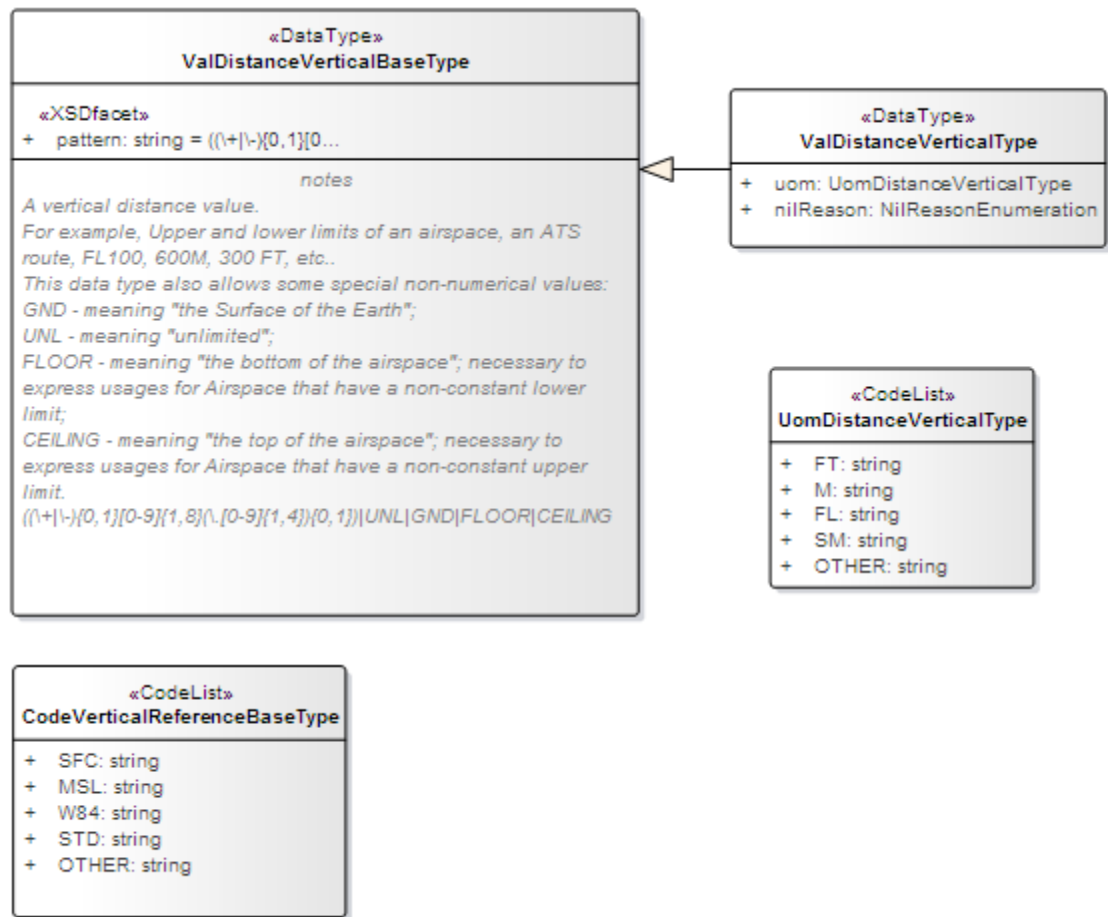


# Vertical Limits

## Numerical values

Vertical limits are typically encoded in AIXM as a pair of two attributes:

