.
- Classified according to EN 13501-3: EI 90 (ve, ho, i↔o) S – (300 Pa).
- Corresponds to European Product Standard DIN EN 15650.
- General Technical Approval from German Institute for Building Technology with no. Z-19.18-2180 and Z-41.3-695.

Special features

- Insertion in spiral ducting in space-enclosing component.
- Officially tested fire protection valve with low air noise with high pressure drop.
- High attenuation value.
- Attractive, functional shape.
- Simple adjustment that cannot be changed by unauthorised person reduces the amount of work.
- Can be easily removed only by authorised person for maintenance and cleaning purposes.
- Wide operation range.

Design

Polymer valve body, optimum aerodynamical design with centre core and bell mouth ring. Cylindrical duct sleeve with butterfly shutter and integrated thermal coupling.

Delivery

Individually shrink-wrapped.

Installation and setting

- The installation and operating instructions contain the exact guideline relating to operation and installation.
- The specifications of the respective approval must be observed.

Installation examples

Duct installation in wall or ceiling

The element is fixed by inserting into the spiral ducting or the mounting sleeve EH (accessories) and then mounted together to the wall, ceiling or shaft wall. Installation is independent from air flow direction. Completed with connection to ducting on both ends of the mounting sleeve.

Overflow opening

The technical approval Z-19.18-2180 regulates the use as a shutter for overflow openings. Suitable for installation in tube sleeves from spiral ducting or mounting sleeve EH (accessories).

Accessories

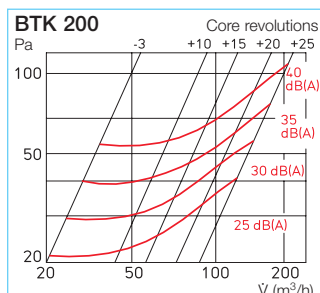
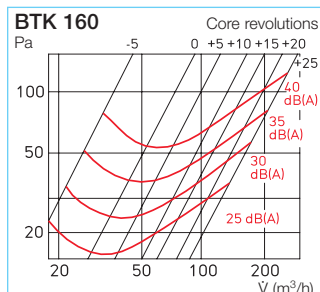
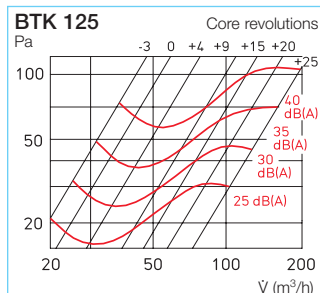
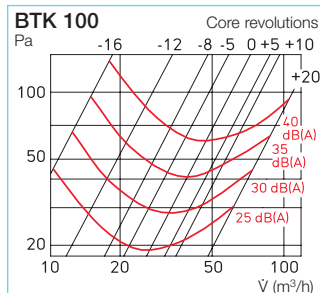
Limit switch

To control BTK and report its operating status



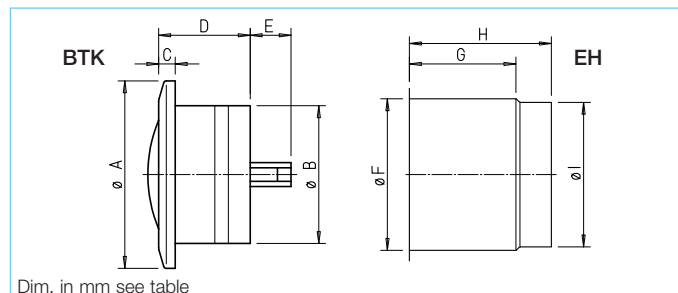
to the central building management system. For mounting on all DN, simple snap-in mounting.

Type BA-S Ref. no. 2585
Switch as change-over IP 67
max. load 5–250 V / 6 A (2 A ind.)
Connect. cable 50 cm long / 3 x 0.34 mm²
Wiring diagram no. 830



Ordering data

Type	Ref. no.	Dim. in mm					Weight kg	Accessories:		Dim. in mm			
		Ø A	Ø B	C	D	E		Mount. sleeve Ref. no.	Ø F	G	H	Ø I	
BTK 100	2633	150	98	19	129	20	0,45	EH 100	2639	100	110	140	98
BTK 125	2630	165	123	19	129	33	0,60	EH 125	2640	125	110	140	123
BTK 160	2631	220	158	19	129	51	0,85	EH 160	2641	160	110	140	158
BTK 200	2632	245	198	19	129	71	1,20	EH 200	2642	200	110	140	198



According to building regulations ventilation ducts that cross more than two storeys vertically must be protected against fire and smoke. These conditions have been fulfilled so far through installing the ventilation duct in a fire proof shaft. This has some disadvantages such as high investment cost, need of large space and longer building time, especially the construction of two shafts (separation of the mixed installation shaft from the ventilation shaft).

■ The use of ELS-D fire dampers results in various benefits such as:

- Ventilation ducting can be placed in mixed installation shaft with simple, 12,5 mm thick plasterboard cladding.
- ELS-D are completely maintenance free. Additional fire resistant elements that might need maintenance are not necessary.
- Allows the in-duct ventilation units to be connected via Aluflex ducting without fire protection sheathing and fire protection damper.
- In central ventilation systems, the poppet valves or air flow controlling extract air elements can be replaced with units made of polymer. In order to avoid cold smoke cold smoke dampers (KAK) to be used.
- The extraction of air from kitchens is admissible.
- The constructional and functional advantages of prewall installations or registers can be unconditionally implemented.
- Approximate reduction of the space required to the DN of the main ducting through axial rotation during installation (width like narrow side forward or diagonal).
- The full cross section of the ventilation duct remains, that means no additional pressure drop. Cleaning and maintenance works are not hindered.



Approval Z-41.3-368 maintenance-free

General Technical Approval from DIBt with no. Z-41.3-368. Fire resistance class: K 90-18017 (three-storey test).

■ Specification

Casing made of galvanised sheet steel with integrated spigot on top and bottom. The top spigot can also be used as ceiling lead through.

■ Two stage function

- The shutter closes first at approx. 90 °C and prevents the transmission of high temperatures to other storeys.
- At approx. 180 °C the integrated fire rated foam seals the ventilation ducting completely above the shutter.

■ Installation

ELS-D can be easily installed single handed vertically against the bottom part of the floor slab or in installation registers. The fire damper is to be fixed with two mounting fish plates, that are held in grating and floor finish. The ceiling leadthrough is already integrated in ELS-D. Thanks to the standard connection nozzles the main ducting can be simply imposed and inserted to the other side like a fitting.

■ Accessories

Cold smoke damper

Prevents any reverse flow of cold smoke in central ventilation systems and much else in other ventilation zones while the fan is not working. (Not required in individual ventilation systems.)

Type KAK 100 Ref. no. 4097
DN 100 mm

Type KAK 125 Ref. no. 4098
DN 125 mm

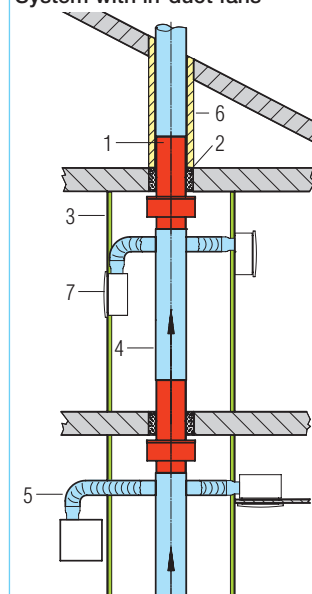
■ Note

Further sizes and product details for use of the cold smoke damper KAK.

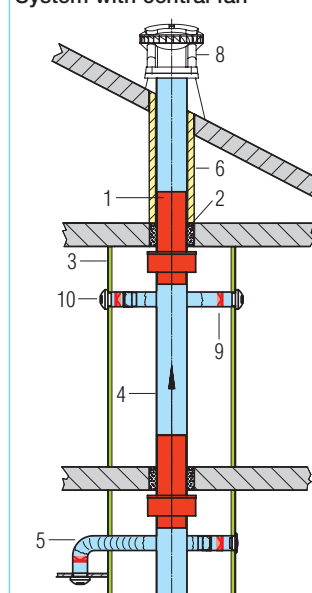
see page 523

- Legend**
- 1 Fire damper ELS-D
 - 2 Ceiling grouting
 - 3 Installation shaft cladding e.g. 12,5 mm plasterboard panels
 - 4 Main ducting (spiral duct)
 - 5 Connection ducting (Aluflex)
 - 6 Insulation against condensation
 - 7 ELS individual ventilation units surface of flush mounting without fire protection requirements
 - 8 Central fan, e.g. DV EC (see page 65 on)
 - 9 Cold smoke damper KAK
 - 10 Extract air element AE or poppet valve (KTVA or MTVA)

System with in-duct fans



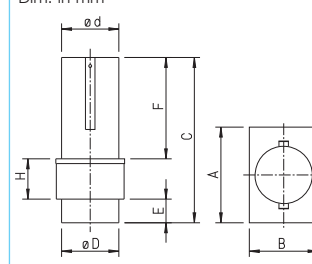
System with central fan



Ordering data

Type	Ref. no.	Dim. in mm								Weight approx. kg
		A	B	C	Ø d	Ø D	E	F	H	
ELS-D 100	0270	183	123	385	99	102	50	250	85	2,5
ELD-D 125	0185	208	148	394	124	127	50	250	94	3,4
ELS-D 140	0186	233	163	403	139	142	50	250	103	4,0
ELS-D 160	0187	258	183	413	159	162	50	250	113	5,0
ELS-D 180	0188	283	203	424	179	182	50	250	124	6,0
ELS-D 200	0271	308	223	434	199	202	50	250	134	7,2

Dim. in mm



The following is stipulated in the Model Building Regulation and various Regional Construction Ordinances:

The spreading of fire and smoke must be prevented!

The automatic Helios cold smoke damper with magnetic lock meets this requirement. They seal the supply or extract air system as required in fire regulations.

Application

According to DIN 18017-3 the central extract ventilation systems in multi-storey dwellings have common mains and a central fan that is specified above or below the ceiling.

The affiliated rooms (e.g. kitchen, bathroom, toilet) in the respective storey ventilation zone) are ventilated through the extract air ducting. The mains cross multiple ventilation zones they must be led into a fire-resistant (F90 classified) shaft. The extract air vents in each ventilation zone must be equipped with fire dampers or fire safety valves. These costly and space occupying solutions can be replaced with certified fire dampers which are integrated or moulded on the route of mains in the ceiling area. Thereby the mains can be integrated in the installation shaft.

Regional building regulations as well as general technical approvals for shut-off elements and fire dampers ensure that an exhaust air flow on the vertically attached shut-off device in the mains must always be secured to outside through the mains. The requirement becomes relevant, if the central fan breaks down, in case of fire and the

KAK



smoke reaches to the mains in the room due to excess pressure and also enters areas (other ventilation zones) which are not affected by fire due to upcoming air pressure through openings (poppet valves).

The Helios cold smoke dampers KAK with magnetic lock prevent cold smoke from entering other ventilation zones. They must be positioned in all supply / extract air vents behind the poppet valves or extract air elements (also in combination with BAE/BAK).

Design

- Ready to install element for insertion in ducting and fittings.
- Frames with surrounding U-lip seal ring made of EPDM gasket to seal the ventilation duct.
- Shutter frames on both sides made of polymer with metal insert encompass the silicon membrane. Therefore the shutter sits quietly in the air stream.
- A permanent magnet which seals the shutter at low pressure levels is located on a thread axis in the inner cylinder frame.
- Closing and opening pressure can be adjusted to the installation circumstances.

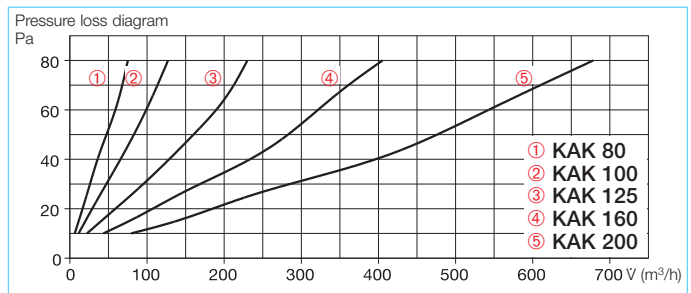
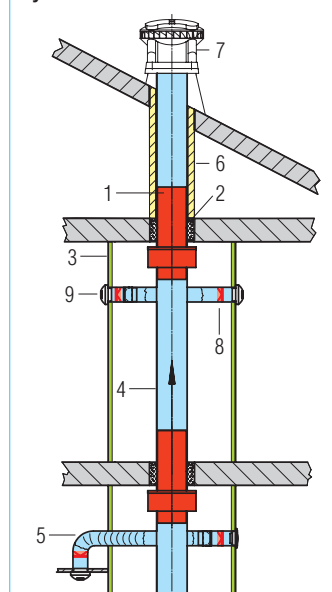
- The very low installation depth and the asymmetric shape of the shutter frames, which ensure a big opening angle, are particularly beneficial.

