microSHIFT

2017

XCD11

XCD

XLE

MARVO LT

MEZZO





ARSIS11

CENTOS11

CENTOS

R10

R9

R8

microSHIFT
2016-2017

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2016 New Product Information

XCD11 (for 1 x 11s)

XCD 11 is a new group for 1 x 11 setup, compatible with MEGA 40T / 42T cassette & Shimano derailleur system. The group is composed of 3 main components -
Hi-performance Xpress plus shifters.
Active chain holding mechanism, wide capacity rear derailleur.
Precise MEGA cassette, 40T or 42T.



NEW XLE (for 2/3 x 10s)

The new XLE provides an option to get wider gear ratio by replacing a wide capacity rear derailleur & a MEGA cassette (40T or 42T).

Option :
For MEGA 40T / 42T













2016 New Product Information

NEW CENTOS

Compatible with Shimano new Tiagra 4700 series.



Shifters for MTB 11s

SL-M11 CNC thumb shifters.
BS-M11 Bar end mount shifters.
Both shifter are compatible with Shimano MTB 11s derailleur.



Rear derailleurs

An entry level rear derailleur with various options -
Long cage & short cage.
Direct attachment & with bracket for standard/ reversed drop out.



microSHIFT

Cassettes

CS-G110
Cassette for 11 speed (11-40T, 11-42T), CP sprockets, with Al. bracket & Al. lock ring.

CS-H110
Cassette for 11 speed (11-32T, 11-40T, 11-42T), CP sprockets.

CS-G100
Cassette for 10 speed (11-25T, 11-28T, 11-36T, 11-40T, 11-42T), CP sprockets, with Al. bracket & Al. lock ring.

CS-H100
Cassette for 10 speed (11-25T, 11-28T, 11-32T, 11-34T, 11-36T , 11-40T, 11-42T), CP sprockets.

CS-H090
Cassette for 9 speed (11-25T, 12-25T, 11-28T, 11-32T, 11-34T, 11-36T), CP sprockets.

CS-H080
Cassette for 8 speed (12-25T, 11-28T, 11-32T, 12-32T, 11-34T), black sprockets.

Sliding Engagement Technology



5 pieces in one



CS-G100 (11-28T)



CS-H090 (11-32T)



CS-H100 (11-36T)

NEW

CS-H100 (11-40T, 11-42T)
MEGA







NEW

CS-G110 (11-40T, 11-42T)
CS-G100 (11-40T, 11-42T)
MEGA



ROAD



Shift & Go Technology

SB-R4XX series





MIC technology
microSHIFT Independent Control

Independent Shift Levers

- Separate tapers to shift-up (down) with no confusion. No worry of unexpected braking when shifting
- Easy control from multiple directions.

Lineup & Compatibility

	microSHIFT models			Shimano Reference		
	Shifter	Front Derailleur	Rear Derailleur			
ARsis11	SB-R512C BS-C11	FD-R68 double chainring	RD-R68S	Dura - Ace Ultegra	9001 6800	11s 11s
CENTOS11	SB-R512B SL-R861 BS-A11	FD-R58 double chainring	RD-R58S	105	5800	11s
CENTOS	SB-R502B SL-R860B-2 BS-A10B	FD-R552 double chainring	RD-R55S	Tiagra	4700	10s
R10	SB-R402K SL-R760-2	FD-R712 double chainring	RD-R51M	Tiagra	4600	10s
	BS-A10	FD-R74 double chainring	RD-R47S			
	SB-R403K SL-R760-3	FD-R730 50-39-30T FD-R732 52-39-30T	RD-R47	Tiagra	4603	10s
R9	SB-R492 SB-R492(S) SL-R769-2	FD-R352 double chainring	RD-R43M	Tiagra Sora	4500 3500	9s 9s
	BS-A09	FD-R329 double chainring	RD-R42S			
	SB-R493 SB-R493(S) SL-R769-3	FD-R353 50-39-30T	RD-R42	Tiagra Sora	4503 3503	9s 9s
R8	SB-R482 SB-R482(S) SL-R758-2	FD-R252 double chainring FD-R328 double chainring	RD-R32S	Sora Claris	3300 2400	8s 8s
	SB-R483 SB-R483(S) SL-R758-3	FD-R253 50-39-30T FD-R338 52-42-30T	RD-R32	Sora Claris	3303 2403	8s 8s

The specification of above models are compatible with Shimano derailleur system.

Road Components - I

SB-R512C
Dual Control Levers, with inner route cables, Carbon brake levers, Al. shift levers. For double chainring & rear 11 speed.

FD-R68F
Cold forged Al. bracket, Carbon outer link, down pull, brazed on type. For double chainring & rear 11 speed.
Option: clamp type 34.9mm FD-R68B

RD-R68S
Carbon outer link, sealed bearings inside pulleys, short cage for double chainring & rear 11s (rear sprocket max. 25-32T).
Total capacity 35T.

ARsis11
2 x 11 speed



RD-R68S 197g
sealed bearings
for sprocket max 25-32T



FD-R68
97g

Shift-down
(To bring the chain down to a lower sprocket) .
Max. 3 gears in one stroke.





To shift from top side



SB-R512C
498g

MIC technology
microSHIFT Independent Control



Shift-up
(To bring the chain up to a higher sprocket) .
Max. 4 gears in one stroke.





To shift from bottom side

CENTOS 11

2 x 11 speed





SB-R512B
(for 2 x11s)
498g

- **Inner route cables.**
- **microSHIFT Independent Control.**
- **Shift & Go technology.**





Xpress+ Shifter

With bearings inside.
Light weight.
Light shifting.

SL-R861 **(for 2 x 11s)**
205g

SB-R512B
Dual Control Levers, with inner route cables, Al. brake levers and shift levers, black or white painted brake levers.
For double chainring & rear 11 speed.

FD-R58F
Al. bracket & outer link, black or white painted, down pull, brazed on type.
For double chainring & rear 11 speed.
Option: clamp type 34.9mm FD-R58B

RD-R58S
Full Al. black or white painted, short cage for double chainring & rear 11s (rear sprocket max. 25-32T).
Total capacity 35T.

SL-R861-2
Xpress plus shifter for flat type handlebar, bearings inside mechanism, For double chainring & rear 11 speed.

