

Active Chilled Beams

Type DID600B



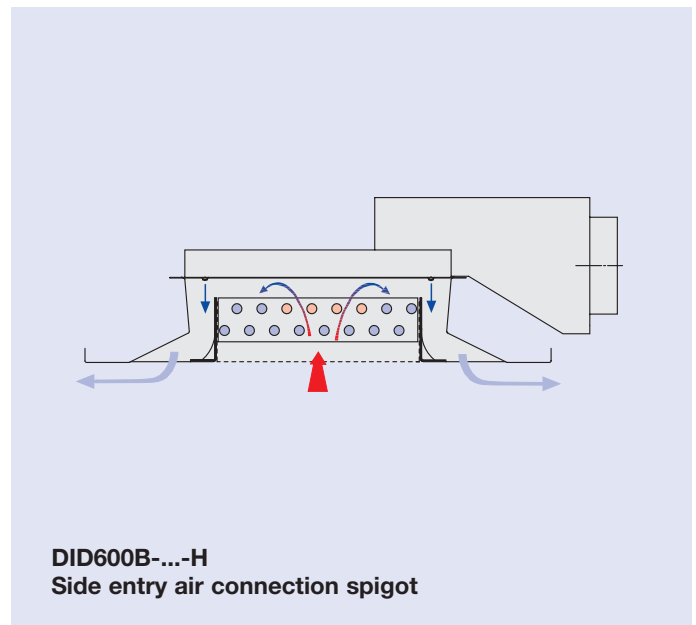
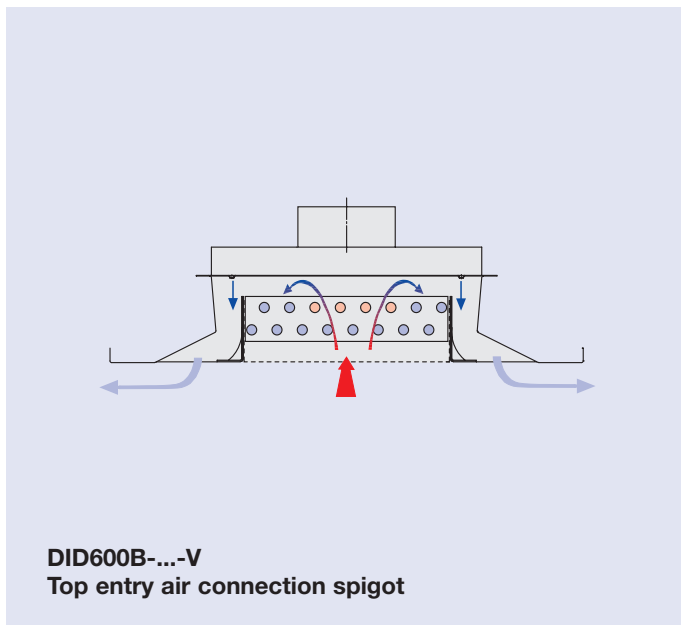
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Description

TROX Active Chilled Beams type DID600B use a combination of air and water systems. They combine the air flow characteristics of ceiling diffusers with the energy benefits of load dissipation using water (heating/cooling).

The primary air volume flow required for fresh air supply enters the upper plenum box through a connecting spigot and is then discharged into the mixing zone via nozzles which are fitted into a diaphragm plate.

The induced air is drawn from the room through a water coil. In the mixing section of the DID600B the induced air is mixed with the primary air and the total discharged into the room via slots. The DID600B can be used for cooling and/or heating.

An additional spigot for extract of exhaust air can be fitted adjacent to the primary air duct (supply and extract air construction).

Caution!

The cold water supply temperature must be selected such that it never falls below room dewpoint.

Max. pressure:

for 2-pipe and 4-pipe system

6 bar at 90°C

7 bar at 20°C

Other operating pressures available on request!

The type DID600B chilled beams are particularly suitable for use in low ceiling void spaces because of their shallow construction. Thus they are suitable not only for use in new buildings but are also excellent for refurbishment projects.

When connected appropriately, they can be used for both individual room control or form a grouped zone control.

The DID600B is available with either top or side entry air connection spigot for supply and extract air.

Between the upper and lower casing there is a diaphragm plate which contains two longitudinal rows of nozzles. These discharge nozzles are available in three different sizes, the selection depending on the volume flow rates required.

Materials

Casing, including the top plenum and perforated plate induction grille are made of galvanised steel sheet.

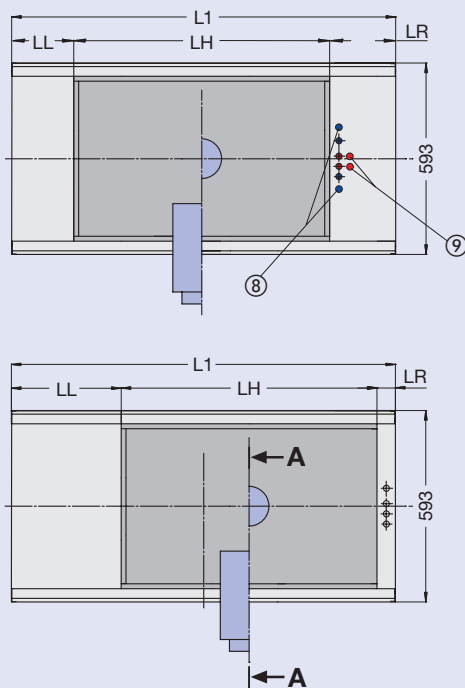
The standard finish of the casing and the induction grille is powder-coated white (RAL 9010), the top casing (plenum) and coil remain untreated – optionally can be finished in black (RAL 9005), nozzle plate only finished in black (RAL 9005).

The heat exchanger consists of copper tubes with formed aluminium fins. Flexible hoses are available as accessories, and are made of special plastic with stainless steel sheathing.