Installation and setting

- While inserting KAK into ducting, the air flow direction must be considered.
- For vertical installation with horizontal air flow, the horizontal positioning of rotation axis must be considered.
- Positioning must be directly behind the poppet valve or behind the air inlet/outlet.

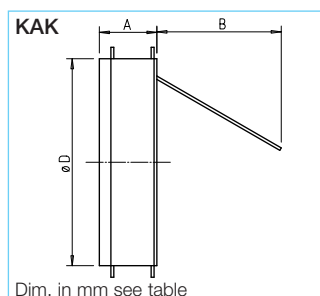
- Legend**
- 1 Fire damper ELS-D
 - 2 Ceiling grouting
 - 3 Installation shaft cladding e.g. 12.5 mm plasterboard panels
 - 4 Main ducting (spiral duct)
 - 5 Connection ducting (Aluflex)
 - 6 Insulation against condensation
 - 7 Central fan, e.g. type DV EC (see page 65 on)
 - 8 Cold smoke damper KAK
 - 9 Extract air element AE or poppet valve (KTVA or MTVA)

System with central fan



Ordering data

Type	Ref. no.	Dim. in mm		
		Ø D	A	B
KAK 80	4096	79	12	63
KAK 100	4097	95	20	60
KAK 125	4098	120	20	83
KAK 160	4099	155	20	110
KAK 200	4100	196	20	150



Fire protection ventilation tiles allow intake and extract ventilation in rooms and compartments protected against fire and smoke transmission, such as installation shafts and cable ducts. They enable a constant, static air change, which prevents the heat build-up in the closed compartments. Furthermore, the tiles serve as air vent openings in the walls of necessary corridors (emergency routes), as long as the openings are located on the lower part of the wall.

Special features

- Fire resistance class F 30 to F 120 conforms to DIN 4102 part 2 (see the box on the right).
- BLS consists of intumescent painted building material with DIBt approval. Furthermore, the regulations for the use and installation of BLS should be taken from the general technical approval no. Z-19.18-2065.
- Maintenance and inspection-free, no moving parts.
- Simple installation.
- Resistant against humidity, most oils, benzene and weak acids.

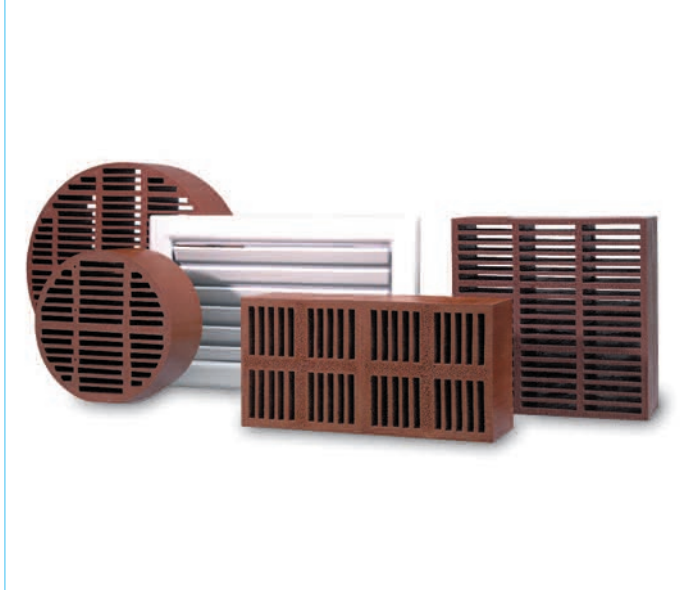
■ During the installation process the classification of building components is not affected. The ventilation tiles are finished with organic intumescent material, that foams up under the effect of heat. Openings, slots and joints close and thereby prevent fire and smoke transmission.

■ Each brick is delivered with two ventilation grilles made of galvanised sheet steel. These should be attached once the tile is in position on one side or both sides as mechanical protection and optical cladding depending on the area of application, i.e. screwed to the construction (wall).

■ Rectangular fire protection ventilation tiles must be installed horizontally.

■ In case of weaker walls, on-site reinforcement with fibre silicate frames in area of BLS.

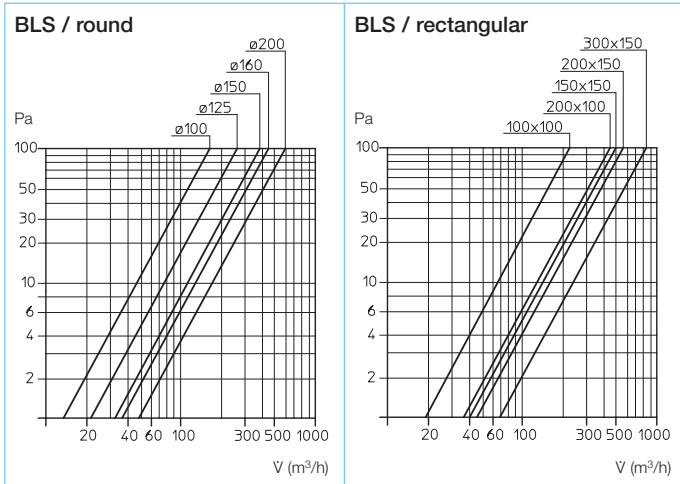
BLS Approval Z-19.18-2065



Fire resistant class	Ventilation tile installation in	Thick. mm	Legend
F 30	Brick and concrete walls. Light partition and shaft walls, classified cable ducts.	75	① Brick wall ② Ventilation tile ③ Ventilation grille, both sides ④ Fibre silicate panels
F 90 / F 120*	Brick-built and concrete walls.	75	
	Light partition wall, classified shaft walls and cable ducts.	75	

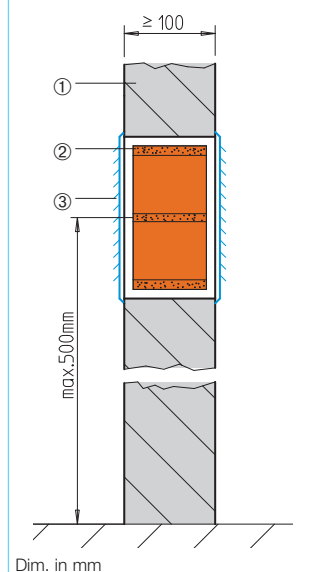
* Cover grilles on both sides

Air flow volumes – Differential pressure

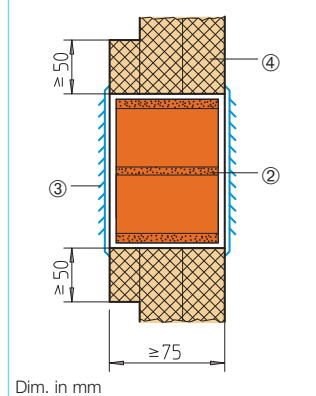


Product range, dimensions in mm									
Ventilation tile				Ins. opening max. i.L.	Wt. kg	Free cross-section cm²	Cover grille		
Ref. no.	Type	Ø	D				W	H	
2712	BLS 100	100	75	Ø 103	0.21	37	200	200	
2715	BLS 125	125	75	Ø 128	0.50	56	200	200	
2767	BLS 150	150	75	Ø 153	0.60	85	200	200	
2718	BLS 160	160	75	Ø 163	0.67	102	255	255	
2721	BLS 200	200	75	Ø 204	1.12	158	255	255	
		W	H	D			W	H	
2766	BLS 100/100	93	93	75	103 x 103	0.38	35	200	200
2724	BLS 150/150	150	150	75	153 x 153	0.80	115	255	255
2727	BLS 200/100	186	93	75	203 x 103	0.75	69	305	155
2730	BLS 200/150	200	150	75	203 x 153	1.15	153	305	200
2733	BLS 300/150	300	150	75	303 x 153	1.56	230	405	205

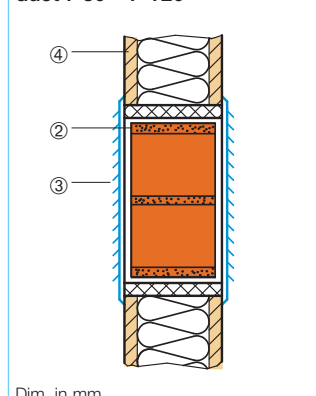
Installation in brick walls and concrete walls F 30 – F 120



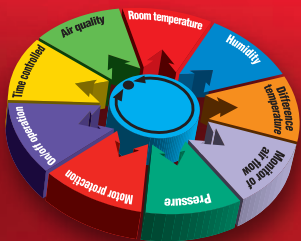
Installation in classified partition wall and cable duct F 30 and F 90



Installation in classified partition wall and cable duct F 30 – F 120



Comfortably controlled and energy-saving.



Controlling ventilation and air conditioning systems in accordance with changing requirements and conditions is a must for comfortable, energy efficient ventilation.

MEASURE






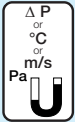



Changes in room occupancy, deteriorations in the quality of air at different times, fluctuating temperatures, day and night settings, etc. call for corresponding adjustments. Helios offers regulation, control and switch devices for all functions, which are tailored to the fans.

CONTROL

Complete system solutions bring the maximum possible security for the user and full guarantee by Helios. Furthermore, a lot of time can be saved during planning, installation and operation if the control and regulation devices are perfectly adapted to the fans and their functions. Problems are solved before they emerge.

REGULATE

The extensive MSR range from Helios provides the ideal solution for any application and simultaneously meets all requirements in relation to energy saving and noise reduction.

Task	Helios controller solution	Page
 Manual control of air flow volume	Manual speed controller – Without motor protection – 10 V, 24 V DC – Potentiometer for EC fans – 230 V~ – Electronic, flush / surface mounted – 230 V~ – Transformer, surface mounted – 400 V 3~ – Transformer, surface mounted – 230 V~ – Transformer, electronic, surface mounted – With built-in motor full protection for connection to thermal contacts – 230 V~ / 400 V 3~ – Transformer, surface mounted – 400 V 3~ – Electronic, surface mounted – 400 V 3~ – Frequency inverter	PU / PA, SU / SA 541 ES, BSX 531 TSW, TSSW 532 TSD, TSSD 533 ETW 535 MWS / RDS 532 f. ESD 535 FU 536 f.
	 Operation switch for fans with 2 speeds – Pole switch for Dahlander windings, flush / surface mounted – Pole switch for separated windings, flush / surface mounted	PDA / PDU 529 PGWA / PGWU 529
		Overrun switch Thermal electric, electronic, mechanic with adjustable and fixed times ZT, ZNE, ZNI, ZV 527
	 Air quality – automatic system Air flow velocity	Air quality sensor with on / off function depending on room air quality ACL 543
		Air flow monitor for monitoring the minimum air flow velocity in ducts and pipes SWE, SWT 543
	 Room temperature dependant	Ventilation thermostat – one step with on / off function – four step, mechanical – stepless, electronic TME 1 542 TME 4 534 EST 534
		Temperature controllers with integrated power unit, surface mounted – 230 V~ – electronic – 230 V~ / 400 V 3~ – transformer EUR 6 C 538 KTRW / KTRD 534
		Differential temperature controller electronic, stepless, with power unit for surface mounting – 230 V~ EDTW 543
	 Humidity dependant control	Humidistat with on / off function, surface mounted HY 3 542
		Fans for sanitary areas with integrated humidity control M1/.. F, ELS-VF 22, 53
 Temperature, pressure, speed Pressure dependant control	Universal controller with power unit 230 V~ with 0-10 V DC output, for EC fans with power unit 400 V~ EUR 6 C 538 EUR EC 539 FU 536 f.	
	Differential pressure controllers, surface mounted, with digital display – 0-10 V DC – electronic EDR 540	
	Differential pressure switch for monitoring the air filters, system pressure and fan operation DDS 542	
 Motor protection against overload	Motor full protection switch to connect the thermal contacts for monitoring the windings temperature MD, MW M 2, M 3, M 4 530	
	Motor protection tripping unit for PTC – temperature sensor in windings MSA 530	
 Operation switch	Reverse switch to change air flow direction of axial fans WS 528	
	Isolation switch to disconnect all phases for service works RS, RHS 528 f.	
	Pole / reverse switch as before, but for 2 speed axial fans PWGW, PWDA 529	
 Timer	Weekly autotimer for automatic operation control WSUP, WSUP-S 527	



■ **Flush mounted overrun timer for installation in gang boxes behind a switch**

Specially designed overrun timer for bathroom and toilet. The compact design allows installation behind a switch within a single gang box. Operation via on / off switch or ideally to be combined with a light switch in rooms without a window. Can be individually adjusted through different timer variations.

