

2021 ASHRAE Handbook - Fundamentals (SI)																		
FORMOSA, ARGENTINA (WMO: 871620)																		
Lat:26.2125S			Long:58.2292W			Elev:60			StdP: 100.61			Time zone:-3.00 (W03)			Period:94-19		WBAN:99999	
Annual Heating, Humidification, and Ventilation Design Conditions																		
Coldest Month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB		WSF			
			99.6%			99%			0.4%		1%							
	99.6%	99%	DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD				
7	4.4	6.2	0.7	4.0	10.4	2.2	4.4	10.1	12.9	22.6	11.0	23.4	1.9	230	0.399			
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			
1	10.8	37.8	24.8	36.5	24.9	35.2	24.8	27.5	33.1	27.0	32.6	26.5	32.1	6.0	0			
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				
26.1	21.7	30.3	25.6	21.0	29.9	25.1	20.3	29.4	88.1	33.3	85.6	32.7	83.4	32.3	32.9			
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	9.2	8.1	DB	1.1	40.1	1.6	1.1	-0.1	40.8	-1.0	41.5	-1.9	42.1	-3.1	42.9			
			WB	0.6	29.1	1.6	1.3	-0.5	30.0	-1.4	30.7	-2.3	31.4	-3.5	32.3			
Monthly Climatic Design Conditions																		
			Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Temperatures, Degree-Days and Degree-Hours	DBAvg	22.8	28.1	27.5	26.0	23.2	19.4	17.7	17.2	19.0	20.7	23.7	24.9	27.0				
	DBStd	5.52	2.36	2.67	2.91	3.83	4.22	4.90	5.38	5.48	4.93	3.84	3.14	2.75				
	HDD10.0	8	0	0	0	0	0	2	4	2	0	0	0	0				
	HDD18.3	307	0	0	0	7	39	73	92	62	30	3	1	0				
	CDD10.0	4696	562	489	495	396	291	233	227	279	322	424	448	528				
	CDD18.3	1954	304	256	237	153	71	54	56	82	102	169	199	270				
	CDH23.3	19916	3579	2803	2334	1284	471	319	418	836	1068	1638	2056	3108				
	CDH26.7	9282	1840	1368	1073	521	142	78	132	364	492	754	949	1569				
Wind		WSAvg	3.6	3.5	3.3	3.1	3.2	3.2	3.5	3.7	4.1	4.2	4.2	3.9	3.7			
Precipitation	PrecAvg	1412	167	140	142	158	106	65	43	49	82	136	162	165				
	PrecMax	2039	338	654	357	395	271	188	165	195	224	292	468	425				
	PrecMin	826	8	4	8	17	13	6	0	0	1	16	22	35				
	PrecStd	266	84	99	77	100	66	43	37	46	53	71	89	88				
Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB	38.2	38.3	37.3	35.2	32.4	30.5	31.9	35.2	37.4	38.5	38.0	38.3				
		MCWB	25.3	25.3	24.7	25.1	23.9	22.7	21.4	21.5	23.3	25.1	24.7	24.2				
	2%	DB	36.9	36.8	35.8	33.7	30.2	29.0	30.0	33.1	35.0	36.1	35.7	36.8				
		MCWB	25.1	25.5	25.2	24.5	22.7	21.9	21.1	21.6	22.7	24.6	24.7	24.8				
	5%	DB	35.8	35.0	34.0	31.9	28.0	27.1	28.1	31.0	32.1	33.2	33.9	35.1				
		MCWB	25.2	25.9	24.9	24.2	22.0	21.5	20.7	20.9	22.0	24.0	24.0	24.8				
	10%	DB	34.1	33.2	32.1	29.9	25.9	24.9	25.6	28.2	29.3	30.8	31.8	33.8				
		MCWB	25.0	25.0	24.4	23.7	21.3	20.9	19.9	20.3	21.1	23.2	23.3	24.6				
Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB	28.1	28.4	27.5	27.0	25.3	23.7	23.5	24.0	25.4	27.0	27.6	27.8				
		MCDB	34.0	33.8	32.9	32.2	29.6	28.1	28.8	31.1	33.1	33.8	33.9	33.2				
	2%	WB	27.3	27.2	26.7	26.1	24.1	22.9	22.3	22.7	24.2	25.9	26.4	27.1				
		MCDB	33.0	32.6	32.0	31.3	28.4	27.1	27.3	30.7	31.7	33.2	32.4	32.8				
	5%	WB	26.7	26.6	26.1	25.3	23.0	22.0	21.2	21.6	23.0	24.9	25.5	26.5				
		MCDB	32.3	32.0	31.4	29.9	26.5	25.9	26.4	28.6	30.1	31.5	31.1	32.1				
	10%	WB	26.2	26.1	25.4	24.5	22.0	21.0	20.2	20.5	21.8	23.9	24.6	25.9				
		MCDB	31.6	31.3	30.3	28.4	24.9	24.6	24.9	27.0	27.9	29.8	29.7	31.3				

Mean Daily Temperature Range		MDBR	10.8	10.3	10.4	9.9	9.3	9.2	10.7	12.1	12.1	10.7	11.0	11.0
	5% DB	MCDBR	13.0	12.4	12.9	12.2	11.3	10.5	12.4	14.6	15.5	14.1	14.2	13.3
		MCWBR	3.9	4.0	4.4	4.7	5.2	5.1	5.5	5.9	6.3	5.6	5.3	4.2
	5% WB	MCDBR	10.3	10.3	10.6	10.3	9.3	9.4	11.2	13.3	13.5	12.2	11.0	10.5
		MCWBR	4.0	4.3	4.4	4.7	4.8	5.2	5.9	6.3	6.3	5.6	5.3	4.2
Clear Sky Solar Irradiance	taub		0.409	0.409	0.401	0.401	0.380	0.401	0.390	0.497	0.565	0.492	0.412	0.414
	taud		2.405	2.411	2.416	2.394	2.415	2.342	2.362	2.011	1.845	2.113	2.354	2.374
	Ebn at noon		935	920	897	847	820	771	800	740	736	834	926	932
	Edn at noon		127	123	117	109	97	100	102	157	203	164	133	131
All-Sky Solar Radiation	RadAvg		6.73	6.17	5.31	4.21	3.25	2.68	3.17	3.80	4.56	5.40	6.38	6.71
	RadStd		0.48	0.41	0.38	0.46	0.42	0.26	0.29	0.29	0.52	0.61	0.38	0.46
Historical Trends														
	DBAvg	Heating		Cooling			Degree-Days							
		99% DB	99% DP	1% DB	1% WB	1% DP	HDD10.0	HDD18.3	CDD10.0	CDD18.3				
Station Only	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Regional (0 neighbors)	N/A	N/A	N/A	+0.53	N/A	N/A	N/A	N/A	N/A	N/A	N/A			

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/m2	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