MIETZSCH

GmbH Lufttechnik Dresden

USER INFORMATION

DUCT FANS

VRK-EC SERIES

with electronically commutated (EC) motor

Duct fans
VRK-EC series

Application in the exhaust technology of all industrial sectors

High chemical resistance through use of plastics and
motor outside of the flow

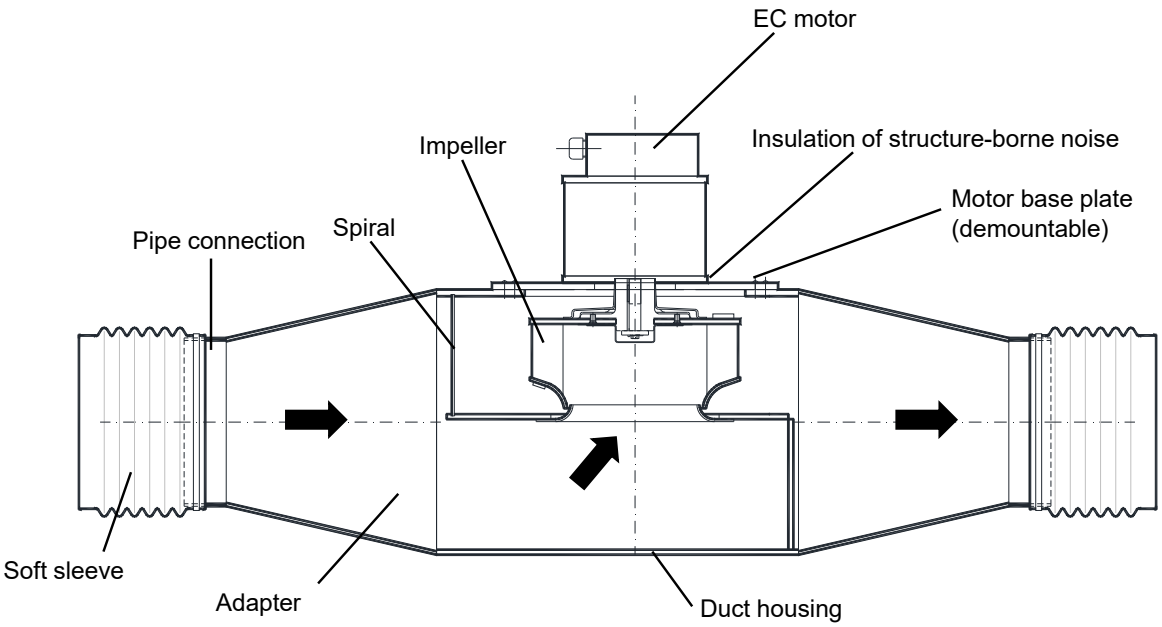
Electronically commuted motor (EC motor with integrated EC controller)

Low space requirements and universal mounting

Volumetric flow rate	up to 5,000 m³/h
Pressure increase	up to 1,330 Pa

Performance scaling using 4 sizes (larger types on request)

Extensive range of electrical and ventilation accessories

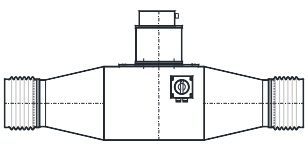


APPLICATION

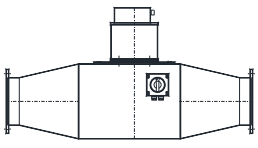
The VRK duct fans are used in all sectors of industry and agriculture. They are an easy to install alternative to common centrifugal fans with complex directional changes wherever ordinary axial fans do not offer sufficient power or, in particular, where straight running lines are required to save space.
VRK fans are highly resistant to corrosion and are thus preferred for applications such as extraction of process gases in the chemical/pharmaceutical industry as well as ventilation of laboratories, battery rooms, pickling baths, scrubbers, electroplating units and agricultural facilities, etc.

TECHNICAL DESCRIPTION

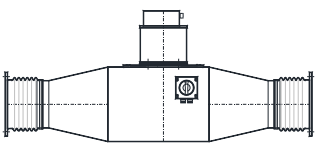
Standard duct fans consist of the main components impeller, duct housing with integrated spiral, and adapters with pipe connection. Soft sleeves are included in the scope of delivery. The motor is positioned outside of the flow and insulated from vibrations. Electronically commuted motors (EC motor with integrated EC controller) are used. Motor protection is integrated into the motor (fault signal relay, open in case of fault, max. 2A-250VAC). The motor has its own 10V power source, which can handle a max. of 10 mA (e.g. from a potentiometer > 1kΩ). The rotation speed is controlled via a 0-10VDC control input. The EMV fault signal complies with EN 61000-6-4 (industrial sector).
The impeller with balancing quality G 6.3 as per ISO 1940 is mounted directly on the motor shaft end. Rubber elements between the motor and the motor base plate prevent transfer of noise and vibrations.
Impeller and housing made of PPs (PVC on request) are made from individual parts using modern joining technologies. Steel parts such as screws, hub and hub connection are protected from corrosion by means of plastic covers or, alternatively, connecting elements made of resistant steel are used.
To accommodate numerous mounting requirements, 4 different connection types are available:



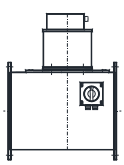
Standard version ELA
with pipe connection and soft sleeves



