

Auxiliary Equipment and Accessories

We reserve the right to make changes in the dimensions and technical data products due to their continuous improvement

TECHNICAL INFORMATION

About the system

Devices are the completion of the ventilation duct elements system. Thanks to variety of elements they are applicable in almost all conditions.

Dimensions

Dimensions of all devices are adjusted to elements of the duct system and profiles or auxiliary elements. All sizes are based on tables and informations presented in a catalogue chart of the given element.

Assembly instructions

Such devices as duct fans are mounted by means of self-drilling screws or rivets in a part of the duct into which a connecting flange is inserted. Each time servo-motors are mounted on a base at a damper mechanism by means of self-drilling screws.

Benefits of the use

Devices enable full making an account of possibilities of the ventilation system. They facilitate adjustment of air flow and its increasing by means of fans and servo-motors.

Marking

ALNOR products are marked with the building mark and the product code corresponding to the technical specification included in this catalogue.

Heat and energy recovery ventilators

HRU-ERGO

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)



Description

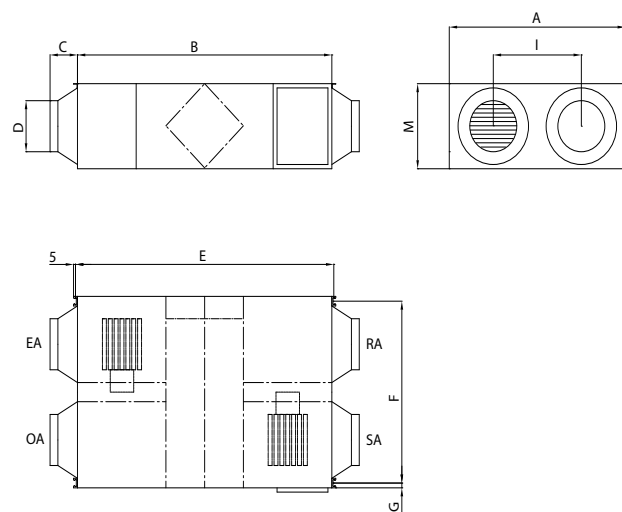
Heat and energy recovery ventilator HRU-ERGO has high efficient counter flow heat exchanger. Total heat exchanger is made of ER paper which is featured by high moisture permeability, good air tightness, excellent tear resistance, and aging resistance. The clearance between the fibers is very small, so only the moisture molecules of small diameter can go through, the odor molecules of larger diameter are unable to pass through it. By this means, the temperature and humidity can be recovered smoothly, and prevent the pollutants infiltrating to the fresh air. HRU-ERGO has 3 speeds, double filters. Airflow from 250m³/h to 1000m³/h.

Example identification

Product code: **HRU - ERGO - 250**

type

Dimensions



EA - exhaust air
 OA - outdoor air
 RA - room air
 SA - supply air

Model	Air flow [m ³ /h]			External pressure [Pa]			Enthalpy Efficiency[%]						Temp. Efficiency [%]	Noise [dB]	Voltage [V]	Current [A]	Rated Power [W]	Weight [kg]				
							Summer			Winter												
	L	M	H	L	M	H	L	M	H	L	M	H							L	M	H	
HRU-ERGO-250	165	250	250	30	70	85	67	63	63	73	70	70	77	75	75	22	26	27	230	0,56	117	29
HRU-ERGO-350	270	350	350	36	60	90	67	66	66	72	69	69	77	75	75	25	29	31	230	0,72	150	37
HRU-ERGO-500	360	500	500	30	60	100	68	62	62	72	67	67	78	75	75	25	31	33	230	0,96	200	43
HRU-ERGO-650	515	650	650	25	40	70	68	65	65	70	68	68	77	75	75	30	34	35	230	1,40	295	64
HRU-ERGO-800	625	800	800	60	98	120	68	65	65	74	71	71	77	75	75	32	36	38	230	1,70	355	71
HRU-ERGO-1000	780	1000	1000	25	35	85	68	65	65	74	71	71	77	75	75	31	36	38	230	2,10	440	83

L - first gear M - second gear H - third gear

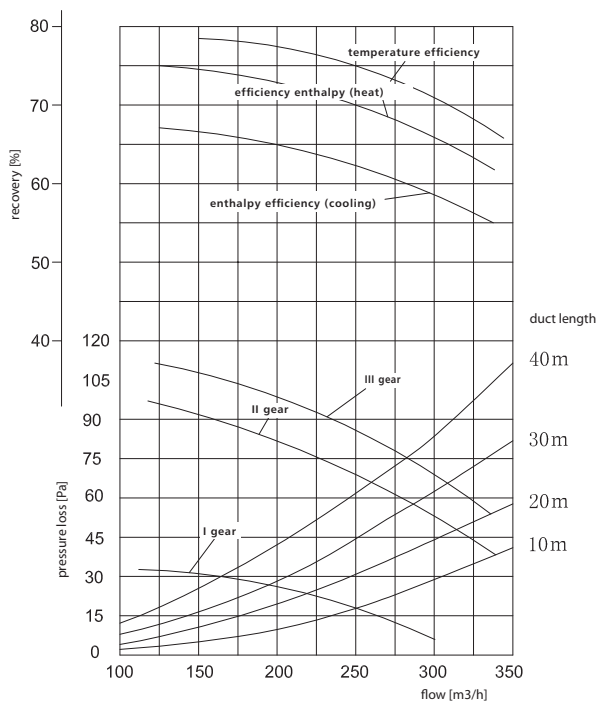
Dimensions

Model	Dimensions								
	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	I [mm]	M [mm]
HRU-ERGO-250	599	920	100	160	850	657	19	315	264
HRU-ERGO-350	804	882	100	160	813	860	19	480	270
HRU-ERGO-500	904	962	107	200	890	960	19	500	270
HRU-ERGO-650	884	1222	107	200	1150	940	19	480	340
HRU-ERGO-800	884	1322	85	250	1250	940	19	428	388
HRU-ERGO-1000	1134	1322	85	250	1250	1190	19	678	388