FD-R58
95g





RD-R58S 194g
for sprocket max 25-32T

Option: White painted version









Road Components - III

SB-R502B
Dual Control Levers, with inner route cables, resin steel inserted shift levers, silver / black anodized or painted white brake levers. For double chainring & rear 10 speed.

SL-R860B-2
Xpress plus shifter for flat type handlebar, bearings inside mechanism, For double chainring & rear 10 speed.

FD-R552B
Al. bracket & links,clamp type 34.9mm, silver / black anodized or painted white. For double chainring & rear 10 speed. Option: brazed on type FD-R552F

RD-R55S
Full Al., silver / black anodized or painted white. short cage for double chainring & rear 10 speed (rear sprocket max. 25-32T).

CENTOS

2 x 10 speed

Shimano new Tiagra (4700) compatible

NEW

SL-R860B (for 2 x10s)
205g



Xpress+ Shifter

With bearings inside.
Light weight.
Light shifting.



NEW

RD-R55S
193g



NEW

SB-R502B
498g

- **Inner route cables.**
- **microSHIFT Independent Control.**
- **Shift & Go technology.**



NEW FD-R552B
193g

Shimano old Tiagra (4600, 4603) compatible

R10

2/3x10 speed



SB-R402K (for 2 x10s) 430g
SB-R403K (for 3 x10s) 430g



SL-R760-2 (for 2 x10s)
SL-R760-3 (for 3 x10s)
284g



FD-R712
118g (clamp type)



FD-R730
117g (brazed-on type)



RD-R47 226g
RD-R47S 218g

SB-R402K
Dual Control Levers, resin shift levers, silver or black anodized brake levers. For double chainring & rear 10 speed.
Option: for 3 x 10s SB-R403K

SL-R760-2, SL-R760-3
Xpress shifters with optical gear read-out indicator. The left side shifter is provided with trimming function.
SL-R760-2 : for 2 x10 speed.
SL-R760-3 : for 3 x10 speed.

FD-R712B
Al. bracket & links, clamp type 34.9mm silver or blk .For double chainring & rear 10 speed max. sprocket ≦34T.
Option: brazed on type FD-R712F

FD-R730B, FD-R732B
Cold forged Al. bracket & links, clamp type 34.9mm, silver or blk anodized.
FD-R730B : for 50/39/30T & rear 10 speed.
FD-R732B : for 52/39/30T & rear 10 speed.
Option: brazed on type FD-R730F, FD-R732F

RD-R47S
Full Al., short cage for double chainring & rear 10 speed (11-28T).
Option: long cage for 3x10s RD-R47

RD-R51M
Full Al., medium cage for double chainring & rear 10s 11-30 up to 34T sprocket.

For mega sprocket 30-34T



RD-R51M
220g

Road Components - V

SB-R492
Dual Control Levers, Al. brake levers, Resin / steel shift levers. For double chainring & rear 9 speed.
Option: for 3 x 9s SB-R493
short reach SB-R493(S)
SB-R492(S)

SL-R769-2, SL-R769-3
Xpress shifters with optical gear read-out indicator. The left side shifter is provided with trimming function.
SL-R769-2 : for 2 x 9 speed.
SL-R769-3 : for 3 x 9 speed.

FD-R352B
Al. bracket & links..clamp type 34.9mm. For double chainring & rear 9 speed. max. sprocket ≦ 34T.
Option: brazed on type FD-R352F

FD-R353B
Al. bracket & links..clamp type 34.9mm. For 50/39/30T & rear 9 speed. max. sprocket ≦ 34T.
Option: brazed on type FD-R353F.

RD-R42S
Al.main parts, steel short cage for double chainring & rear 9/ 10 speed (11-28T).
Option: long cage for triple RD-R42

RD-R43M
Al. main parts, steel medium cage for double chainring & rear 9/10 speed 11 ~ 30 up to 34T sprocket.

R9

2/3 x 9 speed



SB-R492 (for 2 x 9s)
SB-R493 (for 3 x 9s)
430g



SL-R769-2 (for 2 x 9s)
SL-R769-3 (for 3 x 9s)
282g



FD-R352B
125g (clamp type)



FD-R353B
140g (clamp type)

For mega sprocket 30-34T



RD-R43M
291g



RD-R42S
288g

RB

2/3 x 8 speed



SL-R758-2 (for 2 x 8s)
SL-R758-3 (for 3 x 8s)
279g



SB-R482 (for 2 x 8s)
SB-R483 (for 3 x 8s)
430g

SB-R482
Dual Control Levers, Al. brake levers. Resin / steel shift levers. For double chainring & rear 8 speed.
Option: for 3 x 8s SB-R483
short reach SB-R483(S)
SB-R482(S)

SL-R758-2, SL-R758-3
Xpress shifters with optical gear read-out indicator. The left side shifter is provided with trimming function.
SL-R758-2 : for 2 x 8 speed.
SL-R758-3 : for 3 x 8 speed.

FD-R252B
Al. bracket & outer link, clamp type 34.9mm. For double chainring & rear 8 speed max. sprocket ≦ 34T.
Option: brazed on type FD-R252F

FD-R253B
Al. bracket & outer link, clamp type 34.9mm. For 50/39/30T & rear 8 speed max. sprocket ≦ 34T.
Option: brazed on type FD-R253F

RD-R32S
Resin/steel main parts, steel short cage for double chainring & rear 8/9 speed (11-28T).
Option: long cage for triple RD-R32



FD-R253B
141g (clamp type)



RD-R32S



FD-R252B
126g (clamp type)

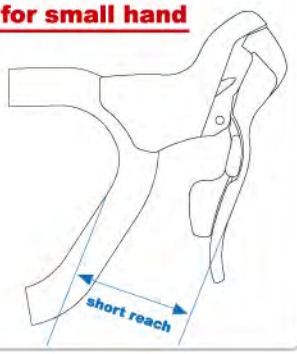
Option : Left side brake lever only

SB-R490 for 1 x 9 speed
SB-R480 for 1 x 8 speed
SB-R470 for 1 x 7 speed



Option : Short reach brake lever for small hand

SB-R493(S) for 3 x 9 speed
SB-R492(S) for 2 x 9 speed
SB-R490(S) for 1 x 9 speed
SB-R483(S) for 3 x 8 speed
SB-R482(S) for 2 x 8 speed
SB-R480(S) for 1 x 8 speed
SB-R473(S) for 3 x 7 speed
SB-R472(S) for 2 x 7 speed
SB-R470(S) for 1 x 7 speed



Non-group Components

BS-C11
Bar end shifters, Carbon shift levers..
Left side micro-index, right side index.
For double/ triple chainring & rear 11s.