Version FF
with flange

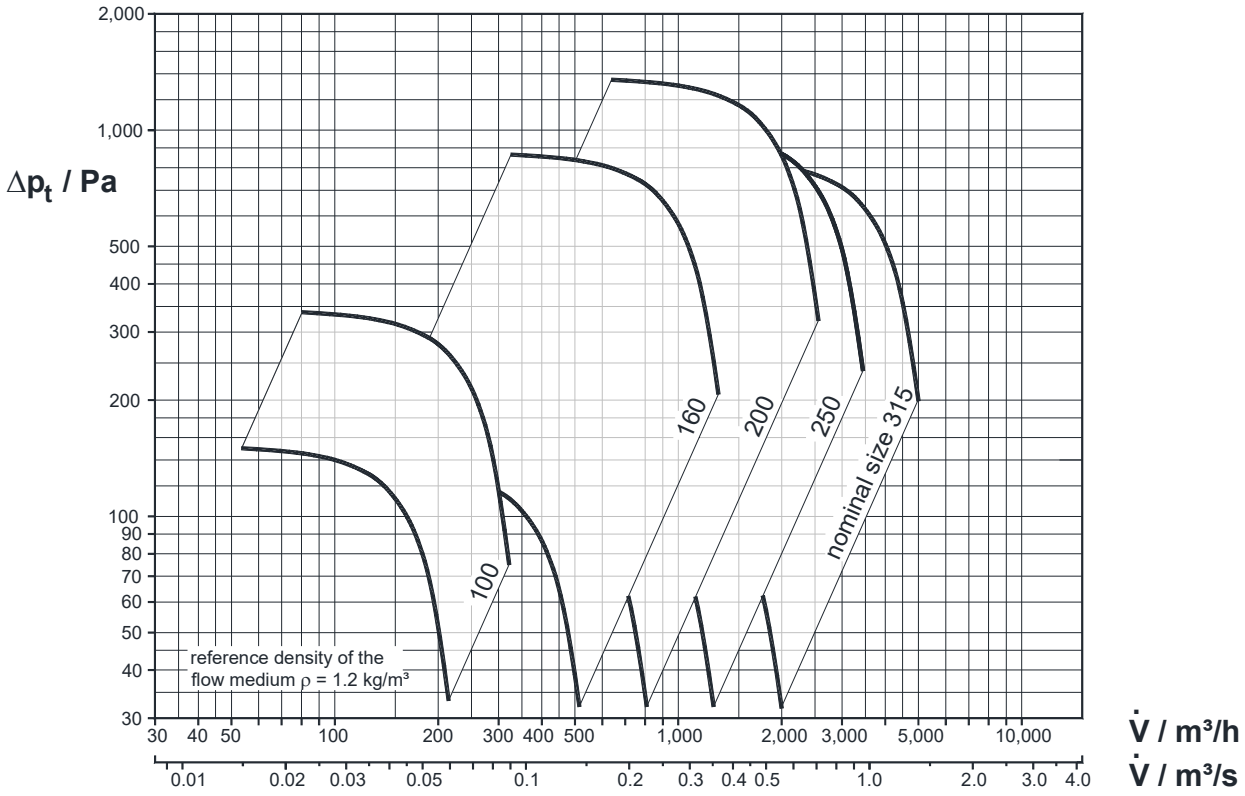


Version KOF / KOR
with compensator and flange/frame



Version RR
with (square) frame, with compensator, without adapters

TYPE OVERVIEW – PRESELECTION



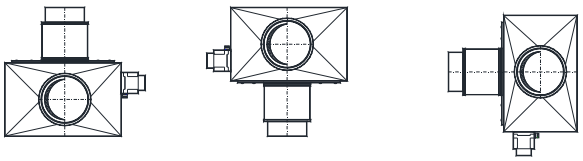
OPERATING CONDITIONS

perm. ambient temperature: -25 °C ... 40 °C
perm. temperature of flow: -30 °C ... 40 °C
Higher temperatures are only permissible for certain sizes, materials and rotation speeds and only after consultation with the manufacturer.

The materials used provide good **resistance** to many **chemicals**. Nevertheless, even plastics are susceptible to attack by certain substances. In many application fields, such as in laboratories, chemical stores, agricultural facilities and moisture-laden processes etc., good results have been achieved with “standard materials” such as PVC or PPs, which can generally be used without problems.
Critical applications include, for example, process engineering fields such as surface finishing, pickling units, process exhaust air in microelectronics etc.
To select the right material, the intended use of the fan and the type of medium must always be stated in requests for quotation or orders.
Media containing small amounts of dust particles can also be conveyed; however, increased wear is to be expected.
Work area: The fans work stably in the entire depicted characteristic curve.

INSTALLATION / MAINTENANCE

A duct fan is preferably installed into a horizontal pipeline whereby the motor can be located at the top or at the bottom.
It can also be installed on the side if the casing is designed accordingly.



Consult the manufacturer in case of a horizontal motor axle or vertical fan positioning.

For mounting, the duct casing is placed on two wall or ceiling brackets with sound insulation. Connect the intake and outlet lines via flexible connections (included in the scope of delivery). A flange connection is also possible, if desired. The connected system components must not exert any mechanical loads on the fan.
If necessary, connect a condensate drainage line to the corresponding bore hole at the lowest point of the casings.
Cooling of the motor must not be impaired by adjacent components and ceilings. If installed outdoors, the motor, in particular, must be protected against direct exposure to the elements, e.g. ice, snow and hail (optional extra: weather protection).
The casing can be opened on the motor side for cleaning and repair. A condensate drain can also be installed (accessories).

EXPLANATIONS OF THE TYPE DESIGNATION

VRK 160 / 731 W 1450 - EC - GD - DM - HO - PPs/PPs

Fan
Centrifugal
duct installation

Nominal size (intake diameter of the impeller/mm)

Impeller type
731 – bent backwards

Direct drive

Rated speed rpm

EC motor with integrated EC controller

Short designation of the special design

GD	= gas-tight, shaft passage technically gas-tight
DS	= speed setting
ZS	= time control
DR	= pressure control
VR	= volumetric flow control

Mounting type (for installation position horizontal only, for design see p. 06)

WM	= wall mounting	incl. vibration isolators
WM+	= wall mounting	incl. vibration isolators and wall bracket
DM	= ceiling mounting	incl. vibration isolators
DM+	= ceiling mounting	incl. vibration isolators and threaded rod

Installation position (for design see p. 06)

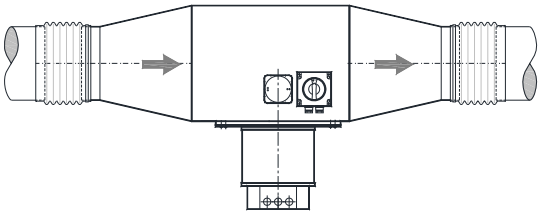
HUL	= installation position horizontal,	motor at the bottom,	control side left
HUR	= installation position horizontal,	motor at the botto,	control side right
HOL	= installation position horizontal,	motor at the top,	control side left
HOR	= installation position horizontal,	motor at the top,	control side right
HSL	= installation position horizontal,	motor on the side,	control side left
HSR	= installation position horizontal,	motor on the side,	control side right
V-WM	= installation position vertical,	motor on the side,	2 brackets at the housing sides
V-WM+	= installation position vertical,	motor on the side,	2 brackets at the housing sides and wall brackets

Material (casing/impeller)

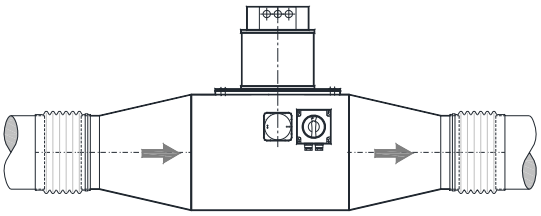
INSTALLATION POSITION 2)

horizontal

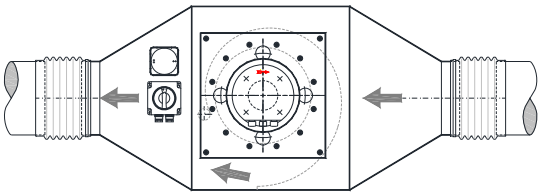
☐ **HUR** 1) Motor at bottom, control side right (see fig.)
☐ **HUL** 1) Motor at bottom, control side left



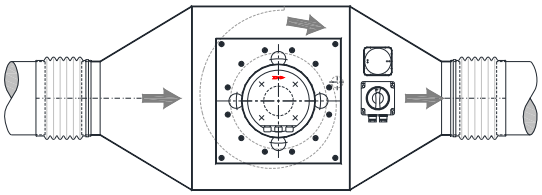
☐ **HOR** Motor at top, control side right (see fig.)
☐ **HOL** Motor at top, control side left



☐ **HSL** Motor on the side, control side left (see fig.)

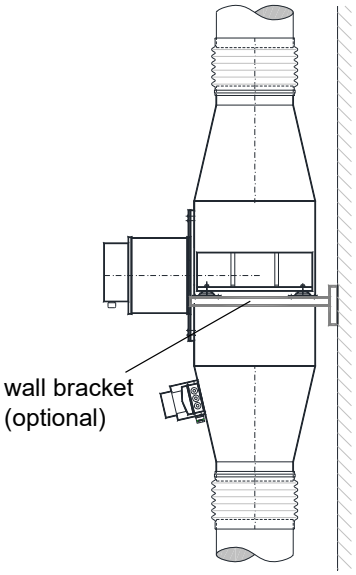


☐ **HSR** Motor on the side, control side right (see fig.)

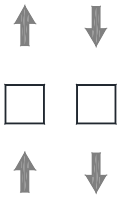


vertical with wall mounting WM only (incl. vibration isolators)

☐ **V - WM**
☐ **V - WM+** incl. wall bracket



Please mark correct flow direction with

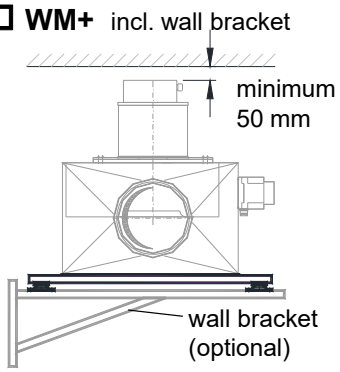


MOUNTING TYPE horizontal 2)

For all options „Installation position horizontal“
(including metal rails and vibration isolators)

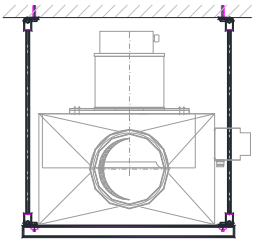
Wall mounting

☐ **WM** (on exist. wall bracket)
☐ **WM+** incl. wall bracket

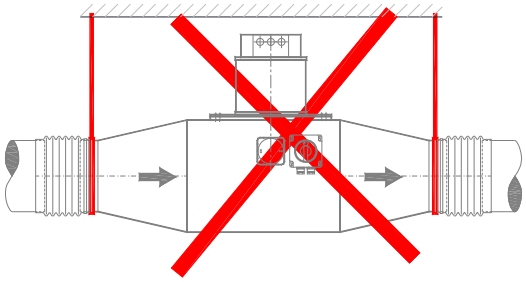


Ceiling mounting

☐ **DM** (with exist. threaded rod)
☐ **DM+** incl. threaded rod



Suspend using the duct part of the casing only!



