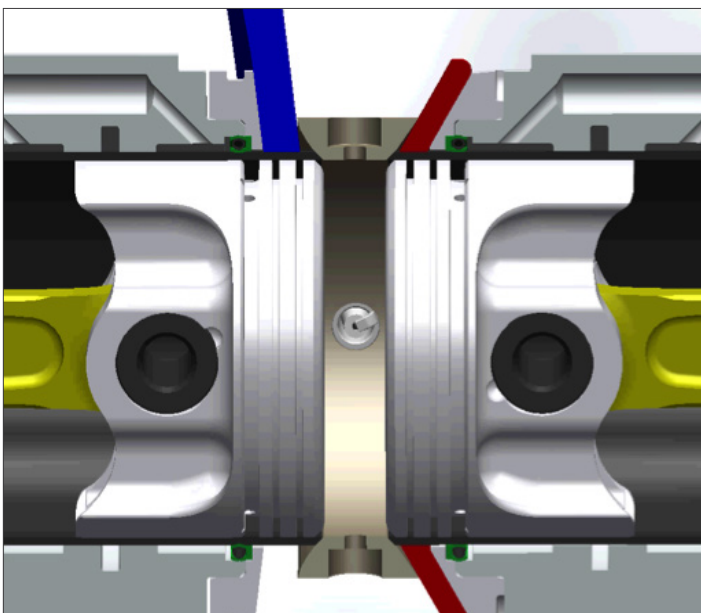
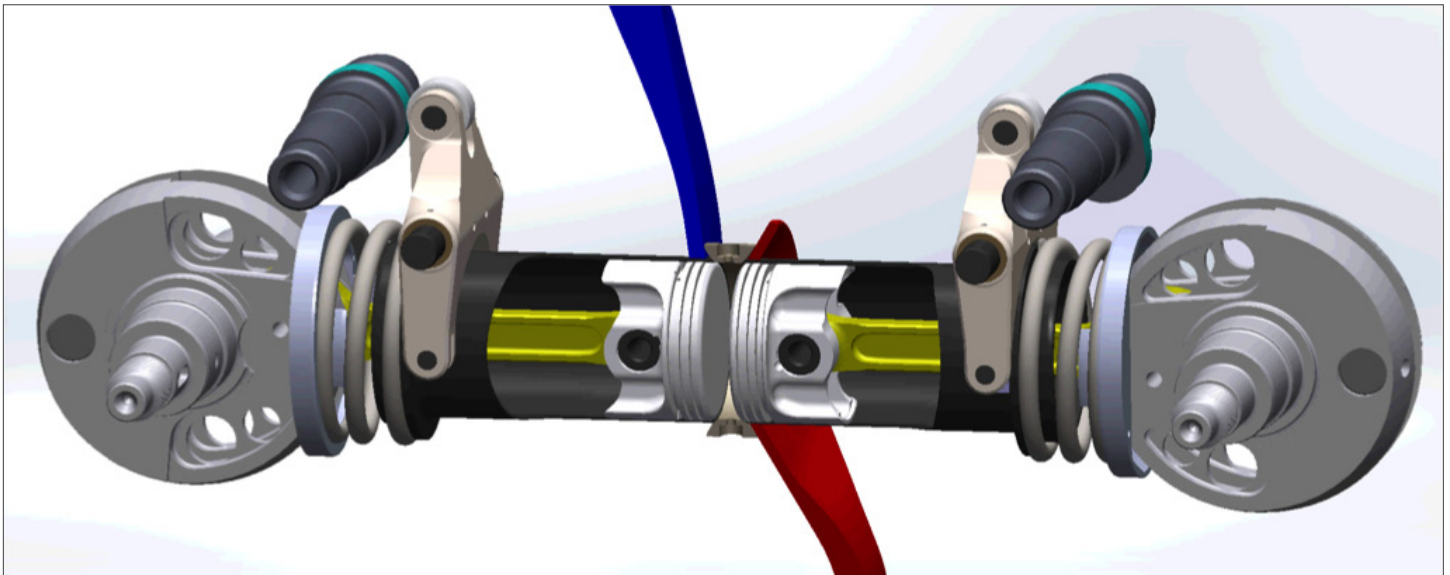


