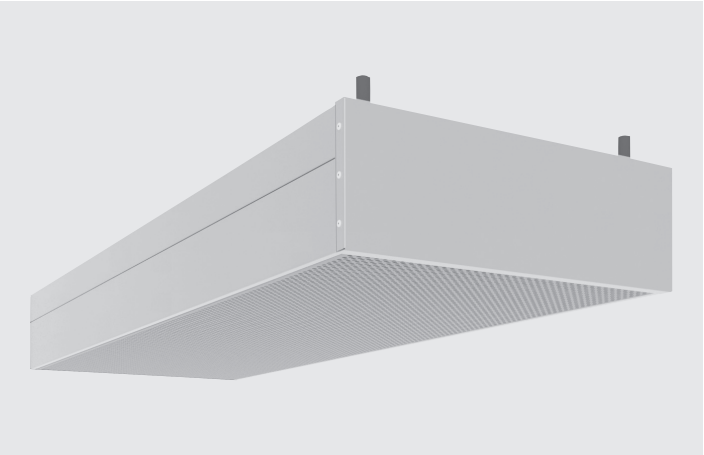
PRICE TWA
ENGINEERED SOLUTIONS



CBP

> Passive Chilled Beam
> Cooling
> Vertical Air Outflow

APPLICATION

The Passive chilled beams are designed to cool rooms of up to approximately 3.5 m high, with high internal heat loads. Ideal for offices, meeting rooms, open-plan offices, general areas that already have a separate ventilation system.

The unit has been designed as an insert module for T-bar, plasterboard and concealed modular ceilings.

SPECIFICATIONS

Cooling: up to 440 W/m
Water flow: up to 500 l/h (0.139 l/s)

DESIGN

Construction:

Galvanised sheet steel. Heat Exchanger made from Copper pipework and Aluminium fins.

Finish:

Epoxy paint white RAL 9010.

Options:

- Available in 2 heights: 200 and 300mm

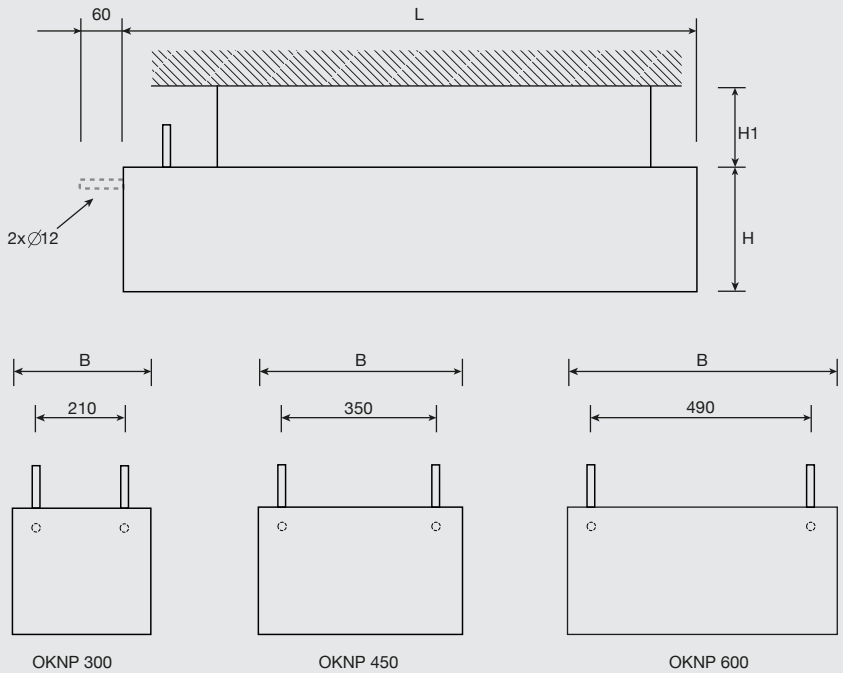
AVAILABLE TYPES

Types: 300, 450, 600

Lengths: 900, 1200, 1500, 1800, 2400 and 3000

CBP

H1 = free height between unit and ceiling



CBP 300 DIMENSIONAL DATA (mm)