BS-A11
Bar end shifters, Al. shift levers.
Left side: micro-index, right side: index.
For double/ triple chainring & rear 11s.

BS-A10, BS-A10B,
BS-T10, BS-T10B
Bar end shifters, Al. shift levers.
Left side: micro-index, right side: index.
For double/ triple chainring & rear 10s.
BS-A10 Shimano 5700, 5703, 4600, 4603 compatible.
BS-A10B Shimano new Tiagra 4700, 4703 compatible.
Option: right side index / friction transferable. BS-T10,BS-T10B

BS-A09, BS-T09
Bar end shifters, Al. shift levers..
Left side micro-index, right side index.
For double/ triple chainring & rear 9s.
Option: right side index / friction transferable. BS-T09

SL-D10, SL-D10B, SL-D09
Down tube shifters, Al. shift levers..
Left side micro-index, right side index.
SL-D10 for 2/3 x 10 speed, Shimano 4600, 4603 compatible
SL-D10B for 2/3 x 10 speed, Shimano 4700, 4703 compatible
SL-D09 for 2/3 x 9 speed

SB-R502E
Dual Control Levers, with inner route cables, Al. shift levers and brake levers.
For double chainring & rear 10 speed.
Shimano 6700, 5700, 4600 compatible.

SB-R472
Dual Control Levers, Al. brake levers.
Resin / steel shift levers. For double chainring & rear 7 speed.
Option: for 3 x 7s SB-R473
short reach SB-R472(S)
SB-R473(S)

Bar End Shifters





BS-C11 136g
(for 11 speed)





BS-A11 140g
(for 11 speed)

BS-A10 140g
(for 10 speed)





Ergonomic hoods





Option: right side index / friction transferable
BS-T10, BS-T09

Down Tube Mount Shifters



SL-D09 70g

Dual Control Levers



SB-R472 (for 2x7s)
SB-R473 (for 3x7s)
430g



SB-R502E
(Shimano 6700, 5700, 4600 compatible)

Non-group Components

Flat Bar Shifters





SL-R761 292g





SL-R859-2 225g

SL-R761
Xpress plus (with bearings inside mechanism) shifters with indicator. For 2 x 11 speed, The left side shifter is provided with trimming function.

SL-R859-2
Xpress shifters without indicator. For 2 x 9 speed, The left side shifter is provided with trimming function.

FD-R328B, FD-R329B
Al. bracket, steel clamp 31.8mm.
For double chainring.
FD-R328B : for 2 x 8 speed.
FD-R329B : for 2 x 9 speed.
Option: brazed on type FD-R328F, FD-R329F

FD-R338B, FD-R339B
Al. bracket, steel clamp 31.8mm.
For 52/42/30T chainring.
FD-R338B : for 52/42/30T x 8 speed.
FD-R339B : for 52/42/30T x 9 speed.
Option: brazed on type FD-R338F FD-R339F

Front Derailleurs

For rear sprocket max. ≦ 28T

FD-R328 (for 2 x 8 s)
FD-R329 (for 2 x 9 s)



FD-R338 (for 3 x 8 s)
FD-R339 (for 3 x 9 s)



For mini-frame or short chainstay frame

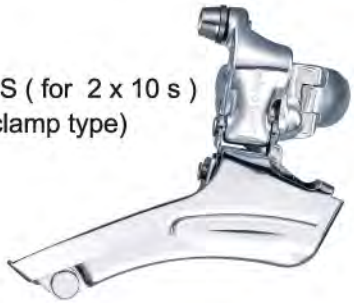
FD-R74SB
Cold forged Al. bracket & links, clamp type 34.9mm, silver anodized, with a small size chain guide.
For double chainring & rear 10 speed 11 ~30 up to 34T sprocket.
Option: brazed on type FD-R74SF

FD-R52SB
Cold forged Al. bracket & links, clamp type 31,8mm, silver anodized, with a small size chain guide.
For double chainring & rear 9 speed 11 ~30 up to 34T sprocket.
Option: brazed on type FD-R52SF

RD-M22S
Steel, economical type,
for rear sprocket max. 34T.
total capacity 39T.

Rear Derailleurs

FD-R74S (for 2 x 10 s)
95.5g (clamp type)



FD-R52S (for 2 x 9 s)
98g (clamp type)





NEW
RD-M22S

CITY



Shift & Go Technology







Lineup & Compatibility

microSHIFT models			Shimano Reference	
Shifter	Front Derailleur	Rear Derailleur		
TS83-10 SL-A10	FD-R632 52-39-30T FD-R630 50-39-30T	RD-R47	10s	ROAD with flat handlebar
	FD-R62 double chainring	RD-R47S RD-R51M		
TS83-9 SL-A09	FD-R639 50-39-30T FD-R439 52-42-30T	RD-R47	9s	
	FD-R42 double chainring	RD-R47S RD-R43M		
TS73-8	FD-R438 52-42-30T	RD-R42	8s	
	FD-R42 double chainring	RD-R42S		
SB-N110			Alfine inter 11	Shifters for Interal gear hub
SB-N080 SL-N08 BS-N08 SL-N768			Alfine inter 8	
SL-N758 DN85-8			Nexus inter 8	
SL-N757 TN70-7 DN85-7 MN28-7			Nexus inter 7	
TN70-5 DN37-5			Nexus inter 5	
DN85-3 DN35-3 MN27-3			Nexus inter 3	

The specification of above models are compatible with Shimano derailleur & gear hub system.

