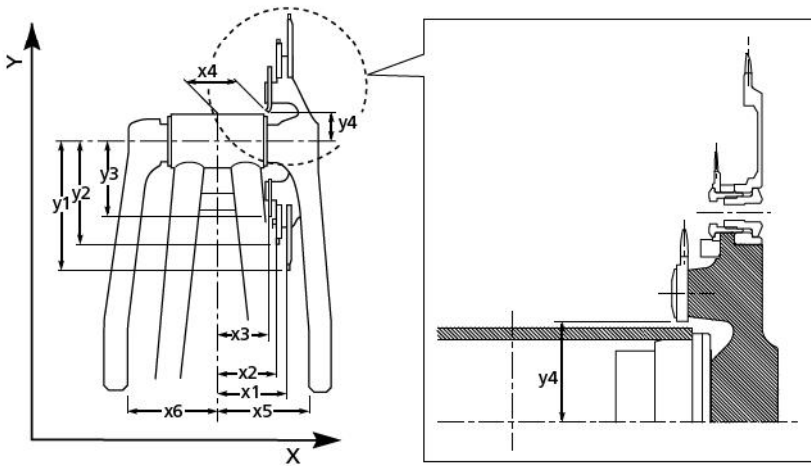


Front chainwheel

Front chainwheel for MTB & Comfort

1. Crankset dimensions

Below are the dimensions for the Shimano chainwheels.
Design the frame while referring to these dimensions to ensure no interference.



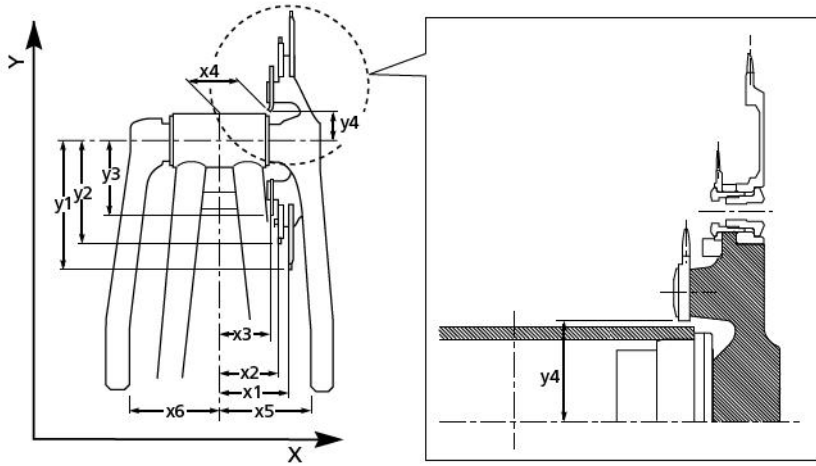
NOTE:
When using pressfit BB, please take special care for X4, Y4 dimension of the Front chainwheel to avoid interference between inner ring chainring and the outer side of the BB shell of the frame.

Frame Requirement

< Y dimensions >

Speed	Model No.	Gear	y1	y2	y3	y4
10	NEW FC-M980	42-32-24	87.7	67.7	52.3	24.5
	NEW FC-M980	38-26	-	79.6	55.4	24.5
	NEW FC-M985	40-28	83.6	59.5	-	35.4
	NEW FC-M985	42-30	87.7	63.6	-	35.4
	NEW FC-M985	44-30	91.7	63.6	-	35.4
	NEW FC-M770-10	42-32-24	87.7	67.7	52.3	24.5
	NEW FC-M660-10	42-32-24	87.7	67.7	52.3	25.0
	NEW FC-M552	42-32-24	87.7	67.7	52.3	25.0
9	FC-M815-2/M810-2	36-22T	83.9*	75.6	48.3	24.5
	FC-M665/M545	36-22T	83.9*	75.6	48.3	25.0
	FC-M815-1 FC-M810-1	34T	83.9*	72.4	-	-
		36T	83.9*	76.4	-	-
		38T	98.8*	80.4	-	-
		40T	98.8*	84.5	-	-
		42T	98.8*	88.5	-	-
	FC-M770	44-32-22T	91.7	67.7	48.3	24.5
	FC-M771-K	48-36-26T	99.8	75.1	56.2	24.0
	FC-M660/T661	44-32-22T	91.7	67.7	48.3	25.0
		48-36-26T	99.8	75.6	56.2	24.0
	FC-M591/M590 FC-M543-K	44-32-22T	91.7	67.0	48.1	24.5
		48-36-26T	99.8	75.0	56.2	24.0
	FC-M542	44-32-22T	91.7	67.0	48.1	24.5
	FC-M521	44-32-22T	91.7	67.0	48.1	20.0
48-36-26T		99.8	75.1	56.2	20.0	
NEW FC-M430/M431	44-32-22T	91.7	67.0	48.1	20.0	
NEW FC-M431(48T)	48-36-26T	99.8	75.1	56.2	20.0	