Model	Length	Breadth	Height	Weight (kg)
900	895	295	200/300	7,0
1200	1195	295	200/300	9,3
1500	1495	295	200/300	11,6
1800	1795	295	200/300	14,0
2400	2395	295	200/300	18,6
3000	2995	295	200/300	23,3

CBP 450 DIMENSIONAL DATA (mm)

Model	Length	Breadth	Height	Weight (kg)
900	895	445	200/300	8,5
1200	1195	445	200/300	11,3
1500	1495	445	200/300	14,2
1800	1795	445	200/300	17,0
2400	2395	445	200/300	22,6
3000	2995	445	200/300	28,3

CBP 600 DIMENSIONAL DATA (mm)

Model	Length	Breadth	Height	Weight (kg)
900	895	595	200/300	11,5
1200	1195	595	200/300	15.3
1500	1495	595	200/300	19.2
1800	1795	595	200/300	23.3
2400	2395	595	200/300	30.5
3000	2995	595	200/300	38.2

REMARKS

All dimensions are given in mm.

Capacity loss:

- if H1 = 0,3 x B => 5% reduction in output
- if H1 = 0,2 x B => 15% reduction in output

CBP – PERFORMANCE DATA

CBP

Type 300

WATER

Height			Cooling capacity water t_{room} -t_{water} in °C											
			6		7		8		9		10		11	
	V_W	ΔP_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W
MODEL 900														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.1	53	0.9	64	1.1	76	1.3	88	1.5	102	1.8	115	2.0
	100	0.3	66	0.6	80	0.7	94	0.8	110	0.9	127	1.1	144	1.2
	200	1.0	75	0.3	91	0.4	108	0.5	126	0.5	144	0.6	164	0.7
	400	3.7	81	0.2	98	0.2	116	0.2	135	0.3	156	0.3	177	0.4
300	50	0.1	63	1.1	76	1.3	90	1.5	106	1.8	121	2.1	138	2.4
	100	0.3	79	0.7	96	0.8	114	1.0	133	1.1	153	1.3	174	1.5
	200	1.0	91	0.4	111	0.5	131	0.6	153	0.7	176	0.8	200	0.9
	400	3.7	99	0.2	120	0.3	142	0.3	165	0.4	190	0.4	216	0.5
MODEL 1200														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.1	70	1.2	85	1.5	100	1.7	117	2.0	135	2.3	153	2.6
	100	0.4	89	0.8	108	0.9	127	1.1	148	1.3	171	1.5	194	1.7
	200	1.3	102	0.4	124	0.5	147	0.6	172	0.7	197	0.8	224	1.0
	400	4.9	111	0.2	134	0.3	160	0.3	186	0.4	214	0.5	243	0.5
300	50	0.1	83	1.4	101	1.7	119	2.0	139	2.4	160	2.8	181	3.1
	100	0.4	107	0.9	129	1.1	153	1.3	178	1.5	205	1.8	233	2.0
	200	1.3	124	0.5	151	0.6	178	0.8	208	0.9	239	1.0	271	1.2
	400	4.9	136	0.3	164	0.4	194	0.4	226	0.5	260	0.6	296	0.6
MODEL 1500														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.1	86	1.5	104	1.8	123	2.1	144	2.5	165	2.8	187	3.2
	100	0.4	111	1.0	134	1.2	158	1.4	184	1.6	212	1.8	241	2.1
	200	1.7	129	0.6	156	0.7	185	0.8	215	0.9	247	1.1	281	1.2
