

## Hub specifications and wheel building information

Hub Type	Axle Type	Axle Width (mm)	Flange Diameter Drive Side (mm)	Flange Diameter non-Drive Side (mm)	Center to Flange Drive Side (mm)	Center to Flange non-Drive Side (mm)	Frame Attachment Options	Available Spoke Hole Drilling	Upgrade & Conversion Options	Weight* (grams)
R45 front	two piece	100	39.8	39.8	34.8	34.8	QR	20, 24, 28, 32	-	103
R45 rear	one piece	130	51.0	51.0	18.9	34.6	QR	24, 28, 32	-	221
R45 Campagnolo rear	one piece	130	51.0	51.0	17.1	36.2	QR	24, 28, 32	-	225.7 <sup>a</sup>
R45 ceramic front	two piece	100	39.8	39.8	34.8	34.8	QR	20, 24, 28, 32	-	99
R45 ceramic rear	one piece	130	51.0	51.0	18.9	34.6	QR	24, 28, 32	-	216
R45 Campagnolo ceramic rear	one piece	130	51.0	51.0	17.1	36.2	QR	24, 28, 32	-	216.5 <sup>a</sup>
Classic Road/Cross/Mtn front	two piece	100	53.0	53.0	34.3	34.3	QR	28, 32, 36	-	136
Classic Road/Cross rear	two piece	130	53.0	53.0	17.2	37.3	QR	28, 32, 36	1, 2, 3	276
Classic Mountain rear	one piece	135	53.0	53.0	21.0	33.5	QR/FB	28, 32, 36	1, 2, 3	302
Classic low flange front	two piece	100	40.0	40.0	34.0	34.0	QR	28, 32, 36	-	112
Classic low flange rear	two piece	130	53.0	44.0	18.5	38.5	QR	28, 32, 36	1, 2, 3	264
Classic Mtn low flange rear	two piece	135	53.0	44.0	21.0	36.0	QR	28, 32, 36	1, 2, 3	266
Single Speed Road rear	one piece	130	53.0	53.0	31.2	36.2	QR/FB	28, 32, 36	1	370 <sup>a</sup>
Single Speed Mountain rear	one piece	135	53.0	53.0	33.7	33.7	QR/FB	28, 32, 36	1	375 <sup>a</sup>
BMX high flange front	one piece	100	53.0	53.0	34.3	34.3	BO	28, 32, 36	-	216 <sup>b</sup>
BMX high flange rear	one piece	110	53.0	53.0	27.3	27.3	BO	28, 32, 36	-	388 <sup>c</sup>
BMX low flange front	one piece	100	40.0	40.0	34.0	34.0	BO	28, 32, 36	-	194 <sup>b</sup>

<b>Frame Attachment Options</b> QR: Quick release only BO: Bolt-on only QR/FB: Quick release or FunBolts (FunBolts only compatible with rear one piece axle)	<b>Upgrade &amp; Conversion Options</b> 1. Convertible to 130mm and 135mm one piece axle (allowing FunBolts option) 2. Convertible to 130mm, 135mm, and 140mm axle widths when using a two piece axle 3. Convertible to stainless steel driveshell
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<b>Wheel Building Specifications</b> Spoke Gauge: 13, 14, or 15 gauge Spoke Lacing Pattern: All hubs 3-or-more cross, except R45 Hubs are 1-or-more cross Spoke Hole Diameter: 2.5mm	<b>Weight Details</b> * Add 48g if hub features a stainless steel driveshell a. Weight includes 18t stainless steel cog (37g), Single Speed cog spacers (9g) Single Speed cog lock ring (4g) and FunBolts (42g) b. Weight includes BMX axle bolts with washers (44g/pair) c. Weight includes BMX axle bolts with washers (44g/pair), 18t stainless steel cog (32g), and Single Speed cog lock ring (4g) d. Weight includes FunBolts (42g) e. Campagnolo hubs come with an 11-tooth lock ring (5.5g). Optional 12-tooth lock ring available aftermarket.
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