Interference immunity and emission
ZT is designed with a thermal electric circuit, is immune against tolerable peak voltages and interference-free. The interference immunity and emission of ZNE/ZNI comply with the latest EN guidelines. ZV is tested as follows: Interference emission to DIN EN 55014 / VDE 0875-14-1; DIN EN 50370 / VDE 0875-1; DIN EN 61000-3-3 / VDE 0838-3.

■ **Overrun timer for mounting in terminal box**

■ **Weekly autotimer Surface mounted or in flush mounted box**

Control cabinet installation

Type ZT Ref. no. 1277
Thermal electric overrun timer with adjustable run on time, depending on duty cycle.
Optional delayed start via different wiring options.
In parallel wiring with light switch the fan can be temporarily switched off via a series switch.

Type ZNE Ref. no. 0342
Electronic overrun timer with stepless adjustable run on times
Operation via on / off switch, e.g. in combination with light switch.
Compact design allows easy installation.

Type ZNI Ref. no. 0343
Electronic interval switch with adjustable interval and run on times
Starts operation automatically at adjustable time intervals, if no manual switching has taken place.
If switched manually, e.g. light switch, the preset overrun time applies.

Type ZV Ref. no. 1279
Electronic overrun timer with stepless adjustable run on times and operation switch with run on time/continuous operation options.
Parallel wiring to a light switch and fan is possible via an on / off switch or push button.

Type WSUP Ref. no. 9990
Weekly autotimer
Digital autotimer with LCD display to automatically control any unit in accordance with the technical data. Suitable for switching the least electronic current from 1 mA / 20 mV through a standard, gilded μ -contact. Installation in dry environment.

Type WSUP-S Ref. no. 9577
Weekly autotimer for control cabinet installation
Digital autotimer with LCD display to automatically control any unit in accordance with the technical data. Suitable for switching low-voltage or low currents through a standard, gilded μ -contact. Installation in dry environment or with occasional condensation.

Variable run on time, depending on duty cycle.
Min. approx. 2 min.; max. approx. 12 min.
Optional delayed start (approx. 45 sec.)
Voltage 230 V, 1~, 50/60 Hz
Current 4 A (ind.)
Protection class IP 20
Dimensions mm W 32 x H 40 x D 14
Installation flush mount box behind switch
Wiring diagram no. SS-174
– when two rooms/switches are to be controlled SS-174.3

Stepless adjustable run on time 0–21 min.
Optional delayed start 45 sec.
Voltage 230 V, 1~, 50/60 Hz
Current min. 0.05 A max. 0.8 A (ind.)
Protection class IP 40
Dimensions mm W 17 x H 37 x D 13
Installation flush mount box behind switch
Wiring diagram no. SS-477.1
– when two rooms/switches are to be controlled SS-174.3

Adjustable interval time 0, 4, 8, 12, 24 hr.
Run on time if manually switched, stepless adjustable 0–21 min.
Optional delayed start 45 sec.
Voltage 230 V, 1~, 50/60 Hz
Current min. 0.05 A max. 0.8 A (ind.)
Protection class IP 40
Dimensions mm W 17 x H 37 x D 13
Installation flush mount box behind switch
Wiring diagram no. SS-477.1
– when two rooms/switches are to be controlled SS-174.3

Stepless adjustable run on time 4–15 min.
Voltage 230 V, 1~, 50/60 Hz
Current 2,1 A (ind.)
Protection class IP 20
Dimensions mm W 18 x H 93 x D 67
Installation terminal box, 35 mm sectional rail
Wiring diagram no. SS-236.1

Voltage 230 V, 1~, 50 Hz
Current 1 mA / 20 mV DC
Switching contact potential-free changeover 250 V, 1~, 8 A $\cos \varphi \approx 1$, μ -contact
Protection class IP 20 / II
Dimensions mm W 85 x H 85 x D 52
Installation surf. casing, flush box
Temperature range -10°C to $+35^{\circ}\text{C}$
Memory space (switching time) 42
Wiring diagram no. SS-862

Voltage 230 V, 1~, 50-60 Hz
Current 1 mA / 20 mV DC
Switching contact potential-free changeover 250 V, 1~, 16 A $\cos \varphi \approx 1$ 2 A $\cos \varphi \approx 0.6$, μ -contact
Protection class IP 20 / II
Dimensions mm W 36 x H 90 x D 69
Installation DIN rail mounting control cabinet
Temperature range -30°C to $+55^{\circ}\text{C}$
Memory space (switching time) 56
Wiring diagram no. SS-1038



Reversing switch

For surface and flush mounting

Type WS **Ref. no. 1271**
To change air flow direction of 1 ph. and 3 ph. axial high performance fans. Installation: Surface or flush mounted (switch box is included as standard). With screw fixing (M 3, 60 mm). Similar to product pages the units are specified in the model chart.

Current AC 3 / 5.5 kW / 12 A (ind.)
Voltage 230 V, 1-, 50/60 Hz
400 V, 3-, 50/60 Hz
Protection class IP 54
(when flush mounted IP 30)
Wiring diagram no. SS-752
Weight approx. 0.4 kg
Dimensions mm W 91 x H 121 x D 109
– when flush mounted W 72 x H 72 x D 35
Casing polymer, light grey



Reversing, speed and on/off switch

Installation in FM switch box

Type DSEL 2 **Ref. no. 1306**
1. **Speed changeover switch** and on/off switch of fans with two speed steps such as ELS-V 60/35, -VN 100/60.
2. **Reverse switch** for changing the air flow direction of reversible fans (for supply and extract air) and on/off switch.
Similar to product pages the units are specified in the model chart.

Two switch rockers with symbols for speed change or reverse operation delivered as standard. Colour pure white.
Current 3 A (ind.)
Voltage 230 V, 1-, 50/60 Hz
Protection class IP 30
Installation in standard FM box
Wiring diagram no. – two speed SS-827
– reverse operation SS-828
Dimensions mm W 80 x H 80 x D 15
Weight approx. 0.1 kg



Three speed and operating switch with 0 position

Installation in FM switch box

Convenient flush mounted speed switch for fans with three speed steps. Cannot be parallel wired with the light switch
Voltage 230 V, 1-, 50/60 Hz
Weight approx. 0.1 kg

Type DSEL 3 **Ref. no. 1611**
Can be used with the fan models ELS-V 100/60/35 and ZEB 380.

Type DSZ **Ref. no. 1598**
Can be used with the central extract air box ZEB EC.

Type DSZ
Current AC 3 / 2,2 kW, AC 15 / 6 A
Protection class IP 20
Installation in FM box with 55 mm depth
Wiring diagram no. SS-735
Dimensions mm W 80 x H 80 x D 23



Speed, operation and reversing switch

For surface and flush mounting

Type FR 22/30 **Ref. no. 0998**
Suitable for fan models GX 225 or 300.
For surface and flush mounted installation in dry rooms.
Three sliding switches with following functions: Two pole operation switch on/off with operating display, high or low speed and reverse switch (supply/extract air).

Current approx. 0.8 A (ind.)
Voltage 230 V, 1-, 50/60 Hz
Protection class IP 20
Dimensions mm W 210 x H 85 x D 55
Weight approx. 1.2 kg
Wiring diagram no. SS-497
Casing polymer, white



Isolation switch
– 3 pole with auxiliary contact for direct starting

Type RS 3+1 7.5 **Ref. no. 6387**
Plastic casing for flush mounting. Locking options in position "0 OFF" and "I ON".

Technical data
Voltage 400 V, 3-, 50/60 Hz
Operating current 20 A
Current AC-23 B, 7.5 kW
Protection class IP 65
Protection category II
Actuation Rotary actuator
Temperature range -25 to +60 °C
Dimensions mm W 90.5 x H 90.5 x D 102
Weight approx. 0.3 kg
Wiring diagram no. SS-1088
Casing UV and weather-resistant



Isolation switch
– 6 pole with auxiliary contact for Dahlander windings or Y/Δ starting

Type RS 6+1 7.5 **Ref. no. 6388**
Current 20 A, AC-23 B, 7.5 kW
Dimensions mm W 90.5 x H 90.5 x D 139
Weight approx. 0.4 kg

Technical data
Voltage 400 V, 3-, 50/60 Hz
Protection class IP 65
Protection category II
Actuation Rotary actuator
Locking options "0 OFF" and "I ON"
Temperature range -25 to +60 °C
Wiring diagram no. SS-1088
Casing UV and weather-resistant for surface mounting

Type RS 6+1 11 **Ref. no. 6389**
Current 25 A, AC-23 B, 11 kW
Dimensions mm B 115 x H 115 x T 163
Weight approx. 0.6 kg



Isolation / main switch
– 3-pole with auxiliary contact

Type RHS 3+1 Ref. no. 1594
Position "0" is lockable via padlock. Conforms to DIN EN 60204 T.1 / VDE 0113-1. Polymer casing for surface mounting. 3-pole isolator with additional terminals, for single speed and speed controlled fans.

Technical data
Voltage 400 V, 3~, 50 Hz
Current
– Main contact AC 3 / 5.5 kW 12 A ind.
– Aux. contact AC 3 / 2,2 kW 4 A ind.
Protection to IP 54
Dimensions mm W 101 x H 126 x D 104
Weight approx. 0.35 kg
Wiring diagram no. SS-505.2



Isolation / main switch
– 6-pole with 2 auxiliary contacts

Type RHS 6+2 Ref. no. 1595
Position "0" is lockable via padlock. Conforms to DIN EN 60204 T.1 / VDE 0113-1. Polymer casing for surface mounting. 6-pole isolator with 2 additional terminals, for all pole changing fans.

Technical data
Voltage 400 V, 3~, 50/60 Hz
Current AC 3 / 5.5 kW
Protection to IP 65
Dimensions mm W 82 x H 82 x D 125
Weight approx. 0.3 kg
Wiring diagram no. SS-505.3



Pole switches
– for separate windings PGWA
– for Dahlander windings PDA

For surface mounting

Surface mounted operation switch for pole changing fans.

Type	Ref. no.	Current	SS no.
For separate windings			
PGWA 12	5083	AC 3/5.5 kW 12 A	345
PGWA 25	5061	AC 3/11 kW 25 A	345
For Dahlander windings			
PDA 12	5081	AC 3/5.5 kW 12 A	733 ¹⁾
PDA 25	5060	AC 3/11 kW 25 A	733 ¹⁾

¹⁾ For motors without thermal contacts: SS-732.

Technical data for all types
Voltage 400 V, 3~, 50/60 Hz
Protection to IP 65

Type	Dim. mm			Weight kg
	B	H	T	
P 12	82	82	130	0.4
P 25	92	92	140	0.5



Pole switches
– for separate windings PGWA
– for Dahlander windings PDU

For flush mounting

Pole switch PGWU/PDU
Flush mounted operation switch for pole changing fans.

Type	Ref. no.	Current	SS No
For separate windings			
PGWU 12	5084	AC 3/5.5 kW 12 A	345
For Dahlander windings			
PDU 12	5082	AC 3/5.5 kW 12 A	733 ¹⁾

¹⁾ For motors with thermal contacts; without thermal contacts: Connection to wiring diagram no. SS-732.

Technical data for both types
Voltage 400 V, 3~, 50/60 Hz
Protection to IP 30
Dim. mm Installation depth 87
Excess length 40
Cover plate 80 x 80
Delivery incl. flush mounting box
Weight approx. 0.2 kg



Reverse and pole switch
– for separate windings PWGW
– for Dahlander windings PWDA

For surface mounting

Type PWGW Ref. no. 1281
For separate windings

Type PWDA Ref. no. 1282
For Dahlander windings

To switch speed and air flow direction of individual pole changing fans. Grey polymer casing.

Technical data for both types
Voltage 400 V, 3~, 50/60 Hz
Current AC 3 / 7.5 kW
Protection to IP 55
Dimensions mm W 96 x H 105 x D 147
Weight approx. 0.5 kg
Wiring diagram no. for PWGW SS-13
Wiring diagram no. for PWDA SS-11



Speed reversing switches DS 2
– for two speed three phase Y/Δ fans

– for two speed alternating current fans (SlimVent, RR)

Type DS 2 Ref. no. 1351
On/off and speed reversing switch for two speed three phase Y/Δ-fans. Grey polymer casing for surface mounting.

Type DS 2/2 Ref. no. 1267
On/off and speed reversing switch for two speed 1 ph. fans, RR and SlimVent SVR, SVS.

Technical data for both types
Voltage 400 V, 3~, 50/60 Hz
Current AC 3 / 5.5 kW / 12 A
Dimensions mm W 82 x H 82 x D 130
Weight approx. 0.4 kg
Protection to, Type DS 2 IP 65
Wiring diagram no. for Type DS 2 SS-87
Protection to, Type DS 2/2 IP 54
Wiring diagram no. for Type DS 2/2 SS-939



■ **Motor protection**

Regulations and standards

The harmonised European standards and national installation directives require thermal overload protection for electric motors. This can be achieved in various ways and depends on the motor specification.