	400	6.2	141	0.3	170	0.4	202	0.4	235	0.5	270	0.6	307	0.7
300	50	0.1	101	1.7	123	2.1	145	2.5	169	2.9	194	3.3	220	3.8
	100	0.4	132	1.1	160	1.4	190	1.6	221	1.9	253	2.2	287	2.5
	200	1.7	156	0.7	189	0.8	224	1.0	260	1.1	299	1.3	339	1.5
	400	6.2	172	0.4	208	0.4	246	0.5	286	0.6	329	0.7	373	0.8
MODEL 1800														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.2	101	1.7	122	2.1	144	2.5	168	2.9	193	3.3	219	3.8
	100	0.6	132	1.1	159	1.4	188	1.6	219	1.9	251	2.2	285	2.5
	200	2.0	155	0.7	188	0.8	222	1.0	258	1.1	297	1.3	337	1.4
	400	7.2	171	0.4	206	0.4	244	0.5	284	0.6	326	0.7	370	0.8
300	50	0.2	118	2.0	143	2.5	169	2.9	196	3.4	225	3.9	255	4.4
	100	0.6	157	1.4	189	1.6	224	1.9	260	2.2	299	2.6	339	2.9
	200	2.0	187	0.8	226	1.0	268	1.2	311	1.3	357	1.5	405	1.7
	400	7.2	208	0.4	251	0.5	297	0.6	345	0.7	396	0.9	449	1.0
MODEL 2400														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.2	126	2.2	152	2.6	180	3.1	209	3.6	240	4.1	272	4.7
	100	0.8	169	1.5	205	1.8	242	2.1	281	2.4	322	2.8	365	3.1
	200	2.8	205	0.9	247	1.1	292	1.3	339	1.5	389	1.7	441	1.9
	400	9.7	228	0.5	276	0.6	326	0.7	379	0.8	434	0.9	492	1.1
300	50	0.2	146	2.5	176	3.0	208	3.6	241	4.1	276	4.7	313	5.4
	100	0.8	200	1.7	241	2.1	285	2.5	331	2.8	379	3.3	429	3.7
	200	2.8	245	1.1	296	1.3	350	1.5	406	1.7	465	2.0	527	2.3
	400	9.7	277	0.6	334	0.7	394	0.8	458	1.0	524	1.1	594	1.3
MODEL 3000														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.3	151	2.6	182	3.1	214	3.7	249	4.3	285	4.9	323	5.6
	100	0.9	206	1.8	248	2.1	293	2.5	341	2.9	390	3.4	442	3.8
	200	3.3	252	1.1	305	1.3	360	1.5	418	1.8	478	2.1	542	2.3
	400	11.9	284	0.6	343	0.7	405	0.9	471	1.0	539	1.2	611	1.3
300	50	0.3	173	3.0	209	3.6	246	4.2	286	4.9	327	5.6	370	6.4
	100	0.9	242	2.1	291	2.5	344	3.0	398	3.4	456	3.9	516	4.4
	200	3.3	301	1.3	363	1.6	428	1.8	497	2.1	569	2.4	644	2.8
	400	11.9	344	0.7	414	0.9	489	1.1	567	1.2	649	1.4	734	1.6

NOTES

The capacity details provided apply to suspended CBP units, with sufficient free height H1 above the unit (H1 > 0.5 x B) and that are fitted with a perforated diffuser with 50% free passage.

- Without the perforated front plate, the capacity is 5% higher than noted in the table provided.
- If the free height above the passive unit is smaller, there is a capacity loss. At H1 = 0.3 x B the cooling capacity loss