Components for road with flat handlebar

CNC thumb shifters 112g

SL-A11 (for 11s)
SL-A10 (for 10s)
SL-A09 (for 9s)





Option: right side index / friction transferable SL-T10, SL-T10B, SL-T09



TS83-10
240g



TS83-9
240g



FD-R42



FD-R632
FD-R630



FD-R439



FD-R639

SL-A11, SL-A10, SL-A10B, SL-A09, SL-T10, SL-T10B, SL-T09

Super light weight thumb shifters, CNC bracket, micro adjusting barrels.
Left side: micro-index, right side: index
SL-A11 for 2/3 x 11 speed.
SL-A10 for 2/3 x 10 speed, Shimano 4600, 4603 compatible
SL-A10B for 2/3 x 10 speed, Shimano 4700, 4703 compatible
SL-A09 for 2/3 x 9 speed.
Option: right side index / friction transferable
SL-T10, SL-T10B, SL-T09

TS83-10, TS83-9, TS73-8

Thumb-tap shifters with compact optical gear indicator. Left side: 2/3 speed index with trimming mech.
Right side: Index for rear.
TS83-10 for 2/3 x 10 speed.
TS83-9 for 2/3 x 9 speed.
TS73-8 for 2/3 x 8 speed.

FD-R632B, FD-R630B, FD-R62B, FD-R639B

Cold forged Al., clamp type 34.9mm, for flat bar shifters.
FD-R632 for 52/39/30T & rear 10s.
FD-R630 for 50/39/30T & rear 10s.
FD-R62 for double & rear 9/10s.
FD-R639 for 50/39/30T & rear 9s.
Option: brazed on type FD-R632F FD-R630F, FD-R62F, FD-R639F

FD-R42B, FD-R439B, FD-R438B

Cold forged Al., clamp type 31.8mm, for flat bar shifters.
FD-R42 for double & rear 8/9s.
FD-R439 for 52/42/30T & rear 9s.
FD-R438 for 52/42/30T & rear 8s.
Option: brazed on type FD-R42F, FD-R439F, FD-R438F.

FD-R42H, FD-R439H, FD-R438H

Cold forged Al., clamp type 31.8mm, special design for 20" frame
FD-R42H for 2 x 8/9s, chainstay angle 70 ~77 degree
FD-R439H for 3 x 9s, chainstay angle 72 ~75 degree
FD-R438H for 3 x 8s, chainstay angle 72 ~75 degree.

For 20" frame



FD-R439H

City Components - II

SB-N110, SB-N080
Dual Control Levers, Al. brake levers. Resin / steel shift levers. Left side brake lever only, right side brake + shift lever.
SB-N110 for Alfine 11.
SB-N080 for Alfine 8.

SL-N08
CNC thumb shifters for Alfine / Nexus Inter 8 compatible.

BS-N08
Bar end mount shifters for Alfine / Nexus Inter 8 compatible.

SL-N768
Xpress shifters with optical gear read-out indicator, Al. shift lever. Compatible with Alfine 8 (S7000).

SL-N758, SL-N757
Xpress shifters with optical gear read-out indicator.
SL-N758 Nexus inter 8 compatible.
SL-N757 Nexus inter 7 compatible.

TN70-7
Thumb-tap shifters with compact optical gear indicator.
TN70-7 Nexus inter 7 compatible.

DN85-8, DN85-7, DN85-3
Compact twist type shifters with easy read-out indicator.
DN85-8 Nexus inter 8 compatible
DN85-7 Nexus inter 7 compatible
DN85-3 Nexus inter 3 compatible

MN28-7, MN27-3
Standard twist type shifters.
MN28-7 Nexus inter 7 compatible.
MN27-3 Nexus inter 3 compatible.

BC-01
Connector (bell crank) for Nexus inter 3 gear hub.

Shimano Alfine / Nexus series compatible





NEW
SB-N110
for Alfine Inter 11



SL-N08 **for Alfine Inter 8**



BS-N08 **for Alfine Inter 8**



SL-N768
for Alfine Inter 8



SL-N758 **for Nexus Inter 8**
SL-N757 **for Nexus Inter 7**

TN70-7 **for Nexus Inter 7**





DN85-8 **for Nexus Inter 8**
DN85-7 **for Nexus Inter 7**



BC-01
Connecter for Nexus Inter 3 gear hub.



MN27-3
for Nexus Inter 3



DN85-3
for Nexus Inter 3

MTB / trekking





MEGA 40T / 42T
compatible



Sliding
Engagement
Technology

Shift & Go Technology

Active Motion rear derailleurs

- In-line links structure supplies a fast / accurate shifting performance.
- The geometric sequence mechanism of new design satisfies the demand from a extreme riding style, no worry of RD to hit the chain stay.

Lineup & Compatibility

	microSHIFT models			Shimano Reference	
	Shifter	Front Derailleur	Rear Derailleur		
XCD11	SL-M861R		RD-M78L	XT	11s
XCD	SL-M860-2	FD-M852B double chainring FD-M852D double chainring	RD-M85S		
	SL-M10 ● BS-M10 ●		RD-M78L ●	XT , SLX , LX	10s
	SL-M860-3	FD-M853B triple 42-32-24T FD-M853D triple 42-32-24T	RD-M85L		
XLE	SL-M760-2 SL-M850-2	FD-M612B double chainring FD-M612D double chainring	RD-M61S RD-M62L ●		
	SL-M10 ● BS-M10 ●			Deore	10s
	SL-M760-3 SL-M850-3	FD-M613B triple 42-32-24T FD-M613D triple 42-32-24T	RD-M61L RD-M62L ●		
MARVO LT	SL-M759-3 TS71-9 ● DS85-9 ● BS-T09 ●	FD-M43 44-32-22T	RD-M46L RD-M46S	Alivio Acera Altus	9s 9s 9s
mezzo	TS71-8 TS38-8 ● DS85-8 ●	FD-M20 42-34-24T FD-M22 42-32-22T, 48-38-28T	RD-M45L RD-M45S	Alivio Acera	8s 8s
	TS71-7 ● ● DS85-7 ● MS25-7 ● MS29-7 ●		RD-M25L ● RD-M25S ● RD-M22L ● RD-M22S ●	Altus TX	8s 7s

The specification of above models are compatible with Shimano derailleur system.

Models marked with ' ● ' are non-group components.

MTB / trekking Components - I

SL-M861R
Light weight Xpress plus shifters bearings inside mechanism, without gear indicator, for 11 speed. Right side only.

RD-M78L
Full Al., CNC outer link, for MEGA rear sprocket max. 36 - 42T, long cage, total capacity 47T.