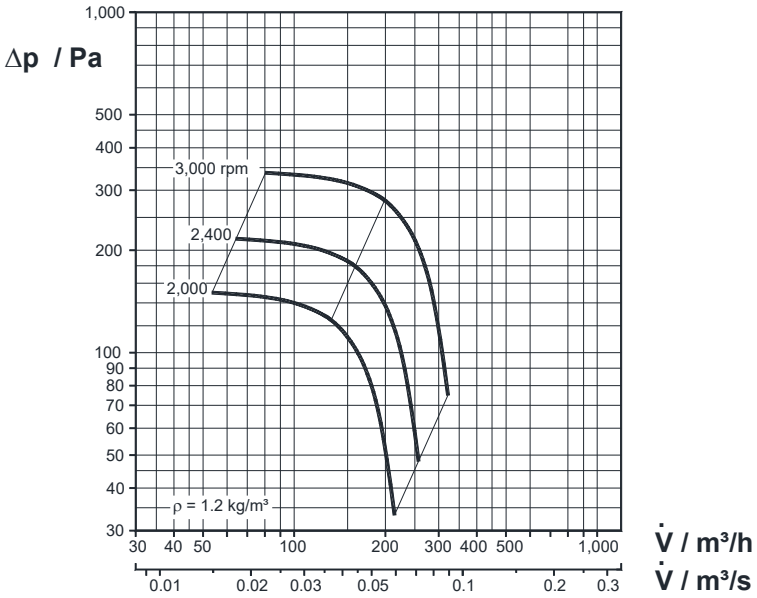
OUTDOOR INSTALLATION

☐ **yes** (with weather protection for motor)
☐ **no**

1) Condensate drain required at „motor in bottom position“
2) If a repair switch is required: Please inform us exactly of any deviating position

Plastic duct fans
VRK100/731W3000-EC

PERFORMANCE DIAGRAM



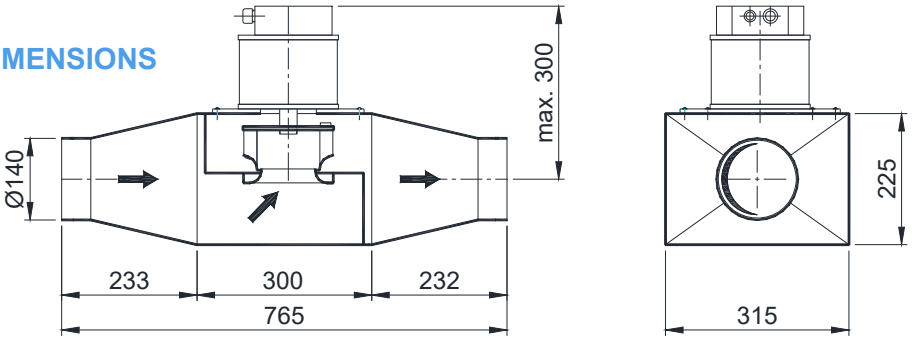
WORK AREA

- Stable operation in the entire characteristic curve range
- Parallel connection is possible
- Can be controlled 100 % via the EC controller that is integrated into the motor
- Permissible temperature -25°C ... 40°C

DESIGN FEATURES

- Welded impeller with 8 backward curved blades
- stable, welded plastic casing
- Motor outside of the flow
- Various installation positions and mounting options
- Various casing connections

MAIN DIMENSIONS



MODELS

VRK100/731-EC **standard model**
Operation with maximum speed, with external 0-10V signal or via an external potentiometer POT10K, O/O switch

VRK100/731-EC-DS **speed setting**
Speed setting with potentiometer installed on the fan, O/O switch

VRK100/731-EC-ZS **time control**
Control unit for basic and on-demand ventilation, timer with daily and weekly programme
MANUAL/AUTO switching

VRK100/731-EC-DR **pressure control**
With pressure sensor, pressure transmitter and pressure controller, external control of a second target value
Start/Stop switch, manual/normal mode

VRK100/731-EC-VR **volumetric flow control**
For orifice gauge (separate), with pressure transmitter and flow controller, external control of a second target value
Start/Stop switch, manual/normal mode

MOTOR / MOTOR PROTECTION

- Electronically commuted external rotor motor (EC motor with integrated EC controller)
- Motor protection is integrated into the motor (fault signal relay, open in case of fault (normally closed), max. 2A-250VAC)
- Input 0-10VDC, power source 10V max. 10 mA (for potentiometer > 1kΩ)
- EMV fault signal as per EN 61000-6-4 (industrial sector)

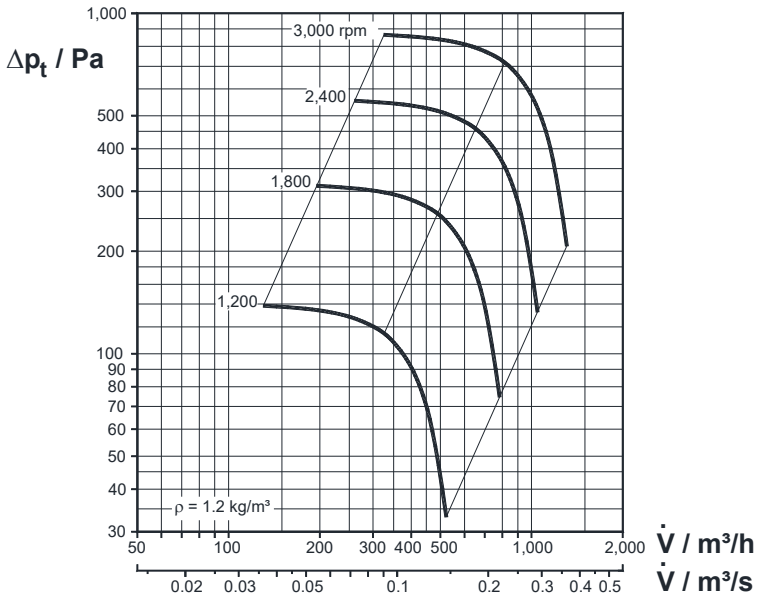
PERFORMANCE DATA

fan type	motor type	speed rpm	nominal current A	electrical power kW	weight kg	L_{A3m} dB(A)	L_{WA} dB(A)	$L_{WA\text{-}Okt}$ / dB(A) 63	125	250	500	1000	2000	4000	8000
	EC-Motor														
VRK 100/731	rated voltage	2,000			5.3	47	66	46	51	61	59	59	57	47	39
W3000-EC	1~230 V/50 Hz	2,400				48	67	48	55	62	61	60	56	47	38
	IP 55	3,000	2.20	0.380		52	69	53	61	63	64	62	56	47	37

L_{A3m} = A - weighted sound pressure level at distance of 3 m from fan center
L_{WA} = A - weighted sound power level in duct
$L_{WA\text{-}Okt}$ = A - weighted octave-band sound power level in duct