CBP – PERFORMANCE DATA

CBP

Type 450

WATER														
Height			Cooling capacity water t_{room} -t_{water} in °C											
			6		7		8		9		10		11	
	V_W	ΔP_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W
MODEL 900														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.1	79	1.4	95	1.6	113	1.9	132	2.3	151	2.6	172	3.0
	100	0.4	101	0.9	122	1.0	145	1.2	168	1.4	194	1.7	220	1.9
	200	1.5	117	0.5	142	0.6	168	0.7	196	0.8	225	1.0	256	1.1
	400	6.0	128	0.3	154	0.3	183	0.4	213	0.5	245	0.5	278	0.6
300	50	0.1	89	1.5	107	1.8	127	2.2	148	2.5	170	2.9	193	3.3
	100	0.4	115	1.0	139	1.2	164	1.4	191	1.6	219	1.9	249	2.1
	200	1.5	134	0.6	162	0.7	192	0.8	224	1.0	257	1.1	292	1.3
	400	6.0	147	0.3	177	0.4	210	0.5	244	0.5	280	0.6	319	0.7
MODEL 1200														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.2	103	1.8	124	2.1	147	2.5	171	2.9	196	3.4	223	3.8
	100	0.6	134	1.2	162	1.4	192	1.7	224	1.9	257	2.2	291	2.5
	200	2.0	159	0.7	192	0.8	227	1.0	264	1.1	303	1.3	344	1.5
	400	7.2	175	0.4	211	0.5	250	0.5	291	0.6	334	0.7	378	0.8
300	50	0.2	115	2.0	139	2.4	164	2.8	191	3.3	219	3.8	249	4.3
	100	0.6	152	1.3	184	1.6	217	1.9	252	2.2	290	2.5	329	2.8
	200	2.0	181	0.8	219	0.9	259	1.1	301	1.3	345	1.5	392	1.7
	400	7.2	200	0.4	242	0.5	286	0.6	333	0.7	382	0.8	434	0.9
MODEL 1500														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.2	124	2.1	150	2.6	177	3.0	206	3.5	236	4.1	268	4.6
	100	0.7	165	1.4	200	1.7	236	2.0	275	2.4	315	2.7	357	3.1
	200	2.5	198	0.9	240	1.0	284	1.2	330	1.4	378	1.6	429	1.8
	400	9.3	220	0.5	266	0.6	315	0.7	366	0.8	420	0.9	477	1.0
300	50	0.2	138	2.4	166	2.9	196	3.4	228	3.9	262	4.5	297	5.1
	100	0.7	186	1.6	225	1.9	266	2.3	308	2.6	354	3.0	401	3.4
	200	2.5	226	1.0	272	1.2	322	1.4	374	1.6	429	1.8	486	2.1
	400	9.3	252	0.5	305	0.7	360	0.8	419	0.9	480	1.0	544	1.2
MODEL 1800														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.2	143	2.5	173	3.0	204	3.5	237	4.1	271	4.7	308	5.3
	100	0.8	194	1.7	234	2.0	277	2.4	322	2.8	369	3.2	418	3.6
	200	3.0	237	1.0	286	1.2	337	1.4	392	1.7	449	1.9	509	2.2
	400	10.9	266	0.6	321	0.7	379	0.8	440	0.9	504	1.1	571	1.2
300	50	0.2	158	2.7	191	3.3	225	3.9	261	4.5	299	5.1	339	5.8
	100	0.8	218	1.9	263	2.3	310	2.7	360	3.1	412	3.5	467	4.0
	200	3.0	269	1.2	324	1.4	383	1.6	444	1.9	508	2.2	576	2.5
	400	10.9	304	0.7	367	0.8	433	0.9	502	1.1	575	1.2	652	1.4
MODEL 2400														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.3	174	3.0	210	3.6	247	4.2	287	4.9	328	5.6	371	6.4
	100	1.2	245	2.1	295	2.5	348	3.0	403	3.5	462	4.0	522	4.5
	200	4.1	308	1.3	371	1.6	437	1.9	507	2.2	579	2.5	656	2.8
	300	8.7	336	1.0	405	1.2	478	1.4	554	1.6	633	1.8	717	2.1
300	50	0.3	190	3.3	229	3.9	270	4.6	313	5.4	357	6.1	404	7.0
	100	1.2	272	2.3	327	2.8	386	3.3	447	3.8	511	4.4	578	5.0
	200	4.1	346	1.5	417	1.8	491	2.1	569	2.4	650	2.8	735	3.2
	300	8.7	381	1.1	458	1.3	540	1.5	626	1.8	715	2.1	809	2.3
MODEL 3000														
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C
200	50	0.4	204	3.5	245	4.2	289	5.0	335	5.8	383	6.6	433	7.4
	100	1.4	293	2.5	353	3.0	415	3.6	481	4.1	550	4.7	622	5.4
	200	5.0	375	1.6	451	1.9	531	2.3	616	2.6	704	3.0	796	3.4
	300	10.6	414	1.2	498	1.4	586	1.7	679	1.9	776	2.2	877	2.5
300	50	0.4	222	3.8	266	4.6	314	5.4	363	6.2	415	7.1	468	8.1
	100	1.4	324	2.8	389	3.3	458	3.9	530	4.6	606	5.2	684	5.9
	200	5.0	421	1.8	506	2.2	595	2.6	689	3.0	787	3.4	890	3.8
	300	10.6	468	1.3	562	1.6	662	1.9	766	2.2	874	2.5	988	2.8