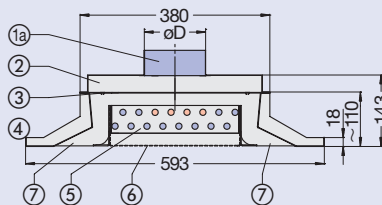
- ⑩a Supply air top entry connecting spigot } L_N 900 up to 1800 = \varnothing 123
- ⑩b Supply air side entry connecting spigot } L_N 2100 up to 3000 = \varnothing 158
- ② Top of casing (plenum)
- ③ Discharge nozzles
- ④ Casing
- ⑤ Coil (pipe- \varnothing 12 mm)
- ⑥ Perforated plate induction grille
- ⑦ Discharge slots
- ⑧ Label chilled water (blue)
- ⑨ Label warm water (red)
- ⑩a Extract air top connecting spigot
- ⑩b Extract air side connecting spigot

L_1 = Total length (diffuser face)
 L_N = Nominal length
 (for dimensions of unit see page 5)

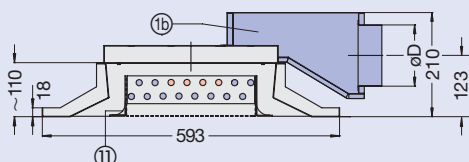
Construction with supply air spigot



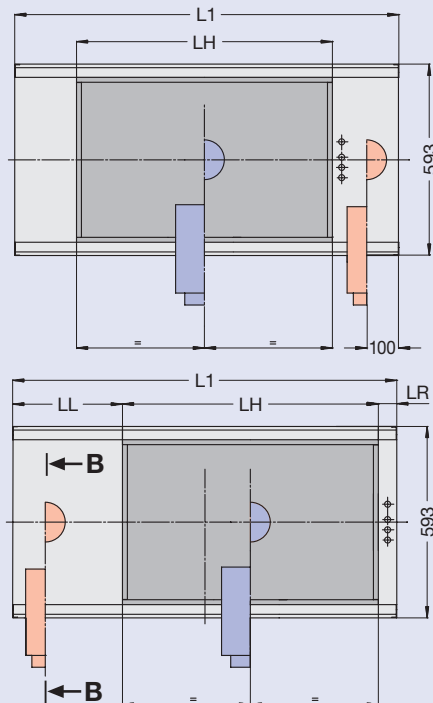
View A - A
 Construction with top entry supply air spigot



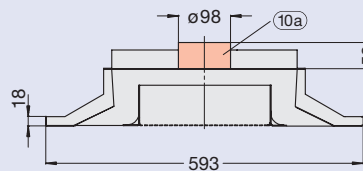
View A - A
 Construction with side entry supply air spigot



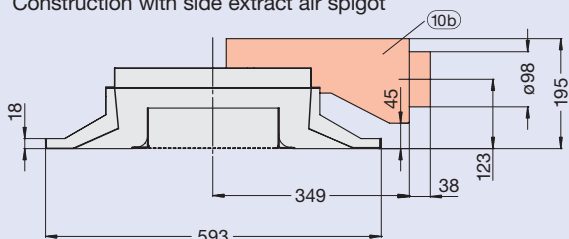
Construction with supply and extract air spigot



View B - B
 Construction with top extract air spigot



View B - B
 Construction with side extract air spigot



V - S H - SV H - SH							
Supply air		Arrangement of the top active plenum					
		Extends over total length (standard)					
L _N	L _H	L _L		L _R		L ₁	
		min	max	min	max	min	max
900	800	40	43	54	58	893	900
1200	1100	40	43	54	58	1193	1200
1500	1400	40	43	54	58	1493	1500
1800	1700	40	43	54	58	1793	1800
2100	2000	40	43	54	58	2093	2100
2400	2300	40	43	54	58	2393	2400
2700	2600	40	43	54	58	2693	2700
3000	2900	40	43	54	58	2993	3000

V - L H - LV H - LH							
Supply air		Arrangement of the top active plenum (plenum shorter than L ₁)					
		left					
L _N	L _H	L _L	L _R		L ₁		
			min	max	min	max	
900	800	43	58	658	901	1500	
1200	1100	43	58	658	1201	1800	
1500	1400	43	58	658	1501	2100	
1800	1700	43	58	658	1801	2400	
2100	2000	43	58	658	2101	2700	
2400	2300	43	58	658	2401	3000	
2700	2600	43	58	358	2701	3000	

V - M H - MV H - MH							
Supply air		Arrangement of the top active plenum (plenum shorter than L ₁)					
		middle					
L _N	L _H	L ₁					
		min		max			
900	800	901		1500			
1200	1100	1201		1800			
1500	1400	1501		2100			
1800	1700	1801		2400			
2100	2000	2101		2700			
2400	2300	2401		3000			
2700	2600	2701		3000			

V - R H - RV H - RH							
Supply air		Arrangement of the top active plenum (plenum shorter than L ₁)					
		right					
L _N	L _H	L _L		L _R		L ₁	
		min	max	min	max	min	max
900	800	43	643	58	901	1500	
1200	1100	43	643	58	1201	1800	
1500	1400	43	643	58	1501	2100	
1800	1700	43	643	58	1801	2400	
2100	2000	43	643	58	2101	2700	
2400	2300	43	643	58	2401	3000	
2700	2600	43	343	58	2701	3000	

For construction and casing arrangements see pages 3 and 4

V - L - AR H - LV - ARV H - LH - ARV						
H - LV - ARH H - LH - ARH						
Supply and extract air		Arrangement of the top active plenum (plenum shorter than L ₁)				
		left				
L _N	L _H	L _L	L _R		L ₁	
			min	max	min	max
900	800	43	253	658	1096	1500
1200	1100	43	253	658	1396	1800
1500	1400	43	253	658	1696	2100
1800	1700	43	253	658	1996	2400
2100	2000	43	253	658	2296	2700
2400	2300	43	253	658	2596	3000
2700	2600	43	253	358	2896	3000

V - M - AL H - MV - ALV H - MV - ARV H - MH - ALV H - MH - ARV						
V - M - AR H - MV - ALH H - MV - ARH H - MH - ALH H - MH - ARH						
Supply and extract air		Arrangement of the top active plenum (plenum shorter than L ₁)				
		middle				
L _N	L _H	L ₁				
		min		max		
900	800	1290		1800		
1200	1100	1590		1800		
1500	1400	1890		2100		
1800	1700	2190		2400		
2100	2000	2490		2700		
2400	2300	2790		3000		

V - R - AL H - RV - ALV H - RH - ALV							
H - RV - ALH H - RH - ALH							
Supply and extract air		Arrangement of the top active plenum (plenum shorter than L ₁)					
		right					
L _N	L _H	L _L		L _R		L ₁	
		min	max	min	max	min	max
900	800	238	643	58	1095	1500	
1200	1100	238	643	58	1395	1800	
1500	1400	238	643	58	1695	2100	
1800	1700	238	643	58	1995	2400	
2100	2000	238	643	58	2295	2700	
2400	2300	238	643	58	2595	3000	
2700	2600	238	343	58	2895	3000	

