Determine the tolerance and the limits for the part x.
Coordinate dimensioning stack-up
Avoid coordinate dimensioning stack-up by using a common reference point and dimensioning the hole spacing directly (B).
Clearance Fit

- .515 MMC Hole
- .510 MMC Shaft
- .005 Allowance (Tightest Fit)
- .535 LMC Hole
- .490 LMC Shaft
- .045 Clearance (Loosest Fit)

For a Clearance Fit the Allowance is Positive

Interference Fit

- .500 MMC Hole
- .499 MMC Shaft
- .007 Allowance (Tightest Fit)
- .494 LMC Hole
- .496 LMC Shaft
- .004 Clearance (Loosest Fit)

For an Interference Fit the Clearance is Negative

Transition Fit

- .500 MMC Hole
- .499 MMC Shaft
- .001 Allowance (Tightest Fit)
- .496 LMC Hole
- .496 LMC Shaft
- .006 Clearance (Loosest Fit)

For a Transition Fit the Allowance is Negative and the Clearance is Positive
Tolerance Types

Bilateral:

Symmetric  \[4.685 \pm 0.004\]

Assymetric  \[4.687^{+.002}_{-.006}\]

Limits:  
\[4.689\]
\[4.681\]

Unilateral:

Hole  \[4.681^{+.008}_{-0}\]

Shaft  \[4.689^{+0}_{-.008}\]