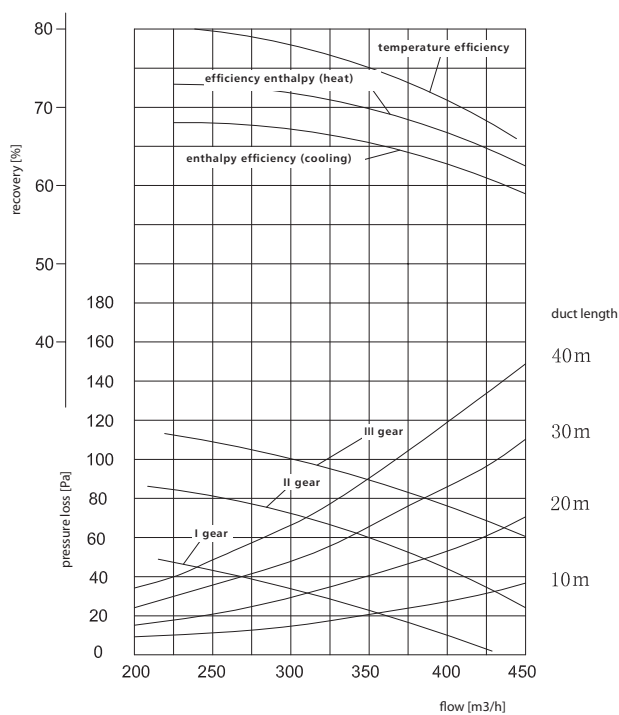
Technical data

Charts

HRU-ERGO-250



HRU-ERGO-350



Heat and energy recovery ventilators

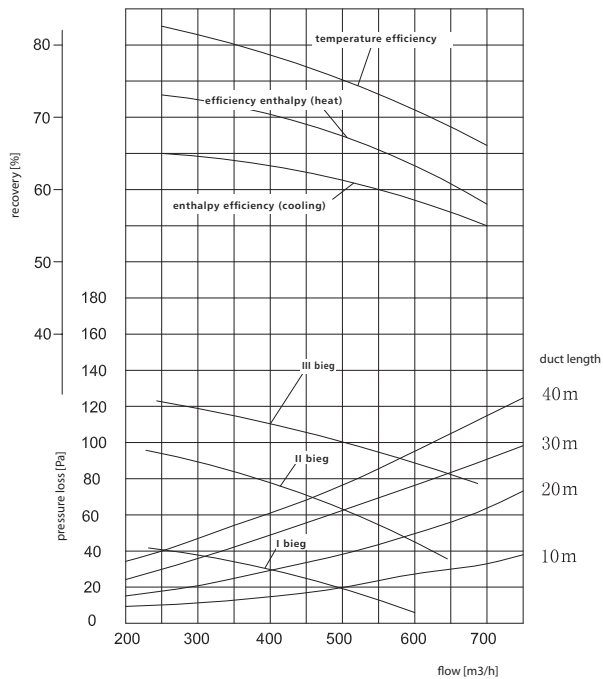
HRU-ERGO

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

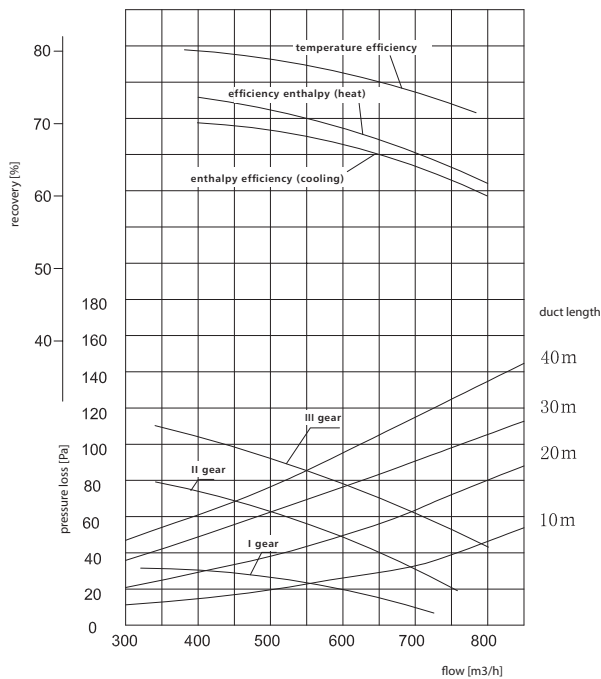
Technical data

Charts

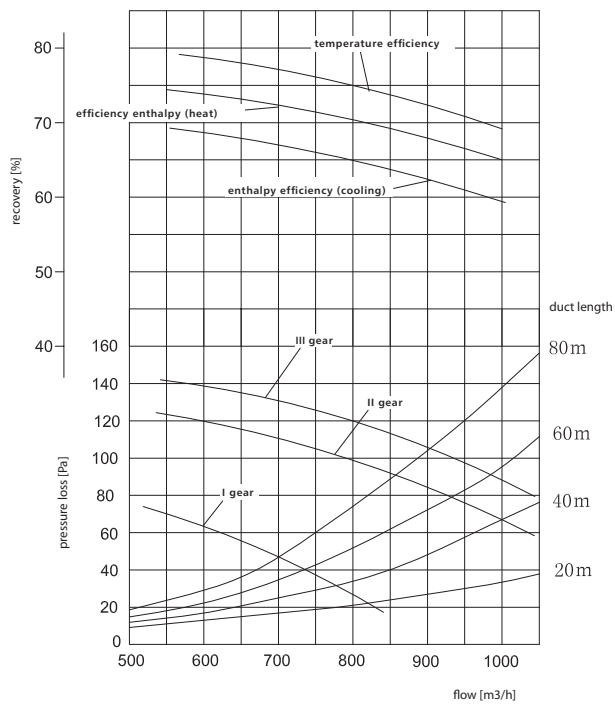
HRU-ERGO-500



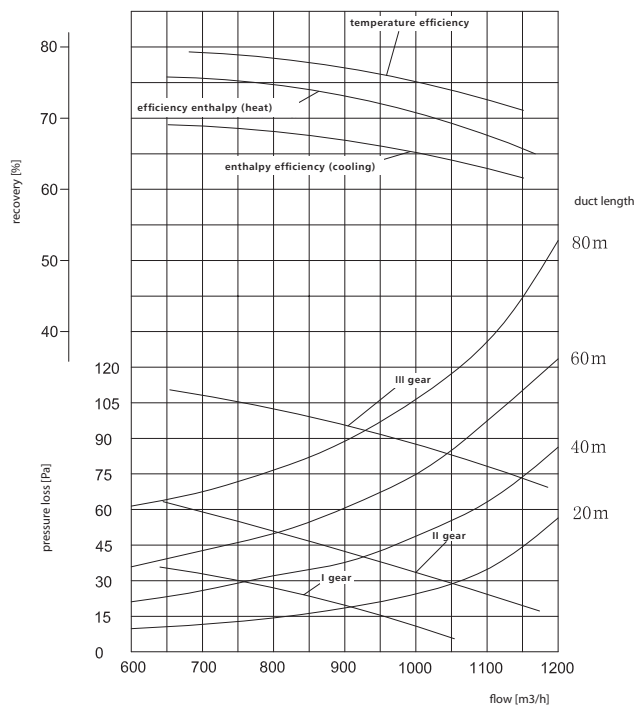
HRU-ERGO-650



HRU-ERGO-800



HRU-ERGO-1000



Heat and energy recovery ventilators

HRU-ECCO

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)



Description

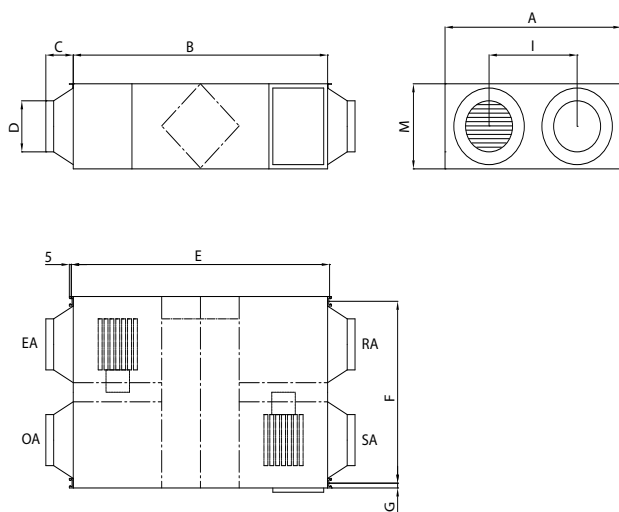
Heat and energy recovery ventilator HRU-ECCO has high efficient cross flow heat exchanger. Total heat exchanger is made of ER paper which is featured by high moisture permeability, good air tightness, excellent tear resistance, and aging resistance. The clearance between the fibers is very small, so only the moisture molecules of small diameter can go through, the odor molecules of larger diameter are unable to pass through it. By this means, the temperature and humidity can be recovered smoothly, and prevent the pollutants infiltrating to the fresh air. HRU-ECCO has 3 speeds, double filters. Airflow from 200m³/h to 400m³/h.

Example identification

Product code: **HRU - ECCO - 200**

typ _____

Dimensions



EA - exhaust air
 OA - outdoor air
 RA - room air
 SA - supply air

Model	Dimensions								
	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	I [mm]	M [mm]
HRU-ECCO-200	580	666	100	160	725	510	19	290	264
HRU-ECCO-300	599	744	100	160	675	657	19	315	270
HRU-ECCO-400	804	744	100	160	675	862	19	480	270

Model	Air flow [m ³ /h]			External pressure [Pa]			Enthalpy Efficiency[%]						Temp. Efficiency [%]	Noise [dB]	Voltage [V]	Current [A]	Rated Power [W]	Weight [kg]				
							Summer			Winter												
	L	M	H	L	M	H	L	M	H	L	M	H							L	M	H	
HRU-ECCO-200	150	200	200	60	70	75	60	55	55	63	59	59	75	70	70	22	25	27	230	0,50	105	23
HRU-ECCO-300	250	300	300	75	82	85	62	57	57	65	61	61	73	68	68	23	27	30	230	0,56	117	27
HRU-ECCO-400	350	400	400	80	85	88	62	57	57	65	60	60	74	69	69	25	29	32	230	0,72	150	35

