

# SHIMANO SPEC. HANDBOOK 2011-2012

This information was updated on February 1,2011. Shimano makes no warranty with respect to this information, including without limitation any warranty on the accuracy of measures, specifications and compatibility of the current products. Regarding any modification and new product information after February 1,2011, please refer to the Shimano Business Customer Web Site or directly contact the sales person of our company.

## Table of Contents

### MTB

RD	<u>Page 1</u>
FD	<u>Page 5</u>
SL (ST)	<u>Page 14</u>
BL (ST)	<u>Page 27</u>
BR	<u>Page 35</u>
Disc BR (Caliper)	<u>Page 37</u>
Disc BR (Lever)	<u>Page 39</u>
Disc BR (Rotor)	<u>Page 42</u>
HRB	<u>Page 47</u>
PM	<u>Page 49</u>
FC	<u>Page 50</u>
BB	<u>Page 61</u>
FH-Standard	<u>Page 62</u>
FH-Disc Brake	<u>Page 64</u>
FH-Roller Brake	<u>Page 67</u>
HB-Standard	<u>Page 68</u>
HB-Disc Brake	<u>Page 70</u>
HB-Disc Brake (Thru Axle)	<u>Page 73</u>
HB-Roller Brake	<u>Page 74</u>
CS/MF	<u>Page 75</u>
CN	<u>Page 80</u>
EW	<u>Page 82</u>

### NEXAVE

ST/FH/HB	<u>Page 83</u>
----------	----------------

### ROAD

RD	<u>Page 84</u>
FD	<u>Page 86</u>
ST / SL / BL	<u>Page 92</u>
BR	<u>Page 99</u>
FC	<u>Page 101</u>
BB	<u>Page 106</u>
FH	<u>Page 108</u>
HB	<u>Page 109</u>
CS	<u>Page 111</u>
CN	<u>Page 115</u>

### General Items

HP	<u>Page 117</u>
WH (MTB)	<u>Page 118</u>
WH (ROAD)	<u>Page 122</u>
WH (TREKKING)	<u>Page 128</u>
SPD-SL	<u>Page 129</u>
SPD	<u>Page 130</u>
SC	<u>Page 133</u>
SM	<u>Page 135</u>
ID	<u>Page 136</u>
LP	<u>Page 137</u>
HB-Dynamo	<u>Page 138</u>

### DURA-ACE 7970 Series

RD/FD/ST/SM/SW	<u>Page 144</u>
----------------	-----------------

### ULTEGRA 6770 Series

RD/FD/ST/SM/SW	<u>Page 146</u>
----------------	-----------------

### Capreo

RD/CS/SL/BL/BR/ FC/HB/FH	<u>Page 148</u>
-----------------------------	-----------------

### Alfine

SG/CT/CS/SL/BL/ BR/FC	<u>Page 150</u>
--------------------------	-----------------

### Nexus

Inter 8	<u>Page 152</u>
Inter 7	<u>Page 153</u>
Inter 3	<u>Page 154</u>

Inter-S	<u>Page 155</u>
Inter-C	<u>Page 157</u>
Others	<u>Page 158</u>

### Corrections & Additions

	<u>Page 159</u>
--	-----------------

**\*\*REMARKS Mark X : available / Mark - : not available**

\* All information in this spec. handbook is confidential and has been given to you for the sole use of your product development staff.

This information should not be photo copied.

Issued on Feb. 1, 2011

SHIMANO INC.

Printed in Japan

## Rear Derailleur (MTB) Specifications

Series	XTR	XTR	XTR	XTR	SAINT	SAINT	Deore XT	Deore XT	Deore XT	Deore XT	
Model No.	RD-M985	RD-M985	RD-M980	RD-M980	RD-M810A	RD-M810A	RD-M780	RD-T780	RD-M780	RD-M772	
Pulley Cage	SGS	GS	SGS	GS	GS	SS	SGS	SGS	GS	SGS	
Speeds	10	10	10	10	9	9	10	10	10	9	
Low-Normal Spring Type	-	-	-	-	-	-	-	-	-	-	
Top-Normal Spring Type	X	X	X	X	X	X	X	X	X	X	
Max Front Difference	18T	18T	18T	18T	14T	Front single use	18T	22T	18T	22T	
Total Capacity	41T	35T	41T	35T	31/37T*	17/23T*	43T	45T	35T	45T	
Max. Low Sprocket	36T	36T	36T	36T	28/36T*	28/36T*	36T	34T	36T	36T	
Min. Low Sprocket	32T	32T	32T	32T	23/32T*	23/32T*	32T	28T	32T	32T	
Min. Top Sprocket	11T	11T	11T	11T	11T	11T	11T	11T	11T	11T	
Riveted Adapter	-	-	-	-	-	-	-	-	-	-	
Available	Road type	-	-	-	-	-	-	-	-	-	
	Bmx-Track type	-	-	-	-	-	-	-	-	-	
Direct Attachment	X	X	X	X	X	X	X	X	X	X	
Detachable Bracket	-	-	-	-	-	-	-	-	-	-	
Cable adjuster	-	-	-	-	-	-	-	-	-	-	
Wheel-Type Cable Guide	-	-	-	-	-	-	-	-	-	-	
Fluoric Coated Link Bushings	4	4	4	4	4	4	4	4	4	4	
Sealed Bearing Guide Pulley	X	X	X	X	-	-	X	-	X	-	
Ceramic bush Guide Pulley	-	-	-	-	X	X	-	X	-	X	
Sealed Bearing Tension Pulley	X	X	X	X	X	X	X	X	X	X	
Pulley teeth	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	
Pulley Bolt Retainer	X	X	X	X	X	X	-	-	-	-	
Bracket Body	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Anodized	Anodized	Anodized	Anodized	Painted	Painted	Painted	Painted	Painted	
Plate Body	Material	Engineering Composite	Engineering Composite	Engineering Composite	Engineering Composite	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Outer Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Anodized	Anodized	Anodized	Anodized	Painted	Painted	Painted	Painted	Painted	
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Anodized	Anodized	Anodized	Anodized	Painted	Painted	Painted	Painted	Painted	
Outer Plate	Material	Carbon	Carbon	Carbon	Carbon	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Painted	Painted	Painted	Painted	Painted	
Inner Plate	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Anodized	Anodized	Anodized	Anodized	Painted	Painted	Painted	Painted	Painted	
Removable Rubber Bumper	-	-	-	-	-	-	-	-	-	-	
NOTE	SHIMANO SHADOW RD+ Bracket: AL B-Axle: AL	SHIMANO SHADOW RD+ Bracket: AL B-Axle: AL	SHIMANO SHADOW RD Bracket: AL B-Axle: AL	SHIMANO SHADOW RD Bracket: AL B-Axle: AL	SHIMANO SHADOW RD Bracket: AL B-Axle: AL	SHIMANO SHADOW RD *Mode converter	SHIMANO SHADOW RD *Mode converter	SHIMANO SHADOW RD Bracket: AL, Silver / Black	with hollow bracket fixing bolt Silver / Black	SHIMANO SHADOW RD Bracket: AL, Silver / Black	SHIMANO SHADOW RD Bracket: Steel

Specifications are subject to change without prior notice.

## Rear Derailleur (MTB) Specifications

Series	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	SLX	SLX	SLX	Deore LX	Deore
Model No.	RD-M772	RD-M771	RD-M771	RD-M770	RD-M770	RD-M663	RD-M662	RD-M662	RD-T661	RD-M593
<b>Pulley Cage</b>	GS	SGS	GS	SGS	GS	SGS	SGS	GS	SGS	SGS
<b>Speeds</b>	9	9	9	9	9	10	9	9	9	10
<b>Low-Normal Spring Type</b>	-	-	-	X	X	-	-	-	-	-
<b>Top-Normal Spring Type</b>	X	X	X	-	-	X	X	X	X	X
<b>Max Front Difference</b>	22T	22T	22T	22T	22T	18T	22T	22T	22T	18T
<b>Total Capacity</b>	35T	45T	35T	45T	35T	43T	45T	35T	43T	43T
<b>Max. Low Sprocket</b>	36T	34T	34T	34T	34T	36T	36T	36T	32T	36T
<b>Min. Low Sprocket</b>	32T	32T	32T	32T	32T	32T	32T	32T	28T	32T
<b>Min. Top Sprocket</b>	11T	11T	11T	11T	11T	11T	11T	11T	11T	11T
<b>Riveted Adapter Available</b>										
<b>Road type</b>	-	-	-	-	-	-	-	-	-	-
<b>Bmx-Track type</b>	-	-	-	-	-	-	-	-	-	-
<b>Direct Attachment</b>	X	X	X	X	X	X	X	X	X	X
<b>Detachable Bracket</b>	-	-	-	-	-	-	-	-	-	-
<b>Cable adjuster</b>	-	-	-	-	-	-	-	-	X	-
<b>Wheel-Type Cable Guide</b>	-	-	-	-	-	-	-	-	-	-
<b>Fluoric Coated Link Bushings</b>	4	4	4	4	4	3	3	3	2	3
<b>Sealed Bearing Guide Pulley</b>	-	-	-	-	-	-	-	-	-	-
<b>Ceramic bush Guide Pulley</b>	X	X	X	X	X	-	-	-	-	-
<b>Sealed Bearing Tension Pulley</b>	X	X	X	X	X	-	-	-	-	-
<b>Pulley teeth</b>	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T	11/11T
<b>Pulley Bolt Retainer</b>	-	-	-	-	-	-	-	-	-	-
<b>Bracket Body</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Plate Body</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Outer Link</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Inner Link</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel	Steel	Steel	Steel
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Outer Plate</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel	Steel	Steel	Steel
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Inner Plate</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Removable Rubber Bumper</b>	-	X	X	X	X	-	-	-	-	-
<b>NOTE</b>	SHIMANO SHADOW RD Bracket:Steel	with hollow bracket fixing bolt	with hollow bracket fixing bolt	with hollow bracket fixing bolt	with hollow bracket fixing bolt	SHIMANO SHADOW RD Bracket:Steel	SHIMANO SHADOW RD Bracket:Steel	SHIMANO SHADOW RD Bracket:Steel	with hollow bracket fixing bolt	SHIMANO SHADOW RD Bracket:Steel

## Rear Derailleur (MTB) Specifications

Series	Deore	Deore	Deore	Alivio	Alivio	Alivio	Alivio	Acera	Acera	Acera
Model No.	RD-M592	RD-M591 (L)	RD-M591 (S)	RD-M430 (L)	RD-M430 (S)	RD-M410 (L)	RD-M410 (NS)	RD-M390 (L)	RD-M390 (S)	RD-M360 (L)
<b>Pulley Cage</b>	SGS	SGS	SGS	SGS	SGS	SGS	SGS	SGS	SGS	SGS
<b>Speeds</b>	9	9	9	9	9	8/7	8/7	9	9	8/7
<b>Low-Normal Spring Type</b>	-	-	-	-	-	-	-	-	-	-
<b>Top-Normal Spring Type</b>	X	X	X	X	X	X	X	X	X	X
<b>Max Front Difference</b>	22T	22T	22T	22T	22T	20T	20T	22T	22T	20T
<b>Total Capacity</b>	45T	45T	45T	45T	45T	43T	43T	45T	45T	43T
<b>Max. Low Sprocket</b>	36T	34T	34T	34T	34T	34T	34T	34T	34T	34T
<b>Min. Low Sprocket</b>	32T	28T	28T	28T	28T	28T	28T	28T	28T	28T
<b>Min. Top Sprocket</b>	11T	11T	11T	11T	11T	11T	11T	11T	11T	11T
<b>Riveted Adapter Available</b>										
<b>Road type</b>	-	-	-	-	-	-	-	-	-	-
<b>Bmx-Track type</b>	-	-	-	-	-	-	-	-	-	-
<b>Direct Attachment</b>	X	X	X	X	X	X	X	X	X	X
<b>Detachable Bracket</b>	-	-	-	-	-	-	-	-	-	-
<b>Cable adjuster</b>	-	X	X	X	X	X	X	X	X	X
<b>Wheel-Type Cable Guide</b>	-	-	-	-	-	-	-	-	-	-
<b>Fluoric Coated Link Bushings</b>	3	2	2	2	2	2	2	1	1	1
<b>Sealed Bearing Guide Pulley</b>	-	-	-	-	-	-	-	-	-	-
<b>Ceramic bush Guide Pulley</b>	-	-	-	-	-	-	-	-	-	-
<b>Sealed Bearing Tension Pulley</b>	-	-	-	-	-	-	-	-	-	-
<b>Pulley teeth</b>	11/11T	11/11T	11/11T	11/11T	11/11T	13/13T	13/13T	11/11T	11/11T	13/13T
<b>Pulley Bolt Retainer</b>	-	-	-	-	-	-	-	-	-	-
<b>Bracket Body</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Plate Body</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Resin	Resin	Resin	Resin	Resin	Resin	Resin
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	-	-	Painted	Painted	-
<b>Outer Link</b>										
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Inner Link</b>										
<b>Material</b>	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Zinc Plated
<b>Outer Plate</b>										
<b>Material</b>	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Inner Plate</b>										
<b>Material</b>	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Zinc Plated
<b>Removable Rubber Bumper</b>	-	-	-	-	-	-	-	-	-	-
<b>NOTE</b>	SHIMANO SHADOW RD Bracket:Steel	Black version	Silver version	Black version	Silver version	Black version	Neutral Silver version	Black version	Silver version	Black version

## Rear Derailleur (MTB) Specifications

Series	Acera	Altus	Altus	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney
Model No.	RD-M360 (S)	RD-M310 (L)	RD-M310 (S)	RD-TX75	RD-TX55	RD-TX35	RD-FT30	RD-TZ50	RD-TY18	RD-TY18
Pulley Cage	SGS	Smart	Smart	SGS	SGS	SGS	SS	GS	GS	SS
Speeds	8/7	8/7	8/7	7/6	7/6	7/6	7/6	6	6	6
Low-Normal Spring Type	-	-	-	-	-	-	-	-	-	-
Top-Normal Spring Type	X	X	X	X	X	X	X	X	X	X
Max Front Difference	20T	20T	20T	20T	20T	20T	Front single use	20T	20T	13T
Total Capacity	43T	43T	43T	43T	43T	43T	17T	34T	34T	28T
Max. Low Sprocket	34T	34T	34T	34T	34T	34T	28T	28T	28T	28T
Min. Low Sprocket	28T	28T	28T	28T	28T	28T	28T	28T	28T	28T
Min. Top Sprocket	11T	11T	11T	11T	11T	11T	11T	14T	14T	14T
Riveted Adapter Available	Road type	-	-	X	X	X	X	X	X	X
	Bmx-Track type	-	-	-	X	X	X	-	X	-
Direct Attachment	X	X	X	X	X	X	X	X	X	X
Detachable Bracket	-	-	-	-	-	-	-	-	-	-
Cable adjuster	X	X	X	X	X	X	X	X	X	X
Wheel-Type Cable Guide	-	-	-	X	X	-	X	-	-	-
Fluoric Coated Link Bushings	1	-	-	-	-	-	-	-	-	-
Sealed Bearing Guide Pulley	-	-	-	-	-	-	-	-	-	-
Ceramic bush Guide Pulley	-	-	-	-	-	-	-	-	-	-
Sealed Bearing Tension Pulley	-	-	-	-	-	-	-	-	-	-
Pulley teeth	13/13T	13/15T	13/15T	13/13T	13/13T	13/13T	11/11T	11/11T	10/10T	10/10T
Pulley Bolt Retainer	-	-	-	-	-	-	-	-	-	-
Bracket Body	Material	Aluminum	Aluminum	Aluminum	Resin	Resin	Resin	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	-	-	-	Zinc Plated	Painted	Zinc Plated
Plate Body	Material	Resin	Resin	Resin	Resin	Resin	Resin	Steel	Resin	Steel
	Finish	Painted	-	-	-	-	-	Painted	-	Zinc Plated
Outer Link	Material	Steel	Steel	Steel	Aluminum	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	-	Painted	Painted	Painted	Painted	Painted
Inner Link	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	Painted	Painted	Zinc Plated
Outer Plate	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Chrome Plated	Pearl Bright	Painted	Zinc Plated
Inner Plate	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Zinc Plated	Zinc Plated	Zinc Plated	Painted	Painted	Painted	Painted	Painted	Zinc Plated
Removable Rubber Bumper	-	-	-	-	-	-	-	-	-	-
NOTE	Silver version	Black version	Silver version					For folding bike with over 16inch wheel.		

## Front Derailleur (MTB) Specifications

Series	XTR	XTR	XTR	XTR	XTR	XTR	XTR	XTR	XTR	
Model No.	FD-M980	FD-M980-E	FD-M981	FD-M981-D	FD-M985	FD-M985-E	FD-M985-E2	FD-M986	FD-M986-D	
Rear Speeds	10	10	10	10	10	10	10	10	10	
Front SIS	X	X	X	X	X	X	X	X	X	
Chain Ring	Triple	Triple	Triple	Triple	Double	Double	Double	Double	Double	
Top Swing Link	X	X	-	-	X	X	X	-	-	
E-type BB Mount	-	X (w/o BB Plate option)	-	-	-	X (w/o BB Plate option)	w/o BB Plate only	-	-	
Direct mount	-	-	-	X	-	-	X	-	X	
Applicable Chain Line (mm)	50	50	50	50	46.8 for 38T 48.8 for 40-44T	48.8 for 40-44T	46.8 for 38T 48.8 for 40T	46.8 for 38T 48.8 for 40-44T	46.8 for 38T 48.8 for 40-44T	
Top Gear Teeth	42T	42T	42T	42T	38-44T	40-44T	38-40T	38-44T	38-44T*	
Total Capacity	18T	18T	18T	18T	14T	14T	12T	14T	14T	
Applicable Top-middle tooth difference	10T	10T	10T	10T	-	-	-	-	-	
Chainstay Angle (degree)	66-69	66-69	66-69	66-69	66-69	66-69	66-69	66-69	66-69	
Dual Pull	X	X	X	X	X	X	X	X	X	
Multi Clamp Band	X	-	X	-	X	-	-	X	-	
Angled Adjust Bolt	X	X	X	X	X	X	X	X	X	
28.6mm	Cable route	Top	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)	-
		Down	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)	-
31.8mm	Cable route	Top	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)	-
		Down	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)	-
34.9mm	Cable route	Top	X	-	X	-	X	-	X	-
		Down	X	-	X	-	X	-	X	-
Front Clamp Band	Material	Aluminum	-	Aluminum	-	Aluminum	-	-	Aluminum	-
	Finish	Anodized	-	Anodized	-	Anodized	-	-	Anodized	-
Rear Clamp Band (base bracket)	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Anodized	Anodized	Anodized	Painted	Anodized	Anodized	Anodized	Painted	
BB Plate	Material	-	Aluminum	-	-	Aluminum	-	-	-	
Outer Link	Material	Steel	Steel	Aluminum	Aluminum	Steel	Steel	Steel	Aluminum	Aluminum
	Finish	Painted	Painted	Anodized	Anodized	Painted	Painted	Painted	Anodized	Anodized
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Chain Guide	Material	Aluminum	Aluminum	Steel	Steel	Steel	Steel	Aluminum	Aluminum	
	Finish	Nickel Plated	Nickel Plated	Nickel Plated	Nickel Plated	Nickel Plated	Nickel Plated	Nickel Plated	Nickel Plated	
Note				*Outer cable stopper integrated design					*Outer cable stopper integrated design *new FD mount position is required when used for 44T	

## Front Derailleur (MTB) Specifications

Series		SAINT	SAINT	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	
Model No.		FD-M815	FD-M817	FD-M780	FD-M780-E	FD-M781	FD-M781-D	FD-M785	FD-M785-E2	FD-M786	
Rear Speeds		9	9	10	10	10	10	10	10	10	
Front SIS		X	X	X	X	X	X	X	X	X	
Chain Ring		Double	Double	Triple	Triple	Triple	Triple	Double	Double	Double	
Top Swing Link		X	-	X	X	-	-	X	X	-	
E-type BB Mount		-	-	-	X (w/o BB Plate option)	-	-	-	X (w/o BB Plate option)	-	
Direct mount		-	-	-	-	-	X	-	X	-	
Applicable Chain Line (mm)		54.3	54.3	50	50	50	50	48.8	48.8	48.8	
Top Gear Teeth		36T	36T	42T	42T	42T	42T	44-38T	40-38T	44-38T	
Total Capacity		14T	14T	18T	18T	18T	18T	14T	12T	14T	
Applicable Top-middle tooth difference		-	-	10T	10T	10T	10T	-	-	-	
Chainstay Angle (degree)		65-71	65-71	66-69	66-69	66-69	66-69	66-69	66-69	66-69	
Dual Pull		X	X	X	X	X	X	X	X	X	
Multi Clamp Band		X	X	X	-	X	-	X	X	X	
Angled Adjust Bolt		X	X	X	X	X	X	X	X	X	
28.6mm	Cable route	Top	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)
		Down	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)
31.8mm	Cable route	Top	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)
		Down	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)
34.9mm	Cable route	Top	X	X	X	-	X	-	X	-	X
		Down	X	X	X	-	X	-	X	-	X
Front Clamp Band		Material	Aluminum	Aluminum	Aluminum	-	Aluminum	-	Aluminum	-	Aluminum
		Finish	Painted	Painted	Painted	-	Painted	-	Painted	-	Painted
Rear Clamp Band (base bracket)		Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
		Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
BB Plate		-	-	-	Aluminum	-	-	-	Aluminum	-	
Outer Link		Material	Steel	Aluminum	Steel	Steel	Aluminum	Aluminum	Steel	Steel	
		Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Inner Link		Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
		Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Chain Guide		Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
		Finish	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	
Note		*For 150mm O.L.D with 83mm BB shell width *For 165mm O/D Bash guard	*For 150mm O.L.D with 83mm BB shell width *For 165mm O/D Bash guard			Silver / Black version	Silver / Black version, *Outer cable stopper integrated design			Silver / Black version, *Outer cable stopper integrated design	

## Front Derailleur (MTB) Specifications

Series		Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	
Model No.		FD-M786-D	FD-T780-3	FD-T780-6	FD-T781-3	FD-M770	FD-M770-E	FD-M771	FD-M771-D	FD-M772A	
Rear Speeds		10	10	10	10	9	9	9	9	9	
Front SIS		X	X	X	X	X	X	X	X	X	
Chain Ring		Double	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple	
Top Swing Link		-	-	-	-	X	X	-	-	X	
E-type BB Mount		-	-	-	-	-	X	-	-	-	
Direct mount		X	-	-	-	-	-	-	X	-	
Applicable Chain Line (mm)		48.8	50	50	50	50	50	50	50	50	
Top Gear Teeth		44-38T	48/44T	48/44T	48/44T	44/48T	44T	44T	44T	44/48T	
Total Capacity		14T	22T	22T	22T	22T	22T	22T	22T	22T	
Applicable Top-middle tooth difference		-	12T	12T	12T	12T	12T	12T	12T	12T	
Chainstay Angle (degree)		66-69	63-66	66-69	63-66	66-69	66-69	66-69	66-69	63-66	
Dual Pull		X	X	X	X	X	X	X	X	X	
Multi Clamp Band		-	X	X	X	X	-	X	-	X	
Angled Adjust Bolt		X	-	-	-	X	X	X	X	-	
28.6mm	Cable route	Top	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X	X (w/AdapterS)	-	X (w/AdapterS)	
		Down	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X	X (w/AdapterS)	-	X (w/AdapterS)	
31.8mm		Top	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X	X (w/AdapterM)	-	X (w/AdapterM)	
		Down	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X	X (w/AdapterM)	-	X (w/AdapterM)	
34.9mm		Top	-	X	X	X	X	X	X	-	X
		Down	-	X	X	X	X	X	X	-	X
Front Clamp Band		Material	Aluminum	Aluminum	Aluminum	Aluminum	-	Aluminum	-	Aluminum	
		Finish	-	Painted	Painted	Painted	Painted	-	Painted	-	Painted
Rear Clamp Band (base bracket)		Material	Aluminum	Aluminum	Aluminum	Aluminum	-	Aluminum	Aluminum	Aluminum	
		Finish	Painted	Painted	Painted	Painted	Painted	-	Painted	Painted	Painted
BB Plate		Material	-	-	-	-	Aluminum	-	-	-	
Outer Link		Material	Aluminum	Steel	Aluminum	Steel	Steel	Aluminum	Aluminum	Steel	
		Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Link		Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
		Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Chain Guide		Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
		Finish	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Note		Silver / Black version, *Outer cable stopper integrated design *new FD mount position is required when used for 44T			Standard / Silver / Black version		Without BB Plate option is available		*Outer cable stopper integrated design		



## Front Derailleur (MTB) Specifications

Series	Deore XT	SLX	SLX	SLX	SLX	SLX	SLX	SLX	SLX
Model No.	FD-M773	FD-M660-10	FD-M660-10E	FD-M661-10	FD-M661-10D	FD-M660	FD-M660-E	FD-M661	FD-M661-D
Rear Speeds	9	10	10	10	10	9	9	9	9
Front SIS	X	X	X	X	X	X	X	X	X
Chain Ring	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple
Top Swing Link	-	X	X	-	-	X	X	-	-
E-type BB Mount	-	-	X (w/o BB Plate option)	-	-	-	X	-	-
Direct mount	-	-	-	-	X	-	-	-	X
Applicable Chain Line (mm)	50	50	50	50	50	50	50	50	50
Top Gear Teeth	44/48T	42T	42T	42T	42T	44/48T	44T	44T	44T
Total Capacity	22T	18T	18T	18T	18T	22T	22T	22T	22T
Applicable Top-middle tooth difference	12T	10T	10T	10T	10T	12T	12T	12T	12T
Chainstay Angle (degree)	63-66	66-69	66-69	66-69	66-69	66-69	66-69	66-69	66-69
Dual Pull	X	X	X	X	X	X	X	X	X
Multi Clamp Band	X	X	-	X	-	X	-	X	-
Angled Adjust Bolt	-	X	X	X	X	X	X	X	X
28.6mm	Cable route	Top	X (w/AdapterS)	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)	-
		Down	X (w/AdapterS)	X (w/AdapterS)	-	X (w/AdapterS)	-	X (w/AdapterS)	-
31.8mm	Cable route	Top	X (w/AdapterM)	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)	-
		Down	X (w/AdapterM)	X (w/AdapterM)	-	X (w/AdapterM)	-	X (w/AdapterM)	-
34.9mm	Cable route	Top	X	X	-	X	-	X	-
		Down	X	X	-	X	-	X	-
Front Clamp Band	Material	Aluminum	Aluminum	-	Aluminum	-	Aluminum	-	Aluminum
	Finish	Painted	Painted	-	Painted	-	Painted	-	Painted
Rear Clamp Band (base bracket)	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
BB Plate	Material	-	-	Aluminum	-	-	Aluminum	-	-
Outer Link	Material	Aluminum	Steel	Steel	Aluminum	Aluminum	Steel	Steel	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Note						*Outer cable stopper integrated design		Without BB Plate option is available	

## Front Derailleur (MTB) Specifications

Series	SLX	SLX	SLX	Deore LX	Deore LX	Deore LX	Deore LX	Deore	Deore	
Model No.	FD-M665	FD-M665-E	FD-M667	FD-T661-3	FD-T661-6	FD-T660-A3	FD-T660-6	FD-M590-10	FD-M591-10	
Rear Speeds	9	9	9	9	9	9	9	10	10	
Front SIS	X	X	X	X	X	X	X	X	X	
Chain Ring	Double	Double	Double	Triple	Triple	Triple	Triple	Triple	Triple	
Top Swing Link	X	X	-	-	-	X	X	X	-	
E-type BB Mount	-	X	-	-	-	-	-	-	-	
Direct mount	-	-	-	-	-	-	-	-	-	
Applicable Chain Line (mm)	46.8	46.8	46.8	50	50	50	50	50	50	
Top Gear Teeth	36T	36T	36T	44/48T	44/48T	44/48T	44/48T	42T	42T	
Total Capacity	14T	14T	14T	22T	22T	22T	22T	18T	18T	
Applicable Top-middle tooth difference	-	-	-	12T	12T	12T	12T	10T	10T	
Chainstay Angle (degree)	65-71	65-71	65-71	63-66	66-69	63-66	66-69	66-69	66-69	
Dual Pull	X	X	X	X	X	X	X	X	X	
Multi Clamp Band	X	-	X	X	X	X	X	X	X	
Angled Adjust Bolt	X	X	X	-	-	-	-	X	X	
28.6mm	Cable route	Top	X (w/AdapterS)	X	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)
		Down	X (w/AdapterS)	X	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)
31.8mm	Cable route	Top	X (w/AdapterM)	X	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)
		Down	X (w/AdapterM)	X	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)
34.9mm	Cable route	Top	X	X	X	X	X	X	X	X
		Down	X	X	X	X	X	X	X	X
Front Clamp Band	Material	Aluminum	-	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Painted	-	Painted	Painted	Painted	Painted	Painted	Painted	
Rear Clamp Band (base bracket)	Material	Aluminum	-	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Painted	-	Painted	Painted	Painted	Painted	Painted	Painted	
BB Plate	Material	-	Aluminum	-	-	-	-	-	-	
Outer Link	Material	Steel	Steel	Aluminum	Aluminum	Aluminum	Steel	Steel	Aluminum	
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Plated	Plated	
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Pearl Bright	Pearl Bright	
Note	*Designed for 165mm O/D Bash guard	*Designed for 165mm O/D Bash guard. Without BB Plate option is available	*Designed for 165mm O/D Bash guard	Angled clamp band	Angled clamp band	Angled clamp band	Angled clamp band			

## Front Derailleur (MTB) Specifications

Series	Deore	Deore	Deore	Deore	Alivio	Alivio	Alivio	Alivio	Alivio	
Model No.	FD-M590-6	FD-M590-3	FD-M591-6	FD-M591-3	FD-M430-3	FD-M430-6	FD-M431-3	FD-M431-6	FD-M412-3	
Rear Speeds	9	9	9	9	9	9	9	9	8/7	
Front SIS	X	X	X	X	X	X	X	X	X	
Chain Ring	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple	
Top Swing Link	X	X	-	-	X	X	-	-	X	
E-type BB Mount	-	-	-	-	-	-	-	-	-	
Direct mount	-	-	-	-	-	-	-	-	-	
Applicable Chain Line (mm)	50	50	50	50	50	50	50	50	47.5 / 50	
Top Gear Teeth	44/48T	44/48T	44/48T	44/48T	44/48T	44/48T	44/48T	44/48T	42/48T	
Total Capacity	22T	22T	22T	22T	22T	22T	22T	22T	20T	
Applicable Top-middle tooth difference	12T	12T	12T	12T	12T	12T	12T	12T	10T	
Chainstay Angle (degree)	66-69	63-66	66-69	63-66	63-66	66-69	63-66	66-69	63-66	
Dual Pull	X	X	X	X	X	X	X	X	X	
Multi Clamp Band	X	X	X	X	X	X	X	X	X	
Angled Adjust Bolt	-	-	-	-	-	-	-	-	-	
28.6mm	Cable route	Top	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)
		Down	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)
31.8mm	Cable route	Top	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)
		Down	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)
34.9mm	Cable route	Top	X	X	X	X	X	X	X	X
		Down	X	X	X	X	X	X	X	X
Front Clamp Band	Material	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Rear Clamp Band (base bracket)	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
BB Plate	Material	-	-	-	-	-	-	-	-	
Outer Link	Material	Steel	Steel	Aluminum	Aluminum	Steel	Steel	Aluminum	Aluminum	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel	Aluminum	Aluminum	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Pearl Bright	Pearl Bright	Pearl Bright	Pearl Bright	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Note	Angled clamp band, black clamp band	Angled clamp band, silver clamp band	Angled clamp band, black clamp band	Angled clamp band, silver clamp band	Angled clamp band, silver clamp band	Angled clamp band, black clamp band	Angled clamp band, silver clamp band	Angled clamp band, black clamp band	Angled clamp band, black clamp band	

# Front Derailleur (MTB) Specifications

Series	Alivio	Alivio	Acera	Acera	Acera	Acera	Altus	Altus	Altus	
Model No.	FD-M412-6	FD-M410-E	FD-M390-3	FD-M390-6	FD-M360-3	FD-M360-6	FD-M311-3	FD-M311-6	FD-M310-3	
Rear Speeds	8/7	8/7	9	9	8/7	8/7	8/7	8/7	8/7	
Front SIS	X	X	X	X	X	X	X	X	X	
Chain Ring	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple	
Top Swing Link	X	X	X	X	X	X	-	-	X	
E-type BB Mount	-	X	-	-	-	-	-	-	-	
Direct mount	-	-	-	-	-	-	-	-	-	
Applicable Chain Line (mm)	47.5 / 50	50	50	50	47.5 / 50	47.5 / 50	47.5 / 50	47.5 / 50	47.5 / 50	
Top Gear Teeth	42/48T	42T	44/48T	44/48T	42/48T	42/48T	42/48T	42/48T	42/48T	
Total Capacity	20T	20T	22T	22T	20T	20T	20T	20T	20T	
Applicable Top-middle tooth difference	10T	10T	12T	12T	10T	10T	10T	10T	10T	
Chainstay Angle (degree)	66-69	<ul style="list-style-type: none"> <li>• New Slotted E-type</li> <li>• Chainstay Angle: 63 to 69 degrees</li> </ul>	63-66	66-69	63-66	66-69	63-66	66-69	63-66	
Dual Pull	X	X	X	X	X	X	X	X	X	
Multi Clamp Band	X	-	X	X	X	X	X	X	X	
Angled Adjust Bolt	-	-	-	-	-	-	-	-	-	
28.6mm	Cable route	Top	<ul style="list-style-type: none"> <li>• New Slotted E-type</li> <li>• Chainstay Angle: 63 to 69 degrees</li> </ul>	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X(w/AdapterS)	X(w/AdapterS)	X (w/AdapterS)
		Down		X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X(w/AdapterS)	X(w/AdapterS)	X (w/AdapterS)
31.8mm	Top	X (w/AdapterM)		X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X(w/AdapterM)	X(w/AdapterM)	X (w/AdapterM)
	Down	X (w/AdapterM)		X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X(w/AdapterM)	X(w/AdapterM)	X (w/AdapterM)
34.9mm	Top	X		X	X	X	X	X	X	X
	Down	X		X	X	X	X	X	X	X
Front Clamp Band	Material	Steel	-	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	-	Painted	Painted	Painted	Painted	Painted	Painted	
Rear Clamp Band (base bracket)	Material	Aluminum	-	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	-	Painted	Painted	Painted	Painted	Painted	Painted	
BB Plate	Material	-	Aluminum(Painted)	-	-	-	-	-	-	
Outer Link	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Inner Link	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Chrome plated	Chrome plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome plated	Chrome plated	Chrome plated	
Note		New slotted E-type								

## Front Derailleur (MTB) Specifications

Series	Altus	Non-series	Non-series	Non-series	Non-series	Tourney	Tourney	Tourney	Tourney	
Model No.	FD-M310-6	FD-M190-3	FD-M190A-6	FD-M191-3	FD-M191-6	FD-TX50-3	FD-TX50-6	FD-TX51-3	FD-TX51-6	
Rear Speeds	8/7	8/7	8/7	8/7	8/7	7/6	7/6	7/6	7/6	
Front SIS	X	X	X	X	X	X	X	X	X	
Chain Ring	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple	Triple	
Top Swing Link	X	X	X	X	X	X	X	X	X	
E-type BB Mount	-	-	-	-	-	-	-	-	-	
Direct mount	-	-	-	-	-	-	-	-	-	
Applicable Chain Line (mm)	47.5 / 50	47.5 / 50	47.5 / 50	47.5 / 50	47.5 / 50	47.5 / 50	47.5 / 50	47.5 / 50	47.5 / 50	
Top Gear Teeth	42/48T	42T	42T	48T	48T	42T	42T	48T	48T	
Total Capacity	20T	18T	18T	20T	20T	18T	18T	20T	20T	
Applicable Top-middle tooth difference	10T	8T	8T	10T	10T	8T	8T	10T	10T	
Chainstay Angle (degree)	66-69	63-66	66-69	63-66	66-69	63-66	66-69	63-66	66-69	
Dual Pull	X	X	X	X	X	X	X	X	X	
Multi Clamp Band	X	X	X	X	X	X	X	X	X	
Angled Adjust Bolt	-	-	-	-	-	-	-	-	-	
28.6mm	Cable route	Top	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)
		Down	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)	X (w/AdapterS)
31.8mm	Cable route	Top	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)
		Down	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)	X (w/AdapterM)
34.9mm	Cable route	Top	X	X	X	X	X	X	X	X
		Down	X	X	X	X	X	X	X	X
Front Clamp Band	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	Painted	Painted	Painted	Painted	Zinc Plated	Zinc Plated	Zinc Plated	
Rear Clamp Band (base bracket)	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	Painted	Painted	Painted	Painted	Zinc Plated	Zinc Plated	Zinc Plated	
BB Plate	Material	-	-	-	-	-	-	-	-	
Outer Link	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	
Inner Link	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Chrome plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Zinc Plated / Painted	Zinc Plated / Painted	Zinc Plated / Painted	
Note										

## Front Derailleur (MTB) Specifications

Series		Tourney	TZ	TZ
Model No.		FD-TY10	FD-TZ30	FD-TZ31
Rear Speeds		7/6	7/6	7/6
Front SIS		X	-	-
Chain Ring		Triple	Triple	Triple
Top Swing Link		-	-	-
E-type BB Mount		-	-	-
Direct mount		-	-	-
Applicable Chain Line (mm)		47.5	47.5	47.5
Top Gear Teeth		42T	42T	48T
Total Capacity		18T	18T	20T
Applicable Top-middle tooth difference		8T	8T	10T
Chainstay Angle (degree)		66-69	66-69	66-69
Dual Pull		-	-	-
Multi Clamp Band		-	-	-
Angled Adjust Bolt		-	-	-
28.6mm	Cable route	Top	X	X
		Down	X	X
31.8mm	Cable route	Top	X	X
		Down	X	X
34.9mm	Cable route	Top	X*	-
		Down	-	-
Front Clamp Band	Material	Steel	Steel	Steel
	Finish	Zinc Plated	Painted	Painted
Rear Clamp Band (base bracket)	Material	Steel	Steel	Steel
	Finish	Zinc Plated	Painted	Painted
BB Plate	Material	-	-	-
Outer Link	Material	Steel	Steel	Steel
	Finish	Zinc Plated	Painted	Painted
Inner Link	Material	Steel	Steel	Steel
	Finish	Zinc Plated	Painted	Painted
Chain Guide	Material	Steel	Steel	Steel
	Finish	Zinc Plated	Painted	Painted
Note		*Designed for 50mm chainline		

Specifications are subject to change without prior notice.