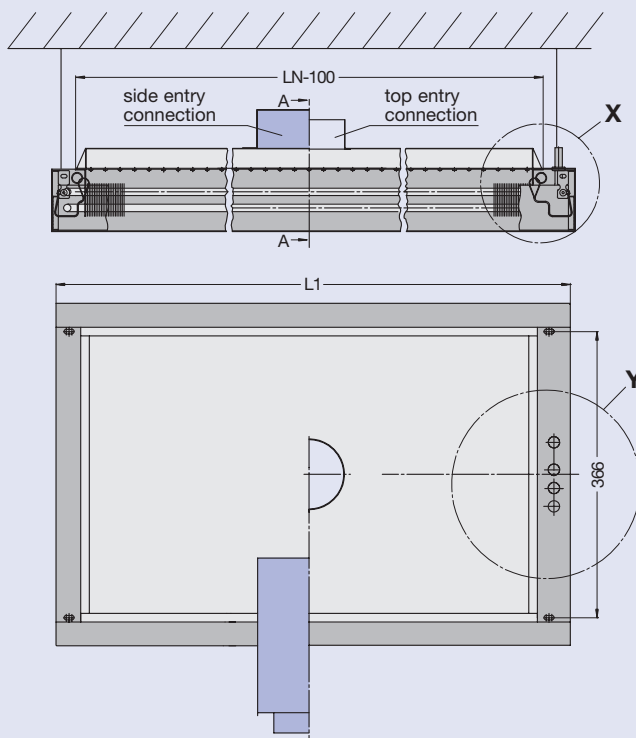
All dimensions in mm with normal tolerances for sheet construction!

Assembly

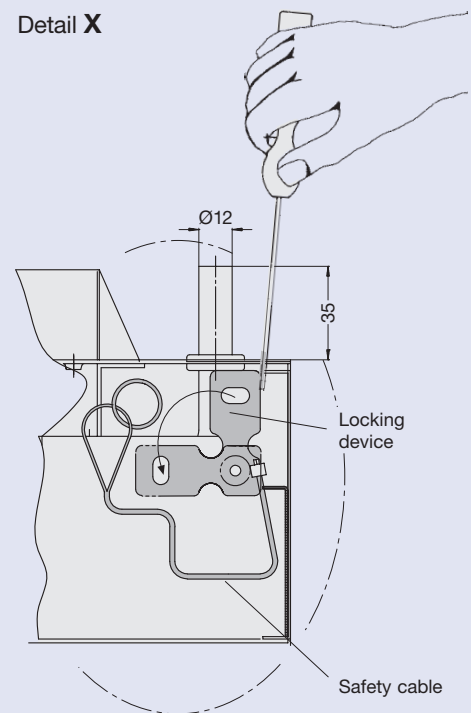
Assembly

The two long sides of the DID600B are each provided with two suspension holes or for $L_1 = 1500$ 4 holes are provided on each side. The assembly is installed on site using wire or metal hangers which must have the Building Authority certificate of approval. When the DID600B has been installed, 4 locking devices can be loosened with a screw driver (detail X) and the whole induction grille can be lowered down lengthways. The induction grille is supported by two safety cables.

The coil is accessible when the induction grille is removed. The coil connections are on the outside of the DID600B unit. The connection options to the flow and return pipes are, solid soldered, push fit or compression fittings (internal or external threaded end fittings). The air connection is either from the side or from the top, depending on the construction.

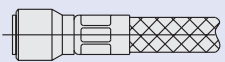


Detail X



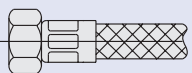
Flexible hose (FS12)

for water connection $\text{Ø} 12 \text{ mm}$



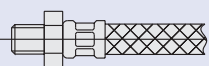
S

with push-fit connector
 $\text{Ø} 12 \text{ mm}$,
 $L = 500, 750, 1000 \text{ mm}$



U

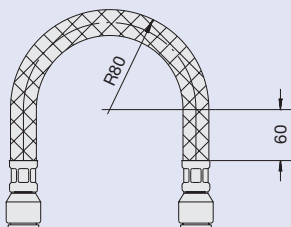
with union nut 1/2",
compression fitting,
 $L = 500, 750, 1000 \text{ mm}$



A

with external thread 1/2",
compression fitting,
 $L = 500, 750, 1000 \text{ mm}$

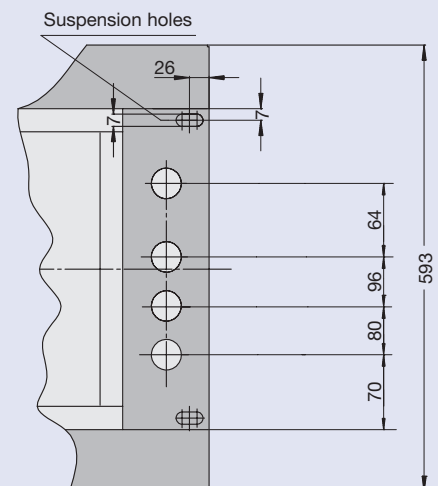
min. bend radius



Available connectors

both ends	combination
FS12-S	FS12-S/U
	FS12-S/A

Detail Y



- The DID600B unit is fitted with a border extrusion which is suitable for the usual range of ceiling constructions. This ensures the best possible ceiling design.

Installation into ceiling grid

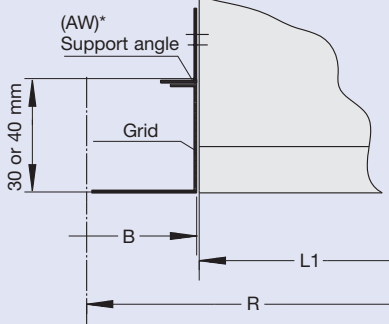
The DID600B can be installed on site at the ends using the support angles which are available as an accessory. The support angles are supplied loose and can be fitted as appropriate for the grid on site. With this method it is no longer necessary to level the DID600B units.

Installation in T-bar ceilings or closed ceilings

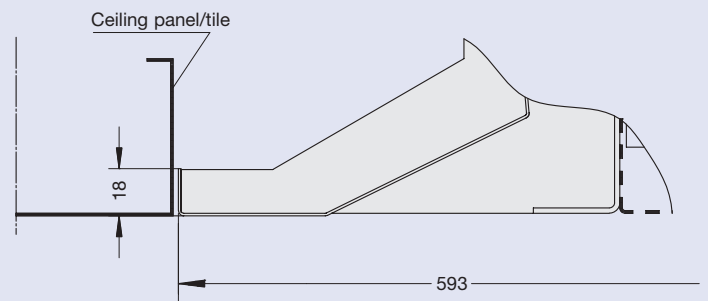
These options allow for installation in a visible T-bar ceiling arrangement or in plasterboard or other closed ceiling systems.