L - first gear
 M - second gear
 H - third gear

Heat and energy recovery ventilators

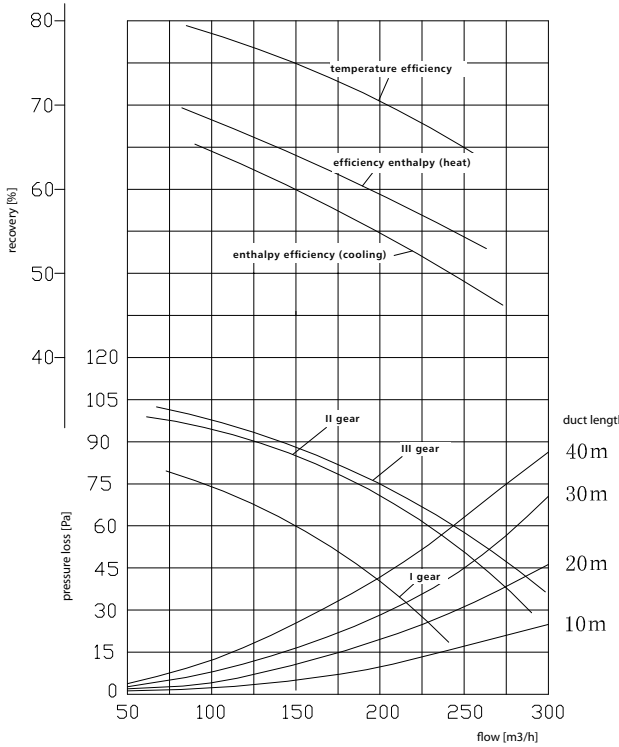
HRU-ECCO

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

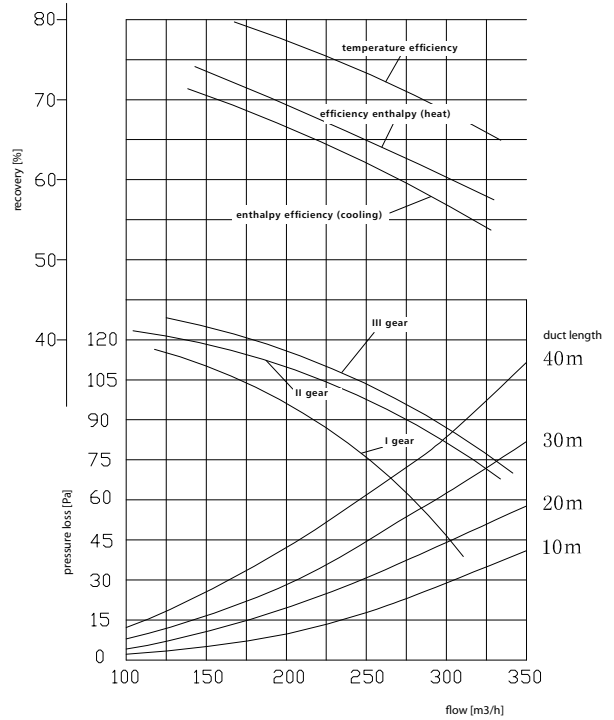
Technical data

Charts

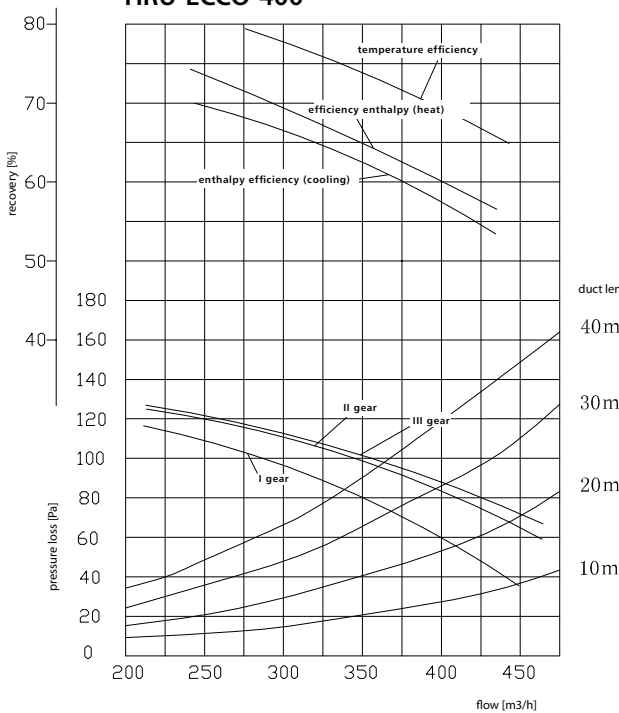
HRU-ECCO-200



HRU-ECCO-300



HRU-ECCO-400

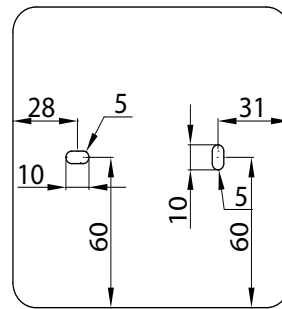
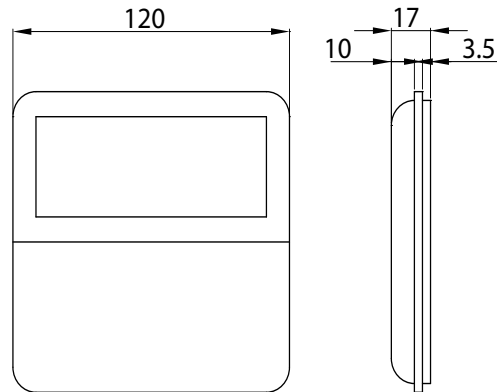


Controller HRU-CONTR

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)



Dimensions



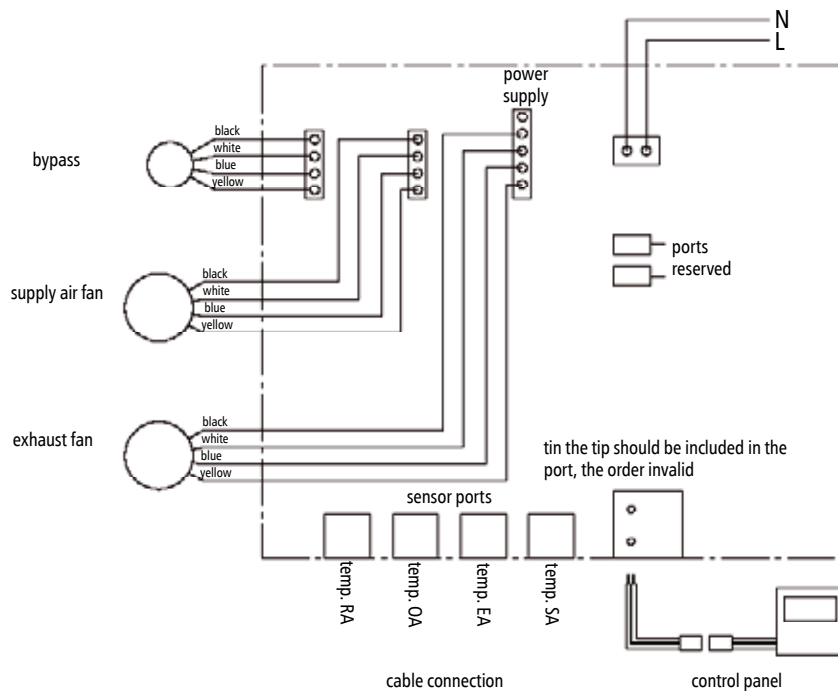
Description

HRU-CONTR controller is a panel with possibility to control the operation of heat and energy recovery unit. HRU-CONTR controller allows, among others programming the timer. Heat and energy recovery unit is connected via a standard cable length of 5 meters.

Example identification

Product code: HRU-CONTR

type _____



Counterflow heat exchanger **HRE-ERGO**

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)



Description

Counterflow heat exchanger HRE-ERGO is used for HRU-ERGO recuperators. Heat exchanger is made of paper with a high moisture permeability, good sealing and good resistance to aging.

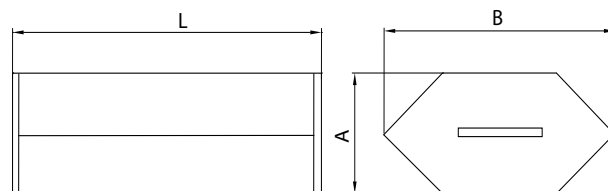
The distance between the fibers of the cellulose particle size corresponds to the moisture. Larger molecules such as fragrances are nieprzepuszczane through the heat exchanger. This prevents the penetration of pollutants into the air.