CS-G110
Cassette for 11 speed (11-40T, 11-42T), CP sprockets, with Al. bracket & Al. lock ring.

XCD11

1 x 11 speed

Xpress+ Shifter

With bearings inside.
Light weight.
Light shifting.



NEW

SL-M861R
104g



NEW

CS-G110
11-40T 435g
11-42T 442g



Active Motion mechanism.
Full Aluminum.
CNC machined.

RD-M78L
206g

XCD

2/3 x 10 speed

Xpress+ Shifter

With bearings inside.
Light weight.
Light shifting.





SL-M860-2 **(for 2 x 10s)**
SL-M860-3 **(for 3 x 10s)**
207g

SL-M860-2, SL-M860-3
Light weight Xpress plus shifters without gear indicator, bearings inside mechanism.
SL-M860-2: for 2 x10s.
SL-M860-3: for 3 x10s.

FD-M853B
Full Al., wide link, CNC outer link, dual pull, steel chain guide, 34.9mm clamp. for 42/32/24T & rear 10 speed.
Option : Direct mount **FD-M853D**
(Dual pull or top pull.)

FD-M852B
Full Al., wide link, CNC outer link, dual pull, steel chain guide, 34.9mm clamp. for double chainring & rear 10 speed.
Option : Direct mount **FD-M852D**
(Dual pull or top pull.)

RD-M85L
Full Al., CNC outer link & outer plate, for rear sprocket max. 36T, long cage, total capacity 43T.

RD-M85S
Full Al., CNC outer link & outer plate, for rear sprocket max. 36T, short cage, total capacity 35T.



FD-M852B (Clamp type)
155g

CNC machined outer link.

FD-M853D (Direct mount)
138g

Dual pull or top pull.
CNC machined outer link.



Active Motion mechanism.
Full Aluminum.
CNC machined.



RD-M85L 204g
RD-M85S 200g

MTB / trekking Components - III

SL-M760-2, SL-M760-3
Xpress shifters with optical gear read-out indicator, Al. shift lever.
SL-M760-2: for 2 x10s.
SL-M760-3: for 3 x10s.

SL-M850-2, SL-M850-3
Light weight Xpress shifters without gear indicator.
SL-M850-2: for 2 x10s.
SL-M850-3: for 3 x10s.

FD-M613B
Full Al., wild link, dual pull, steel chain guide, 34.9mm clamp. for 42/32/24T & rear 10 speed.
Option : Direct mount **FD-M613D**
(Dual pull or top pull.)

FD-M612B
Full Al., wild link, dual pull, steel chain guide, 34.9mm clamp. for double chainring & rear 10 speed.
Option : Direct mount **FD-M612D**
(Dual pull or top pull.)

RD-M61L
For rear sprocket max. 36T, long cage, total capacity 43T.

RD-M61S
For rear sprocket max. 36T, short cage, total capacity 35T.

RD-M62L
For MEGA rear sprocket max. 36 - 42T, short cage, total capacity 47T.

CS-H100
Cassette for 10 speed (11-32T, 11-34T, 11-36T, 11-40T, 11-42T), CP sprockets.

XLE

2/3 x 10 speed





SL-M760-2 **(for 2 x 10s)**
SL-M760-3 **(for 3 x 10s)**
286g

Xpress Shifter

Light weight.
Light shifting.

SL-M850-2 **(for 2 x 10s)**
SL-M850-3 **(for 3 x 10s)**
225g







NEW

FD-M613B (Clamp type)
158g

NEW

FD-M612D (Direct mount)
142g

Dual pull or top pull.



Option :
For MEGA 40T / 42T

CS-H100
11-40T, 11-42T





NEW

RD-M62L 285g



RD-M61L 281g
RD-M61S 270g

MTB / trekking Components - IV

MARVO LT

3 x 9 speed

SL-M759-3 (for 3 x 9s)





FD-M43
150g





RD-M46L 317g
RD-M46S 307g

SL-M759-3
Xpress Shifters with optical gear read-out indicator.
Left side: Index for triple.
Right side: Index 9 speed.

FD-M43
One piece Al. bracket, steel clamp for 34.9 mm, dual pull, 44/32/22T & rear 9s.

FD-M462B
Full Al., wide link, dual pull, steel chain guide, 34.9mm clamp. for double chainring & rear 9 speed.
Option : Direct mount **FD-M462D**

RD-M46L
Al. main parts, steel plates, long cage, total capacity 45T.

RD-M46S
Al. main parts, steel plates, for rear sprocket max. 34T, short cage, total capacity 35T.

Option : For double chainring

NEW
FD-M462B
154g





NEW
FD-M462D
140g

mezzo

3 x 8 speed



FD-M30 (42/32/22T) 145g
FD-M20 (42/34/24T) 143g

FD-M22
(48/38/28T)
152g





RD-M45L 321g
RD-M45S 308g

TS71-8
Thumb-tap shifters with optical gear indicator, index for triple & rear 8s.

FD-M30, FD-M20, FD-M22
One piece Al. bracket, steel clamp, for 34.9mm, dual pull.
FD-M30 for 42/32/22T & rear 8s.
FD-M20 for 42/34/24T & rear 7/8s.
FD-M22 for 48/38/28T & rear 7/8s.

RD-M45L, RD-M45S
Al. main parts, steel plates for 8/9 Speed, rear sprocket max. 34T.
RD-M45L total capacity 45T.
RD-R45S total capacity 39T



TS71-8
285g



MTB / trekking Components - V

Non-group Components

SL-M10, SL-M11
CNC thumb shifters for MTB (Shimano compatible). Left side: micro-index. Right side: index / friction transferable.
SL-M10 for 2 / 3 x 10 speed
SL-M11 for 2 / 3 x 11 speed

BS-M10, BS-M11
Bar end mount shifters for MTB (Shimano compatible). Left side: micro-index.
Righ side: index / friction transferable.
BS-M10 for 2 / 3 x 10 speed
BS-M11 for 2 / 3 x 11 speed

TS71-9, TS71-7
Thumb-tap shifters with optical gear indicator.
TS71-9 index for triple & rear 9s
TS71-7 index for triple & rear 7s.

TS38-8, TS38-7
Economic Thumb-tap shifters with optical gear indicator.
TS38-8 index for triple & rear 8s
TS38-7 index for triple & rear 7s.