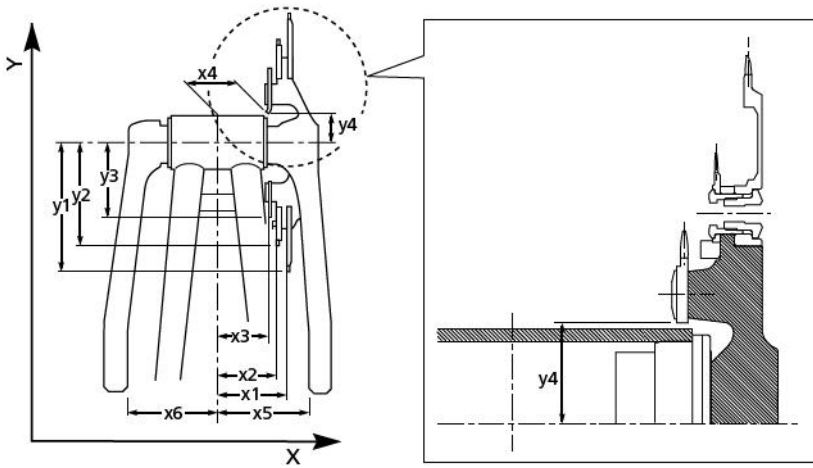
*: Bash guard dimension



NOTE:
When using pressfit BB, please take special care for X4, Y4 dimension of the Front chainwheel to avoid interference between inner ring chainring and the outer side of the BB shell of the frame.

< Y dimensions >

Speed	Model No.	Gear	y1	y2	y3	y4
8/7	FC-M411(48T)	48-38-28T	100.3	80.1	60.3	20.0
	FC-M411	42-32-22T	87.7	68.2	47.2	20.0
	FC-M410	42-32-22T				
	FC-M361	42-32-22T	87.7	68.2	47.2	20.0
		48-38-28T	100.3	80.1	60.3	20.0
	FC-M361-8	42-32-22T	87.7	68.2	47.1	20.0
	FC-M311	42-32-22T	87.7	68.2	47.2	20.0
		48-38-28T	100.2	79.3	59.3	25.5
FC-M311-8	42-32-22T	87.7	68.2	47.1	20.0	
8	FC-C810	46-34-24T	95.5	71.0	52.2	24.5
8/7/6	NEW FC-M131/M171	42-34-24T	88.0	71.9	50.7	21.3
		48-38-28T	100.3	79.9	59.8	24.7
1	FC-MX70	34T	-	-	72.2	43.6
		38T	-	-	80.3	43.6
		41T	-	-	86.3	43.6
		42T	-	-	88.3	43.6
		43T	-	-	90.4	43.6
		44T	-	-	92.4	43.6
		46T	-	-	96.4	43.6



NOTE:
When using pressfit BB, please take special care for X4, Y4 dimension of the Front chainwheel to avoid interference between inner ring chainring and the outer side of the BB shell of the frame.

< X dimensions >

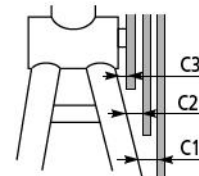
* Chain case stay thickness should be 1.8 ± 0.3 mm.

