

2017 ASHRAE Handbook - Fundamentals (SI)

TUSIMICE, CZECH REPUBLIC (WMO: 114380)

Lat:50.383N			Long:13.333E			Elev:326			StdP: 97.47			Time zone:1.00			Period:90-14		WBAN:99999	
Annual Heating and Humidification Design Conditions																		
Coldest Month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB					
			99.6%			99%			0.4%		1%							
	99.6%	99%	DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD				
1	-12.1	-9.6	-15.3	1.0	-10.9	-12.5	1.3	-8.6	14.7	5.9	12.8	5.3	1.9	270				
Annual Cooling, Dehumidification, and Enthalpy Design Conditions																		
Hottest Month	Hottest Month DB Range	Cooling DB/MCWB						Evaporation WB/MCDB						MCWS/PCWD to 0.4% DB				
		0.4%		1%		2%		0.4%		1%		2%						
		DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	MCWS	PCWD			
7	10.5	29.8	19.7	27.8	18.7	25.9	17.9	20.8	27.4	19.7	25.8	18.7	24.3	3.1	120			
Dehumidification DP/MCDB and HR									Enthalpy/MCDB						Extreme Max WB			
0.4%			1%			2%			0.4%		1%		2%					
DP	HR	MCDB	DP	HR	MCDB	DP	HR	MCDB	Enth	MCDB	Enth	MCDB	Enth	MCDB				
18.6	14.0	23.2	17.5	13.1	22.0	16.6	12.3	21.3	61.3	27.4	57.5	26.0	54.4	24.4	25.4			
Extreme Annual Design Conditions																		
Extreme Annual WS				Extreme Annual Temperature				n-Year Return Period Values of Extreme Temperature										
				Mean		Standard deviation		n=5 years		n=10 years		n=20 years		n=50 years				
1%	2.5%	5%		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max			
10.5	8.8	7.4	DB	-14.3	33.7	3.2	2.2	-16.6	35.3	-18.4	36.6	-20.2	37.8	-22.5	39.5			
			WB	-14.7	22.7	3.1	1.3	-17.0	23.6	-18.8	24.4	-20.5	25.1	-22.8	26.0			
Monthly Climatic Design Conditions																		
			Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Temperatures, Degree-Days and Degree-Hours	DBAvg	9.0	-0.5	0.6	4.5	9.0	13.4	16.5	18.7	18.4	14.0	8.7	4.0	0.1				
	DBStd	7.91	5.02	4.81	4.08	4.03	3.46	3.45	3.11	3.06	3.09	3.97	3.52	4.57				
	HDD10.0	1405	327	263	176	66	9	1	0	0	4	73	182	306				
	HDD18.3	3522	585	496	430	280	156	76	34	38	134	299	431	564				
	CDD10.0	1038	1	1	4	36	116	195	269	261	123	32	1	0				
	CDD18.3	112	0	0	0	0	4	21	44	40	3	0	0	0				
	CDH23.3	1126	0	0	0	7	56	207	445	373	38	1	0	0				
	CDH26.7	301	0	0	0	0	6	47	141	102	4	0	0	0				
Wind		WSAvg	3.1	3.3	3.5	3.7	3.3	3.2	3.1	3.1	2.9	2.8	2.7	2.7	3.2			
Precipitation	PrecAvg	635	42	35	41	40	59	72	81	72	54	42	47	49				
	PrecMax	838	91	65	119	78	120	130	155	175	107	118	106	86				
	PrecMin	411	6	3	12	6	18	31	20	18	12	10	0	17				
	PrecStd	94	20	16	22	17	26	22	29	34	24	24	23	21				
Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB	12.1	13.4	17.9	24.3	27.3	30.7	33.2	32.6	26.8	20.9	14.1	11.3				
		MCWB	9.0	9.0	10.2	14.1	17.9	20.7	20.8	19.8	17.6	15.0	10.8	9.1				
	2%	DB	10.1	11.0	15.2	21.5	24.9	28.0	30.2	29.2	24.2	18.0	12.0	9.2				
		MCWB	7.7	7.6	9.3	13.2	16.7	19.2	19.9	19.2	16.7	13.8	9.6	7.1				
	5%	DB	8.2	9.1	13.0	18.9	22.7	25.8	27.9	27.2	22.0	16.1	10.5	7.4				
		MCWB	6.0	6.4	8.3	11.8	15.4	18.1	18.9	18.4	16.1	12.8	8.7	5.7				
	10%	DB	6.3	7.3	10.8	16.7	20.8	23.6	25.6	25.3	19.8	14.4	9.0	5.8				
		MCWB	4.5	5.0	7.5	10.7	14.3	17.1	18.0	17.7	15.0	11.9	7.5	4.4				
Monthly Design Wet Bulb and Mean Coincident	0.4%	WB	9.6	9.4	11.2	15.2	19.5	22.3	22.7	21.7	19.1	16.0	11.6	9.2				
		MCDB	11.5	12.9	16.1	22.1	25.5	28.6	29.7	29.0	23.8	19.4	13.7	11.0				
	2%	WB	7.8	8.0	10.0	13.5	17.5	20.2	20.8	20.3	17.6	14.5	10.2	7.2				
		MCDB	10.0	10.6	14.0	19.8	23.1	26.1	27.4	27.2	22.0	17.1	11.6	8.9				
	5%	WB	6.2	6.6	8.9	12.4	16.2	18.9	19.6	19.3	16.5	13.3	8.9	5.8				

