Ceiling swirl diffusers
Type RFD

Horizontal swirling air discharge

Without discharge nozzle

With discharge nozzle

Circular diffuser face

With low sound power level for comfort and industrial zones, with fixed air control blades

Circular and square ceiling swirl diffusers

- Nominal sizes 125, 160, 200, 250, 315, 400
- Volume flow rate range 4 – 330 l/s or 14 – 1188 m^3/h
- Diffuser face made of galvanised sheet steel, powder-coated, or of aluminium (depending on variant)
- For supply and extract air
- For variable and constant volume flows
- For all types of ceiling systems
- With discharge nozzle ideal for cooling in case of freely suspended installation
- High induction results in a rapid reduction of the temperature difference and airflow velocity
- Air change rates of up to 35 per hour can be achieved by arranging several diffusers in a row with a minimum pitch of 0.9 m (centre line to centre line)
- Ideal for comfort zones

Optional equipment and accessories

- Exposed diffuser face available in RAL CLASSIC colours
- Horizontal or vertical duct connection
- Plenum box with cord-operated damper blade and pressure tap
- Shallow plenum box

Application

Application
- Type RFD ceiling swirl diffusers are used as supply air or extract air diffusers for comfort zones
- Attractive design element for building owners and architects with demanding aesthetic requirements
- Horizontal swirling supply air discharge for mixed flow ventilation
- The efficient swirl creates high induction levels, thereby rapidly reducing the temperature difference and airflow velocity (supply air variant)
- For variable and constant volume flows
- For supply air to room air temperature differences from –12 to +10 K
- For room heights up to 4 m (lower edge of suspended ceiling)
- For all types of ceiling systems
- With an extended border and discharge nozzle also suitable for freely suspended installation (supply air variant)

Special characteristics
- Low sound power level, ideal for comfort zones
- Fixed blades
- For all types of ceiling systems
- Horizontal or vertical duct connection
- Air change rates of up to 35 per hour can be achieved by arranging several diffusers in a row with a minimum pitch of 0.9 m (centre line to centre line)

Nominal sizes
- 125, 160, 200, 250, 315, 400

Description

Variants
- RFD-Q: Square diffuser face
- RFD-R: Circular diffuser face
- RFD-*-D: Diffuser face with discharge nozzle

Connection
- K: Vertical duct connection, with duct collar
- US: Vertical duct connection, with transition piece
- A: Horizontal duct connection, with plenum box

Only RFD-R
- UO: Vertical duct connection, with transition piece and cross bar

Only RFD-R-D
- UD: Vertical duct connection, with transition piece, cross bar and discharge nozzle
- N: Horizontal duct connection, with shallow plenum box to be installed above open cell ceilings

Parts and characteristics
- Circular or square diffuser face
- Diffuser face with radially arranged fixed air control blades

Attachments
- M: Damper blade for volume flow rate balancing
- MN: Pressure tap and cord-operated damper blade for volume flow rate balancing with the diffuser face in place

Accessories
- Lip seal

Construction features
- Spigot suitable for circular ducts to EN 1506 or EN 13180
- Spigot with groove for lip seal (if accessory lip seal has been ordered)

Materials and surfaces
- Q: Diffuser face made of aluminium
- R: Diffuser face made of galvanised sheet steel
- Plenum box, duct collar and cross bar made of galvanised sheet steel
- Transition piece made of aluminium
- Lip seal made of rubber
- Diffuser face powder-coated RAL 9010, pure

white
– P1: Powder-coated, RAL CLASSIC colour

Standards and guidelines

– Sound power level of the air-regenerated noise measured according to EN ISO 5135

Maintenance

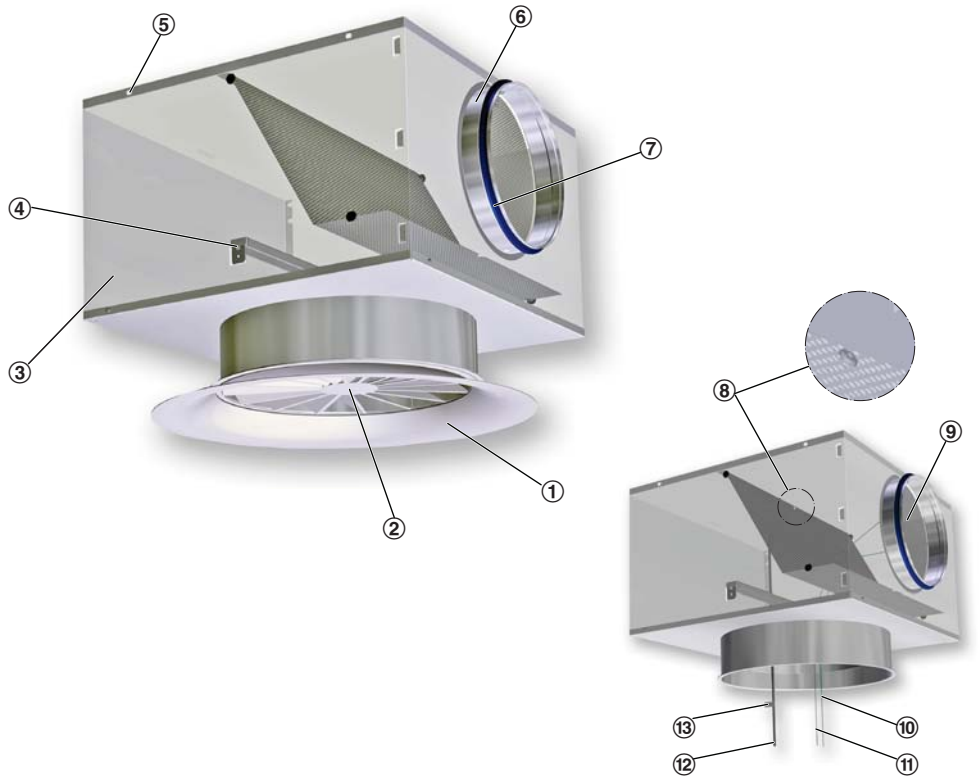
– Maintenance-free as construction and materials are not subject to wear
– Inspection and cleaning to VDI 6022

