oneCm: 1cm
nineMm: 9mm
tenMm: 10mm

Comparing one centimeter and nine millimeters

Result for oneCm.CompareTo(nineMm): 1
Result for oneCm.Equals(nineMm) : False
Result for oneCm.IsSameValue(nineMm) False

Comparing one centimeter and ten millimeters

Result for oneCm.CompareTo(tenMm): -1
Result for oneCm.Equals(tenMm) : False
Result for oneCm.IsSameValue(tenMm) True

Notes

As you can see, CompareTo() won't consider Unit values of one centimeter and ten millimeters as the same. This is because CompareTo() actually compares the point value of the Units, which will have some rounding differences. If finding equal values in a comparison is necessary, you could call IsSameValue() first.

IsSameValue() compares the point values of the Units, while suppressing rounding errors. Therefore, it returns true for one centimeter and ten millimeters.

Equals() considers also the UnitType, so Units of a different measure can never be the same.