NOTES

The capacity details provided apply to suspended CBP units, with sufficient free height H1 above the unit (H1 > 0.5 x B) and that are fitted with a perforated diffuser with 50% free passage.

- Without the perforated front plate, the capacity is 5% higher than noted in the table provided.
- There is a loss of capacity with smaller free heights above the passive units. At H1 = 0.3 x B, the cooling capacity loss is 5%.

CBP – PERFORMANCE DATA

CBP

Type 600

WATER																								
Height			Cooling capacity water t_{room} -t_{water} in °C																					
			6		7		8		9		10		11											
	V_W	ΔP_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W	Q_{WK}	Δt_W										
MODEL 900																								
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C										
200	50	0.2	100	1.7	120	2.1	143	2.5	166	2.9	191	3.3	216	3.7										
	100	0.6	130	1.1	157	1.4	186	1.6	216	1.9	248	2.1	282	2.4										
	300	4.2	163	0.5	197	0.6	233	0.7	272	0.8	312	0.9	354	1.0										
	500	10.9	172	0.3	208	0.4	246	0.4	286	0.5	328	0.6	373	0.6										
300	50	0.2	112	1.9	135	2.3	159	2.7	185	3.2	213	3.7	241	4.1										
	100	0.6	147	1.3	178	1.5	210	1.8	244	2.1	280	2.4	318	2.7										
	300	4.2	187	0.5	226	0.6	267	0.8	310	0.9	356	1.0	404	1.2										
	500	10.9	197	0.3	239	0.4	282	0.5	328	0.6	376	0.6	427	0.7										
MODEL 1200																								
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C										
200	50	0.2	128	2.2	154	2.6	183	3.1	212	3.6	244	4.2	276	4.7										
	100	0.7	171	1.5	207	1.8	244	2.1	284	2.4	326	2.8	370	3.2										
	250	4.0	215	0.7	260	0.9	307	1.1	357	1.2	409	1.4	464	1.6										
	400	9.6	230	0.5	277	0.6	328	0.7	381	0.8	437	0.9	496	1.1										
300	50	0.2	142	2.4	171	2.9	202	3.5	235	4.0	269	4.6	305	5.2										
	100	0.7	192	1.7	232	2.0	274	2.4	319	2.7	366	3.1	414	3.6										
	250	4.0	245	0.8	296	1.0	349	1.2	406	1.4	465	1.6	527	1.8										
	400	9.6	263	0.6	317	0.7	375	0.8	436	0.9	499	1.1	566	1.2										
MODEL 1500																								
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C										
200	50	0.3	152	2.6	184	3.2	217	3.7	252	4.3	289	5.0	328	5.6										
	100	0.9	209	1.8	252	2.2	298	2.6	346	3.0	396	3.4	449	3.9										
	225	4.2	263	1.0	317	1.2	374	1.4	435	1.7	498	1.9	564	2.2										
	350	9.4	284	0.7	342	0.8	404	1.0	470	1.2	538	1.3	609	1.5										
300	50	0.3	168	2.9	203	3.5	239	4.1	277	4.8	317	5.5	359	6.2										
	100	0.9	234	2.0	282	2.4	332	2.9	386	3.3	441	3.8	500	4.3										