Functional description

Ceiling swirl diffusers in air conditioning systems create a swirl to supply air to rooms. The resulting airflow induces high levels of room air, thereby rapidly reducing the airflow velocity and the temperature difference between supply air and room air. Ceiling swirl diffusers allow for large volume flow rates. The result is a mixed flow ventilation in comfort zones, with good overall room ventilation, creating only very little turbulence in the occupied zone.
Type RFD ceiling swirl diffusers have fixed blades.

Air discharge is horizontal omni directional. The supply air to room air temperature difference may range from –12 to +10 K.
A damper blade (optional) simplifies volume flow rate balancing for commissioning. Pressure tap and cord-operated damper blade (optional) allow for volume flow rate balancing with the diffuser face in place.
To give rooms an aesthetic, uniform look, Type RFD diffusers may also be used for extract air.

Schematic illustration of the RFD-R-D, with plenum box for horizontal duct connection



① Diffuser face
② Central fixing screw
③ Plenum box
④ Cross bar
⑤ Suspension hole
⑥ Spigot

Optional
⑦ Lip seal
⑧ Pressure tap
⑨ Damper blade for volume flow rate balancing
⑩ Green cord for closing the damper blade
⑪ White cord for opening the damper blade
⑫ Measuring tube
⑬ Text label indicating plenum box variant

Horizontal omni directional air discharge

Nominal sizes	125, 160, 200, 250, 315, 400 mm
Minimum volume flow rate, with Δt_Z = –6 K	4 – 36 l/s or 14 – 130 m^3/h
Maximum volume flow rate, with L_{WA} ≅ 50 dB(A)	22 – 330 l/s or 79 – 1188 m^3/h
Supply air to room air temperature difference	–12 to +10 K

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Ceiling swirl diffusers with square or circular diffuser face. Supply air and extract air variants for comfort zones and industrial zones. Diffuser face with fixed air control blades for horizontal swirling supply air discharge creating high induction levels. For installation into all types of suspended ceilings.
Ready-to-install component which consists of the diffuser face with radially arranged fixed air control blades and either a spigot only or a plenum box with side entry or top entry spigot, and suspension holes or suspension lugs.
The diffuser face is fixed to the cross bar with a central screw.
Spigot suitable for ducts to EN 1506 or EN 13180.
Sound power level of the air-regenerated noise measured according to EN ISO 5135.

Special characteristics
- Low sound power level, ideal for comfort zones
- Fixed blades
- For all types of ceiling systems
- Horizontal or vertical duct connection
- Air change rates of up to 35 per hour can be achieved by arranging several diffusers in a row with a minimum pitch of 0.9 m (centre line to centre line)

Materials and surfaces
- Q: Diffuser face made of aluminium
- R: Diffuser face made of galvanised sheet steel
- Plenum box, duct collar and cross bar made of galvanised sheet steel
- Transition piece made of aluminium
- Lip seal made of rubber
- Diffuser face powder-coated RAL 9010, pure white
- P1: Powder-coated, RAL CLASSIC colour

Technical data
- Nominal sizes: 125, 160, 200, 250, 315, 400 mm
- Minimum volume flow rate, with Δt_Z = –6 K: 4 – 36 l/s or 14 – 130 m^3/h
- Maximum volume flow rate, with L_{WA} ≅ 50 dB(A): 22 – 330 l/s or 79 – 1188 m^3/h
- Supply air to room air temperature difference: –12 to +10 K

Sizing data
- $\dot{V}$ _____ _____ [m^3/h]
- Δp_t _____ _____ [Pa]

Air-regenerated noise
- L_{WA} _____ _____ [dB(A)]

RFD-Q-D

RFD-R-D

RFD-Q

RFD-R

RFD-Q-D-K

RFD-R-D-K

RFD-Q-US

RFD-R-UO

RFD-Q-D-A

RFD-R-D-A

RFD-R-D-N

RFD-Q-K

Variant
- Ceiling swirl diffuser with square diffuser face

Nominal sizes
- 125, 160, 200, 250, 315, 400

Parts and characteristics
- Square diffuser face
- Circular duct collar for connection to a vertical duct

Construction features
- Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-Q-D-K

Variant
- Ceiling swirl diffuser with discharge nozzle and square diffuser face

Nominal sizes
- 125, 160, 200, 250, 315, 400

Parts and characteristics
- Square diffuser face
- Discharge nozzle improves aerodynamic and acoustic characteristics
- Circular duct collar for connection to a vertical duct

Construction features
- Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-Q-US

Variant
– Ceiling swirl diffuser with square diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Square diffuser face
– Transition piece for connection to a vertical duct

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-Q-D-US

Variant
– Ceiling swirl diffuser with discharge nozzle and square diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Square diffuser face
– Discharge nozzle improves aerodynamic and acoustic characteristics
– Transition piece for connection to a vertical duct

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-Q-A

Variant
– Ceiling swirl diffuser with square diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Square diffuser face
– Plenum box for horizontal duct connection
– Circular opening to accommodate the diffuser face
– Simple installation of the diffuser face due to central fixing screw with decorative cap
– Damper blade for volume flow rate balancing (optional)
– Pressure tap and cord-operated damper blade for volume flow rate balancing (optional)
– Lip seal (optional)

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180
– Spigot with groove for lip seal (if accessory lip seal has been ordered)

