Building geometry (Dense cloud and Mesh generation) step usually has the largest memory footprint, especially if the model is constructed in the Medium or High quality, and should be carefully taken into account. For aerial photography processing PhotoScan implements a special Height-field processing mode, which is highly optimized for this kind of data. It allows to process much more photos (several hundreds or thousands), than it is possible using Arbitrary mode.

Memory consumption during photo alignment is typically lower, but can be comparable or even exceed the amount of memory required for model building in Point Cloud mode, or in Low quality.

•Aligning Photos

Memory consumption during photo alignment depends mainly on the number of photos being aligned, and practically does not depend on the resolution of individual photos.

Photos	100	200	500	1000	2000	5000	10000
Memory consumption	500 MB	1 GB	2.5 GB	5 GB	10 GB	25 GB	50 GB

•Building Model (Height-field mode)

Memory consumption in Height-field mode depends on the number of photos, their resolution, selected quality and overlap. Dependency on the number of photos and their resolution is approximately linear.

In the following table approximate memory consumption for 12 MPix photo resolution is listed.

Photos	100	200	500	1000	2000	5000	10000
Lowest quality	25 MB	50 MB	125 MB	250 MB	500 MB	1.25 GB	2.5 GB
Low quality	100 MB	200 MB	500 MB	1 GB	2 GB	5 GB	10 GB
Medium quality	400 MB	800 MB	2 GB	4 GB	8 GB	20 GB	40 GB
High quality	1.6 GB	3.2 GB	8 GB	16 GB	32 GB	80 GB	160 GB
Ultra high quality	6.4 GB	12.8 GB	32 GB	64 GB	128 GB	320 GB	640 GB

•Building Model (Arbitrary mode)

Arbitrary processing mode is designed for processing of compact objects, mainly captured from the ground level. It can be used to process data sets containing up to several hundreds of photos, but typically much less. Memory consumption in Arbitrary mode depends on the number of photos, their resolution and overlap, selected quality level and also on the shape of the object. Dependency on the photo resolution is approximately linear.

In the following table approximate memory consumption for 12 MPix photo resolution is listed. Please note that memory consumption depends significantly on the kind of object being processed.

Photos	20 - 50	100	200	500
Lowest quality	100 MB - 300 MB	150 MB - 450 MB	300 MB - 1 GB	1 GB - 3 GB
Low quality	500 MB - 1.5 GB	750 MB - 2.2 GB	1.5 GB - 4.5 GB	4 GB - 12 GB
Medium quality	2 GB - 6 GB	3 GB - 9 GB	6 GB - 18 GB	15 GB - 45 GB
High quality	8 GB - 24 GB	12 GB - 36 GB	24 GB - 72 GB	60 GB - 180 GB
Ultra high quality	32 GB - 96 GB	48 GB - 144 GB	96 GB - 288 GB	240 GB - 720 GB

•Decimating Model

Amount of memory required for model decimation depends on the initial polygon count only. It does not depend on the target face count, and thus breaking decimation in small steps will not help to reduce memory consumption.

Faces (millions)	1	5	10	20	50	100	200	500
Memory consumption	128 MB	640 MB	1.3 GB	2.5 GB	6.2 GB	12.5 GB	25 GB	63 GB