Plastic duct fans
VRK160/731W3000-EC

PERFORMANCE DIAGRAM



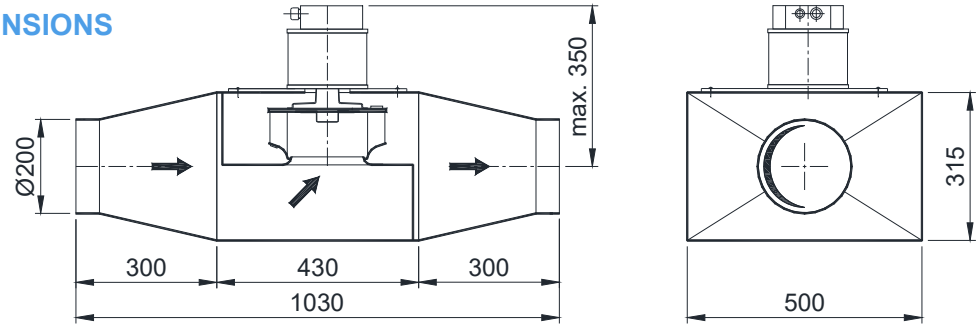
WORK AREA

- Stable operation in the entire characteristic curve range
- Parallel connection is possible
- Can be controlled 100 % via the EC controller that is integrated into the motor
- Permissible temperature -25°C ... 40°C

DESIGN FEATURES

- Welded impeller with 8 backward curved blades
- stable, welded plastic casing
- Motor outside of the flow
- Various installation positions and mounting options
- Various casing connections

MAIN DIMENSIONS



MODELS

VRK160/731-EC **standard model**
Operation with maximum speed, with external 0-10V signal or via an external potentiometer POT10K, O/O switch

VRK160/731-EC-DS **speed setting**
Speed setting with potentiometer installed on the fan, O/O switch

VRK160/731-EC-ZS **time control**
Control unit for basic and on-demand ventilation, timer with daily and weekly programme
MANUAL/AUTO switching

VRK160/731-EC-DR **pressure control**
With pressure sensor, pressure transmitter and pressure controller, external control of a second target value
Start/Stop switch, manual/normal mode

VRK160/731-EC-VR **volumetric flow control**
For orifice gauge (separate), with pressure transmitter and flow controller, external control of a second target value
Start/Stop switch, manual/normal mode

MOTOR / MOTOR PROTECTION

- Electronically commuted external rotor motor (EC motor with integrated EC controller)
- Motor protection is integrated into the motor (fault signal relay, open in case of fault, max. 2A-250VAC)
- Input 0-10VDC, power source 10V max. 10 mA (for potentiometer > 1kΩ)
- EMV fault signal as per EN 61000-6-4 (industrial sector)

PERFORMANCE DATA

fan type	motor type	speed rpm	nominal current A	electrical power kW	weight kg	L_{A3m} dB(A)	L_{WA} dB(A)	$L_{WA\text{-}Okt}$ / dB(A) 63	125	250	500	1000	2000	4000	8000
	EC-Motor	1,200				41	60	43	55	51	53	54	52	39	22
VRK 160/731	rated voltage	1,800			25.0	49	67	49	61	59	62	61	57	49	33
W3000-EC	1~230 V/50 Hz	2,400				56	74	55	65	65	72	67	61	55	44
	IP 55	3,000	2.7	0.395		61	79	58	67	69	78	71	63	60	51

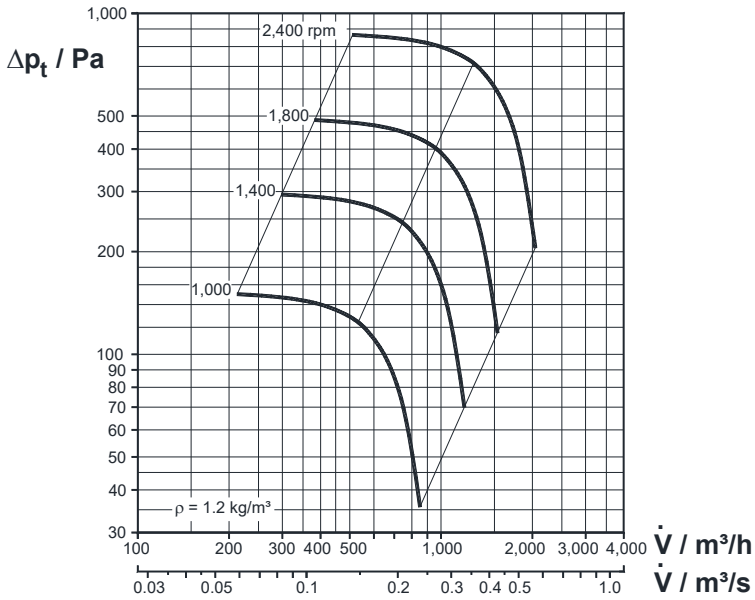
L_{A3m} = A - weighted sound pressure level at distance of 3 m from fan center

L_{WA} = A - weighted sound power level in duct

$L_{WA\text{-}Okt}$ = A - weighted octave-band sound power level in duct

Plastic duct fans
VRK200/731W2400-EC

PERFORMANCE DIAGRAM



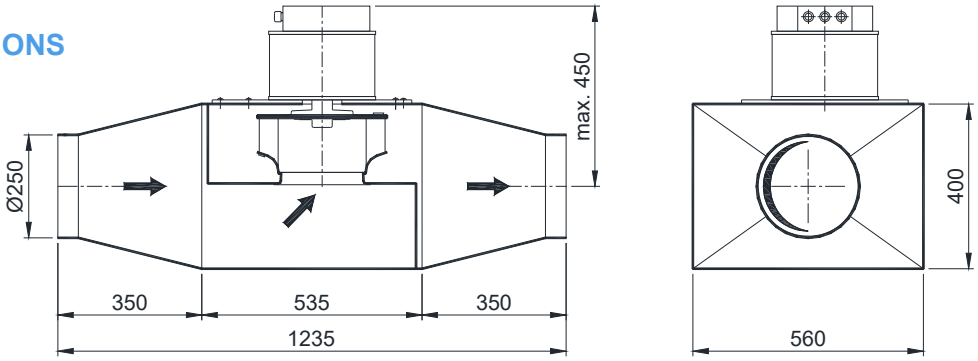
WORK AREA

- Stable operation in the entire characteristic curve range
- Parallel connection is possible
- Can be controlled 100 % via the EC controller that is integrated into the motor
- Permissible temperature -25°C ... 40°C

DESIGN FEATURES

- Welded impeller with 8 backward curved blades
- stable, welded plastic casing
- Motor outside of the flow
- Various installation positions and mounting options
- Various casing connections

MAIN DIMENSIONS



MODELS

VRK200/731-EC **standard model**
Operation with maximum speed, with external 0-10V signal or via an external potentiometer POT10K, O/O switch

VRK200/731-EC-DS **speed setting**
Speed setting with potentiometer installed on the fan, O/O switch

VRK200/731-EC-ZS **time control**
Control unit for basic and on-demand ventilation, timer with daily and weekly programme
MANUAL/AUTO switching

VRK200/731-EC-DR **pressure control**
With pressure sensor, pressure transmitter and pressure controller, external control of a second target value
Start/Stop switch, manual/normal mode

VRK200/731-EC-VR **volumetric flow control**
For orifice gauge (separate), with pressure transmitter and flow controller, external control of a second target value
Start/Stop switch, manual/normal mode

MOTOR / MOTOR PROTECTION

- Electronically commuted external rotor motor (EC motor with integrated EC controller)
- Motor protection is integrated into the motor (fault signal relay, open in case of fault, max. 2A-250VAC)
- Input 0-10VDC, power source 10V max. 10 mA (for potentiometer > 1kΩ)
- EMV fault signal as per EN 61000-6-4 (industrial sector)

PERFORMANCE DATA

fan type	motor type	speed rpm	nominal current A	electrical power kW	weight kg	L_{A3m} dB(A)	L_{WA} dB(A)	L_{WA-Okt} / dB(A) 63	125	250	500	1000	2000	4000	8000
	EC-Motor	1,000				46	64	47	55	55	57	58	55	52	27
VRK 200/731	rated voltage	1,400			35.0	51	68	52	60	61	63	62	59	49	35
W2400-EC	3~400 V/50 Hz	1,800				55	74	56	64	66	69	67	63	55	42
	IP 55	2,400	1.40	0.56		60	79	59	67	70	75	72	66	59	48