## Shift Lever (MTB) Specifications

Series	XTR	XTR	SAINT	Deore XT	Deore XT	Deore XT	SLX	SLX
Model No.	SL-M980	SL-M980-I	SL-M810-A	SL-M780	SL-M780-I	SL-M770-A	SL-M660-10AR	SL-M660-A
<b>Lever Type</b>	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus
<b>Front</b>	2 or 3-speed SIS	2 or 3-speed SIS	3-speed SIS	2 or 3-speed SIS	2 or 3-speed SIS	3-speed SIS	-	3-speed SIS
<b>Rear</b>	10-speed DYNASYS	10-speed DYNASYS	9-speed SIS	10-speed DYNASYS	10-speed DYNASYS	9-speed SIS	10-speed DYNASYS	9-speed SIS
<b>Ispec*</b>	-	X	-	-	X	-	-	-
<b>Multi Release</b>	X	X	-	X	X	-	-	-
<b>Instant Release</b>	X	X	X	X	X	X	-	-
<b>2-Way Release</b>	X	X	X	X	X	X	X	X
<b>SL Cable Adjust</b>	X (carbon reinforced resin)	X (carbon reinforced resin)	X (alloy)	X	X	X	X	X
<b>Optical Gear Display</b>	-	-	-	X (removable)	-	X (removable)	X (removable)	X (removable)
<b>Multi-Bearing Construction</b>	R:4 L:4	R:4 L:4	R:2 L:2	R:2 L:2	R:2 L:2	R:2 L:2	R: - L: -	R: - L: -
<b>SL Outer Casing</b>	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed
<b>Stainless SL Cable</b>	X (PTFE)	X (PTFE)	X	X	X	X	X	X
<b>W/ CI-DECK</b>	-	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Anodized	Anodized	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	10-speed-RD DYNASYS	10-speed-RD DYNASYS	All 9-speed RD	10-speed-RD DYNASYS	10-speed-RD DYNASYS	All 9-speed RD	10-speed-RD DYNASYS	All 9-speed RD
<b>Note</b>		Ispec Integration mounting system of BL and SL	No position adjust	w/o optical gear display option available	Ispec Integration mounting system of BL and SL	No position adjust w/o optical gear display option available	No position adjust w/o optical gear display option available	No position adjust w/o optical gear display option available

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Deore LX	Deore LX	Deore	Deore	Deore	Alivio	Alivio	Alivio
Model No.	ST-T660	SL-T660	ST-M590	SL-M591	SL-M590	ST-M430 (L)	ST-M430 (S)	SL-M430
<b>Lever Type</b>	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus
<b>Front</b>	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS
<b>Rear</b>	9-speed SIS	9-speed SIS	9-speed SIS	10-speed SIS DYNASYS	9-speed SIS	9-speed SIS	9-speed SIS	9-speed SIS
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Multi Release</b>	-	-	-	-	-	-	-	-
<b>Instant Release</b>	-	-	-	-	-	-	-	-
<b>2-Way Release</b>	X	X	X	X	X	X	X	X
<b>SL Cable Adjust</b>	X	X	X	X	X	X	X	X
<b>Optical Gear Display</b>	X	X	X	X	X	X	X	X
<b>Multi-Bearing Construction</b>	R: - L:-	R: - L:-	R: - L:-	R: - L:-	R: - L:-	-	-	-
<b>SL Outer Casing</b>	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed	OT-SP41 sealed	OT-SP40	OT-SP40	OT-SP40
<b>Stainless SL Cable</b>	X	X	X	X	X	Option	Option	Option
<b>W/ CI-DECK</b>	-	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	All 9-speed RD	All 9-speed RD	All 9-speed RD	10-speed-RD DYNASYS	All 9-speed RD	MTB 9-speed RD	MTB 9-speed RD	MTB 9-speed RD
<b>Note</b>						Black version	Silver version	Floated OGD

\* Integration mounting system of BL and SL



## Shift Lever (MTB) Specifications

Series	Alivio	Alivio	Alivio	Acera	Acera	Acera	Acera	Acera
<b>Model No.</b>	<b>ST-M410 (L)</b>	<b>ST-M410 (NS)</b>	<b>SL-M410</b>	<b>ST-M390 (L)</b>	<b>ST-M390 (S)</b>	<b>SL-M390</b>	<b>ST-M360-2A (L)</b>	<b>ST-M360-2A (S)</b>
<b>Lever Type</b>	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus
<b>Front</b>	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS
<b>Rear</b>	8-speed SIS	8-speed SIS	8-speed SIS	9-speed SIS	9-speed SIS	9-speed SIS	8-speed SIS	8-speed SIS
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Multi Release</b>	-	-	-	-	-	-	-	-
<b>Instant Release</b>	-	-	-	-	-	-	-	-
<b>2-Way Release</b>	-	-	-	-	-	-	-	-
<b>SL Cable Adjust</b>	X	X	X	X	X	X	X	X
<b>Optical Gear Display</b>	Slide type /Above handlebar	Slide type /Above handlebar	Slide type /Above handlebar	X	X	X	X	X
<b>Multi-Bearing Construction</b>	-	-	-	-	-	-	-	-
<b>SL Outer Casing</b>	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40
<b>Stainless SL Cable</b>	Option	Option	Option	Option	Option	Option	Option	Option
<b>W/ CI-DECK</b>	-	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	Top Normal	Top Normal	Top Normal	MTB 9-speed RD	MTB 9-speed RD	MTB 9-speed RD	Top Normal	Top Normal
<b>Note</b>	Black version	Neutral Silver version		Black version	Silver version		Black version	Silver version

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Acera	Acera	Acera	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-M360-4A (L)	ST-M360-4A (S)	SL-M360	ST-M310-8R2 (L)	ST-M310-8R2 (S)	ST-M310-8R4 (L)	ST-M310-8R4 (S)	ST-M310-L2 (L)
<b>Lever Type</b>	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus
<b>Front</b>	3-speed SIS	3-speed SIS	3-speed SIS	-	-	-	-	3-speed SIS
<b>Rear</b>	8-speed SIS	8-speed SIS	8-speed SIS	8-speed SIS	8-speed SIS	8-speed SIS	8-speed SIS	-
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Multi Release</b>	-	-	-	-	-	-	-	-
<b>Instant Release</b>	-	-	-	-	-	-	-	-
<b>2-Way Release</b>	-	-	-	-	-	-	-	-
<b>SL Cable Adjust</b>	X	X	X	X	X	X	X	X
<b>Optical Gear Display</b>	X	X	X	X	X	X	X	X
<b>Multi-Bearing Construction</b>	-	-	-	-	-	-	-	-
<b>SL Outer Casing</b>	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40
<b>Stainless SL Cable</b>	Option	Option	Option	Option	Option	Option	Option	Option
<b>W/ CI-DECK</b>	-	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	Top Normal	Top Normal	Top Normal	Top Normal	Top Normal	Top Normal	Top Normal	-
<b>Note</b>	Black version	Silver version		Black version	Silver version	Black version	Silver version	Black version

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-M310-L2 (S)	ST-M310-L4 (L)	ST-M310-L4 (S)	SL-M310-L	SL-M310-8R	SL-M310-7R	ST-EF65-9R2 (L)	ST-EF65-9R2 (S)
<b>Lever Type</b>	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	EZ-fire Plus	EZ-fire Plus
<b>Front</b>	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	-	-	-	-
<b>Rear</b>	-	-	-	-	8-speed SIS	7-speed SIS	9-speed SIS	9-speed SIS
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Multi Release</b>	-	-	-	-	-	-	-	-
<b>Instant Release</b>	-	-	-	-	-	-	-	-
<b>2-Way Release</b>	-	-	-	-	-	-	-	-
<b>SL Cable Adjust</b>	X	X	X	X	X	X	X	X
<b>Optical Gear Display</b>	X	X	X	X	X	X	X	X
<b>Multi-Bearing Construction</b>	-	-	-	-	-	-	-	-
<b>SL Outer Casing</b>	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40
<b>Stainless SL Cable</b>	Option	Option	Option	Option	Option	Option	Option	Option
<b>W/ CI-DECK</b>	-	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	-	-	-	-	Top Normal	Top Normal	Top Normal	Top Normal
<b>Note</b>	Silver version	Black version	Silver version				Black version	Silver version

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-EF65-9R4 (L)	ST-EF65-9R4 (S)	ST-EF65-8R2 (L)	ST-EF65-8R2 (S)	ST-EF65-8R4 (L)	ST-EF65-8R4 (S)	ST-EF65-7R2 (L)	ST-EF65-7R2 (S)
<b>Lever Type</b>	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus
<b>Front</b>	-	-	-	-	-	-	-	-
<b>Rear</b>	9-speed SIS	9-speed SIS	8-speed SIS	8-speed SIS	8-speed SIS	8-speed SIS	7-speed SIS	7-speed SIS
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Multi Release</b>	-	-	-	-	-	-	-	-
<b>Instant Release</b>	-	-	-	-	-	-	-	-
<b>2-Way Release</b>	-	-	-	-	-	-	-	-
<b>SL Cable Adjust</b>	X	X	X	X	X	X	X	X
<b>Optical Gear Display</b>	X	X	X	X	X	X	X	X
<b>Multi-Bearing Construction</b>	-	-	-	-	-	-	-	-
<b>SL Outer Casing</b>	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40
<b>Stainless SL Cable</b>	Option	Option	Option	Option	Option	Option	Option	Option
<b>W/ CI-DECK</b>	-	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	Top Normal	Top Normal	Top Normal	Top Normal	Top Normal	Top Normal	Top Normal	Top Normal
<b>Note</b>	Black version	Silver version	Black version	Silver version	Black version	Silver version	Black version	Silver version

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-EF65-7R4 (L)	ST-EF65-7R4 (S)	ST-EF65-L2 (L)	ST-EF65-L2 (S)	ST-EF65-L4 (S)	ST-EF65-L4 (L)	ST-EF51-8R(LL) 4A	ST-EF51-8R(SL) 4A
<b>Lever Type</b>	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus
<b>Front</b>	-	-	3-speed SIS	3-speed SIS	3-speed SIS	3-speed SIS	-	-
<b>Rear</b>	7-speed SIS	7-speed SIS	-	-	-	-	8-speed SIS	8-speed SIS
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Multi Release</b>	-	-	-	-	-	-	-	-
<b>Instant Release</b>	-	-	-	-	-	-	-	-
<b>2-Way Release</b>	-	-	-	-	-	-	-	-
<b>SL Cable Adjust</b>	X	X	X	X	X	X	-	-
<b>Optical Gear Display</b>	X	X	X	X	X	X	Dial type	Dial type
<b>Multi-Bearing Construction</b>	-	-	-	-	-	-	-	-
<b>SL Outer Casing</b>	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40
<b>Stainless SL Cable</b>	Option	Option	Option	Option	Option	Option	-	-
<b>W/ CI-DECK</b>	-	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	Top Normal	Top Normal	-	-	-	-	Top Normal	Top Normal
<b>Note</b>	Black version	Silver version	Black version	Silver version	Silver version	Black version	Black version	Silver version

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-EF51-7R(LL) 4A	ST-EF51-7R(SL) 4A	ST-EF51-L(LL) 4A	ST-EF51-L(SL) 4A	ST-EF51-8R(LL) 2A	ST-EF51-8R(SL) 2A	ST-EF51-7R(LL) 2A	ST-EF51-7R(SL) 2A
<b>Lever Type</b>	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus
<b>Front</b>	-	-	3-speed SIS	3-speed SIS	-	-	-	-
<b>Rear</b>	7-speed SIS	7-speed SIS	-	-	8-speed SIS	8-speed SIS	7-speed SIS	7-speed SIS
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Multi Release</b>	-	-	-	-	-	-	-	-
<b>Instant Release</b>	-	-	-	-	-	-	-	-
<b>2-Way Release</b>	-	-	-	-	-	-	-	-
<b>SL Cable Adjust</b>	-	-	X	X	-	-	-	-
<b>Optical Gear Display</b>	Dial type	Dial type	Dial type	Dial type	Dial type	Dial type	Dial type	Dial type
<b>Multi-Bearing Construction</b>	-	-	-	-	-	-	-	-
<b>SL Outer Casing</b>	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40	OT-SP40
<b>Stainless SL Cable</b>	-	-	-	-	-	-	-	-
<b>W/ CI-DECK</b>	-	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	Top Normal	Top Normal	-	-	Top Normal	Top Normal	Top Normal	Top Normal
<b>Note</b>	Black version	Silver version	Black version	Silver version	Black version	Silver version	Black version	Silver version

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Non-Series	Non-Series	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney
Model No.	ST-EF51-L(LL) 2A	ST-EF51-L(SL) 2A	ST-EF40-7R(LL) 2S	ST-EF40-6R(LL) 2S	ST-EF40-L(LL) 2S	SL-RS44-7R	SL-RS44-6R	SL-RS44-L
Lever Type	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	Revo Shift	Revo Shift	Revo Shift
Front	3-speed SIS	3-speed SIS	-	-	3-speed SIS	-	-	3-speed SIS
Rear	-	-	7-speed SIS	6-speed SIS	-	7-speed SIS	6-speed SIS	-
Ispec*	-	-	-	-	-	-	-	-
Multi Release	-	-	-	-	-	-	-	-
Instant Release	-	-	-	-	-	-	-	-
2-Way Release	-	-	-	-	-	-	-	-
SL Cable Adjust	X	X	-	-	X	X	X	X
Optical Gear Display	Dial type	Dial type	Dial type	Dial type	Dial type	Window type with O.G.D light	Window type with O.G.D light	Window type with O.G.D light
Multi-Bearing Construction	-	-	-	-	-	-	-	-
SL Outer Casing	OT-SP40	OT-SP40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40
Stainless SL Cable	-	-	-	-	-	-	-	-
W/ CI-DECK	-	-	-	-	-	Option	Option	Option
SL Bracket	Material	Aluminum	Aluminum	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
SL Compatible RD Type	-	-	Top Normal	Top Normal	-	Top Normal	Top Normal	-
Note	Black version	Silver version	Black version	Black version	Black version	with LED position light / for Japanese market only	with LED position light / for Japanese market only	with LED position light / for Japanese market only

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney
Model No.	SL-RS44-LN	SM-RS44-L	SL-RS43-8R	SL-RS43-7R	SL-RS43-6R	SL-RS43-L	SL-RS41A-8R	SL-RS41A-7R
Lever Type	Revo Shift	-	Revo Shift	Revo Shift	Revo Shift	Revo Shift	Revo Shift	Revo Shift
Front	3-speed Ratchet	-	-	-	-	3-speed SIS	-	-
Rear	-	-	8-speed SIS	7-speed SIS	6-speed SIS	-	8-speed SIS	7-speed SIS
Ispec*	-	-	-	-	-	-	-	-
Multi Release	-	-	-	-	-	-	-	-
Instant Release	-	-	-	-	-	-	-	-
2-Way Release	-	-	-	-	-	-	-	-
SL Cable Adjust	X	-	X	X	X	X	X	X
Optical Gear Display	Window type with O.G.D light	-	Window type	Window type	Window type	Window type	Window type	Window type
Multi-Bearing Construction	-	-	-	-	-	-	-	-
SL Outer Casing	OT-SIS40	-	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40
Stainless SL Cable	-	-	-	-	-	-	-	-
W/ CI-DECK	Option	-	Option	Option	Option	Option	Option	Option
SL Bracket	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
SL Compatible RD Type	-	-	Top Normal	Top Normal	Top Normal	-	Top Normal	Top Normal
Note	with LED position light / for Japanese market only	with LED position light / for Japanese market only						

\* Integration mounting system of BL and SL



## Shift Lever (MTB) Specifications

Series	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney
Model No.	SL-RS41A-L	SL-RS41-8R	SL-RS41-7R	SL-RS41-6R	SL-RS41-L	SL-RS35-7R	SL-RS35-6R	SL-RS35-L
Lever Type	Revo Shift	Revo Shift	Revo Shift	Revo Shift	Revo Shift	Revo Shift	Revo Shift	Revo Shift
Front	3-speed SIS	-	-	-	3-speed SIS	-	-	3-speed SIS
Rear	-	8-speed SIS	7-speed SIS	6-speed SIS	-	7-speed SIS	6-speed SIS	-
Ispec*	-	-	-	-	-	-	-	-
Multi Release	-	-	-	-	-	-	-	-
Instant Release	-	-	-	-	-	-	-	-
2-Way Release	-	-	-	-	-	-	-	-
SL Cable Adjust	X	X	X	X	X	-	-	X
Optical Gear Display	Window type	Revolving type	Revolving type	Revolving type	Revolving type	Revolving type	Revolving type	Revolving type
Multi-Bearing Construction	-	-	-	-	-	-	-	-
SL Outer Casing	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40
Stainless SL Cable	-	-	-	-	-	-	-	-
W/ CI-DECK	Option	Option	Option	Option	Option	Option	Option	Option
SL Bracket	Material	Steel	Steel	Steel	Steel	Resin	Resin	Resin
	Finish	Painted	Painted	Painted	Painted	Resin	Resin	Resin
SL Compatible RD Type	-	Top Normal	Top Normal	Top Normal	-	Top Normal	Top Normal	-
Note								

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney
Model No.	SL-RS35-LN	SL-TX50-7R	SL-TX50-6R	SL-TX50-L	SL-TX50-LN	SL-TX30-7R	SL-TX30-6R	SL-TX30-LN
<b>Lever Type</b>	Revo Shift	Thumb Shifter Plus	Thumb Shifter Plus	Thumb Shifter	Thumb Shifter	Thumb Shifter Plus	Thumb Shifter Plus	Thumb Shifter Plus
<b>Front</b>	3-speed Ratchet	-	-	3-speed SIS	3-speed Ratchet	-	-	3-speed Ratchet
<b>Rear</b>	-	7-speed SIS	6-speed SIS	-	-	7-speed SIS	6-speed SIS	-
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Multi Release</b>	-	-	-	-	-	-	-	-
<b>Instant Release</b>	-	-	-	-	-	-	-	-
<b>2-Way Release</b>	-	-	-	-	-	-	-	-
<b>SL Cable Adjust</b>	X	-	-	X	X	-	-	X
<b>Optical Gear Display</b>	Revolving type	Window type	Window type	Window type	Window type	Dial type	Dial type	Dial type
<b>Multi-Bearing Construction</b>	-	-	-	-	-	-	-	-
<b>SL Outer Casing</b>	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40	OT-SIS40
<b>Stainless SL Cable</b>	-	-	-	-	-	-	-	-
<b>W/ CI-DECK</b>	Option	-	-	-	-	-	-	-
<b>SL Bracket</b>	<b>Material</b>	Resin	Steel	Steel	Steel	Steel	Steel	Steel
	<b>Finish</b>	Resin	Painted	Painted	Painted	Painted	Painted	Painted
<b>SL Compatible RD Type</b>	-	Top Normal	Top Normal	-	-	Top Normal	Top Normal	-
<b>Note</b>								

\* Integration mounting system of BL and SL

## Shift Lever (MTB) Specifications

Series	Tourney	Tourney	Tourney
Model No.	SL-TZ20-7R	SL-TZ20-6R	SL-TZ20-LN
Lever Type	Thumb Shifter	Thumb Shifter	Thumb Shifter
Front	-	-	3-speed Friction
Rear	7-speed SIS	6-speed SIS	-
Ispec*	-	-	-
Multi Release	-	-	-
Instant Release	-	-	-
2-Way Release	-	-	-
SL Cable Adjust	-	-	-
Optical Gear Display	Dial type	Dial type	Dial type
Multi-Bearing Construction	-	-	-
SL Outer Casing	OT-SIS40	OT-SIS40	OT-SIS40
Stainless SL Cable	-	-	-
W/ CI-DECK	-	-	-
SL Bracket	Material	Steel	Steel
	Finish	Painted	Painted
SL Compatible RD Type	Top Normal	Top Normal	-
Note			

\* Integration mounting system of BL and SL

## Brake Lever (MTB) Specifications

Series	DXR	Deore XT	Deore LX	Deore LX	Deore	Deore	Deore	Alivio
Model No.	BL-MX70	BL-T780	ST-T660	BL-T660	BL-M591	ST-M590	BL-M590	ST-M430 (L)
Brake Type	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake
Lever Size	2 finger	3 finger	3 finger	3 finger	3 finger	3 finger	2 finger	2 finger
Brake Cable Type	T-type	T-type	T-type	T-type	T-type	T-type	T-type	T-type
Power Adjuster	-	-	-	-	-	-	-	-
Servo-Wave Action	-	-	-	-	-	-	-	-
Reach Adjust	X	X	X	X	X	X	X	X
Cable Adjust	X	X	X	X	X	X	X	X
Brake Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Brake Bracket	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Note	For BMX	I spec Compatible Silver / Black version Use w/Power Modulator	Use w/Power Modulator	Use w/Power Modulator	Use w/Power Modulator	Use w/ Power Modulator		Black version

## Brake Lever (MTB) Specifications

Series	Alivio	Alivio	Alivio	Non-series	Acera	Acera	Acera	Acera
Model No.	ST-M430 (S)	ST-M410 (L)	ST-M410 (NS)	BL-M421	ST-M390 (L)	ST-M390 (S)	ST-M360-2A (L)	ST-M360-2A (S)
Brake Type	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake
Lever Size	2 finger	2 finger	2 finger	2 finger	2 finger	2 finger	2 finger	2 finger
Brake Cable Type	T-type	T-type	T-type	T-type	T-type	T-type	T-type	T-type
Power Adjuster	-	-	-	-	-	-	-	-
Servo-Wave Action	-	-	-	-	-	-	-	-
Reach Adjust	X	X	X	X	X	X	X	X
Cable Adjust	X	X	X	X	X	X	X	X
Brake Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Barrel	Anodized	Anodized	Anodized
Brake Bracket	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Note	Silver version	Black version	Neutral Silver version	Black / Silver version	Black version	Silver version	Black version	Silver version

## Brake Lever (MTB) Specifications

Series	Acera	Acera	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-M360-4A (L)	ST-M360-4A (S)	ST-M310-8R2 (L)	ST-M310-8R2 (S)	ST-M310-8R4 (L)	ST-M310-8R4 (S)	ST-M310-L2 (L)	ST-M310-L2 (S)
Brake Type	HRB/Canti brake V-brake*	HRB/Canti brake V-brake*	V-brake	V-brake	HRB/Canti brake V-brake*	HRB/Canti brake V-brake*	V-brake	V-brake
Lever Size	4 finger	4 finger	2 finger	2 finger	4 finger	4 finger	2 finger	2 finger
Brake Cable Type	T-type	T-type	T-type	T-type	T-type	T-type	T-type	T-type
Power Adjuster	-	-	-	-	-	-	-	-
Servo-Wave Action	-	-	-	-	-	-	-	-
Reach Adjust	X	X	X	X	X	X	X	X
Cable Adjust	X	X	X	X	X	X	X	X
Brake Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Barrel	Anodized	Barrel	Anodized	Barrel	Anodized
Brake Bracket	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Note	Black version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Silver version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Black version	Silver version	Black version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Silver version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Black version	Silver version

## Brake Lever (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-M310-L4 (L)	ST-M310-L4 (S)	ST-EF65-9R2 (L)	ST-EF65-9R2 (S)	ST-EF65-9R4 (L)	ST-EF65-9R4 (S)	ST-EF65-8R2 (L)	ST-EF65-8R2 (S)
Brake Type	HRB/Canti brake V-brake*	HRB/Canti brake V-brake*	V-brake	V-brake	HRB/V-brake*	HRB/V-brake*	V-brake	HRB/V-brake*
Lever Size	4 finger	4 finger	2 finger	2 finger	4 finger	4 finger	2 finger	2 finger
Brake Cable Type	T-type	T-type	T-type	T-type	T-type	T-type	T-type	T-type
Power Adjuster	-	-	-	-	-	-	-	-
Servo-Wave Action	-	-	-	-	-	-	-	-
Reach Adjust	X	X	X	X	X	X	X	X
Cable Adjust	X	X	X	X	X	X	X	X
Brake Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Barrel	Anodized	Anodized	Anodized	Anodized	Anodized
Brake Bracket	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Note	Black version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Silver version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Black version	Silver version	Black version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Silver version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Black version	Silver version

## Brake Lever (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-EF65-8R4 (L)	ST-EF65-8R4 (S)	ST-EF65-7R2 (L)	ST-EF65-7R2 (S)	ST-EF65-7R4 (L)	ST-EF65-7R4 (S)	ST-EF65-L2 (L)	ST-EF65-L2 (S)
Brake Type	HRB/V-brake*	HRB/V-brake*	V-brake	V-brake	HRB/V-brake*	HRB/V-brake*	V-brake	V-brake
Lever Size	4 finger	4 finger	2 finger	2 finger	4 finger	4 finger	2 finger	2 finger
Brake Cable Type	T-type	T-type	T-type	T-type	T-type	T-type	T-type	T-type
Power Adjuster	-	-	-	-	-	-	-	-
Servo-Wave Action	-	-	-	-	-	-	-	-
Reach Adjust	X	X	X	X	X	X	X	X
Cable Adjust	X	X	X	X	X	X	X	X
Brake Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Brake Bracket	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Note	Black version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Silver version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Black version	Silver version	Black version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Silver version, *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	Black version	Silver version



## Brake Lever (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	ST-EF65-L4 (S)	ST-EF65-L4 (L)	ST-EF51-8R(LL) 4A	ST-EF51-8R(SL) 4A	ST-EF51-7R(LL) 4A	ST-EF51-7R(SL) 4A	ST-EF51-L(LL) 4A	ST-EF51-L(SL) 4A
Brake Type	HRB/V-brake*	HRB/V-brake*	HRB/Canti brake V-brake*	HRB/Canti brake V-brake*	HRB/Canti brake V-brake*	HRB/Canti brake V-brake*	HRB/Canti brake V-brake*	HRB/Canti brake V-brake*
Lever Size	4 finger	4 finger	4 finger	4 finger	4 finger	4 finger	4 finger	4 finger
Brake Cable Type	T-type	T-type	T-type	T-type	T-type	T-type	T-type	T-type
Power Adjuster	-	-	-	-	-	-	-	-
Servo-Wave Action	-	-	-	-	-	-	-	-
Reach Adjust	X	X	X	X	X	X	X	X
Cable Adjust	X	X	X	X	X	X	X	X
Brake Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Barrel	Anodized	Barrel	Anodized
Brake Bracket	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Note	*Black version *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	*Black version *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	*Black version *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	*Silver version *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	*Black version *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	*Silver version *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	*Black version *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible	*Silver version *V-brake and Mechanical Disc Brake must be used with power modulator. *INTER-M Compatible

## Brake Lever (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	
Model No.	ST-EF51-8R(LL) 2A	ST-EF51-8R(SL) 2A	ST-EF51-7R(LL) 2A	ST-EF51-7R(SL) 2A	ST-EF51-L(LL) 2A	ST-EF51-L(SL) 2A	ST-EF40-7R(LL) 2S	ST-EF40-6R(LL) 2S	
Brake Type	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake	V-brake	
Lever Size	2 finger	2 finger	2 finger	2 finger	2 finger	2 finger	2 finger	2 finger	
Brake Cable Type	T-type	T-type	T-type	T-type	T-type	T-type	T-type	T-type	
Power Adjuster	-	-	-	-	-	-	-	-	
Servo-Wave Action	-	-	-	-	-	-	-	-	
Reach Adjust	X	X	X	X	X	X	X	X	
Cable Adjust	X	X	X	X	X	X	-	-	
Brake Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel/Resin	Steel/Resin
	Finish	Anodized	Barrel	Anodized	Barrel	Anodized	Barrel	-	-
Brake Bracket	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Note	*Black version	*Silver version	*Black version	*Silver version	*Black version	*Silver version			

## Brake Lever (MTB) Specifications

Series		Non-Series
Model No.		ST-EF40-L(LL) 2S
Brake Type		V-brake
Lever Size		2 finger
Brake Cable Type		T-type
Power Adjuster		-
Servo-Wave Action		-
Reach Adjust		X
Cable Adjust		X
Brake Lever	Material	Steel/Resin
	Finish	-
Brake Bracket	Material	Steel
	Finish	Painted
Note		

ARCHIVE

## Brake (MTB) Specifications

Series		DXR	Deore XT	Deore LX	Deore	Deore	Non Series
Model No.		BR-MX70	BR-T780	BR-T660	BR-M590 (L)	BR-M590 (S)	BR-M432 (L)
Brake Type		V-brake	V-brake	V-brake	V-brake	V-brake	V-brake
Link Wire		-	-	-	-	-	-
Reinforced Link		-	-	-	-	-	-
Parallel Link		-	-	-	-	-	-
Power Modulator		-	-	-	-	-	-
Linear Spring		X	X	X	X	X	X
Threaded BR Shoe Post		X	X	X	X	X	X
Brake Shoe Type	Standard	S70C	M70CT4	S70C	S70C	S70C	S70C
	Optional Choice	M70T3 M70T4	S70C	M70T3 M70T4	M70T3 M70T4 S70T	M70T3 M70T4 S70T	M70R2
Arch Size (mm)		103	103	107	107	107	107
Fixing Bolt Length (mm)		16	16/25	16/25	16/25	16/25	16/25
Sleeve & Bushing Type		X	X	X	X	X	X
Lead Pipe Angle		45/90/135	45/90/135	45/90/135	45/90/135	45/90/135	45/90/135
V-arm/Caliper	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized + laser marking	Painted	Painted	Painted
Cartridge Shoe Holder		X	X	X	X	X	X
Note		For BMX rear only	Silver / Black version		Black version	Silver version	Black version

## Brake (MTB) Specifications

Series		Non Series	Non-Series	Non-Series
Model No.		BR-M432 (S)	BR-M422 (L)	BR-M422 (S)
Brake Type		V-brake	V-brake	V-brake
Link Wire		-	-	-
Reinforced Link		-	-	-
Parallel Link		-	-	-
Power Modulator		-	-	-
Linear Spring		X	X	X
Threaded BR Shoe Post		X	X	X
Brake Shoe Type	Standard	S70C	S65T	S65T
	Optional Choice	M70R2	M65T3 M65T4	M65T3 M65T4
Arch Size (mm)		107	107	107
Fixing Bolt Length (mm)		16/25	16/25	16/25
Sleeve & Bushing Type		X	X	X
Lead Pipe Angle		45/90/135	45/90/135	45/90/135
V-arm/Caliper	Material	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted
Cartridge Shoe Holder		X	-	-
Note		Silver version	Black version	Silver version

# Disc Brake (MTB) Specifications

## Brake Caliper

Series	XTR	SAINT	Deore XT	SLX	Deore LX	Deore/Shimano	Non-Series	Non-Series	
Model No.	BR-M985	BR-M810	BR-M785	BR-M666	BR-T665	BR-M596	BR-M575	BR-R505	
Brake Type	Disc-Brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	
Recommended Brake Lever	BL-M988 BL-M985	BL-M810	BL-M785/BL-T785	BL-M666	BL-T665	BL-M596	BL-M575	For BL-TT78 ST-3400/ST-2300 ST-R221	
Recommended Brake Rotor	*SM-RT98	SM-RT79 SM-RT76	SM-RT81 SM-RT79 SM-RT67A SM-RT86 SM-RT76	SM-RT81 SM-RT67 SM-RT86 SM-RT76	SM-RT64	SM-RT64 SM-RT75	*SM-RT53 SM-RT64	SM-RT64	
Hydraulic or Mechanical	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Mechanical	
One Way Bleeding	X	-	X	X	-	X	-	-	
Oil	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	-	
Mount Type (available for IS mount with mount adapter)	Post-type	Post-type	Post-type	Post-type	Post-type	Post-type	Post-type	Post-type	
Piston	Opposed 2-piston	X	-	X	X	X	X	-	
	Opposed 4-piston	-	X	-	-	-	-	-	
Caliper	Mono-body Caliper	X	-	-	-	-	-	-	
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Anodized	Painted	Painted	Painted	Painted	Painted	Painted	
PAD	Standard	G01A Resin, F03C Metal	D02S Metal	G01A Resin, F03C Metal	F01A Resin, G01S Resin	A01S Resin	A01S Resin	B01S Resin	M06 Metal
	Option	G03Ti Metal, F03A Resin	D01S Resin	G03S Metal, F03A Resin	F03C Metal, G03S Metal	M06 Metal	M06 Metal	E01S Metal	-
Hose	SM-BH90-SB	SM-BH80-SB	SM-BH90-SB	SM-BH90-SB	SM-BH59	SM-BH90-SS	SM-BH59	Cable	
Note	*140mm for rear only		Silver / Black version		Deore LX Logo	Deore: Galaxy Black Shimano: Black	*For resin pad only Shimano Logo		

# Disc Brake (MTB) Specifications

## Brake Caliper

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	BR-M495	BR-M446 (L)	BR-M446 (S)	BR-M446 (W)	BR-M416A (L)	BR-M416A (S)	BR-M375 (L)	BR-M375 (S)
<b>Brake Type</b>	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake
<b>Recommended Brake Lever</b>	V-brake BL (1.5-2.5 finger)	BL-M445 / BL-M505 / BL-T445	BL-M445 / BL-M505 / BL-T445	BL-M445 / BL-M505 / BL-T445	V-brake BL (1.5-2.5 finger)	V-brake BL (1.5-2.5 finger)	V-brake BL (1.5-2.5 finger)	V-brake BL (1.5-2.5 finger)
<b>Recommended Brake Rotor</b>	SM-RT53 SM-RT51	SM-RT53 SM-RT53M SM-RT53L SM-RT51 SM-RT51M	SM-RT53 SM-RT53M SM-RT53L SM-RT51 SM-RT51M	SM-RT53 SM-RT53M SM-RT53L SM-RT51 SM-RT51M	SM-RT53 SM-RT53M SM-RT53L SM-RT51 SM-RT51M	SM-RT53 SM-RT53M SM-RT53L SM-RT51 SM-RT51M	SM-RT30 SM-RT53 SM-RT53M SM-RT53L SM-RT51 SM-RT51M	SM-RT30 SM-RT53 SM-RT53M SM-RT53L SM-RT51 SM-RT51M
<b>Hydraulic or Mechanical</b>	Mechanical	Hydraulic	Hydraulic	Hydraulic	Mechanical	Mechanical	Mechanical	Mechanical
<b>One Way Bleeding</b>	-	X	X	X	-	-	-	-
<b>Oil</b>	-	Shimano Mineral	Shimano Mineral	Shimano Mineral	-	-	-	-
<b>Mount Type (available for IS mount with mount adapter)</b>	Post-type	Post-type	Post-type	Post-type	Post-type	Post-type	Post-type	Post-type
<b>Piston</b>	<b>Opposed 2-piston</b>	-	X	X	X	-	-	-
	<b>Opposed 4-piston</b>	-	-	-	-	-	-	-
<b>Caliper</b>	<b>Mono-body Caliper</b>	-	-	-	-	-	-	-
	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>PAD</b>	<b>Standard</b>	M08 Resin	B01S Resin	B01S Resin	B01S Resin	B01S Resin	B01S Resin	B01S Resin
	<b>Option</b>	-	-	-	-	-	-	-
<b>Hose</b>	Cable	SM-BH59	SM-BH59	SM-BH59	Cable	Cable	Cable	Cable
<b>Note</b>		Shimano Logo, Black version	Shimano Logo, Silver version	Shimano Logo, White version	Shimano Logo, Black version	Shimano Logo, Silver version	Shimano Logo, Black version	Shimano Logo, Silver version

# Disc Brake (MTB) Specifications

## Brake Lever

Series	XTR	XTR	SAINT	Deore XT	Deore XT	SLX	Deore LX	Deore/Shimano
Model No.	BL-M985	BL-M988	BL-M810	BL-M785	BL-T785	BL-M666	BL-T665	BL-M596
<b>Brake Type</b>	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake
<b>Ispc*</b>	X	X	-	X	X	X	-	X
<b>Servo wave mechanism</b>	-	X	X	X	-	X	X	X
<b>Recommended Brake Caliper</b>	BR-M985	BR-M985	BR-M810	BR-M785	BR-M785	BR-M666	BR-T665	BR-M596
<b>Oil</b>	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral
<b>Bleeding Tool</b>	Funnel	Funnel	-	Funnel	Funnel	Funnel	Funnel	Funnel
<b>Master Cylinder</b>	X	X	X	X	X	X	X	X
<b>Lever Size</b>	1.5 finger	1.5 finger	1.5 finger	1.5 finger	3-finger	1.5 finger	3 finger	1.5 finger
<b>Reach Adjust</b>	X	Tool free	Tool free	Tool free	Tool free	Tool free	X	X
<b>Free stroke Adjust</b>	-	X	X	X	-	-	-	-
<b>Open Clamp Band</b>	X (1 bolt type)	X (1 bolt type)	-	X (1 bolt type)	X (1 bolt type)	X (1 bolt type)	-	X (1 bolt type)
<b>Brake Lever</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
<b>Brake Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Brake Hose</b>	SM-BH90-SB	SM-BH90-SB	SM-BH80-SB	SM-BH90-SB	SM-BH90-SB	SM-BH90-SB	SM-BH59	SM-BH90-SS
<b>Note</b>				Silver / Black version	Silver / Black version		Deore LX Logo	Deore: Galaxy Black Shimano: Black

\* Integration mounting system of BL and SL



# Disc Brake (MTB) Specifications

## Brake Lever

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	BL-M575	BL-M505 (L)	BL-M505 (S)	BL-M505 (W)	BL-M445 (L)	BL-M445 (S)	BL-M445 (W)	BL-T445 (L)
<b>Brake Type</b>	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake	Hydraulic Disc-brake
<b>Ispec*</b>	-	-	-	-	-	-	-	-
<b>Servo wave mechanism</b>	-	-	-	-	-	-	-	-
<b>Recommended Brake Caliper</b>	BR-M575	BR-M446	BR-M446	BR-M446	BR-M446	BR-M446	BR-M446	BR-M446
<b>Oil</b>	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral	Shimano Mineral
<b>Bleeding Tool</b>	Funnel	-	-	-	Funnel	Funnel	Funnel	Funnel
<b>Master Cylinder</b>	X	X	X	X	X	X	X	X
<b>Lever Size</b>	1.5 finger	1.5 finger	1.5 finger	1.5 finger	2 finger	2 finger	2 finger	3 finger
<b>Reach Adjust</b>	X	X	X	X	X	X	X	X
<b>Free stroke Adjust</b>	-	-	-	-	-	-	-	-
<b>Open Clamp Band</b>	X (2 bolts type)	X (1 bolt type)	X (1 bolt type)	X (1 bolt type)	-	-	-	-
<b>Brake Lever</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
<b>Brake Bracket</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Brake Hose</b>	SM-BH59	SM-BH59	SM-BH59	SM-BH59	SM-BH59	SM-BH59	SM-BH59	SM-BH59
<b>Note</b>	Shimano Logo, flip flop type BL	Shimano Logo, Black version	Shimano Logo, Silver version	Shimano Logo, White version	Shimano Logo, Black version	Shimano Logo, Silver version	Shimano Logo, White version	Shimano Logo, Black version

\* Integration mounting system of BL and SL

## Disc Brake (MTB) Specifications

### Brake Lever

Series	Non-Series	Non-Series
Model No.	BL-T445 (S)	BL-T445 (W)
Brake Type	Hydraulic Disc-brake	Hydraulic Disc-brake
Ispc*	-	-
Servo wave mechanism	-	-
Recommended Brake Caliper	BR-M446	BR-M446
Oil	Shimano Mineral	Shimano Mineral
Bleeding Tool	Funnel	Funnel
Master Cylinder	X	X
Lever Size	3 finger	3 finger
Reach Adjust	X	X
Free stroke Adjust	-	-
Open Clamp Band	-	-
Brake Lever	Material	Aluminum
	Finish	Anodized
Brake Bracket	Material	Aluminum
	Finish	Painted
Brake Hose	SM-BH59	SM-BH59
Note	Shimano Logo, Silver version	Shimano Logo, White version