RFD-Q-D-A

Variant
– Ceiling swirl diffuser with discharge nozzle and square diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Square diffuser face
– Discharge nozzle improves aerodynamic and acoustic characteristics
– Plenum box for horizontal duct connection
– Circular opening to accommodate the diffuser face
– Simple installation of the diffuser face due to central fixing screw with decorative cap
– Damper blade for volume flow rate balancing (optional)
– Pressure tap and cord-operated damper blade for volume flow rate balancing (optional)
– Lip seal (optional)

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180
– Spigot with groove for lip seal (if accessory lip seal has been ordered)

RFD-R-K

Variant
– Ceiling swirl diffuser with circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Circular diffuser face
– Circular duct collar for connection to a vertical duct

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-R-D-K

Variant
– Ceiling swirl diffuser with discharge nozzle and circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Circular diffuser face
– Discharge nozzle improves aerodynamic and acoustic characteristics
– Circular duct collar for connection to a vertical duct

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-R-US

Variant
– Ceiling swirl diffuser with circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Circular diffuser face
– Transition piece for connection to a vertical duct

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-R-D-US

Variant
– Ceiling swirl diffuser with discharge nozzle and circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Circular diffuser face
– Discharge nozzle improves aerodynamic and acoustic characteristics
– Transition piece for connection to a vertical duct

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-R-UO

Variant
– Ceiling swirl diffuser with circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Circular diffuser face
– Transition piece for connection to a vertical duct
– Simple installation of the diffuser face due to central fixing screw with decorative cap

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-R-D-UD

Variant
– Ceiling swirl diffuser with discharge nozzle and circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Circular diffuser face
– Discharge nozzle improves aerodynamic and acoustic characteristics
– Transition piece for connection to a vertical duct
– Simple installation of the diffuser face due to central fixing screw with decorative cap

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180

RFD-R-A

Variant
– Ceiling swirl diffuser with circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Circular diffuser face
– Plenum box for horizontal duct connection
– Circular opening to accommodate the diffuser face
– Simple installation of the diffuser face due to central fixing screw with decorative cap
– Damper blade for volume flow rate balancing (optional)
– Pressure tap and cord-operated damper blade for volume flow rate balancing (optional)
– Lip seal (optional)

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180
– Spigot with groove for lip seal (if accessory lip

RFD-R-D-A

Variant
– Ceiling swirl diffuser with discharge nozzle and circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

Parts and characteristics
– Circular diffuser face
– Discharge nozzle improves aerodynamic and acoustic characteristics
– Plenum box for horizontal duct connection
– Circular opening to accommodate the diffuser face
– Simple installation of the diffuser face due to central fixing screw with decorative cap
– Damper blade for volume flow rate balancing (optional)
– Pressure tap and cord-operated damper blade for volume flow rate balancing (optional)
– Lip seal (optional)

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180
– Spigot with groove for lip seal (if accessory lip seal has been ordered)

RFD-R-D-N

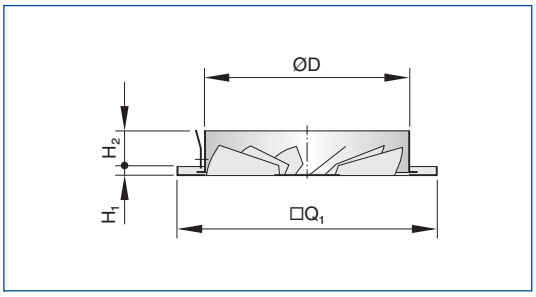
Variant
– Ceiling swirl diffuser with discharge nozzle and circular diffuser face

Nominal sizes
– 125, 160, 200, 250, 315, 400

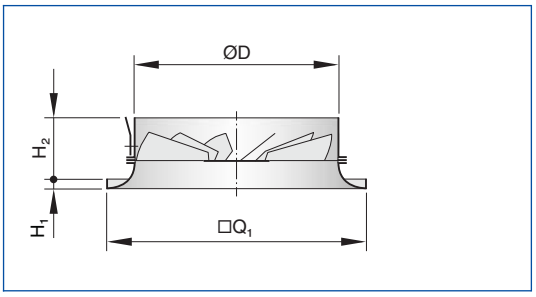
Parts and characteristics
– Circular diffuser face
– Discharge nozzle improves aerodynamic and acoustic characteristics
– Plenum box for horizontal duct connection
– Compact unit which consists of the diffuser and a plenum box, shallow construction for installation above open cell ceilings
– Damper blade for volume flow rate balancing (optional)
– Lip seal (optional)

Construction features
– Spigot suitable for circular ducts to EN 1506 or EN 13180
– Spigot with groove for lip seal (if accessory lip seal has been ordered)