	225	4.2	298	1.1	360	1.4	424	1.6	492	1.9	564	2.2	638	2.4										
	350	9.4	324	0.8	390	1.0	461	1.1	534	1.3	612	1.5	693	1.7										
MODEL 1800																								
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C										
200	50	0.3	174	3.0	210	3.6	248	4.3	287	4.9	329	5.7	372	6.4										
	100	1.1	243	2.1	293	2.5	346	3.0	401	3.4	459	3.9	520	4.5										
	210	4.4	307	1.3	370	1.5	437	1.8	507	2.1	580	2.4	657	2.7										
	320	9.6	335	0.9	404	1.1	476	1.3	552	1.5	632	1.7	716	1.9										
300	50	0.3	191	3.3	230	4.0	271	4.7	314	5.4	359	6.2	406	7.0										
	100	1.1	271	2.3	326	2.8	384	3.3	446	3.8	510	4.4	576	5.0										
	210	4.4	347	1.4	418	1.7	493	2.0	571	2.3	653	2.7	738	3.0										
	320	9.6	381	1.0	458	1.2	540	1.5	626	1.7	716	1.9	810	2.2										
MODEL 2400																								
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C										
200	50	0.4	208	3.6	250	4.3	294	5.1	340	5.8	389	6.7	439	7.6										
	100	1.5	302	2.6	363	3.1	426	3.7	493	4.2	563	4.8	636	5.5										
	190	5.0	384	1.7	461	2.1	542	2.5	626	2.8	715	3.2	807	3.7										
	280	10.3	424	1.3	510	1.6	599	1.8	693	2.1	791	2.4	893	2.7										
300	50	0.4	225	3.9	270	4.6	318	5.5	367	6.3	419	7.2	473	8.1										
	100	1.5	332	2.9	399	3.4	469	4.0	542	4.7	619	5.3	699	6.0										
	190	5.0	429	1.9	516	2.3	606	2.7	701	3.2	800	3.6	904	4.1										
	280	10.3	479	1.5	576	1.8	677	2.1	783	2.4	893	2.7	1009	3.1										
MODEL 3000																								
mm	l/h	kPa	W_6	°C	W_7	°C	W_8	°C	W_9	°C	W_{10}	°C	W_{11}	°C										
200	50	0.5	240	4.1	289	5.0	339	5.8	392	6.7	448	7.7	506	8.7										
	100	1.8	357	3.1	429	3.7	504	4.3	583	5.0	665	5.7	751	6.5										
	175	5.2	451	2.2	541	2.7	636	3.1	736	3.6	840	4.1	948	4.7										
	250	10.1	504	1.7	605	2.1	711	2.4	822	2.8	938	3.2	1059	3.6										
300	50	0.5	259	4.5	311	5.4	365	6.3	422	7.3	481	8.3	542	9.3										
	100	1.8	391	3.4	469	4.0	551	4.7	637	5.5	726	6.2	819	7.0										
	175	5.2	501	2.5	601	3.0	706	3.5	815	4.0	929	4.6	1048	5.2										
	250	10.1	564	1.9	677	2.3	795	2.7	918	3.2	1047	3.6	1181	4.1										

NOTES

The capacity details provided apply to suspended CBP units, with sufficient free height H1 above the unit (H1 > 0.5 x B) and that are fitted with a perforated diffuser with 50% free passage.

- Without the perforated front plate, the capacity is 5% higher than noted in the table provided.
- If the free height above the passive unit is smaller, there is a capacity loss. At H1 = 0.3 x B the cooling capacity loss