Example identification

Product code: **HRE - ERGO - 200**

type

Dimensions



	A [mm]	B [mm]	L [mm]
HRE-ERGO-250	380	230	470
HRE-ERGO-350	380	230	500
HRE-ERGO-500	380	230	500
HRE-ERGO-650	400	246	315
HRE-ERGO-800	419	252	365
HRE-ERGO-1000	419	252	365

Crossflow heat exchanger **HRE-ECCO**

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)



Description

Crossflow heat exchanger HRU-ECCO is used for HRU-ECCO recuperators. Heat exchanger is made of paper with a high moisture permeability, good sealing and good resistance to aging.

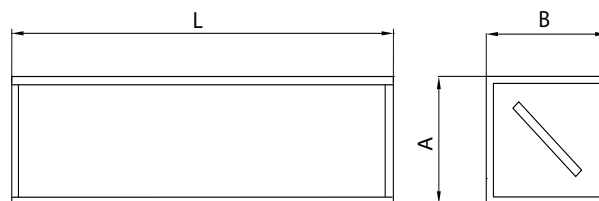
The distance between the fibers of the cellulose particle size corresponds to the moisture. Larger molecules such as fragrances are nieprzepuszczane through the heat exchanger. This prevents the penetration of pollutants into the air.

Example identification

Product code: **HRE - ECCO - 200**

type

Dimensions



	A [mm]	B [mm]	L [mm]
HRE-ECCO-200	165	165	450
HRE-ECCO-300	168	168	470
HRE-ECCO-400	168	168	333

Duct Fan DV

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)



Description

DV duct fan is used to blow and exhaust air to/from ventilation ducts. DV is connected with round ducts by male couplings.

Maximum temperature for our DV fan is +60C°, and minimum temperature is -20C°. Ingress protection: IP44

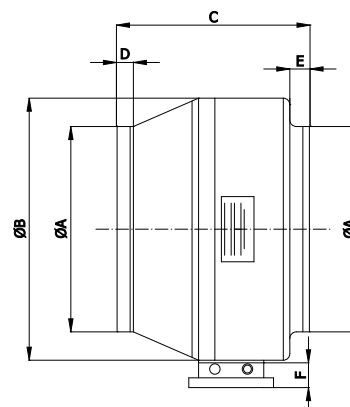
Example identification

Product code: **DV** - **aaa**

type
ØA



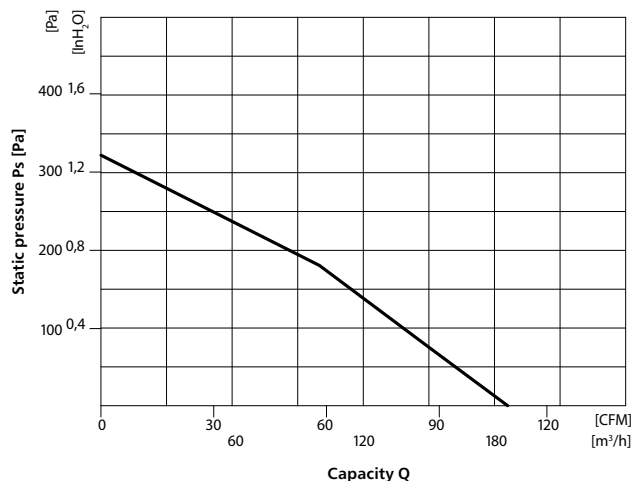
Dimensions



Type	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	Weight [kg]
DV-100	100	237	204	25	25	42	3,40
DV-125	125	237	193	25	25	42	3,80
DV-150	150	278	195	25	25	42	3,60
DV-160	160	278	195	25	25	42	3,60
DV-200	200	333	210	25	25	42	5,10
DV-250	250	333	210	28,5	28,5	42	4,90
DV-315	315	402	265	25	30	42	7,80

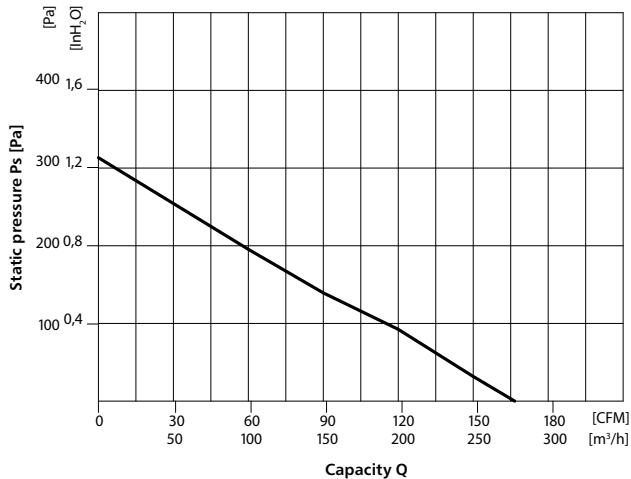
Type	Power input [W]	Current [A]	Speed [rpm]	Voltage [V]	Noise level [dB]	Insulation class
DV-100	62	0,25	2 604	240	45	F (155°C)
DV-125	67	0,27	2 613	240	46	F (155°C)
DV-150	64	0,26	2 563	240	47	F (155°C)
DV-160	131	0,57	2 688	240	47	F (155°C)
DV-200	160	0,65	2 532	240	52	F (155°C)
DV-250	175	0,73	2 490	240	52	F (155°C)
DV-315	254	1,05	2 509	240	51	F (155°C)