The weight of the unit must be supported separately from the ceiling to avoid stability problems. Suspension holes are provided for this. The same requirement applies to preventing the units themselves from sagging.

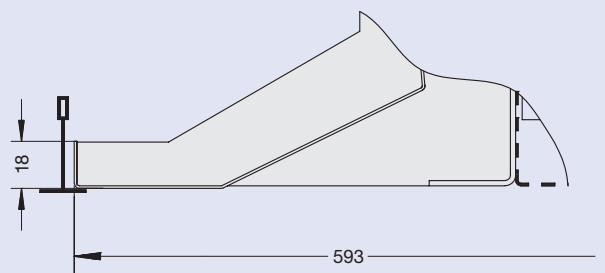
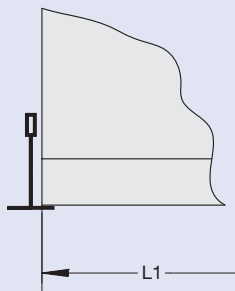
Installation in ceiling grid



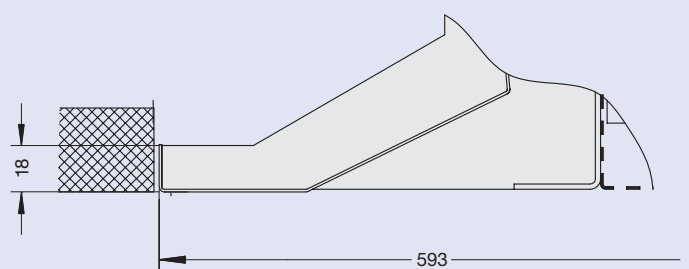
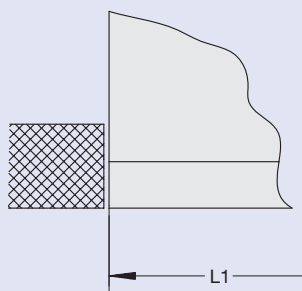
B = Grid width
R = Grid pitch
* Support angle (AW) can be supplied loose



Installation in T-bar ceilings



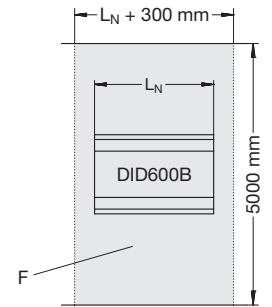
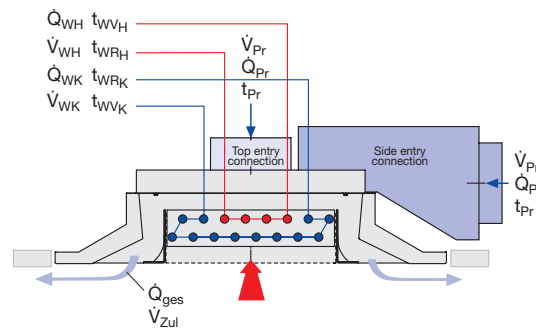
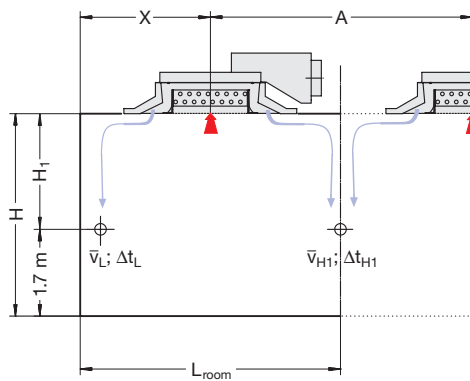
Installation in plasterboard ceilings or closed ceilings



Depending on the quality of the room air, there is the possibility of dust deposits as with all room air induction units. If necessary the unit can be cleaned with ordinary, non-aggressive household cleaners. The coil can be cleaned with an industrial vacuum cleaner.

(See also VDI 6022, page 1 – “Hygiene requirements for room air-conditioning systems”)

Nomenclature



Δt_L	in K:	Temp. diff. between room air t_R and core t_L at distance $L = X + H_1$
Δt_{H1}	in K:	Temp. diff. between room air t_R and core t_{H1} at distance $L = A/2 + H_1$
Δt_{Pr}	in K:	Temp. diff. between room air and primary air
Δt_Z	in K:	Temp. diff. between room air and supply air into space
Δt_W	in K:	Water temperature difference
Δt_{RWV}	in K:	Temp. diff. between room air and water flow temperature
Δp_t	in Pa:	Primary air pressure drop
Δp_W	in kPa:	Water pressure drop
t_R	in °C:	Room temperature
t_{WK}	in °C:	Water flow temperature – cooling
t_{WRK}	in °C:	Water return temperature – cooling
t_{WH}	in °C:	Water flow temperature – heating
t_{WRH}	in °C:	Water return temperature – heating
t_{Pr}	in °C:	Primary air temperature
\dot{Q}_{WK}	in W:	Water cooling capacity
\dot{Q}_{WH}	in Watt:	Water heating capacity
\dot{Q}_{ges}	in Watt:	Total cooling capacity $\dot{Q}_{Pr} + \dot{Q}_S$
\dot{Q}_{Pr}	in Watt:	Primary air cooling capacity
\dot{Q}_S	in Watt:	Water side thermal capacity (for cooling $\dot{Q}_S = \dot{Q}_{WK}$, for heating $\dot{Q}_S = \dot{Q}_{WH}$)
\dot{q}_{Zul}	in W/m ² :	Specific cooling capacity based on reference area F
\dot{V}_{WK}	in l/h:	Water volume flow rate – cooling
\dot{V}_{WH}	in l/h:	Water volume flow rate – heating
\dot{V}_{Zul}	in l/s:	Supply air volume flow rate to space
\dot{V}_{Pr}	in l/s:	Primary air volume flow rate
\bar{v}_L	in m/s:	Time average air velocity at distance L
\bar{v}_{H1}	in m/s:	Time average air velocity at distance $A/2 + H_1$
L_{WA}	in dB(A):	A-weighted sound power level
A	in m:	Spacing between 2 diffusers
L	in m:	Horizontal plus vertical distance from diffuser, discharge down the wall $L = X + H_1$
X_{krit}	in m:	Horizontal distance from diffuser at which the supply air begins to separate from ceiling
H_1	in m:	Distance ceiling – occupied zone ($H = 1.7$)
H	in m:	Room height or height of installation
X	in m:	Distance from diffuser centre line to the wall
L_N	in mm:	Nominal length
F	in m ² :	Reference area $(L_N + 0.3) \times 5$