Dry Bulb Temperatures		MCDB	8.1	8.9	12.3	18.2	21.2	24.5	25.8	25.4	20.9	15.5	10.3	7.2
	10%	WB	4.6	5.1	7.6	11.1	14.9	17.7	18.6	18.3	15.5	12.2	7.6	4.5
		MCDB	6.2	7.1	10.7	16.0	19.8	22.4	24.2	23.7	19.4	14.1	8.9	5.7
Mean Daily Temperature Range		MDBR	4.5	5.9	7.8	10.3	10.6	10.2	10.5	10.9	9.3	7.3	4.7	4.2
	5% DB	MCDBR	6.1	7.9	12.1	14.9	14.7	14.4	15.4	15.0	13.3	9.9	7.0	5.8
		MCWBR	4.9	5.4	7.2	7.5	7.5	6.8	6.3	6.3	6.7	6.1	5.3	4.7
	5% WB	MCDBR	6.0	7.3	10.7	13.8	13.1	13.1	13.3	13.1	11.8	9.0	6.4	5.5
		MCWBR	5.0	5.3	6.9	7.3	7.2	6.9	6.1	6.2	6.7	6.1	5.3	4.7
Clear Sky Solar Irradiance	taub		0.301	0.323	0.366	0.409	0.411	0.410	0.424	0.417	0.383	0.356	0.327	0.296
	taud		2.384	2.351	2.288	2.219	2.248	2.276	2.243	2.281	2.352	2.411	2.438	2.413
	Ebn,noon		735	809	831	831	847	849	829	815	805	760	697	686
	Edn,noon		63	84	107	128	130	128	130	120	100	79	61	54
All-Sky Solar Radiation	RadAvg		0.83	1.55	2.64	3.96	4.74	5.21	4.89	4.37	3.18	1.95	0.89	0.61
	RadStd		0.12	0.22	0.41	0.56	0.69	0.49	0.62	0.45	0.46	0.23	0.11	0.06

CDDn	Cooling degree-days base n°C, °C-day	Lat	Latitude, °	Period	Years used to calculate the design conditions
CDHn	Cooling degree-hours base n°C, °C-hour	Long	Longitude, °	Sd	Standard deviation of daily average temperature, °C
DB	Dry bulb temperature, °C	MCDB	Mean coincident dry bulb temperature, °C	StdP	Standard pressure at station elevation, kPa
DP	Dew point temperature, °C	MCDBR	Mean coincident dry bulb temp. range, °C	taub	Clear sky optical depth for beam irradiance
Ebn,noon	Clear sky beam normal and diffuse horizontal irradiances at solar noon, W/m ²	MCDP	Mean coincident dew point temperature, °C	taud	Clear sky optical depth for diffuse irradiance
Edh,noon		MCWB	Mean coincident wet bulb temperature, °C	Tavg	Average temperature, °C
Elev	Elevation, m	MCWBR	Mean coincident wet bulb temp. range, °C	Time Zone	Hours ahead or behind UTC
Enth	Enthalpy, kJ/kg	MCWS	Mean coincident wind speed, m/s	WB	Wet bulb temperature, °C
HDDn	Heating degree-days base n°C, °C-day	MDBR	Mean dry bulb temp. range, °C	Hours 8/4 & 12.8/20.6	Number of hours between 8 a.m. and 4 p.m. with DB between 12.8 and 20.6 °C
PCWD	Prevailing coincident wind direction, °, 0 = North, 90 = East	WS	Wind speed, m/s	HR	Humidity ratio, g of moisture per kg of dry air