\* Integration mounting system of BL and SL

# Disc Brake (MTB) Specifications

## Brake Rotor

Series		XTR	XTR	XTR	XTR	SAINT/Deore XT	SAINT/Deore XT	SAINT/Deore XT	SAINT/Deore XT
Model No.		SM-RT98-L	SM-RT98-M	SM-RT98-S	SM-RT98-SS	SM-RT86-L	SM-RT86-M	SM-RT86-S	SM-RT81-L
<b>Brake Type</b>		Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake
<b>Outside Diameter</b>	<b>203mm</b>	X				X			X
	<b>180mm</b>		X				X		
	<b>160mm</b>			X				X	
	<b>140mm</b>				X				
<b>Center Lock (standard size)</b>		X	X	X	X	-	-	-	X
<b>6bolt (PCD 44mm)</b>		-	-	-	-	X	X	X	-
<b>Alloy lock ring</b>		X	X	X	X	X	X	X	X
<b>Adapter</b>	<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
<b>Rotor</b>	<b>Material</b>	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel +Aluminum +Stainless Steel
	<b>Finish</b>	Polished	Polished	Polished	Polished	Polished	Polished	Polished	Polished
<b>Note</b>		Ice technologies	Ice technologies	Ice technologies	Ice technologies For Rear Only	Ice technologies	Ice technologies	Ice technologies	Ice technologies

# Disc Brake (MTB) Specifications

## Brake Rotor

Series		SAINT/Deore XT	SAINT/Deore XT	SAINT/Deore XT	SAINT/Deore XT	SAINT/Deore XT	Deore XT	Deore XT	Deore XT
Model No.		SM-RT81-M	SM-RT81-S	SM-RT79-L	SM-RT79-M	SM-RT79	SM-RT76L	SM-RT76M	SM-RT76
Brake Type		Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake
Outside Diameter	203mm			X			X		
	180mm	X			X			X	
	160mm		X			X			X
	140mm								
Center Lock (standard size)	X	X	X	X	X	-	-	-	
6bolt (PCD 44mm)	-	-	-	-	-	X	X	X	
Alloy lock ring	X	X	X	X	X	-	-	-	
Adapter	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Rotor	Material	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel +Aluminum +Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Finish	Polished	Polished	Polished	Polished	Polished	Polished	Polished	Polished
Note		Ice technologies	Ice technologies	Check Suspension manufacturer for compatibility					

# Disc Brake (MTB) Specifications

## Brake Rotor

Series		Non-Series	Non-Series	Non-Series	Deore XT	Deore XT	Deore XT	SLX	SLX
Model No.		SM-RT75S	SM-RT75MA	SM-RT75-DH	SM-RT67-AL	SM-RT67-AM	SM-RT67-AS	SM-RT67-L	SM-RT67-M
Brake Type		Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake
Outside Diameter	203mm			X	X			X	
	180mm		X			X			X
	160mm	X					X		
	140mm								
Center Lock (standard size)		-	-	-	X	X	X	X	X
6bolt (PCD 44mm)		X	X	X	-	-	-	-	-
Alloy lock ring		-	-	-	X	X	X	-	-
Adapter	Material	-	-	-	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	-	-	-	Painted	Painted	Painted	Painted	Painted
Rotor	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Finish	Polished	Polished	Polished	Polished	Polished	Polished	Polished	Polished
Note									

# Disc Brake (MTB) Specifications

## Brake Rotor

Series		SLX	Deore	Deore	Deore	Non-Series	Non-Seires	Non-Seires	Non-Series	
Model No.		SM-RT67-S	SM-RT64L	SM-RT64M	SM-RT64	SM-RT53	SM-RT53M	SM-RT53L	SM-RT51	
Brake Type		Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	Disc-brake	
Outside Diameter	203mm		X					X		
	180mm			X			X			
	160mm	X			X	X			X	
	140mm									
Center Lock (standard size)		X	X	X	X	X	X	X	-	
6bolt (PCD 44mm)		-	-	-	-	-	-	-	X	
Alloy lock ring		-	-	-	-	-	-	-	-	
Adapter	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	-
Rotor	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Finish	Polished	Polished	Polished	Polished	Polished	Polished	Polished	Polished	Polished
Note						For Resin Pad Only	For Resin Pad Only	For Resin Pad Only, Check Suspension manufacturer for compatibility	For Resin Pad Only	

# Disc Brake (MTB) Specifications

## Brake Rotor

Series		Non-Series	Non-Series
Model No.		SM-RT51-M	SM-RT30
Brake Type		Disc-brake	Disc-brake
Outside Diameter	203mm		
	180mm	X	
	160mm		X
	140mm		
Center Lock (standard size)		-	X
6bolt (PCD 44mm)		X	-
Alloy lock ring		-	-
Adapter	Material	-	Stainless Steel
	Finish	-	Painted
Rotor	Material	Stainless Steel	Stainless Steel
	Finish	Polished	Polished
Note		For Resin Pad Only	For Resin Pad Only

## Hub Roller Brake Specifications

Series	NEXUS	NEXUS	NEXUS		NEXUS		NEXAVE	NEXAVE		NEXUS	
Model No.	BR-IM86	BR-IM85	BR-IM81		BR-IM80		BR-IM75	BR-IM70		BR-IM55	
	Front	Front	Front	Rear	Front	Rear	Front	Front	Rear	Front	Rear
Hub dynamo integration	-	-	-	-	-	-	-	-	-	-	-
Structure	Hyper	Hyper	Hyper	Hyper	Hyper	Hyper	Hyper	Hyper	Hyper	Normal	Normal
Braking Power( *1 )	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.3	1.3	1	1
Cooling Fin Diameter (mm)	180	150	180	180	150	150	150	150	150	140	140
Heat Dissipation ( *1 )	2.3	1.4	2.3	2.3	1.4	1.4	2.2	2.2	2.2	1.2	1.2
Without Cooling Fin	-	-	-	-	-	-	-	-	-	-	-
Inner Cable Quick Release	X	X	X	X	X	X	X	X	X	X	X
Disc Brake Mount Compatible	X	X	-	-	-	-	X	-	-	-	-
Note											

Performance index rating uses BR-IM41 brake unit as a reference value of 1. Testing condition ,



## Hub Roller Brake Specifications









Series	NEXUS		NEXUS		NEXUS		Non-Series		NEXUS
	BR-IM50		BR-IM45		BR-IM41		BR-IM35		BR-IM31
	Front	Rear	Front	Rear	Front	Rear	Front	Rear	Rear
Hub dynamo integration	-	-	-	-	-	-	-	-	-
Structure	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Braking Power( *1 )	1	1	1	1	1	1	1	1	1
Cooling Fin Diameter (mm)	130	130	122	122	90	100	160	160	90
Heat Dissipation ( *1 )	1.2	1.2	1	1	1	1	1.4	1.4	Less than 1
Without Cooling Fin	-	-	-	-	-	-	-	-	Available
Inner Cable Quick Release	X	X	X	X	X	X	-	-	-
Disc Brake Mount Compatible	-	-	-	-	-	-	-	-	-
Note									

Performance index rating uses BR-IM41 brake unit as a reference value of 1. Testing condition ,









## Power Modulator (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.	SM-PM70	SM-PM60	SM-PM50	SM-PM40
Available Lead Pipe Angle	90°/ 135°	-	-	90°/ 135°
Body Material	Aluminum	Aluminum	Aluminum	Aluminum
Body Finish	Anodized + laser marking	Barrel and Sticker	Barrel and Printed	Barrel and Sticker
Lead Pipe Material	Stainless Steel	-	-	Stainless Steel
Compatible Brake	Any Shimano V-brake without power modulator	Any Shimano V-brake (Except: BRT400/T300)	Any Shimano Mechanical Disc Brake	Any Shimano V-brake without power modulator
Compatible BL	Any Shimano V-brake Lever without power modulator	Any Shimano V-brake Lever (Except: BL-C900/C600)	Any Shimano V-brake Lever without power modulator	Any Shimano V-brake Lever without power modulator
Note		Black version	Silver version	Black, Red or Blue version







## Front Chainwheel (MTB) Specifications

Series	XTR	XTR	XTR	XTR	XTR	SAINT	SAINT	SAINT
Model No.	FC-M980	FC-M980	FC-M985	FC-M985	FC-M985	FC-M815-2	FC-M815-1	FC-M810-2
Rear Speeds	10	10	10	10	10	9	9	9
Chainring Combination	42-32-24T	38-26T	40-28T	42-30T	44-30T	36-22T	34/36/38/40/42T	36-22T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	104/64	104/64	88	88	88	104/64	104/64	104/64
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	X	X	-	-	X	X	X
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	X	X	X	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	X	X	X	X	X	-	-	
Chain	HG-X 10 speed	HG-X 10 speed	HG-X 10 speed	HG-X 10 speed	HG-X 10 speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed
Bottom Bracket (*press fit type option is available)	SM-BB90-A SM-BB91-41A	SM-BB90-A SM-BB91-41A	SM-BB90-A SM-BB91-41A	SM-BB90-A SM-BB91-41A	SM-BB90-A SM-BB91-41A	SM-BB80	SM-BB80	SM-BB80
Chain Line (mm)	50	46.8	48.8	48.8	48.8	54.3	57.9	46.8
With Crank Fixing Bolt	X	X	X	X	X	X	X	X
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-
Optional Chain Guard	-	-	-	-	-	Bash guard	Bash guard	Bash guard
Hollowtech II technology	X 	X 	X 	X 	X 	X 	X 	X 
2-piece crank construction	X	X	X	X	X	X	X	X
Hollowtech Crank Arm	X	X	X	X	X	X	X	X
OCTALINK technology	-	-	-	-	-	-	-	-
Axle Length of BB-UN / ES	-	-	-	-	-	-	-	-
Chain Case Compatible Crank Arm	-	-	-	-	-	-	-	-
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Spider Arm	Material	-	-	-	-	Aluminum	Aluminum	Aluminum
	Finish	-	-	-	-	Painted	Painted	Painted
Spider Arm Cover	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Outer Ring	Material	Aluminum	-	Aluminum	Aluminum	Aluminum	-	-
	Finish	Painted/Plated	-	Painted/Plated	Painted/Plated	Painted/Plated	-	-
Middle Ring	Material	Titanium/Carbon composite	Aluminum	-	-	Aluminum	Aluminum	Aluminum
	Finish	Shot Blasting	Painted/Plated	-	-	Plated	Anodized	Plated
Inner Ring	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-	Aluminum
	Finish	Plated	Plated	Plated	Plated	Plated	-	Plated
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)						Double chain rings 83mm BB shell width	Single chain ring 83mm BB shell width	Double chain rings 68/73mm BB shell width

## Front Chainwheel (MTB) Specifications

Series	SAINT	DXR	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT	Deore XT
Model No.	FC-M810-1	FC-MX71	FC-M780	FC-M785	FC-M785	FC-T780	FC-T781	FC-T781
Rear Speeds	9	1	10	10	10	10	10	10
Chaining Combination	34/36/38/40/42T	34/38/41/42/43/44/46T	42-32-24T	40-28T	38-26T	48-36-26T	48-36-26T	44-32-24T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	104/64	104/64	104/64	104/64	104/64	104/64	104/64	104/64
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	X	X	X	X	X	X	X
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	-	X	X	X	X	X	X	
Chain	Super Narrow HG for 9-speed	1/2" x 3/32"	HG-X 10 speed	HG-X 10 speed	HG-X 10 speed	HG-X 10 speed	HG-X 10 speed	HG-X 10 speed
Bottom Bracket (*press fit type option is available)	SM-BB80	Included	SM-BB70 SM-BB71-41A	SM-BB70 SM-BB71-41A	SM-BB70 SM-BB71-41A	SM-BB70 SM-BB71-41A	SM-BB70 SM-BB71-41A	SM-BB70 SM-BB71-41A
Chain Line (mm)	50.4	44	50	48.8	48.8	50	50	50
With Crank Fixing Bolt	X	X	X	X	X	X	X	X
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-
Optional Chain Guard	Bash guard	-	-	-	-	X	X	X
Hollowtech II technology	X 	X 	X 	X 	X 	X 	X 	X 
2-piece crank construction	X	X	X	X	X	X	X	X
Hollowtech Crank Arm	X	X	X	X	X	X	X	X
OCTALINK technology	-	-	-	-	-	-	-	-
Axle Length of BB-UN / ES	-	-	-	-	-	-	-	-
Chain Case Compatible Crank Arm	-	-	-	-	-	-	X	X
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Spider Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Anodized	Painted	Painted	Painted	Painted	Painted
Spider Arm Cover	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Outer Ring	Material	-	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	-	Anodized	Twice Anodized	Twice Anodized	Twice Anodized	Twice Anodized	Twice Anodized
Middle Ring	Material	Aluminum	-	Steel/Carbon Composite	-	-	Aluminum	Aluminum
	Finish	Anodized	-	Plated	-	-	Plated	Plated
Inner Ring	Material	-	-	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	-	-	Plated	Plated	Plated	Plated	Plated
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)	Single chain ring 68/73mm BB shell width	BMX racing 68mm BB shell width	Silver / Black version	Silver / Black version	Silver / Black version	Silver / Black version	Silver / Black version	Silver / Black version





## Front Chainwheel (MTB) Specifications

Series	SLX	SLX	SLX	SLX	Deore LX	Deore LX	Deore	Deore
Model No.	FC-M660-10	FC-M660	FC-M660	FC-M665	FC-T661	FC-T661	FC-M590-10	FC-M591
Rear Speeds	10	9	9	9	9	9	10	9
Chaining Combination	42-32-24T	44-32-22T	48-36-26T	36-22T	44-32-22T	48-36-26T	42-32-24T	44-32-22T/48-36-26T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	104/64	104/64	104/64	104/64	104/64	104/64	104/64	104/64
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	-	-	-	-	-	-	-
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	
Chain	HG-X 10 speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	HG-X 10 speed	Super Narrow HG for 9-speed
Bottom Bracket (*press fit type option is available)	SM-BB70	SM-BB70*	SM-BB70*	SM-BB70*	SM-BB70	SM-BB70	SM-BB51*	SM-BB51
Chain Line (mm)	50	50	50	46.8	50	50	50	50
With Crank Fixing Bolt	-	-	-	-	-	-	-	-
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-
Optional Chain Guard	-	-	X	Bash guard	X	X	-	X
Hollowtech II technology	X 	X 	X 	X 	X 	X 	-	-
2-piece crank construction	X	X	X	X	X	X	X	X
Hollowtech Crank Arm	X	X	X	X	X	X	-	-
OCTALINK technology	-	-	-	-	-	-	-	-
Axle Length of BB-UN / ES	-	-	-	-	-	-	-	-
Chain Case Compatible Crank Arm	-	-	-	-	X	X	-	X
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Painted	Painted	Painted
Spider Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	-	-	-
	Finish	Painted	Painted	Painted	Painted	-	-	-
Spider Arm Cover	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Outer Ring	Material	Aluminum	Aluminum	Aluminum	-	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	-	Anodized	Anodized	Anodized
Middle Ring	Material	Steel/GF composite	Steel/GF composite	Aluminum	Aluminum	Steel/GF composite	Aluminum	Steel
	Finish	Plated	Plated	Plated	Plated	Plated	Plated	Painted
Inner Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)					**36T and 22T position are same as FC-M660 (triple)	4 arm integrated crank arm	4 arm integrated crank arm	

## Front Chainwheel (MTB) Specifications

Series	Deore	Shimano	Shimano	Shimano	Shimano	Shimano	Shimano	Shimano	
Model No.	FC-M590	FC-M552-L	FC-M552-S	FC-T551 (L)	FC-T551 (S)	FC-T551 (L)	FC-T551 (S)	FC-M545	
Rear Speeds	9	10	10	10	10	10	10	9	
Chaining Combination	44-32-22T/48-36-26T	42-32-24T	42-32-24T	44-32-24T	44-32-24T	48-36-26T	48-36-26T	36-22T	
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	
PCD (mm)	104/64	104/64	104/64	104/64	104/64	104/64	104/64	104/64	
Crank Arm Length	160mm	-	-	-	-	-	-	-	
	165mm	-	-	-	-	-	-	-	
	167.5mm	-	-	-	-	-	-	-	
	170mm	X	X	X	X	X	X	X	
	172.5mm	-	-	-	-	-	-	-	
	175mm	X	X	X	X	X	X	X	
	177.5mm	-	-	-	-	-	-	-	
180mm	-	-	-	-	-	-	-		
Chain	Super Narrow HG for 9-speed	HG-X 10-speed	HG-X 10-speed	HG-X 10-speed	HG-X 10-speed	HG-X 10-speed	HG-X 10-speed	Super Narrow HG for 9-speed	
Bottom Bracket (*press fit type option is available)	SM-BB51	SM-BB51	SM-BB51	SM-BB51	SM-BB51	SM-BB51	SM-BB51	SM-BB50	
Chain Line (mm)	50	50	50	50	50	50	50	46.8	
With Crank Fixing Bolt	-	-	-	-	-	-	-	-	
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-	
Optional Chain Guard	X	-	-	X	X	X	X	Bash guard	
Hollowtech II technology	-	-	-	-	-	-	-	-	
2-piece crank construction	X	X	X	X	X	X	X	X	
Hollowtech Crank Arm	-	-	-	-	-	-	-	-	
OCTALINK technology	-	-	-	-	-	-	-	-	
Axle Length of BB-UN / ES	-	-	-	-	-	-	-	-	
Chain Case Compatible Crank Arm	-	-	-	X	X	X	X	-	
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	
Spider Arm	Material	-	-	-	-	-	-	-	
	Finish	-	-	-	-	-	-	-	
Spider Arm Cover	Material	-	-	-	-	-	-	-	
	Finish	-	-	-	-	-	-	-	
Outer Ring	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-	
	Finish	Anodized	Anodized	Anodized	Twice Anodized	Twice Anodized	Twice Anodized	Twice Anodized	
Middle Ring	Material	Steel	Steel/GF composite	Steel/GF composite	Steel/GF composite	Steel/GF composite	Aluminum	Aluminum	
	Finish	Painted	Plated	Plated	Plated	Plated	Plated	Plated	
Inner Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Painted	Painted	Painted	Plated	Plated	Plated	Plated	
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)			Black version	Silver version	Black version	Silver version	Black version	Silver version	**36T and 22T position are same as FC-M660 (triple)

## Front Chainwheel (MTB) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Shimano	Shimano	Non Series	Non Series
Model No.	FC-M543-LK	FC-M543-SK	FC-M542 (L)	FC-M542 (S)	FC-M522 (L)	FC-M522 (S)	FC-M521 (L)	FC-M521 (S)
Rear Speeds	9	9	9	9	10	10	9	9
Chainring Combination	44-32-22T 48-36-26T	44-32-22T 48-36-26T	44-32-22T	44-32-22T	42-32-24T	42-32-24T	44-32-22T/ 48-36-26T	44-32-22T/ 48-36-26T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	104/64	104/64	104/64	104/64	104/64	104/64	104/64	104/64
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	-	-	-	-	-	-	-
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	-
Chain	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	HG-X 10-speed	HG-X 10-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed
Bottom Bracket (*press fit type option is available)	SM-BB50	SM-BB50	SM-BB50 SM-BB71-41A	SM-BB50 SM-BB71-41A	BB-ES25	BB-ES25	BB-ES25-AK / BB-ES25-E	BB-ES25-AK / BB-ES25-E
Chain Line (mm)	50	50	50	50	50	50	50	50
With Crank Fixing Bolt	-	-	-	-	X	X	X	X
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-
Optional Chain Guard	X	X	X	X	-	-	X	X
Hollowtech II technology	-	-	-	-	-	-	-	-
2-piece crank construction	X	X	X	X	-	-	-	-
Hollowtech Crank Arm	-	-	-	-	X 	X 	X 	X 
OCTALINK technology	-	-	-	-	X	X	X	X
Axle Length of BB-UN / ES	-	-	-	-	113	113	121-AK / 121-E*	121-AK / 121-E*
Chain Case Compatible Crank Arm	X	X	-	-	-	-	X	X
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Spider Arm	Material	-	-	-	-	Aluminum	Aluminum	Aluminum
	Finish	-	-	-	-	Painted	Painted	Painted
Spider Arm Cover	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Outer Ring	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Twice Anodized	Twice Anodized	Twice Anodized	Twice Anodized	Anodized	Anodized	Anodized
Middle Ring	Material	Aluminum	Aluminum	Aluminum	Aluminum	Steel/GF composite	Steel/GF composite	Steel
	Finish	Plated	Plated	Plated	Plated	Plated	Plated	Plated
Inner Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Plated	Plated	Plated	Plated	Painted	Painted	Plated
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)	Black version Shimano logo	Silver version Shimano logo	Black version Shimano logo	Silver version Shimano logo	Black version	Silver version	Black version, * In case of no chain case used, 68mm shell width; 121 also can be used, 73mm BB shell width : 121 must be used	Silver version, * In case of no chain case used, 68mm shell width; 121 also can be used, 73mm BB shell width : 121 must be used

## Front Chainwheel (MTB) Specifications

Series	Alivio	Alivio	Alivio	Alivio	Alivio	Alivio	Alivio	Alivio
Model No.	FC-M430 (L)	FC-M430 (S)	FC-M431 (L)	FC-M431 (S)	FC-M430-8 (L)	FC-M430-8 (L)	FC-M430-8 (S)	FC-M431-8 (L)
Rear Speeds	9	9	9	9	9	9	9	9
Chaining Combination	44-32-22T	44-32-22T	44-32-22T	44-32-22T	44-32-22T	44-32-22T	44-32-22T	44-32-22T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	104/64	104/64	104/64	104/64	104/64	104/64	104/64	104/64
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	-	-	-	-	-	-	-
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	
Chain	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed
Bottom Bracket (*press fit type option is available)	BB-UN26(-E)	BB-UN26(-E)	BB-UN26(-K)	BB-UN26(-K)	BB-ES25(-E)	BB-ES25(-E)	BB-ES25(-E)	BB-ES25(-K)
Chain Line (mm)	50	50	50	50	50	50	50	50
With Crank Fixing Bolt	X	X	X	X	X	X	X	X
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-
Optional Chain Guard	X	X	X	X	X	X	X	X
Hollowtech II technology	-	-	-	-	-	-	-	-
2-piece crank construction	-	-	-	-	-	-	-	-
Hollowtech Crank Arm	-	-	-	-	-	-	-	-
OCTALINK technology	-	-	-	-	X	X	X	X
Axle Length of BB-UN / ES	LL113(-E)	LL113(-E)	LL123(-K)	LL123(-K)	118(-E)	118(-E)	118(-E)	126(-K)
Chain Case Compatible Crank Arm	-	-	X	X	-	-	-	X
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Spider Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Spider Arm Cover	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Outer Ring	Material	Steel	Steel	Steel	Steel	Aluminum	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Anodized	Painted	Painted
Middle Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)	Black version, SHIMANO logo	Silver version, SHIMANO logo	Black version, SHIMANO logo	Silver version, SHIMANO logo	Black version, octalink, SHIMANO / ALIVIO logo	Black version, octalink, with alloy outer chain ring, SHIMANO logo	Silver version, octalink, SHIMANO / ALIVIO logo	Black version, octalink, SHIMANO / ALIVIO logo



## Front Chainwheel (MTB) Specifications

Series	Alivio	Alivio	Alivio	Alivio	Alivio	Alivio	Alivio	Alivio
Model No.	FC-M431-8 (S)	FC-M431 (L)	FC-M431 (S)	FC-M431-8 (L)	FC-M431-8 (S)	FC-M411 (L)	FC-M411 (S)	FC-M411 (L)
Rear Speeds	9	9	9	9	9	8/7	8/7	8/7
Chainring Combination	44-32-22T	48-36-26T	48-36-26T	48-36-26T	48-36-26T	48-38-28T	48-38-28T	42-32-22T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	104/64	104/64	104/64	104/64	104/64	104/64	104/64	104/64
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	-	-	-	-	-	-	-
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	
Chain	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	HG	HG	HG
Bottom Bracket (*press fit type option is available)	BB-ES25(-K)	BB-UN26(-K)	BB-UN26(-K)	BB-ES25(-K)	BB-ES25(-K)	BB-UN26(-K)	BB-UN26(-K)	BB-UN26(-K)
Chain Line (mm)	50	50	50	50	50	50	50	50
With Crank Fixing Bolt	X	X	X	X	X	X	X	X
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-
Optional Chain Guard	X	X	X	X	X	X	X	X
Hollowtech II technology	-	-	-	-	-	-	-	-
2-piece crank construction	-	-	-	-	-	-	-	-
Hollowtech Crank Arm	-	-	-	-	-	-	-	-
OCTALINK technology	X	-	-	X	X	-	-	-
Axle Length of BB-UN / ES	126(-K)	LL123(-K)	LL123(-K)	126(-K)	126(-K)	LL123(-K)	LL123(-K)	LL123(-K)
Chain Case Compatible Crank Arm	X	X	X	X	X	X	X	X
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Spider Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Spider Arm Cover	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Outer Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Middle Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Plated	Plated
Inner Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Plated	Plated
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)	Silver version, octalink, SHIMANO / ALIVIO logo	Black version, SHIMANO logo	Silver version, SHIMANO logo	Black version, octalink, SHIMANO / ALIVIO logo	Silver version, octalink, SHIMANO / ALIVIO logo	Black version For chaincase t=1.8mm	Neutral Silver version For chaincase t=1.8mm	Black version For chaincase t=1.8mm

## Front Chainwheel (MTB) Specifications

Series	Alivio	Alivio	Alivio	Alivio	Alivio	Acera	Acera	Acera
Model No.	FC-M411 (S)	FC-M410 (L)	FC-M410 (S)	FC-M410-8 (L)	FC-M410-8 (S)	FC-M391 (L)	FC-M391 (S)	FC-M391-8 (L)
Rear Speeds	8/7	8/7	8/7	8/7	8/7	9	9	9
Chainring Combination	42-32-22T	42-32-22T	42-32-22T	42-32-22T	42-32-22T	44-32-22T 48-36-26T	44-32-22T 48-36-26T	44-32-22T 48-36-26T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	104/64	104/64	104/64	104/64	104/64	104/64	104/64	104/64
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	-	-	-	-	-	-	-
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	
Chain	HG	HG	HG	HG	HG	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed
Bottom Bracket (*press fit type option is available)	BB-UN26(-K)	BB-UN26(-E)	BB-UN26(-E)	BB-ES25(-E)	BB-ES25(-E)	BB-UN26(-K)	BB-UN26(-K)	BB-ES25(-K)
Chain Line (mm)	50	50	50	50	50	50	50	50
With Crank Fixing Bolt	X	X	X	X	X	X	X	X
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-
Optional Chain Guard	X	X	X	X	X	X	X	X
Hollowtech II technology	-	-	-	-	-	-	-	-
2-piece crank construction	-	-	-	-	-	-	-	-
Hollowtech Crank Arm	-	-	-	-	-	-	-	-
OCTALINK technology	-	-	-	X	X	-	-	X
Axle Length of BB-UN / ES	LL123(-K)	LL113(-E)	LL113(-E)	118(-E)	118(-E)	LL123(-K)	LL123(-K)	126(-K)
Chain Case Compatible Crank Arm	X	-	-	-	-	X	X	X
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Spider Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-	-
	Finish	Painted	Painted	Painted	Painted	Painted	-	-
Spider Arm Cover	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Outer Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Middle Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Plated	Plated	Plated	Plated	Plated	Plated	Plated
Inner Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Plated	Plated	Plated	Plated	Plated	Plated	Plated
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)	Neutral Silver version For chaincase t=1.8mm	Black version	Neutral Silver version	Black version Octalink	Neutral Silver version Octalink	Black version, SHIMANO logo	Silver version, SHIMANO logo	Black version, octalink, SHIMANO / ACERA logo

## Front Chainwheel (MTB) Specifications

Series	Acera	Acera	Acera	Acera	Acera	Acera	Acera	Altus
Model No.	FC-M391-8 (S)	FC-M361 (L)	FC-M361 (S)	FC-M361 (L)	FC-M361 (S)	FC-M361-8 (L)	FC-M361-8 (S)	FC-M311 (L)
Rear Speeds	9	8/7	8/7	8/7	8/7	8/7	8/7	8/7
Chainring Combination	44-32-22T 48-36-26T	42-32-22T	42-32-22T	48-38-28	48-38-28	42-32-22T	42-32-22T	42-32-22T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	104/64	104/64	104/64	104/64	104/64	104/64	104/64	Rivetted
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	-	-	-	-	-	-	-
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	
Chain	Super Narrow HG for 9-speed	HG	HG	HG	HG	HG	HG	HG
Bottom Bracket (*press fit type option is available)	BB-ES25(-K)	BB-UN26(-K)	BB-UN26(-K)	BB-UN26(-K)	BB-UN26(-K)	BB-ES25(-K)	BB-ES25(-K)	BB-UN26(-K)
Chain Line (mm)	50	50	50	50	50	50	50	50
With Crank Fixing Bolt	X	X	X	X	X	X	X	X
Fixing Nut Type BB compatible	-	-	-	-	-	-	-	-
Optional Chain Guard	X	X	X	X	X	X	X	X
Hollowtech II technology	-	-	-	-	-	-	-	-
2-piece crank construction	-	-	-	-	-	-	-	-
Hollowtech Crank Arm	-	-	-	-	-	-	-	-
OCTALINK technology	X	-	-	-	-	X	X	-
Axle Length of BB-UN / ES	126(-K)	LL123(-K)	LL123(-K)	LL123(-K)	LL123(-K)	126(-K)	126(-K)	LL123(-K)
Chain Case Compatible Crank Arm	X	X	X	X	X	X	X	X
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Spider Arm	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Spider Arm Cover	Material	-	-	-	-	-	-	Resin
	Finish	-	-	-	-	-	-	Resin
Outer Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Middle Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)	Silver version, octalink, SHIMANO / ACERA logo	Black version	Silver version	Black version	Silver version	Black version, Octalink	Silver version, Octalink	Black version

## Front Chainwheel (MTB) Specifications

Series	Altus	Altus	Altus	Altus	Altus	Non-series	Non-series	Non-series
Model No.	FC-M311 (S)	FC-M311 (L)	FC-M311 (S)	FC-M311-8 (L)	FC-M311-8 (S)	FC-M171-A	FC-M171	FC-M171
Rear Speeds	8/7	8/7	8/7	8/7	8/7	8/7/6	8/7/6	8/7/6
Chainring Combination	42-32-22T	48-38-28	48-38-28	42-32-22T	42-32-22T	48-38-28T	48-38-28T	42-34-24T
Spider or Gear Arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm	4arm
PCD (mm)	Riveted	Riveted	Riveted	Riveted	Riveted	Riveted	Riveted	Riveted
Crank Arm Length	160mm	-	-	-	-	-	-	-
	165mm	-	-	-	-	-	-	-
	167.5mm	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	
Chain	HG	HG	HG	HG	HG	HG/UG	HG/UG	HG/UG
Bottom Bracket (*press fit type option is available)	BB-UN26(-K)	BB-UN26(-K)	BB-UN26(-K)	BB-ES25(-K)	BB-ES25(-K)	BB-UN26(-K)	BB-UN26(-K)	BB-UN26(-K)
Chain Line (mm)	50	50	50	50	50	47.5 / 47.5+t	47.5 / 47.5+t	47.5 / 47.5+t
With Crank Fixing Bolt	X	X	X	X	X	-	-	-
Fixing Nut Type BB compatible	-	-	-	-	-	X	X	X
Optional Chain Guard	X	X	X	X	X	X	X	X
Hollowtech II technology	-	-	-	-	-	-	-	-
2-piece crank construction	-	-	-	-	-	-	-	-
Hollowtech Crank Arm	-	-	-	-	-	-	-	-
OCTALINK technology	-	-	-	X	X	-	-	-
Axle Length of BB-UN / ES	LL123(-K)	LL123(-K)	LL123(-K)	126(-K)	126(-K)	D-NL D-NL K	D-NL D-NL K	D-NL D-NL K
Chain Case Compatible Crank Arm	X	X	X	X	X	X	X	X
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Spider Arm	Material	-	-	-	-	-	-	-
	Finish	-	-	-	-	-	-	-
Spider Arm Cover	Material	Resin	Resin	Resin	Resin	Resin	Resin	Resin
	Finish	Resin	Resin	Resin	Resin	Resin	Resin	Resin
Outer Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Middle Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Ring	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)	Silver version	Black version	Silver version	Black version, Octalink	Silver version, Octalink			

## Front Chainwheel (MTB) Specifications

Series	Non series	Non series
<b>Model No.</b>	<b>FC-M131</b>	<b>FC-M131</b>
<b>Rear Speeds</b>	8/7/6	8/7/6
<b>Chainring Combination</b>	42-34-24T	48-38-28T
<b>Spider or Gear Arm</b>	4arm	4arm
<b>PCD (mm)</b>	Riveted	Riveted
<b>Crank Arm Length</b>	160mm	-
	165mm	-
	167.5mm	-
	170mm	X
	172.5mm	-
	175mm	-
	177.5mm	-
<b>Chain</b>	HG/UG	HG/UG
<b>Bottom Bracket</b> (*press fit type option is available)	BB-UN26(-K)	BB-UN26(-K)
<b>Chain Line (mm)</b>	47.5 / 47.5+t	47.5 / 47.5+t
<b>With Crank Fixing Bolt</b>	-	-
<b>Fixing Nut Type BB compatible</b>	X	X
<b>Optional Chain Guard</b>	X	X
<b>Hollowtech II technology</b>	-	-
<b>2-piece crank construction</b>	-	-
<b>Hollowtech Crank Arm</b>	-	-
<b>OCTALINK technology</b>	-	-
<b>Axle Length of BB-UN / ES</b>	D-NL D-NL K	D-NL D-NL K
<b>Chain Case Compatible Crank Arm</b>	X	X
<b>Crank Arm</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Polished
<b>Spider Arm</b>	<b>Material</b>	-
	<b>Finish</b>	-
<b>Spider Arm Cover</b>	<b>Material</b>	Resin
	<b>Finish</b>	Resin
<b>Outer Ring</b>	<b>Material</b>	Steel
	<b>Finish</b>	Painted
<b>Middle Ring</b>	<b>Material</b>	Steel
	<b>Finish</b>	Painted
<b>Inner Ring</b>	<b>Material</b>	Steel
	<b>Finish</b>	Painted
Important notice; If using a chaincase, select a BB-0000(K). If using an E-type FD, select a BB-0000(E)		

## Bottom Bracket (MTB Octalink, Square type) Specifications

Model No.		BB-ES25	BB-ES25-E	BB-ES25-AK	BB-UN55	BB-UN26	BB-UN26-E	BB-UN26-K	
Cartridge Type BB / E-type		-	X	-	-	-	X	-	
For Chain Case		-	-	X	-	-	-	X	
Spindle	Hollow Pipe	X	X	X	-	-	-	-	
	Splined Spindle	X	X	X	-	-	-	-	
	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
Left hand adapter	Material	Resin	Resin	Resin	Aluminum	Resin	Resin	Resin	
Axle Length	Hollowtech II	83mm (BC1.37)	-	-	-	-	-	-	
		68mm (BC1.37)	-	-	-	-	-	-	
		73mm (BC1.37)	-	-	-	-	-	-	
	MM110	68mm (BC1.37)	-	-	-	X	X	X	X
		70mm (M36)	-	-	-	X	X	-	-
		73mm (BC1.37)	-	-	-	X	X	-	-
	LL113	68mm (BC1.37)	-	-	-	X	X	X	-
		70mm (M36)	-	-	-	X	X	-	-
		73mm (BC1.37)	-	-	-	X	X	X	-
	113	68mm (BC1.37)	X	X	-	-	-	-	-
		70mm (M36)	X	-	-	-	-	-	-
		73mm (BC1.37)	X	-	-	-	-	-	-
	YL117	68mm (BC1.37)	-	-	-	-	X* (CL:47.5)	X* (CL:47.5)	X* (CL:47.5)
	117.5	68mm (BC1.37)	-	-	-	-	X (CL:45)	-	-
	118	68mm (BC1.37)	X	X	-	-	-	-	-
		70mm (M36)	X	-	-	-	-	-	-
		73mm (BC1.37)	X	X	-	-	-	-	-
	XL118	68mm (BC1.37)	-	-	-	X	-	-	-
		70mm (M36)	-	-	-	X	-	-	-
		73mm (BC1.37)	-	-	-	X	-	-	-
	121	68mm (BC1.37)	X	X	X*	-	-	-	-
		70mm (M36)	-	-	-	-	-	-	-
		73mm (BC1.37)	X	X	-	-	-	-	-
	126	68mm (BC1.37)	X	X	-	-	-	-	-
		73mm (BC1.37)	X	X	-	-	-	-	-
		68mm (BC1.37)	-	-	-	X	X*	-	X*
	D-NL (122.5mm)	70mm (M36)	-	-	-	X	-	-	-
		73mm (BC1.37)	-	-	-	X	-	-	-
		68mm (BC1.37)	-	-	-	X	X*	-	-
	D-EL (127.5mm)	70mm (M36)	-	-	-	-	-	-	-
73mm (BC1.37)		-	-	-	-	-	-	-	
68mm (BC1.37)		-	-	-	-	X	X	X (t=1.8)	
LL123	70mm (M36)	-	-	-	-	X	-	-	
	73mm (BC1.37)	-	-	-	-	-	X	-	
	68mm (BC1.37)	-	-	-	-	X	-	-	
123SP	68mm (BC1.37)	-	-	-	-	X	-	-	
130	68mm (BC1.37)	-	-	-	-	X	-	-	
Note				* with 1.8mm spacer version also available for FC-M521		*w/FixingBolts	*w/FixingBolts	*w/FixingBolts	

## Freehub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		DXR	Deore XT	Deore LX	Deore	Non-Series	Non-Series	Non-Series
Model No.		FH-MX71	FH-T780	FH-T660	FH-M590	FH-M430 (L)	FH-M430 (S)	FH-RM70 (L)
Spoke Holes	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	X	X	X	X	X	X	X
	40/48H	-	-	-	-	-	-	-
	Hole PCD (mm)	45	44/45(Left/Right)	45	45	45	45	45
Freehub Body	Speeds	1	8/9/10	8/9/10	8/9/10	8/9/10	8/9/10	8/9/10
	11T compatible	-	X	X	X	X	X	X
	Quick Engagement	360/36	360/36	-	-	-	-	-
	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
O.L.D. (mm)	130	-	-	-	-	-	-	-
	135	-	X	X	X	X	X	X
	Others	112	-	-	-	-	-	-
Flange Diameter (mm)		53.8	52.8/ 53.8 (L/R)	53.8	53.8	53.8	53.8	53.8
Flange Distance(mm)		57.4	57.4	59.2	59.2	59.2	59.2	59.2
Dish(mm)		0	6.6	7.6	7.8	7.8	7.8	7.5
Axle(QR type)	QR Skewer Length(mm)	-	168/173	168/173mm	168/173mm	168	168	166/170
	Length	-	146mm(M10)	146mm(M10)	146mm(M10)	146(M10)	146(M10)	146(M10)
	Diameter(mm)	-	14	10	10	10	10	10
	Material	-	Aluminum	Steel	Steel	Steel	Steel	Steel
Axle(Nut type)	Length	-	-	-	-	-	-	-
	Material	Steel	-	-	-	-	-	-
Seal	Hub	X	X	X	X	X	X	X
	Freewheel	X	X	X	X	X	X	X
Internal Grease Sleeve		X	X	X	X	-	-	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Quick Release Lever	Material	-	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel
	Finish	-	Anodized	Anodized	Anodized	Barrel	Barrel	Chrome Plated
CBN (Cubic Boron Nitride)	Cone Races	X	X	X	X	X	X	-
	Cup Races	X*	-	-	-	-	-	-
Stainless Steel Ball Bearings		X	-	-	-	-	-	-
Thread for Drum Brake (BC1.37X24)		-	-	-	-	-	-	-
Note		For BMX *Super Finishing	Silver / Black version		Light weight FH body	Black version, SHIMANO logo	Silver version SHIMANO logo	Black version, SHIMANO logo