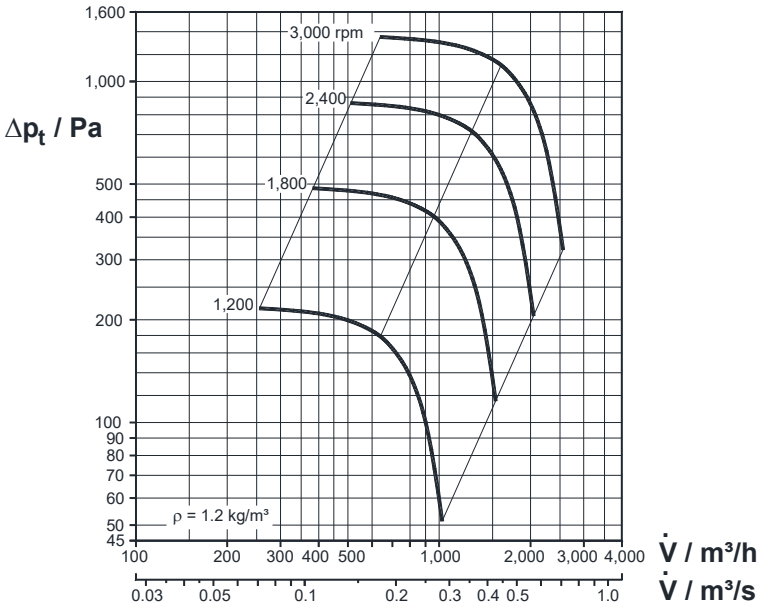
L_{A3m} = A - weighted sound pressure level at distance of 3 m from fan center

L_{WA} = A - weighted sound power level in duct

L_{WA-Okt} = A - weighted octave-band sound power level in duct

Plastic duct fans
VRK200/731W3000-EC

PERFORMANCE DIAGRAM



WORK AREA

-Stable operation in the entire characteristic curve range

-Parallel connection is possible

-Can be controlled 100 % via the EC controller that is integrated into the motor

-Permissible temperature -25°C ... 40°C

DESIGN FEATURES

-Welded impeller with 8 backward curved blades

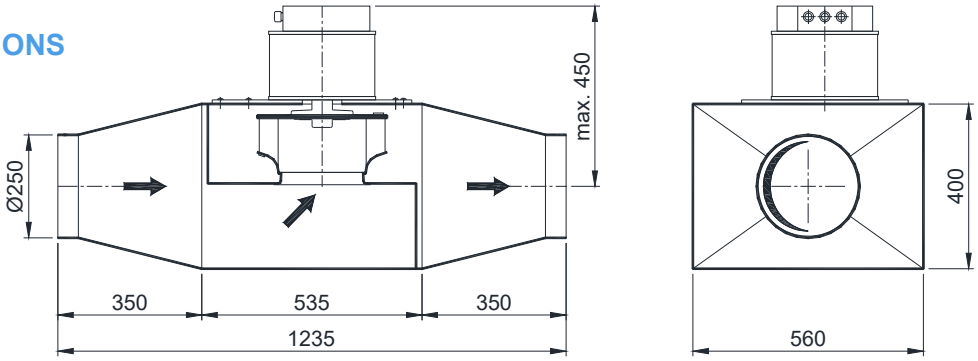
-stable, welded plastic casing

-Motor outside of the flow

-Various installation positions and mounting options

-Various casing connections

MAIN DIMENSIONS



MODELS

VRK200/731-EC **standard model**
Operation with maximum speed, with external 0-10V signal or via an external potentiometer POT10K, O/O switch

VRK200/731-EC-DS **speed setting**
Speed setting with potentiometer installed on the fan, O/O switch

VRK200/731-EC-ZS **time control**
Control unit for basic and on-demand ventilation, timer with daily and weekly programme
MANUAL/AUTO switching

VRK200/731-EC-DR **pressure control**
With pressure sensor, pressure transmitter and pressure controller, external control of a second target value
Start/Stop switch, manual/normal mode

VRK200/731-EC-VR **volumetric flow control**
For orifice gauge (separate), with pressure transmitter and flow controller, external control of a second target value
Start/Stop switch, manual/normal mode

MOTOR / MOTOR PROTECTION

- Electronically commuted external rotor motor (EC motor with integrated EC controller)
- Motor protection is integrated into the motor (fault signal relay, open in case of fault, max. 2A-250VAC)
- Input 0-10VDC, power source 10V max. 10 mA (for potentiometer > 1kΩ)
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PERFORMANCE DATA

fan type	motor type	speed rpm	nominal current A	electrical power kW	weight kg	L_{A3m} dB(A)	L_{WA} dB(A)	$L_{WA\text{-}Okt}$ / dB(A) 63	125	250	500	1000	2000	4000	8000
	EC-Motor	1,200				49	66	50	58	58	60	60	57	46	31
VRK 200/731	rated voltage	1,800			42.0	55	74	56	64	66	69	67	63	55	42
W3000-EC	3~400 V/50 Hz	2,400				62	81	60	69	72	77	74	67	61	50
	IP 55	3,000	2.60	1.06		68	86	62	71	76	83	79	70	65	56

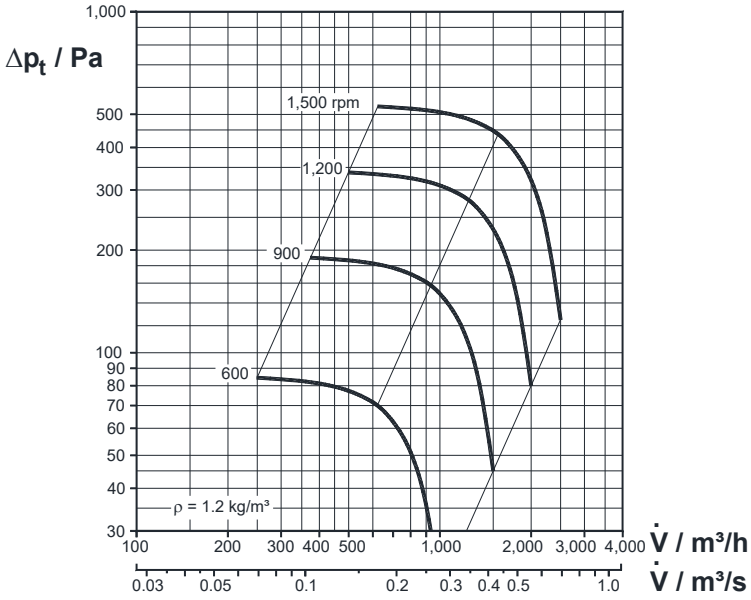
L_{A3m} = A - weighted sound pressure level at distance of 3 m from fan center

L_{WA} = A - weighted sound power level in duct

$L_{WA\text{-}Okt}$ = A - weighted octave-band sound power level in duct

Plastic duct fans
VRK250/731W1500-EC

PERFORMANCE DIAGRAM



WORK AREA

-Stable operation in the entire characteristic curve range

-Parallel connection is possible

-Can be controlled 100 % via the EC controller that is integrated into the motor

-Permissible temperature -25°C ... 40°C

DESIGN FEATURES

-Welded impeller with 8 backward curved blades

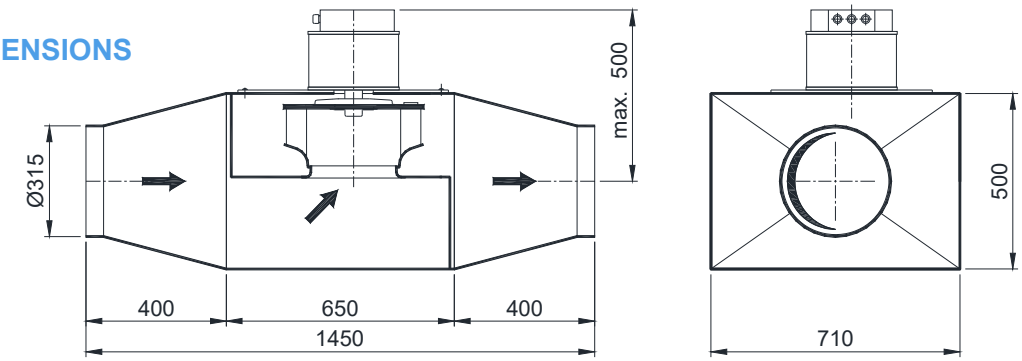
-stable, welded plastic casing

-Motor outside of the flow

-Various installation positions and mounting options

-Various casing connections

MAIN DIMENSIONS



MODELS

VRK250/731-EC **standard model**
Operation with maximum speed, with external 0-10V signal or via an external potentiometer POT10K, O/O switch