RFD-Q-K



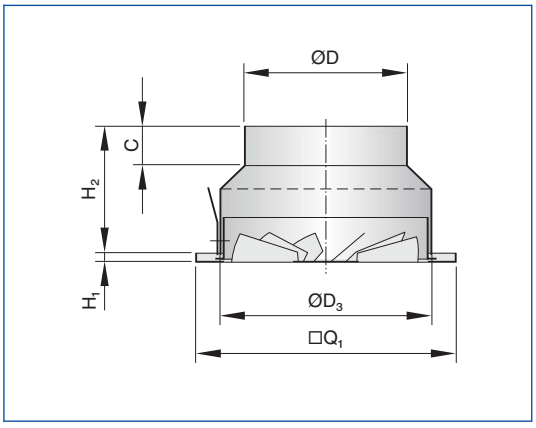
RFD-Q-D-K



RFD-Q-K, RFD-Q-D-K

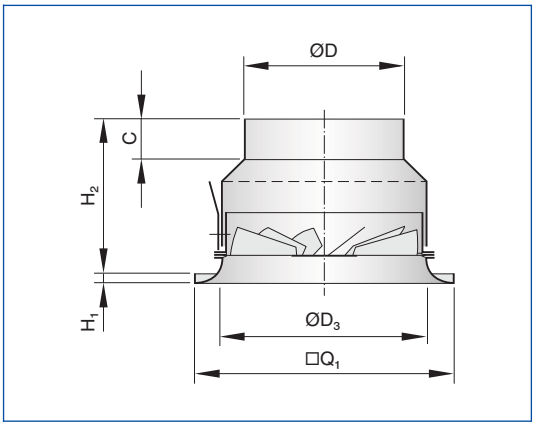
Nominal size	RFD-Q-K			RFD-Q-D-K				
	$\square Q_1$	H_2	m	$\square Q_1$	H_2	m	ØD	H_1
	mm	mm	kg	mm	mm	kg	mm	mm
125	198	42	0.6	198	67	0.7	123	8
160	198	45	0.7	248	70	0.9	158	8
200	248	45	1.0	248	70	1.2	198	8
250	298	42	1.5	298	67	1.7	248	8
315	398	45	2.4	398	80	2.9	313	8
400	498	45	3.6	498	80	4.3	398	8

RFD-Q-US



Sizes 125 and 160 without perforated sheet metal

RFD-Q-D-US

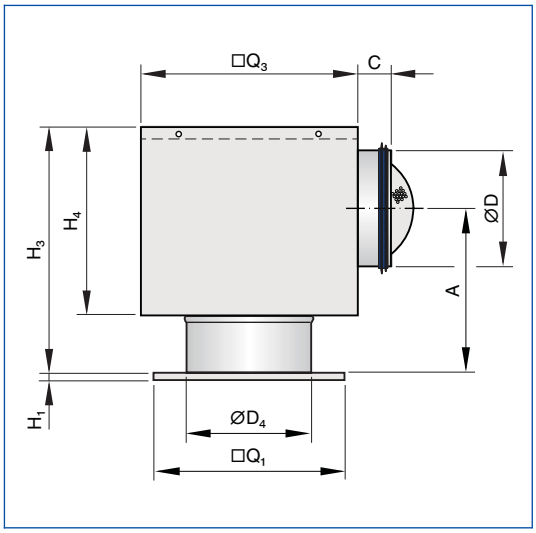


Sizes 125 and 160 without perforated sheet metal

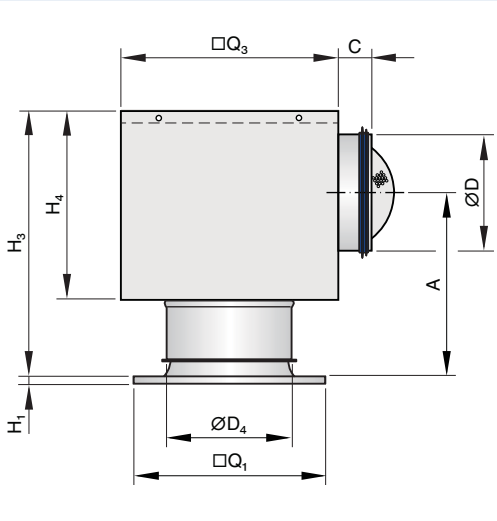
RFD-Q-US, RFD-Q-D-US

Nominal size	RFD-Q-US			RFD-Q-D-US						
	$\square Q_1$	H_2	m	$\square Q_1$	H_2	m	ØD	H_1	$ØD_3$	C
	mm	mm	kg	mm	mm	kg	mm	mm	mm	mm
125	198	120	0.7	198	145	0.8	98	8	127	40
160	198	125	0.9	248	150	1.1	123	8	162	40
200	248	128	1.2	248	153	1.4	158	8	202	40
250	298	133	1.7	298	158	2.0	198	8	252	40
315	398	140	2.7	398	175	3.2	248	8	318	40
400	498	150	4.1	498	185	4.7	313	8	403	40

RFD-Q-A



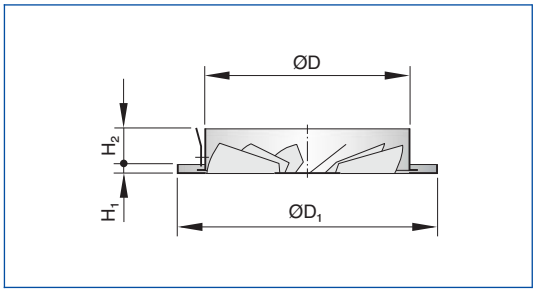
RFD-Q-D-A



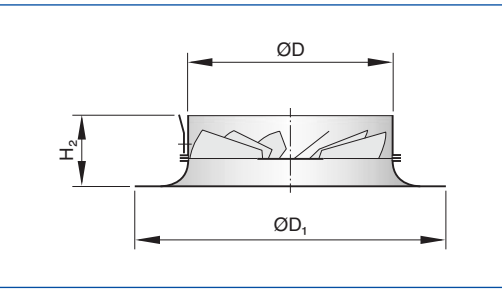
RFD-Q-A, RFD-Q-D-A

Nominal size	RFD-Q-A				RFD-Q-D-A										
	$□Q_1$	H_3	A	m	$□Q_1$	H_3	A	m	H_1	$□Q_3$	H_4	$ØD_4$	ØD	C	Plenum box
	mm	mm	mm	kg	mm	mm	mm	kg	mm	mm	mm	mm	mm	mm	
125	198	255	170	3.0	198	276	196	3.1	8	216	195	125	98	50	AK-Uni-028
160	198	280	182	3.5	248	301	208	3.8	8	266	220	160	123	48	AK-Uni-029
200	248	310	194	4.3	248	331	220	4.5	8	290	250	200	158	50	AK-Uni-030
250	298	355	219	8.7	298	376	245	9.0	8	476	295	250	198	50	AK-Uni-031
315	398	395	244	12.0	398	436	281	12.5	8	567	345	315	248	48	AK-Uni-032
400	498	470	277	15.1	498	501	313	15.8	8	615	410	400	313	50	AK-Uni-033