## Freehub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.		FH-RM70 (S)	FH-RM30-8-QR	FH-RM30-8-NT	FH-RM30-7-QR	FH-RM30-7-NT	FH-HF08
Spoke Holes	24H	-	-	-	-	-	-
	28H	-	-	-	-	-	-
	32H	X	X	X	-	-	-
	36H	X	X	X	X	X	-
	40/48H	-	-	-	-	-	X
	Hole PCD (mm)	45	45	45	45	45	62.5
Freehub Body	Speeds	8/9/10	8/9	8/9	7	7	8/9
	11T compatible	X	X	X	X	X	X
	Quick Engagement	-	-	-	-	-	-
	Material	Steel	Steel	Steel	Steel	Steel	Steel
O.L.D. (mm)	130	-	-	-	X	X	-
	135	X	X	X	X	X	-
	Others	-	-	-	-	-	145
Flange Diameter (mm)		53.8	53.8	53.8	53.8	53.8	72
Flange Distance(mm)		59.2	59.2	59.2	59.2	59.2	54.0
Dish(mm)		7.5	7.7	7.7	135:5.5	135:5.5	2.5
Axle(QR type)	QR Skewer Length(mm)	166/170	166	-	161/166	-	178
	Length	146(M10)	146(M10)	-	141/146(M10)	-	156(M10)
	Diameter(mm)	10	10	10	10	10	10
	Material	Steel	Steel	-	Steel	-	Steel
Axle(Nut type)	Length	-	-	185mm(M10)	-	180/185mm(M10)	-
	Material	-	-	Steel	-	Steel	-
Seal	Hub	X	-	-	-	-	X
	Freewheel	X	-	-	-	-	X
Internal Grease Sleeve		-	-	-	-	-	-
Hub Shell	Material	Aluminum	Aluminum/2pcs	Aluminum/2pcs	Aluminum/2pcs	Aluminum/2pcs	Aluminum
	Finish	Machined	Shiny	Shiny	Shiny	Shiny	Anodized
Quick Release Lever	Material	Steel	Steel	-	Steel	-	Aluminum
	Finish	Chrome Plated	Chrome Plated	-	Chrome Plated	-	Anodized
CBN (Cubic Boron Nitride)	Cone Races	-	-	-	-	-	X
	Cup Races	-	-	-	-	-	-
Stainless Steel Ball Bearings		-	-	-	-	-	-
Thread for Drum Brake (BC1.37X24)		-	-	-	-	-	X
Note		Silver version SHIMANO logo	Black Hub Shell Available	Black Hub Shell Available	Black Hub Shell Available	Black Hub Shell Available	For tandem bicycle



## Freehub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		XTR	XTR	SAINT	SAINT	Deore XT	Deore XT	Deore XT
Model No.		FH-M985	FH-M988	FH-M815	FH-M810	FH-M785	FH-M788	FH-M756-L
Spoke Holes	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	-	-	X	X	X	-	X
	40/48H	-	-	-	-	-	-	-
	Hole PCD (mm)	44/45(L/R)	44/45(L/R)	44/45	44/45	44/45	44/45	44/45
Freehub Body	Speeds	8/9/10	8/9/10	8/9	8/9	8/9/10	8/9/10	8/9/10
	11T compatible	X	X	X	X	X	X	X
	Quick Engagement	360/36	360/36	360/36	360/36	360/36	360/36	-
	Material	Titanium	Titanium	Steel	Steel	Steel	Steel	Steel
O.L.D. (mm)	130	-	-	-	-	-	-	-
	135	X	-	-	X	X	-	X
	Others	-	142	150	-	-	142	-
Flange Diameter (mm)		52.8/ 53.8 (L/R)	52.8/ 53.8 (L/R)	52.8/53.8 (L/R)	52.8/53.8 (L/R)	52.8/ 53.8 (L/R)	52.8/ 53.8 (L/R)	70.6
Flange Distance(mm)		57.4	57.4	72.4	57.4	57.4	57.4	57.1
Dish(mm)		6.6	6.6	6.6	6.6	6.6	6.4	6.8
Axle(QR type)	QR Skewer Length(mm)	168/173	-	-	-	168/173	-	168/173
	Length(mm)	146(M10)	-	-	-	146	-	146(M10)
	Diameter(mm)	14	-	-	-	14	-	10
	Material	Aluminum	-	-	-	Aluminum	-	Steel
Axle(Nut type)	Length (mm)	-	171(ø12)*	183(ø12)*	168(ø12/10)*	-	171(ø12)*	-
	Material	-	Aluminum	Steel	Steel	-	Aluminum	-
Seal	Hub	X	X	X	X	X	X	X
	Freewheel	X	X	X	X	X	X	X
Internal Grease Sleeve		X	X	X	X	X	X	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Quick Release Lever	Material	Aluminum	-	-	-	Aluminum	-	Aluminum
	Finish	Anodized	-	-	-	Anodized	-	Anodized
CBN (Cubic Boron Nitride)	Cone Races	X	X	X	X	X	X	X
	Cup Races	X*	X	X	X	-	-	-
Stainless Steel Ball Bearings		X	X	-	-	-	-	-
Center Lock Rotor Mount		X	X	X	X	X	X	-
6bolt (PCD 44mm)		-	-	-	-	-	-	X
Note		*LH cone: Hybrid	*Axle:SM-AX75	*Axle:SM-AX80	*Axle:SM-AX80	Silver / Black version	Silver / Black version *Axle:SM-AX75	Black version

## Freehub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		Deore XT	SLX	Deore LX	Deore	Non-Series	Non-Series	Non-Series
Model No.		FH-M756-S	FH-M665	FH-T665	FH-M595	FH-M629	FH-M529	FH-M525 (L)
Spoke Holes	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	X	X	X	X	-	-	X
	40/48H	-	-	-	-	-	-	-
	Hole PCD (mm)	61	44/45(L/R)	44/45(L/R)	45	44/45(L/R)	61	61
Freehub Body	Speeds	8/9/10	8/9/10	8/9	8/9	8/9	8/9	8/9
	11T compatible	X	X	X	X	X	X	X
	Quick Engagement	-	360/32	-	-	360/32	-	-
	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
O.L.D. (mm)	130	-	-	-	-	-	-	-
	135	X	X	X	X	X	X	X
	Others	-	-	-	-	-	-	-
Flange Diameter (mm)		70.6	52.8/53.8(L/R)	52.8/53.8(L/R)	53.8	52.8/53.8(L/R)	70.6	70.6
Flange Distance(mm)		57.1	57.4	57.4	57.4	57.4	57.1	57.1
Dish(mm)		6.8	6.6	6.6	6.6	6.6	6.8	6.8
Axle(QR type)	QR Skewer Length(mm)	168/173	168/173	168/173	168/173	168/173	168/173	168/173
	Length(mm)	146(M10)	146(M10)	146(M10)	146(M10)	146(M10)	146(M10)	146(M10)
	Diameter(mm)	10	10	10	10	10	10	10
	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
Axle(Nut type)	Length (mm)	-	-	-	-	-	-	-
	Material	-	-	-	-	-	-	-
Seal	Hub	X	X	X	X	X	X	X
	Freewheel	X	X	X	X	X	X	X
Internal Grease Sleeve		-	X	X	X	X	-	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Quick Release Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
CBN (Cubic Boron Nitride)	Cone Races	X	X	X	X	X	X	X
	Cup Races	-	-	-	-	-	-	-
Stainless Steel Ball Bearings		-	-	-	-	-	-	-
Center Lock Rotor Mount		-	X	X	X	X	-	-
6bolt (PCD 44mm)		X	-	-	-	-	X	X
Note		Silver version			Light weight FH body	for 36T CS Shimano logo	for 36T CS Shimano logo	Black version

## Freehub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.		FH-M525 (S)	FH-M475 (L)	FH-M475 (S)	FH-M435 (L)	FH-M435 (S)	FH-RM66	FH-RM35
Spoke Holes	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	X	X	X	X	X	X	X
	40/48H	-	-	-	-	-	-	-
	Hole PCD (mm)	61	61	61	45	45	45	45
Freehub Body	Speeds	8/9	8/9	8/9	8/9	8/9	8/9/10	8/9/10
	11T compatible	X	X	X	X	X	X	X
	Quick Engagement	-	-	-	-	-	-	-
	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
O.L.D. (mm)	130	-	-	-	-	-	-	-
	135	X	X	X	X	X	X	X
	Others	-	-	-	-	-	-	-
Flange Diameter (mm)		70.6	70.6	70.6	53.8	53.8	53.8	53.8
Flange Distance(mm)		57.1	57.1	57.1	57.4	57.4	57.4	57.4
Dish(mm)		6.8	6.8	6.8	6.6	6.6	6.6	6.6
Axle(QR type)	QR Skewer Length(mm)	168/173	166/170	166/170	168/173	168/173	166/170	166/170
	Length(mm)	146(M10)	146(M10)	146(M10)	146(M10)	146(M10)	146(M10)	146(M10)
	Diameter(mm)	10	10	10	10	10	10	10
	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
Axle(Nut type)	Length (mm)	-	-	-	-	-	-	-
	Material	-	-	-	-	-	-	-
Seal	Hub	X	X	X	X	X	X	-
	Freewheel	X	X	X	X	X	X	-
Internal Grease Sleeve		-	-	-	X	X	-	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Painted
Quick Release Lever	Material	Aluminum	Steel	Steel	Aluminum	Aluminum	Steel	Steel
	Finish	Anodized	Black Plated	Black Plated	Barrel	Barrel	Chrome Plated(Black)	Chrome Plated(Black)
CBN (Cubic Boron Nitride)	Cone Races	X	-	-	X	X	-	-
	Cup Races	-	-	-	-	-	-	-
Stainless Steel Ball Bearings		-	-	-	-	-	-	-
Center Lock Rotor Mount		-	-	-	X	X	X	X
6bolt (PCD 44mm)		-	X	X	-	-	-	-
Note		Silver version	Black version	Silver version	Black version SHIMANO logo	Silver version SHIMANO logo	Black version, SHIMANO logo	Black version, SHIMANO logo

## Freehub Specifications (Standard / Disc Brake / Roller Brake)

Series		Tourney
Model No.		RH-IM10
Spoke Holes	24H	-
	28H	-
	32H	-
	36H	X
	40/48H	-
	Hole PCD (mm)	45
Freehub Body	Speeds	-
	11T compatible	-
	Roller Clutch	-
	Material	-
O.L.D. (mm)	130	X
	135	-
	Others	-
Flange Diameter (mm)		54
Flange Distance (mm)		55.1
Dish (mm)		5.85
Axle (QR type)	QR Skewer Length	-
	Length	-
	Material	Steel
Axle (Nut type)	Length (mm)	180 (M10)
	Material	Steel
Seal	Hub	-
	Freewheel	-
Hub Shell	Material	Steel
	Finish	Painted
Note		For 6 or 7-speed multifree wheel

## Front Hub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		DXR	Deore XT	Deore LX	Deore	Non-Series	Non-Series	Non-Series
Model No.		HB-MX71	HB-T780	HB-T660	HB-M590	HB-M430 (L)	HB-M430 (S)	HB-RM70 (L)
Spoke Holes	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	X	X	X	-	X	X	X
	40/48H	-	-	-	-	-	-	-
	Hole PCD (mm)	40	40	38	38	38	38	38
O.L.D. (mm)		100	100	100	100	100	100	100
Flange Diameter (mm)		50.4	50.4	48.4	48.4	48.4	48.4	48.4
Flange Distance		74	71.6	71.6	71.6	71.6	71.6	71.6
Axle(QR type)	QR Skewer Length (mm)	-	133	133	133	133	133	133
	Axle Length (mm)	-	108	108(M10)	108(M10)	108(M9)	108(M9)	108(M9)
	Diameter(mm)	-	14	10	10	9	9	9
	Material	-	Aluminum	Steel	Steel	Steel	Steel	Steel
Axle(Nut type)	Axle Length	-	-	-	-	-	-	-
	Material	Steel	-	-	-	-	-	-
Seal		X	X	X	X	X	X	X
Stainless Steel Ball Bearings		X	-	-	-	-	-	-
Internal Grease Sleeve		X	X	X	-	-	-	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
CBN (Cubic Boron Nitride)	Cone Races	X	X	X	X	-	-	-
	Cup Races	X	-	-	-	-	-	-
Quick Release Lever	Material	-	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel
	Finish	-	Anodized	Anodized	Anodized	Barrel	Barrel	Chrome Plated
Radial Lacing		X	X	X	X	X	X	X
Note		For BMX racing	Silver / Black version			Black version, SHIMANO logo	Silver version SHIMANO logo	Black version, SHIMANO logo

## Front Hub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		Non-Series	Non-Series	Non-Series
Model No.		HB-RM70 (S)	HB-RM40	HB-HF08
Spoke Holes	24H	-	-	-
	28H	-	-	-
	32H	X	X	-
	36H	X	X	-
	40/48H	-	-	X
	Hole PCD (mm)	38	38	62.5
O.L.D. (mm)		100	100	100
Flange Diameter (mm)		48.4	46	72
Flange Distance		71.6	71.6	71.6
Axle(QR type)	QR Skewer Length (mm)	133	129/133	133
	Axle Length (mm)	108(M9)	108(M9)	108(M9)
	Diameter(mm)	9	9	9
	Material	Steel	Steel	Steel
Axle(Nut type)	Axle Length	-	140mm(M9)	-
	Material	-	Steel	-
Seal		X	-	X
Stainless Steel Ball Bearings		-	-	-
Internal Grease Sleeve		-	-	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum
	Finish	Machined	Machined	Anodized
CBN (Cubic Boron Nitride)	Cone Races	-	-	-
	Cup Races	-	-	-
Quick Release Lever	Material	Steel	Steel	Aluminum
	Finish	Chrome Plated	Chrome Plated	Anodized
Radial Lacing		X	-	-
Note		Silver version SHIMANO logo		

## Front Hub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		XTR	Deore XT	Deore XT	Deore XT	SLX	Deore LX	Deore
Model No.		HB-M985	HB-M785	HB-M756 (L)	HB-M756 (S)	HB-M665	HB-T665	HB-M595
Spoke Holes	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	-	X	X	X	X	X	X
	40/48H	-	-	-	-	-	-	-
	Hole PCD (mm)	44/40	44/41 (L/R)	61	61	44	44	44
O.L.D. (mm)		100	100	100	100	100	100	100
Flange Diameter (mm)		52.8/ 50.4 (L/R)	52.8/51.4 (L/R)	70.6	70.6	52.8	52.8	52.8
Flange Distance		60.6	60.6	59.4	59.4	60.2	60.2	60.2
Offset		5.4	6	5.5	5.5	5.3	5.3	5.6
Axle(QR type)	QR Skewer Length (mm)	133	133	133	133	133	133	133
	Axle Length (mm)	108	108	108(M10)	108(M10)	108(M10)	108(M10)	108(M10)
	Diameter(mm)	14	14	10	10	10	10	10
	Material	Aluminum	Aluminum	Steel	Steel	Steel	Steel	Steel
Axle(Nut type)	Axle Length	-	-	-	-	-	-	-
	Material	-	-	-	-	-	-	-
Seal		X	X	X	X	X	X	X
Internal Grease Sleeve		X	X	-	-	X	X	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
CBN (Cubic Boron Nitride)	Cone Races	X	X	X	X	X	X	X
	Cup Races	X*	-	-	-	-	-	-
Quick Release Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Center Lock Mount Type		X	X	-	-	X	X	X
6bolt (PCD 44mm)		-	-	X	X	-	-	-
Note		*RH cone: Hybrid	Silver / Black version	Black version	Silver version			

## Front Hub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.		HB-M629	HB-M529	HB-M525A (L)	HB-M525A (S)	HB-M475 (L)	HB-M475 (S)	HB-M435 (L)
Spoke Holes	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	-	-	X	X	X	X	X
	40/48H	-	-	-	-	-	-	-
	Hole PCD (mm)		44	61	61	61	61	61
O.L.D. (mm)		100	100	100	100	100	100	100
Flange Diameter (mm)		52.8	70.6	70.6	70.6	70.6	70.6	52.8
Flange Distance		60.2	59.2	59.4	59.4	59.4	59.4	60.2
Offset		5.3	5.7	5.5	5.5	5.5	5.5	5.6
Axle(QR type)	QR Skewer Length (mm)	133	133	133	133	133	133	133
	Axle Length (mm)	108(M10)	108(M10)	108(M10)	108(M10)	108(M10)	108(M10)	108(M10)
	Diameter(mm)	10	10	10	10	10	10	10
	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel
Axle(Nut type)	Axle Length	-	-	-	-	-	-	-
	Material	-	-	-	-	-	-	-
Seal		X	X	X	X	X	X	X
Internal Grease Sleeve		X	X	-	-	-	-	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
CBN (Cubic Boron Nitride)	Cone Races	X	X	X	X	-	-	-
	Cup Races	-	-	-	-	-	-	-
Quick Release Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Chrome Plated	Chrome Plated	Barrel
Center Lock Mount Type		X	-	-	-	-	-	X
6bolt (PCD 44mm)		-	X	X	X	X	X	-
Note		Black Shimano logo	Black Shimano logo	Black version/ Shimano Logo	Silver version/ Shimano Logo	Black version	Silver version	Black version SHIMANO logo



## Front Hub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		Non-Series	Non-Series	Non-Series
Model No.		HB-M435 (S)	HB-RM66	HB-RM35
Spoke Holes	24H	-	-	-
	28H	-	-	-
	32H	X	X	X
	36H	X	X	X
	40/48H	-	-	-
	Hole PCD (mm)	44	44	44
O.L.D. (mm)		100	100	100
Flange Diameter (mm)		52.8	52.8	52.8
Flange Distance		60.2	60.2	60.2
Offset		5.6	5.5	5.5
Axle(QR type)	QR Skewer Length (mm)	133	133	133
	Axle Length (mm)	108(M10)	108(M10)	108(M10)
	Diameter(mm)	10	10	10
	Material	Steel	Steel	Steel
Axle(Nut type)	Axle Length	-	-	-
	Material	-	-	-
Seal		X	X	-
Internal Grease Sleeve		-	-	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Painted
CBN (Cubic Boron Nitride)	Cone Races	-	-	-
	Cup Races	-	-	-
Quick Release Lever	Material	Aluminum	Steel	Steel
	Finish	Barrel	Chrome Plated (black)	Chrome Plated (black)
Center Lock Mount Type		X	X	X
6bolt (PCD 44mm)		-	-	-
Note		Silver version SHIMANO logo	Black version, SHIMANO logo	Black version, SHIMANO logo

## Front Hub (MTB) Specifications (Standard / Disc Brake / Roller Brake)

Series		XTR	SAINT	Deore XT	Deore XT	SLX	Non-Series
Model No.		HB-M988	HB-M810	HB-M788	HB-M776 (L)	HB-M667	HB-T708
Spoke Holes	24H	-	-	-	-	-	-
	28H	-	-	-	-	-	-
	32H	X	X	X	X	X	X
	36H	-	X	-	X	X	X
	40/48H	-	-	-	-	-	-
	Hole PCD (mm)	44	52	44	52	52	45
Thru axle size (mm)		15	20	15	20	20	8 (SM-AX60)
O.L.D. (mm)		100	110	100	110	110	100
Flange Diameter (mm)		52.8	61.6	52.8	61.6	61.6	52.8
Flange Distance		60.2	61.6	59.8	61.6	61.6	60.05
Offset		5.4	5.6	5.3	5.6	5.6	5.4
Axle(Nut type)	Axle Length	Axle is supplied with Front Suspension Fork	Axle is supplied with Front Suspension Fork	Axle is supplied with Front Suspension Fork	Axle is supplied with Front Suspension Fork	Axle is supplied with Front Suspension Fork	135.2 (SM-AX60)
	Material						Steel (SM-AX60)
Seal		X	X	X	X	X	X
Internal Grease Sleeve		X	X	X	X	X	X
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Cone Races	Ball races finish	CBN	CBN	CBN	CBN	CBN	CBN
Cup Races		GRINDING	CBN	-	-	-	-
E-thru Lever	Material	-	-	-	-	-	Alloy (SM-AX60)
	Finish	-	-	-	-	-	Anodized
Center Lock Mount Type		X	X	X	X	X	X
6bolt (PCD 44mm)		-	-	-	-	-	-
Note				Silver / Black version	Black version		8mm E-thru, Shimano logo

## Front Hub Specifications (Standard / Disc Brake / Roller Brake)

Series		NEXAVE	NEXUS
Model No.		HB-IM70	HB-IM40
Type		for hub roller brake	for hub roller brake
Spoke Holes	24H	-	-
	28H	-	-
	32H	-	-
	36H	X	X
	40/48H	-	-
	Hole PCD (mm)	70	52
O.L.D. (mm)		100/105	100
Flange Distance		56.8	61.5
Offset		4.2	4.3
Axle(QR type)	QR Skewer Length (mm)	129/133	-
	Axle Length (mm)	108 (M9)	-
	Material	Steel	-
Axle(Nut type)	Axle Length (mm)	140/145 (M9)	140 (M9)
	Material	Steel	Steel
Seal		X	X
Hub Shell	Material	Aluminum	Aluminum
	Finish	Clear Painted	Machined
Quick Release Lever	Material	Aluminum	-
	Finish	Anodized	-
Structure (Braking power)		Hyper	Normal
Modulator Setting		26inch or more	26inch or more
Cooling fin on roller brake		-	-
Note			

## Cassette Sprocket (MTB) Specifications

Series name	XTR	XTR	Deore XT	Deore XT	Deore XT	SAINT/ Deore LX	SLX	SLX	SLX	
Model No.	CS-M980	CS-M980	CS-M771-10	CS-M771-10	CS-M771-10	CS-HG80-9	CS-HG81-10	CS-HG81-10	CS-HG81-10	
Type	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	
Combination	Speed	10	10	10	10	10	9	10	10	10
	10	36*	34*	36*	34*	32*	-	36*	32*	34*
	9	32*	30*	32*	30*	28*	28*	32*	28*	30*
	8	28*	26*	28*	26*	25*	24*	28*	25*	26*
	7	24*	23*	24*	23*	22*	21*	24	22	23
	6	21*	21*	21*	21*	20*	18	21	20	21
	5	19*	19*	19*	19*	18*	16	19	18	19
	4	17	17	17	17	16	14	17	16	17
	3	15	15	15	15	14	13	15	14	15
	2	13	13	13	13	12	12	13	12	13
1	11	11	11	11	11	11	11	11	11	
Group	bk	bJ	bk	bJ	bL	bg	bk	bL	bJ	
Chain	HG-X 10-speed	HG-X 10-speed	HG-X 10-speed	HG-X 10-speed	HG-X 10-speed	Super Narrow HG for 9-speed	HG-X 10-speed	HG-X 10-speed	HG-X 10-speed	
Spider Arm	3pcs	3pcs	2pcs	2pcs	2pcs	1pc	1pc	1pc	1pc	
Aluminum Lock Ring	X	X	X	X	X	-	-	-	-	
Ti Cog	21/24/28/32/36T	21/23/26/30/34T	-	-	-	-	-	-	-	
Finish	Titanium/ Nickel	Titanium/ Nickel	Shot-Chrome	Shot-Chrome	Shot-Chrome	Shot-Chrome/ Shot-Ni	Shot-Chrome/ Shot-Ni	Shot-Chrome/ Shot-Ni	Shot-Chrome/ Shot-Ni	
Note	*cogs on spider	*cogs on spider	*cogs on spider	*cogs on spider	*cogs on spider	*cogs on spider	*cogs on spider	*cogs on spider	*cogs on spider	

## Cassette Sprocket (MTB) Specifications

Series name	SLX/ Deore LX	SLX	Shimano	Shimano	Deore	Deore	Deore	Non-Series
Model No.	CS-HG80-9	CS-HG80-9	CS-HG62-10	CS-HG62-10	CS-HG61-9	CS-HG61-9	CS-HG61-9	CS-HG61-9
Type	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket
Combination	Speed	9	9	10	10	9	9	9
	10	-	-	34*	36*	-	-	-
	9	32*	34*	30*	32*	28	32	34
	8	28*	30*	26	28	24	28	30
	7	24*	26*	23	24	21	24	26
	6	21	23	21	21	18	21	23
	5	18	20	19	19	16	18	20
	4	16	17	17	17	14	16	17
	3	14	15	15	15	13	14	15
	2	12	13	13	13	12	12	13
1	11	11	11	11	11	11	11	
Group	ar	au	bj	bk	bg	ar	au	bh
Chain	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	HG-X 10-speed	HG-X 10-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed
Spider Arm	1pc	1pc	1pc	1pc	-	-	-	-
Aluminum Lock Ring	-	-	-	-	-	-	-	-
Ti Cog	-	-	-	-	-	-	-	-
Finish	Shot-Chrome/ Shot-Ni	Shot-Chrome/ Shot-Ni	Shot-Ni	Shot-Ni	Shot-Ni	Shot-Ni	Shot-Ni	Shot-Ni
Note	*cogs on spider	*cogs on spider	*cogs on spider	*cogs on spider				29er drive train

## Cassette Sprocket (MTB) Specifications

Series name	Alivio	Alivio	Non-Series	Non-Series	Non-Series	Non-Series	Alivio	Alivio	Alivio	
Model No.	CS-HG50-9	CS-HG50-9	CS-HG30-9	CS-HG30-9	CS-HG20-9	CS-HG20-9	CS-HG51-8	CS-HG51-8	CS-HG51-8	
Type	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	
Combination	Speed	9	9	9	9	9	9	8	8	8
	10	-	-	-	-	-	-	-	-	-
	9	32	34	32	34	32	34	-	-	-
	8	28	30	28	30	28	30	28	30	32
	7	24	26	24	26	24	26	24	26	28
	6	21	23	21	23	21	23	21	23	24
	5	18	20	18	20	19	20	19	20	21
	4	16	17	16	17	17	17	17	17	18
	3	14	15	14	15	15	15	15	15	15
	2	12	13	12	13	13	13	13	13	13
1	11	11	11	11	11	11	11	11	11	
Group	ar	au	ar	au	bo	bn	bf	an	aw	
Chain	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	IG/HG	IG/HG	IG/HG	
Spider Arm	-	-	-	-	-	-	-	-	-	
Aluminum Lock Ring	-	-	-	-	-	-	-	-	-	
Ti Cog	-	-	-	-	-	-	-	-	-	
Finish	Ni-plated	Ni-plated	Zinc Phosphate	Zinc Phosphate	black / brown	black / brown	Chrome plated	Chrome plated	Chrome plated	
Note										

## Cassette Sprocket (MTB) Specifications

Series name	Acera	Acera	Acera	Altus	Altus	Altus	Non-Series	Non-Series	Non-Series
Model No.	CS-HG41-8	CS-HG41-8	CS-HG41-8	CS-HG31-8	CS-HG31-8	CS-HG31-8	CS-HG41-7	CS-HG20-7	CS-HG20-7
Type	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket	HG Cassette Sprocket
Combination	Speed	8	8	8	8	8	7	7	7
	10	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-
	8	30	32	34	30	32	34	-	-
	7	26	28	26	26	28	26	28	32
	6	23	24	23	23	24	23	24	26
	5	20	21	20	20	21	20	21	21
	4	17	18	17	17	18	17	18	18
	3	15	15	15	15	15	15	15	16
	2	13	13	13	13	13	13	13	14
	1	11	11	11	11	11	11	11	12
Group	an	aw	ao	an	aw	ao	ac	bp	bm
Chain	IG/HG	IG/HG	IG/HG	IG/HG	IG/HG	IG/HG	IG/HG	IG/HG	IG/HG
Spider Arm	-	-	-	-	-	-	-	-	-
Aluminum Lock Ring	-	-	-	-	-	-	-	-	-
Ti Cog	-	-	-	-	-	-	-	-	-
Finish	Ni-plated	Ni-plated	Ni-plated	Zinc Phosphate	Zinc Phosphate	Zinc Phosphate	Ni-plated	Brown & Black	Brown & Black
Note									

## Cassette Sprocket (MTB) Specifications

Series name	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	DXR	
Model No.	MF-HG37	MF-TZ31-CP	MF-TZ31	MF-TZ21-CP	MF-TZ21	MF-TZ30-CP	MF-TZ30	MF-TZ20-CP	MF-TZ20	CS-MX66	
Type	HG Multiple Freewheel	HG/UG Multiple Freewheel	HG/UG Multiple Freewheel	HG/UG Multiple Freewheel	HG/UG Multiple Freewheel	HG/UG Multiple Freewheel	HG/UG Multiple Freewheel	HG/UG Multiple Freewheel	HG/UG Multiple Freewheel	Single sprocket for FH-MX70	
<b>Combination</b>	<b>Speed</b>	7	7	7	7	7	6	6	6	6	Single
	<b>10</b>	-	-	-	-	-	-	-	-	-	-
	<b>9</b>	-	-	-	-	-	-	-	-	-	-
	<b>8</b>	-	-	-	-	-	-	-	-	-	-
	<b>7</b>	28	34	34	28	28	-	-	-	-	-
	<b>6</b>	24	24	24	24	24	34	34	28	28	-
	<b>5</b>	21	22	22	22	22	24	24	24	24	-
	<b>4</b>	19	20	20	20	20	21	21	21	21	-
	<b>3</b>	17	18	18	18	18	18	18	18	18	-
	<b>2</b>	15	16	16	16	16	16	16	16	16	-
<b>1</b>	13	14	14	14	14	14	14	14	14	-	
<b>Group</b>	bz	-	-	-	-	-	-	-	-	-	
<b>Chain</b>	HG/UG	HG/UG	HG/UG	HG/UG	HG/UG	HG/UG	HG/UG	HG/UG	HG/UG	1/2" x 3/32"	
<b>Spider Arm</b>	-	-	-	-	-	-	-	-	-	-	
<b>Aluminum Lock Ring</b>	-	-	-	-	-	-	-	-	-	-	
<b>Ti Cog</b>	-	-	-	-	-	-	-	-	-	-	
<b>Finish</b>	Ni-plated & Black	Brown	Brown & Black	Brown	Brown & Black	Brown	Brown & Black	Brown	Brown & Black	Chrome plated	
<b>Note</b>		With Spoke protector		With Spoke protector		With Spoke protector		With Spoke protector		For BMX racing	



## Chain (MTB) Specifications

Series	XTR	XTR / Saint	Deore XT	SLX	SLX / Deore LX	Non-Series
Model No.	CN-M980	CN-7701	CN-HG94	CN-HG74	CN-HG73	CN-HG54
Type	Super narrow HG-X 10speed	Super Narrow HG for 9-speed	Super narrow HG-X 10speed	Super narrow HG-X 10speed	Super Narrow HG for 9-speed	Super narrow HG-X 10speed
Pin Link Plate	Zinc-Alloy Plated	Zinc-Alloy Plated	Zinc-Alloy Plated	Gray	Gray	Gray
Roller Link Plate	Zinc-Alloy Plated	Zinc-Alloy Plated	Gray	Gray	Gray	Brown
Chromizing Treatment Link Pin	X	X	X	X	X	X
Hollow Pin	X	-	-	-	-	-
Note						

## Chain (MTB) Specifications

Series	Deore	Altus / T300	Non-Series	Tourney
Model No.	CN-HG53	CN-HG50	CN-HG40	CN-UG51
Type	Super Narrow HG for 9-speed	HG	HG	UG
Pin Link Plate	Gray	Black	Gray	Gray
Roller Link Plate	Brown	Black	Black	Black
Chromizing Treatment Link Pin	X	X	-	-
Hollow Pin	-	-	-	-
Note				

## Electronic Wire Cable (Nexus) Specifications

Series		SHIMANO				
Model No.		EW-NX60 (Long)			EW-NX60 (Short)	
Number of Branch		3	3	4	-	-
Cord Color		Silver	Black	Black	Black	Black
Length	Cord to SL (mm)	50	50	50	-	-
	Cord to SM (mm)	50	50	50	-	-
	Distributor B * (mm)	46	46	-	-	-
	Distributor C **	-	-	46	-	-
	Cord between Distributor B/C and A (mm)	315	315	315	-	-
	Distributor A *** (mm)	46	46	46	-	-
	Cord to Front LP (mm)	180	180	180	-	-
	Cord to Rear LP (mm)	-	-	150	815	885
	Cord to Dynamo (mm)	545	545	545	-	-
	Main cord (mm)	(315)	(315)	(315)	-	-
For		DH-LP-SL-SM	DH-LP-SL-SM	DH-LP-SL-SM	EW(NX60 Long)-LP(Rear)	EW(NX60 Long)-LP(Rear)
Note		Distributor A*** : Branch from DH to LP / main cord Distributor B** : Branch from main cord to SL / SM Distributor C* : Branch from main cord to SL / SM / LP (Rear)				

# NEXAVE Specifications

## ST

Model No.	ST-T300-S	
Lever Type	Tap-Fire	
Front	Conventional 3-speed SIS	
Rear	7-speed SIS	
Internal Hub Gear	-	
SL Cable Adjust	X	
Optical Gear Display	Dial type	
SL Outer Casing	OT-SP41	
Stainless SL Cable	Option	
Flight Deck w/ Gear Sensor Compatible (Option)	X	
W/ CI-DECK	-	
SL Bracket	Material	Aluminum
	Finish	Polished
SL Compatible RD Type	Low Normal	
Note	RH Optical Gear Display for Rapid Rise RD	

## FH

Model No.	FH-IM70	
Spoke Holes	28H	-
	32H	-
	36H	X
	Hole PCD (mm)	45
Freehub Body	Speeds	8/9
	11T compatible	X
	Roller Clutch	X
	Material	Steel
O.L.D. (mm)	130	-
	135	X
Flange Distance		60.0
Dish		6.8
Axle(QR)	QR Skewer Length	-
	Length	-
	Material	-
Axle(Nut)	Length(mm)	185 (M10)
	Material	Steel
Seal	Hub	X
	Freewheel	X
Hub Shell	Material	Aluminum
	Finish	Anodized
Quick Release Lever	Material	-
	Finish	-
CBN (Cubic Boron Nitride)	Cone Races	-
	Cup Races	-
Rotor Mount		-
EW(Electoric Cable) Type		-
Note		

## HB

Model No.	HB-IM70	
Spoke Holes	24H	-
	28H	-
	32H	-
	36H	X
	40/48H	-
Hole PCD (mm)		70
O.L.D. (mm)		100
Flange Distance		56.8
Offset		4.2
Axle(QR)	QR Skewer Length (mm)	129
	Axle Length (mm)	108 (M9)
	Material	Steel
Axle(Nut)	Axle Length	-
	Material	-
Seal		X
Hub Shell	Material	Aluminum
	Finish	Clear Painted
Quick Release Lever	Material	Aluminum
	Finish	Anodized
Structure		Hyper
Modulator Setting		26inch or more
Note		

## Rear Derailleur (Road) Specifications

Series	Dura-Ace	Ultegra	Ultegra	Ultegra	Ultegra	105	105	TIAGRA	TIAGRA
Model No.	RD-7900	RD-6700 G	RD-6700	RD-6700 G	RD-6700	RD-5700-A-S/L	RD-5700-A-S/L	RD-4600	RD-4600
Pulley Cage	SS	SS	SS	GS	GS	SS	GS	SS	GS
Speeds	10	10	10	10	10	10	10	10	10
Max Front Difference	16T	16T	16T	22T	22T	16T	22T	16T	22T
Total Capacity	33T	33T	33T	39T	39T	34T	39T	34T	39T
Max. Low Sprocket	28T	28T	28T	28T	28T	30T	30T	30T	30T
Min. Low Sprocket	21T	21T	21T	21T	21T	25T	25T	25T	25T
Max. Top Sprocket	15T	15T	15T	13T	13T	15T	14T	15T	14T
Min. Top Sprocket	11T	11T	11T	11T	11T	11T	11T	11T	11T
Riveted Adapter Available	-	-	-	-	-	-	-	-	-
Direct Attachment	X	X	X	X	X	X	X	X	X
Fluoric Coated Link Bushing	4	4	4	4	4	2	2	2	2
11T Pulley	X	X	X	X	X	X	X	X	X
Sealed Bearing Guide Pulley	X	-	-	-	-	-	-	-	-
Sealed Bearing Tension Pulley	X	X	X	X	X	-	-	-	-
Bracket Body	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Plate Body	Material	Engineering Composite	Engineering Composite	Engineering Composite	Engineering Composite	Engineering Composite	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Outer Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Painted	Painted	Painted	Painted	Painted	Painted	Clear Painted
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel	Steel
	Finish	Anodized	Painted	Painted	Painted	Painted	Pearl Bright	Pearl Bright	Zinc Plated
Outer Plate	Material	Carbon	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel
	Finish	Clear Coated	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Plate	Material	Carbon	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel
	Finish	Clear Coated	Painted	Painted	Painted	Painted	Painted	Painted	Zinc Plated
Note		Glossy Grey	Silver version	Glossy Grey	Silver version	Silver / Black version	Silver / Black version		

## Rear Derailleur (Road) Specifications

Series	SORA	SORA	2300	A050
Model No.	RD-3400	RD-3400	RD-2300	RD-A050
Pulley Cage	SS	GS	Smart	Smart
Speeds	9	9	8	7
Max Front Difference	16T	22T	22T	14T
Total Capacity	31T	37T	35T	29T
Max. Low Sprocket	27T	27T	26T	28T
Min. Low Sprocket	23T	23T	21T	28T
Max. Top Sprocket	14T	14T	13T	14T
Min. Top Sprocket	11T	11T	12T	13T
Riveted Adapter Available	-	-	-	X
Direct Attachment	X	X	X	X
Fluoric Coated Link Bushing	2	2	-	-
11T Pulley	X	X	11/15T	13/13T
Sealed Bearing Guide Pulley	-	-	-	-
Sealed Bearing Tension Pulley	-	-	-	-
Bracket Body	Material	Aluminum	Aluminum	Aluminium
	Finish	Painted	Painted	Painted
Plate Body	Material	Resin	Resin	Resin
	Finish	Painted	Painted	Painted
Outer Link	Material	Aluminum	Aluminum	Steel
	Finish	Painted	Painted	Painted
Inner Link	Material	Steel	Steel	Steel
	Finish	Zinc Plated	Zinc Plated	Zinc Plated
Outer Plate	Material	Steel	Steel	Steel
	Finish	Painted	Painted	Painted
Inner Plate	Material	Steel	Steel	Steel
	Finish	Zinc Plated	Zinc Plated	Zinc Plated
Note				

## Front Derailleur (ROAD) Specifications

Series	Dura-Ace	Dura-Ace	Ultegra	Ultegra	Ultegra	Ultegra	Ultegra	Ultegra	Ultegra	
Model No.	FD-7900-B	FD-7900-F	FD-6700 G-B	FD-6700 G-F	FD-6703 G-B	FD-6703 G-F	FD-6700-B	FD-6700-F	FD-6703-B	
Rear Speeds	10	10	10	10	10	10	10	10	10	
Front SIS	X	X	X	X	X	X	X	X	X	
Chain Ring	Double	Double	Double	Double	Triple	Triple	Double	Double	Triple	
Link Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	
Mount Type	Clamp Band	Brazed-On	Clamp Band	Brazed-On	Clamp Band	Brazed-On	Clamp Band	Brazed-On	Clamp Band	
Applicable Chainline (m)	43.5	43.5	43.5	43.5	45	45	43.5	43.5	45	
Clamp Band Diameter (mm)	28.6/31.8/34.9	-	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9	
Top Gear Teeth	50-56T	50-56T	50-56T	50-56T	52T	52T	50-56T	50-56T	52T	
Capacity	16T	16T	16T	16T	22T	22T	16T	16T	22T	
Chainstay Angle (degree)	61-66	61-66	61-66	61-66	63-66	63-66	61-66	61-66	63-66	
Compatible Adapter	SM-AD11(31.8mm)	-	X	-	X	-	X	-	X	-
	SM-AD15(34.9mm)	-	X	-	X	-	X	-	X	-
Front Clamp Band	Material	Aluminum	-	Aluminum	-	Aluminum	-	Aluminum	-	Aluminum
	Finish	Anodized	-	Painted	-	Painted	-	Painted	-	Painted
Rear Clamp Band	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Outer Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Chain Guide	Material	Aluminum	Aluminum	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Nickel Plated	Nickel Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Note			*W/Multi Clamp Band Glossy Grey	Glossy Grey	*W/Multi Clamp Band Glossy Grey	Glossy Grey	*W/Multi Clamp Band Silver	Silver	*W/Multi Clamp Band Silver	

## Front Derailleur (ROAD) Specifications

Series	Ultegra	SHIMANO	SHIMANO	SHIMANO	SHIMANO	105	105	105	105
Model No.	FD-6703-F	FD-CX70-B-T	FD-CX70-B-D	FD-CX70-F-T	FD-CX70-F-D	FD-5700-S/L-F	FD-5700-S/L-B	FD-5703-S/L-F	FD-5703-S/L-B
Rear Speeds	10	10	10	10	10	10	10	10	10
Front SIS	X	X	X	X	X	X	X	X	X
Chain Ring	Triple	Double	Double	Double	Double	Double	Double	Triple	Triple
Link Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional
Mount Type	Brazed-On	Clamp Band	Clamp Band	Brazed-On	Brazed-On	Brazed-On	Clamp Band	Brazed-On	Clamp Band
Applicable Chainline (m)	45	43.5	43.5	43.5	43.5	43.5	43.5	45	45
Clamp Band Diameter (mm)	-	*(28.6)/31.8/34.9	*(28.6)/31.8/34.9	-	-	-	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9
Top Gear Teeth	52T	46-52T	46-52T	46-52T	46-52T	50-56T	50-56T	50T	50T
Capacity	22T	16T	16T	16T	16T	16T	16T	20T	20T
Chainstay Angle (degree)	63-66	63-66	63-66	63-66	63-66	61-66	61-66	63-66	63-66
Compatible Adapter	SM-AD11(31.8mm)	X	-	X	X	X	-	X	-
	SM-AD15(34.9mm)	X	-	X	X	X	-	X	-
Front Clamp Band	Material	-	Aluminum	Aluminum	-	-	Aluminum	-	Aluminum
	Finish	-	Painted	Painted	-	-	Painted	-	Painted
Rear Clamp Band	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Outer Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Note	Silver	*W/Multi Clamp Band	*W/Multi Clamp Band			Silver / Black version	*W/Multi Clamp Band Silver / Black version	Silver / Black version	*W/Multi Clamp Band Silver / Black version



## Front Derailleur (ROAD) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	
Model No.	FD-R770-B	FD-R770-F	FD-R773-2B	FD-R773-2F	FD-R773-0B	FD-R773-0F	FD-R440-B	FD-R440-F	
Rear Speeds	10	10	10	10	10	10	9	9	
Front SIS	X	X	X	X	X	X	X	X	
Chain Ring	Double	Double	Triple	Triple	Triple	Triple	Double	Double	
Link Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	
Mount Type	Clamp Band	Brazed-On	Clamp Band	Brazed-On	Clamp Band	Brazed-On	Clamp Band	Brazed-On	
Applicable Chainline (m)	43.5	43.5	45	45	45	45	43.5	43.5	
Clamp Band Diameter (mm)	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9	-	28.6/31.8	-	
Top Gear Teeth	50-56T	50-56T	52T	52T	50T	50T	50-56T	50-56T	
Capacity	16T	16T	22T	22T	20T	20T	16T	16T	
Chainstay Angle (degree)	61-66	61-66	63-66	63-66	63-66	63-66	61-66	61-66	
Compatible Adapter	SM-AD11(31.8mm)	-	X	-	X	-	X	-	X
	SM-AD15(34.9mm)	-	X	-	X	-	X	-	X
Front Clamp Band	Material	Aluminum	-	Aluminum	-	Aluminum	-	Aluminum	Aluminum
	Finish	Clear Coated	-	Clear Coated	-	Clear Coated	-	Barrel	Barrel
Rear Clamp Band	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-
	Finish	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Barrel	-
Outer Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Barrel	Barrel
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Barrel	Barrel
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Note	*W/Multi Clamp Band / For flat handlebar shifter SL-R770.	For flat handlebar shifter SL-R770.	*W/Multi Clamp Band / For flat handlebar shifter SL-R770.	For flat handlebar shifter SL-R770.	*W/Multi Clamp Band / For flat handlebar shifter SL-R770.	For flat handlebar shifter SL-R770.	Designed to work with flat handlebar shifter SL-R660/R440.		