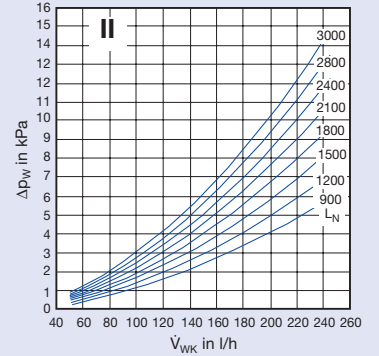
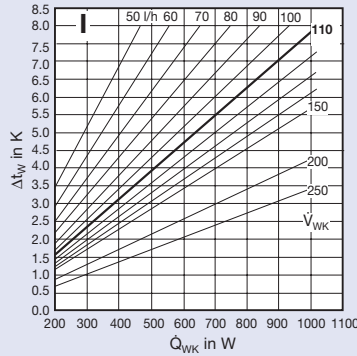
Performance overview – cooling

with 2-pipe and 4-pipe system

Correction factors									
\dot{V}_{WK} in l/h		50	70	90	110	140	180	200	250
L_N	900	0.71	0.85	0.94	1.00	1.07	1.12	1.14	1.18
	1200	0.69	0.83	0.93	1.00	1.07	1.14	1.16	1.20
	1500	0.68	0.82	0.93	1.00	1.08	1.15	1.18	1.23
	1800	0.67	0.81	0.92	1.00	1.09	1.16	1.19	1.25
	2100	0.55	0.67	0.76	0.83	0.90	0.97	1.00	1.05
	2400	0.53	0.66	0.75	0.82	0.90	0.97	1.00	1.05
	2700	0.52	0.64	0.74	0.81	0.89	0.97	1.00	1.06
	3000	0.51	0.63	0.73	0.80	0.89	0.97	1.00	1.06

Reference values

- $t_{WVK} = t_{Pr} = 16^\circ\text{C}$
- $\dot{V}_{WK} = 110$ l/h (L_N 900 up to 1800)
- $\dot{V}_{WK} = 200$ l/h (L_N 2100 up to 3000)
- $\Delta t_{Pr} = t_{Pr} - t_R = -10$ K
- $\Delta t_{RWV} = t_{WVK} - t_R = -10$ K



L_N	Type of nozzles	\dot{V}_{Pr}		\dot{Q}_{Pr} (air) watts	\dot{Q}_S (water) watts	\dot{Q}_{ges} watts	Δt_W K	\dot{q}_{Zul} W/m ²	\dot{V}_{Pr}/m^2		$L_{WA, entry}$ top dB(A)	$L_{WA, entry}$ side dB(A)	ΔP_1 (air) Pa	ΔP_W (water) kPa
		l/s	m ³ /h						l/(s·m ²)	m ³ /(h·m ²)				
900	K	3	11	36	115	151	0.9	25	0.5	1.8	< 20	< 20	38	2.5
		7	25	84	277	361	2.2	60	1.2	4.2	23.7	26.7	209	
		11	40	133	355	487	2.8	81	1.8	6.6	35.7	38.7	517	
	M	6	22	72	165	237	1.3	40	1.0	3.6	< 20	< 20	24	
		16	58	193	372	565	2.9	94	2.7	9.6	31.4	28.4	172	
		26	94	314	461	775	3.6	129	4.3	15.6	44.0	41.0	455	
	G	11	40	133	219	352	1.7	59	1.8	6.6	< 20	< 20	23	
		19	68	229	346	575	2.7	96	3.2	11.4	30.9	25.9	69	
		30	108	362	442	804	3.5	134	5.0	18.0	43.5	38.5	171	
1200	K	3	11	36	63	99	0.5	13	0.4	1.4	< 20	< 20	21	3.1
		9	32	109	351	460	2.7	61	1.2	4.3	25.8	28.8	192	
		15	54	181	464	644	3.6	86	2.0	7.2	39.4	42.4	534	
	M	8	29	96	211	307	1.6	41	1.1	3.8	< 20	< 20	25	
		18	65	217	437	654	3.4	87	2.4	8.6	32.2	29.2	125	
		29	104	350	551	900	4.3	120	3.9	13.9	44.6	41.6	324	
	G	15	54	181	289	470	2.3	63	2.0	7.2	22.7	< 20	26	
		24	86	289	430	720	3.4	96	3.2	11.5	35.7	30.7	67	
		33	119	398	517	915	4.0	122	4.4	15.8	44.5	39.5	126	
1500	K	4	14	48	95	143	0.7	16	0.4	1.6	< 20	< 20	24	3.8
		11	40	133	420	553	3.3	61	1.2	4.4	27.6	30.6	182	
		19	68	229	562	791	4.4	88	2.1	7.6	42.1	45.1	544	
	M	10	36	121	255	375	2.0	42	1.1	4.0	< 20	< 20	25	
		21	76	253	506	760	4.0	84	2.3	8.4	34.4	31.4	110	
		32	115	386	626	1012	4.9	112	3.6	12.8	45.4	42.4	256	
	G	19	68	229	354	583	2.8	65	2.1	7.6	27.9	22.9	28	
		27	97	326	483	808	3.8	90	3.0	10.8	37.6	32.6	57	
		36	130	434	577	1011	4.5	112	4.0	14.4	45.5	40.5	102	
1800	K	5	18	60	126	186	1.0	18	0.5	1.7	< 20	< 20	26	4.4
		13	47	157	484	641	3.8	61	1.2	4.5	30.2	31.2	176	
		22	79	265	640	905	5.0	86	2.1	7.5	44.1	45.1	503	
	M	12	43	145	297	442	2.3	42	1.1	4.1	< 20	< 20	25	
		23	83	277	555	832	4.3	79	2.2	7.9	34.3	33.3	93	
		34	122	410	683	1093	5.3	104	3.2	11.7	44.5	43.5	203	
	G	22	79	265	396	661	3.1	63	2.1	7.5	24.8	24.8	28	
		30	108	362	528	890	4.1	85	2.9	10.3	33.4	33.4	52	
		44	158	531	671	1202	5.2	114	4.2	15.1	44.0	44.0	111	
2100	K	6	22	72	175	247	0.8	21	0.5	1.8	< 20	< 20	27	14.6
		15	54	181	650	831	2.8	69	1.3	4.5	31.6	32.6	171	
		24	86	289	857	1146	3.7	95	2.0	7.2	44.0	45.0	437	
	M	14	50	169	389	558	1.7	46	1.2	4.2	20.1	< 20	26	
		25	90	301	720	1021	3.1	85	2.1	7.5	35.2	34.2	81	
		37	133	446	916	1362	3.9	113	3.1	11.1	45.5	44.5	178	
	G	26	94	314	535	848	2.3	71	2.2	7.8	28.5	28.5	30	
		36	130	434	734	1168	3.2	97	3.0	10.8	37.6	37.6	57	
		46	166	555	872	1426	3.7	119	3.8	13.8	44.3	44.3	93	
2400	K	7	25	84	208	293	0.9	22	0.5	1.9	< 20	< 20	28	16.4
		17	61	205	725	930	3.1	69	1.3	4.5	32.8	33.8	167	
		26	94	314	932	1245	4.0	92	1.9	6.9	44.0	45.0	390	
	M	16	58	193	437	630	1.9	47	1.2	4.3	22.5	21.5	26	
		27	97	326	772	1098	3.3	81	2.0	7.2	36.2	35.2	73	
		38	137	458	964	1422	4.1	105	2.8	10.1	45.1	44.1	145	
	G	30	108	362	606	968	2.6	72	2.2	8.0	31.7	31.7	31	
		40	144	482	802	1285	3.4	95	3.0	10.7	39.7	39.7	56	
		50	180	603	942	1545	4.0	114	3.7	13.3	45.8	45.8	87	
2700	K	8	29	96	241	338	1.0	23	0.5	1.9	< 20	< 20	29	18.1
		18	65	217	766	983	3.3	66	1.2	4.3	32.4	33.4	147	
		29	104	350	1020	1370	4.4	91	1.9	7.0	45.1	46.1	382	
	M	18	65	217	483	700	2.1	47	1.2	4.3	24.7	23.7	26	
		29	104	350	822	1171	3.5	78	1.9	7.0	37.1	36.1	67	
		40	144	482	1020	1503	4.4	100	2.7	9.6	45.5	44.5	128	
	G	34	122	410	676	1086	2.9	72	2.3	8.2	34.5	34.5	33	
		42	151	506	834	1341	3.6	89	2.8	10.1	40.3	40.3	50	
		51	184	615	970	1585	4.2	106	3.4	12.2	45.7	45.7	74	
3000	K	9	32	109	274	382	1.2	23	0.5	2.0	< 20	< 20	30	19.9
		20	72	241	836	1078	3.6	65	1.2	4.4	33.6	34.6	147	
		30	108	362	1070	1432	4.6	87	1.8	6.5	44.3	45.3	330	
	M	20	72	241	529	770	2.3	47	1.2	4.4	26.6	25.6	26	
		30	108	362	845	1207	3.6	73	1.8	6.5	37.1	36.1	59	
		41	148	494	1057	1551	4.5	94	2.5	8.9	45.3	44.3	110	
	G	38	137	458	743	1201	3.2	73	2.3	8.3	36.9	36.9	34	
		45	162	543	880	1423	3.8	86	2.7	9.8	41.6	41.6	48	
		52	187	627	991	1618	4.3	98	3.2	11.3	45.6	45.6	64	

