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NOTTINGHAM/WATNALL, United Kingdom

WMO#: **033540**

Lat: **53.00N** Long: **1.25W** Elev: **117** StdP: **99.93** Time Zone: **0.00 (GMT)** Period: **86-10** 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	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	
(1)	1	-3.6	-2.2	-6.7	2.2	-1.5	-5.2	2.5	-0.5	12.3	7.7	11.1	7.1	2.5	50	(1)

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	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
(2)	7	8.4	26.0	18.3	23.9	17.1	22.1	16.4	19.1	23.9	18.0	22.4	17.1	20.9	3.7	210	(2)

	Dehumidification DP/MCDB and HR									Enthalpy/MCDB						Hours 8 to 4 & 12.8/20.6	
	0.4%			1%			2%			0.4%		1%		2%			
	DP	HR	MCDB	DP	HR	MCDB	DP	HR	MCDB	Enth	MCDB	Enth	MCDB	Enth	MCDB		
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
(3)	17.3	12.5	20.7	16.3	11.8	19.5	15.5	11.1	18.6	54.4	24.1	51.2	22.4	48.3	21.1	1117	(3)

Extreme Annual Design Conditions

	Extreme Annual WS			Extreme Max WB	Extreme Annual DB				n-Year Return Period Values of Extreme DB								
					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	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
(4)	10.0	8.8	7.8	25.0	-5.9	29.2	2.5	2.2	-7.7	30.7	-9.1	32.0	-10.5	33.2	-12.3	34.8	(4)

Monthly Climatic Design Conditions

				Annual (d)	Jan (e)	Feb (f)	Mar (g)	Apr (h)	May (i)	Jun (j)	Jul (k)	Aug (l)	Sep (m)	Oct (n)	Nov (o)	Dec (p)	
(5)	Temperatures, Degree-Days and Degree-Hours	Tavg		9.7	4.1	4.3	6.2	8.2	11.5	14.2	16.4	16.3	13.6	10.3	6.6	4.3	(5)
(6)		Sd			3.13	3.33	2.91	2.96	2.90	2.90	2.64	2.54	2.42	2.78	2.97	3.39	(6)
(7)		HDD10.0		867	183	159	120	69	17	2	0	0	2	31	107	178	(7)
(8)		HDD18.3		3178	441	392	374	303	213	127	73	76	143	250	352	435	(8)
(9)		CDD10.0		759	1	1	4	16	62	129	198	194	109	39	5	1	(9)
(10)		CDD18.3		29	0	0	0	0	0	4	13	11	1	0	0	0	(10)
(11)		CDH23.3		235	0	0	0	0	6	37	104	79	9	0	0	0	(11)
(12)		CDH26.7		38	0	0	0	0	0	4	16	17	0	0	0	0	(12)
(13)	Precipitation	PrecAvg		705	62	53	57	53	56	60	56	63	56	59	62	68	(13)
(14)		PrecMax		914	127	198	114	101	135	112	147	117	143	143	132	180	(14)
(15)		PrecMin		515	16	13	6	12	12	8	17	6	13	10	25	19	(15)
(16)		PrecSD		117.0	24.6	43.6	27.4	23.7	33.8	33.6	30.4	26.7	34.3	40.6	28.6	43.1	(16)
(17)	Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB		12.2	12.9	15.7	19.7	24.0	27.0	28.6	29.2	24.6	18.9	14.7	13.1	(17)
(18)			MCWB		10.5	10.6	11.2	13.8	16.2	18.2	18.7	19.0	17.2	15.7	12.9	11.4	(18)
(19)		2%	DB		11.0	11.6	13.4	17.1	21.3	24.1	26.2	25.6	21.5	16.7	13.3	11.9	(19)
(20)			MCWB		9.3	9.5	10.0	11.8	15.3	17.0	18.3	18.3	16.3	13.9	11.8	10.6	(20)
(21)		5%	DB		9.9	10.3	12.0	15.1	19.0	21.9	23.9	23.0	19.4	15.5	12.2	10.6	(21)
(22)			MCWB		8.5	8.5	9.3	10.7	13.7	15.8	17.2	17.2	14.9	13.3	10.8	9.3	(22)
(23)		10%	DB		8.8	9.3	10.8	13.4	17.0	20.0	21.7	21.1	17.9	14.5	11.1	9.4	(23)
(24)			MCWB		7.6	7.6	8.4	9.8	12.6	15.0	16.3	16.3	14.2	12.6	9.9	8.2	(24)
(25)	Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB		10.9	11.3	12.0	14.2	17.4	19.6	20.4	20.8	18.5	16.2	13.4	11.7	(25)
(26)			MCDB		12.0	12.5	14.4	18.5	22.3	24.7	26.3	25.4	22.5	18.0	14.2	12.6	(26)
(27)		2%	WB		9.7	9.8	10.7	12.6	15.6	17.7	18.9	19.1	16.9	14.8	12.1	10.7	(27)
(28)			MCDB		10.8	11.2	12.7	15.9	20.2	22.5	24.4	23.3	20.0	16.0	13.1	11.8	(28)
(29)		5%	WB		8.7	8.8	9.7	11.3	14.4	16.6	17.9	18.0	15.9	13.7	11.0	9.5	(29)
(30)			MCDB		9.7	10.1	11.5	14.3	18.1	20.8	22.5	22.1	18.4	15.0	11.9	10.5	(30)
(31)		10%	WB		7.7	7.7	8.8	10.2	13.0	15.5	16.9	16.9	14.9	12.9	10.0	8.3	(31)
(32)			MCDB		8.7	9.1	10.5	13.0	16.3	19.2	20.9	20.3	17.2	14.2	10.9	9.3	(32)
(33)	Mean Daily Temperature Range		MDBR		4.6	5.3	6.5	7.7	8.4	8.3	8.4	8.4	7.5	6.2	5.1	4.4	(33)
(34)		5% DB	MCDBR		5.8	6.3	8.0	10.1	11.6	11.8	12.2	11.4	9.6	7.1	5.7	5.5	(34)
(35)			MCWBR		5.3	5.0	5.4	5.8	6.6	6.1	5.6	5.3	5.3	4.9	4.9	5.1	(35)
(36)		5% WB	MCDBR		5.7	6.1	7.2	9.5	10.9	10.6	10.9	10.0	8.8	6.6	5.6	5.4	(36)
(37)			MCWBR		5.6	5.2	5.3	5.9	6.7	6.3	5.7	5.2	5.6	5.2	5.2	5.1	(37)
(38)	Clear Sky Solar Irradiance	taub			0.347	0.358	0.394	0.377	0.363	0.369	0.379	0.381	0.352	0.350	0.368	0.334	(38)
(39)		taud			2.486	2.454	2.288	2.275	2.304	2.288	2.294	2.321	2.435	2.476	2.422	2.543	(39)
(40)		Ebn,noon			640	748	782	853	885	880	863	840	825	744	594	595	(40)
(41)		Edh,noon			55	74	104	118	121	124	122	112	89	70	58	45	(41)

Nomenclature: See separate page