VRK250/731-EC-DS **speed setting**
Speed setting with potentiometer installed on the fan, O/O switch

VRK250/731-EC-ZS **time control**
Control unit for basic and on-demand ventilation, timer with daily and weekly programme
MANUAL/AUTO switching

VRK250/731-EC-DR **pressure control**
With pressure sensor, pressure transmitter and pressure controller, external control of a second target value
Start/Stop switch, manual/normal mode

VRK250/731-EC-VR **volumetric flow control**
For orifice gauge (separate), with pressure transmitter and flow controller, external control of a second target value
Start/Stop switch, manual/normal mode

MOTOR / MOTOR PROTECTION

- Electronically commuted external rotor motor (EC motor with integrated EC controller)
- Motor protection is integrated into the motor (fault signal relay, open in case of fault, max. 2A-250VAC)
- Input 0-10VDC, power source 10V max. 10 mA (for potentiometer > 1kΩ)
- EMV fault signal as per EN 61000-6-4 (industrial sector)

PERFORMANCE DATA

fan type	motor type	speed rpm	nominal current A	electrical power kW	weight kg	L_{A3m} dB(A)	L_{WA} dB(A)	L_{WA-Okt} / dB(A) 63	125	250	500	1000	2000	4000	8000
	EC-Motor	600				39	55	41	48	45	50	48	40	26	17
VRK 250/731	rated voltage	900			55.0	46	63	50	55	55	57	59	52	43	27
W1500-EC	1~230 V/50 Hz	1,200				51	69	54	59	63	64	64	58	52	36
	IP 55	1,500	3.40	0.41		56	74	60	63	69	70	67	63	57	44

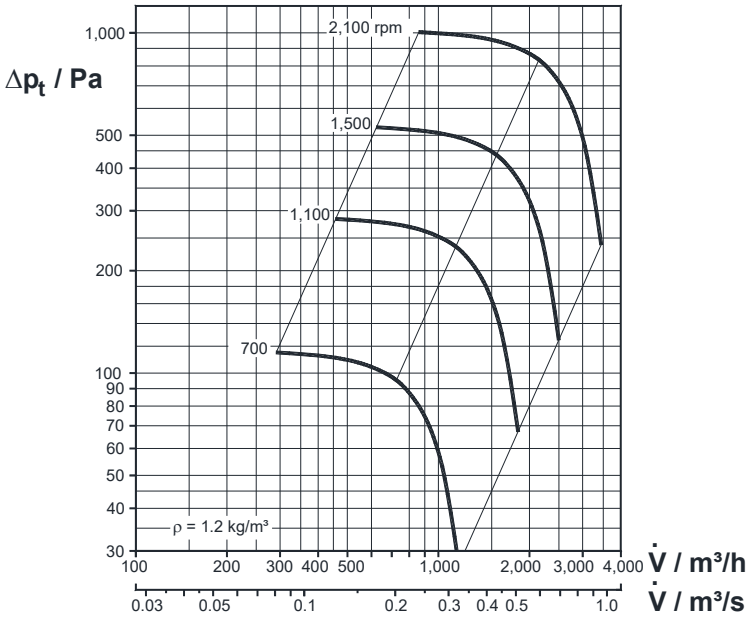
L_{A3m} = A - weighted sound pressure level at distance of 3 m from fan center

L_{WA} = A - weighted sound power level in duct

L_{WA-Okt} = A - weighted octave-band sound power level in duct

Plastic duct fans
VRK250/731W2100-EC

PERFORMANCE DIAGRAM



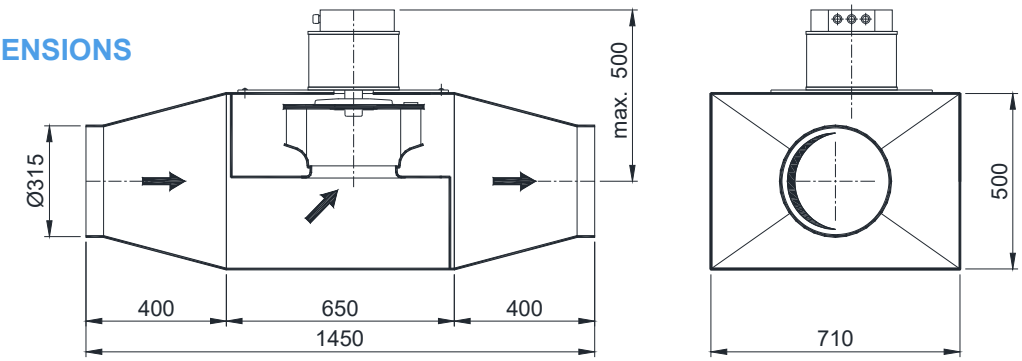
WORK AREA

- Stable operation in the entire characteristic curve range
- Parallel connection is possible
- Can be controlled 100 % via the EC controller that is integrated into the motor
- Permissible temperature -25°C ... 40°C

DESIGN FEATURES

- Welded impeller with 8 backward curved blades
- stable, welded plastic casing
- Motor outside of the flow
- Various installation positions and mounting options
- Various casing connections

MAIN DIMENSIONS



MODELS

VRK250/731-EC **standard model**
Operation with maximum speed, with external 0-10V signal or via an external potentiometer POT10K, O/O switch

VRK250/731-EC-DS **speed setting**
Speed setting with potentiometer installed on the fan, O/O switch

VRK250/731-EC-ZS **time control**
Control unit for basic and on-demand ventilation, timer with daily and weekly programme
MANUAL/AUTO switching

VRK250/731-EC-DR **pressure control**
With pressure sensor, pressure transmitter and pressure controller, external control of a second target value
Start/Stop switch, manual/normal mode

VRK250/731-EC-VR **volumetric flow control**
For orifice gauge (separate), with pressure transmitter and flow controller, external control of a second target value
Start/Stop switch, manual/normal mode

MOTOR / MOTOR PROTECTION

- Electronically commuted external rotor motor (EC motor with integrated EC controller)
- Motor protection is integrated into the motor (fault signal relay, open in case of fault, max. 2A-250VAC)
- Input 0-10VDC, power source 10V max. 10 mA (for potentiometer > 1kΩ)
- EMV fault signal as per EN 61000-6-4 (industrial sector)

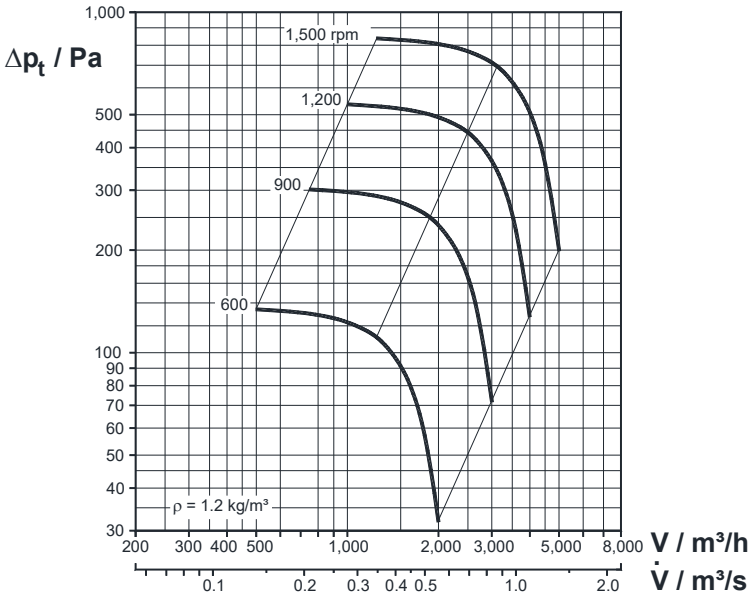
PERFORMANCE DATA

fan type	motor type	speed rpm	nominal current A	electrical power kW	weight kg	L_{A3m} dB(A)	L_{WA} dB(A)	$L_{WA\text{-}Okt}$ / dB(A) 63	125	250	500	1000	2000	4000	8000
	EC-Motor	700				42	59	46	53	50	55	52	44	30	21
VRK 250/731	rated voltage	1,100			59.0	50	67	53	58	60	61	62	56	50	33
W2100-EC	3~400 V/50 Hz	1,500				56	74	60	63	69	70	67	63	57	44
	IP 55	2,100	2.60	1.11		61	79	65	68	74	75	72	68	61	48