- Optimal protection is provided by thermal contacts ("TK" consecutively), which monitor the motor winding temperature. These contacts protect also the speed controlled motors.
- For low motor powers, the thermal contacts are wired in series with the motor windings, in other words, they are internally wired. This ensures an automatic function (resetting after cooling), without the operator reacting necessarily on the interference.
- For motors/fans with higher performances the leads of the thermal contacts or PTC thermistor-temperature sensor are wired to the terminal block and must be connected to the adjacent motor full protection/tripping units. Only under this condition is the warranty claim valid.
- Motors/fans without thermal monitoring elements in the windings (e.g. IEC norm motors) must be secured on all poles by a suitable motor protection switch.

For 1 ph. fans with thermal contact leads wired to the terminal block

Motor full protection switch MW
in polymer casing for surface mounting or installation in fuse board (clamping assembly for support rail).



For 3 ph. fans with thermal contacts

Motor full protection switch M
Operation and full protection unit in polymer casing for surface mounting or installation in fuse board (clamping assembly for support rail).



For pole changing 3 ph. fans with separate windings and thermal contacts

Motor full protection switch M 2
Switching and full protection unit in light grey polymer casing with control lamp for surface mounting.



For pole changing 3 ph. fans with Dahlander windings and thermal contacts

Motor full protection switch M 3
Design and functions as M 2.

For two speed 3 ph. fans with Y/Δ switching and thermal contacts

Motor full protection switch M 4
Design and function as M 3.



For 3 ph. fans with built-in positive temperature coefficient thermistors (PTC temperature sensors) for thermal motor protection. Specified for use in speed controlled, explosion proof fans.

Motor full protection switch MSA
Tripping unit with manual reset for 1 to 6, PTC thermistors wired in series.



If the nominal response temperature in PTC thermistors reaches a set limit the built-in relay disconnects the motor. The fault is indicated by a light emitting diode. Restarting via pressing the "Reset" button or an external switch. Casing made of polymer, suitable for fuse board installation on support rail according to DIN EN 60715.

Type MW

Ref. no. 1579

On/off operation via push-button switch. Manual reset function interference.
Volt free auxiliary contact for connection of failure indication alarm.
230 V, 1~, 50/60 Hz, applicable from 80 V
Nominal current 0.4 to 10 A
Protection to IP 55 Weight approx. 0.5 kg
Dimensions mm W 80 x H 140 x D 95
Wiring diagram no. SS-517

Type MD

Ref. no. 5849

On/off operation via push-button switch. Manual reset function interference.
Volt free auxiliary contact for connection of failure indication alarm.
400 V, 3~, 50/60 Hz, applicable from 80 V
Nominal current 0.1 to 25 A
Protection to IP 55 Weight approx. 0.5 kg
Dimensions mm W 80 x H 140 x D 95
Wiring diagram no. SS-518

Type M 2

Ref. no. 1292

If the thermal contact opens the motor disconnects from the supply. Restarting after interference via "0" position on the switch.

Voltage 400 V, 50/60 Hz
Power AC 3 / 5.5 kW
Nominal current approx. 12 A
Protection to IP 55 Weight approx. 1.0 kg
Dimensions mm W 170 x H 135 x D 115
Wiring diagram no. SS-142

Type M 3

Ref. no. 1293

As M 2, but suitable for pole changing 3 ph. fans with Dahlander windings and built-in thermal contacts.
Dimensions mm W 170 x H 135 x D 135
Wiring diagram no. SS-143

Type M 4

Ref. no. 1571

As M 3, but suitable for two speed 3 ph. fans with Y/Δ switching and built-in thermal contacts.
Wiring diagram no. SS-144

Type MSA

Ref. no. 1289

For thermal protection of electric motors (even explosion-proof electric motors) according to Directive 2014/34/EU (ATEX) with integrated PTC temperature sensors according to DIN 44081 and DIN 44082.

Voltage 230 V ± 15 %, 50/60 Hz
3 phase operation via contactor
Current at 230 V 3 A AC 15
Connection options 1 to 6 PTC thermistors in series

Tested by Physikalisch-Technische Bundesanstalt, according to
DIN EN 60079-14 / VDE 0165-1,
DIN EN 60079-0 / VDE 0170-1,
DIN EN 60079-17 / VDE 0165-10-1.
Protection to IP 20
Weight approx. 0.2 kg
Dimensions mm W 35 x H 90 x D 58
Wiring diagram no. SS-325.1

Information	Page
Technical information	15 on
Transformer controllers with motor full protection unit	
– for 1 ph. motors MWS	532
– for 3 ph. motors RDS	533

■ Electronic speed controller for stepless speed control of single phase fans

- Multiple, different fans can be operated with a controller up to the full load capacity. A reserve of 10% must be considered when calculating.
- The minimum output voltage can be adjusted to motor characteristics via potentiometer. Values must not fall below the lower limit for liquid motor start-up!
- Overload protection from built-in fine wire fuse.
- Additional connection of indicator lights or shutter possible via unregulated output.
- Corresponds to EMC guidelines, DIN EN 50370, DIN EN 61000 / VDE 0838, DIN EN 55014, DIN EN 60669.

■ Version ESU 1 and ESU 3 A HELIOS innovation

- Both types are compatible with the standard light switch programmes of many manufacturers. Thus, the speed controller can be integrated in the existing switch programme on-site. Colour matching is also not a problem. Frame, central insert and rotary knob are taken from the "dimmer programme" of the switch series and connected.
- Standard delivery includes: Controller insert, flush mounted cover plate and rotary knob made from white polymer.
- Operating display through circumferential light ring on rotary knob.

■ Surface mounted models

- Attractive, totally closed casing of polymer.
- ESA 1 and ESA 3 with illuminated control knob.

■ Important note

- Only motors which are suitable for speed control via electronic control should be used.

■ Electronic speed controllers

which operate on the phase control principle, can create humming noises which can be considered disturbing in the lower speed/voltage range. Silent transformer controllers should be used for noise-critical applications.

For surface mounting 230 V / 3 ph.

Type ESU 1 Ref. no. 0236

Max. load 1 A
Type ESU 3 Ref. no. 0237
 Max. load 2.5 A (T 40 E)
 White polymer casing. Installation
 Operation display via illuminated
 ring.
 Minimum current 0.15 A
 Protection to (installed) IP 30
 Wiring diagram no. SS-556.1
 Dimensions mm W 80 x H 80 x D 21 protr.



Type ESU 5 Ref. no. 1296

Max. load 5 A (T 40 E)
 (for install. in lightweight walls 4 A)
 White polymer casing. The double-
 box required for flush mounting is
 included in the scope of delivery.
 Minimum current 0.2 A
 Protection to IP 20
 Wiring diagram no. SS-165
 Dimensions mm W 81 x H 152 x D 40



For surface mounting 230 V / 1 ph.

Type ESA 1 Ref. no. 0238

Max. load 1 A

Type ESA 3 Ref. no. 0239

Max. load 2.5 A (T 40 E)
 White polymer casing.
 Operation display via illuminated
 ring in control knob.
 Minimum current 0.15 A
 Protection to IP 40
 Wiring diagram no. SS-556.1
 Dimensions mm W 80 x H 80 x D 65



Type ESA 5 Ref. no. 1299

Max. load 5 A (T 40 E)
 Light grey polymer casing, facia
 plate anodised aluminium.
 Minimum current 0.2 A
 Protection to IP 44
 Wiring diagram no. SS-165
 Dimensions mm W 84 x H 170 x D 40



For surface mounting, with reversing switch 230 V / 1 ph.

Suitable for fan models:
 HVR 150/2 RE, REW 150
 and 200, range HV.
 H 200/4 and 250/4 and
 window fans GX.

Type BSX Ref. no. 0240

Max. load 1 A (T 40 E)
 Surface mounted speed controller
 with reversing switch for reversible
 fans (intake/extract) in a white
 polymer casing. Only suitable
 for fans, that are reversible via
 reversing switch.
 Minimum current 0.15 A
 Protection to IP 40
 Wiring diagram no. SS-480.2
 Dimensions mm W 80 x H 80 x D 65



For fuse board installation 230 V / 1 ph.

Type ESE 2.5 Ref. no. 1302

Max. load 2.5 A (T 40 E)
 For installation in fuse boards
 (35 mm standard buzzbar profile
 and for 68 mm built-in range).
 Minimum current 0.1 A
 Protection to IP 20
 Wiring diagram no. SS-376
 Dimensions mm W 50 x H 85 x D 60
 (there from 10 mm protruding)



Five step transformer speed controller for speed controlling of 1 ph. alternating current fans

- Suitable for power control of all speed controllable 1 ph. alternating current fans.
- Four secondary voltages stepped in 80 / 100 / 130 / 170 and 230 V (full mains voltage) allow to control 5 fan speeds.
- A number of different fans can be connected to one controller up to its nominal load.

Advantages

- Good cost effectiveness.
- Reliable.
- Low loss and low noise fan operation.
- MWS-, TSW- (from the model TSW 1.5) and STSSW models with full power output for connection with the signal lamp or shutter.

Design for surface mounting units

- Robust ISO casing, light grey, made of impact resistant polymer. Protection to IP 54.
- Built-in operating switch for five speed steps and on/off function.
- Operation display via control lamp.
- Fully impregnated transformers T 40 E.
- Conforms to DIN VDE 0550.
- Max. permitted ambient temperature +40 °C.
- Delivered ready for installation, simple connection to terminal block.

Design for built-in transformers

- Built-up terminal block for five voltage outputs.
- Attached fixing brackets for simple fixture.
- Fully impregnated transformers T 40 E.

Accessories

Six step cam switch, model STSSW for switch board installation, with front mounting plate.

**For surface mounting
Max. load 0.35 A
1 ph. alternating current, 230 V**

**For surface mounting
1 ph. alternating current, 230 V**

**For switchboard installation
1 ph. alternating current, 230 V**

**With motor full protection facility
1 ph. alternating current, 230 V
For surface mounting**

Mini speed controller TSW 0.3
Compact five step speed controller with on/off switch for surface mounting in dry rooms. Polymer casing, white.

Type TSW 0.3 **Ref. no. 3608**
max. load 0.35 A
Protection to IP 20
Dimensions mm W 160 x H 85 x D 60
Wiring diagram no. SS-496.1



Transformer speed contr. TSW
For one or more alternating current fans.

Type	Ref. no.	I max. A	Dim. in mm		
			B	H	T
TSW 1.5¹⁾	1495	1.5	154	200	79
TSW 3.0¹⁾	1496	3.0	154	200	148
TSW 5.0²⁾	1497	5.0	200	254	167
TSW 7.5²⁾	1596	7.5	200	254	167
TSW 10²⁾	1498	10.0	200	254	167

Wiring diagram no. ¹⁾ SS-960 ²⁾ SS-437.1

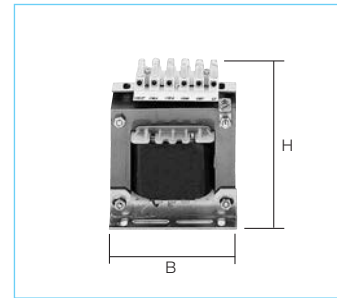


Speed control transformer TSSW

Built-in transformer with rail and terminals for 5 output voltages.

Type	Ref. no.	I max. A	Dim. in mm		
			B	H	T
TSSW 1.5	6520	1.5	78	90	78
TSSW 3	6521	3.0	84	94	92
TSSW 5	6522	5.0	105	111	87
TSSW 10	6523	10.0	120	122	112

Wiring diagram no. SS-268



Five step operating switch STSSW Accessory for control transformer TSSW for 230 V, 1 ph. fans. For switchboard installation with front fixing and front panel. Connections are deepened.

Type STSSW **Ref. no. 0234**
Voltage AC 3, 230 V
max. load 2,2 kW
Installation depth 70 mm, □ 46 mm
Wiring diagram no. SS-548



Transformer speed controller MWS with motor full protection facility

Five step speed controller with integrated tripping unit for 230 V, 1 ph. fans.

To connect thermal contacts wired to the terminal box. A number of fans can be controlled up to the nominal load.

If a thermal contact trips all fans will be disconnected. Step switch and control lamp included. Restarting via "0" position after interference or power cut off.