## Front Derailleur (ROAD) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	TIAGRA	TIAGRA	TIAGRA	TIAGRA	
Model No.	FD-R440-LB	FD-R440-LF	FD-R453-B	FD-R453-F	FD-4600-B	FD-4600-F	FD-4603-B	FD-4603-F	
Rear Speeds	9	9	9	9	10	10	10	10	
Front SIS	X	X	X	X	X	X	X	X	
Chain Ring	Double	Double	Triple	Triple	Double	Double	Triple	Triple	
Link Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	
Mount Type	Clamp Band	Brazed-On	Clamp Band	Brazed-On	Clamp Band	Brazed-on	Clamp Band	Brazed-on	
Applicable Chainline (m)	43.5	43.5	45	45	43.5	43.5	45	45	
Clamp Band Diameter (mm)	28.6/31.8	-	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9	-	
Top Gear Teeth	50-56T	50-56T	50T	50T	50-56T	50-56T	50T	50T	
Capacity	16T	16T	20T	20T	16T	16T	20T	20T	
Chainstay Angle (degree)	61-66	61-66	63-66	63-66	61-66	61-66	63-66	63-66	
Compatible Adapter	SM-AD11(31.8mm)	-	X	-	X	-	X	-	X
	SM-AD15(34.9mm)	-	X	-	X	-	X	-	X
Front Clamp Band	Material	Aluminum	Aluminum	Aluminum	Aluminum	-	Aluminum	-	
	Finish	Painted	Painted	Clear Coated	Clear Coated	Painted	Aluminum	Painted	Aluminum
Rear Clamp Band	Material	Aluminum	-	Aluminum	-	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	-	Clear Coated	-	Painted	Painted	Painted	Painted
Outer Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Clear Coated	Clear Coated	Painted	Painted	Painted	Painted
Inner Link	Material	Aluminum	Aluminum	Zinc	Zinc	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Barrel	Barrel	Plated	Plated	Painted	Painted	Painted	Painted
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Chrome Plated	Chrome Plated	Pearl Bright Plated	Pearl Bright Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Note	Designed to work with flat handlebar shifter SL-R660/R440. Black version		*W/Multi Clamp Band		*W/Multi Clamp Band		*W/Multi Clamp Band		

## Front Derailleur (ROAD) Specifications

Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	
Model No.	FD-R440A-B	FD-R440A-F	FD-R440A-LB	FD-R440A-LF	FD-R443A-B	FD-R443A-F	FD-R443A-LB	FD-R443A-LF	
Rear Speeds	8	8	8	8	8	8	8	8	
Front SIS	X	X	X	X	X	X	X	X	
Chain Ring	Double	Double	Double	Double	Triple	Triple	Triple	Triple	
Link Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	
Mount Type	Clamp Band	Brazed-On	Clamp Band	Brazed-On	Clamp Band	Brazed-On	Clamp Band	Brazed-On	
Applicable Chainline (m)	43.5	43.5	43.5	43.5	45	45	45	45	
Clamp Band Diameter (mm)	28.6/31.8	-	28.6/31.8	-	28.6/31.8	-	28.6/31.8	-	
Top Gear Teeth	50-53T	50-53T	50-53T	50-53T	52T	52T	52T	52T	
Capacity	16T	16T	16T	16T	22T	22T	22T	22T	
Chainstay Angle (degree)	61-66	61-66	61-66	61-66	63-66	63-66	63-66	63-66	
Compatible Adapter	SM-AD11(31.8mm)	-	X	-	X	-	X	-	X
	SM-AD15(34.9mm)	-	X	-	X	-	-	-	-
Front Clamp Band	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Barrel	Barrel	Painted	Painted	Barrel	Barrel	Painted	
Rear Clamp Band	Material	Aluminum	-	Aluminum	-	Aluminum	-	Aluminum	
	Finish	Barrel	-	Painted	-	Barrel	-	Painted	
Outer Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Barrel	Barrel	Painted	Barrel	Barrel	Barrel	Painted	
Inner Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Barrel	Barrel	Barrel	Barrel	Barrel	Barrel	Barrel	
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	
Note	Designed to work with Flat handlebar shifter SL-R440.		Designed to work with Flat handlebar shifter SL-R440. Black version		Designed to work with Flat handlebar shifter SL-R440.		Designed to work with Flat handlebar shifter SL-R440. Black version		

## Front Derailleur (ROAD) Specifications

Series	SORA	SORA	SORA	SORA	2300	2300	2300	2300	A050	
Model No.	FD-3403-B	FD-3403-F	FD-3400-B	FD-3400-F	FD-2300-B	FD-2300-F	FD-2303-B	FD-2303-F	FD-A050	
Rear Speeds	9	9	9	9	8	8	8	8	7	
Front SIS	X	X	X	X	X	X	X	X	-	
Chain Ring	Triple	Triple	Double	Double	Double	Double	Triple	Triple	Double	
Link Type	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	Conventional	
Mount Type	Clamp Band	Brazed-On	Clamp Band	Brazed-on	Clamp Band	Brazed-on	Clamp Band	Brazed-On	Clamp Band	
Applicable Chainline (m)	45	45	43.5	43.5	43.5	43.5	45	45	43.5	
Clamp Band Diameter (mm)	*(28.6)/31.8/34.9	-	*(28.6)/31.8/34.9	-	*(28.6)/31.8	-	*(28.6)/31.8	-	28.6/31.8	
Top Gear Teeth	50T	50T	50-53T	50-53T	50-53T	50-53T	52T	52T	53T	
Capacity	20T	20T	16T	16T	16T	16T	22T	22T	16T	
Chainstay Angle (degree)	63-66	63-66	61-66	61-66	61-66	61-66	63-66	63-66	61-66	
Compatible Adapter	SM-AD11(31.8mm)	-	X	-	X	-	X	-	X	-
	SM-AD15(34.9mm)	-	X	-	X	-	X	-	-	-
Front Clamp Band	Material	Steel	Aluminum	Steel	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Zinc Plated
Rear Clamp Band	Material	Aluminum	-	Aluminum	-	Steel	-	Steel	-	Steel
	Finish	Painted	-	Painted	-	Painted	-	Painted	-	Zinc Plated
Outer Link	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel+Resin
	Finish	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Painted	Zinc Plated
Inner Link	Material	Zinc	Zinc	Zinc	Zinc	Steel	Steel	Steel	Steel	Steel
	Finish	Plated	Plated	Plated	Plated	Plated	Plated	Plated	Plated	Zinc Plated
Chain Guide	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Plated	Plated	Plated	Plated	Plated	Plated	Plated	Plated	Chrome Plated
Note	*W/Multi Clamp Band		*W/Multi Clamp Band		*W/Multi Clamp Band		*W/Multi Clamp Band			

## Shift / Brake Lever (ROAD) Specifications

Series		Dura-Ace	Dura-Ace	Dura-Ace	Dura-Ace	Dura-Ace	Ultegra	Ultegra	Ultegra	
Model No.		ST-7900	SL-7900	SL-BS79	SL-7700	SL-BS77	ST-6700	ST-6703	SL-BS64-8	
Lever Type		Dual Control Lever	Down Tube Shifter	Bar end Shifter	Down Tube Shifter	Bar end Shifter	Dual Control Lever	Dual Control Lever	Bar end Shifter	
Shift Lever Specifications	Front	Double	Double / Triple	Double / Triple	Double / Triple	Double / Triple	Double	Triple	Double / Triple	
	Rear	10	10	10	9	9	10	-	8	
	Optical Gear Display Unit		-	-	-	-	-	-	-	-
	Flight Deck	With Gear Sensor	X	-	-	-	-	X	X	-
		Without Gear Sensor	-	-	-	-	-	-	-	-
	Multi-Bearing Construction		1	2	-	-	-	1	1	-
	Outer Casing	Lever side	SP41	-	SP41	-	SP40	SP41	SP41	SP40
		RD side	SP41 Sealed	SP41 Sealed	SP41 Sealed	SP40 Sealed	SP40 Sealed	SP41 Sealed	SP41 Sealed	SP40 Sealed
	Stainless Cable		X (PTFE)	X(PTFE)	X(PTFE)	X	X	X (PTFE)	X (PTFE)	X
	Clamp Band (mm)		-	-	-	-	-	-	-	-
Brake Lever Specifications	Reach Adjust	X	-	-	-	-	Spacer Use	Spacer Use	-	
	Clamp Band (mm)	23.8/24.2	-	-	-	-	23.8/24.2	23.8/24.2	-	
	Super SLR		X	-	-	-	-	X	X	-
	Compatibility	SUPER SLR	-	-	-	-	-	-	-	-
		New SUPER SLR	X	-	-	-	-	X	X	-
		V-BRK/ Mechanical Disc	-	-	-	-	-	-	-	-
Bracket	Material	Engineering Composite	-	-	-	-	Engineering Plastic	Engineering Plastic	-	
	Finish	Engineering Composite	-	-	-	-	Engineering Plastic	Engineering Plastic	-	
Lever	Material	Carbon	Aluminum	Aluminum	Aluminum	Aluminum	Engineering Composite	Engineering Composite	Aluminum	
	Finish	Painted	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Painted	Painted	Clear Coated	
Note										

## Shift / Brake Lever (ROAD) Specifications

Series		Non-Series	105	105	TIAGRA	TIAGRA	TIAGRA	TIAGRA	
Model No.		BL-R600	ST-5700-S/L	ST-5703-S/L	ST-4600	ST-4603	SL-4600	SL-4603	
Lever Type		Brake Lever	Dual Control Lever	Dual Control Lever	Dual Control Lever	Dual Control Lever	Rapidfire Plus	Rapidfire Plus	
Shift Lever Specifications	Front	-	Double	Triple	Double	Triple	Double	Triple	
	Rear	-	10	-	10	-	10	-	
	Optical Gear Display Unit		-	-	-	X	X	-	-
	Flight Deck	With Gear Sensor	-	-	-	-	-	-	-
		Without Gear Sensor	-	-	-	-	-	-	-
	Multi-Bearing Construction		-	-	-	-	-	-	-
	Outer Casing	Lever side	-	SP41	SP41	SP41	SP41	SP41	SP41
		RD side	-	SP41 Sealed	SP41 Sealed	SP41 Sealed	SP41 Sealed	SP41 Sealed	SP41 Sealed
	Stainless Cable		-	X (PTFE)	X (PTFE)	X	X	X	X
	Clamp Band (mm)		-	-	-	-	-	22.2	22.2
Brake Lever Specifications	Reach Adjust	-	Spacer Use	Spacer Use	Spacer Use	Spacer Use	-	-	
	Clamp Band (mm)	23.8/24.2	23.8/24.2	23.8/24.2	23.8/24.2	23.8/24.2	-	-	
	Super SLR		X	X	X	X	X	-	-
	Compatibility	SUPER SLR	X	-	-	-	-	-	-
		New SUPER SLR	-	X	X	X	X	-	-
V-BRK/ Mechanical Disc		-	-	-	-	-	-	-	
Bracket	Material	Aluminum	Engineering Plastic	Engineering Plastic	Engineering Plastic	Engineering Plastic	Aluminum	Aluminum	
	Finish	Barrel	Engineering Plastic	Engineering Plastic	Engineering Plastic	Engineering Plastic	Painted	Painted	
Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Anodized	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Painted	Painted	
Note			Silver / Black version	Silver / Black version	Integrated Cable Adjuster available	Integrated Cable Adjuster available			

## Shift / Brake Lever (ROAD) Specifications

Series		TIAGRA	TIAGRA	TIAGRA	TIAGRA	Non-Series	Non-Series	Non-Series	SORA	
Model No.		BL-4600	ST-4500-(R)	ST-4501	ST-4503	ST-R500	SL-R400	BL-R400	ST-3400	
Lever Type		Brake Lever	Dual Control Lever	Dual Control Lever	Dual Control Lever	Dual Control Lever	Down Tube Shifter	Brake Lever	Dual Control Lever	
Shift Lever Specifications	Front	-	-	Double	Triple	Double / Triple	Double / Triple	-	Double / Triple	
	Rear	-	9	-	-	8	8	-	9	
	Optical Gear Display Unit		-	X	X	X	-	-	-	X
	Flight Deck	With Gear Sensor	-	-	-	-	X	-	-	-
		Without Gear Sensor	-	-	-	-	-	-	-	-
	Multi-Bearing Construction		-	-	-	-	-	-	-	-
	Outer Casing	Lever side	-	SP41	SP41	SP41	SP41	-	-	SP41
		RD side	-	SP41 Sealed	SP41 Sealed	SP41 Sealed	SP41 Sealed	SP41	-	SP41 Sealed
	Stainless Cable		-	X	X	X	X	-	-	X
	Clamp Band (mm)		22.2	-	-	-	-	-	-	-
Brake Lever Specifications	Reach Adjust	Screw Adjust	Spacer Use	Spacer Use	Spacer Use	-	-	-	Spacer Use	
	Clamp Band (mm)	22.2	23.8 / 24.2	23.8 / 24.2	23.8 / 24.2	23.8 / 24.2	-	23.8 / 24.2	23.8 / 24.2	
	Super SLR		X	-	-	-	-	-	X	-
	Compatibility	SUPER SLR	-	X	X	X	X	-	X	X
		New SUPER SLR	X	-	-	-	-	-	-	-
		V-BRK/ Mechanical Disc	X	-	-	-	-	-	-	-
Bracket	Material	Aluminum	Engineering Plastic	Engineering Plastic	Engineering Plastic	Engineering Plastic	-	Aluminum	Engineering Plastic	
	Finish	Painted	Engineering Plastic	Engineering Plastic	Engineering Plastic	Engineering Plastic	-	Barrel	Engineering Plastic	
Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Anodized	Clear Coated	Clear Coated	Clear Coated	Clear Coated	Barrel	Anodized	Painted	
Note		Compatible with V-BRAKE/Caliper/Canti/Road disc brake								

## Shift / Brake Lever (ROAD) Specifications

Series		2300	2300	A050	A050	Non-Series	Non-Series	Non-Series	Non-Series	
Model No.		ST-2300	ST-2303	SL-A050-7R	SL-A050-LN	SL-SY20A-6-STEM	SL-SY20A-7-STEM	SL-SY20A-6-D	SL-SY20A-7-D	
Lever Type		Dual Control Lever	Dual Control Lever	Handle Bar Mount Shifter	Handle Bar Mount Shifter	Stem Mount Shifter	Stem Mount Shifter	Down Tube Mount Shifter	Down Tube Mount Shifter	
Shift Lever Specifications	Front	Double	Triple	-	Double/Friction	Double/Friction	Double/Friction	Double/Friction	Double/Friction	
	Rear	8	-	7	-	6	7	6	7	
	Optical Gear Display Unit		-	-	-	-	-	-	-	-
	Flight Deck	With Gear Sensor	-	-	-	-	-	-	-	-
		Without Gear Sensor	-	-	-	-	-	-	-	-
	Multi-Bearing Construction		-	-	-	-	-	-	-	-
	Outer Casing	Lever side	SP40	SP40	SIS	SIS	SIS	SIS	SIS	SIS
		RD side	SP40 Sealed	-	SIS	SIS	SIS	SIS	SIS	SIS
	Stainless Cable		X	X	-	-	-	-	-	-
	Clamp Band (mm)		-	-	25.6	25.6	22.2	22.2	22.2	22.2
Brake Lever Specifications	Reach Adjust		Spacer Use	Spacer Use	-	-	-	-	-	
	Clamp Band (mm)		23.8 / 24.2	23.8 / 24.2	-	-	-	-	-	-
	Super SLR		-	-	-	-	-	-	-	-
	Compatibility	SUPER SLR	X	X	-	-	-	-	-	-
		New SUPER SLR	-	-	-	-	-	-	-	-
V-BRK/ Mechanical Disc		-	-	-	-	-	-	-	-	
Bracket	Material	Engineering Plastic	Engineering Plastic	Steel	Steel	Steel	Steel	Steel	Steel	
	Finish	Engineering Plastic	Engineering Plastic	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	Zinc Plated	
Lever	Material	Aluminum	Aluminum	Resin	Resin	Resin+Zinc Cap	Resin+Zinc Cap	Resin+Zinc Cap	Resin+Zinc Cap	
	Finish	Painted	Painted	Resin	Resin	Resin+CP(Pearl)	Resin+CP(Pearl)	Resin+CP(Pearl)	Resin+CP(Pearl)	
Note								Brazed On Type	Brazed On Type	



## Shift / Brake Lever (ROAD) Specifications

Series		Non-Series	Non-Series	Shimano	Shimano	Shimano	Non-Series	Non-Series	Non-Series	
Model No.		SL-SY20A-6-D/ BAND	SL-SY20A-7-D/ BAND	SL-R780	SL-R783-L	BL-R780	SL-R770	BL-R770	BL-R550-S	
<b>Lever Type</b>		Down Tube Mount Shifter	Down Tube Mount Shifter	Rapidfire Plus	Rapidfire Plus	Brake Lever	Rapidfire Plus	Brake Lever	Brake Lever	
<b>Shift Lever Specifications</b>	<b>Front</b>	Double/Friction	Double/Friction	Double	Triple	-	Double / Triple	-	-	
	<b>Rear</b>	6	7	10	-	-	10	-	-	
	<b>Optical Gear Display Unit</b>	-	-	X	X	-	Detachable/ Above handlebar	-	-	
	<b>Flight Deck</b>	<b>With Gear Sensor</b>	-	-	-	-	-	-	-	-
		<b>Without Gear Sensor</b>	-	-	-	-	-	-	-	-
	<b>Multi-Bearing Construction</b>		-	-	2	2	-	2	-	-
	<b>Outer Casing</b>	<b>Lever side</b>	SIS	-	SP41	SP41	-	SP41	-	-
		<b>RD side</b>	SIS	-	SP41 Sealed	SP41 Sealed	-	SP41 Sealed	-	-
	<b>Stainless Cable</b>		-	-	X	X	-	X	-	-
	<b>Clamp Band (mm)</b>		28.6	28.6	22.2	22.2	-	22.2	-	-
<b>Brake Lever Specifications</b>	<b>Reach Adjust</b>	-	-	-	-	Screw Adjust	-	Screw Adjust	Screw Adjust	
	<b>Clamp Band (mm)</b>	-	-	-	-	22.2	-	22.2	22.2	
	<b>Super SLR</b>		-	-	-	-	-	-	-	
	<b>Compatibility</b>	<b>SUPER SLR</b>	-	-	-	-	-	-	X	X
		<b>New SUPER SLR</b>	-	-	-	-	X	-	-	-
<b>V-BRK/ Mechanical Disc</b>		-	-	-	-	X	-	-	-	
<b>Bracket</b>	<b>Material</b>	Steel	Steel	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	<b>Finish</b>	Zinc Plated	Zinc Plated	Painted	Painted	Painted	Clear Coated	Clear Coated	Painted	
<b>Lever</b>	<b>Material</b>	Resin+Zinc Cap	Resin+Zinc Cap	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	<b>Finish</b>	Resin+CP(Pearl)	Resin+CP(Pearl)	Clear Coated	Clear Coated	Anodized	Clear Coated	Anodized	Anodized	
<b>Note</b>		Band Type	Band Type	Silver / Black version For flat handle bar	Silver / Black version For flat handle bar	Silver / Black version For flat handle bar For Caliper/Canti/ Road disc brake	For flat handlebar	For Caliper/Canti/ Roller/Road disc brake (BR-R505)	Silver version For Caliper/Canti/ Road disc brake (BR-R505)	

## Shift / Brake Lever (ROAD) Specifications

Series		Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	
Model No.		BL-R550-L	SL-R440	SL-R440-L	SL-R440-8	SL-R440-8-L	ST-R221	ST-R221-L	ST-R225	
<b>Lever Type</b>		Brake Lever	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	Rapidfire Plus	EZ-fire Plus	EZ-fire Plus	EZ-fire Plus	
<b>Shift Lever Specifications</b>	<b>Front</b>	-	Double / Triple	Double / Triple	Double / Triple	Double / Triple	Double	Double	Triple	
	<b>Rear</b>	-	9	9	8	8	8	8	-	
	<b>Optical Gear Display Unit</b>	-	Detachable/ Above handlebar	Detachable/ Above handlebar	Detachable/ Above handlebar	Detachable/ Above handlebar	Dial type	Dial type	Dial type	
	<b>Flight Deck</b>	<b>With Gear Sensor</b>	-	-	-	-	-	-	-	-
		<b>Without Gear Sensor</b>	-	*1	*1	*1	*1	-	-	-
	<b>Multi-Bearing Construction</b>		-	-	-	-	-	-	-	-
	<b>Outer Casing</b>	<b>Lever side</b>	-	SP41	SP41	SP41	SP41	SP40	SP40	SP40
		<b>RD side</b>	-	SP41 Sealed	SP41 Sealed	SP41 Sealed	SP41 Sealed	SP40	SP40	SP40
	<b>Stainless Cable</b>		-	X	X	X	X	-	-	-
	<b>Clamp Band (mm)</b>		-	22.2	22.2	22.2	22.2	-	-	-
<b>Brake Lever Specifications</b>	<b>Reach Adjust</b>	Screw Adjust	-	-	-	-	X	X	X	
	<b>Clamp Band (mm)</b>	22.2	-	-	-	-	22.2	22.2	22.2	
	<b>Super SLR</b>		-	-	-	-	-	-	-	
	<b>Compatibility</b>	<b>SUPER SLR</b>	X	-	-	-	-	X	X	X
		<b>New SUPER SLR</b>	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	
<b>Bracket</b>	<b>Material</b>	Aluminum	Steel+Resin	Steel+Resin	Steel+Resin	Steel+Resin	Aluminum	Aluminum	Aluminum	
	<b>Finish</b>	Painted	Black Plated	Black Plated	Black Plated	Black Plated	Painted	Painted	Painted	
<b>Lever</b>	<b>Material</b>	Aluminum	Steel+Resin	Steel+Resin	Steel	Steel	SL:Steel+Resin BL:Aluminum	SL:Steel+Resin BL:Aluminum	SL:Steel+Resin BL:Aluminum	
	<b>Finish</b>	Anodized	Black Plated	Black Plated	Black Plated	Black Plated	SL:Black Plated BL:Anodized	SL:Black Plated BL:Anodized	SL:Black Plated BL:Anodized	
<b>Note</b>		Black version For Caliper/Canti/ Road disc brake (BR-R505)	For flat handlebar Left:SL-R441	For flat handlebar Black version Left:SL-R441-L	For flat handlebar Left:SL-R441	For flat handlebar Black version Left:SL-R441-L	For flat handlebar	Black version	Front Lever W/Trim	
								For flat handlebar	For flat handlebar	
							Compatible with V-BRAKE/Canti/Caliper and Disc brake	Compatible with V-BRAKE/Canti/Caliper and Disc brake	Compatible with V-BRAKE/Canti/Caliper and Disc brake	

## Shift / Brake Lever (ROAD) Specifications

Series		Non-Series	Non-Series	Dura-Ace	
Model No.		ST-R225-L	BL-TT78	BL-TT79	
Lever Type		EZ-fire Plus	Brake Lever	Brake Lever	
Shift Lever Specifications	Front	Triple	-	-	
	Rear	-	-	-	
	Optical Gear Display Unit		Dial type	-	-
	Flight Deck	With Gear Sensor	-	-	-
		Without Gear Sensor	-	-	-
	Multi-Bearing Construction		-	-	-
	Outer Casing	Lever side	SP40	-	-
		RD side	SP40	-	-
Stainless Cable		-	-	-	
Clamp Band (mm)		-	-	-	
Brake Lever Specifications	Reach Adjust		X	X	X
	Clamp Band (mm)		22.2	*2	*2
	Super SLR		-	-	-
	Compatibility	SUPER SLR	X	X	-
		New SUPER SLR	-	-	X
V-BRK/ Mechanical Disc		-	-	-	
Bracket	Material	Aluminum	Engineering Plastic	Engineering Plastic	
	Finish	Painted	Painted	Painted	
Lever	Material	SL:Steel+Resin BL:Aluminum	Aluminum	Carbon	
	Finish	SL:Black Plated BL:Anodized	Anodized	-	
Note		Front Lever W/Trim; Black version	*2 : Fixation structure is expanding plug clamp, handle bar inside diameter : 19.0-22.5 dim, handle bar outside diameter : 22.2-24.0 dim.		
		For flat handlebar			
		Compatible with V-BRAKE/Canti/Caliper and Disc brake			

## Brake (Road) Specifications

Series	Dura-Ace	Ultegra	Ultegra	105	Non-Series	Non-Series	TIAGRA	
Model No.	BR-7900	BR-6700 G	BR-6700	BR-5700-S/L	BR-R561 (S) / (L)	BR-R505	BR-4600	
Type	Super SLR Dual Pivot	Super SLR Dual Pivot	Super SLR Dual Pivot	Super SLR Dual Pivot	Super SLR Dual Pivot	Disc-brake	Super SLR Dual Pivot	
Reach (mm)	49	49	49	49	49	-	49	
Brake Shoe	Standard	R55C3	R55C3	R55C3	R55C3	R55C3	M06 Metal	R50T2
	Optional Choice	R55C for ceramic rim R55C3 for carbon rim	R55C for ceramic rim R55C3 for carbon rim	R55C for ceramic rim R55C3 for carbon rim	R55C for ceramic rim R55C3 for carbon rim	R55C for carbon rim R55C3 for ceramic rim	-	-
Compatibility	SUPER SLR	-	-	-	-	-	X	-
	New SUPER SLR	X	X	X	X	X	-	X
	V-BRK/ Mechanical Disc	-	-	-	-	-	-	-
Assembly Pivot Nut (mm)	10.5 / 12.5 / 18.0 / 27.0/32.0	10.5 / 12.5 / 18.0 / 27.0/32.0	10.5 / 12.5 / 18.0 / 27.0/32.0	10.5 / 12.5 / 18.0 / 27.0/32.0	10.5 / 12.5 / 18.0 / 27.0/32.0	-	10.5 / 12.5 / 18.0 / 27.0	
Cartridge Shoe Holder	X	X	X	X	X	-	-	
Tire Guide Bumpers	X	X	X	-	-	-	-	
QR	X	X	X	X	X	-	X	
Shoe Angle Adjusting	X	X	X	X	X	-	X	
Spring Tension Adjusting	X	X	X	-	-	-	-	
Cartridge Shoe Holder	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-	-
	Finish	Anodized	Painted	Painted	Painted	Painted	-	-
C-arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	-	Anodized
Y-arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	-	Anodized
Gate	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	-	Anodized
QR	Material	Aluminum	Aluminum	Aluminum	Zinc	Zinc	-	Zinc
	Finish	Anodized	Painted	Painted	Plated	Plated	-	Plated
Titanium Cable Fixing Bolt	X	-	-	-	-	-	-	
Titanium Pivot Bolt	X	-	-	-	-	-	-	
Note		Glossy Grey	Silver	Silver / Black version	Silver / Black version	*Please refer to MTB Disc BR(caliper) Page		










## Brake (Road) Specifications

Series		SORA	Non-Series	Non-Series	Non-Series
Model No.		BR-3400	BR-R650	BR-R451(S)/(L)	BR-R450
Type		Super SLR Dual Pivot	Super SLR Dual Pivot	Super SLR Dual Pivot	Super SLR Dual Pivot
Reach (mm)		49	57	57	57
Brake Shoe	Standard	R50T2	R55C2	R50T2	R50T2
	Optional Choice	-	R55C for carbon rim R55C for ceramic rim	-	-
Compatibility	SUPER SLR	X	X	X	X
	New SUPER SLR	-	-	-	-
	V-BRK/ Mechanical Disc	-	-	-	-
Assembly Pivot Nut (mm)		10.5 / 12.5 / 18.0 / 27.0	10.5 / 12.5 / 18.0 / 27.0	10.5/12.5/18.0/27.0	10.5 / 12.5 / 18.0 / 27.0
Cartridge Shoe Holder		-	X	-	-
Tire Guide Bumpers		-	X	-	-
QR		X	X	X	X
Shoe Angle Adjusting		X	X	X	X
Spring Tension Adjusting		-	-	-	-
Cartridge Shoe Holder	Material	-	Aluminum	-	-
	Finish	-	Painted	-	-
C-arm	Material	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Anodized	Painted	Painted
Y-arm	Material	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Anodized	Painted	Painted
Gate	Material	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Anodized	Painted	Painted
QR	Material	Resin	Aluminum	Resin	Resin
	Finish	-	Painted	-	-
Titanium Cable Fixing Bolt		-	-	-	-
Titanium Pivot Bolt		-	-	-	-
Note				QR Wider Open	








## Brake (Cyclocross) Specifications

Series		Non-Series	Non-Series
Model No.		BR-CX70	BR-CX50
Type		Canti lever	Canti lever
Reach		-	-
Brake Shoe	Standard	R55C+1	R50T2
	Optional Choice	R55C3 R55C3 for carbon rim	-
Compatibility	SUPER SLR	-	-
	New SUPER SLR	X	X
	V-BRK/ Mechanical Disc	-	-
Assembly Pivot Nut (mm)		-	-
Cartridge Shoe Holder		X	-
Tire Guide Bumpers		X	-
QR		-	-
Shoe Angle Adjusting		X	X
Spring Tension Adjusting		X	X
Cartridge Shoe Holder	Material	Aluminum	-
	Finish	Painted	-
Canti Lever	Material	Aluminum	Aluminum
	Finish	Anodized	Anodized
Note		Cyclocross usage	Cyclocross usage

## Front Chainwheel (Road) Specifications

Series		Dura-Ace	Dura-Ace	Dura-Ace(Track)	ULTEGRA	ULTEGRA	ULTEGRA	ULTEGRA	ULTEGRA
Model No.		FC-7900	FC-7950	FC-7710	FC-6700 G	FC-6700	FC-6703 G	FC-6703	FC-6750 G
Rear Speeds		10	10	Single	10	10	10	10	10
Chaining Combination		53-42T 52-39T 53-39T 54-42T 55-42T 56-44T	50-34T	45T>>55T (1/2"X1/8")  45T>>55T (1/2"X3/32")	52-39T 53-39T	52-39T 53-39T	52-39-30T	52-39-30T	50-34T
PCD (mm)		130	110	144	130	130	130 / 92	130 / 92	110
Splined Crank		X	X	X	X	X	X	X	X
Crank Arm Length	160.0mm	-	-	-	-	-	-	-	-
	162.5mm	-	-	-	-	-	-	-	-
	165mm	X	X	X	X	X	X	X	X
	167.5mm	X	X	X	-	-	-	-	-
	170mm	X	X	X	X	X	X	X	X
	172.5mm	X	X	X	X	X	X	X	X
	175mm	X	X	X	X	X	X	X	X
	177.5mm	X	X	-	-	-	-	-	-
180mm	X	X	-	-	-	-	-	-	
Chain		Super Narrow HG for 10-speed	Super Narrow HG for 10-speed	1/2"X1/8" 1/2"X3/32"	Supre Narrow HG for 10-speed	Supre Narrow HG for 10-speed	Supre Narrow HG for 10-speed	Supre Narrow HG for 10-speed	Supre Narrow HG for 10-speed
Bottom Bracket	Model No.	SM-BB7900	SM-BB7900	BB-7710 / 7700	SM-BB6700	SM-BB6700	SM-BB6700	SM-BB6700	SM-BB6700
	Chain								
	Line	43.5mm	43.5mm	109.5	X	X	-	-	X
	45mm	-	-	-	-	-	X	X	-
Optional Chain Guard		-	-	-	-	-	-	-	-
Hollowtech II technology		X 	X 	-	X 	X 	X 	X 	X 
2-piece Solid Crank Construction		-	-	-	-	-	-	-	-
Hollowtech Crank Arm		X	X	X 	X	X	X	X	X
OCTALINK technology		-	-	X 	-	-	-	-	-
One Key Release		-	-	X	-	-	-	-	-
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Top Gear	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Nickel Plated	Anodized	Anodized	Anodized	Anodized	Anodized
Middle Gear	Material	-	-	-	-	-	Aluminum	Aluminum	-
	Finish	-	-	-	-	-	Anodized	Anodized	-
Low Gear	Material	Aluminum	Aluminum	-	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	-	Anodized	Anodized	Anodized	Anodized	Anodized
Note				CL=42.5mm	Glossy Grey	Silver	Glossy Grey	Silver	Glossy Grey

## Front Chainwheel (Road) Specifications

Series	ULTEGRA	SHIMANO	105	105	105	SHIMANO	Non-Series	Non-Series	
Model No.	FC-6750	FC-CX70	FC-5700-S/L	FC-5750-S/L	FC-5703-S/L	FC-CX50-S/L	FC-R601	FC-R603	
Rear Speeds	10	10	10	10	10	10	Single	10	
Chainring Combination	50-34T	46-36T	52-39T 53-39T	50-34T	50-39-30T	46-36T	40T	52-39-30T	
PCD (mm)	110	110	130	110	130 / 74	110	130	130/92	
Splined Crank	X	-	X	X	X	-	-	-	
Crank Arm Length	160.0mm	-	-	-	-	-	-	-	
	162.5mm	-	-	-	-	-	-	-	
	165mm	X	X	X	X	X	-	-	
	167.5mm	-	-	-	-	-	-	-	
	170mm	X	X	X	X	X	X	X	
	172.5mm	X	X	X	X	X	-	-	
	175mm	X	X	X	X	X	X	X	
	177.5mm	-	-	-	-	-	-	-	
180mm	-	-	-	-	-	-	-		
Chain	Supre Narrow HG for 10-speed	Supre Narrow HG for 10-speed (CN-6701)	Super Narrow HG for 10-speed (CN-5701)	Super Narrow HG for 10-speed (CN-5701)	Super Narrow HG for 10-speed (CN-5600)	Supre Narrow HG for 10-speed (CN-4601)	Supre Narrow HG for 10-speed (CN-6600)	Supre Narrow HG for 10-speed (CN-6600)	
Bottom Bracket	Model No.	SM-BB6700	SM-BB6700	SM-BB5700	SM-BB5700	SM-BB5700	SM-BB4600	Included	SM-BB6700
	Chain Line	43.5mm	43.5mm	43.5mm	43.5mm	43.5mm	43.5mm	left side 49.9	Left side 49.9
	45mm	-	-	-	-	X	-	-	Right side 45
Optional Chain Guard	-	-	-	-	-	-	-	-	
Hollowtech II technology	X 	X 	X 	X 	X 	-	X 	X 	
2-piece Solid Crank Construction	-	-	-	-	-	X	-	-	
Hollowtech Crank Arm	X	X	X	X	X	-	X	X	
OCTALINK technology	-	-	-	-	-	-	-	-	
One Key Release	-	-	-	-	-	-	-	-	
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Top Gear	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Twice Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Middle Gear	Material	-	-	-	-	Aluminum	-	-	Aluminum
	Finish	-	-	-	-	Anodized	-	-	Anodized
Low Gear	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	-	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	-	Anodized
Note	Silver	Cyclocross usage	Silver / Black	Silver / Black	Silver / Black	Cyclocross	Tandem front	Tandem Rear	