L_{A3m} = A - weighted sound pressure level at distance of 3 m from fan center
L_{WA} = A - weighted sound power level in duct
$L_{WA\text{-}Okt}$ = A - weighted octave-band sound power level in duct

Plastic duct fans
VRK315/731W1500-EC

PERFORMANCE DIAGRAM



WORK AREA

-Stable operation in the entire characteristic curve range

-Parallel connection is possible

-Can be controlled 100 % via the EC controller that is integrated into the motor

-Permissible temperature -25°C ... 40°C

DESIGN FEATURES

-Welded impeller with 8 backward curved blades

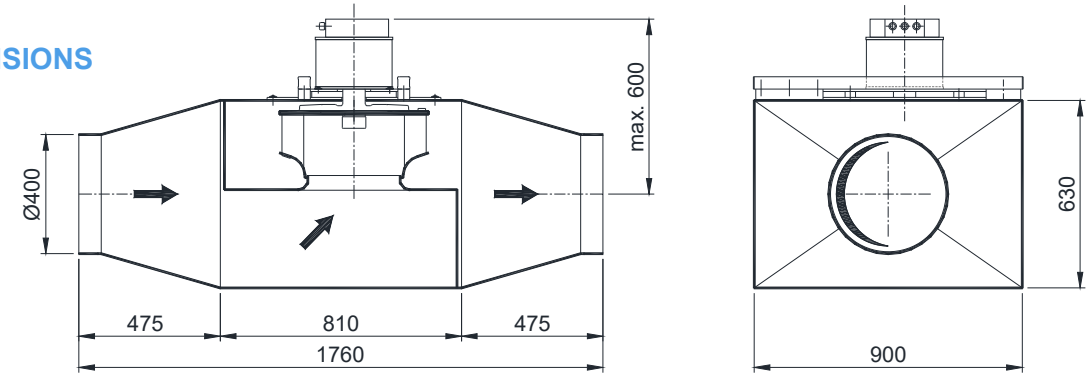
-stable, welded plastic casing

-Motor outside of the flow

-Various installation positions and mounting options

-Various casing connections

MAIN DIMENSIONS



MODELS

VRK315/731-EC **standard model**
Operation with maximum speed, with external 0-10V signal or via an external potentiometer POT10K, O/O switch

VRK315/731-EC-DS **speed setting**
Speed setting with potentiometer installed on the fan, O/O switch

VRK315/731-EC-ZS **time control**
Control unit for basic and on-demand ventilation, timer with daily and weekly programme
MANUAL/AUTO switching

VRK315/731-EC-DR **pressure control**
With pressure sensor, pressure transmitter and pressure controller, external control of a second target value
Start/Stop switch, manual/normal mode

VRK315/731-EC-VR **volumetric flow control**
For orifice gauge (separate), with pressure transmitter and flow controller, external control of a second target value
Start/Stop switch, manual/normal mode

MOTOR / MOTOR PROTECTION

- Electronically commuted external rotor motor (EC motor with integrated EC controller)
- Motor protection is integrated into the motor (fault signal relay, open in case of fault, max. 2A-250VAC)
- Input 0-10VDC, power source 10V max. 10 mA (for potentiometer > 1kΩ)
- EMV fault signal as per EN 61000-6-4 (industrial sector)

PERFORMANCE DATA

fan type	motor type	speed rpm	nominal current A	electrical power kW	weight kg	L_{A3m} dB(A)	L_{WA} dB(A)	$L_{WA\text{-}Okt}$ / dB(A) 63	125	250	500	1000	2000	4000	8000
	EC-Motor	600				45	61	48	54	53	55	53	48	41	34
VRK 315/731	rated voltage	900			87.0	52	70	58	63	64	65	63	59	54	43
W1500-EC	3~400 V/50 Hz	1,200				58	76	63	67	71	71	69	64	60	48
	IP 55	1,500	2.50	1.26		63	81	66	70	76	75	73	68	63	52

L_{A3m} = A - weighted sound pressure level at distance of 3 m from fan center

L_{WA} = A - weighted sound power level in duct

$L_{WA\text{-}Okt}$ = A - weighted octave-band sound power level in duct

CASING CONNECTIONS

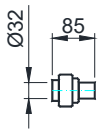
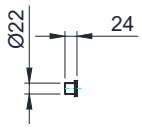
The basic model of the fan depicted under MAIN DIMENSIONS can be supplemented with accessories and thus adapted optimally to the specific operating conditions. In addition to the standard range, special models and even special designs are possible on request. The variants shown in the dimensional drawing therefore only cover the most frequently used casing connections and condensate drains.

The pressure and intake side connectors can be supplemented with safety screens.

Condensate drain

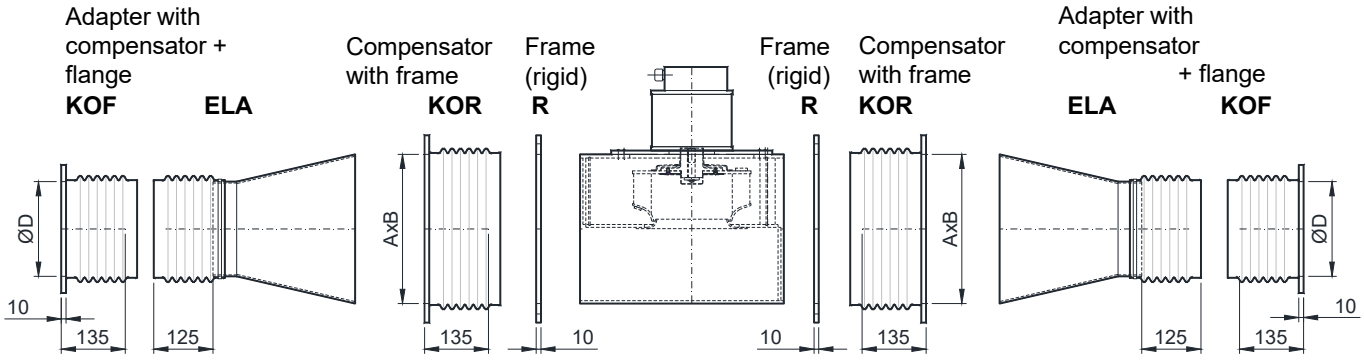
Every fan has a condensate drill hole with a sealing cap at its lowest point. Various nozzles for installing a condensate hose are available on request.

Casing material: PPs, PVC

Screwed connection	Nozzle	Drill hole
KSV	**KSS**	**KSB**
		Ø14.5 mm

Intake side casing connection

Casing material: PPs, PVC



Pressure side casing connection

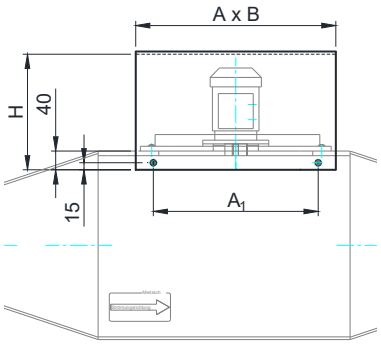
Casing material: PPs, PVC

WEATHER PROTECTION WS for the MOTOR

By default, motors with protection level IP 55 are used, which are protected from hose water from all directions. When installing fans outside, additional weather protection against all types of weather should be installed.