Performance overview – heating

with 4-pipe system

Correction factors								
\dot{V}_{WH} in l/h		30	50	70	90	110	130	150
L_N	900	0.70	1.00	1.18	1.30	1.39	1.45	1.50
	1200	0.69	1.00	1.20	1.33	1.42	1.48	1.54
	1500	0.69	1.00	1.20	1.35	1.45	1.52	1.58
	1800	0.68	1.00	1.21	1.36	1.47	1.54	1.60
	2100	0.46	0.68	0.82	0.93	1.00	1.06	1.10
	2400	0.45	0.66	0.81	0.92	1.00	1.06	1.11
2700	0.44	0.66	0.81	0.92	1.00	1.06	1.11	
3000	0.44	0.65	0.80	0.92	1.00	1.06	1.12	

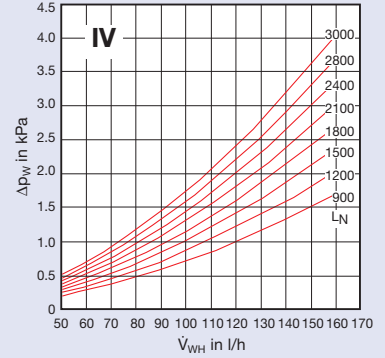
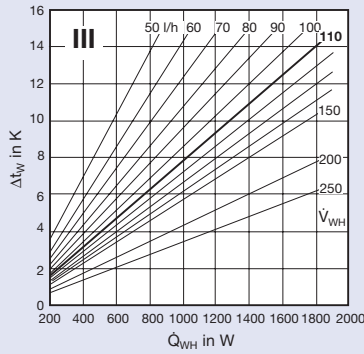
Reference values

$t_R = t_{Pr} = 22^\circ\text{C}$ (isothermal)

$\dot{V}_{WH} = 50$ l/h (L_N 900 up to 1800)

$\dot{V}_{WH} = 110$ l/h (L_N 2100 up to 3000)