## Front Chainwheel (Road) Specifications

Series		Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	TIAGRA	TIAGRA	TIAGRA
Model No.		FC-R600	FC-R563 S/L	FC-R565 S/L	FC-R550	FC-R553	FC-4600	FC-4650	FC-4603
Rear Speeds		10	10	10	10	10	10	10	10
Chainring Combination		50-34T	50-39-30T	50-34T	52-39T 53-39T 50-39T	50-39-30T	52-39T	50-34T	50-39-30T
PCD (mm)		110	130/92	110	130	130/74	130	110	130 / 92
Splined Crank		X	-	-	X	X	-	-	-
Crank Arm Length	160.0mm	-	-	-	-	-	-	-	-
	162.5mm	-	-	-	-	-	-	-	-
	165mm	X	X	X	X	X	X	X	X
	167.5mm	-	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X	X
	172.5mm	X	X	X	X	X	X	X	X
	175mm	X	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	-	
Chain		Super Narrow HG for 10-speed	Super Narrow HG for 10 speed (CN- 5600)	Super Narrow HG for 10 speed (CN- 4601)	Super Narrow HG for 10-speed	Super Narrow HG for 10-speed	Super Narrow HG for 10 speed (CN-4601)	Super Narrow HG for 10 speed (CN-4601)	Super Narrow HG for 10 speed (CN-5600)
Bottom Bracket	Model No.	Included*	SM-BB4600	SM-BB4600	Included*	Included*	SM-BB4600	SM-BB4600	SM-BB4600
	Chain								
	Line								
	43.5mm	X	-	X	X	-	X	X	-
	45mm	-	X	-	-	X	-	-	X
Optional Chain Guard		-	-	-	-	-	-	-	-
Hollowtech II technology		-	-	-	-	-	-	-	-
2-piece Solid Crank Construction		X	X	X	X	X	X	X	X
Hollowtech Crank Arm		-	-	-	-	-	-	-	-
OCTALINK technology		-	-	-	-	-	-	-	-
One Key Release		-	-	-	-	-	-	-	-
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Top Gear	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Twice Anodized	Twice Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Middle Gear	Material	-	Aluminum	-	-	Aluminum	-	-	Aluminum
	Finish	-	Anodized	-	-	Anodized	-	-	Anodized
Low Gear	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Plated
Note		*Individual package (SM-FC4500) is available for after market. Shimano Logo	Silver / Black	Silver / Black	*Individual package (SM-FC4500) is available for after market.	*Individual package (SM-FC4500) is available for after market.	Correspond SM-BB71-41B	Correspond SM-BB71-41B	Correspond SM-BB71-41B



## Front Chainwheel (Road) Specifications

Series		Non-Series	SORA	SORA	2300	2300	2300	Non-Series	Non-Series
Model No.		FC-4550-S	FC-3450	FC-3403	FC-2300	FC-2350-S/L	FC-2303	FC-R450	FC-R453
Rear Speeds		9	9	9	8	8	8	9	9
Chainring Combination		50-34T	50-34T	50-39-34T	52-39T	50-34T	52-42-30T	52-39T	50-39-30T
PCD (mm)		110	110	130 / 74	130	110	130 / 74	130	130/74
Splined Crank		X	X	X	-	-	-	X	X
Crank Arm Length	160.0mm	-	-	-	-	-	-	-	-
	162.5mm	-	-	-	-	-	-	-	-
	165mm	X	X	X	-	-	-	-	-
	167.5mm	-	-	-	-	-	-	-	-
	170mm	X	X	X	X	X	X	X	X
	172.5mm	-	-	-	-	-	-	-	-
	175mm	X	X	X	X	X	X	X	X
	177.5mm	-	-	-	-	-	-	-	-
180mm	-	-	-	-	-	-	-	-	
Chain		Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	HG	HG	HG	Super Narrow HG for 9-speed	Super Narrow HG for 9-speed
Bottom Bracket	Model No.	Included*	Included*	Included*	BB-UN26	BB-UN26	BB-UN26	BB-ES25	BB-ES25
	Chain Line	43.5mm	43.5mm	43.5mm	MM110	MM110	-	113	-
	45mm	-	-	-	-	-	LL113	-	121
Optional Chain Guard		-	-	-	X	X	X	X	X
Hollowtech II technology		-	-	-	-	-	-	-	-
2-piece Solid Crank Construction		X	X	X	-	-	-	-	-
Hollowtech Crank Arm		-	-	-	-	-	-	-	-
OCTALINK technology		-	-	-	-	-	-	X	X
One Key Release		-	-	-	-	-	-	-	-
Crank Arm	Material	Aluminum	Aluminum	Aluminum	Aluminium	Aluminium	Aluminium	Aluminum	Aluminum
	Finish	Anodized	Painted	Painted	Painted	Painted	Painted	Painted	Painted
Top Gear	Material	Aluminum	Aluminum	Aluminum	Steel	Steel	Steel	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Painted	Painted	Painted	Anodized	Anodized
Middle Gear	Material	-	-	Steel	-	-	Steel	-	Steel
	Finish	-	-	Plated	-	-	Painted	-	Plated
Low Gear	Material	Aluminum	steel	Steel	Steel	Steel	Steel	Steel	Steel
	Finish	Anodized	Plated	Plated	Painted	Painted	Painted	Plated	Plated
Note		*Individual package (SM-FC4500) is available for after market. Shimano Logo and Silver Anodized	*Individual package (SM-FC4500) is available for after market. Shimano Logo and Silver Anodized	*Individual package (SM-FC4500) is available for after market. Shimano Logo and Silver Anodized		Black			

## Front Chainwheel (Road) Specifications

Series		Non-Series	Non-Series	A050
Model No.		FC-R345 (L)	FC-R345 (S)	FC-A050
Rear Speeds		9	9	7/8
Chainring Combination		50-34T	50-34T	52-39T 50-39T
PCD (mm)		110	110	Riveted
Splined Crank		X	X	-
Crank Arm Length	160.0mm	-	-	X
	162.5mm	-	-	-
	165mm	-	-	-
	167.5mm	-	-	-
	170mm	X	X	X
	172.5mm	-	-	-
	175mm	X	X	-
	177.5mm	-	-	-
Chain		Super Narrow HG for 9-speed	Super Narrow HG for 9-speed	HG
Bottom Bracket	Model No.	BB-ES25	BB-ES25	BB-UN26
	Chain Line	43.5mm	113	MM110
	45mm	-	-	-
Optional Chain Guard		X	X	X
Hollowtech II technology		-	-	-
2-piece Solid Crank Construction		-	-	-
Hollowtech Crank Arm		-	-	-
OCTALINK technology		X	X	-
One Key Release		-	-	-
Crank Arm	Material	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Polished
Top Gear	Material	Aluminum	Aluminum	Steel
	Finish	Anodized	Anodized	Painted
Middle Gear	Material	-	-	-
	Finish	-	-	-
Low Gear	Material	Steel	Steel	Steel
	Finish	Painted	Painted	Painted
Note				

## Bottom Bracket (Road) Specifications

Series Name				Dura-Ace	Dura-Ace	Dura-Ace(Track)	Dura-Ace	Ultegra	105	TIAGRA
Model No.				SM-BB7900	BB-7700	BB-7710	BB-7703	SM-BB6700	SM-BB5700	SM-BB4600
Applicable Front Chainwheel				FC-7900/7950	FC-7710	FC-7710	FC-7703	FC-6700/6703/ 6750/CX70	FC-5700/5703/5750	FC-4600/4603/4650/ R565/R563/CX50
Hollow Pipe				X	X	X	X	X	X	X
Cartridge Type				-	-	X	X	-	-	-
Splined Crank Arm Mounts				X	X	X	X	X	X	X
Axle Length	Hollowtech II Construction	68mm (BC1.37)	X	-	-	-	-	X	X	X
		70mm (M36)	X	-	-	-	-	X	X	X
	109.5 mm	68mm (BC1.37)	-	X	X	-	-	-	-	-
		70mm (M36)	-	X	-	-	-	-	-	-
	118.5 mm	68mm (BC1.37)	-	-	-	X	-	-	-	-
		70mm (M36)	-	-	-	X	-	-	-	-
	113 mm	68mm (BC1.37)	-	-	-	-	-	-	-	-
		70mm (M36)	-	-	-	-	-	-	-	-
	121mm	68mm (BC1.37)	-	-	-	-	-	-	-	-
		70mm (M36)	-	-	-	-	-	-	-	-
	MM107	68mm (BC1.37)	-	-	-	-	-	-	-	-
		70mm (M36)	-	-	-	-	-	-	-	-
	MM110	68mm (BC1.37)	-	-	-	-	-	-	-	-
		70mm (M36)	-	-	-	-	-	-	-	-
	LL113	68mm (BC1.37)	-	-	-	-	-	-	-	-
		70mm (M36)	-	-	-	-	-	-	-	-
	D-H (115mm)	68mm (BC1.37)	-	-	-	-	-	-	-	-
		70mm (M36)	-	-	-	-	-	-	-	-
	XL118	68mm (BC1.37)	-	-	-	-	-	-	-	-
		70mm (M36)	-	-	-	-	-	-	-	-
D-NL (122.5mm)	68mm (BC1.37)	-	-	-	-	-	-	-	-	
	70mm (M36)	-	-	-	-	-	-	-	-	
Note										

## Bottom Bracket (Road) Specifications

Series Name				TIAGRA	SORA (Double)	SORA (Triple)	Non-Series	2300 (Double)	2300 (Triple)	A050
Model No.				SM-FC4500	BB-ES25	BB-ES25	BB-UN55	BB-UN26	BB-UN26	BB-UN26
Applicable Front Chainwheel				FC-3450/3403/R600/ R550/R553/4550-S	FC-R450	FC-R453	-	FC-2300	FC-2303	FC-A050
Hollow Pipe				X	X	X	-	-	-	-
Cartridge Type				-	X	X	X	X	X	X
Splined Crank Arm Mounts				X	X	X	-	-	-	-
Axle Length	Hollowtech II Construction	68mm	(BC1.37)	X	-	-	-	-	-	-
		70mm	(M36)	X	-	-	-	-	-	-
	109.5 mm	68mm	(BC1.37)	-	-	-	-	-	-	-
		70mm	(M36)	-	-	-	-	-	-	-
	118.5 mm	68mm	(BC1.37)	-	-	-	-	-	-	-
		70mm	(M36)	-	-	-	-	-	-	-
	113 mm	68mm	(BC1.37)	-	X	-	-	-	-	-
		70mm	(M36)	-	X	-	-	-	-	-
	121mm	68mm	(BC1.37)	-	-	X	-	-	-	-
		70mm	(M36)	-	-	-	-	-	-	-
	MM107	68mm	(BC1.37)	-	-	-	X	-	-	-
		70mm	(M36)	-	-	-	X	-	-	-
	MM110	68mm	(BC1.37)	-	-	-	X	X	-	X
		70mm	(M36)	-	-	-	X	X	-	X
	LL113	68mm	(BC1.37)	-	-	-	X	-	X	-
		70mm	(M36)	-	-	-	X	-	X	-
	D-H (115mm)	68mm	(BC1.37)	-	-	-	X	-	-	-
		70mm	(M36)	-	-	-	X	-	-	-
	XL118	68mm	(BC1.37)	-	-	-	X	-	-	-
		70mm	(M36)	-	-	-	X	-	-	-
D-NL (122.5mm)	68mm	(BC1.37)	-	-	-	X	-	-	-	
	70mm	(M36)	-	-	-	X	-	-	-	
Note										

## Freehub (Road) Specifications

Series		Dura-Ace	Ultegra	105	Non-Series	TIAGRA	2200	2200
Model No.		FH-7900	FH-6700	FH-5700-S/L	FH-R505	FH-4600	FH-2200	FH-2200-L
Spoke Hole	20H	-	-	-	-	-	-	-
	24H	X	-	-	-	-	-	-
	28H	X	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	X	X	X	X	X	X	X
	Aero spoke	24/28H	-	-	-	-	-	-
	Hole PCD (mm)	Left 44 Right 45	45	45	45	45	45	45
Freehub Body	Speeds	8/9/10	8/9/10	8/9/10	8/9/10	8/9/10	8/9	8/9
	11T Compatible	X	X	X	X	X	X	X
O.L.D. (mm)		130	130	130	135	130	130	130
Flange Distance (mm)		56.9 *2	59.2	57.9	57.4	57.9	57.9	57.9
Dish (mm)		7.9 *2	8.9	8.4	6.7	8.4	8.6	8.6
Axle	QR Skewer Length (mm)	163	163	163	168	163 or 168	163	163
	Length (mm)	141	141	141	146	141	141	141
	Material	Aluminum	Steel	Steel	Steel	Steel	Steel	Steel
Seal		Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Single Contact	Single Contact
Freehub Body	Material	Titanium	Steel	Steel	Steel	Steel	Steel	Steel
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Machined	Anodized
CBN (Cubic Boron Nitride)	Cone Races	X	X	X	X	X	-	-
	Cup Races	X	-	-	-	-	-	-
Easy Adjust System		X	-	-	-	-	-	-
QR Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Steel
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Chrome Plated	Black Chrome Plated
Note		*Super Finishing/Quick engagement, *2 Flange Distance:8.1, Dish:56.5(only for 28H)		Silver / Black version	For Disc Brake/ Center lock mount			

## Front Hub (Road) Specifications

Series		Dura-Ace	Dura-Ace(Track)	Dura-Ace	Ultegra	105	Non-Series	TIAGRA
Model No.		HB-7900	HB-7710	HB-7600	HB-6700	HB-5700-S/L	HB-R505	HB-4600
Spoke Hole	24H	X	-	-	-	-	-	-
	28H	X	X	X	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	X	X	X	X	X	X	X
	Aero Spoke	18/24/28/32H	-	-	-	-	-	-
	Hole PCD (mm)	40	38 (Front) 44 (Rear)	67	38	38	44	38
O.L.D. (mm)		100	100 (Front) 120 (Rear)	100 (Front) 120 (Rear)	100	100	100	100
Flange Distance		74.0	F:74.0 *R(Single Thread):72.5 (Double Thread):67.0	F:72.3 *R(Single Thread):75.5 (Double Thread):65.0	71.6	71.6	60.2	71.6
Axle	QR Skewer Length (mm)	133	-	-	133	133	133	133
	Length (mm)	108	142(M9) (Front) 164(M10) (Rear)	142(M9) (Front) 164(M10) (Rear)	108(M9)	108(M10)	108(M10)	108(M9)
	Material	Aluminum	Steel	Steel	Steel	Steel	Steel	Steel
Seal		Labyrinth and Contact	Dust Cap	Dust Cap	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact
CBN (Cubic Boron Nitride)	Cone Races	X*	X	X	X	X	X	X
	Cup Races	X*	X	X	-	-	-	-
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Easy Adjust System		X	-	-	-	-	-	-
QR Lever	Material	Aluminum	-	-	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	-	-	Anodized	Anodized	Anodized	Anodized
Radial Lacing		X	-	-	X	X	X	X
Note		*Super Finishing	*Dishing Distance R(Single Thread):2.75mm (Double Thread):0			Silver / Black version	For Disc Brake/ Center lock mount	

## Front Hub (Road) Specifications

Series		2200	2200
Model No.		HB-2200	HB-2200-L
Spoke Hole	24H	-	-
	28H	-	-
	32H	X	X
	36H	X	X
	Aero Spoke	-	-
	Hole PCD (mm)	38	38
O.L.D. (mm)		100	100
Flange Distance		71.6	71.6
Axle	QR Skewer Length (mm)	129/133	129/133
	Length (mm)	108(M9)	108(M9)
	Material	Steel	Steel
Seal		Single Contact	Single Contact
CBN (Cubic Boron Nitride)	Cone Races	-	-
	Cup Races	-	-
Hub Shell	Material	Aluminum	Aluminum
	Finish	Machined	Anodized
Easy Adjust System		-	-
QR Lever	Material	Steel	Steel
	Finish	Chrome Plated	Black Chrome Plated
Radial Lacing		-	-
Note			

## Cassette Sprocket (Road) Specifications

Series		Dura-Ace	Dura-Ace	Dura-Ace	Dura-Ace	Dura-Ace	Dura-Ace	Dura-Ace	Dura-Ace
Model No.		CS-7900	CS-7900	CS-7900	CS-7900	CS-7900	CS-7900	CS-7900	CS-7900
<b>Speeds</b>		10	10	10	10	10	10	10	10
<b>Type</b>		HG	HG	HG	HG	HG	HG	HG	HG
<b>Combination</b>	<b>10</b>	21	23	25	27	28	23	25	27
	<b>9</b>	19	21	23	24	24	21	23	24
	<b>8</b>	18	19	21	21	21	19	21	21
	<b>7</b>	17	17	19	19	19	18	19	19
	<b>6</b>	16	16	17	17	17	17	17	17
	<b>5</b>	15	15	15	15	15	16	16	16
	<b>4</b>	14	14	14	14	14	15	15	15
	<b>3</b>	13	13	13	13	13	14	14	14
	<b>2</b>	12	12	12	12	12	13	13	13
<b>1</b>	11	11	11	11	11	12	12	12	
<b>Group</b>		-	-	-	-	-	-	-	-
<b>Chain</b>		Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed
<b>Spider Arm</b>		2 pcs	2 pcs	2 pcs	2 pcs	2 pcs	2 pcs	2 pcs	2 pcs
<b>Aluminum Lock Ring</b>		X	X	X	X	X	X	X	X
<b>Material</b>	<b>Steel</b>	11-16T	11-16T	11-17T	11-17T	11-17T	12-17T	12-17T	12-17T
	<b>Titanium</b>	17-18-19-21T	17-19-21-23T	19-21-23-25T	19-21-24-27T	19-21-24-28T	18-19-21-23T	19-21-23-25T	19-21-24-27T
<b>Finish</b>		Ni-plated & Titanium	Ni-plated & Titanium	Ni-plated & Titanium	Ni-plated & Titanium	Ni-plated & Titanium	Ni-plated & Titanium	Ni-plated & Titanium	Ni-plated & Titanium
<b>Note</b>									



## Cassette Sprocket (Road) Specifications

Series		Ultegra	Ultegra	Ultegra	Ultegra	Ultegra	105	105	105	105
Model No.		CS-6700	CS-6700	CS-6700	CS-6700	CS-6700	CS-5700	CS-5700	CS-5700	CS-5700
<b>Speeds</b>		10	10	10	10	10	10	10	10	10
<b>Type</b>		HG	HG	HG	HG	HG	HG	HG	HG	HG
<b>Combination</b>	<b>10</b>	23	23	25	25	28	25	25	27	28
	<b>9</b>	21	21	23	23	24	23	23	24	24
	<b>8</b>	19	19	21	21	21	21	21	21	21
	<b>7</b>	17	18	19	19	19	19	19	19	19
	<b>6</b>	16	17	17	17	17	17	17	17	17
	<b>5</b>	15	16	16	15	15	15	16	16	15
	<b>4</b>	14	15	15	14	14	14	15	15	14
	<b>3</b>	13	14	14	13	13	13	14	14	13
	<b>2</b>	12	13	13	12	12	12	13	13	12
<b>1</b>	11	12	12	11	11	11	12	12	11	
<b>Group</b>		-	-	-	-	-	-	-	-	-
<b>Chain</b>		Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed
<b>Spider Arm</b>		1 pcs	1 pcs	1 pcs	1 pcs	1 pcs	1 pcs	1 pcs	1 pcs	1 pcs
<b>Aluminum Lock Ring</b>		X	X	X	X	X	-	-	-	-
<b>Material</b>	<b>Steel</b>	11-23T	12-23T	12-25T	11-25T	11-28T	11-25T	12-25T	12-27T	11-28T
	<b>Titanium</b>	-	-	-	-	-	-	-	-	-
<b>Finish</b>		Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated
<b>Note</b>										

## Cassette Sprocket (Road) Specifications

Series		TIAGRA	TIAGRA	TIAGRA	TIAGRA SORA	TIAGRA SORA	TIAGRA SORA	TIAGRA SORA	TIAGRA SORA	TIAGRA SORA
Model No.		CS-4600	CS-4600	CS-4600	CS-HG50-9	CS-HG50-9	CS-HG50-9	CS-HG50-9	CS-HG50-9	CS-HG50-9
<b>Speeds</b>		10	10	10	9	9	9	9	9	9
<b>Type</b>		HG	HG	HG	HG	HG	HG	HG	HG	HG
<b>Combination</b>	<b>10</b>	25	28	30	-	-	-	-	-	-
	<b>9</b>	23	25	27	25	23	25	25	25	27
	<b>8</b>	21	23	24	23	21	23	23	23	24
	<b>7</b>	19	21	21	21	19	21	21	21	21
	<b>6</b>	17	19	19	19	17	19	19	19	19
	<b>5</b>	15	17	17	17	16	17	17	18	17
	<b>4</b>	14	15	15	15	15	15	16	17	15
	<b>3</b>	13	14	14	13	14	14	15	16	14
	<b>2</b>	12	13	13	12	13	13	14	15	13
<b>1</b>	11	12	12	11	12	12	13	14	12	
<b>Group</b>		-	-	-	-	-	-	-	-	-
<b>Chain</b>		Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 10-speed	Super narrow HG for 9-speed	Super narrow HG for 9-speed	Super narrow HG for 9-speed	Super narrow HG for 9-speed	Super narrow HG for 9-speed	Super narrow HG for 9-speed
<b>Spider Arm</b>		-	-	-	-	-	-	-	-	-
<b>Aluminum Lock Ring</b>		-	-	-	-	-	-	-	-	-
<b>Material</b>	<b>Steel</b>	11-25T	12-28T	12-30T	11-25T	12-23T	12-25T	13-25T	14-25T	12-27T
	<b>Titanium</b>	-	-	-	-	-	-	-	-	-
<b>Finish</b>		Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated
<b>Note</b>										

## Cassette Sprocket (Road) Specifications

Series		2300	2300	2300	2300	2300	Non-Series
Model No.		CS-HG50-8	CS-HG50-8	CS-HG50-8	CS-HG50-8	CS-HG50-8	CS-HG20-7
<b>Speeds</b>		8	8	8	8	8	7
<b>Type</b>		HG	HG	HG	HG	HG	HG
<b>Combination</b>	10	-	-	-	-	-	-
	9	-	-	-	-	-	-
	8	21	23	25	23	26	-
	7	19	21	23	21	23	28
	6	17	19	21	19	21	24
	5	16	17	19	17	19	21
	4	15	15	17	16	17	18
	3	14	14	15	15	15	16
	2	13	13	13	14	14	14
1	12	12	12	13	13	12	
<b>Group</b>		S	U	W	T	V	E
<b>Chain</b>		HG	HG	HG	HG	HG	IG/HG
<b>Spider Arm</b>		-	-	-	-	-	-
<b>Aluminum Lock Ring</b>		-	-	-	-	-	-
<b>Material</b>	Steel	12-21T	12-23T	12-25T	13-23T	13-26T	12-28T
	Titanium	-	-	-	-	-	-
<b>Finish</b>		Ni-plated	Ni-plated	Ni-plated	Ni-plated	Ni-plated	Brown & Black
<b>Note</b>							

## Chain (Road) Specifications

Series	Dura-Ace	Dura-Ace	Ultegra	Ultegra	105	105
Model No.	CN-7901	CN-7801	CN-6701	CN-6600	CN-5701	CN-5600
Type	Super Narrow HG for 10-speed	Super Narrow HG for 10-speed	Super Narrow HG for 10-speed	Super Narrow HG for 10-speed	Super Narrow HG for 10-speed	Super Narrow HG for 10-speed
Pin Link Plate	Zinc-Alloy Plated	Zinc-Alloy plated	Zinc-Alloy Plated	Zinc-Alloy Plated	Grey	Grey
Roller Link Plate	Zinc-Alloy Plated	Zinc-Alloy plated	Grey	Grey	Grey	Grey
Chromizing Treatment Link Pin	X	X	X	X	X	X
Perforated plate	X	-	X	-	X	-
Note						

## Chain (Road) Specifications

Series	TIAGRA	SORA	2200	2200	A050
Model No.	CN-4601	CN-HG53	CN-HG50	CN-HG40	CN-UG51
Type	Super Narrow HG for 10-speed	Super Narrow HG for 9-speed	HG	HG	UG
Pin Link Plate	Grey	Grey	Black	Grey	Grey
Roller Link Plate	Brown	Brown	Black	Black	Black
Chromizing Treatment Link Pin	X	X	X	-	-
Perforated plate	X	-	-	-	-
Note					

## Head Parts (Road) Specifications

<b>Series</b>		<b>Dura-Ace</b>
<b>Model No.</b>		<b>HP-7410</b>
<b>Size</b>		JIS ENGLISH
<b>Thread</b>		BC1"x24T.PT.I.
<b>Sealed Cartridge Bearings</b>		X
<b>Stack Height (mm)</b>		37.6
<b>Lock Nut</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Anodized
<b>Upper/Lower Cups</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Anodized
<b>Upper Stem Cone</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Anodized
<b>Stem Cone</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Anodized
<b>Note</b>		

# Wheel Specifications (MTB)

Model No.		WH-M985-F15 (front)	WH-M985-F (front)	WH-M985-R (rear)	WH-M988-F15 (front)	WH-M988-R12 (rear)	WH-M988-R (rear)
Freehub Body	Speeds	-	-	8/9/10	-	8/9/10	8/9/10
	11T Compatible	-	-	X	-	X	X
	Quick Engagement	-	-	X (36/360)	-	X (36/360)	X (36/360)
	Material	-	-	Titanium	-	Titanium	Titanium
O.L.D. (mm)		100	100	135	100	142	135
Hub Axle	QR	N/A (15mm thru axle)	X	X	N/A (15mm thru axle)	N/A (SM-AX75 12mm thru axle)	X
	Length (mm)	-	108	146	-	-	146
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized
	Seal	Contact	Contact	Contact	Contact	Contact	Contact
	Center Lock Rotor Mount	X	X	X	X	X	X
	6 bolts Rotor Mount	-	-	-	-	-	-
	Material	-	Aluminum	Aluminum	-	-	Aluminum
QR Lever	Finish	-	Anodized	Anodized	-	-	Anodized
	QR Skewer Length (mm)	-	133	168	-	-	168
Rim	Type	UST	UST	UST	UST	UST	UST
	Size	559 X 19C (26")	559 X 19C (26")	559 X 19C (26")	559 X 21C (26")	559 X 21C (26")	559 X 21C (26")
	Offset rim	-	-	-	-	-	-
	Welded joint	X	X	X	X	X	X
	Material	Scandium alloy	Scandium alloy	Scandium alloy	Scandium alloy	Scandium alloy	Scandium alloy
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
	Height/Width (mm)	21/23.3	21/23.3	21/23.3	22/26.4	22/26.4	22/26.4
	Brazed reinforcement	X	X	X	X	X	X
	Requires rim tape	-	-	-	-	-	-
Brake type	Disc	Disc	Disc	Disc	Disc	Disc	
Spokes	No. of Spokes	24	24	24	24	24	24
	Gauge/Shape	Butted (2.0-1.5-2.0)/Round	Butted (2.0-1.5-2.0)/Round	Butted (2.0-1.5-2.0)/Round	Butted (2.0-1.8-2.0)/Round	Butted (2.0-1.8-2.0)/Round	Butted (2.0-1.8-2.0)/Round
	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Color	Black	Black	Black	Black	Black	Black
Nipple	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Color	Silver	Silver	Silver	Orange	Orange	Orange
Spoke Protector (Option)		-	-	CP-WH14A/15	-	CP-WH14A/15	CP-WH14A/15
Reflector (Option)		CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)			CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)		
Note		Recommended Tire width:1.50-2.25			Recommended Tire width:1.95-2.50		

## Wheel Specifications (MTB)

Model No.		WH-M785-F15 (front)	WH-M785-F (front)	WH-MT785-R (rear)	WH-M788-F15 (front)	WH-M788-R12 (rear)	WH-M788-R (rear)
Freehub Body	Speeds	-	-	8/9/10	-	8/9/10	8/9/10
	11T Compatible	-	-	X	-	X	X
	Quick Engagement	-	-	X (36/360)	-	X (36/360)	X (36/360)
	Material	-	-	Steel	-	Steel	Steel
O.L.D. (mm)		100	100	135	100	142	135
Hub Axle	QR	N/A (15mm thru axle)	X	X	N/A (15mm thru axle)	N/A (12mm thru axle)	X
	Length (mm)	-	108	146	-	-	-
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Steel	Aluminum
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized
	Seal	Contact	Contact	Contact	Contact	Contact	Contact
	Center Lock Rotor Mount	X	X	X	X	X	X
	6 bolts Rotor Mount	-	-	-	-	-	-
	Material	-	Aluminum	Aluminum	-	-	Aluminum
QR Lever	Finish	-	Anodized	Anodized	-	-	Anodized
	QR Skewer Length (mm)	-	133	168/173	-	-	168/173
Rim	Type	UST	UST	UST	UST	UST	UST
	Size	559 X 19C (26")	559 X 19C (26")	559 X 19C (26")	559 X 21C (26")	559 X 21C (26")	559 X 21C (26")
	Offset rim	-	-	-	-	-	-
	Welded joint	X	X	X	X	X	X
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
	Height/Width (mm)	19/23.4	19/23.4	19/23.4	20.5/25.8	20.5/25.8	20.5/25.8
	Brazed reinforcement	X	X	X	X	X	X
	Requires rim tape	-	-	-	-	-	-
	Brake type	Disc	Disc	Disc	Disc	Disc	Disc
Spokes	No. of Spokes	24	24	24	24	24	24
	Gauge/Shape	Butted (2.0-1.5-2.0)/Round	Butted (2.0-1.5-2.0)/Round	Butted (2.0-1.5-2.0)/Round	Straight(2.0-1.8-2.0)/Round	Straight(2.0-1.8-2.0)/Round	Straight(2.0-1.8-2.0)/Round
	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Color	Black	Black	Black	Black	Black	Black
Nipple	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Color	Black	Black	Black	Black	Black	Black
Spoke Protector (Option)		-	-	CP-WH14A/15	-	CP-WH14A/15	CP-WH14A/15
Reflector (Option)		CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)			CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)		
Note		Recommended Tire width:1.50-2.25			Recommended Tire width:1.95-2.50		



## Wheel Specifications (MTB)

Model No.		WH-MT75-F (front)	WH-MT75-R (rear)	WH-MT65-F15 (front)	WH-MT65-F (front)	WH-MT65-R (rear)
Freehub Body	Speeds	-	8/9/10	-	-	8/9/10
	11T Compatible	-	X	-	-	X
	Quick Engagement	-	X (36/360)	-	-	X (32/360)
	Material	-	Steel	-	-	Steel
O.L.D. (mm)		100	135	100	100	135
Hub Axle	QR	X	X	N/A (15mm thru axle)	X	X
	Length (mm)	108	146	-	108	146
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized
	Seal	Contact	Contact	Contact	Contact	Contact
	Center Lock Rotor Mount	X	X	X	X	X
	6 bolts Rotor Mount	-	-	-	X	X
	QR Lever	Material	Aluminum	Aluminum	-	Aluminum
	Finish	Anodized	Anodized	-	Anodized	Anodized
	QR Skewer Length (mm)	133	168	-	133	168
Rim	Type	UST	UST	UST	UST	UST
	Size	622 X 19C (29")	622 X 19C (29")	559 X 19C (26")	559 X 19C (26")	559 X 19C (26")
	Offset rim	-	-	-	-	-
	Welded joint	X	X	X	X	X
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized
	Height/Width (mm)	21/23.3	21/23.3	21/23.3	21/23.3	21/23.3
	Brazed reinforcement	X	X	X	X	X
	Requires rim tape	-	-	-	-	-
	Brake type	Disc	Disc	Disc	Disc	Disc
Spokes	No. of Spokes	24	24	24	24	24
	Gauge/Shape	Butted (2.0-1.8-2.0)/Round	Butted (2.0-1.8-2.0)/Round	Butted (2.0-1.8-2.0)/Round	Butted (2.0-1.8-2.0)/Round	Butted (2.0-1.8-2.0)/Round
	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Color	Black	Black	Black	Black	Black
Nipple	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Color	Red	Red	Silver	Silver	Silver
Spoke Protector (Option)		-	CP-WH14A/15	-	-	CP-WH14A/15
Reflector (Option)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)			CAT EYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)	
Note		Recommended Tire width:1.50-2.25			Recommended Tire width:1.50-2.25	

## Wheel Specifications (MTB)

Model No.		WH-MT55-F15 L/W (front)	WH-MT55-F L/W (front)	WH-MT55-R L/W (rear)	WH-MT15-F L/W (front)	WH-MT15-R L/W (rear)
Freehub Body	Speeds	-	-	8/9/10	-	8/9/10
	11T Compatible	-	-	X	-	X
	Quick Engagement	-	-	X (32/360)	-	X (32/360)
	Material	-	-	Steel	-	Steel
O.L.D. (mm)		100	100	135	100	135
Hub Axle	QR	N/A (15mm thru axle)	X	X	X	X
	Length (mm)	-	108	146	108	146
	Material	Aluminum	Aluminum	Aluminum	Steel	Steel
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Buffed / Shot / Anodized	Shot / Anodized	Shot / Anodized
	Seal	Contact	Contact	Contact	Contact	Contact
	Center Lock Rotor Mount	X	X	X	X	X
	6 bolts Rotor Mount	-	-	-	-	-
	QR Lever	Material	-	Aluminum	Aluminum	Aluminum
	Finish	-	Anodized	Anodized	Anodized	Anodized
	QR Skewer Length (mm)	-	133	168	133	168
Rim	Type	Clincher	Clincher	Clincher	Clincher	Clincher
	Size	559 X 19C (26")	559 X 19C (26")	559 X 19C (26")	559 X 19C (26")	559 X 19C (26")
	Offset rim	-	-	-	-	-
	Welded joint	X	X	X	-	-
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted	Anodized / Painted	Anodized / Painted
	Height/Width (mm)	19/24.6	19/24.6	19/24.6	21/24.6	21/24.6
	Brazed reinforcement	-	-	-	-	-
	Requires rim tape	X	X	X	X	X
Brake type	Disc	Disc	Disc	Disc	Disc	
Spokes	No. of Spokes	24	24	24	28	28
	Gauge/Shape	Butted (2.0)/Round	Butted (2.0)/Round	Butted (2.0)/Round	2.0/J-bent,Bladed	2.0/J-bent,Bladed
	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Color	Black	Black	Black	Black	Black
Nipple	Material	Aluminum	Aluminum	Aluminum	Brass	Brass
	Color	Black	Black	Black	Silver	Silver
Spoke Protector (Option)		-	-	CP-WH14A/15	-	CP-WH12/13
Reflector (Option)		Black / White version, CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)			Black / White version, CATEYE: RR-550-WUW (JIS/CPSC) RR-550-WUA (AS) RR-317-WUA (DIN)	
Note		Recommended Tire width:1.50-2.25			Recommended Tire width:1.50-2.25	

## Wheel Specifications (Road)

Model No.		WH-7900-C35-CL-F	WH-7900-C35-CL-R	WH-7900-C35-TU-F	WH-7900-C35-TU-R	WH-7900-C50-TU (front)	WH-7900-C50-TU (rear)
Freehub Body (*note)	Speeds	-	8/9/10*	-	8/9/10*	-	8/9/10*
	11T Compatible	-	X	-	X	-	X
	Material	-	Titanium	-	Titanium	-	Titanium
O.L.D. (mm)		100	130	100	130	100	130
Hub Axle	Length (mm)	108	141	108	141	108	141
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Hub Shell	Finish	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized
	Seal	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
QR Lever	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
	QR Skewer Length (mm)	133	163/168	133	163/168	133	163/168
	Type	Clincher	Clincher	Tubular	Tubular	Tubular	Tubular
Rim	Size	622 X 15C (700C)	622 X 15C (700C)	700C	700C	700C	700C
	Offset rim	-	-	-	-	-	-
	Welded joint	-	-	-	-	-	-
	Material	CFRP / Aluminum	CFRP / Aluminum	CFRP	CFRP	CFRP	CFRP
	Finish	-	-	-	-	-	-
	Height/Width (mm)	35/20.8	35/20.8	35/20.8	35/20.8	50/20.8	50/20.8
	Brazed reinforcement	-	-	-	-	-	-
	Requires rim tape	X	X	-	-	-	-
	No. of Spokes	16	20	16	20	16	20
Spokes	Shape	Butted(2.0-1.5-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed(FH) Butted(2.0-1.5-2.0)/Bladed	Butted(2.0-1.5-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed(FH) Butted(2.0-1.5-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed
	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Color	Black	Black	Black	Black	Black	Black
Nipple	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Color	Black	Black	Black	Black	Black	Black
Spoke Protector (Option)		-	CP-WH23	-	CP-WH23	-	CP-WH23
Reflector (Option)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)	CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)	CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)	CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)	CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)	
Weight **		1560g/pair		1330g/pair		1469g/pair (Front:642g,Rear:827g)	
Note		-	* Can be used for 10-speed with an additional spacer.	-	* Can be used for 10-speed with an additional spacer.	-	* Can be used for 10-speed with an additional spacer.
		** Weight does not include quick release		** Weight does not include quick release		** Weight does not include quick release	