Type	Ref. no.	I max. A	Casing IP 54 made of	Dimensions in mm			Weight kg
				W	H	D	
MWS 1.5	1947	1.5	Polymer	200	254	98	3.0
MWS 3	1948	3.0	Polymer	200	254	98	4.0
MWS 5	1949	5.0	Polymer	200	254	167	5,3
MWS 7.5	1950	7.5	Polymer	236	316	188	10.0
MWS 10	1946	10.0	Polymer	236	316	188	13.5

Connection according to wiring diagram no. SS-440.4

■ Five step transformer speed controller for speed controlling of 3 ph. alternating current fans

□ Suitable for speed control of all speed controllable 3 ph. alternating current fans, for Y/Δ reversible switching models in higher steps.

□ Four secondary voltages stepped in 80 / (115)* / 140 / 200 / 280 and 400 V (full mains voltage) allow to control 5 fan speeds.

* On TSD internally adjustable for voltage controllable, explosion proof in-duct and roof fans.

□ A number of different fans can be connected to one controller up to its nominal load.

■ Advantages

- Good cost effectiveness.
- Reliable.
- Low loss and low noise fan operation.
- RDS-, TSD- and STSSD models with full power output for connection with the signal lamp or shutter.

■ Design for surface mounting units

- Robust ISO casing, light grey, made of impact resistant polymer. Protection to IP 54. Models from RDS 7 and TSD 5.5 made of steel, double painted, protection to IP 65.
- Built-in operating switch for five speed steps and on/off function.
- Operation display via control lamp.
- Fully impregnated transformers T 40 E, protection class II.
- Conforms to DIN VDE 0550.
- Max. permitted ambient temperature +40 °C.
- Delivered ready for installation, simple connection to terminal block.

■ Design for built-in transformers

- Two transformers in V switching ensure the functions as described above.
- Built-up terminal block for five voltage outputs.
- Attached fixing brackets for simple fixture.
- Fully impregnated transformers T 40 E.
- Contactors and external wiring to be supplied onsite.

□ Accessories

Five step switch STSSD for fuse board installation, with front board.

**For surface mounting
3 ph. alternating current, 400 V**

**For switchboard installation
3 ph. alternating current, 400 V**

**With motor full protection facility
3 ph. alternating current, 400 V
For surface mounting**

Speed control transformer TSD
As TSW, but for 3 phase fans.

Type	Ref. no.	I max. A	Dim. in mm		
			W	H	D
TSD 0.8	1500	0.8	200	254	167
TSD 1.5	1501	1.5	200	254	167
TSD 3.0	1502	3.0	200	254	167
TSD 5.5	1503	5.5	300	300	150
TSD 7.0	1504	7.0	300	300	150
TSD 11.0	1513	11.0	300	400	200

Wiring diagram no. SS-436.2

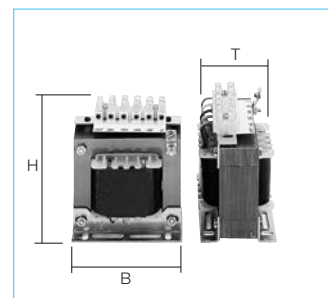


Speed control transformer TSSD

As TSSW, but two transformers without casing, in V switching.

Type	Ref. no.	I max. A	Dim. in mm		
			W	H	D
TSSD 1	6516	1.0	84	95	80
TSSD 2	6517	2.0	96	104	92
TSSD 4	6518	4.0	105	112	98
TSSD 7	6519	7.0	120	122	134
TSSD 11	6515	11.0	150	146	158

Wiring diagram no. SS-267.1

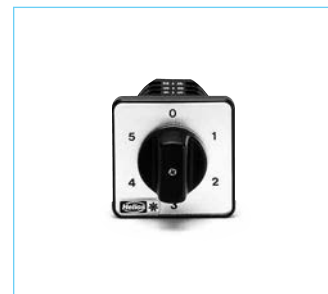


5 step operating switch STSSD

Suitable for control of transformer TSSD for 400 V, 3 ph. fans. For switchboard installation with front fixing and front panel. Connections are deepened.

Type STSSD Ref. no. 0235

Voltage AC 3, 400 V
max. load 5.5 kW
Installation depth 110 mm, □ 46 mm
Wiring diagram no. SS-549.1



Transformer speed controller RDS with motor full protection facility

Five step speed controller with integrated thermal contact tripping unit for 400 V, 3 ph. alternating current fans.

To connect thermal contacts wired to the terminal box. A number of fans can be controlled up to the nominal load.

If a thermal contact trips all fans will be disconnected.

Step switch and control lamp included. Restarting via "0" position after interference or power cut off.

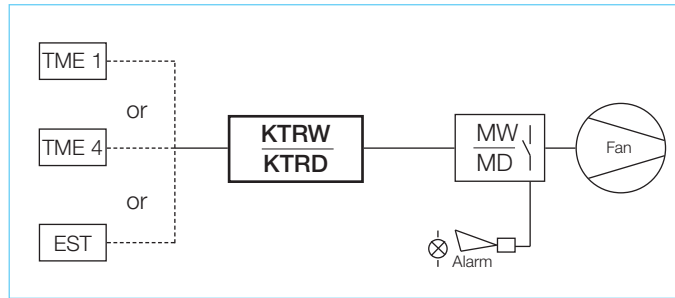


Type	Ref. no.	I max. A	Casing IP 54 made from	Dimensions in mm			Weight kg
				W	H	D	
RDS 1	1314	1.0	Polymer	236	316	128	6.0
RDS 2	1315	2.0	Polymer	236	316	128	9.7
RDS 4	1316	4.0	Polymer	236	316	128	10.5
RDS 7	1578	7.0	Steel	300	300	150	21.0
RDS 11	1332	11.0	Steel	300	400	200	26.0

Designed to comply with VDE 0550, fully impregnated transformers in V switching. Max. permitted ambient temperature +40 °C. Wiring diagram no. SS-139.

■ **Five-step climate transformer controller KTRW and KTRD**

- Trouble-free, low-loss transformer controller for temperature-dependent fan control including full motor protection.
- Recommended for noise critical applications.
- Control via an electronic thermostat type TME 4 or EST to be ordered separately as accessory.



For single phase fans
1 ph., 230 V, 50/60 Hz

Climate transformer controller KTRW 230 V

For automatic control of one or several 1 ph. fans in relation to the room temperature. Five-step automatic operation, whereby each step can also be switched manually. Integrated full motor protection by connecting the thermal contacts on the motor. Suitable for stable ventilation. Light grey polymer casing.

Type	Ref. no.	I max.	Dim. in mm		
			A	B	H T
KTRW 3	1662	3	236	316	128
Voltage		230 V~, 50/60 Hz			
Protection class		IP 54			
Max. ambient temperature		+40 °C			
Wiring diagram no.		SS-674			



For three phase fans
3 ph., 400 V, 50/60 Hz

Climate transformer controller KTRD 400 V

For automatic control of five step 3 ph. fans in relation to the room temperature. The built-in operating switch also allows manual control. Integrated full motor protection by connecting the thermal contacts on the motor. Robust casing made of steel, dual coating in light grey.

Type	Ref. no.	I max.	Dim. in mm		
			A	B	H T
KTRD 3	1650	3	300	500	200
KTRD 5.5	1651	5.5	300	500	200
KTRD 10	1652	10	400	500	200
KTRD 15	1653	15	400	500	200
Voltage		400 V, 3~, 50/60 Hz			
Protection class		IP 54			
Max. ambient temperature		+40 °C			
Wiring diagram no.		SS-676.1			



■ **Accessories for KTRW and KTRD**

Four-step electronic thermostat

For temperature-dependent control of a KTR transformer controller or for on/off operation of up to four single phase fans. (Supply voltage 230 V required.)

Electronic four step thermostat with a switching sequence of 1 K for adjusted setpoint. Enables five step temperature-controlled fan operation in combination with the climate controller KTR in relation to the pre-set setpoint and actual temperatures. Robust casing made of impact-resistant, light grey polymer. Cable entry at the bottom of the casing in PG 11.

Type	Ref. no.	1335
Voltage		230 V~, 50/60 Hz
Max. continuous current (AC 3)		6 A
Temperature range		0 to +50 °C
Switching precision		+/- 0.8 K at 20 °C
Switching distance		1 K
Protection category		II
Protection class		IP 54
Dim. mm		W 120 x H 80 x D 75
Weight approx.		0.4 kg
Wiring diagram no.		SS-702



Electronic control thermostat EST

with various control variables to control a climate transformer controller KTR.

Control functions

- Temperature dependent, five-step fan control via KTR units. Limitation of control range possible by selecting a minimum and maximum air rate (voltage). Minimum air rate can be switched on and off.
- Ventilation damper control (analogue 0...10 V)
- Control of a frequency inverter (analogue 0...10 V)
- Heating thermostat
- Temperature monitor (insufficient and excessive temperatures with outside air temperature compensation).
- Adjustments made via a dirt-resistant membrane keypad.

□ **Displays**

- Displays for operation mode, room temperature, outside temperature and adjusted setpoint temperature.
- Signal LED for soft-closing mechanism.
- Alarm signal LED for insufficient, excessive temp., system error.
- Scaled LED display (0-100 %) for fan speed and opening of shutter.

□ **Temperature sensor**

An outside and an inside temperature sensors are included as standard. Casing protected to IP 55, installation up to 100 m distance from controller, connection by means of NYM 3 x 1.5 mm².

□ **Possible settings**

- Stepless specification of setpoint temp. and control range.
- Min. / max. power (speed) limit.
- Min. air flow vol. can be on/off.
- Soft-closing mechanism on/off.

Type EST Ref. no. 1355

Voltage		230 V, 1~, 50/60 Hz
Protection class		IP 54
Transf. connection		230 V AC / max. 10 A
Temperature range (adjustable)		0 - 40 °C
Control range (adjustable)		2 - 12 K
Alarm low temp. (adjustable)		-20 - 0 K
Alarm high temp. (adjustable)		0 - 25 K
Heating (adjustable)		-15 - +5 K
Outside temp. compensation		0 - 20 K
Min. air rate approx.		0 - 40 %
Max. air rate approx.		60 - 100 %
Disable minimum air speed		-25 - 0 K
Dim. mm		W 260 x H 215 x D 120
Weight approx.		2.0 kg
Wiring diagram no.		SS-357.3



- Stepless temperature specification for activation of heating.
- Stepless specification for alarm signal for low and high temperatures.
- Min. and max. shutter opening.

■ **Casing**

Polymer, light grey with transparent hinged lid, for surface installation.

ESD



With these speed controllers, Helios offers a simple solution by connecting the fans and central building management systems specified by the customer!

Common features

- Control via analogue 0–10 V on-site input signal, electronic control system EUR 6 C or other controllers.
- A number of different fans can be controlled by one controller up to its maximum load.
- Several controllers can be controlled in parallel by a central building management system that allows the ventilation to be distributed to several fans or fan units and therefore in several circuits.

Accessories for both series

An universal control unit with 10 V output can be used if the fans are not controlled by a central building management system.

Type EUR 6 C Ref. no. 1321
See electronic control system page for description.

Model range

Type	Ref. no.	Output current	Power consumption	Wiring diagram	Dimensions			Cooling element width	Weight	Protection to
					H	W	D			
					mm	mm	mm	mm	kg	IP
For three phase fans, 3~, 400 V, 50/60 Hz										
ESD 5	0501	5.0	2.2	831	160	115	165	23	1.5	65
ESD 11.5	0502	11.5	5.5	831	160	160	165	68	1.7	65

ETW



Specification ETW

Seven-step electronic transformer control unit for speed control of 1 ph. fans. Robust and low-loss power units for ventilation systems controlled by central building management systems.

Possible settings / Display

- Built-in operating switch allows on, off and direct supply switching.
- Power step rotary switch allows manual operation of steps (1–7) or automatic operation. In “auto” mode, the transformer control unit is automatically controlled by the on-site ventilation control.
- The operating step is displayed by a LED.
- The built-in minimum air volume switch can be totally switched off from the ventilation controller via the analogue input.

Overload protection

ETW types are protected against permanent overload by a built-in temperature switch. When the overload protection trips, the unit switches automatically to direct supply. After cooling down, the unit switches back to normal operation. The interference can or should be signalled via the output to an on-site alarm system.

Casing

- Polymer casing, light grey.