RFD-R-K



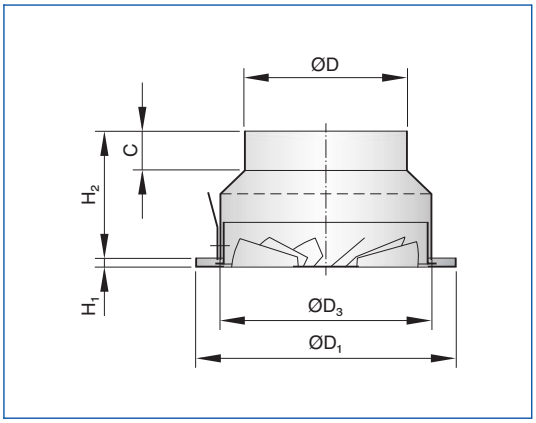
RFD-R-D-K



RFD-R-K, RFD-R-D-K

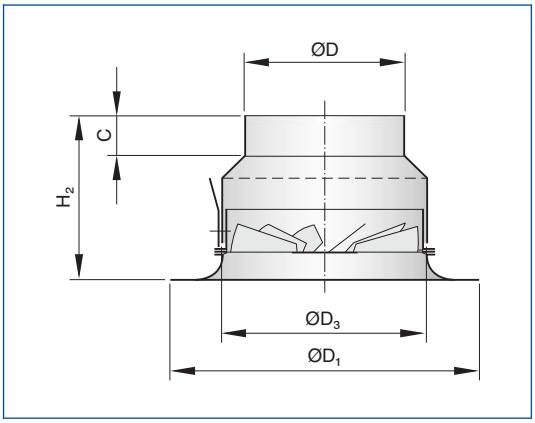
Nominal size	RFD-R-K			RFD-R-D-K				
	$ØD_1$	H_2	m	$ØD_1$	H_2	m	ØD	H_1
	mm	mm	kg	mm	mm	kg	mm	mm
125	158	42	0.4	200	67	0.5	123	8
160	197	45	0.6	250	70	1.0	158	8
200	241	45	0.9	300	70	1.3	198	8
250	295	42	1.3	350	67	1.8	248	8
315	364	45	1.9	450	80	2.8	313	8
400	450	45	2.9	580	80	4.1	398	8

RFD-R-US



Sizes 125 and 160 without perforated sheet metal

RFD-R-D-US

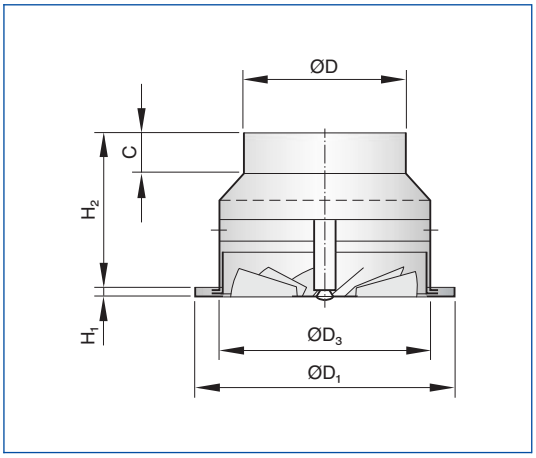


Sizes 125 and 160 without perforated sheet metal

RFD-R-US, RFD-R-D-US

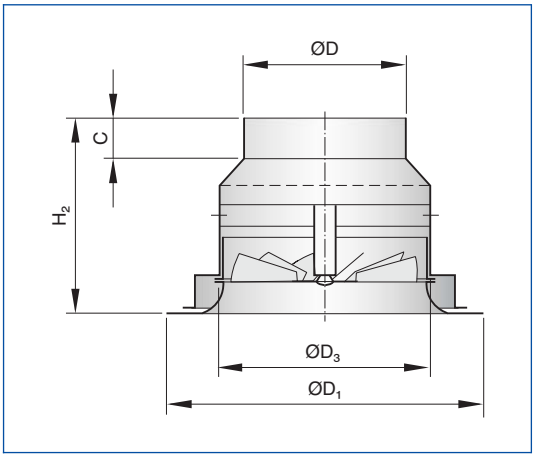
Nominal size	RFD-R-US			RFD-R-D-US						
	$ØD_1$	H_2	m	$ØD_1$	H_2	m	ØD	H_1	$ØD_3$	C
	mm	mm	kg	mm	mm	kg	mm	mm	mm	mm
125	158	120	0.5	200	153	0.6	98	8	127	40
160	197	125	0.8	250	158	1.1	123	8	162	40
200	241	128	1.1	300	161	1.5	158	8	202	40
250	295	133	1.6	350	166	2.1	198	8	252	40
315	364	140	2.3	450	183	3.2	248	8	318	40
400	450	150	3.4	580	193	4.6	313	8	403	40