Fan flow curves DV-100

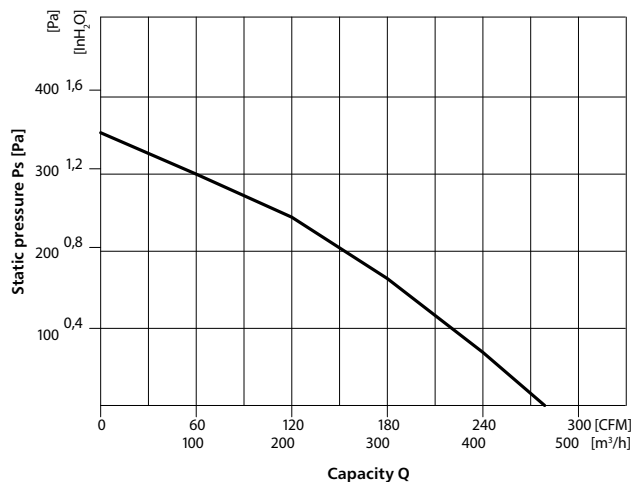


Charts

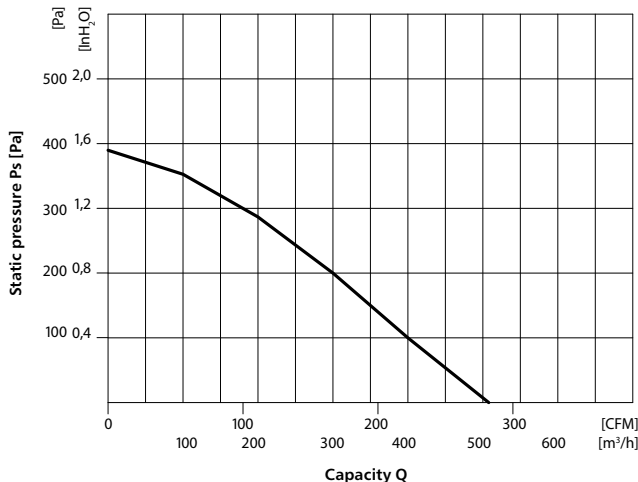
Fan flow curves DV-125



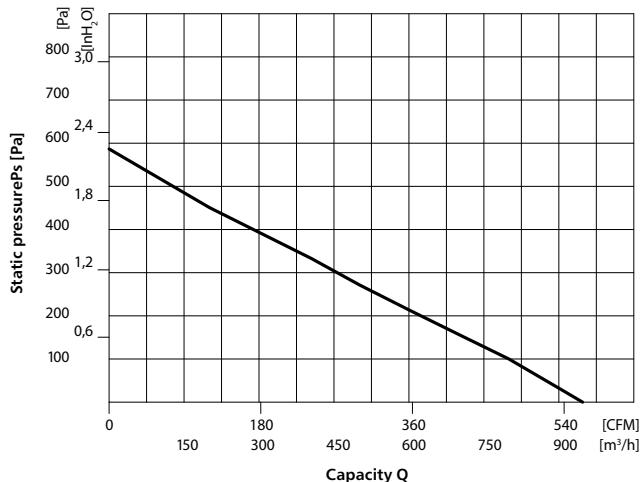
Fan flow curves DV-150



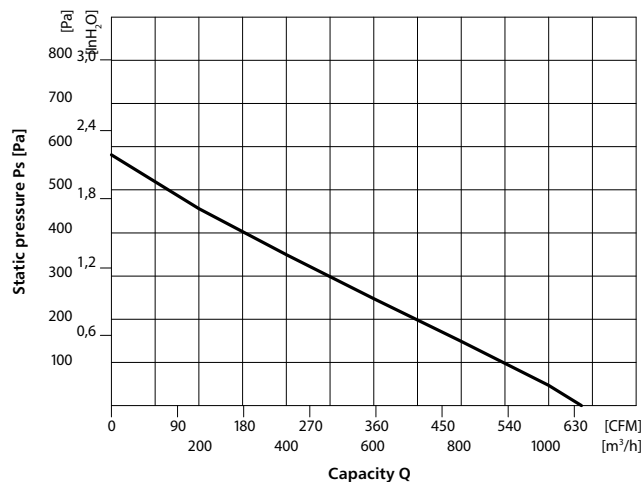
Fan flow curves DV-160



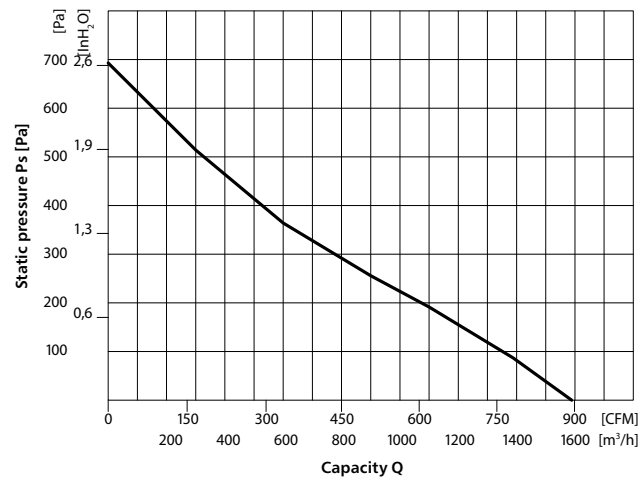
Fan flow curves DV-200



Fan flow curves DV-250



Fan flow curves DV-315

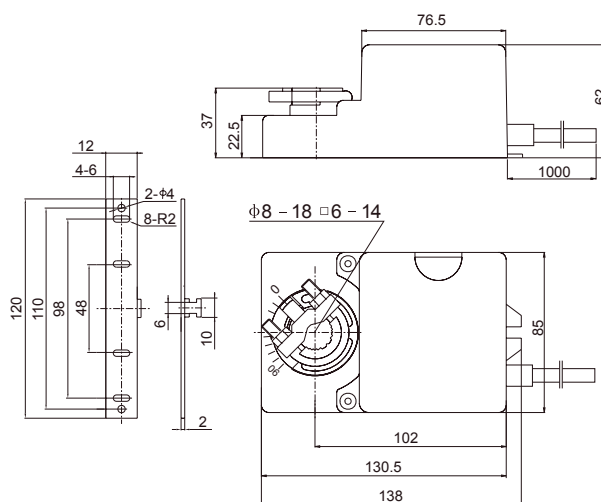


Servomotors

TD-04, TD-06, TA-04, TA-06



Dimensions



Description

TD and TA series servo-motors are designed for driving single-plane dampers of maximal diameter 400 mm. The servo-motors have "Off", "On" or three point controlling. The TD and TA servo-motors are equipped with a general-purpose clamp which enables connecting to round and square rod.

Example identification

Product code: **TD-06 - 230**



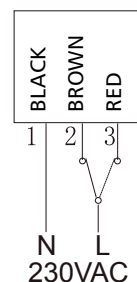
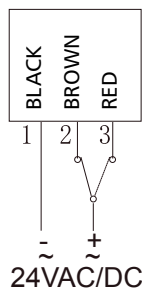
Type	Power supply	Diameter Ød / max area m ²	Torque [Nm]	Rotating time [s]	Rotating angle [°]	Shaft / Square shaft	Mounting
TD-04-24	AC/DC 24V	80-355 0,8 m ²	4 Nm	30 - 120	0 - 93	Ø 8 - 18 mm □ 6 - 14 mm	W - longitudinal
TD-04-230	AC 230V	80-355 0,8 m ²	4 Nm	30 - 120	0 - 93	Ø 8 - 18 mm □ 6 - 14 mm	W - longitudinal
TD-06-24	AC/DC 24V	200-500 1 m ²	6 Nm	30 - 120	0 - 93	Ø 8 - 18 mm □ 6 - 14 mm	W - longitudinal
TD-06-230	AC/DC 230V	200-500 1 m ²	6 Nm	30 - 120	0 - 93	Ø 8 - 18 mm □ 6 - 14 mm	W - longitudinal
TA-04-24	AC/DC 24V	80-355 0,8 m ²	4 Nm	30 - 150	0 - 93	Ø 8 - 18 mm □ 6 - 14 mm	W - longitudinal
TA-04-230	AC/DC 230V	80-355 0,8 m ²	4 Nm	30 - 150	0 - 93	Ø 8 - 18 mm □ 6 - 14 mm	W - longitudinal

Technical Data

Control Open/Close / Control 3-points control

Control Open/Close / Control 3-points control

Note:
connected via a 24V
safety transformer



	TD-04-24	TD-04-230
power supply	AC 24 V \pm 10% 50/60 Hz DC 24 V \pm 10% 50/60 Hz	AC 230 V \pm 10% 50/60 Hz
operatin power	4 - 5 W	4 - 5 W
standstill power	2.5 W	2.5 W
torque	4 Nm	4 Nm
rotation angle	0 - 90° (max 93°)	0 - 90° (max 93°)
rotating time	30 - 120 s	30 - 120 s
noise level	40 dB (A)	40 dB (A)
position indicator	mechanical	mechanical
protection class	IP 54	IP 54
ambient temperature	- 6... + 55°C	- 6... + 55°C
allowable humidity	95%	95%
overload protection	automatic	automatic

Servomotors TD-06

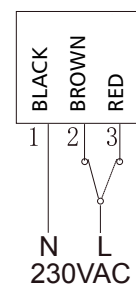
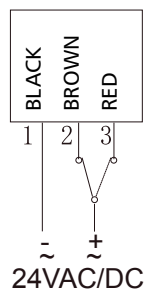
[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

Technical Data

Control Open/Close / Control 3-points control

Control Open/Close / Control 3-points control

Note:
connected via a 24V
safety transformer



	TD-06-24	TD-06-230
power supply	AC 24 V ± 10% 50/60 Hz DC 24 V ± 10% 50/60 Hz	AC 230 V ±10% 50/60 Hz
operatin power	4 - 5 W	4 - 5 W
standstill power	2.5 W	2.5 W
torque	6 Nm	6 Nm
rotation angle	0 - 90° (max 93°)	0 - 90° (max 93°)
rotating time	30 - 120 s	30 - 120 s
noise level	40 dB (A)	40 dB (A)
position indicator	mechanical	mechanical
protection class	IP 54	IP 54
ambient temperature	- 6... + 55°C	- 6... + 55°C
allowable humidity	95%	95%
overload protection	automatic	automatic

Servomotors TA-04, TA-06

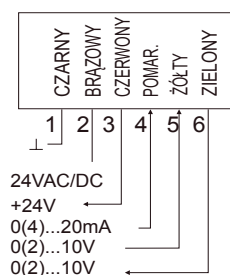
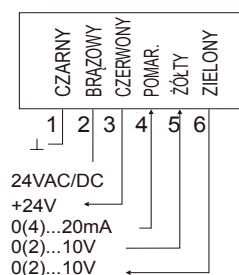
[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