Dimensions

Type	Dim. in mm			Weight kg
	H	W	D	
ETW 5	315	240	210	8
ETW 10	315	240	210	10

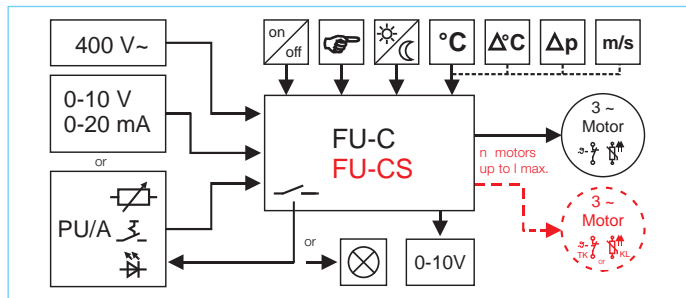
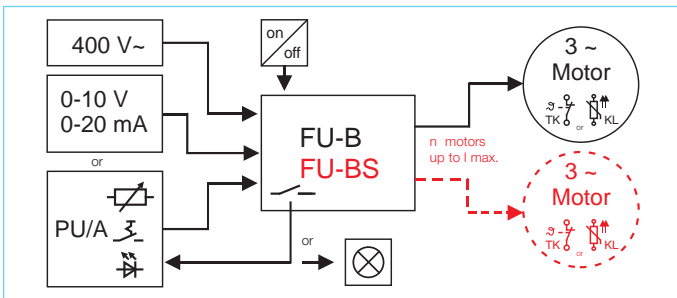
Model range

Type	Ref. no.	Output current	Output voltages Step							Wiring diagram	Protection to
			1	2	3	4	5	6	7		
		A	V							No.	IP
For single phase fans, 1~, 230 V, 50/60 Hz											
ETW 5	1263	5.0	80	95	115	135	165	195	230	683	54
ETW 10	1264	10.0	80	95	115	135	165	195	230	683	54

FU-B and FU-BS



FU-C and FU-CS



**■ Specification
FU-B “Basic”**

- Frequency inverter FU-B in basic design without sine filter to control the speed of a single fan.
- Speed specified by a 0-10 V control signal (e.g. potentiometer PU/PA, accessories).
- Maximum line length between FU-B and fan 10 m with shielded lines.
- The fan must be designed for operation with a frequency inverter (suitable EMC fan / motor, possibly with a special design).
- The FU-B is fixed to its nominal current.
- For FU-B operation (without sine filter), the suitability for the frequency inverter must be stated when ordering the fan.

**■ Specification
FU-BS “Basic-Sine”**

- Frequency inverter FU-BS in basic design with built-in sine filter effective on all poles.
- To control the speed of one or more fans. The permitted number of fans is calculated from the maximum FU current.
- The speed is specified by a 0-10 V control signal (e.g. potentiometer PU/PA, accessories).
- Line lengths between FU-BS and fan greater than 10 m are possible.
- No additional EMC shielding of the electrical lines required. The fans, including motor, do not require any specific EMC precautions to operate the frequency inverter.
- The FU-BS is fixed to its nominal current.
- When using the frequency inverter with a built-in sine filter, conventional standard fans / motors can be used.

**■ Specification
FU-C “Comfort”**

- Frequency inverter FU-C in comfort design without sine filter to control the speed of a single fan.
- Includes display and three buttons to set the fan and control parameters.
- Parameters can be set and unit can be controlled via modbus.
- With built-in, fully-fledged control system for temperature, pressure and air speed. The required sensors LDF 500, LGF 10, LT.. can be delivered as accessories (see page EUR 6 C).
- Speed specified by a 0-10 V control signal (e.g. potentiometer PU/PA, accessories) or direct entry on the display.
- Line length and suitability of the fan for operation with frequency inverter, see FU-B description.
- For FU-C operation (without sine filter), the suitability for the frequency inverter must be stated when ordering the fan.

**■ Specification
FU-CS “Comfort-Sine”**

- Frequency inverter FU-CS in comfort design with built-in sine filter effective on all poles.
- To control the speed of one or more fans. The permitted number of fans is calculated from the maximum FU current.
- Includes display and three buttons to set the fan and control parameters.
- Parameters can be set and unit can be controlled via modbus.
- With built-in, fully-fledged control system for temperature, pressure and air speed. The required sensors LDF 500, LGF 10, LT.. can be delivered as accessories (see page EUR 6 C).
- See FU-BS description for speed specification, line length, EMC precautions.
- When using the frequency inverter with a built-in sine filter, conventional standard fans / motors can be used.

	FU-B and FU-BS
Analogue inputs	1 x 0-10 V, Ri 100 kOhm or 0-20 mA
Logic inputs	1 x digital 24 V, release
Analogue output	—
Relay output	1 x closing contact 250 V / 2 A ind.
Power supply for modules	1 x 10 V DC, 10 mA, 1 x 24 V DC, 70 mA
Motor temp. monitoring	Thermal contact or PTC thermistor

	FU-C and FU-CS
Analogue inputs	2 x 0-10 V, Ri 100 kOhm or 0-20 mA, or KTY
Logic inputs	2 x digital 24 V, function parametrisable
Analogue output	1 x 0-10 V DC, 10 mA
Relay output	2 x changeover contact 250 V / 2 A ind.
Power supply for modules	1 x 10 V DC, 10 mA (in analogue output), 1 x 24 V DC, 70 mA
Motor temp. monitoring	Thermal contact or PTC thermistor

General properties

- Inverter specially designed for HLK use.
- Saves energy thanks to stepless speed adjustments.
- Specially tailored to the fan motor, i.e. minimal energy consumption and noise in partial load operations.
- Use of zero-maintenance alternating current asynchronous motors with all construction designs and powers.
- No power restriction when using standard motors.
- Operating notification via potential-free contact.
- Potentiometer voltage supply: E.g. 10 V DC / 10 mA for potentiometer with 10 kOhm
- Analogue input for speed specification (0-10 V, 0(4)-20 mA).
- Short-circ.-proof and grounded.
- Built-in electronic motor protection via thermal contacts or PTC thermistors.
- Electrically isolated control unit.
- Overvoltage protection
- Also suitable for installation into a control cabinet.
- At amb. temp. of 40 °C – 55 °C, consider a loss of performance.

Type-based properties

- Basic types:
- Additional voltage supply: 24 V DC / 70 mA for wiring digital inputs and additional external components.
- Sine types:
- Includes internal sine filter effective on all poles.
 - For the simple, subsequent enhancement of existing ventilation systems.
- Comfort types:
- Free specification of the acceleration and delay times to reduce noise on start-up.
 - Additional voltage supply: 24 V DC / 120 mA for wiring digital inputs and additional external components.
 - Easy to adjust and control values using the display
 - Extensive diagnostic display in case of an error.
 - Speed specification directly on the device via the display.
 - Serial interface RS 485 / Modbus-RTU.
 - Adjustment of performance according to needs and configurable parameters.

Information

- Internal sine filter effective on all poles** (types FU-..S)
Filters the voltages between the individual phases and string voltage between phase and protective conductor. Thus the output voltage of the frequency inverter is purely sinusoidal and matches the quality of a standard mains voltage.
- Ground fault circuit interrupters** (all types)
When using the frequency inverter in an environment that requires a ground fault circuit interrupter, this must match type B+, 300 mA sensitive to universal currents.
- EMC**
All FU types comply with the EMC Dir. 2004/108/EG and the applicable standards such as DIN EN 60335-1 and DIN EN 550011. Radio interference filters are built in to ensure cl. B (res. area). For FU-B and FU-C, the line between the fan and frequency inverter must be shielded and must be no more than 10 m long. Motor supply/temp. monitoring lines laid separately.

Design motor current / frequency

When selecting the right frequency inverter, the maximum motor current is to be used as a starting point. When operating multiple fans, the sum of the individual currents is to be used. To prevent faults and failures, a 10% reserve should be included in the plans. A maximum frequency of 50 Hz must not be exceeded when controlling the speed of a series fan, as otherwise the motor will be overloaded and broken. A higher-frequency operation is only possible upon request.

Motor protection

Maximum motor protection is achieved through monitoring (thermal contacts / PTC thermistors); a maximum of 6 PTC thermistors can be connected to the device in series. It is possible to increase the number of PTC thermistors by using monitoring devices (type MSA, accessories).

Accessories for all FU types

PU 24 / PA 24 No. 1736/1737

Speed potentiometer, flush / surface, LED 24 V, Poti 10 V / 1.3-10 V

SU-3 10 / SA-3 10 No. 4266/4267

Three-step speed switch, flush / surface, 10 V / 1.7-10 V

Type WSUP Ref. no. 9990

Week timer with LCD-display, potential-free contact

Type WSUP-S Ref. no. 9577

Week timer potential-free contact, for DIN rails

Type EDR Ref. no. 1437

Electronic differential pressure controller 0-1000 Pa, 10-24 V / 0-10 V

Type ETR Ref. no. 1438

Electronic temperature controller (sensor see accessory ETR)

Type EUR EC Ref. no. 1347

Electronic universal controller (sensor see accessory EUR EC)

Type MSA Ref. no. 1289

Full motor protection for PTC thermistor

General technical data

Mains voltage 3~, 208 – 480 V
 Mains frequency 50/60 Hz
 Output voltage 95 % of U_{mains}
 Output frequency 50 Hz
 Protection class IP 54
 Ambient temperature 0 to +40 °C
 (–20 °C not currentless)

Type	Ref. no.	Max. power		Cable cross section from mains to motor cable	Wiring diagram	Dimensions			Weight net approx.
		Output current	Motor			Height	Width	Depth	
		A	kW	mm ²	No.	mm	mm	mm	kg
Basic design without sine filter for 3 ph. AC fans, 400 V, 50/60 Hz, protection to IP 54									
FU-B 3.6	5453	3.6	1.5	4 x 1.5 ¹⁾	1020	284	240	115	2.6
FU-B 5.0	5454	5.0	2.2	4 x 1.5 ¹⁾	1020	302	250	196	4.6
FU-B 7.0	5455	7.0	3.0	4 x 1.5 ¹⁾	1020	302	250	196	4.7
FU-B 8.5	5456	8.5	4.0	4 x 1.5 ¹⁾	1020	302	250	196	5.6
FU-B 12	5457	12.0	5.5	4 x 1.5 ¹⁾	1020	302	250	196	5.7
FU-B 17	5458	17.0	7.5	4 x 1.5 ¹⁾	1020	302	250	196	5.9
Basic design with all-pole sine filter for 3 ph. AC fans, 400 V, 50/60 Hz, protection to IP 54									
FU-BS 2.5	5459	2.5	2) ²⁾	4 x 1.5	1028	284	240	115	2.7
FU-BS 5.0	5460	5.0	2) ²⁾	4 x 1.5	1028	302	250	196	5.2
FU-BS 8.0	5461	8.0	2) ²⁾	4 x 1.5	1028	302	250	196	6.3
FU-BS 10	5462	10.0	2) ²⁾	4 x 1.5	1028	302	250	196	6.8
FU-BS 14	5463	14.0	2) ²⁾	4 x 1.5	1028	302	250	196	6.9
Comfort design without sine filter for 3 ph. AC fans, 400 V, 50/60 Hz, protection to IP 54									
FU-C 4.2	5865	4.2	1.5	4 x 1.5 ¹⁾	1030	302	250	195.5	6.4
FU-C 8.5	5868	8.5	4.0	4 x 1.5 ¹⁾	1030	302	250	195.5	7.3
FU-C 12	5869	12.0	5.5	4 x 1.5 ¹⁾	1030	302	250	195.5	7.5
FU-C 17	5870	17.0	7.5	4 x 2.5 ¹⁾	1030	302	250	195.5	7.5
FU-C 25	5464	25.0	11	5 x 4.0 ¹⁾	1030	355	280	239	12.5
FU-C 32	5465	32.0	15	4 x 6.0 ¹⁾	1030	524	386	283	24.5
FU-C 39	5466	39.0	18.5	4 x 10.0 ¹⁾	1030	524	386	283	26.3
FU-C 46	5467	46.0	22	4 x 10.0 ¹⁾	1030	524	386	283	26.3
FU-C 62	5468	62.0	30	4 x 16.0 ¹⁾	1030	524	386	283	26.3
Comfort design with all-pole sine filter for 3 ph. AC fans, 400 V, 50/60 Hz, protection to IP 54									
FU-CS 2.5	5871	2.5	2) ²⁾	4 x 1.5	1032	284	240	115	3.3
FU-CS 8	5873	8.0	2) ²⁾	4 x 1.5	1032	302	250	195.5	7.9
FU-CS 10	5874	10.0	2) ²⁾	4 x 1.5	1032	302	250	195.5	8.2
FU-CS 14	5875	14.0	2) ²⁾	4 x 1.5	1032	302	250	195.5	8.7
FU-CS 18	5469	18.0	2) ²⁾	4 x 2.5	1032	302	250	196	9.1
FU-CS 22	5470	22.0	2) ²⁾	5 x 4.0	1032	355	280	239	14.5
FU-CS 32	5471	32.0	2) ²⁾	4 x 6.0	1032	525	386	283	29.6
FU-CS 40	5472	40.0	2) ²⁾	4 x 10.0	1032	525	386	283	29.6
FU-CS 50	5473	50.0	2) ²⁾	4 x 16.0	1032	525	386	283	32.8

¹⁾ max. 10 m shielded, motor supply and motor protection laid separately

²⁾ The max. current for all connected fans is decisive for design

■ **Universal controller EUR 6 C**
Electronic control unit with power supply unit on the phase control principle.