# Wheel Specifications (Road)

Model No.		WH-7900-C50-CL (front)	WH-7900-C50-CL (rear)	WH-7900-C24-TL (front)	WH-7900-C24-TL (rear)	WH-7850-C24-CL (front)	WH-7900-C24-CL (rear)
Freehub Body (*note)	Speeds	-	8/9/10*	-	8/9/10*	-	8/9/10*
	11T Compatible	-	X	-	X	-	X
	Material	-	Titanium	-	Titanium	-	Titanium
O.L.D. (mm)		100	130	100	130	100	130
Hub Axle	Length (mm)	108	141	108	141	108	141
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Hub Shell	Finish	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized
	Seal	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
QR Lever	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
	QR Skewer Length (mm)	133	163/168	133	163/168	133	163/168
	Type	Clincher	Clincher	Tubeless	Tubeless	Clincher	Clincher
Rim	Size	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C) Tubeless	622 X 15C (700C) Tubeless	622 X 15C (700C)	622 X 15C (700C)
	Offset rim	-	-	-	X	-	X
	Welded joint	X	X	X	X	X	X
	Material	CFRP / Aluminum	CFRP / Aluminum	CFRP / Aluminum	CFRP / Aluminum	CFRP / Aluminum	CFRP / Aluminum
	Finish	-	-	-	-	-	-
	Height/Width (mm)	50/20.8	50/20.8	24/20.8	23/20.8	24/20.8	23/20.8
	Brazed reinforcement	-	-	-	-	-	-
	Requires rim tape	X	X	-	-	X	X
	No. of Spokes	16	20	16	20	16	20
	Shape	Butted(2.0-1.8-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed	Butted(2.0-1.5-2.0)/Bladed	RH:Butted(2.0-1.8-2.0)/Bladed LH:Butted(2.0-1.5-2.0)/Bladed	Butted(2.0-1.5-2.0)/Bladed	RH:Butted(2.0-1.8-2.0)/Bladed LH:Butted(2.0-1.5-2.0)/Bladed
Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	
Color	Black	Black	Black	Black	Black	Black	
Nipple	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Color	Black	Black	Black	Black	Black	Black
Spoke Protector (Option)		-	CP-WH23	-	CP-WH23	-	CP-WH23
Reflector (Option)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)	
Weight **		1695g/pair (Front:755g,Rear:940g)		1420g/pair		1386g/pair (Front:592g,Rear:794g)	
Note		-	* Can be used for 10-speed with an additional spacer.	-	* Can be used for 10-speed with an additional spacer.	-	* Can be used for 10-speed with an additional spacer.
		Recommended Tire width 19-25C		Recommended Tire width 19-25C		Recommended Tire width 19-25C	
		** Weight does not include quick release		** Weight does not include quick release or valve stem		** Weight does not include quick release or rim tape	

# Wheel Specifications (Road)

Model No.		WH-RS80-C50 (front)	WH-RS80-C50 (rear)	WH-RS80-A-C24 (front)	WH-RS80-A-C24 (rear)	WH-6700 (front)	WH-6700 (rear)
Freehub Body (*note)	Speeds	-	8/9/10*	-	8/9/10*	-	8/9/10*
	11T Compatible	-	X	-	X	-	X
	Material	-	Steel	-	Steel	-	Steel
O.L.D. (mm)		100	130	100	130	100	130
Hub Axle	Length (mm)	108	141	108	141	108	141
	Material	Steel	Steel	Steel	Steel	Aluminum	Aluminum
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Hub Shell	Finish	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized	Buffed / Anodized
	Seal	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
QR Lever	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
	QR Skewer Length (mm)	133	163/168	133	163/168	133	163/168
	Type	Clincher	Clincher	Clincher	Clincher	Tubeless	Tubeless
Rim	Size	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C) Tubeless	622 X 15C (700C) Tubeless
	Offset rim	-	-	-	X	-	X
	Welded joint	X	X	X	X	X	X
	Material	CFRP / Aluminum	CFRP / Aluminum	CFRP / Aluminum	CFRP / Aluminum	Aluminum	Aluminum
	Finish	-	-	-	-	Anodized	Anodized
	Height/Width (mm)	50/20.8	50/20.8	24/20.8	23/20.8	24/20.8	23/20.8
	Brazed reinforcement	-	-	-	-	X	X
	Requires rim tape	X	X	X	X	-	-
	No. of Spokes	16	20	16	20	16	20
	Shape	Butted(2.0-1.8-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed	Butted(2.0-1.5-2.0)/Bladed	RH:Butted(2.0-1.8-2.0)/Bladed LH:Butted(2.0-1.5-2.0)/Bladed	2.0-1.5-2.0/ Straight pull,Bladed	RH:2.0-1.8-2.0/ Straight pull,Bladed LH:2.0-1.5-2.0/ Straight pull,Bladed
Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	
Color	Black	Black	Black	Black	Black	Black	
Nipple	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Color	Silver	Silver	Black	Black	Silver	Silver
Spoke Protector (Option)		-	CP-WH23	-	CP-WH23	-	CP-WH23
Reflector (Option)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)	
Weight **		1747g		1495g		1652g/pair (Front:695g,Rear:957g)	
Note	-		* Can be used for 10-speed with an additional spacer.	-		* Can be used for 10-speed with an additional spacer.	Standard color (Black rim)
	Recommended Tire width 19-25C			Recommended Tire width 19-25C			Recommended Tire width 19-25C
	** Weight does not include quick release or rim tape			** Weight does not include quick release or rim tape			** Weight does not include quick release or valve stem

## Wheel Specifications (Road)

Model No.	WH-6700 G (front)	WH-6700 G (rear)	WH-RS30A-F (L / W / S&L)	WH-RS30A-R (L / W / S&L)	WH-RS20A-F (L / W / S)	WH-RS20A-R (L / W / S)	
Freehub Body (*note)	Speeds	-	8/9/10*	-	8/9/10*	-	8/9/10*
	11T Compatible	-	X	-	X	-	X
	Material	-	Steel	-	Steel	-	Steel
Hub Axle	O.L.D. (mm)	100	130	100	130	100	130
	Length (mm)	108	141	108	141	108	141
	Material	Aluminum	Aluminum	Steel	Steel	Steel	Steel
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Buffed / Anodized	Buffed / Anodized	Polish / Anodized	Polish / Anodized	Polish / Anodized	Polish / Anodized
	Seal	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact
QR Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
	QR Skewer Length (mm)	133	163/168	133	163/168	133	163/168
Rim	Type	Tubeless	Tubeless	Clincher	Clincher	Clincher	Clincher
	Size	622 X 15C (700C) Tubeless	622 X 15C (700C) Tubeless	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C)
	Offset rim	-	X	-	X	-	X
	Welded joint	X	X	-	-	-	-
	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	B:Anodized, W:Painting	B:Anodized, W:Painting	B:Anodized, W:Painting	L:Anodized, W:Painting
	Height/Width (mm)	24/20.8	23/20.8	30/20.8	30/20.8	24/20.8	24/20.8
	Brazed reinforcement	X	X	-	-	-	-
	Requires rim tape	-	-	X	X	X	X
	No. of Spokes	16	20	16	20	16	20
Spokes	Shape	2.0-1.5-2.0/ Straight pull,Bladed	RH:2.0-1.8-2.0/ Straight pull,Bladed LH:2.0-1.5-2.0/ Straight pull,Bladed	Butted(2.0-1.8-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed	Butted(2.0-1.8-2.0)/Bladed
	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Color	Black	Black	Black	Black	Black/Silver	Black/Silver
Nipple	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Color	Black	Black	Silver	Silver	Silver	Silver
Spoke Protector (Option)	-	CP-WH23	-	CP-WH23	-	CP-WH23	
Reflector (Option)	CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)		CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)		
Weight **	1652g/pair (Front:695g,Rear:957g)		1962g/pair (Front:846g,Rear:1116g)		1849g/pair (Front:793g,Rear:1055g)		
Note	Glossy Grey	* Can be used for 10-speed with an additional spacer. Glossy Grey		-	* Can be used for 10-speed with an additional spacer.		
	Recommended Tire width 19-25C		Recommended Tire width 19-25C		Recommended Tire width 19-25C		
	** Weight does not include quick release or valve stem		** Weight does not include quick release or rim tape		** Weight does not include quick release or rim tape		

## Wheel Specifications (Road)

Model No.	WH-RS10A-F (L / S)	WH-RS10A-R (L / S)	WH-R501-30-F (S / L)	WH-R501-30-R (S / L)
Freehub Body (*note)	Speeds	-	8/9/10*	-
	11T Compatible	-	X	-
	Material	-	Steel	-
	O.L.D. (mm)	100	130	100
Hub Axle	Length (mm)	108	141	108
	Material	Steel	Steel	Steel
	Material	Aluminum	Aluminum	Aluminum
Hub Shell	Finish	Shot / Anodized	Shot / Anodized	Anodized
	Seal	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact
	Material	Aluminum	Aluminum	Aluminum
QR Lever	Finish	Anodized	Anodized	Barrel
	QR Skewer Length (mm)	133	163/168	133
	Type	Clincher	Clincher	Clincher
Rim	Size	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C)
	Offset rim	-	X	-
	Welded joint	-	-	-
	Material	Aluminum	Aluminum	Aluminum
	Finish	B:Anodized, W:Painting	B:Anodized, W:Painting	Anodized
	Height/Width (mm)	24/20.8	24/20.8	30/20.8
	Brazed reinforcement	-	-	-
	Requires rim tape	X	X	X
	No. of Spokes	16	20	20
	Spokes	Shape	Straight(2.0)/Bladed	Straight(2.0)/Bladed
Material		Stainless Steel	Stainless Steel	Stainless Steel
Color		Black/Silver	Black/Silver	Black
Nipple	Material	Aluminum	Aluminum	Brass
	Color	Silver	Silver	Silver
Spoke Protector (Option)	-	CP-WH23	-	CP-FH06 (21-25T) CP-FH35 (27T)
Reflector (Option)	CAT EYE : RR-550-WUW SW (CPSC/JIS/BS), RR-550-WUA SW (AS), RR-317-WUA SW (DIN)		CATEYE: RR-550-WUW/W SMN03 (JIS/CPSC) RR-550-WUA/A SMN03 (AS) RR-317-WUA/4K SMN03 (DIN)	CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)
Weight **	1892g/pair (Front:811g,Rear:1081g)		1900g/pair (Front:822g,Rear:1078g)	
Note	-		-	-
	*Can be used for 10-speed with an additional spacer.		*Can be used for 10-speed with an additional spacer.	
	Recommended Tire width 19-25C		Recommended Tire width 19-28C	
	** Weight does not include quick release or rim tape		** Weight does not include quick release or rim tape	

## Wheel Specifications (Road)

Model No.	WH-R501-A-F	WH-R501-A-R	WH-R501-F	WH-R501-R	
Freehub Body (*note)	Speeds	-	8/9/10*	-	8/9/10*
	11T Compatible	-	X	-	X
	Material	-	Steel	-	Steel
	O.L.D. (mm)	100	130	100	130
Hub Axle	Length (mm)	108	141	108	141
	Material	Steel	Steel	Steel	Steel
Hub Shell	Material	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized
	Seal	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact	Labyrinth and Contact
QR Lever	Material	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Barrel	Barrel	Barrel	Barrel
	QR Skewer Length (mm)	133	163/168	133	163/168
Rim	Type	Clincher	Clincher	Clincher	Clincher
	Size	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C)	622 X 15C (700C)
	Offset rim	-	-	-	-
	Welded joint	-	-	-	-
	Material	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized	Anodized
	Height/Width (mm)	24/20.8	24/20.8	24/20.8	24/20.8
	Brazed reinforcement	-	-	-	-
	Requires rim tape	X	X	X	X
	No. of Spokes	20	24	20	24
Spokes	Shape	J-bent(2.0)/Bladed	J-bent(2.0)/Bladed	J-bent(2.0)/Round	J-bent(2.0)/Round
	Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
	Color	Black	Black	Black	Black
Nipple	Material	Brass	Brass	Brass	Brass
	Color	Silver	Silver	Silver	Silver
Spoke Protector (Option)	-	CP-FH06 (21-25T) CP-FH35 (27T)	-	CP-FH06 (21-25T) CP-FH35 (27T)	
Reflector (Option)	CATEYE: RR-550-WUW/W SMN03 (JIS/CPSC) RR-550-WUA/A SMN03 (AS) RR-317-WUA/4K SMN03 (DIN)	CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)	CATEYE: RR-550-WUW/W SMN03 (JIS/CPSC) RR-550-WUA/A SMN03 (AS) RR-317-WUA/4K SMN03 (DIN)	CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)	
Weight **	1900g/pair (Front:822g,Rear:1078g)		1900g/pair (Front:822g,Rear:1078g)		
Note	-	*Can be used for 10-speed with an additional spacer.	-	*Can be used for 10-speed with an additional spacer.	
	Recommended Tire width 19-28C		Recommended Tire width 19-28C		
	** Weight does not include quick release or rim tape New Seal system	New Seal system	** Weight does not include quick release or rim tape New Seal system	New Seal system	



## Wheel Specifications (Trekking)

Model No.		WH-T565 (front)	WH-T565 (rear)
Freehub Body	Speeds	-	8/9
	11T Compatible	-	X
	Material	-	Steel
O.L.D. (mm)		100	135
Hub Axle	QR (mm)	133	168
	Length (mm)	108	146
	Material	Steel	Steel
Hub Shell	Material	Aluminum	Aluminum
	Finish	Shot/Anodized	Shot/Anodized
	Seal	Contact	Contact
	Center Lock Rotor Mount	X	X
QR Lever	Material	Aluminum	Aluminum
	Finish	Barrel	Barrel
	QR Skewer Length (mm)	X	X
Rim	Type	Clincher	Clincher
	Size	622 X 19C (28")	622 X 19C (28")
	Material	Aluminum	Aluminum
	Finish	Anodized	Anodized
	Height/Width	22/25.2	22/25.2
	Requires rim tape	X	X
	Brake type	Rim and Disc	Rim and Disc
Spokes	No. of Spokes	24	24
	Length (mm)	298	278/296
	Gauge/Shape	Straight(2.3)/Bladed	RH:Straight (2.0)/Bladed LH:Straight (2.3)/Bladed
	Material	Stainless Steel	Stainless Steel
	Color	Black	Stainless Steel
Nipple	Size (mm)	4.3 (#11)	4.3 (#11)
	Thread	BC 2.3 (#13)	BC 2(#14)/BC2.3(#13)
	Material	Aluminum	Aluminum
	Color	Silver	Silver
Spoke Protector (Option)		-	CP-WH10/WH11
Reflector (Option)		CATEYE: RR-550-WUW SW W/O BRACKET (JIS/CPSC) RR-550-WUA SW W/O BRACKET (AS) RR-317-WUA SW W/O BRACKET (DIN)	
Weight *		1113g	1260g
Note		Recommended Tire width:28-47C * Weight does not include quick release or rim tape	

## Pedal Specifications

Model No.	PD-7900	PD-7810	PD-6700	PD-6700 G	PD-6700 C	PD-5700	PD-R540
Type	Road	Road	Road	Road	Road	Road	Road
SPD-SL	Single Sided	Single Sided	Single Sided	Single Sided	Single Sided	Single Sided	Single Sided
Pedal Axle Material	Nickel Chromoly Steel	Nickel Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel
Cartridge Axle	-	-	X	X	X	X	X
Sealed Mechanism	X	X	X	X	X	X	X
Cleat Retention Adjuster	X	X	X	X	X	X	X
Cleat Included	SM-SH11	SM-SH11	SM-SH11	SM-SH11	SM-SH11	SM-SH11	SM-SH11
Optional Cleat	SM-SH10	SM-SH10	SM-SH10	SM-SH10	SM-SH10	SM-SH10	SM-SH10
Reflector	SM-PD58	SM-PD58	SM-PD58	SM-PD58	SM-PD58	SM-PD58	SM-PD58
Pedal Body	Material	Carbon	Aluminum	Aluminum	Carbon	Aluminum	Aluminum
	Finish	Painted	Polished / Clear coated	Painted	Painted	Painted	Painted
Body Cover Material	Polished Special Stainless	Special Stainless	Polished Special Stainless	Special Stainless	Special Stainless	Stainless	Resin
Wide Platform	X	X	X	X	X	X	-
Road Clearance	35°	35°	34°	34°	34°	34°	34°
Weight(pair)	248g	278g	314g	260g	314g	322g	330g
Note						Silver and Black version available	Silver and Black version available

## Pedal Specifications

Model No.	PD-M985	PD-M980	PD-M785	PD-M780	PD-T780	PD-M647	PD-M530
Type	Off-Road	Off-Road	Off-Road	Off-Road	Trekking	Off-Road/BMX	Off-Road
SPD	Dual Sided	Dual Sided	Dual Sided	Dual Sided	Single Sided	Dual Sided	Dual Sided
Pedal Axle Material	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel
Cartridge Axle	X	X	X	X	X	X	X
Sealed Mechanism	X	X	X	X	X	X	X
Cleat Retention Adjuster	X	X	X	X	X	X	X
Pop-up Cage	-	-	-	-	-	X	-
Integrated cage	X	-	X	-	-	-	X
Offset binding	-	X	-	X	-	-	-
Oval shape axle body housing	X	X	-	-	-	-	-
Cleat Included	SM-SH51	SM-SH51	SM-SH51	SM-SH51	SM-SH56	SM-SH51	SM-SH51
Optional Cleat	SM-SH56	SM-SH56	SM-SH56	SM-SH56	SM-SH51	SM-SH56	SM-SH56
Reflector	SM-PD60	SM-PD60	SM-PD60	SM-PD60	Integrated	SM-PD60	SM-PD60
Pedal Body	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Anodized	Anodized	Anodized	Anodized / Painted
Cage	Material	-	-	-	-	Resin	-
Weight (pair)	398g	310g	408g	343g	392g	568g	455g
Note							Black / White version

## Pedal Specifications

Model No.	PD-MX30	PD-M545	PD-M540	PD-M424	PD-M520	PD-M505	PD-M324	
Type	Off-Road/BMX Flat Pedal	Off-Road/BMX	Off-Road	Off-Road/BMX	Off-Road	Off-Road	Multi-purpose	
SPD	Non-SPD	Dual Sided	Dual Sided	Dual Sided	Dual Sided	Dual Sided	Single Sided	
Pedal Axle Material	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	Chromoly Steel	
Cartridge Axle	X	X	X	X	X	-	-	
Sealed Mechanism	X	X	X	X	X	X	X	
Cleat Retention Adjuster	-	X	X	X	X	X	X	
Pop-up Cage	-	X	-	X	-	-	-	
Integrated cage	-	-	-	-	-	-	-	
Offset binding	-	-	-	-	-	-	-	
Oval shape axle body housing	-	-	-	-	-	-	-	
Cleat Included	-	SM-SH51	SM-SH51	SM-SH51	SM-SH51	SM-SH51	SM-SH56	
Optional Cleat	-	SM-SH56	SM-SH56	SM-SH56	SM-SH56	SM-SH56	SM-SH51	
Reflector	Y41B98010	SM-PD40	SM-PD22	SM-PD40	SM-PD22	SM-PD22	Y41B98010	
Pedal Body	Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Painted	Anodized	Centrifugal Barrel	Barrel	Barrel (silver) /Painted (black) /Painted(white)	Barrel/Painted	Painted
Cage	Material	-	Aluminum	-	Resin	-	-	Steel
Weight (pair)	492g	567g	352g	472g	380g	443g	533g	
Note			Silver / Bronze / White (for OTC) version available		Silver / Black / white version available	For OEM spec. Silver / Black version available		

## Pedal Specifications

Model No.		PD-A600	PD-A530	PD-A520
Type		Sport	Sport / Multi-purpose	Sport
SPD		Single Sided	Single Sided	Single Sided
Pedal Axle Material		Chromoly Steel	Chromoly Steel	Chromoly Steel
Cartridge Axle		X	X	X
Sealed Mechanism		X	X	X
Cleat Retention Adjuster		X	X	X
Pop-up Cage		-	-	-
Integrated cage		-	-	-
Offset binding		-	-	-
Oval shape axle body housing		-	-	-
Cleat Included		SM-SH51	SM-SH51	SM-SH51
Optional Cleat		SM-SH56	SM-SH56	SM-SH56
Reflector		SM-PD62	SM-PD61	SM-PD59
Pedal Body	Material	Aluminum	Aluminum	Aluminum
	Finish	High Finishing /Painted	Painted	High Finishing
Cage	Material	-	-	-
Weight (pair)		286g	383g	315g
Note			Silver / Black version available	

## Cycle Computer (Head Display unit) Specifications

Head Display unit Model No.	SC-7900	
Rear Speeds	10	
Front Speeds	Single/Double/Triple	
4 different wheel size programs	X	
Wheel size range   1300mm-2400mm	X	
Wireless Speed Sensor	X	
Wireless Heart rate chest belt	X	
Mode & Lap switch	Right & Left	
ODO Meter Reset	X	
Auto Start & Auto Stop	X	
Current Speed	X	
Clock	X	
Trip Time	X	
Trip Distance	X	
ODO Meter	X	
Stop Watch	X	
Stop Watch-Trip Distance	-	
Stop Watch-Average Speed	-	
Stop Watch-Maximum Speed	-	
Cadence available	X	
Main Display Cadence	X	
Maximum Speed	X	
Average Speed	X	
Lap Counter	-	
Automatic Lapping	X	
Files in memory	100	
Laps with recall	99	
Calorie consumption	X	
Continuous accurate heart rate (% / bpm)	X	
Maximum heart rate	X	
Average heart rate	X	
Target zones with visual & audible alarm	X	
Altitude, ascent	X	
Inclinometer	X	
Gear Teeth Number (Digital) available	X	
Gear Indicator (Bar) available	X	
Pace Arrow	X	
Low Battery Display	X	
Download Exercise data to PC	X	
Wireless USB adaptor	X	
Planning and Analysis software	X	
For Dura Ace Di2	Battery Indicator	X
	Adjust indicator	X
Note	Compatible Shift lever with ST-7900, ST-7970,ST-7971	

Specifications are subject to change without prior notice.

## Cycle Computer (Head Display unit) Specifications

Head Display unit Model No.	SC-TX30	SC-TX31
7 different wheel size programs (20"-22"-24"-26"-27"-28"-700C)	X	-
ODO Meter Reset	-	-
Front single gear available	-	-
Auto Start & Auto Stop	X	X
Water Resistant (1bar)	X	X
Current Speed	X	-
Clock	X	-
Trip Time	-	-
Trip Distance	-	-
ODO Meter	X	-
Stop Watch	-	-
Back Light (EL)	-	-
Stop Watch-Trip Distance	-	-
Stop Watch-Average Speed	-	-
Stop Watch-Maximum Speed	-	-
Cadence Available	-	-
Main Display Cadence	-	X
Maximum Speed	-	-
Average Speed	-	-
Lap Counter	-	-
Gear Number (Digital) Available	-	-
Gear Teeth Number (Digital) Available	-	-
Gear Ratio Available	-	-
Gear Indicator (Bar) Available	-	-
Pace Arrow	-	-
Low Battery Display	-	-
<b>Note</b>	Use with SM-TX30	Use with SC-TX50/SM-TX50/SM-TX30

Head Display unit Model No.	SC-FT50
Summary Wheel Size Setting (20"-22"-24"-26"-27"-700-23C,25C,28C)	X
Current Time	X
Current Heart Rate	X
Maximum Heart Rate	X
Average Heart Rate	-
Exercise Intensity (Only graphic)	X
Calorie consumption	X
Current Speed	X
Maximum Speed	-
Lap Counter	-
Cyclink Time(Effective Exercise Time)	X
Traveling Time	X
Stop Watch	-
Current Time	X
Trip Distance	X
Stop Watch-Trip Distance	-
Exercise recording	X
Back Light	-
Auto Start & Auto Stop	X
Low Battery Display	X
Cadence Available	-
Gear Number (Digital) Available	-
PC Link (application software)	X
Heart rate curve diagram	X
Speed curve diagram	X
Exercise time diagram	X
Trip Distance diagram	X
Calorie consumption diagram	X
Custom diagraph *	X
Goal Attainment Rate	X
Exercise Adviser	X
Calender	X
ODO Meter	X
ODO Meter Reset	X
Average Speed	X
Setting Function on PC	X
<b>Note</b>	For Japanese market only *User can make diagram to taste up to 20

## Cycle Computer (Harness kit) Specifications

Harness Kit Model No.	SM-SC70	SM-6502	SM-6501-A	SM-6500-RS
Compatible Head Display Unit	SC-6502	SC-6502	SC-6502/6501	SC-6502/6501
Compatible Shift Lever	ST-7801 ST-7803 ST-6600-S ST-6600-G ST-6603-S ST-6603-G ST-5600 ST-R700	ST-7801 ST-7803 ST-6600-S ST-6600-G ST-6603-S ST-6603-G ST-5600 ST-R700	ST-7703 ST-7700-C ST-6510 ST-5510 ST-4400 ST-3300 ST-3304 ST-R600 ST-R500	ST-7703 ST-7700-C ST-6510 ST-5510 ST-4400 ST-3300 ST-3304 ST-R600 ST-R500
Wireless Speed Sensor	X	-*	X	-
Connector Joint	-	-	-	-
Mode & Start/Stop switch	Right & Left	Right & Left	Right & Left	Right & Left
Hands-on-levers Control Capability	X	X	X	X
Cadence	X	X	X	X
Main Display Cadence	X	X	X	X
Gear Teeth Number (Digital)	SC-6502	SC-6502	SC-6501/6502	SC-6501/6502
Gear Indicator (Bar)	X	X	X	X
Note		*1350mm cable length for rear wheel		

Adapter Model No.		SM-C050WCA1	SM-C050WCA2
Clamp band for switch of SC-C052	Clamp band diameter	-	-
	Front fork diameter	18.0-44.0mm	-
Sensor code adapter for front fork	Number of installation cords	2	-
	Number of installation cords	-	2
Sensor code adapter for brake cable	Number of installation cords	-	2



## CI-Deck Specifications

Series	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney	Tourney
Model No.	ID-TX50-6R	ID-TX50-7R	ID-TX50-LN	ID-TX50-L	ID-TX50-LC	SM-TX50	SM-TX30	SM-TX31	SM-TX32
<b>Compatible Shift Lever</b>	SL-RS31/41/43	SB-C055A SL-RS31/41 /41A/43	SB-C055A SL-RS31/41 /41A/43	SB-C055A SL-RS31/41 /41A/43	SL-RS31	-	-	-	-
<b>Front</b>	-	-	Friction	3-speed	-	-	-	-	-
<b>Rear</b>	6-speed SIS	7-speed SIS	-	-	-	-	-	-	-
<b>SL Compatible RD Type</b>	Top normal	Top normal	-	-	-	-	-	-	-
<b>CID Cable</b>	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	-	-	-	-	-
<b>CID Cable Type</b>	TX50	TX50	TX50	TX50	-	-	-	-	-
<b>CID Cable Adjust</b>	X	X	X	X	-	-	-	-	-
<b>Optical Gear Display</b>	<b>Front</b>	-	Friction	3-speed	-	-	-	-	-
	<b>Rear</b>	6-speed	7-speed	-	-	-	-	-	-
<b>Stainless CID Cable</b>	X	X	X	X	-	-	-	-	-
<b>Clamp Band Diameter</b>	<b>22.2mm</b>	-	-	-	-	-	-	-	-
	<b>25.0mm</b>	-	-	-	-	-	-	-	-
	<b>22.2/25.0mm</b>	-	-	-	-	X	X	-	-
<b>C.I.D Upper Cover</b>	<b>Material</b>	Resin	Resin	Resin	Resin	Resin	-	-	-
	<b>Color</b>	Silver	Silver	Silver	Silver	Silver	-	-	-
<b>C.I.D Body</b>	<b>Material</b>	Resin	Resin	Resin	Resin	Resin	-	-	-
	<b>Color</b>	Black	Black	Black	Black	Black	-	-	-
<b>Clamp Band</b>	<b>Material</b>	Resin	Resin	Resin	Resin	Resin	Resin	Resin	-
	<b>Color</b>	Black	Black	Black	Black	Black	-	-	-
<b>Note</b>	Use with SM-TX50/30,SC-TX50	Use with SM-TX50/30,SC-TX50	Use with SM-TX50/30,SC-TX50	Use with SM-TX50/30,SC-TX50	Use with SM-TX50/30,SC-TX50 No gear position & display for front single crankset bicycle.	Bracket for ID-TX50/SC-TX31/SM-TX32	Bracket for ID-TX50/SC-TX30/SC-TX31/SM-TX31/SM-TX32	Cowling Use with SM-TX30.	Analog compass Use with SM-TX50/30, SC-TX50

## Lamp-Battery case Specifications

Lamp		LP-NX40	LP-X200	LP-X100	LP-X101	LP-C050A-ATJ
Auto Light		X	X	X	X	X
Type		6V-2.4W	6V-2.4W	6V-2.4W	6V-2.4W	6V-2.4W
Main lamp		1W Super Bright White LED	1W Super Bright White LED X 2	1W Super Bright White LED	1W Super Bright White LED	Screw type (Xenon)
Sub lamp		-	-	-	-	-
LED flashing function		-	-	-	-	-
Electric Power Input		+ and - ( Tab-on type /Connector type )	+ and - ( Tab-on type /Connector type )	+ and - ( Tab-on type /Connector type )	+ and - ( Tab-on type /Connector type )	+ and -
Lamp body	Material	Resin	Resin	Resin	Resin	Resin
	Finish	Painted	Painted(Silver/White) Material Color(Black/Gray)	Painted(Silver/White) Material Color(Black/Gray)	Painted(Silver/White) Material Color(Black/Gray)	-
Attachment Position		Front fork Light stay	Below Center Bascket	Below Center Bascket	Front fork Light stay	Front fork Light stay
Clamp Band Diameter		-	-	-	-	-
Switch	Auto	X	X	X	X	X
	Manual(ON)	X	X	X	X	X
	Manual(OFF)	-	-	-	-	-
Note		Only for Japanese market /With connection wire cable	Only for Japanese market /With connection wire cable	Only for Japanese market /With connection wire cable	Only for Japanese market /With connection wire cable	Only for Japanese market /With connection wire cable

# Hub-Dynamo Specifications

Series		Deore XT	Deore XT	Non-Series	Alfine	Alfine	Deore LX	SHIMANO
Model No.		DH-T785	DH-T780	DH-T708	DH-S700	DH-S501	DH-T665	DH-1D70
Type		For disc Brake	Regular	For disc Brake	For disc Brake	For disc brake	For disc brake	For disc brake
Center Lock Mount Type		X	-	X	X	X	X	X
Voltage (V)		6	6	6	6	6	6	6
Output (W)		3	3	3	1.5	3	3	1.5
QR type		X	X	-	X	X	X	X
Nut type		-	-	X (SM-AX60)	-	-	-	-
Over Locknut Dim. (mm)		100	100	100	100	100	100	100
Flange Distance (mm)		52.1	60	52.1	54	52.1	52.1	54
Offset (mm)		3.95	0	3.9	3.1	3.8	3.8	3.1
Hole Reference (PCD) (mm)		70	70	70	57	70	70	57
Axle Length (mm)		108	108	135.2 (SM-AX60)	108	108	108	108
Spoke Size		#14	#14	#14	#14	#14	#14	#14
Seal		Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact
Spoke Hole	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	X	X
	36H	X	X	X	X	X	X	X
Wheel Size	26-28inch	X	X	X	-	X	X	-
	20-28inch	-	-	-	X	-	-	X
	16-28inch	-	-	-	-	-	-	-
	20-24inch	-	-	-	-	-	-	-
	24-28inch	-	-	-	-	-	-	-
	16-20inch	-	-	-	-	-	-	-
	Compatible wheel size (mm)	646-716	646-716	646-716	492-716	646-716	646-716	492-716
Roller Brake Modulator Grade	More than 26inch	High	-	-	-	-	-	-
		Standard	-	-	-	-	-	-
		20-24inch	-	-	-	-	-	-
Electric power output connector	J1 TYPE	-	-	-	-	-	-	-
	J2 TYPE	-	-	-	-	-	-	-
	E2 TYPE	X	X	X	X	X	X	X
	For ECOVISION type (2 terminal)	-	-	-	-	-	-	-
Finish		Anodized	Anodized	Anodized	Anodized	Anodized	Anodized	Anodized
Color		Silver / Black / Silver Polish version	Silver / Black / Silver Polish version	Anodized	Anodized (Silver / Piano Black)	Anodized (Silver/Black)	Anodized	Anodized (Silver/Black)
Note				8mm E-thru, Shimano logo	Alfine color and logo Please check the domestic regulation of the final destination	Alfine color and logo		Please check the domestic regulation of the final destination

# Hub-Dynamo Specifications

Series		SHIMANO	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Non-Series
Model No.		DH-1N70	DH-3D80	DH-3D72	DH-3D35-QR	DH-3D30-QR	DH-3D30-NT	DH-2D30-QR
Type		Regular	For disc brake	For disc brake	For disc brake	For disc brake	For disc brake	For disc brake
Center Lock Mount Type		-	X	X	X	-	-	-
Voltage (V)		6	6	6	6	6	6	6
Output (W)		1.5	3	3	3	3	3	2.4
QR type		X	X	X	X	X	-	X
Nut type		-	-	-	-	-	X	-
Over Locknut Dim. (mm)		100	100	100	100	100	100	100
Flange Distance (mm)		60	52.1	52.1	51	51.0	51.0	51.0
Offset (mm)		0	3.95	3.8	4	4	4	4
Hole Reference (PCD) (mm)		57	70	70	74	74	74	74
Axle Length (mm)		108	108	108	108	108	140	108
Spoke Size		#14	#14	#14	#14	#14	#14	#14
Seal		Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact
Spoke Hole	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	X	X	X	X	X	-	X
	36H	X	X	X	X	X	X	X
Wheel Size	26-28inch	-	X	X	X	-	-	-
	20-28inch	X	-	-	-	-	-	-
	16-28inch	-	-	-	-	X	X	X
	20-24inch	-	-	-	-	-	-	-
	24-28inch	-	-	-	-	-	-	-
	16-20inch	-	-	-	-	-	-	-
	Compatible wheel size (mm)	492-716	646-716	646-716	646-716	400-716	400-716	400-716
Roller Brake Modulator Grade	More than 26inch							
	High	-	-	-	-	-	-	-
	Standard	-	-	-	-	-	-	-
Electric power output connector	20-24inch	-	-	-	-	-	-	-
	J1 TYPE	-	-	-	-	-	-	-
	J2 TYPE	-	-	-	-	-	-	-
	E2 TYPE	X	X	X	X	X	X	X
	For ECOVISION type (2 terminal)	-	-	-	-	-	-	-
Finish		Anodized	Anodized	Anodized	Painted	Painted	Painted	Painted
Color		Anodized (Silver/Black)	Anodized	Anodized	Silver	Clear / Black	Clear	Clear
Note		Please check the domestic regulation of the final destination						

# Hub-Dynamo Specifications

Series		Non-Series	Non-Series	Non-Series	Non-Series	Non-Series	Deore LX	Deore LX
Model No.		DH-2D30-NT	DH-3N80	DH-2N80E	DH-3N72	DH-2N72	DH-T660-3N	DH-T660-2N
Type		For disc brake	Regular	Regular	Regular	Regular	Regular	Regular
Center Lock Mount Type		-	-	-	-	-	-	-
Voltage (V)		6	6	6	6	6	6	6
Output (W)		2.4	3	2.4	3	2.4	3	2.4
QR type		-	X	X	X	X	X	X
Nut type		X	-	-	-	-	-	-
Over Locknut Dim. (mm)		100	100	100	100	100	100	100
Flange Distance (mm)		51.0	60.0	60.0	60.0	60.0	60.0	60.0
Offset (mm)		4	0	0	0	0	0	0
Hole Reference (PCD) (mm)		74	70	70	70	70	70	70
Axle Length (mm)		140	108	108	108	108	108	108
Spoke Size		#14	#14	#14	#14	#14	#14	#14
Seal		Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact
Spoke Hole	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	-	-
	32H	-	X	X	X	X	X	X
	36H	X	X	X	X	X	X	X
Wheel Size	26-28inch	-	X	X	X	X	X	X
	20-28inch	-	-	-	-	-	-	-
	16-28inch	X	-	-	-	-	-	-
	20-24inch	-	-	-	-	-	-	-
	24-28inch	-	-	-	-	-	-	-
	16-20inch	-	-	-	-	-	-	-
	Compatible wheel size (mm)	400-716	646-716	646-716	646-716	646-716	646-716	646-716
Roller Brake Modulator Grade	More than 26inch	High	-	-	-	-	-	-
		Standard	-	-	-	-	-	-
		20-24inch	-	-	-	-	-	-
Electric power output connector	J1 TYPE	-	-	-	-	-	-	-
	J2 TYPE	-	-	-	-	-	-	-
	E2 TYPE	X	X	X	X	X	X	X
	For ECOVISION type (2 terminal)	-	-	-	-	-	-	-
Finish		Painted	Anodized	Anodized	Anodized/Painted	Anodized	Anodized	Anodized
Color		Clear	Anodized	Anodized	Anodized/Black	Anodized	Anodized	Anodized
Note			Weight : 490g	Weight : 490g			w/ LX logo	w/ LX logo

# Hub-Dynamo Specifications

Series		Non-Series	Non-Series	CAPREO	CAPREO	Non-Series	Non-Series	Non-Series
Model No.		DH-3N20 (NT)	DH-2N35-NT	DH-F703	DH-F702	DH-F703-S	DH-F702-S	DH-3R35(QR)
Type		Regular	Regular	Regular	Regular	Regular	Regular	For hub roller brake
Center Lock Mount Type		-	-	-	-	-	-	-
Voltage (V)		6	6	6	6	6	6	6
Output (W)		3	2.4	3	2.4	3	2.4	3
QR type		-	-	X	X	X	X	X
Nut type		X	X	-	-	-	-	-
Over Locknut Dim. (mm)		100	100	74	74/100	74	74	100
Flange Distance (mm)		60.0	60.0	44.6	44.6	44.6	44.6	58.1
Offset (mm)		1	1	0	0	0	0	4.7
Hole Reference (PCD) (mm)		74	74	74	74	74	74	74
Axle Length (mm)		140	140	82	82	82	82	108
Spoke Size		#14	#14	#14	#14	#14	#14	#14
Seal		Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact
Spoke Hole	24H	-	-	X	X	X	X	-
	28H	X	-	-	-	-	-	-
	32H	X	-	-	-	-	-	-
	36H	X	X	-	-	-	-	X
Wheel Size	26-28inch	-	-	-	-	-	-	X
	20-28inch	-	-	-	-	-	-	-
	16-28inch	X	X	-	-	-	-	-
	20-24inch	-	-	-	-	-	-	-
	24-28inch	-	-	-	-	-	-	-
	16-20inch	-	-	X	X	X	X	-
	Compatible wheel size (mm)	400-716	400-716	400-536	400-536	400-536	400-536	646-716
Roller Brake Modulator Grade	More than 26inch							
	High	-	-	-	-	-	-	X
	Standard	-	-	-	-	-	-	X
Electric power output connector	20-24inch	-	-	-	-	-	-	-
	J1 TYPE	-	-	-	-	-	-	-
	J2 TYPE	-	-	-	-	-	-	-
	E2 TYPE	X	X	X	X	X	X	X
	For ECOVISION type (2 terminal)	-	-	-	-	-	-	-
Finish		Painted	Painted	Anodized	Anodized	Painted	Painted	Painted
Color		Silver / Black version	Silver / Black version	Silver	Silver	Silver	Silver	Silver
Note								

# Hub-Dynamo Specifications

Series		Non-Series	Non-Series	NEXUS	NEXUS	NEXUS	NEXUS	Non-Series
Model No.		DH-3R35(NT)	DH-2R35-E	DH-3NA1	DH-2N35-J	DH-2N30-J	DH-2N30-JC	DH-2N30-JW
Type		For hub roller brake	For hub roller brake	Regular	Regular	Regular	Regular	Regular
Center Lock Mount Type		-	-	-	-	-	-	-
Voltage (V)		6	6	6	6	6	6	6
Output (W)		3	2.4	3	2.4	2.4	2.4	2.4
QR type		-	-	-	-	-	-	-
Nut type		X	X	X	X	X	X	X
Over Locknut Dim. (mm)		100	100	100	93	93	93	100
Flange Distance (mm)		58.1	58.1	60.0	60.0	60.0	60.0	60.0
Offset (mm)		4.7	4.7	0	0	0	0	2.7
Hole Reference (PCD) (mm)		74	74	80	74	74	74	74
Axle Length (mm)		140	140	140	150	150	150	140
Spoke Size		#14	#14	#14	#14	#14	#14	#14
Seal		Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact	Single Contact
Spoke Hole	24H	-	-	-	-	-	-	-
	28H	-	-	-	-	-	X	-
	32H	-	X	-	-	-	-	-
	36H	X	X	X	X	X	-	X
Wheel Size	26-28inch	X	X	X	-	-	-	-
	20-28inch	-	-	-	-	-	-	-
	16-28inch	-	-	-	-	-	-	-
	20-24inch	-	-	-	-	-	X	-
	24-28inch	-	-	-	X	X	-	X
	16-20inch	-	-	-	-	-	-	-
	Compatible wheel size (mm)	646-716	646-716	646-716	24"-28"	24"-28"	20"-24"	24"-28"
Roller Brake Modulator Grade	More than 26inch	High	X	X	-	-	-	-
		Standard	X	X	-	-	-	-
		20-24inch	-	-	-	-	-	-
Electric power output connector	J1 TYPE	-	-	-	-	-	-	-
	J2 TYPE	-	-	-	X	X	X	X
	E2 TYPE	X	X	-	-	-	-	-
	For ECOVISION type (2 terminal)	-	-	X	-	-	-	-
Finish		Painted	Painted	Painted	Painted	Painted	Painted	Painted
Color		Silver	Silver / Black version	Clear	Clear	Clear	Clear	Black
Note				for only ECOVISION AI-3S30	* Japanese market only	* Japanese market only	* Japanese market only	* Japanese market only

## Hub-Dynamo Specifications

Series		Non-Series	NEXUS	NEXUS
Model No.		DH-2N30-JWC	DH-2R30-J	DH-2R30-JC
Type		Regular	For hub roller brake	For hub roller brake
Center Lock Mount Type		-	-	-
Voltage (V)		6	6	6
Output (W)		2.4	2.4	2.4
QR type		-	-	-
Nut type		X	X	X
Over Locknut Dim. (mm)		100	100	100
Flange Distance (mm)		60.0	58.1	58.1
Offset (mm)		2.7	4.8	4.8
Hole Reference (PCD) (mm)		74	74	74
Axle Length (mm)		140	155	155
Spoke Size		#14	#14	#14
Seal		Single Contact	Single Contact	Single Contact
Spoke Hole	24H	-	-	-
	28H	-	-	-
	32H	-	-	-
	36H	X	X	X
Wheel Size	26-28inch	-	-	-
	20-28inch	-	-	-
	16-28inch	-	-	-
	20-24inch	X	-	X
	24-28inch	-	X	-
	16-20inch	-	-	-
	Compatible wheel size (mm)	20"-24"	26"-28"	20"-24"
Roller Brake Modulator Grade	More than 26inch			
	High	-	-	-
	Standard	-	X	X
	20-24inch	-	-	-
Electric power output connector	J1 TYPE	-	-	-
	J2 TYPE	X	X	X
	E2 TYPE	-	-	-
	For ECOVISION type (2 terminal)	-	-	-
Finish		Painted	Painted	Painted
Color		Black	Clear	Clear
Note		* Japanese market only	* Japanese market only	* Japanese market only

Specifications are subject to change without prior notice.

