

Pull Box Sizing Calculator

Estimate preliminary straight-pull and angle-pull box dimension references from the largest raceway diameter and same-wall raceway sum before verifying NEC 314.28, conductor layout, splices, bend radius, manufacturer data, and AHJ interpretation.

Generated October 10, 2026

<https://www.elecatrix.com/testing-protection-grounding/pull-box-sizing-calculator/>

Inputs

Input	Value	Unit
Largest raceway size	2	in
Same-wall raceway sum	3	in
Pull type	Angle or U pull	
Raceway-size basis note	N/A	
Layout basis note	N/A	
Conductor basis note	N/A	
Code-review basis note	N/A	

Results

Result	Value	Unit
Straight-pull length reference	16	in
Angle-pull length reference	15	in
Recommended minimum screening length	16	in
Largest raceway used	2	in
Same-wall raceway sum used	3	in
Selected pull type	angle	
Straight-pull multiplier	8	x
Angle or U pull multiplier	6	x
Controlling screening reference	16	in

Calculation details

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Detail	Value	Unit
Controlling reason	straight_reference_controls_angle_or_u_screening	
Calculation basis	Conservative pull-box screening using 8x largest raceway for straight-pull reference and 6x largest raceway plus same-wall raceway sum for angle or U pull reference.	
NEC 314.28 boundary	NEC 314.28 context is used as a screening frame only; verify the currently adopted NEC edition, local amendments, AHJ interpretation, and exact field layout.	
Layout boundary	No wall-by-wall raceway layout, opposite-wall distance, pull direction, enclosure shape, entry orientation, or field obstruction is approved by this calculator.	
Conductor-size boundary	No conductor size applicability, conductor bend radius, insulation type, conductor count, box fill, terminal space, or equipment termination review is completed by this calculator.	
Splice/U-pull boundary	No splice, U-pull, angled pull, combination pull, or multiple-raceway installation approval is made by this calculator beyond the entered screening values.	
Code-compliance boundary	No final NEC, AHJ, manufacturer, conductor-bend-radius, splice, box-fill, enclosure, listing, installation, or inspection approval is made by this calculator.	

Formulas

Straight-pull reference = 8D

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Angle or U pull reference = $6D + S_{\text{same-wall}}$

Controlling reference = $\max(\text{straight reference}, \text{angle/U reference})$

straight-pull reference = $8 \times \text{largest raceway size}$

angle or U pull reference = $6 \times \text{largest raceway size} + \text{same-wall raceway sum}$

controlling screening reference = straight reference for straight pulls; $\max(\text{straight reference}, \text{angle or U reference})$ for conservative angle or U screening

code-compliance boundary = no final NEC, AHJ, manufacturer, conductor-bend-radius, splice, box-fill, enclosure, listing, installation, or inspection approval is made by this calculator

Warnings and limitations

This calculator provides NEC-aware screening arithmetic only. It is not a final box selection, not a conductor-bend-radius review, not splice or U-pull approval, not enclosure or listing verification, not manufacturer approval, and not code-compliance. Verify current adopted NEC 314.28 text, local amendments, conductor sizes, raceway layout, same wall raceway entries, splices, angle/U/straight pull conditions, equipment instructions, AHJ interpretation, and field conditions before design, installation, or inspection decisions.