Technical Data

Control Open/Close / Control 3-points control

Control Open/Close / Control 3-points control

Note:
connected via a 24V
safety transformer



	TA-04-24	TA-06-24
power supply	AC 24 V ± 10% 50/60 Hz DC 24 V ± 10% 50/60 Hz	AC 24 V ± 10% 50/60 Hz DC 24 V ± 10% 50/60 Hz
operatin power	4 - 5 W	4 - 5 W
standstill power	1 - 2 W	1 - 2 W
torque	4 Nm	6 Nm
rotation angle	0 - 90° (max 93°)	0 - 90° (max 93°)
rotating time	30 - 150 s	30 - 150 s
noise level	40 dB (A)	40 dB (A)
position indicator	mechanical	mechanical
protection class	IP 54	IP 54
ambient temperature	- 6... + 55°C	- 6... + 55°C
allowable humidity	95%	95%
overload protection	automatic	automatic

Damper Drives

CM/LMC/LM/NM/SM/LF/NF/SF

Type of actuator	Power supply	Recommended diameters Ød / max. surface m ²	Torque [Nm]	Time of movement [s]	Uniresal clamp	Faste-ning	Description	More inf.	Options
CM24-L	AC/DC 24V	80-180 0,4 m ²	2 Nm	75	6 - 12,7 mm	W	small dimen- sions	page page512	F, T, SR, R, L, G
CM230-L	AC 230V	80-180 0,4 m ²	2 Nm	75	6 - 12,7 mm	W	small dimen- sions	page page512	F, T, SR, R, L, G
LMC24A	AC/DC 24V	200-400 1 m ²	5 Nm	35	6 - 20 mm	W	short closing time	page page513 page513 page514	F, S, SR, TP
LMC 230A	AC/DC 230V	200-400 1 m ²	5 Nm	35	6 - 20 mm	W	short closing time	page page513 page514	F, S, TP
LM24A	AC/DC 24 V	200-400 1 m ²	5 Nm	150	6 - 20 mm	W		page page514	S, TP, Q, F, SR
LM230A	AC/DC 230V	200-400 1 m ²	5 Nm	150	6 - 20 mm	W		page page514	S, TP, Q, F
NM24A	AC/DC 24V	200-630 2 m ²	10 Nm	150	8 - 26 mm	W		page page515	TP, SR, Q, F, S
NM230A	AC/DC 230V	200-630 2 m ²	10 Nm	150	8 - 26 mm	W		page page515	TP, Q, F, S
SM 24	AC/DC 24 V	200-630 4 m ²	20 Nm	150	10 - 20 mm	W	hight torque	page page516	S, TP, Q, F, SR
SM230	AC/DC 230V	200-630 4 m ²	20 Nm	150	10 - 20 mm	W	hight torque	page page516	S, TP, Q, F
LF24	AC/DC 24 V	80-355 0,8 m ²	4 Nm	75	8 - 16 mm	P	with return spring	page page517	S, SR, F
LF230	AC/DC 230 V	80-355 0,8 m ²	4 Nm	75	8 - 16 mm	P	with return spring	page page517	S, F
NF24A	AC/DC 24 V	200-630 4 m ²	10 Nm	75	14 - 22 mm	W	with return spring	page page518	S2, SR
NF230A	AC/DC 230 V	200-630 3 m ²	10 Nm	75	14 - 22 mm	W	with return spring	page page518	S2
SF24A	AC/DC 24 V	200-630 4 m ²	20 Nm	75	14 - 22 mm	P	with return spring	page page519	S2, SR
SF230A	AC/DC 230 V	200-630 4 m ²	20 Nm	75	14 - 22 mm	P	with return spring	page- page519	S2

As a standard actuators have "Close-Open" control or 3-points control (actuators with a return spring have only "Close-Open" control). The actuators are equipped with a universal clamp which enables fastening to a round and rectangular pin.

Marking of additional possible options of ordering together with the actuator:

TP - terminal with connecting clamps (no wire)

SR- analogue control, variable adjustment "open/close" with a signal from 2 to 10 V

T- connecting clamps (no wire)

R- clockwise rotation for CM actuator

S- integrated auxiliary contact giving a signal eg. of full opening of the damper

F- a clamp suitable only under a square pin (a size of a pin depends on a size of the actuator)

Q- very short time of motion (4s)

G- protection degree IP66 (according to PN-EN 60529:2003)

Servomotors **BELIMO**

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)



Description

Belimo actuators are designed for mounting on round damper multi-faceted and rectangular.

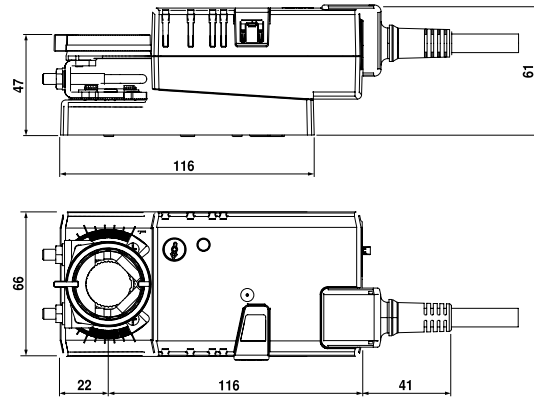
Example identification

Product code: **LMC24A - 230**

type
voltage



Dimensions



Damper Drives

CM24-L/230-L

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

Technical Data

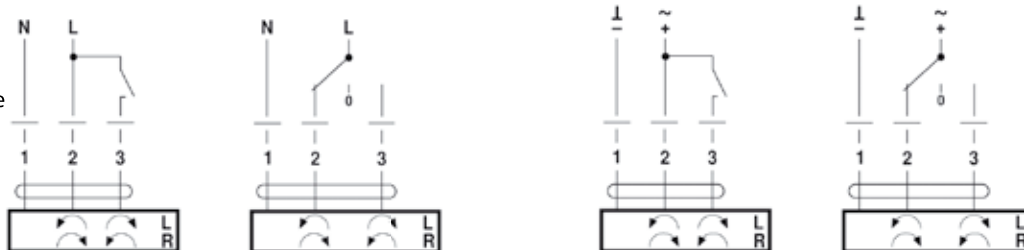
Note:
connected via a 24V
safety transformer

Single-wire
control

Two-wire
control

To disconnect the
servomotor from the
mains, a device should
be used with contacts
opened at least 3mm
(in off mode)

Further drives can be
connected parallelly.
Check power input.



	LMC24-L	LMC230-L
Power supply	AC 24 V ± 20% 50/60 Hz DC 24 V	AC 220-240 V ±10% 50/60 Hz ± 20%
design power	1 VA	3 VA
power input	0.5 W	1.5 W
connection	cable 1 m, 3x0.75 mm ²	cable 1 m, 3x0,75 mm ²
rotation direction	depending onversion L or R	depending onversion L or R
Torque	min. 2 Nm (at rated voltage)	min. 2 Nm (at rated voltage)
rotation angle	Adjusted with stop end screws	Adjusted with stop end screws
rotating time	75s	75s
noise level	max. 35 dB (A)	max. 35 dB (A)
position indicator	mechanical	mechanical
insulation class	III (protection class)	II
protection class	IP 66	IP 66
ambient temperature	- 30... + 50°C	- 30... + 50°C
storage temperature	- 40... + 80°C	- 40... + 80°C
allowable humidity	95% relative humidity, no condensation	95% relative humidity, no condensation
noise emission	CE 2004/108/EC compliant	CE 2004/108/EC compliant
service	no service required	no service required

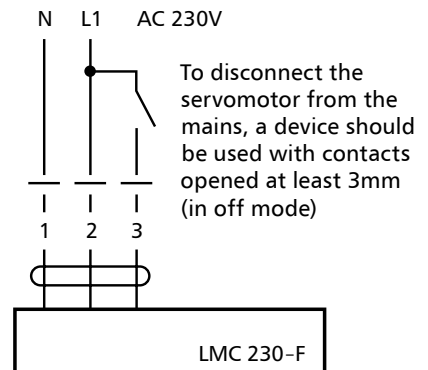
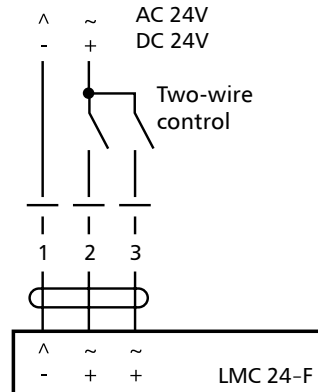
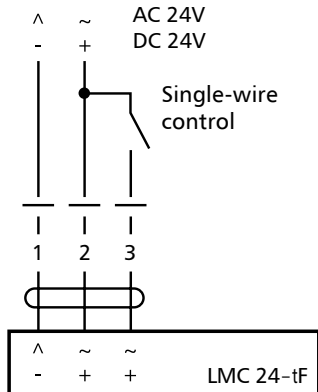
Damper Drives

LMC24-A/230-A

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

Technical Data

Note:
connected via a 24V
safety transformer



Further drives can be
connected parallelly.
Check power input.