VRK 100..250 -…-H

Installation position horizontal

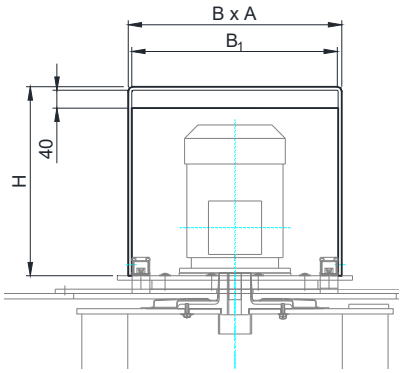


nominal size	dimensions			
	A	A_1	B	H
VRK 100	280	220	317	300 / 350*
VRK 160	360	300	502	300 / 350*
VRK 200	425	350	562	350 / 400*
VRK 250	540	465	712	350

*) for motors Exde

VRK 315 -…-H

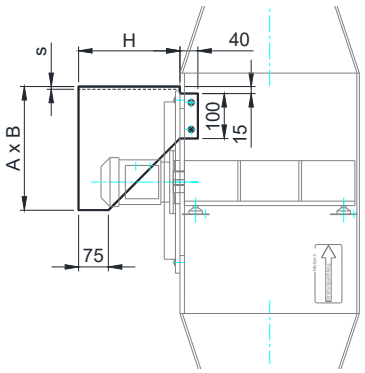
Installation position horizontal



nominal size	dimensions			
	A	B	B_1	H
VRK 315	450	392	376	325

VRK 100..250 -...-V

Installation position vertical



nominal size	dimensions		
	A	B	H
VRK 100	180	317	260
VRK 160	220	502	260
VRK 200	270	562	310
VRK 250	540	712	310

REPAIR SWITCH RS

The RS switch is used to completely disconnect the fan from the grid for maintenance and repair work. This ensures there is no risk of accidents due to uncontrolled activation. The switch is delivered mounted and wired to the fan in accordance with the installation position.

Seq. no.	Qty	Object		Unit price EUR	Total price EUR

Plastic duct fans

Mietzsch Lufttechnik – VRK-EC series

Object:

Impeller optionally made of PVC / PPs welded, with balancing quality G 6.3 as per ISO 1940, mounted overhung on the motor shaft

Balancing quality and vibration level of the fan comply with ISO 14694

Welded duct casing with flow-optimised spiral
optionally made of PVC / PPs
The casing can be opened on the motor side

Line connection by default with welded on adaptors with **ELA** with pipe connection and soft sleeves
- Model **FF** with flange
- Model **KOF** compensator with flange
- Model **KOR** compensator with frame
- Model **RR** with (square) frame, without adapters

Direct drive with EC motor with integrated EC controller, motor outside of the flow
- Motor protection is integrated into the motor (fault signal relay, open in case of fault, max. 2A-250VAC)
- Input 0-10VDC, power source 10V max. 10 mA (for potentiometer > 1kΩ)
- EMV fault signal as per EN 61000-6-4 (industrial sector)

Safety requirements as per VDMA 24 167

VRK _ _ _ / 731 W _ _ _ _ - EC - _ _ - _ _ - _ _ _ - _ _ _ _

- Nominal size
- Rated speed
- EC motor with integrated EC controller
- Special model
- Mounting type
- Installation position
- Material

Volumetric flow rate	: _____	m^3/h
Total pressure increase	: _____	Pa
Temperature of Flow medium	: _____	°C
Motor power	: _____	kW
Voltage / frequency	: _____	V ____ Hz
Rated motor current	: _____	A
Fan speed	: _____	rpm
Noise level L_{A3m}	: _____	dB(A)
Weight	: _____	kg

Flow medium/intended use:

Accessories and special equipment

- Condensate drain: Drill hole with seal / nozzle with cap or screw cap
- Weather protection for the motor
- Repair switch: loose / mounted, 3-pole with auxiliary contact
- Engine protection switch: loose / mounted
- Wall bracket / ceiling bracket for mounting
- Miscellaneous

Our program of products and services

Roof fans
of all-plastic design, horizontally or vertically blowing out with many assembly accessories

Radial fans
of thermoplastic material and FRP, direct and belt driven
up to about 150 000 m³/h and 6 500 Pa

Special fans
duct fans, built-in devices, mobile radial fans, Venturi injectors

Explosion-proof fans
according to ATEX for zone 1 and zone 2

Air technology systems and components
pipes, ducts, fittings, flaps, gas-tight shutoff flaps, exhaust air hoods, deflector hoods, suction hoods and many more of plastic material, complete air technology systems for industry and craft, air cleaning plants, laboratory and process exhaust systems

Central ventilation systems
in housing construction, special-purpose fans, exhaust elements, controlling and regulating devices

Noise protection
rectangular and cylindrical sound attenuators, silencing casings in corrosion-proof design

Exhaust gas cleaning
droplet eliminators and moisteners, gas scrubbers for separation of gaseous dangerous substances, dust filter

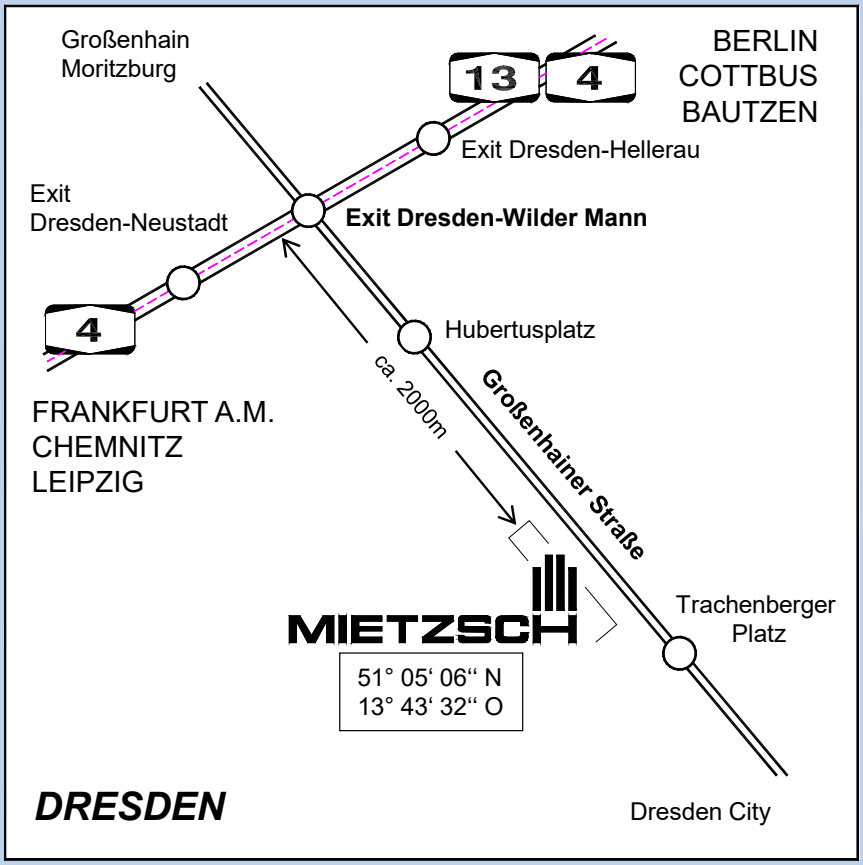
Heat exchangers
for heat recovery from moist and aggressive exhaust air

Tanks
of thermoplastic material for liquids endangering water, according to water resources regulations

Controlling and regulating elements and systems
switches, motor protection devices, speed controllers, frequency inverter, fan controls, flow supervision

Special designs
devices, linings, special components etc. of plastic material

Engineering performances
planning, calculation, and design, ventilation measurement on standardized test stands, low and high temperature test in company-own climatic test chambers



MIETZSCH

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