RFD-R-UO



Sizes 125 and 160 without perforated sheet metal

RFD-R-D-UD

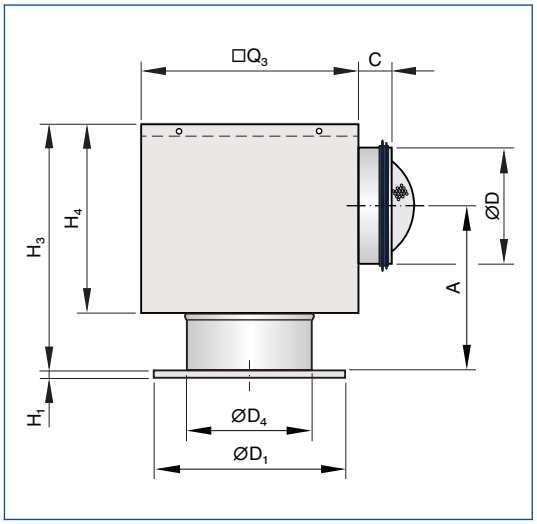


Sizes 125 and 160 without perforated sheet metal

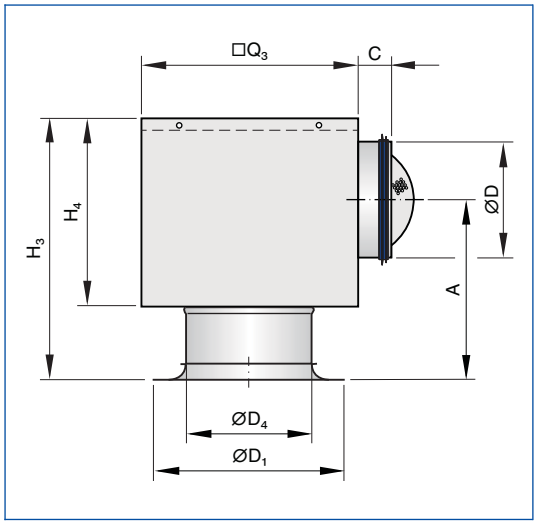
RFD-R-UO, RFD-R-D-UD

Nominal size	RFD-R-UO			RFD-R-D-UD						
	$ØD_1$	H_2	m	$ØD_1$	H_2	m	ØD	H_1	$ØD_3$	C
	mm	mm	kg	mm	mm	kg	mm	mm	mm	mm
125	158	146	0.6	200	192	0.7	98	8	127	40
160	197	151	0.8	250	196	1.2	123	8	162	40
200	241	154	1.2	300	197	1.7	158	8	202	40
250	295	159	1.6	350	202	2.2	198	8	252	40
315	364	166	2.5	450	219	3.6	248	8	318	40
400	450	176	3.7	580	229	5.3	313	8	403	40

RFD-R-A



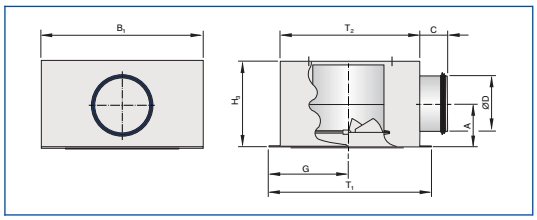
RFD-R-D-A



RFD-R-A, RFD-R-D-A

Nominal size	RFD-R-A				RFD-R-D-A										
	$ØD_1$	H_3	A	m	$ØD_1$	H_3	A	m	H_1	$□Q_3$	H_4	$ØD_4$	ØD	C	Plenum box
	mm	mm	mm	kg	mm	mm	mm	kg	mm	mm	mm	mm	mm	mm	
125	158	255	170	2.8	200	284	204	2.9	8	216	195	125	98	50	AK-Uni-028
160	197	280	182	3.5	250	309	216	3.8	8	266	220	160	123	48	AK-Uni-029
200	241	310	194	4.2	300	339	228	4.6	8	290	250	200	158	50	AK-Uni-030
250	295	355	219	8.5	350	384	253	9.0	8	476	295	250	198	50	AK-Uni-031
315	364	395	244	11.6	450	444	289	12.5	8	567	345	315	248	48	AK-Uni-032
400	450	470	277	14.4	580	509	321	15.7	8	615	410	400	313	50	AK-Uni-033

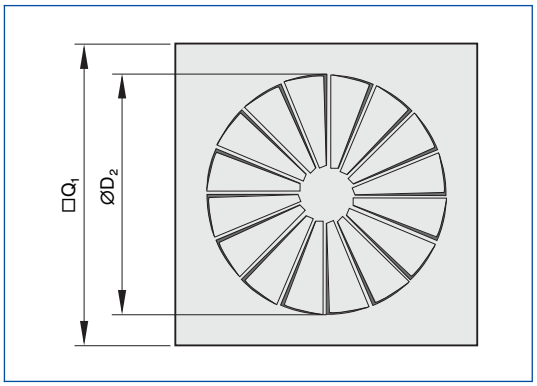
RFD-R-D-N



RFD-R-D-N

Nominal size	ØD	B_1	T_1	H_3	T_2	A	C	G	m
	mm	mm	mm	mm	mm	mm	mm	mm	kg
125	98	283	304	152	264	77	50	159	2.4
160	123	335	333	177	293	90	48	155	3.8
200	158	392	413	212	373	108	50	195	5.1
250	198	435	456	262	416	132	50	195	6.5
315	248	496	516	312	476	157	48	230	10.0
400	313	728	692	377	652	190	50	305	15.0

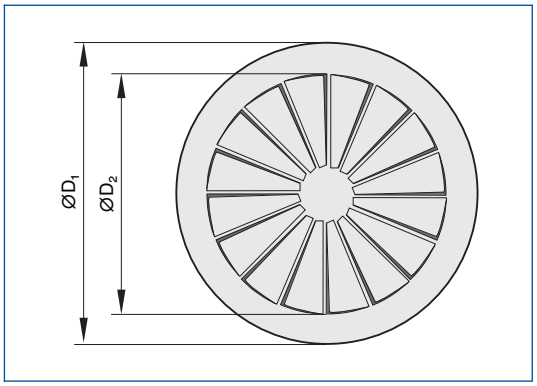
Diffuser face RFD-Q



RFD-Q

Nominal size	RFD-Q-K		RFD-Q-D-K		
	□Q_1	A_{eff}	□Q_1	A_{eff}	ØD_2
	mm	m^2	mm	m^2	mm
125	198	0.0026	198	0.0034	120
160	198	0.0037	248	0.0060	155
200	248	0.0066	248	0.0092	195
250	298	0.0110	298	0.0150	245
315	398	0.0205	398	0.0265	310
400	498	0.0280	498	0.0355	395