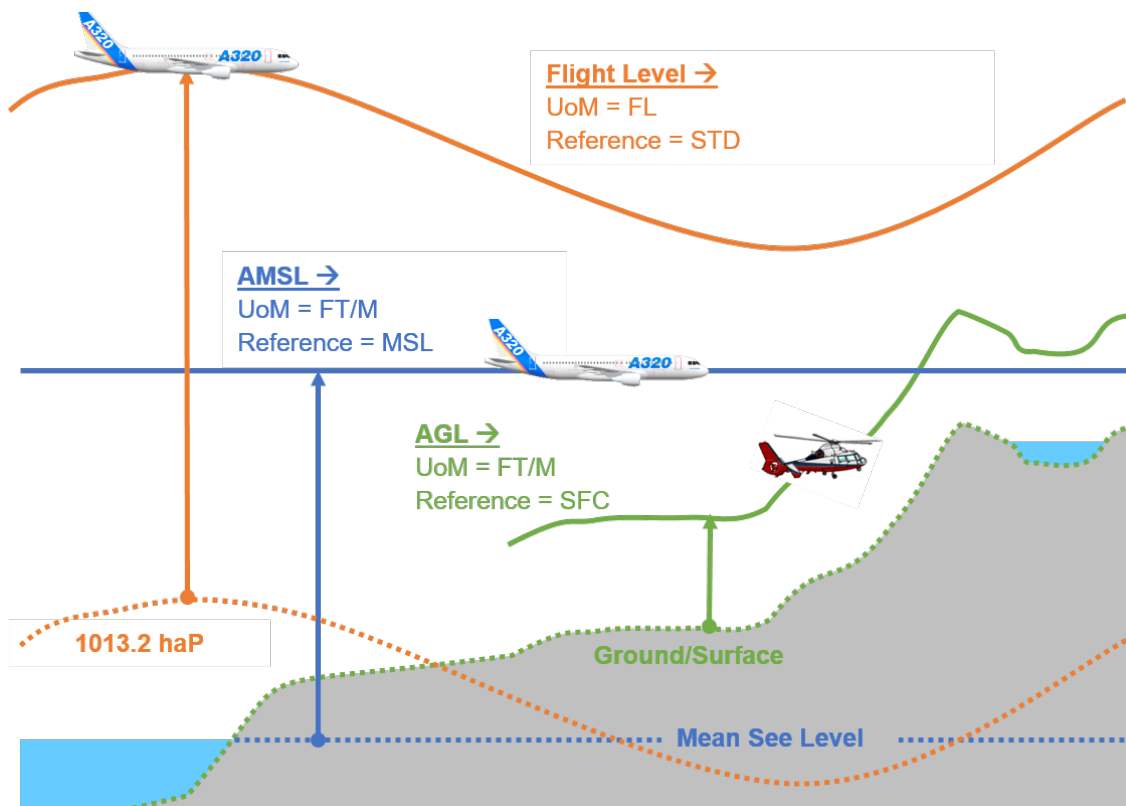
- a [...Limit](#) attribute (e.g. upperLimit), which includes the value and its unit of measurement (as an [uom](#) attribute) with the list of values [UomDistanceVerticalType](#)
- a [...LimitReference](#) attribute (e.g. upperLimitReference), which indicates what reference system is used for the vertical limit value. It uses the following list of values: [CodeVerticalReferenceType](#)



The following consistency rules between the [uom](#) value and the reference value shall be observed when encoding the data:

Reference	Reference Meaning	Possible <a href="#">uom</a> values
'SFC'	Height. The distance is measured from the surface of the Earth. Also referred to as "AGL" (Above Ground Level)	'FT', 'M'
'MSL'	Altitude. The distance measured from mean sea level.	'FT', 'M'
'W84'	Ellipsoidal height. The distance measured from the WGS84 ellipsoid.	'FT', 'M'
'STD'	The vertical distance is measured with a pressure altimeter set to the standard atmosphere.	'FL', 'SM'
'OTHER: MY_VALUE'	Exact meaning depends on the provided "MY_VALUE"	'FT', 'M'

The figure below illustrates the encoding of Flight Level (FL), Above Mean Sea level (AMSL) and Above Ground Level (AGL).



## Coded values (GND, UNL, etc.)

In addition to numerical values, the [...Limit](#) attributes can use the following coded values:

- 'GND' - meaning "from surface"
- 'UNL' - meaning "unlimited"
- 'FLOOR' - meaning "from the bottom of the airspace/route, whatever that one is"
- 'CEILING' - meaning "to the top of the airspace/route, whatever that one is"



### Note:

The values 'FLOOR' and 'CEILING' may be used only in [AirspaceLayer](#), in relation with [AirspaceActivation](#), [AirspaceLayerClass](#) and [Route Availability](#).

The unit of measurement attribute is optional in AIXM, therefore it is not necessary to specify a uom value when the coded values mentioned above are used. Also, the corresponding [...LimitReference](#) attribute shall be left empty in this situation. However, even if a [uom](#) and/or the [...LimitReference](#) attribute are specified with a value, they should be ignored by a recipient application, because they do not have any meaning in combination with the above coded values.

## References



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