Summary of recommended acceptable environmental limits

The recommended temperature-humidity,dust and gaseous limits are summarized in the following table:

Table 4. *ASHRAE Recommended Environments*

Table4

Recommended operating environment	
Temperature	18 (64.4° F) to 27 (80.6° F)
	18 (64.4) 27 (80.6)
Low end moisture	5.5 (41.9° F) dew point
	5.5 (41.9)
High end moisture	60%relative humidity or 15 (59° F) dew point
	60% 15 (59)
Gaseous contamination	Severity level G1 as per ANSI/ISA 71.04-1985 which states that the reactivity rate of copper coupons shall be less than 300 /month(0.0039 μg/c -hour weight gain). In addition,the reactivity rate of silver coupons shall be less than 300 /month days (0.0035 μg/c -hour weight gain). The reactive monitoring of gaseous corrosivity should be conducted approximately 2 inches(5cm) in front of the rack on the air inlet side,at one-quarter and three-quarter frame height off the floor or where the air velocity is much higher.
	ANSI/ISA 71.04-1985　　　　　　　　　　　　　　300 / (0.0039 μg/c -hour) 　　　　　　　　　　　　　300 / (0.0035 μg/c -hour) 　　　　　　　　　　　　　　　　　　　2 (5cm) 　　　　　1/4 3/4
Particulate contamination	1. Data centers must meet the cleanliness level of ISO 14644-1 class 8. a.For data center without airside economizer,the ISO 14644-1 class 8 cleanliness may be met simply by the choice of the following filtration: . The room air may be continuously filtered with MERV 8 filters. . Air entering a data center may be filtered with MERV 11 or preferably MERV 13 filters. b.For data centers with airside economizers, the choice of filters to achieve ISO class 8 cleanliness depends on the specific conditions present at that data center. 2. The deliquescent relative humidity of the particulate contamination should be more than 60%RH. 3. Data centers must be free of zinc whiskers.
	1.　　　　　　　ISO14644-1　　8 a.　　　　　　　　　　　　　　　ISO14644-1　　8 .　　　　　　　　　　MERV8 .　　　　　　　　　　MERV11　　　　MERV13 b.　　　　　　　　　　　　　ISO　　8 2.　　　　　　　　　60%RH 3.

Summary of recommended acceptable environmental limits

Recommended non-operating environment	
Temperature	5 (41° F) to 45 (113° F)
	5 (41) 45 (113)
Relative humidity	8%to 80%
	8% 80%
High end moisture	27 (80.6° F) dew point
	27 (80.6)
Gaseous contamination	Severity level G1 as per ANSI/ISA 71.04-1985 which states that the reactivity rate of copper coupons shall be less than 300 /month(0.0039 μg/c -hour weight gain). In addition,the reactivity rate of silver coupons shall be less than 300 /month (0.0035 μg/c -hour weight gain). The reactive monitoring of gaseous corrosivity should be conducted approximately 2 inches(5cm) in front of the rack on the air inlet side,at one-quarter and three-quarter frame height off the floor. Note that since gaseous corrosivity is a function of air velocity,measuring corrosivity in front of a non-operating machine with no airflow will give lower corrosivity reading than if the machine was operating.
	ANSI/ISA 71.04-1985 300 / (0.0039 μg/c -hour) 300 / (0.0035 μg/c -hour) 2 (5cm) 1/4 3/4
Particulate contamination	1. Data centers must meet the cleanliness level of ISO 14644-1 class 8. a.For data center without airside economizer,the ISO 14644-1 class 8 cleanliness may be met simply by the choice of the following filtration. . The room air may be continuously filtered with MERV 8 filters. . Air entering a data center may be filtered with MERV 11 or preferably MERV 13 filters. b.For data centers with airside economizers, the choice of filters to achieve ISO class 8 cleanliness depends on the specific conditions present at that data center. 2. The deliquescent relative humidity of the particulate contamination should be more than 60%RH. 3. Data centers must be free of zinc whiskers.
	1. ISO14644-1 8 a. ISO14644-1 8 . MERV8 . MERV11 MERV13 b. ISO 8 2. 60%RH 3.