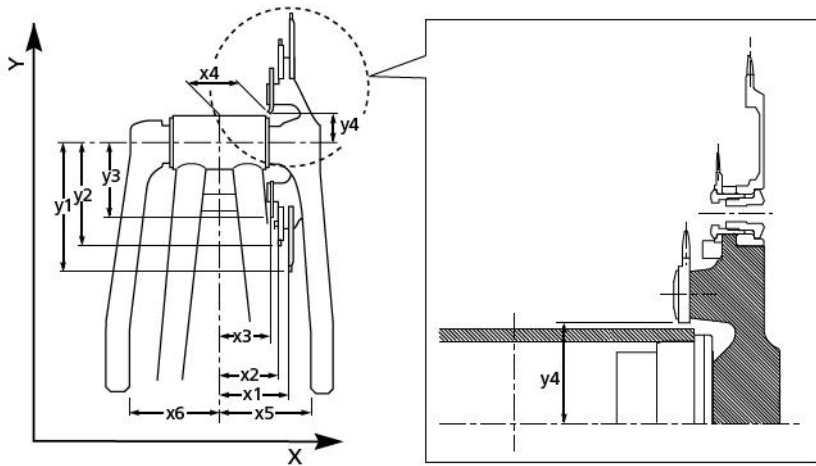
	Model No.	Chainline	x1	x2	x3	x4	x5	x6
10	NEW FC-M980	42-32-24	50.0	55.8	48.3	40.6	40.4	69.0
	NEW FC-M980	38-26	46.7	-	48.3	40.3	40.2	69.0
	NEW FC-M985	40-28	48.7	50.3	42.3	-	41.4	66.0
	NEW FC-M985	42-30	48.7	50.3	42.3	-	41.4	66.0
	NEW FC-M985	44-30	48.7	50.3	42.3	-	41.4	66.0
	NEW FC-M770-10	42-32-24	50.0	55.7	48.2	40.6	39.4	72.2
	NEW FC-M660-10	42-32-24	50.0	55.7	48.2	40.6	40.3	72.2
	NEW FC-M552	42-32-24	50.0	55.7	48.2	40.6	40.3	71.7
9	FC-M970	44-32-22/24T	50.0	56.0	48.3	40.4	40.2	69.0
	FC-M810-1	34/36/38/40/42T	50.4*2	53.6*1	47.8	-	-	70.8
	FC-M810-2	36-22T	46.8*3	53.6*1	48.3	40.4	39.5	70.8
	FC-M815-1	34/36/38/40/42T	57.9*2	61.1*1	55.3	-	-	78.3
	FC-M815-2	36-22T	54.3*3	61.1*1	55.8	47.9	47.0	78.3
	FC-M770	44-32-22T	50.0	56.0	48.3	40.4	39.5	72.2
	FC-M771-K	48-36-26T	50.0	55.2	47.9	39.9	38.9	78.7
	FC-M665	36-22T	46.8	53.6*1	48.3	40.4	39.5	70.5
	FC-M660	44-32-22T	50.0	56.0	48.3	40.4	39.5	72.2
		48-36-26T	50.0	55.9	48.4	40.4	40.4	78.7
	FC-T661	44-32-22T	50.0	56.0	48.3	40.4	39.5	72.2
		48-36-26T	50.0	55.9	48.4	40.4	40.4	78.7
	FC-M545	36-22T	46.8	53.6	48.3	40.4	39.5	70.9
	FC-M543-K	44-32-22T	50.0	55.2	47.9	39.9	39.9	78.4
		48-36-26T						
	FC-M542	44-32-22T	50.0	55.2	47.9	39.9	39.9	71.7
		48-36-26T						
	FC-M591	44-32-22T	50.0	55.2	47.9	39.9	39.9	78.4
		48-36-26T						
	FC-M590	44-32-22T	50.0	55.2	47.9	39.9	39.9	71.7
		48-36-26T						
	FC-M521	44-32-22T	50.0	55.2	47.9	39.9	39.9	80.6
		48-36-26T						
	NEW FCM430	44-32-22T	50.0	55.2	47.9	39.9	37.9	74.8
NEW FCM431	44-32-22T	50.0	55.2	47.9	39.9	37.9	81.4	
	48-36-26T							
NEW FCM430-8	44-32-22T	50.0	55.2	47.9	39.9	37.9	75.3	
NEW FCM431-8	44-32-22T	50.0	55.2	47.9	39.9	37.9	81.9	
	48-36-26T							

- *1: Bash guard dimension
- *2: Single gear position
- *3: Center of middle-low gear

Note:

When you want a frame design which minimizes the risk of the frame being scratched by the chain, (e.g. when removing the chain from between the gear and the frame, after the chain has come off, or when freeing a jammed chain) make dimensions C1, C2 and C3 larger than the chain width (more than 10 mm).





NOTE:
When using pressfit BB, please take special care for X4, Y4 dimension of the Front chainwheel to avoid interference between inner ring chainring and the outer side of the BB shell of the frame.

< X dimensions >

* Chain case stay thickness should be 1.8 ± 0.3 mm.

	Model No.	Chainline	x1	x2	x3	x4	x5	x6	
8/7	FC-M411(48T)	48-38-28T	50.0	55.5	47.7	39.9	37.9	80.4	75.9
	FC-M411	42-32-22T							
	FC-M410	42-32-22T	50.0	55.8	48.0	40.2	38.2	74.1	74.3
	FC-M361	42-32-22T	50.0	55.5	47.7	39.9	37.9	79.2	75.5
		48-38-28T							
	FC-M361-8	42-32-22T	50.0	55.5	47.7	39.9	37.9	79.5	74.9
	FC-M311	42-32-22T	50.0	55.5	47.7	39.9	38.6	80.9	74.5
48-38-28T									
FC-M311-8	42-32-22T	50.0	55.5	47.7	39.9	38.6	81.8	76.8	
8	FC-C810	46-34-24T	50.0	55.7	48.2	40.3	40.3	76.9	76.9
8/7/6	FC-M131/M171	42-34-24T	47.5	52.7	45.5	37.3	35.9	76.5	75.0
			47.5+t	52.7+t	45.5+t	37.3+t	35.9+t	76.5+t	75-t
		48-38-28T	47.5	52.5	45.9	36.3	36.1	76.5	75.0
			47.5+t	52.5+t	45.9+t	36.3+t	36.1+t	76.5+t	75-t
1	FC-MX70	46/44/43/42/41/38/34T	44.0	-	-	41.4	40.1	70.1	70.1

Note:

When you want a frame design which minimizes the risk of the frame being scratched by the chain, (e.g. when removing the chain from between the gear and the frame, after the chain has come off, or when freeing a jammed chain) make dimensions C1, C2 and C3 larger than the chain width (more than 10 mm).