DS85-9, DS85-8, DS85-7
Compact twist type shifters with easy read-out indicator.
Left side: Index or friction for front..
Right side: Index for rear.
DS85-9 for 3 x 9 speed.
DS85-8 for 3 x 8 speed.
DS85-7 for 3 x 7 speed.

MS25-8, MS25-7, MS25-6
Standard twist type shifters.
Left side: Index or friction for front.
Right side: Index for rear.
MS25-8 for 3 x 8 speed.
MS25-7 for 3 x 7 speed.
MS25-6 for 3 x 6 speed.

MS29-8, MS29-7, MS29-6
Standard twist type shifters.
Left side : Index or friction for front.
Right side: Index for rear.
MS29-8 for 3 x 8 speed.
MS29-7 for 3 x 7 speed.
MS29-6 for 3 x 6 speed.

MS12-7, MS12-6
Economical twist type shifters.
Left side : Index or friction for front.
Right side: Index for rear.
MS12-7 for 3 x 7 speed.
MS12-6 for 3 x 6 speed.

RD-M25L, RD-M25S
Resin/ steel, economical type, for rear sprocket max. 34T.
RD-M25L total capacity 45T.
RD-M25S total capacity 39T.

RD-M22L, RD-M22LA
Steel, economical type, for 6 / 7 / 8 speed, rear sprocket max. 34T.
RD-M22L direct attchment.
RD-M22LA with bracket (reverse type)
RD-M22LB with bracket

Bar end mount shifters

NEW BS-M11
150g



CNC Thumb shifters

NEW SL-M11
128g



Thumb-tap shifters



TS71-9
282g



TS38-7
242g

Twist type shifters



MS29-7





DS85-8





NEW
MS12-7





MS25-7



Rear Derailleurs



NEW
RD-M25S



RD-M22L
NEW



NEW
RD-M22LA

Front Deraillur - ROAD

With Drop type Handlebar

Series	ARsis11	CENTOS11	CENTOS	R10			R9	
Model No.	FD-R68-B FD-R68-F	FD-R58-B FD-R58-F	FD-R552-B FD-R552-F	FD-R712-B FD-R712-F	FD-R732-B FD-R732-F	FD-R730-B FD-R730-F	FD-R352-B FD-R352-F	FD-R353-B FD-R353-F
Chain Ring	Double		Double		Triple		Double	Triple
Cassette Compatibility	10						9	
Top Gear Teeth	50-56T		50-56T		52T(39T-30T)	50T(39T-30T)	46-52T	50T(39T-30T)
Capacity	16T		16T		22T	20T	16T	20T
Route Type	Down Pull							
Chainstay Angle	61-66				63-66		61-66	63-66
Mount Type	B: Band type / F: Brazed-on type							
Chain Line	43.5mm				45.0 mm		43.5mm	45.0 mm
Band Diameter	*34.9 / *31.8 (1)							
Front Clamp Band	Cold forged Aluminum		Aluminum					
Rear Clamp Band								
Outer Link	Carbon wrapped	Cold forged Al.						
Inner Link	Cold forged Aluminum						Steel	
Chain Guide	Steel C.P							
Average Weight	97g (F)	95g (F)	96g (F)	96g (F)	117g (F)	119g (F)	125g (B)	140g (B)

Series	R8		Non-group									
Model No.	FD-R252-B FD-R252-F	FD-R253-B FD-R253-F	FD-R74-B FD-R74-F	FD-R729-B FD-R729-F	FD-R739-B FD-R739-F	FD-R74S-B FD-R74S-F	FD-R52S-B FD-R52S-F	FD-R329-B FD-R329-F	FD-R328-B FD-R328-F	FD-R339-B FD-R339-F	FD-R338-B FD-R338-F
Chain Ring	Double	Triple	Double	Double	Triple	Double				Triple	
Cassette Compatibility	8		10	9		10	10 / 9	9	8	9	8
Top Gear Teeth	46-52T	50T(39T-30T)	50-56T		50T(39T-30T)	36-50T		50-56T		52T(42T-30T)	
Capacity	16T	20T	16T		20T	14T		16T		22T	
Route Type	Down pull										
Chainstay Angle	61-66	63-66	61-66		63-66	61-66				63-66	
Mount Type	B: Band type / F: Brazed-on type										
Chain Line	43.5mm	45.0mm	43.5mm		45.0 mm	43.5mm				45.0mm	
Band Diameter	ø34.9 / ø31.8 (1)					ø31.8 / ø28.6 (2)					
Front Clamp Band	Aluminum					Cold forged Aluminum		Steel			
Rear Clamp Band								Aluminum			
Outer Link											
Inner Link	Steel		Aluminum					Steel			
Chain Guide	Steel C.P.										
Average Weight	126g (B)	141g (B)	99g (F)	99g (F)	121g (F)	84.5g (F)	86.5g (F)	123g (F)	123g (F)	126g (F)	126g (F)

With Flat type Handlebar

Series	Non-group								20" frame		
Model No.	FD-R62-B FD-R62-F	FD-R62S-B FD-R62S-F	FD-R632-B FD-R632-F	FD-R630-B FD-R630-F	FD-R639-B FD-R639-F	FD-R42-B FD-R42-F	FD-R439-B FD-R439-F	FD-R438-B FD-R438-F	FD-R42H	FD-R439H	FD-R438H
Chain Ring	Double		Triple			Double	Triple		Double	Triple	
Cassette Compatibility	10				9	9 / 8	9	8	9 / 8	9	8
Top Gear Teeth	50-56T	36-50T	52T(39T-30T)	50T(39T-30T)		50-56T	52T(42T-30T)		50~56T	52T(42T-30T)	
Capacity	16T	14T	22T	20T		16T	14T		16T	22T	
Route Type	Down Pull										
Chainstay Angle	61-66		63-66			61-66	63-66		70-77	72-75	
Mount Type	B: Band type / F: Brazed-on type								Band type		
Chain Line	43.5 mm		45.0 mm			43.5mm	45.0 mm		43.5mm	45.0 mm	
Band Diameter	ø34.9 / ø31.8 (1)					ø31.8 / ø28.6 (2)					
Front Clamp Band	Cold forged Aluminum										
Rear Clamp Band											
Outer Link											
Inner Link											
Chain Guide	Steel C.P.										
Average Weight	99g (F)	89g (F)	120g (F)	122g (F)	124g (F)	93g (F)	103g (F)	125 (F)	115g	124g	125g

■ (1) -Clamp spacer (SM-R31) allow the derailleur to be ø31.8mm frame tube.
Without ring spacer the derailleur mounts to ø34.9mm frame tube.