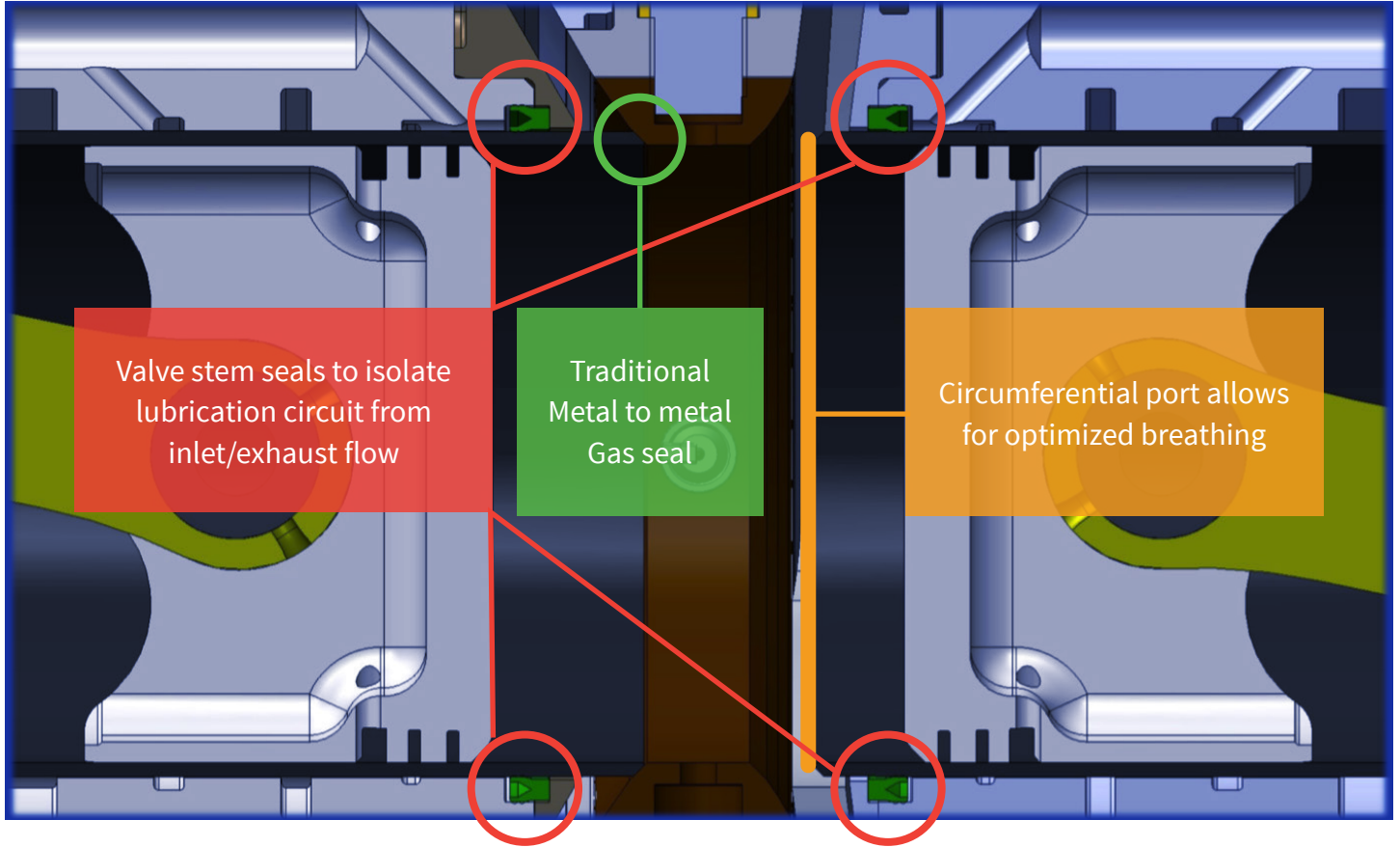
HOW THE ENGINE WORKS

OPPOSED PISTON 4-STROKE



- Cranks and Cams connected with synchronous drive: gears, toothed belt(s), or chain(s)
- Power typically extracted concentric to one crankshaft
- Cylinder head replaced by second piston
- Moving cylinder walls replace poppet valves
- Conventional components:
 - Piston, piston rings rod, crank, cam, rocker...
 - Sleeve valve is a conventional cylinder liner made moveable
 - Large valve stem seal