	LMC24-A	LMC230-A
Power supply	AC 24 V ± 20% 50/60 Hz DC 24 V	AC 220-240 V ±10% 50/60 Hz ± 20%
design power	3 VA	15 VA
power input	2 W	1.5 W
connection	cable 1 m. 3x0.75 mm ²	cable 1 m. 3x0.75 mm ²
rotation direction	selectable with L/R switch	selectable with L/R switch
Torque	min. 3 Nm (at rated voltage)	min. 3 Nm (at rated voltage)
rotation angle	max. 95° (0..100%. restr.)	max. 95° (0..100%. restr.)
rotating time	(25–35) s (0...3 Nm)	(25–35) s (0...3 Nm)
noise level	max. 45 dB (A)	max. 45 dB (A)
position indicator	mechanical	mechanical
insulation class	III (safe voltage)	II
protection class	IP 54 (cable turned downwards)	IP 54 (cable turned downwards)
ambient temperature	– 30... + 50°C	– 30... + 50°C
storage temperature	– 40... + 80°C	– 40... + 80°C
allowable humidity	accd. D (DIN 40040)	accd. D (DIN 40040)
noise emission	CE in accordance with 89/336/EEC i 92/31/EEC	CE in accordance with 89/336/EEC i 92/31/EEC
service	no service required	no service required

Damper drivers

LM24A/230A

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

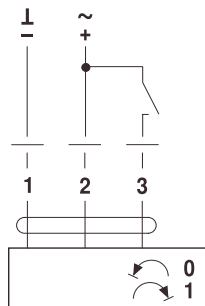
Technical Data

Note:
 Connected via a safety transformer 24 V.

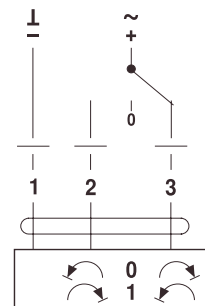
To separate the actuator from network use a device with contacts distance at least 3 mm (when switched off).

Parallel connection of next drives is possible.
 Check power consumption.

Control Open/Close



Control 3-points control



	LM24A	LM230A
Power supply	AC 24 V ± 20% 50/60 Hz DC 24 V ± 10%	AC 100... 240 V ± 10% 50/60 Hz
Design power	2,0 VA	4,0 VA
Input power		
while opening	1,0 W (at nominal torque)	1,5 W
while resting	0,2 W	0,4 W
Connection	conduct 1 m, 3x0,75 mm ²	conduct 1 m, 3x0,75 mm ²
Direction of rotation	selected wit a switch	selected wit a switch
Torque	min. 5 Nm (at nominal voltage)	min. 5 Nm (at nominal voltage)
Angle of rotation	max. 95° (limited from both sides by adjustable mechanic bumpers)	max. 95° (limited from both sides by adjustable mechanic bumpers)
Time of rotation	150s	150s
Noise level	max. 35 dB(A)	max. 35 dB(A)
Indicator of position	mechanic	mechanic
Protection class	III (safe voltage - low)	II (full isolation)
Protection degree	IP 54 (in all possibility of mounting)	IP 54 (in all possibility of mounting)
Ambient temperature	-30... +50°C	-30... +50°C
Storage temperature	-40... +80°C	-40... +80°C
Ambient humidity	95% RH, no condensation	95% RH, no condensation
Jamming emission	EN 50081-1	EN 50081-1
Durability	≈ about 60,000 working cycles	≈ about 60,000 working cycles
Service	maintance-free	maintance-free

Damper drivers

NM24A/230A

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

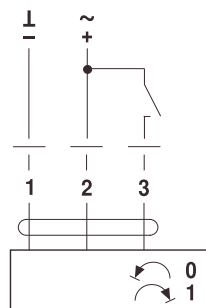
Technical Data

Note:
 Connected via a safety transformer 24 V.

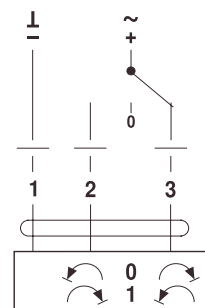
To separate the actuator from network use a device with contacts distance at least 3 mm (when switched off).

Parallel connection of next drives is possible.
 Check power consumption.

Control Open/Close



Control 3-points control



	NM24A	NM230A
Power supply	AC 24 V ± 20% 50/60 Hz DC 24 V ± 10%	AC 100... 240 V ± 10% 50/60 Hz
Design power	3,5 VA	3,5 VA
Input power		
while opening	1,5 W (at nominal torque)	2,5 W
while resting	0,2 W	0,6 W
Connection	conduct 1 m, 3x0,75 mm ²	conduct 1 m, 3x0,75 mm ²
Direction of rotation	selected wit a switch	selected wit a switch
Torque	min. 10 Nm (at nominal voltage)	min. 10 Nm (at nominal voltage)
Angle of rotation	max. 95° (limited from both sides by adjustable mechanic bumpers)	max. 95° (limited from both sides by adjustable mechanic bumpers)
Time of rotation	150s	150s
Noise level	max. 35 dB(A)	max. 35 dB(A)
Indicator of position	mechanic	mechanic
Protection class	III (safe voltage - low)	II (full isolation)
Protection degree	IP 54 (in all possibility of mounting)	IP 54 (in all possibility of mounting)
Ambient temperature	-30... +50°C	-30... +50°C
Storage temperature	-40... +80°C	-40... +80°C
Ambient humidity	95% RH, no condensation	95% RH, no condensation
Jamming emission	EN 50081-1	EN 50081-1
Durability	≈ about 60,000 working cycles	≈ about 60,000 working cycles
Service	maintance-free	maintance-free

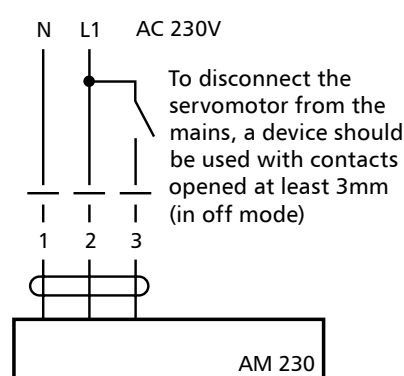
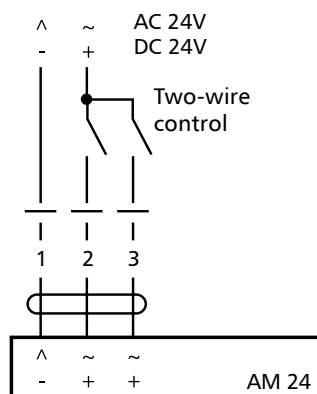
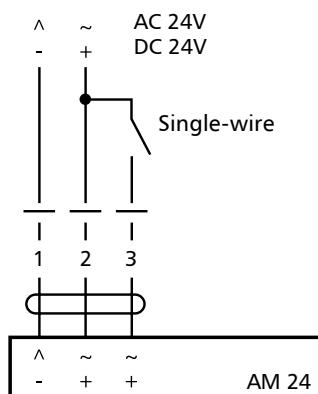
Damper Drives

SM24/230

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

Technical Data

Note:
connected via a 24V
safety transformer



Further drives can be
connected parallelly.
Check power input.