Diffuser face RFD-R



RFD-R

Nominal size	RFD-R-K		RFD-R-D-K		
	ØD_1	A_{eff}	ØD_1	A_{eff}	ØD_2
	mm	m^2	mm	m^2	mm
125	158	0.0026	200	0.0034	120
160	197	0.0037	250	0.0060	155
200	241	0.0066	300	0.0092	195
250	295	0.0110	350	0.0150	245
315	364	0.0205	450	0.0265	310
400	450	0.0280	580	0.0355	395

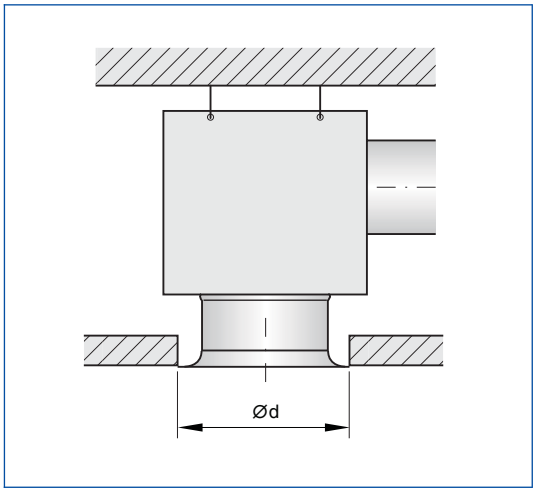
Installation in continuous ceilings

Installation and commissioning

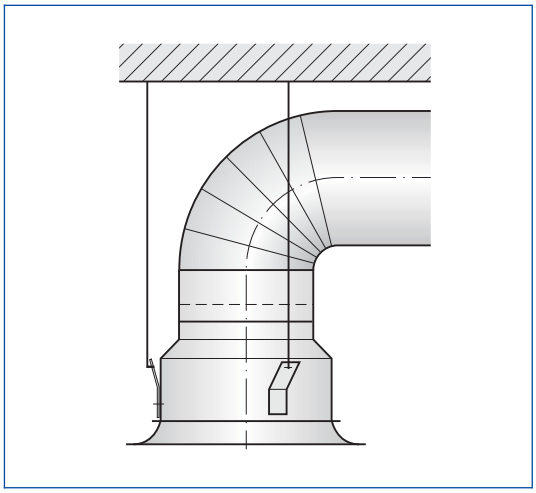
- Preferably for rooms with a clear height up to 4.0 m
- Flush ceiling installation
- RFD-*-D: Also for freely suspended installation
- RFD-*-UO, RFD-*-UD: Clamping between ceiling tiles of up to 20 mm
- Horizontal or vertical duct connection

These are only schematic diagrams to illustrate installation details.