Page 143

Feb. 1, 2011 SHIMANO INC.



# DURA-ACE 7970 Series Specifications

## Rear Derailleur

Series	DURA-ACE	
Model No.	RD-7970	
Pulley Cage	SS	
Speeds	10	
Max. Front Difference	16T	
Total Capacity	32T	
Max. Low Sprocket	27T	
Min. Low Sprocket	21T	
Max. Top Sprocket	12T	
Min. Top Sprocket	11T	
Compatible EW	EW-7970/EW-7972/EW-7973/ EW-7974/EW-7975	
Riveted Adapter Available	-	
Direct Attachment	X	
Fluoric Coated Link Bushing	4	
11T Pulley	X	
Sealed Bearing Guide Pulley	X	
Sealed Bearing Tension Pulley	X	
Bracket Body	Material	Aluminum
	Finish	Anodized
Plate Body	Material	Engineering Composite
	Finish	Painted
Outer Link	Material	Aluminum
	Finish	Anodized
Inner Link	Material	Aluminum
	Finish	Painted
Outer Plate	Material	Carbon
	Finish	Clear Coated
Inner Plate	Material	Carbon
	Finish	Clear Coated
Note		

## Front Derailleur

Series	DURA-ACE	
Model No.	FD-7970-F	
Rear Speeds	10	
Chain Ring	Double	
Link Type	Conventional	
Mount Type	Brazed-On	
Applicable Chainline (mm)	43.5	
Clamp Band Diameter	-	
Top Gear Teeth	50-56T	
Capacity	16T	
Chainstay Angle	61-66 Degrees	
Compatible EW	EW-7970/EW-7972/EW-7973/ EW-7974/EW-7975	
Compatible Adapter	SM-AD79MS *(28.6)/31.8mm)	X
	SM-AD79L (34.9mm)	X
Front Clamp Band	Material	-
	Finish	-
Rear Clamp Band (Base Bracket)	Material	Aluminum
	Finish	Anodized
Outer Link	Material	Engineering Composite
	Finish	Painted
Inner Link	Material	Steel
	Finish	Chrome Plated
Chain Guide	Material	Aluminum
	Finish	Nickel Plated
Note	*W/Multi Clamp Band	

## Shift / Brake Lever

Series	DURA-ACE	
Model No.	ST-7970-R/L	
Lever Type	Dual Control Lever	
Shift Lever Specifications	Front	Double
	Rear	10
	Flight Deck Compatible	X (SC-7900)
Brake Lever Specifications	Reach Adjust	X
	Clamp Band (mm)	23.8 - 24.2
	Super SLR	X
Bracket	Material	Engineering Composite
	Finish	-
Electric button	Material	Engineering Composite
	Finish	-
Lever	Material	Carbon
	Finish	Painted
Note		

## Electric Cable for cockpit area

Series	DURA-ACE	DURA-ACE	DURA-ACE	DURA-ACE
Model No.	SM-EW79A-E	SM-EW79F-E	SM-EW79A-I	SM-EW79F-I
Connector for external spec	2	2	-	-
Connector for internal spec	-	-	4	4
Compatible EW	EW-7970/EW-7972/EW-7973/EW-7974/EW-7975			
Compatible Shift Lever	ST-7970	ST-7970	ST-7971/SW-7971/ST-7970	
Flight deck compatible	-	X (SC-7900)	-	X (SC-7900)
Note				

## Option Switch

Series	DURA-ACE	DURA-ACE	DURA-ACE
Model No.	SW-7970	SW-7971	SW-7972
Lever Type	Satellite switch on handle bar	DH bar switch	Sprinter switch
Compatible EW	EW-7970/EW-7972/EW-7973/EW-7974/EW-7975		
Compatible Shift Lever	ST-7970	ST-7971/ST-7970	ST-7970
Note			

# DURA-ACE 7970 Series Specifications

## Compatible adapter

Series		DURA-ACE	DURA-ACE	DURA-ACE
Model No.		SM-AD79L	SM-AD79M	SM-AD79MS
Front Clamp Band	Material	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized
Rear Clamp Band	Material	Aluminum	Aluminum	Aluminum
	Finish	Anodized	Anodized	Anodized
Clamp Band Diameter	28.6mm			X*
	31.8mm		X	X
	34.9mm	X		
Note		*W/Multi Clamp Band		

## Battery

Series	DURA-ACE	DURA-ACE
Model No.	SM-BTR1-A	SM-BTR1-B
Compatible charger	SM-BCR1	SM-BCR1
Type	With recycle marks	Without recycle mark
Note		

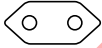





## Battery charger

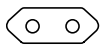





Series	DURA-ACE
Model No.	SM-BCR1
Compatible battery	SM-BTR1
Power supply cable	SM-BCC1
Note	

## Cord cover

Series	DURA-ACE
Model No.	SM-EWC1
Compatible EW	EW-7970/EW-7972/EW-7973/EW-7974/EW-7975
Color	Black/White/Gray
Note	

## Power supply cable

Type No.	1	2	3	4	5	6
Model No.	SM-BCC1-1	SM-BCC1-2	SM-BCC1-3	SM-BCC1-4	SM-BCC1-5	SM-BCC1-6
Rated power input (V)	220	120	100	240	220	240
Power supply outlet shape						
Typical example country/region	Europe	USA Canada	Japan	Australia New Zealand	China	U.K
Cable Length (m)	1	2	1	1	1	1

Type No.	7	8	9	10	11	12
Model No.	SM-BCC1-7	SM-BCC1-8	SM-BCC1-9	SM-BCC1-10	SM-BCC1-11	SM-BCC1-12
Rated power input (V)	220	110	220/230	220	230	127/220
Power supply outlet shape						
Typical example country/region	Korean	Taiwan	South-Africa	Argentina	Israel	Brazil
Cable Length (m)	1	1	1	1	1	1

# ULTEGRA 6770 Series Specifications

## Rear Derailleur

Series	ULTEGRA	
Model No.	RD-6770	
Pulley Cage	SS	
Speeds	10	
Max Front Difference	16T	
Total Capacity	33T	
Max. Low Sprocket	28T	
Min. Low Sprocket	23T	
Max. Top Sprocket	12T	
Min. Top Sprocket	11T	
Compatible EW	EW-7970/EW-7972/EW-7973/ EW-7974/EW-7975	
Riveted Adapter Available	-	
Direct Attachment	X	
Fluoric Coated Link Bushing	4	
11T Pulley	X	
Sealed Bearing Guide Pulley	-	
Sealed Bearing Tension Pulley	X	
Bracket Body	Material	Aluminum
	Finish	Painted
Plate Body	Material	Engineering Plastic
	Finish	Painted
Outer Link	Material	Aluminum
	Finish	Painted
Inner Link	Material	Steel
	Finish	Painted
Outer Plate	Material	Aluminum
	Finish	Anodized
Inner Plate	Material	Aluminum
	Finish	Anodized
Note		

## Front Derailleur

Series	ULTEGRA	
Model No.	FD-6770-F	
Rear Speeds	10	
Chain Ring	Double	
Link Type	Conventional	
Mount Type	Brazed-On	
Applicable Chain line (mm)	43.5	
Clamp Band Diameter	-	
Top Gear Teeth	50-56T	
Capacity	16T	
Chainstay Angle	61-66 Degrees	
Compatible EW	EW-7970/EW-7972/EW-7973/ EW-7974/EW-7975	
Compatible Adapter	SM-AD67MS *(28.6)/31.8mm)	X
	SM-AD67L (34.9mm)	X
Front Clamp Band	Material	-
	Finish	-
Rear Clamp Band (Base Bracket)	Material	Aluminum
	Finish	Painted
Outer Link	Material	Aluminum
	Finish	Painted
Inner Link	Material	Steel
	Finish	Plated
Chain Guide	Material	Steel
	Finish	Plated
Note	*w/Multi Clamp Band	

## Shift / Brake Lever

Series	ULTEGRA	
Model No.	ST-6770-R/L	
Lever Type	Dual Control Lever	
Shift Lever Specifications	Front	Double
	Rear	10
Brake Lever Specifications	Flight Deck Compatible	-
	Reach Adjust	X
	Clamp Band (mm)	23.8 - 24.2
Bracket	Super SLR	X
	Material	Engineering Plastic
Electric button	Finish	-
	Material	Engineering Plastic
Lever	Material	Aluminium
	Finish	Painted
Note		

## Electric Cable for cockpit area

Series	ULTEGRA
Model No.	SM-EW67-A-E
Connector for external spec	2
Connector for internal spec	-
Compatible EW	EW-SD50
Compatible Shift Lever	ST-6770
Flight deck compatible	-
Note	

## Option Switch

Series	SHIMANO
Model No.	SW-R600
Lever Type	Satellite switch on handle bar
Compatible EW	EW-SD50
Compatible Shift Lever	ST-6770
Note	

# ULTEGRA 6770 Series Specifications

## Compatible adapter for FD-6770

Series		SHIMANO	SHIMANO	SHIMANO
Model No.		SM-AD67-L	SM-AD67-M	SM-AD67-MS
Front Clamp Band	Material	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted
Rear Clamp Band	Material	Aluminum	Aluminum	Aluminum
	Finish	Painted	Painted	Painted
Clamp band diameter	28.6mm			(X)*
	31.8mm		X	X
	34.9mm	X		
Note				*W/Multi Clamp Band

## Battery

Series	SHIMANO	SHIMANO
Model No.	SM-BTR1-67 type1	SM-BTR1-67 type2
Compatible charger	SM-BCR1	SM-BCR1
Type	With recycle mark	Without recycle mark
Note		

## Cord cover

Series	SHIMANO
Model No.	SM-EWC2
Compatible EW	EW-SD50
Color	Black/White
Note	

## BT Mount

Series	SHIMANO	SHIMANO	SHIMANO
Model No.	SM-BMR1-L	SM-BMR1-S	SM-BMR1-I
Specification	Long size battery mount	Short size battery mount	Long size battery mount
Battery wire routing	External	External/Internal	Internal
Compatible EW	EW-SD50	EW-SD50	EW-SD50
Note			

## Junction

Series	SHIMANO	SHIMANO
Model No.	SM-JC40	SM-JC41
Specification	4 connectors type of junction	4 connectors type of junction
Note	For External spec (fixed on frame with screw)	For built-in type

## Grommet

Series	SHIMANO	SHIMANO
Model No.	SM-GM01	SM-GM02
EW	EW-SD50	EW-SD50
Hole dimension on frame	6 mm circle	7 x 8 mm
Note		To use the frame for 7970 commonly

# Capreo Specifications

## RD

Model No.	RD-F800	RD-F800	
<b>Pulley Cage</b>	SS	GS	
<b>Speeds</b>	9	9	
<b>Rapid-Rise Rear Derailleur</b>	-	-	
<b>Total Capacity</b>	17T	17T	
<b>Max. Rear Sprocket</b>	26T	26T	
<b>Min. Rear Sprocket</b>	9T	9T	
<b>Riveted Adapter Available</b>	<b>Road type</b>	-	-
	<b>Bmx-Track type</b>	-	-
<b>Direct Attachment</b>	X	X	
<b>Detachable Bracket</b>	-	-	
<b>Wheel-Type Cable Guide</b>	-	-	
<b>Fluoric Coated Link Bushings</b>	3	3	
<b>Parallelogram Spring Adjuster</b>	-	-	
<b>Sealed Bearing Guide Pulley</b>	-	-	
<b>Sealed Bearing Tension Pulley</b>	-	-	
<b>11T Pulley</b>	X	X	
<b>Pulley Bolt Holder</b>	-	-	
<b>Bracket Body</b>	<b>Material</b>	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted
<b>Plate Body</b>	<b>Material</b>	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted
<b>Outer Link</b>	<b>Material</b>	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted
<b>Inner Link</b>	<b>Material</b>	Steel	Steel
	<b>Finish</b>	Painted	Painted
<b>Outer Plate</b>	<b>Material</b>	Aluminum	Steel
	<b>Finish</b>	Painted	Painted
<b>Inner Plate</b>	<b>Material</b>	Aluminum	Aluminum
	<b>Finish</b>	Painted	Painted
<b>Removable Rubber Bumper</b>	-	-	
<b>Note</b>	SHIMANO SHADOW RD		

## CS

Model No.	CS-HG70-S	
<b>Type</b>	HG Cassette Sprocket	
<b>Combination</b>	<b>Speed</b>	9
	9	26
	8	23
	7	20
	6	17
	5	15
	4	13
	3	11
	2	10
1	9	
<b>Group</b>	bc	
<b>Chain</b>	Super Narrow HG for 9-speed	
<b>Spider Arm</b>	-	
<b>Lock Ring</b>	Steel	
<b>Steel Cog</b>	X	
<b>Ti Cog</b>	-	
<b>Finish</b>	Sn-Co Plating	
<b>Note</b>	Only for FH-F700	

## SL

Model No.	SL-F800	
<b>Lever type</b>	Rapidfire Plus	
<b>Front</b>	-	
<b>Rear</b>	9-speed SIS	
<b>SL cable adjust</b>	X	
<b>Optical gear display</b>	Above handlebar	
<b>Multi-Bearing Construction</b>	-	
<b>2-Way Release</b>	X	
<b>SL outer casing</b>	SP41 sealed	
<b>Stainless SL cable</b>	X	
<b>Flight Deck w/ Gear Sensor Compatible (Option)</b>	-	
<b>W/ CI-DECK</b>	-	
<b>SL Bracket</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Painted
<b>SL Compatible RD Type</b>	All 9-speed RD	
<b>Note</b>		

## BL

Model No.	BL-F800	
<b>Brake type</b>	V-brake	
<b>Lever size</b>	2 finger	
<b>Brake cable type</b>	T-type	
<b>Power adjuster</b>	-	
<b>Servo-Wave Action</b>	-	
<b>Reach adjust</b>	X	
<b>Cable adjust</b>	X	
<b>Brake lever</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Anodized
<b>Brake bracket</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Painted
<b>Note</b>	with Internal bumper stop	

## BR

Model No.	BR-F800	
<b>Brake type</b>	V-brake	
<b>Link Wire</b>	-	
<b>Reinforced Link</b>	-	
<b>Parallel link</b>	-	
<b>Power Modulator</b>	X (Option)	
<b>Linear Spring</b>	X	
<b>Threaded BR Shoe Post</b>	X	
<b>Brake shoe type</b>	<b>Standard</b>	R55C for F700/F800
	<b>Optional choice</b>	-
<b>Arch size (mm)</b>	107	
<b>Fixing bolt length (mm)</b>	16/25	
<b>Sleeve &amp; Bushing type</b>	X	
<b>Lead Pipe Angle</b>	45/90/135	
<b>Canti lever /V-arm/Caliper</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Painted
<b>Cartridge Shoe Holder</b>	X	
<b>Note</b>		

# Capreo Specifications

## FC

Model No.	FC-F800	
Rear Speeds	9	
Chainring Combination	45T	
Group	-	
Spider or Gear Arm	5-arm	
PCD (mm)	130	
Crank Arm Length (mm)	170	
Chain	Super narrow HG for 9-speed	
Bottom Bracket	BB-UN26	
Axle Length	Chain Line 46	MM110
	Chain Line 48.5	LL113
	Chain Line 50	YL117
	Chain Line 52.5+t	117.5
Fixing Nut Available	-	
Chain Guard	Resin	
Hollowtech Crank Arm	-	
Splined Crank (OCTALINK)	-	
One-key Release	-	
Chain Case Compatible Crank Arm	-	
Crank Arm	Material	Aluminum
	Finish	Painted
Spider Arm	-	
Spider Arm Cover	-	
Chain Ring	Material	Aluminum
	Finish	Anodized
Note		

## HB

Model No.	HB-F700	
Spoke Holes	24H	X
	28H	-
	32H	X
	36H	X
	40/48H	-
Hole PCD (mm)	38	
O.L.D. (mm)	100	
Flange Distance	71.6	
Axle	QR	X
	QR Skewer Length (mm)	133
	Axle Length (mm)	108 (M9)
	Material	Steel
	Nut	-
	Axle Length	-
Seal	X	
Stainless Steel Ball Bearings	-	
Strong Axle	-	
Hub Shell	Material	Aluminum
	Finish	Anodized
CBN (Cubic Boron Nitride)	Cone Races	-
	Cup Races	-
Quick Release Lever	Material	Aluminum
	Finish	Anodized
Radial Lacing	X	
Note		

## FH

Model No.	FH-F700	
Compatible CS type	Only CS-HG70-S	
Compatible wheel size	Only 16-20inch	
Spoke Holes	24H	X
	28H	-
	32H	X
	36H	X
	40/48H	-
Hole PCD (mm)	45	
Freehub Body	Speeds	9
	11T compatible	9T
	Roller Clutch	-
	Material	Steel
O.L.D. (mm)	130	Option
	135	X
	Others	-
Flange Distance	60.3	
Dish	8.3	
Axle	QR	X
	QR Skewer Length (mm)	168
	Length (mm)	146 (M10)
	Nut	-
	Length	-
	Material	Steel
Seal	Hub	X
	Freewheel	-
Hub Shell	Material	Aluminum
	Finish	Anodized
Quick Release Lever	Material	Aluminum
	Finish	Anodized
CBN (Cubic Boron Nitride)	Cone Races	-
	Cup Races	-
Stainless Steel Ball Bearings	-	
Thread for Drum Brake (BC1.37X24)	-	
Note		

# Alfine Specifications

## SG

Model No.	SG-S700	SG-S501	
Speeds	11	8	
Color variation	Silver / Black	Silver / Black	
Silent Clutch	X	X	
Gear Change Support Mechanism	X	X	
Shifting Power Modulator	X	X	
Driving Efficiency	HIGH	HIGH	
Brake	BR-S501	BR-S501	
	Shimano Center Lock type	Shimano Center Lock type	
Over Locknut Dim. /OLD (mm)	135	135	
Axle Length (mm)	187	187	
Gear Ratio	Total	409%	307%
	1	0.527	0.527
	2	0.681	0.644
	3	0.770	0.748
	4	0.878	0.851
	5	0.995	1
	6	1.134	1.223
	7	1.292	1.419
	8	1.462	1.615
	9	1.667	-
	10	1.888	-
11	2.153	-	
Hub Shell Material	Aluminum	Aluminum	
Finish	Anodized	Anodized	
Weight	1665g	1680g	
Spoke Hole	36/32H	36/32H	
Spoke Size	#13 / #14	#13 / #14	
Flange Distance (mm)	57.3	57.3	
Spoke Hole PCD (mm)	92.6	92.6	
Flange Diameter (mm)	104.3	104.3	
Flange Width (mm)	3.2	3.2	
Sprocket Teeth	CT-S500 use	18T,20T(CS-S500)	18T,20T(CS-S500)
	Inward Assembling	20,21,22,23T	18,19,20,21,22,23T
	Outward Assembling	18,20,21,22,23T	16,18,19,20,21,22,23T
Sprocket Thickness (mm)	2 ( CS-S500 )	2 ( CS-S500 )	
	2.3 ( SM-GEAR )	2.3 ( SM-GEAR )	
Chain Size	Super Narrow HG for 9-speed for CS-S500 use	Super Narrow HG for 9-speed for CS-S500 use	
	HG for SM-GEAR	HG for SM-GEAR	
Recommended Chain	CN-HG53 / CN-S500	CN-HG53 / CN-S500	
Chain Line (mm)	41.8	41.8	
Dishing Distance (mm)	3.15	3.15	
Shifting Lever	SL-S700	SL-S500(ST,SL,SB-8S20)	
Cassette Joint	CJ-S700	CJ-8S20/CJ-8S40	
Note			

## CT

Model No.	CT-S500	CT-S510
Color Variation	Silver/ Black	Silver&Black (1kind)
Speeds	Single	Single
Compatible CS	CS-S500	CS-S500 / SM-GEAR
Max Front Difference	16T	-
Max.Rear Sprocket	20T(CS-S500)	23T(SM-GEAR)
Min.Rear Sprocket	18T( CS-S500 )	16T ( SM-GEAR )
Dropout	Vertical drop end type	Vertical drop end type
Direct Attachment	-	-
Structure	Double pulley	Single pulley
	Material	Aluminum
Finish	Painted	Painted
Note		

## CS

Model No.	CS-S500
Chain drop protection	X
Gear Teeth	18T,20T
Chain	Super Narrow HG for 9s
Assembling way with SG	same as Inter-8
Finish	Ni-plated
Note	

## SL

Model No.	SL-S700	SL-S500
Color Variation	Silver / Black	Silver / Black
Lever type	Rapidfire Plus	Rapidfire plus
Front	*	*
	Rear	11S(Inter-11 pitch)
Multi Release	X	-
Instant Release	X	-
2-Way Release	X	-
Top-Normal	X	-
SL cable adjust	X	X
Optical gear display	Above handlebar	Above handlebar
Multi-Bearing Construction	-	-
SL Outer Casing	SP41 sealed	SP41 sealed
Stainless SL Cable	X	X
Flight Deck w/ Gear Sensor Compatible(Optional)	-	-
W/ CI-DECK	-	-
SL Bracket	Material	Aluminum
	Finish	Painted
SL Compatible SG Type	SG-S700	SG-S501,INTER-8
Note		

# Alfine Specifications

## BL

<b>Model No.</b>	<b>BL-S700</b>	
<b>Color Variation</b>	Silver / Black	
<b>Brake Type</b>	Hydraulic Disc-brake	
<b>Recommended Brake Caliper</b>	BR-S700	
<b>Oil</b>	Mineral	
<b>Master Cylinder</b>	X	
<b>Finger</b>	3 finger	
<b>Brake Lever</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Anodized
<b>Brake Bracket</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Painted
<b>Brake Hose</b>	SM-BH90-SB	
<b>Note</b>		

## BR

<b>Model No.</b>	<b>BR-S700</b>	
<b>Color Variation</b>	Silver / Black	
<b>Brake Type</b>	Disc-brake	
<b>Recommended Brake Lever</b>	BL-S700	
<b>Recommended Brake Rotor</b>	SM-RT81	
<b>Hydraulic or Mechanical</b>	Hydraulic	
<b>Oil</b>	Shimano Mineral	
<b>Mount Type</b>	International standard Post-type	
<b>Piston</b>	<b>Opposed 4-piston</b>	-
	<b>Opposed 2-piston</b>	X
	<b>Different Piston Size</b>	-
	<b>1-piston</b>	-
<b>Caliper</b>	<b>Material</b>	Aluminum
	<b>Finish</b>	Painted
<b>PAD</b>	<b>Standard</b>	G01A Resin
	<b>Option</b>	F01A Resin
<b>Hose</b>	SM-BH90-SB	
<b>Note</b>		

## FC

<b>Model No.</b>	<b>FC-S500</b>		<b>FC-S400</b>	
<b>Color Variation</b>	Silver / Black		Silver	
<b>Chain Ring Teeth</b>	45T/39T		45T/39T	
<b>Chain guard type</b>	Double	Single	Double	Single
<b>Chain line</b>	49.2mm	42.7mm	49.2mm	42.7mm
<b>Chain Type</b>	Super Narrow HG for 9-speed for CS-S500 use HG ( for SM-GEAR use )		Super Narrow HG for 9-speed for CS-S500 use HG ( for SM-GEAR use )	
<b>Crank Length</b>	170mm		170mm	
<b>BB axle length</b>	-		126	118
<b>2-piece solid crank construction</b>	X		-	
<b>OCTALINK technology</b>	-		X	
<b>Bottom Bracket</b>	Included SM-FC4500		BB-ES25	
<b>Chain Ring</b>	<b>Material</b>	Aluminum	Aluminum	
	<b>Finish</b>	Anodized	Anodized	
<b>Crank Arm</b>	<b>Material</b>	Aluminum	Aluminum	
	<b>Finish</b>	Anodized	Painted	
<b>Note</b>				



## Inter-8 Specifications

Function Name	Inter-8				
Model No.	SG-8R31	SG-8R36	SG-8R31-VS	SG-8R36-VS	SG-8C31
Speeds	8				8
Silent Clutch	X				X
Gear Change Support Mechanism	X				X
Shifting Power Modulator	X				X
Driving Efficiency	Standard	HIGH	Standard	HIGH	Standard
w/ Left hand dust cap	- ( Inter-M )	- ( Inter-M )	X	X	-
Brake	Inter-M BR-IM45/55/80/81-R		V-Brake		Coaster
Over Locknut Dim. /OLD (mm)	132				132.3
Axle Length (mm)	184				184
Gear Ratio	Total	307%			307%
	1	0.527			0.527
	2	0.644			0.644
	3	0.748			0.748
	4	0.851			0.851
	5	1			1
	6	1.223			1.223
	7	1.419			1.419
8	1.615			1.615	
Hub Shell Material	Aluminum				Aluminum
Finish	Painted				Painted
Weight	1750g	1630g	1775g	1655g	2040g
Spoke Hole	36/32H	36H	36/28H	36H	36H
Spoke Size	#13 / #14				#13 / #14
Flange Distance (mm)	58.3				58.3
Spoke Hole PCD (mm)	92.6				92.6
Flange Diameter (mm)	105.2				105.2
Flange Width (mm)	3.2				3.2
Sprocket Teeth	16T,18T,19T,20T,21T,22T,23T				16T,18T,19T,20T,21T,22T,23T
Sprocket Thickness (mm)	2.3				2.3
Chain Size	1/2"x1/8" or 1/2"x3/32" *				1/2"x1/8" or 1/2"x3/32" *
Shimano Recommended Chain	CN-NX10 ( 1/2"x1/8" )				CN-NX10 ( 1/2"x1/8" )
Chain Line (mm) 16-23T	42.7/47.7				42.85/47.85
Dishing Distance (mm)	2.7				2.55
Shifting Lever/Al	SB-8S20/ST-8S20/SL-8S20 (SL-S500)				SB-8S20/ST-8S20/SL-8S20 (SL-S500)
Cassette Joint / Motor Unit	CJ-8S20/CJ-8S40				CJ-8S20/CJ-8S40
Note	* CN spec: 1/2"x3/32" is not available from shimano. In case of tensioner use, we recommend 1/2"x3/32" to prevent noise problem				

## Inter-7 Specifications

Function Name	Inter-7		
Model No.	SG-7R50	SG-7C30	
Speeds	7		
Silent Clutch	-		
Gear Change Support Mechanism	-		
Shifting Power Modulator	-		
Brake	Inter-M		Coaster
	BR-IM45/55/80/81-R		
Over Locknut Dim. / OLD (mm)	130	130	127
Axle Length (mm)	182	201	175.5
Gear Ratio	Total	244%	
	1	0.632	
	2	0.741	
	3	0.843	
	4	0.989	
	5	1.145	
	6	1.335	
	7	1.545	
Hub Shell Material	Aluminum		Steel
Corrosion Resistant Finish	X	X	X
Weight	1465g		1860g
Spoke Hole	36H / 32H		36H
Spoke Size	#13 / #14		
Flange Distance (mm)	54.6		56.2
Spoke Hole PCD (mm)	87		83.5
Flange Diameter (mm)	99.6		92.5
Flange Width (mm)	3.2		2.7
Sprocket Teeth	16T,18T,19T,20T,21T,22T,23T		
Sprocket Thickness (mm)	2.3		
Chain Size	1/2"x1/8" or 1/2"x3/32" *		
Recommended Chain	CN-NX10 (1/2"x1/8")		
Chain Line(mm)	16T	45.3	46.5
	18-23T	40.3 / 45.3	41.5 / 46.5
Dishing Distance (mm)	3.85		4.6
Shifting Lever	SB-7S45,SL-7S20,SL-7S30		
Cassette Joint	CJ-NX10/CJ-NX40		
Note	* CN spec:1/2"x3/32" is not available from shimano. In case of tensioner use, we recommend 1/2"x3/32" to prevent noise problem		

## Inter-3 Specifications

Function Name	Inter-3				
Model No.	SG-3R40		SG-3C41		SG-3D55
Speeds	3		3		3
Silent Clutch	-		-		X
Gear Change Support Mechanism	X		X		X
Shifting Power Modulator	X		X		X
Super Light Shifting	X		X		X
Brake	Inter-M		Coaster		Disc Brake
	BR-IM45-R/ BR-IM31-R				
Over Locknut Dim. / OLD (mm)	120.4/120.4	126.8	120/120	127.4	135
Axle Length (mm)	170.3/189.4	176.8	168/178	175	192.6
Gear Ratio	Total	186%	186%		186%
	1	0.733	0.733		0.733
	2	1.000	1.000		1.000
	3	1.360	1.360		1.360
Hub Shell Material	Steel		Steel		Aluminum
Corrosion Resistant Finish	X		X		Clear/Black
Weight	885g		1120g		945g
Spoke Hole	36H / 32H / 28H		36H / 28H		36H / 32H
Spoke Size	#13 / #14		#13 / #14		#13 / #14
Flange Dist. (mm)	53	53	57.5	57.5	53.5
Spoke Hole P.C.D (mm)	74	74	59	59	65
Flange Diameter (mm)	84	84	67.5	67.5	77.6
Flange width (mm)	2.3		2.3		3.2
Sprocket Teeth	15T, 16T, 18T, 19T, 20T, 21T, 22T, 23T		15T, 16T, 18T, 19T, 20T, 21T, 22T, 23T		*
Sprocket Thickness (mm)	2.3		2.3		2.0 (for CS-S500) /2.3 (for SMGEAR)
Chain Size	1/2"x1/8" or 1/2"x3/32"		1/2"x1/8" or 1/2"x3/32"		1/2"x1/8" or 1/2"x3/32" /HG
Recommended Chain	CN-NX10( 1/2"x1/8" )		CN-NX10( 1/2"x1/8" )		CN-NX10( 1/2"x1/8" ) / CN-HG40
Chain Line(mm)	15T	42.2	40.5	43.7	42.2
	16T	-/44.7	-/43	-/46.2	-/44.7
	18-23T	39.7/44.7	38/43	41.2/46.2	39.7/44.7
	CS-S500	-	-	-	-
Dishing Distance (mm)	0.8	2.5	1.2	2.7	1.67
Shifting Lever	SL-3S35E, SL-3S41E, SL-3S42E		SL-3S35E, SL-3S41E, SL-3S42E		SL-3S35E,SL-3S41E,SL-3S42E
Cassette Joint	BELL CRANK 6		BELL CRANK 6		BELL CRANK 6
Note					*15T, 16T, 18T, 19T, 20T, 21T, 22T, 23T(SMGEAR for w/o tensioner use) / 18T, 20T (CS-S500) for tensioner use **16T-23T Chain Line(mm) : 42/47

## SB/SL/ST Specifications

Function Name	Inter-S										
	Model No.	SL-8S20-A	SL-8S20-STD	SB-8S20	ST-8S20	SL-S500	SB-7S45	SL-7S30	SL-7S20	SL-3S42E	SL-3S41E
Speeds	8	8	8	8	8	8	7	7	7	3	3
Shifter Type	Revo	Revo	Revo	Tap fire	Rapid fire plus	Revo	Revo	Revo	Revo	Revo	Revo
Optical Gear Display	Window	Window	Window	Dial	Window	Dial	Window	Window	Window	Window	Window
Max Number of Shift	7	7	7	1	1	6	6	6	6	2	2
LED positioning light	-	-	-	-	-	-	-	-	-	-	-
Brake Lever Integrated	-	-	X	X	-	X	-	-	-	-	-
Brake Lever Size	-	-	4 Finger	3 Finger	-	3 Finger	-	-	-	-	-
Left Hand Brake Lever	-	-	BL-IM60	BL-IM65	-	BL-IM45	-	-	-	-	-
Clamping Diameter	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm
Inner Cable Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
SL Outer Cable Cap	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed
Note										Grip width : Long	Grip width : Short

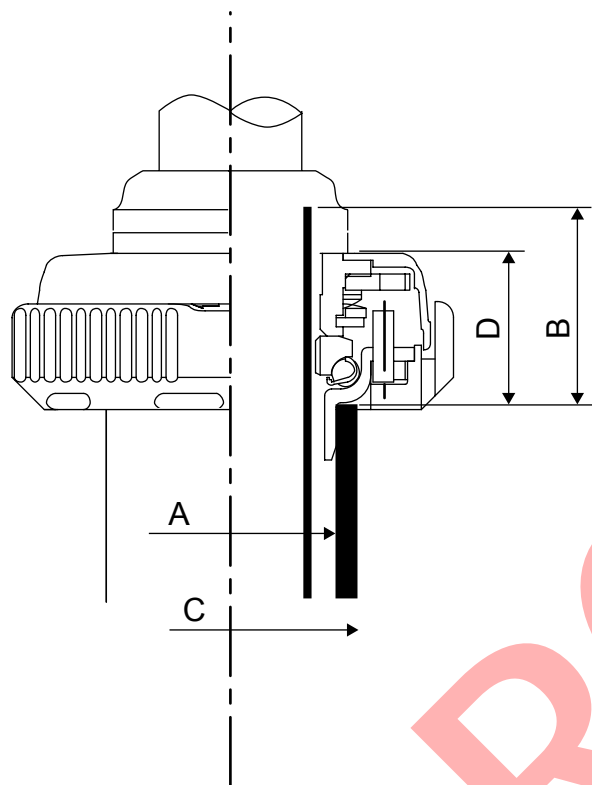
## SB/SL/ST Specifications

Function Name	Inter-S									
	Model No.	SL-3S35E	SL-3S42J	SL-3S43J	SL-3S44J	SL-3S90	SL-3S91J	SL-3S92J	SL-3S60	SM-3S60
Speeds	3	3	3	3	3	3	3	3	3	-
Shifter Type	Revo	Revo	Revo	Revo	Piano-touch	Piano-touch	Piano-touch	Piano-touch	Revo	-
Optical Gear Display	Dial	Window	Window	Window	Dial	Dial	Dial	Window type with O.G.D light	-	-
Max Number of Shift	2	2	2	2	2	2	2	2	2	-
LED positioning light	-	-	-	-	-	-	-	-	X	X
Brake Lever Integrated	-	-	-	-	-	-	-	-	-	-
Brake Lever Size	-	-	-	-	-	-	-	-	-	-
Left Hand Brake Lever	-	-	-	-	-	-	-	-	-	-
Clamping Diameter	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm	22.2mm
Inner Cable Material	Stainless Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	-
SL Outer Cable Cap	Sealed	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	-
Note		* Japanese market only	* Japanese market only	* Japanese market only	* Japanese market only	* Japanese market only	* Japanese market only	* Japanese market only	* Japanese market only	*L/H position light / Japanese market only

## Front Chainwheel Specifications

Function Name		Inter-C
Model No.		FC-NX75
Chain Ring Teeth		33T      38T
Chain Line (mm)		44±1+ t
Chain Type		1/2"X3/8" or 1/2"X3/32"
Crank Length (mm)		170
BB	With Chaincase Stay	BB-UN26-K YL117
	Without Chaincase Stay	
Chain Ring	Material	Steel
	Finish	Black
Cover Ring Diameter (mm)		95.5
Crank Arm	Material	Alumium
	Finish	Painted
Note		t : chain case thickness * Both of spec with bolt and spec w/o bolt are available.

## Others. Specifications



<b>Function Name</b>	<b>Nexus Headset</b>
<b>Model No.</b>	<b>HP-NX10</b>
<b>A</b>	ø29.85 - 30.0mm or ø30.01 - 30.2mm
<b>B</b>	30.5 - 31.5mm
<b>Front Fork Stem Thread Size</b>	BC 1" X 24 T.P.I
<b>C</b>	ø38mm( Max. )
<b>D</b>	21.7mm
<b>Head Tube Material</b>	Steel

<b>Function Name</b>	<b>Nexus Chain</b>
<b>Model No.</b>	<b>CN-NX10</b>
<b>Size</b>	1/2x3/8"
<b>Function</b>	Anti corrosion







ARCHIVE

**SHIMANO**