PINNACLE ENGINE'S SLEEVE VALVE



LOW HEAT LOSS – Low surface area to volume ratio

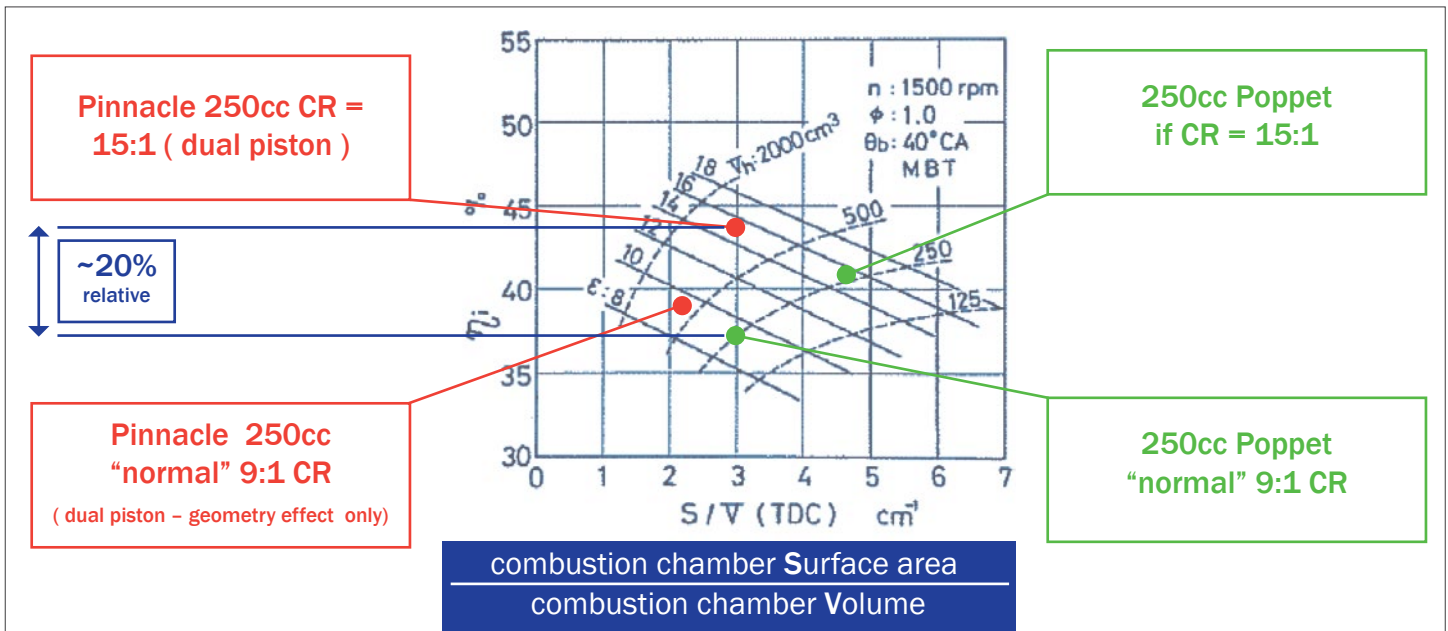
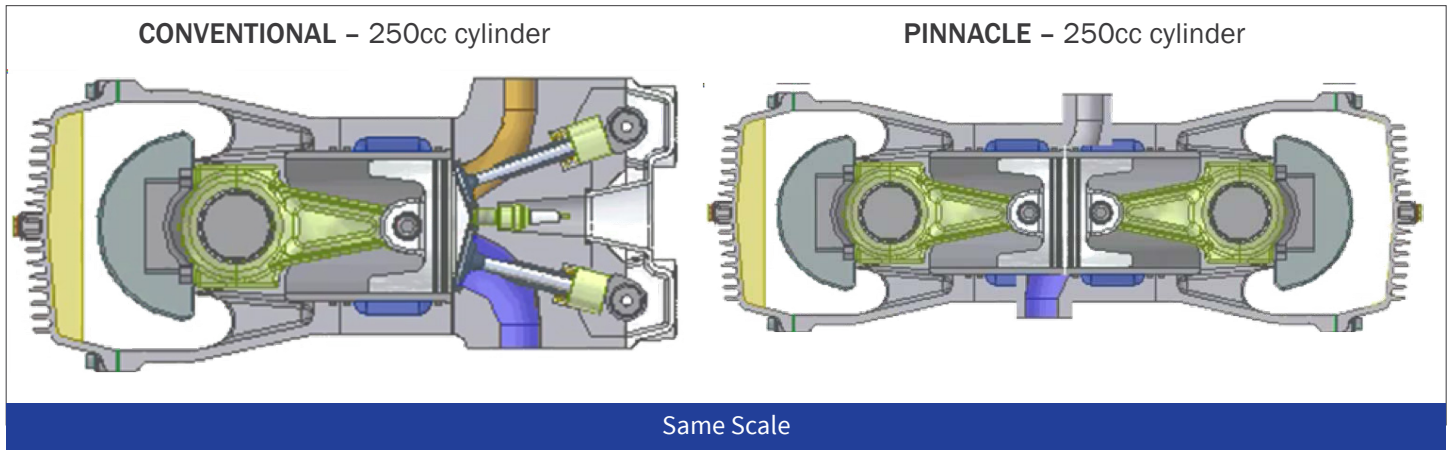


Fig.12 Relationship between S/V and η_i

SAE paper 870548, Factors limiting the improvement in thermal efficiency of SI engine at higher Compression ratio Muranaka, Takagi and Ishida Nissan Motor company International Congress Detroit Feb 1987

Nissan Study on Limitations of High CR