□ **Area of application**

For control of central ventilation systems or for stepless control of one or more speed controllable 1 ph. fans.
In domestic, commercial, industrial and agricultural applications.

□ **Control functions**

Simple and quick start-up of parameters via integrated "startup wizard". Depending on the connected sensor a control can be carried out according to following control variables:

- **Manual speed control**, e.g. adjustable via keyboard
- **Temperature** (required accessory temperature sensor LTR 40 or LTK 40)
- **Temperature with additional functions** pre-programmed, (required accessory temperature sensor LTR 40 or LTK 40)
- **Differential temperature control** (required accessory temperature sensor LTR 40 or LTK 40)
- **Differential pressure** (required accessory differential air pressure sensor LDF 500)
- **Differential pressure with outside air temperature compensation** (required accessory differential air pressure and temperature sensor LDF 500 and LTR 40 or LTK 40). Ideal for central ventilation systems according to DIN 18017 in residential construction.
- **Air velocity** (required accessory air velocity sensor LGF 10)

The required sensor is to be ordered separately as an accessory. The control ranges are freely adjustable within the sensor's range.

The aligned output voltage according to nominal value and current value is between 0 % (35 V) to 100 % (approx. 80 V – 230 V). The specification of minimum and maximum values is possible.

- Main switch with positions:
"0" = Controller off
"I" = Automatic operation
"230 V" = uncontrolled direct supply.

Inputs and outputs:

Outputs:

- 1 x motor connection based on phase control principle
- 1 x analogue output 0–10 V for control of e.g. frequency inverter, shutter, EC motor.
- 2 x potential-free relay, programmable, alarm, heating or status signals

EUR 6 C



Inputs:

- 2 x sensor inputs, programmable on the respective necessary sensor type
 - Connection of thermal contacts for motor protection
- The whole system stops when a thermal contact TK trips. It must be restarted manually once the motor has cooled down.
- 2 x digital inputs, programmable for release, external interference, limit on/off, switching night reduction, internal/external, control/manual operation, reset, max. speed on/off

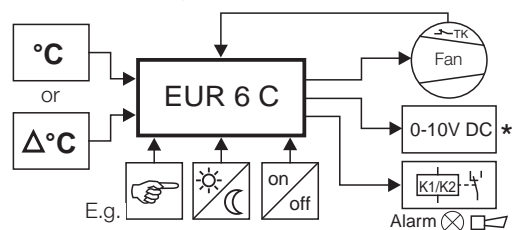
Possible settings

- Stepless selection of setpoints and control range
- Min./max. power (speed) limit
- On/off switching of minimum air flow volume
- Switching e.g. heating via programmable relay
- Stepless selection for alarm indication at low and high temperature, output on display or additionally on relay
- Min. and max. shutter opening
- Reverse control functions
- Continuous control of ventilation dampers
- Adjustments made via a dirt-resistant membrane keypad.

□ **Display**

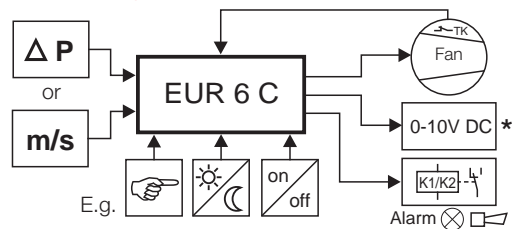
- Multi-function LC display
- Numerical setpoint and actual value display with scale
- Symbols (alarm, heating, release)
- Bar graph/level indicator
- Text display for menu, status and fault indications

Mode 2.03: Temperature control with additional function
Mode 2.05: Differential temperature control



* e.g. for shutter, frequency inverter

Mode 4.01: Differential pressure control
Mode 6.01: Air velocity control



* e.g. for shutter, frequency inverter

Type EUR 6 C Ref. no. 1321

Voltage	230 V~, 50/60 Hz
max. current	6 A
Required minimum current	0.2 A
Controlled output voltage	0 – 100 %
Control range temperature	0 – 40 °C
Control range pressure	0 – 500 Pa
Control range velocity	0 – 10 m/s
Permitted ambient temp.	0 to +40 °C
Protection class	IP 54
Casing	surface mounted installation, polymer, light grey
Dim. mm	W 223 x H 200 x D 131
Weight	approx. 1.4 kg
Wiring diagram no.	SS-911

■ **Necessary accessories**

Type LDF 500 Ref. no. 1322
Differential air pressure sensor
Range 0 – 500 Pa

Type LGF 10 Ref. no. 1325
Air velocity sensor
Range 0 – 10 m/s

Type LTA 40 Ref. no. 1336
Temperature sensor for outside
Range –20 to +60 °C
Protection class IP 54

Type LTK 40 Ref. no. 1324
Temperature sensor for duct installation
Range 0 to +40 °C

Type LTR 40 Ref. no. 1323
Room temperature sensor
Range 0.5 to +40 °C

■ **Note**

Electronic speed controllers may produce motor humming. Transformer controllers are to be used for noise critical applications.

EUR EC



■ **Universal control system EUR EC**
Electronic control unit with 0–10 V DC control output.

□ **Area of application**
For stepless control or regulation of single and three phase EC fans with a setpoint input of 0–10 V DC.

□ **Control functions**
Simple and quick start-up of parameters via integrated “startup wizard”. Depending on the connected sensor a control can be carried out according to following control variables:

- **Manual speed control**, e.g. adjustable via keyboard
- **Temperature** (required accessory temperature sensor LTR 40 or LTK 40)
- **Temperature with additional functions** pre-programmed, (required accessory temperature sensor LTR 40 or LTK 40)
- **Differential temperature control** (required accessory temperature sensor LTR 40 or LTK 40)
- **Differential pressure** (required accessory differential air pressure sensor LDF 500)
- **Differential pressure with outside air temperature compensation** (required accessory differential air pressure and temperature sensor LDF 500 and LTR 40 or LTK 40). Ideal for central ventilation systems according to DIN 18017 in residential construction.
- **Air velocity** (required accessory air velocity sensor LGF 10)

The required sensor is to be ordered separately as an accessory. The control ranges are freely adjustable within the sensor's range.

The aligned output voltage according to nominal value and current value is between 0 % (0 V DC) to 100 % (10 V DC). The specification of minimum and maximum values is possible.

Inputs and outputs:

Outputs:

- 2 x analogue outputs 0–10 V to control e.g. EC motor, frequency inverter, shutter
- 2 x potential-free relay, programmable, alarm, heating or status signals

Inputs:

- 2 x sensor inputs, programmable on the respective necessary sensor type
- 3 x digital inputs, programmable ro release, external interference, limit on/off, switching night reduction, internal/external, control/manual operation, reset, max. speed on/off

Possible settings

- Stepless selection of setpoints and control range
- Min./max. power (speed) limit
- On/off switching of minimum air flow volume
- Switching e.g. heating via programmable relay
- Stepless selection for alarm indication at low and high temperature, output on display or additionally on relay
- Min. and max. shutter opening
- Reverse control functions
- Continuous control of ventilation dampers
- Adjustments made via a dirt-resistant membrane keypad.

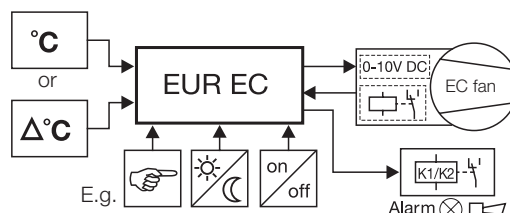
Display

- Multi-function LC display
- Numerical setpoint and actual value display with scale
- Symbols (alarm, heating, release)
- Bar graph/level indicator
- Text display for menu, status and fault indications

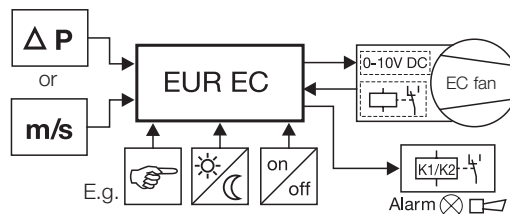
Note

Depending on the fan type to be connected, multiple fans can be connected in parallel to an EUR EC.

Mode 2.03: Temperature control with additional function
Mode 2.05: Differential temperature control



Mode 4.01: Differential pressure control
Mode 6.01: Air velocity control



Type EUR EC Ref. no. 1347

Voltage	230 V~, 50/60 Hz
Control output	0–10 V / max. 10 mA
Controlled output voltage	0 – 100 %
Control range temperature	0 – 40 °C
Control range pressure	0 – 500 Pa
Control range velocity	0 – 10 m/s
Permitted ambient temp.	0 to +40 °C
Protection class	IP 54
Casing	surface mounted installation, polymer, light grey
Dim. mm	W 223 x H 200 x D 131
Weight	approx. 1.0 kg
Wiring diagram no.	SS-1001

■ Necessary accessories

Type LDF 500 Ref. no. 1322

Differential air pressure sensor
Range 0 – 500 Pa

Type LGF 10 Ref. no. 1325

Air velocity sensor
Range 0 – 10 m/s

Type LTA 40 Ref. no. 1336

Temperature sensor for outside
Range –20 to +60 °C
Protection class IP 54

Type LTK 40 Ref. no. 1324

Temperature sensor for duct installation
Range 0 to +40 °C

Type LTR 40 Ref. no. 1323

Room temperature sensor
Range 0.5 to +40 °C

EDR



ETR



■ **Electronic controller for differential pressure or temperature**

□ **Area of application**

For stepless control of 1 ph. and 3 ph. EC fans or frequency inverters with a setpoint input of 0-10 V DC. If the EC fan or frequency inverter provides a supply voltage of 10-24 V DC/6 mA (safety extra-low voltage), the controller can be directly powered or alternatively via a power supply unit (NG 24, accessories).

□ **Display**

- Multi-function LCD display
- Numerical setpoint and actual value display with measurement unit
- Alarm, day/night mode
- Text display for menu, status

□ **Control functions**

Simple and quick start-up of parameters using LCD display and three internal input keys. Permanent measurement display on LCD display.
Optional parameterisation as
– **regulator** = 0-10 V analogue output proportional to the measured actual value as control variable for external controls or as
– **controller** = controlled 0-10 V analogue output in relation to the set setpoint value and the measured actual value.
The controlled output voltage between the actual and setpoint value lies between 0 % (0 V DC) and 100 % (10 V DC). The specification of min. and max. values is possible, two setpoint values (e.g. for day/night mode) are also adjustable. Switching by means of week timer (types WSUP, WSUP-S, see accessories).

■ **Differential pressure controller EDR**

With firmly integrated pressure sensor and connections for pressure hoses (DN 5 mm, on-site).

- Adjustable pressure ranges:
0-1000 Pa, 0-500 Pa, 0-300 Pa, 0-200 Pa

Type EDR	Ref. no. 1437
Supply voltage	10-24 V DC, 6 mA
Analogue outputs	0-10 V DC 10 V / 0.3 mA 24 V / 10 mA
Signal input	10-24 V DC / 6 mA
Switching setpoint 1/2 (day/night)	
Permitted humidity	85 % non-condensing
Protection class	IP 54
Protection category	III (safety extra-low voltage, galvanically isolated)
Permitted ambient temp.	0 to +50 °C
Casing	Surface installation, Polymer, light grey
Dim. mm	W 114 x H 108 x D 56
Weight	250 g
Wiring diagram no.	SS-1039

■ **Temperature controller ETR**

The controller is freely adjustable within the sensor measuring ranges, with the optional functions of cooling or heating, with adjustable minimum air shut-off.

- Temperature control range
–50 to +150 °C.
□ Appropriate sensors (types LTA, LTK, LTR, see accessories) are available for temperature measurement.

Type ETR	Ref. no. 1438
Supply voltage	10-24 V DC, 6 mA
Analogue outputs	0-10 V DC 10 V / 0.3 mA 24 V / 10 mA
Signal input	10-24 V DC / 6 mA
Switching setpoint 1/2 (day/night)	
Permitted humidity	85 % non-condensing
Protection class	IP 54
Protection category	III (safety extra-low voltage, galvanically isolated)
Permitted ambient temp.	0 to +50 °C
Casing	Surface installation, Polymer, light grey
Dim. mm	W 114 x H 108 x D 56
Weight	200 g
Wiring diagram no.	SS-1040

■ **Note**

Depending on the fan type to be connected, multiple fans can be connected in parallel to an EDR or ETR.

■ **Necessary accessories for EDR and ETR**

Type NG 24 Ref. no. 1439
Power supply unit for DIN rail mounting, input 100-240 V AC, output 24 V DC / 1.75 A. Required if fan type does not supply 10-24 V DC / 6 mA.