$\Delta t_{RWV} = t_{WVH} - t_R = 28$ K

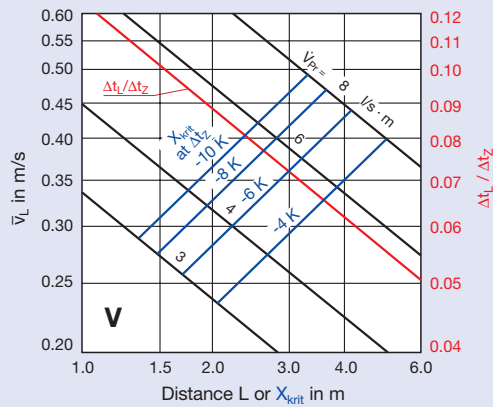


L_N	Type of nozzles	\dot{V}_{Pr}		$\dot{Q}_S = \dot{Q}_{ges}$ (water) watts	Δt_W K	\dot{q}_{Zul} W/m ²	\dot{V}_{Pr}/m^2		L_{WA} entry from top dB(A)	entry from side dB(A)	ΔP_1 (air) Pa	ΔP_W (water) kPa
		l/s	m ³ /h				l/(s·m ²)	m ³ /(h·m ²)				
900	K	3	11	182	3.1	30	0.5	1.8	< 20	< 20	38	0.20
		7	25	430	7.4	72	1.2	4.2	23.7	26.7	209	
		11	40	547	9.4	91	1.8	6.6	35.7	38.7	517	
	M	6	22	259	4.5	43	1.0	3.6	< 20	< 20	24	
		16	58	572	9.8	95	2.7	9.6	31.4	28.4	172	
		26	94	704	12.1	117	4.3	15.6	44.0	41.0	455	
G	11	40	343	5.9	57	1.8	6.6	< 20	< 20	23		
	19	68	534	9.2	89	3.2	11.4	30.9	25.9	69		
	30	108	676	11.6	113	5.0	18.0	43.5	38.5	171		
1200	K	3	11	100	1.7	13	0.4	1.4	< 20	< 20	21	0.24
		9	32	542	9.3	72	1.2	4.3	25.8	28.8	192	
		15	54	708	12.2	94	2.0	7.2	39.4	42.4	534	
	M	8	29	330	5.7	44	1.1	3.8	< 20	< 20	25	
		18	65	669	11.5	89	2.4	8.6	32.2	29.2	125	
		29	104	834	14.3	111	3.9	13.9	44.6	41.6	324	
G	15	54	448	7.7	60	2.0	7.2	22.7	< 20	26		
	24	86	659	11.3	88	3.2	11.5	35.7	30.7	67		
	33	119	785	13.5	105	4.4	15.8	44.5	39.5	126		
1500	K	4	14	151	2.6	17	0.4	1.6	< 20	< 20	24	0.29
		11	40	644	11.1	72	1.2	4.4	27.6	30.6	182	
		19	68	851	14.6	95	2.1	7.6	42.1	45.1	544	
	M	10	36	397	6.8	44	1.1	4.0	< 20	< 20	25	
		21	76	770	13.2	86	2.3	8.4	34.4	31.4	110	
		32	115	941	16.2	105	3.6	12.8	45.4	42.4	256	
G	19	68	546	9.4	61	2.1	7.6	27.9	22.9	28		
	27	97	735	12.7	82	3.0	10.8	37.6	32.6	57		
	36	130	872	15.0	97	4.0	14.4	45.5	40.5	102		
1800	K	5	18	199	3.4	19	0.5	1.7	< 20	< 20	26	0.33
		13	47	738	12.7	70	1.2	4.5	30.2	31.2	176	
		22	79	961	16.5	92	2.1	7.5	44.1	45.1	503	
	M	12	43	461	7.9	44	1.1	4.1	< 20	< 20	25	
		23	83	840	14.4	80	2.2	7.9	34.3	33.3	93	
		34	122	1022	17.6	97	3.2	11.7	44.5	43.5	203	
G	22	79	608	10.5	58	2.1	7.5	24.8	24.8	28		
	30	108	802	13.8	76	2.9	10.3	33.4	33.4	52		
	44	158	1005	17.3	96	4.2	15.1	44.0	44.0	111		
2100	K	6	22	333	2.6	28	0.5	1.8	< 20	< 20	27	1.5
		15	54	1209	9.4	101	1.3	4.5	31.6	32.6	171	
		24	86	1576	12.3	131	2.0	7.2	44.0	45.0	437	
	M	14	50	733	5.7	61	1.2	4.2	20.1	< 20	26	
		25	90	1334	10.4	111	2.1	7.5	35.2	34.2	81	
		37	133	1680	13.1	140	3.1	11.1	45.5	44.5	178	
G	26	94	1000	7.8	83	2.2	7.8	28.5	28.5	30		
	36	130	1359	10.6	113	3.0	10.8	37.6	37.6	57		
	46	166	1602	12.5	134	3.8	13.8	44.3	44.3	93		
2400	K	7	25	396	3.1	29	0.5	1.9	< 20	< 20	28	1.7
		17	61	1343	10.5	99	1.3	4.5	32.8	33.8	167	
		26	94	1708	13.4	127	1.9	6.9	44.0	45.0	390	
	M	16	58	821	6.4	61	1.2	4.3	22.5	21.5	26	
		27	97	1427	11.2	106	2.0	7.2	36.2	35.2	73	
		38	137	1764	13.8	131	2.8	10.1	45.1	44.1	145	
G	30	108	1130	8.8	84	2.2	8.0	31.7	31.7	31		
	40	144	1480	11.6	110	3.0	10.7	39.7	39.7	56		
	50	180	1725	13.5	128	3.7	13.3	45.8	45.8	87		
2700	K	8	29	458	3.6	31	0.5	1.9	< 20	< 20	29	1.9
		18	65	1416	11.1	94	1.2	4.3	32.4	33.4	147	
		29	104	1862	14.6	124	1.9	7.0	45.1	46.1	382	
	M	18	65	907	7.1	60	1.2	4.3	24.7	23.7	26	
		29	104	1514	11.8	101	1.9	7.0	37.1	36.1	67	
		40	144	1862	14.6	124	2.7	9.6	45.5	44.5	128	
G	34	122	1255	9.8	84	2.3	8.2	34.5	34.5	33		
	42	151	1537	12.0	102	2.8	10.1	40.3	40.3	50		
	51	184	1774	13.9	118	3.4	12.2	45.7	45.7	74		
3000	K	9	32	519	4.1	31	0.5	2.0	< 20	< 20	30	2.1
		20	72	1541	12.0	93	1.2	4.4	33.6	34.6	147	
		30	108	1948	15.2	118	1.8	6.5	44.3	45.3	330	
	M	20	72	990	7.7	60	1.2	4.4	26.6	25.6	26	
		30	108	1555	12.2	94	1.8	6.5	37.1	36.1	59	
		41	148	1925	15.0	117	2.5	8.9	45.3	44.3	110	
G	38	137	1374	10.7	83	2.3	8.3	36.9	36.9	34		
	45	162	1618	12.6	98	2.7	9.8	41.6	41.6	48		
	52	187	1811	14.2	110	3.2	11.3	45.6	45.6	64		

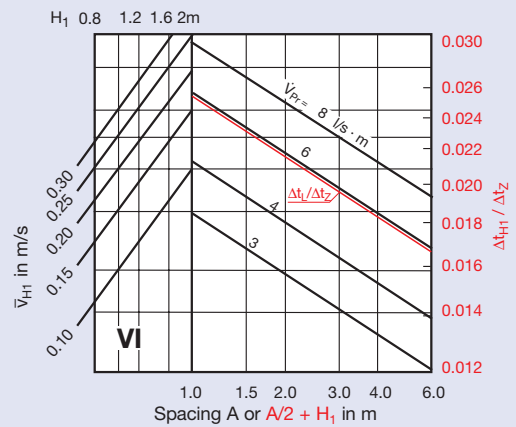
Correction factors for diagram values depending on length of unit L_N