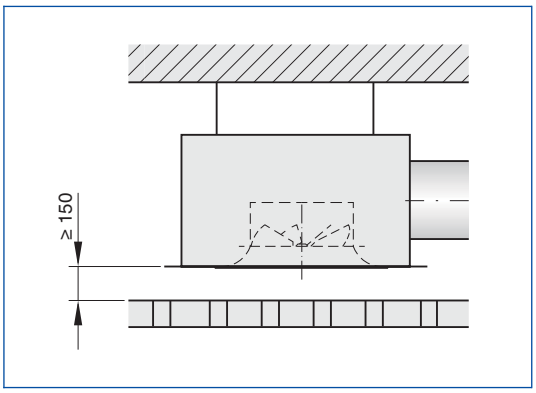
Flush ceiling installation



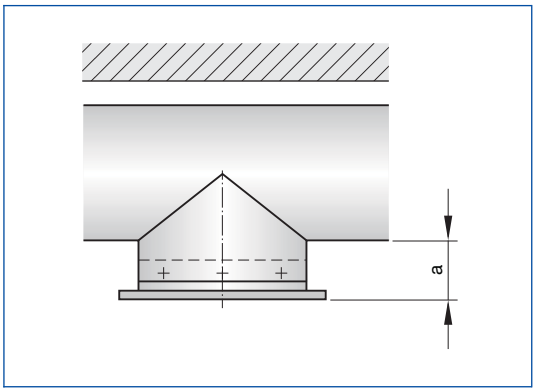
Freely suspended installation



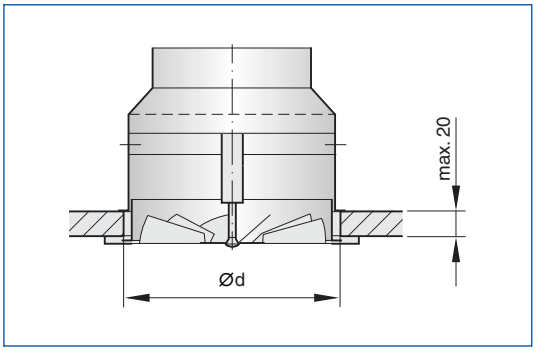
Installation above an open cell ceiling



Installation onto a duct



Clamping of RFD-...-UO



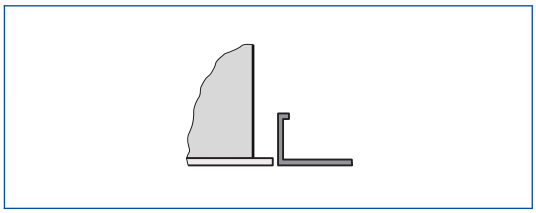
Diffuser face fixing with central screw

Ceiling cut-out

Produktvariante	125		160		200		250		315		400	
	a	Ød	a	Ød	a	Ød	a	Ød	a	Ød	a	Ød
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
RFD-Q-K	180	140	235	175	295	215	370	265	465	330	595	415
RFD-Q-D-K	180	170	235	205	295	233	370	283	465	380	595	480
RFD-Q-A		140		175		215		265		330		415
RFD-Q-D-A		170		205		233		283		380		480
RFD-R-K	180	140	235	175	295	215	370	265	465	330	595	415
RFD-R-D-K	180	170	235	205	295	245	370	295	465	380	595	480
RFD-R-UO		125		160		200		250		315		400
RFD-R-D-UD		165		200		240		290		375		460
RFD-R-A		140		175		215		265		330		415
RFD-R-D-A		170		205		245		295		380		480

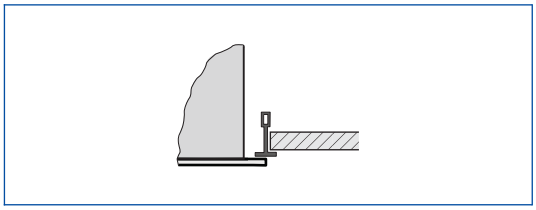
Ceiling systems

Installation into grid ceilings



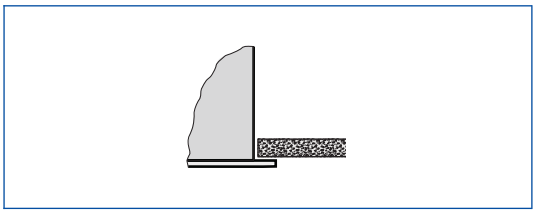
- Fix the plenum box to the ceiling
- The ceiling tile of the grid ceiling is independent of the ceiling diffuser
- Fix the diffuser face after the ceiling has been completed

Installation in T-bar ceilings



- Fix the plenum box to the ceiling
- The T-bar ceiling is independent of the ceiling diffuser
- Fix the diffuser face below the T-bars after the ceiling has been completed

Installation in continuous ceilings



- Fix plenum box (including diffuser face, if necessary) to the ceiling
- Adjust plasterboard ceiling tile as required
- If necessary, fix the diffuser face after the ceiling has been completed

Volume flow rate balancing

When several diffusers are connected to just one volume flow controller, it may be necessary to balance the volume flow rates.

- Ceiling diffusers with universal plenum box and damper blade (variant -M): The diffuser face can be removed to access the damper blade; the damper blade can then be set to any position between 0 and 90°
- Ceiling diffusers with universal plenum box, damper blade and pressure tap (variant -MN): The diffuser face need not be removed since the damper blade can be set with two cords (white and green).

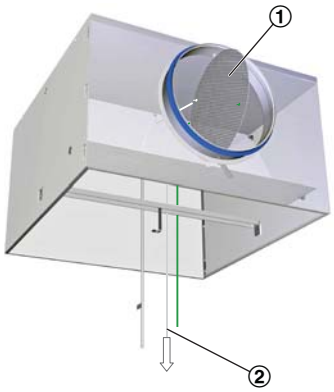
Volume flow rate measurement

Ceiling diffusers with universal plenum box, damper blade and pressure tap (variant -MN) allow for volume flow rate balancing even with the diffuser face in place.

- Connect the measuring tube to the digital manometer
- Read the effective pressure
- Read the volume flow rate off the characteristic or calculate it
- If necessary, adjust the damper blade position with the cords

A characteristic is included with each AK-Uni plenum box.

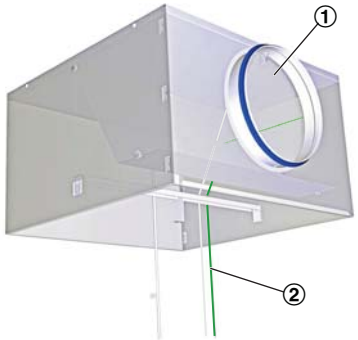
AK-Uni-...-MN Volume flow rate balancing



① Damper blade
② White cord for opening the damper blade

Open, 0°

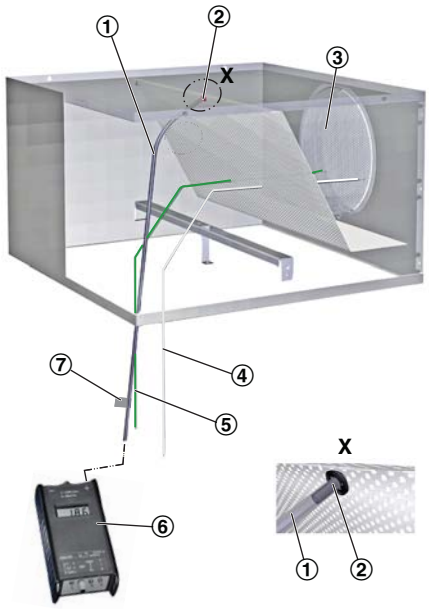
AK-Uni-...-MN Volume flow rate balancing



① Damper blade
② Green cord for closing the damper blade

Closed, 90°

AK-Uni-...-MN volume flow rate measurement



① Measuring tube
② Pressure tap
③ Damper blade for volume flow rate balancing
④ White cord for opening the damper blade
⑤ Green cord for closing the damper blade
⑥ Digital manometer
⑦ Text label indicating plenum box variant

Volume flow rate calculation for air density 1.2 kg/m³

$$\dot{V} = C \times \sqrt{\Delta p_w}$$

Volume flow rate calculation for other air densities

$$\dot{V} = C \times \sqrt{\Delta p_w} \times \sqrt{\frac{1.2}{\rho}}$$