■ (2) -Clamp spacer (SM-R28) allow the derailleur to be ø28.6mm frame tube.
Without ring spacer the derailleur mounts to ø31.8mm frame tube.

Technical Data - II

Shifters (for drop type handlebar) - ROAD

Series	ARSIS11	CENTOS11	CENTOS	R10	R9		R8		Non-group		
Model No.	SB-R512C	SB-R512B	SB-R502B	SB-R402K	SB-R492	SB-R493	SB-R482	SB-R483	SB-R502E	SB-R472	SB-R473
Cassette Compatibility	11 speed		10 speed		9 speed		8 speed		10 speed	7 speed	
Front Shifting	Double					Triple (50-39-30T)	Double	Triple (50-39-30T)	Double		Triple (50-39-30T)
Bracket Material	Engineering composite										
Brake Lever Material	Carbon / cold forged Al.	Cold forged Al. / anodized									
Shift Cable Adjuster	N			Option					N	Option	
Brake lever reach adjuster	Y			N					Y	N	
Clamp Band	23.8~24.2 mm										
Shift Cable	Stainless slick										
Average Weight	498g	498g	498g	430g	430g	430g	430g	430g	498g	430g	430g
Option				SB-R403K	SB-R492(S)	SB-R493(S)	SB-R482(S)	SB-R483(S)		SB-R472(S)	SB-R473(S)
				For triple chainring	Short reach brake levers					Short reach brake levers	
Compatibility	Shimano road derailleur compatible										
	6800	5800	4700	4600 4603	3500	3503	2400	2403	5700 4600	A070	A073

Shifters (for flat type handlebar) - ROAD

Series	CENTOS11	CENTOS		R10		R9		R8		Non-group	
Model No.	SL-R861	SL-R860B-2	SL-R760-2	SL-R760-3	SL-R769-2	SL-R769-3	SL-R758-2	SL-R758-3	SL-R761	SL-R859-2	
Cassette Compatibility	11 speed	10 speed			9 speed		8 speed		11 speed	9 speed	
Front Shifting	Double	Double		Triple	Double	Triple	Double	Triple	Double		
Bracket Material	Aluminum										
Main Shift Lever Material	Aluminum						Resin / steel		Aluminum		
Trimming function for front shifting	Y										
Bearings inside mechanism	Y	N							Y	N	
Shift Cable Adjuster	Y										
Clamp Band	22.2 mm										
Shift Cable	Stainless slick										
Average Weight	205g	205g	284g	284g	282g	282g	279g	279g	292g	225g	
Remark	Compatible with road front derailleur										
Compatibility	Shimano road derailleur compatible										
	6800 5800	4700	4600	4603	3500	3503	2400	2403	5800	3500	

Shifters (for bar end mount / down tube mount) - ROAD

Series	Non-group										
Model No.	BS-C11	BS-A11	BS-A10B	BS-A10	BS-A09	BS-T10	BS-T10B	BS-T09	SL-D10	SL-D10B	SL-D09
Cassette Compatibility	11 speed	11 speed	10 speed		9 speed	10 speed		9 speed	10 speed		9 speed
Front Shifting	Double / Triple (micro index)										
Bracket Material	Aluminum black painted								None		
Shift Lever Material	Carbon	Cold forged Al. / anodized									
Shift Cable Adjuster	N										
Clamp Band	Bar end mount (handlebar inner dia. 19.0~22.0 mm)								Down tube mount		
Shift Cable	Stainless slick										
Average Weight	136g	140g	140g	140g	162g	141g	141g	163g	70g	70g	70g
Remark						Right side index / friction transferable					
Compatibility	Shimano road derailleur compatible										
	6800	5800	4700 4703	4600 4603	3500 3503	4600 4603	4700 4703	3500 3503	4600 4603	4700 4703	3500 3503

Rear Derailleur - ROAD (Shimano compatible)

	ARSIS11	CENTOS11	CENTOS	R10	
Model No.	RD-R68S	RD-R58S	RD-R55S	RD-R51M	RD-R47S
Speeds	11-speed		10-speed	10/9-speed	
Max. Sprocket	25-32T			34T	28T
Min. Sprocket	11T				
Total Capacity	35T			39T	33T
Guide Pulley	Engineering composite with sealed bearing	Engineering composite with steel bushing			
Tension Pulley					
Bracket Body	Cold forged Aluminum			Aluminum / hi-polished silver or black	
Bracket Pivot Seal	Y			N	
Plate Body	Resin / black painted			Aluminum / hi-polished silver or black	
Plate Pivot Seal	Y			N	
Outer Link	Carbon wrapped over cold forged Al.	Cold forged Al. / anodized black		Aluminum / hi-polished silver or black	
Inner Link	Aluminum / painted black			Steel / black painted	
Link Pin Bushing	Stainless steel				–
Outer Plate	Aluminum / black anodized			Aluminum / black anodized	Aluminum / sliver anodized
Inner Plate	Aluminum / anodized black				
Average Weight	197 g	194 g	195 g	220g	218 g
Compatibility	Shimano road derailleur compatible				
	6800	5800	4700	4600	4600

Series	R10	R9			R8	
Model No.	RD-R47	RD-R42S	RD-R43M	RD-R42	RD-R32S	RD-R32
Speeds	10/9-speed				9/8-speed	
Max. Sprocket	28T		34T	28T	28T	
Min. Sprocket	11T					
Total Capacity	39T	33T	39T		33T	39T
Guide Pulley	Engineering composite with steel bushing					
Tension Pulley						
Bracket Body	Aluminum / hi-polished silver or black	Aluminum /black			composited / black	
Bracket Pivot Seal	N					
Plate Body	Aluminum / hi-polished silver or black	Composited / black				
Plate Pivot Seal	N					
Outer Link	Aluminum / hi-polished silver or black	Aluminum / hi-polish	Aluminum / black	Aluminum / hi-polish	Steel /black painted	
Inner Link	Steel / painted black					
Link Pin Bushing	–					
Outer Plate	Aluminum / anodized sliver	Steel / black painted				
Inner Plate	Aluminum / anodized sliver	Steel / black painted				
Average Weight	226 g	265 g	291g	288g	266 g	290g
Compatibility	Shimano road derailleur compatible					
	4603	3500	3500	3503	2400	2403