L_N in mm	900	1200	1500	1800	2100	2400	2700	3000
$\bar{v}_L, \bar{v}_{H1}, X_{krit.}$ from diagram	0.92	0.96	1.0	1.04	1.07	1.11	1.14	1.17
$\Delta t_L, \Delta t_z, \Delta t_{H1}/\Delta t_z$ from diagram	0.87	0.94	1.0	1.05	1.09	1.13	1.17	1.20

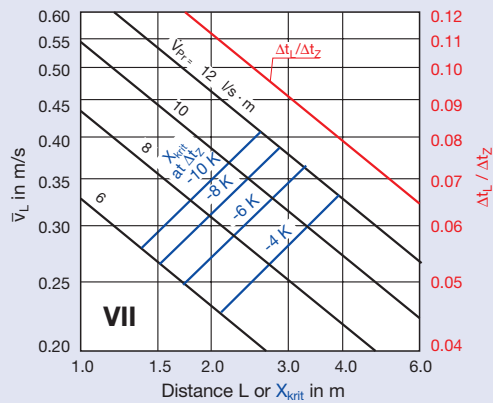
Nozzle type K



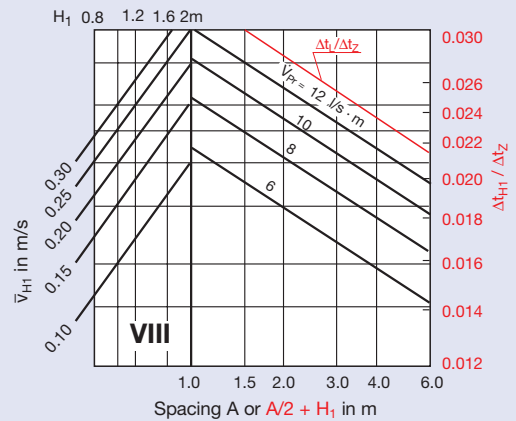
Nozzle type K



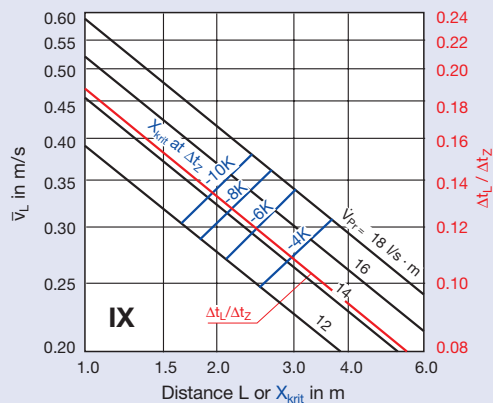
Nozzle type M



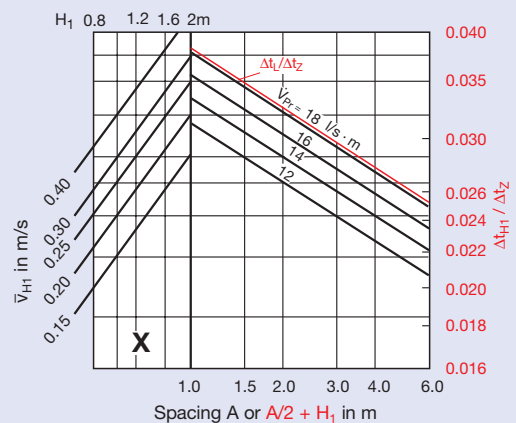
Nozzle type M



Nozzle type G



Nozzle type G



Order details

Specification text

The active chilled beam type DID600B is suitable for dealing with high internal heat loads using a combination of air and water. It consists of the top plenum which serves as primary air duct and a diaphragm plate with nozzles in two longitudinal rows (different nozzle sizes are available). A coil is fitted underneath the primary air plenum and diaphragm plate. The induction grille below the coil is a perforated plate.

The coil can be used either for heating or cooling (2-pipe system) as well as heating and cooling (4-pipe system). The external diameter of the bare coil tube ends is 12 mm.

Primary and conditioned induced air are mixed in the unit and discharged horizontally with coanda effect into the room via the two slots formed by the external frame and the internal extrusions. There are holes in the casing to enable the unit to be hung by the customer.

A construction incorporating an extract air spigot can be provided. Spigots for supply and extract air can be either side or top mounted. Support angles and flexible hoses are available as accessories for the DID600B unit.

Materials

Casing, including the top plenum and perforated plate induction grille are made of galvanised steel sheet.

The standard finish of the casing and the induction grille is powder-coated white (RAL 9010), the top casing (plenum) and coil remain untreated – optionally can be finished in black (RAL 9005), nozzle plate only finished in black (RAL 9005).

The heat exchanger consists of copper tubes with formed aluminium fins. Flexible hoses are available as accessories, and are made of special plastic with stainless steel sheathing.

Order code

These codes do not need to be completed for standard products

DID600B - 2 - K - H - MV - ALH / **1800 x 1500** / **0** / **0** / **P1** / **RAL 9016** / **G3**

Coil:
Two-pipe 2 }
Four-pipe 4 }

Nozzle options:
small K }
medium M }
large G }

Spigot and casing arrangements (see page 4) }

900 x 900
1200
1500
1800 ¹⁾
1200 x 1200
1500
1800
1500 x 1500
1800
2100
1800 x 1800
2100
2400
2100 x 2100
2400
2700
2400 x 2400
2700
3000
2700 x 2700
3000
3000 x 3000
$L_1 \times L_N$ (mm)

Not used

State colour

Coil finish:
0 Standard untreated
G3 Finished to RAL 9005

0 Standard finish Powder-coated to RAL 9010 (GE 50%)²⁾
P1 Powder-coated to RAL ... (GE 70%)²⁾

1) For casing arrangement M, MV and MH only
2) GE = Gloss level

Accessory:
FS12-... (see table)
AW = support angle

Note:

L_1 = 893 ... 3000 mm
 L_N only available in standard lengths
 L_1 maximum 7 mm shorter than L_N

L_1 = Total length (diffuser face)
 L_N = Nominal length

Accessory: Flexible hose (FS12) (see page 6)

Available connectors		
both ends	combination	length in mm
FS12-S	FS12-S/U	500, 750, 1000
	FS12-S/A	

Order example

Make: TROX

Type: DID600B-2-K-H-MV-ALH / 1800 x 1500 / P1 / RAL 9016 / G3