	SM24	SM230
Power supply	AC 24 V 50/60 Hz. DC 24 V	AC 230 V 50/60 Hz
Operating range	AC 19.2...28.8 V. DC 21.6...28.8 V	AC 198...264 V
Design power	4.5 VA	25 VA 50 Hz. 30 VA 60 Hz
Power input	2.5 W	3 W 50 Hz. 3.8 W 60 Hz
Connection	motor cable 1 m. 3 x 0.75 mm ²	motor cable 1 m. 3 x 0.75 mm ²
Connection point	SM24 1 x for motor cable Ø6...7 mm	SM230 1 x for motor cable Ø6...7mm
Rotation direction	selectable with L/R switch	selectable with L/R switch
Reversion	pushbutton on housing	pushbutton on housing
Torque	min. 18 Nm (at rated voltage)	min. 18 Nm (at rated voltage)
Rotation angle	max. 95° (mechanical end stop 35...100%)	max. 95° (mechanical end stop 35...100%)
Rotating time	100...150 s (0...20 Nm)	100...150 s (0...20 Nm)
Noise level	max. 45 dB (A)	max. 45 dB (A)
Position indicator	mechanical	mechanical
Insulation class	III (safe voltage)	II
Protection class	IP 54 (cable turned downwards)	IP 54 (cable turned downwards)
Ambient temperature	-30...+ 50°C	-30...+50°C
Noise emission	CE in accordance with 89/336/EEC i 92/31/EEC	CE in accordance with 89/336/EEC i 92/31/EEC
Service	no service required	no service required

Return Spring Devices

LF24/230

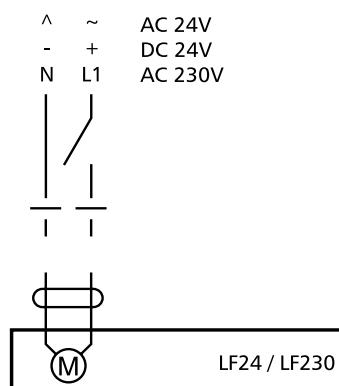
[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

Technical Data

Note:
 connected via a 24V safety transformer.

LF 230. To disconnect the servomotor from the mains,
 a device should be used with contacts opened at least
 3mm (in off mode).

Further drives can be connected parallelly. Check power
 input.



	LF24	LF230
Power supply	AC 24 V 50/60 Hz. DC 24 V	AC 230 V 50/60 Hz
Operating range	AC 19.2...28.8 V. DC 21.6...28.8V	AC 198...264 V
Design power	7 VA	7 VA
Power input during opening in open position	5 W 2.5 W	5 W 3 W
Connection	cable 1m. 2 x 0.75 mm ²	cable 1m. 2 x 0.75 mm ²
Rotation direction	depends on L/R installation	depends on L/R installation
Torque motor spring	min. 4 Nm (at rated voltage) min. 4 Nm	min. 4 Nm (at rated voltage) min. 4 Nm
Rotation angle	max. 95° (adjustable within 37...100% < with integrated angle end stop)	max. 95° (adjustable within 37...100% < with integrated angle end stop)
Rotating time motor spring	40...75 s (0...4 Nm) 20 s – 20...50°C / max. 60 s – 30°C	40...75 s (0...4 Nm) s 20 s – 20...50°C / max. 60 s – 30°C
Noise level	motor max. 50 dB (A)/spring ≈ 62dB (A)	motor max. 50dB (A)/spring ≈ 62dB (A)
Life	approx. 60.000 working cycles	approx. 60.000 working cycles
Position indicator	mechanical	mechanical
Insulation class	III (safe voltage)	II
Protection class	IP 54	IP 54
Ambient temperature	–30...+ 50°C	–30...+50°C
Humidity test	accd. EN 60335-1	accd. EN 60335-1
Noise emission	CE in accordance with 89/336/EEC i 92/31/EEC	CE in accordance with 89/336/EEC i 92/31/EEC
Service	no service required	no service required

Drives with return spring

NF24A/230A

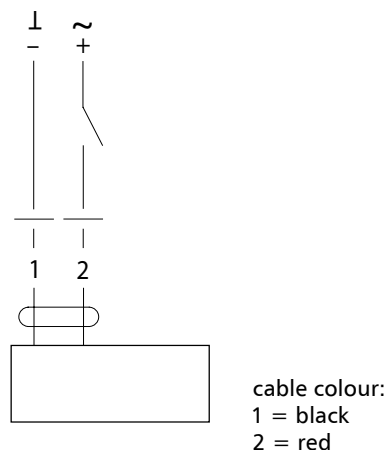
[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

Technical Data

Note:
 Connected via a safety transformer 24 V.

To separate the actuator from network use a device with contacts distance at least 3 mm (when switched off).

Parallel connection of next drives is possible.
 Check power consumption.



	NF24A	NF230A
Power supply	AC 24 V ± 20% 50/60 Hz DC 24 V ± 10%	AC 220... 240 V ± 10% 50/60 Hz
Designer power	8,5 VA	11 VA
Input power		
while operating	6 W (at nominal torque)	6,5 W
while resting	2,5 W	2,5 W
Connection	cable 1 m, 2x0,75 mm ²	cable 1 m, 2x0,75 mm ²
Direction of rotation		
spring	depending on assembly L/R	depending on assembly L/R
motor	selected with L/R switch	selected with L/R switch
Torque		
motor	min. 10 Nm	min. 10 Nm
spring	min. 10 Nm	min. 10 Nm
Angle of rotation	max. 95° (adjustable 30°...90° with integrated limiter of angle of rotation)	max. 95° (adjustable 30°...90° with integrated limiter of angle of rotation)
Time of rotation		
motor	≤ 75s	≤ 75s
spring	≤ 20s	≤ 20s
Level of noise	motor max. 45 dB(A) / spring max. 62 dB(A)	motor max. 45 dB(A) / spring max. 62 dB(A)
Indicator of position	mechanical	mechanical
Class of protection	III (safe voltage)	II
Degree of protection	IP 54 (conduit directed downwards)	IP 54 (conduit directed downwards)
Ambient temperature	-30... +50°C	-30... +50°C
Storage temperature	-40... +80°C	-40... +80°C
Ambient humidity	95% HR, no condensation	95% HR, no condensation
Jamming emission	EN 50081-1	EN 50081-1
Durability	≈ about 60,000 working cycles	≈ about 60,000 working cycles
Service	maintenance-free	maintenance-free

Drives with return spring

SF24A/230A

[Download Wentyle](#)
[Download AlnorCAM](#)
[Buy via B2B](#)

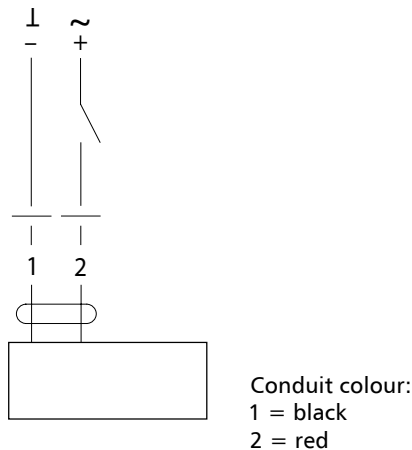
Technical Data

Note:

Connected via a safety transformer 24 V.

To separate the actuator from network use a device with contacts distance at least 3 mm (when switched off).

Parallel connection of next drives is possible.
 Check power consumption.



	SF24A	SF230A
Power supply	AC 24 V ± 20% 50/60 Hz DC 24 V ± 10%	AC 220... 240 V ± 10% 50/60 Hz
Designer power	7,5 VA	11 VA
Input power		
while operating	5 W (at nominal torque)	6,5 W
while resting	2,5 W	2,5 W
Connection	cable 1 m, 2x0,75 mm ²	cable 1 m, 2x0,75 mm ²
Direction of rotation		
spring	depending on assembly L/R	depending on assembly L/R
motor	selected with L/R switch	selected with L/R switch
Torque		
motor	min. 20 Nm	min. 20 Nm
spring	min. 20 Nm	min. 20 Nm
Angle of rotation	max. 95° (adjustable 30°...90° with integrated limiter of angle of rotation)	max. 95° (adjustable 30°...90° with integrated limiter of angle of rotation)
Time of rotation		
motor	≤ 75s	≤ 75s
spring	≤ 20s	≤ 20s
Level of noise	motor max. 45 dB(A) / spring max. 62 dB(A)	motor max. 45 dB(A) / spring max. 62 dB(A)
Indicator of position	mechanical	mechanical
Class of protection	III (safe voltage)	II
Degree of protection	IP 54 (conduit directed downwards)	IP 54 (conduit directed downwards)
Ambient temperature	-30... +50°C	-30... +50°C
Storage temperature	-40... +80°C	-40... +80°C
Ambient humidity	95% HR, no condensation	95% HR, no condensation
Jamming emission	EN 50081-1	EN 50081-1
Durability	≈ about 60,000 working cycles	≈ about 60,000 working cycles
Service	maintenance-free	maintenance-free