Type WSUP Ref. no. 9990
Week timer

Type WSUP-S Ref. no. 9577
Week timer for DIN rail mounting

■ **Necessary accessories for ETR**

Type LTA 40 Ref. no. 1336
Temperature sensor for outside
Measuring range –20 to +60 °C
Protection class IP 54

Type LTK 40 Ref. no. 1324
Temperature sensor for in-duct installation
Measuring range 0 to +40 °C

Type LTR 40 Ref. no. 1323
Room temperature sensor
Measuring range 0.5 to +40 °C

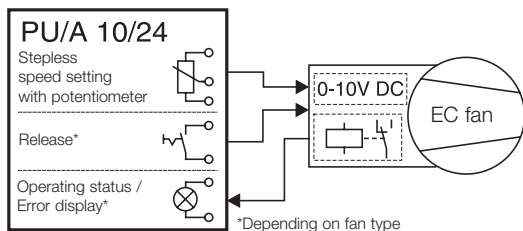
PU / PA



SU / SA

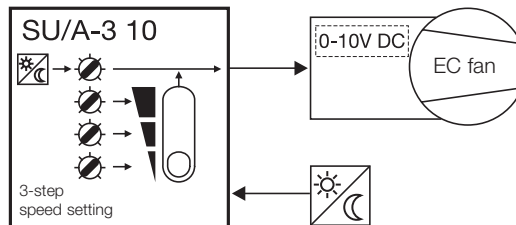


Basic circuit diagram



*Depending on fan type

Basic circuit diagram



■ Speed-potentiometer PU / PA with additional functions switch and LED

□ Area of application

For direct control/setpoint specification of EC fans with potentiometer input. Additionally equipped with a release switch and LED display for the operating status (depending on the fan type features).

□ Control with potentiometer

The potentiometer is attached directly to the potentiometer input of the fan control. This has a potentiometer supply of e.g. 10 V DC and an input control signal of 0-10 V DC.

□ Minimum voltage

A second potentiometer is firmly integrated in the PU/PA. The minimum voltage (min. 1.3 V) is steplessly adjustable, thus a reliable motor start-up is guaranteed on the lowest speed setting.

□ Release switch

The rotary knob for the potentiometer is also a pressure switch, which can be used to switch the fan with release input (e.g. 24 V DC) on/off.

□ LED light ring

The colour of the light ring signals the operating status of the fan. For fans with operating signal relay, change from green (normal operation) to red (fault). See technical data for necessary supply voltage.

■ Delivery range

□ LED power supply 10 V

Type PU 10 Ref. no. 1734
Installation standard flush mounted box
Dim. mm W 80 x H 80 x D 21 overhang

■ Type PA 10

Casing Surface installation, Polymer, light grey
Dim. mm W 80 x H 80 x D 65

□ LED power supply 24 V

Type PU 24 Ref. no. 1736
Installation, dimensions see PU 10

■ Type PA 24

Casing, dimensions see PA 10

■ Technical data for all types

Potentiometer 10 kOhm (min. potentiometer approx. 7.9-16.5 kOhm)
A Potentiometer supply of 10 V results in a control voltage 0-10 V DC.
Min. voltage 1.3-6.7 V DC adjustable.
LED supply voltage: 10/24 V DC (P 10/24), min. 6 mA
Permitted ambient temp. 0 bis +40 °C
Protection class IP 40
Wiring diagram no. SS-1000

■ Three-step switch SU / SA 10 V / 0-10 V

□ Area of application

Three-step switch for flush or surface mounting. For three-step control of EC fans or frequency inverters, with a 0-10 V DC control input.

□ Functions

Three different setpoints can be specified/issued using SU/SA. Each step is freely adjustable via a separate potentiometer from 0 to 10 V DC. A week timer (WSUP, WSUP-S, accessories) can also be connected to switch from 3-step day mode to e.g. night mode. The night/reduction mode is freely adjustable using another potentiometer from 0 to 10 V DC.

■ Delivery range

□ Flush mounting

Type SU-3 10 Ref. no. 4266
Installation in deep flush box (D 65 mm)
Dim. mm W 80 x H 80 x D 15 overhang

□ Surface mounting

Type SA-3 10 Ref. no. 4267
Protection class IP 40
Casing Surface installation, polymer, white
Dim. mm W 80 x H 80 x D 60

■ Technical data

for all SU / SA types

Supply input: 10 VDC Ri = 12.5 kOhm (safety extra-low voltage)
Own consumption: 1.5 mA
Control output: 0 to 10 V DC optional via switch or external switchover
Protection class IP 30 when installed
Protection category III
Wiring diagram no. SS-1022

■ Note

Depending on the fan type to be connected, multiple fans can be connected in parallel to a speed-potentiometer or three-step switch.

Differential pressure switch DDS
Type DDS Ref. no. 0445

■ **Area of application**

- Complete kit to monitor air filter, system pressure and fan operation.
- Suitable for DDC applications (24 V DC/0.1 A) due to gold-plated connection contacts. Once the unit has been connected conventionally (230 V AC/1.5 A), subsequent use in DDC applications is no longer possible.
- Suitable for applications according to VDI 6022.

■ **Technical data**

Adjustable pressure range	50 – 500 Pa
Switching difference Δp	20 Pa
max. operating overpressure	5 kPa
Current	230 V AC 1.5 (0.4) A
	24 V DC 0.1 A
Ambient temp.	-20 to +85 °C
Air flow temp.	-20 to +85 °C
Humidity	0...50% RH, non-condensing
Protection class	IP 54
Dim. mm	Ø 104, D 58
Weight approx.	0.23 kg
Wiring diagram no.	SS-490



■ **Function**

Adjustable opener/closer to monitor pressure loss and thus the amount of dust in air filters, the pressure increase of fans and the pressure level within the ventilation system.

■ **Delivery**

- Complete kit including:
- Differential pressure switch DDS
 - 4 fastening screws
 - 2 pipe connections
 - Connection pipe Ø 6 mm x 1.5 mm x 2000 mm
 - Drilling template for connecting points
 - Retaining plate + 3 fastening screws
 - 3 screw terminals

One-step thermostat TME 1
Type TME 1 Ref. no. 1334

■ **Area of application**

- Robust, electronic thermostat for temperature-dependent on/off operation of fans or heaters. Suitable for installation in humid and dusty rooms. Surface mounting in any position.

■ **Technical data**

Voltage	230 V-, 50/60 Hz
Current	16 A
Max. current (AC 3)	6 A
Temperature range	0 to +50 °C
Switching sensitivity	+/- 0.8 K at 20 °C
Protection category	II
Protection class	IP 54
Ambient temp.	0 to +60 °C
Dim. mm	W 82 x H 80 x D 75
Weight approx.	0.2 kg
Wiring diagram no.	SS-701
Connection cable	NYM-0 4 x 1.5 mm ²



■ **Function**

- Single step control thermostat for direct switching of one or a number of fans.
- Also suitable for heater control through optional connection.
- Potential-free switch-over contact.

■ **Specification**

- Enclosed casing made of impact resistant, light grey polymer. Cable entry on the bottom of casing via self-sealing grommet PG 11.
- Connection via terminal block, after removing the casing cover.

Ventilation hygrostat
Type HY 3 Ref. no. 1359

Ventilation hygrostat
Type HY 3 SI Ref. no. 1360
Internal scale.

■ **Area of application**

- Electromechanical humidity controller for on/off operation of fans (in 3 ph. models control via contactor) to reduce the relative humidity in a room through air exchange.

■ **Technical data**

Relative humidity level	30 to 90 %
Switching sensitivity approx.	± 6 %
Voltage max.	230 V-, 50/60 Hz
Current	3 A (ind.)
Ambient temperature	0 – 40 °C
Protection class	IP 20
Dim. mm	W 76 x H 76 x D 34
Weight approx.	0.25 kg
Wiring diagram no.	SS-168.1



■ **Specification**

- Universal hygrostat housed in an attractive polymer casing for surface mounting. Colour white.
- Setpoint adjustment via external rotary knob. In HY 3 SI via the inner scale.

- Not suitable for dusty or aggressive air.
- Sensor element made of polyamide fibres.
- Also suitable for humidification through optional connection.

Air quality controller

Type ACL Ref. no. 0492

Area of application

- Electronic air quality controller to control:
 - 1 ph. fans up to max. 1 A.
 - 3 ph. fans via contactor.
- For ventilation systems in conference rooms, restaurants, shops, manufacturing plants, living/meeting rooms.

Function

- On and off operation of one or a number of fans in relation to the room's air quality.
- The unit has an integrated sensor which reacts on oxidable gases and pollutants such as carbon monoxide, alcohol, formaldehydes, benzene, solvents, methane, tobacco etc.

Possible settings

- The unit switches the fan on if the set value is exceeded or if the concentration rises quickly.
- Adjustable (from outside) overrun timer after the sensor has switched off.
- Indicator lamp for operation type (automatic/manual) and fan operation and overrun time.
- Functional and operational switch on the front casing

Technical data

Voltage	230 V, 1~, 50/60 Hz
Overrun time, adjustable	1 – 10 min.
Power-up delay	approx. 5 sec.
Current	2 A (ind.)
Protection class	IP 30
Dim. mm	W 125 x H 75 x D 30
Weight approx.	0.2 kg
Wiring diagram no.	SS-485.1



Casing

Compact casing with air exchange slots, made of light grey polymer, for surface installation.

Electronic air flow monitor

Type SWE Ref. no. 0065

Area of application

To monitor air flow in ducting. Open or closed circuit principles are available as options.

Function

The air flow sensor (connected to controller) registers the air flow and compares it with the preset value. That can be set on the front side of the control unit (in the range of 1 – 20 m/s). The relay contacts if the set

value is reached or exceeded. Two LED's show UN and the position of the output relay. It is possible to connect an external failure display via a relay output (1 change-over, voltage free, max. current 5 A / AC 250 V).

Installation

Control unit suitable for mounting in switch cabinet for fixing on a 35 mm support rail. Air flow sensor with mounting rosette for in-duct installation with cable (length 2.5 m; up to

max. 10 m extendible), that is to be connected to the control unit.

Technical data

Voltage	230 V, 1~, 50/60 Hz
Current	5 A (ind.) cos φ 0.4
Setpoint adjustment range	1-20 m/s
Air flow temperature	max. 60 °C
Ambient temperature	max. 60 °C
Protection class	IP 20
Dim. mm	W 35 x H 90 x D 66
Sensor length mm	140
Weight	approx. 0.4 kg
Wiring diagram no.	SS-689.1



Mechanical air flow monitor

Type SWT Ref. no. 0080

Area of application

Mechanical air flow monitor with adjustable trigger power to monitor the minimum air flow velocity in ducting minimum diameter 315.

Design

Robust design with a paddle made of high-grade steel and supplied with mounting plate to fix the unit outside of the ducting.

Function

- Can be used as a switch to make or break circuit connections.
- The unit can be set to respond if a minimum or maximum air flow velocity is achieved.
- Adjustable minimum air flow velocity:
 - Lower than approx. 1.5 m/sec.
 - Higher than approx. 3 m/sec.

Installation

Unit must be installed in a way that the weight of the paddle does not affect the spring mechanism inside the unit.

Technical data

Voltage	24-230 V AC, 50/60 Hz
Current	15 (8) A (ind.)
Air temperature limits	-40...+ 85 °C
Protection class	IP 65
Dim. mm	
- Paddle	W 55, L 200, D 0.15
- Casing	W 140 x H 65 x D 62
Weight	approx. 0.4 kg
Wiring diagram no.	SS-557.1



Differential temp. controller

Type EDTW Ref. no. 1613

Area of application and advantages

- Electronic, stepless differential temperature controller for connection of electronically controlled
 - Ceiling fans and all
 - 1 ph. fans.
- For continuous speed control in relation to the temperature difference.
- Designed for use in combination with ceiling fans or fans which move the room air towards the floor to save heating energy. The unit optimises the difference between the floor and ceiling temperature.

Function

- Stepless speed control between (0 – 100%) in relation to the temperature difference between both temperature sensors and the equalisation with the setpoint specification.
- Includes temperature sensors with a flying lead (1 x 10 m long, for mounting below the ceiling; 1 x 2 m long, for mounting above the floor.
- If the temperature difference rises the fan speed increases proportionally and slows down for decreasing temperatures.
- Proportional range can be adjusted steplessly from 1–10 K.

Technical data

Voltage	230 V, 1~, 50/60 Hz
Current max.	2.5 A (T 40 E)
Adjustable control range	1 – 10 K
Protection class	IP 20
Dim. mm	W 210 x H 85 x D 55
Weight approx.	0.7 kg
Wiring diagram no.	SS-438

Possible settings

- On/off (with function display)
- Automatic/manual operation.
- Reverse of air flow direction.
- Proportional range.
- Summer operation: as manual speed controller. Depending on the fan type, motor humming might be produced.



Casing

Impact-resistant white polymer, for surface and flush mounting.