Technical Data - IV

Front Derailleur - MTB / trekking

Series	XCD				XLE				MARVO LT	MEZZO	
Model No.	FD-M853D	FD-M852D	FD-M853B	FD-M852B	FD-M613D	FD-M612D	FD-M613B	FD-M612B	FD-M43	FD-M22	FD-M20
Chain Ring	Triple	Double	Triple	Double	Triple	Double	Triple	Double	Triple		
Cassette Compatibility	10								9	8 / 7	
Top Gear Teeth	42T (32T-24T)	44-38T	42T (32T-24T)	44-38T	42T (32T-24T)	44-38T	42T (32T-24T)	44-38T	44T (32T-22T)	48T (38T-28T)	42T (34T-24T)
Capacity	18T	14T	18T	14T	18T	14T	18T	14T	22T	20T	18T
Route Type	Dual Pull or Top Pull		Dual Pull		Dual Pull or Top Pull		Dual Pull		Dual Pull		
Chainstay Angle	66-69										
Mount Type	Direct mount		Band		Direct mount		Band				
Chain Line	50.0mm	48.8mm	50.0mm	48.8mm	50.0mm	48.8mm	50.0mm	48.8mm	50.0 / 47.5mm		
Band Diameter	N		ø34.9 / ø31.8 (1)		N		ø34.9 / ø31.8 (1)		ø34.9 / ø31.8 (1) / ø28.6 (2)		
Front Clamp Band	N		Aluminum black		N		Aluminum black		Steel black		
Rear Clamp Band	Aluminum black				Aluminum black				Aluminum black		
Outer Link	Aluminum / black anodized / CNC machined				Aluminum black				Steel		
Inner Link	Aluminum								Steel		
Chain Guide	Steel C.P.										
Average Weight	143g	141g	157g	155g	144g	142g	158g	156g	150g	152g	143g

■ (1) -Clamp spacer (SM-M31) allow the derailleur to be ø31.8mm frame tube. Without ring spacer the derailleur mounts to ø34.9mm frame tube.

■ (2) -Clamp spacer (SM-M28) allow the derailleur to be ø28.6mm frame tube. Without ring spacer the derailleur mounts to ø34.9mm frame tube.

Rear Derailleur - MTB / trekking

Series	XCD11	XCD	XLE		MARVO LT	MEZZO	Non-group				
Model No.	RD-M78L	RD-M85L	RD-M61L	RD-M62L	RD-M46L	RD-M45L	RD-M35L	RD-M25L	RD-M22L	RD-M22LA	RD-M22LB
Speeds	10/11-speed				8/9-speed	8/9-speed	8/7-speed	8/7-speed	8/7/6-speed		
Max. Sprocket	36-42T	36T		36-42T	34T						
Min. Sprocket	11T										
Total Capacity	47T	43T		47T	45T						
Guide Pulley	Engineering composite with steel bushing										
Tension Pulley											
Bracket Body	Aluminum / black painted				Aluminum / black painted		Resin / black		Steel / black: Direct attachment	Steel / black: With reverse bracket	Steel / black: With bracket
Bracket Pivot Seal	Y		N								
Plate Body	Aluminum		Resin / black								
Plate Pivot Seal	Y		N								
Outer Link	Cold forged Aluminum / black anodized, CNC machined		Aluminum / black painted				Resin / black		Resin + Steel		
Inner Link	Aluminum / black		Steel black								
Link Pin Bushing	Stainless steel		N								
Outer Plate	Al. black	Al. black / CNC machined	Steel / black painted								
Inner Plate	Aluminum / black anodized		Steel / black painted								
Average Weight	206g	204g	281g	285g	317g	321g	315g	294g	279g	316g	316g
Option		RD-M85S	RD-M61S		RD-M48S	RD-M45S	RD-M35S	RD-M25S	RD-M22S	RD-M22SA	RD-M22SB
		Total capacity 35T			Total capacity 39T						
		200g	270g		307g	308g	302g	284g	269g	306g	306g
Compatibility	Shimano MTB / trekking derailleur compatible										

Shifters - MTB / trekking / touring

Series												
Model No.	SL-M861R	SL-M860-2	SL-M850-2	SL-M760-2	SL-M11	SL-M10	BS-M11	BS-M10	SL-M859	SL-M759-3	TS71-9	TS38-7
Cassette Compatibility	11	10			11	10	11	10	9			7
Front Shifting	None	Double			Double / Triple				Triple			
Bracket Material	Cold forged Al.		Aluminum		Cold forged Al. CNC		Aluminum					Composited
Main Shift Lever Material	Aluminum				Cold forged Al				Aluminum			Composited
Function for front shifting	None	Index			Micro-index				Index			
Bearings inside mechanism	Y	N										
Shift Cable Adjuster	Y						N		Y			
Clamp Band	22.2mm						Barend mount 19.0-22.0mm		22.2mm			
Shift Cable	Stainless slick											Regular
Average Weight	104g	207g	225g	286g	128g	128g	150g	150g	225g	271g	282g	242g
Option		For triple chainring									TS71-8 for 3x8s TS71-7 for 3x7s	TS38-8 for 3x8s TS38-6 for 3x6s
		SL-M860-3	SL-M850-3	SL-M760-3								
Compatibility	Shimano MTB / trekking derailleur compatible											

Cassette Sprocket (Shimano compatible)

Model no.		CS-G110	CS-H110	CS-G110	CS-H110	CS-H110	CS-G100	CS-H100	CS-G100	CS-H100	CS-G100	CS-H100	CS-H100	CS-H100
Speeds		11	11	11	11	11	10	10	10	10	10	10	10	10
Combination	11	42 *	42 *	40 *	40 *	32								
	10	36	36	36	36	28	42 *	42 *	40 *	40 *	36	36	34	32
	9	32	32	32	32	24	36	36	36	36	32	32	28	28
	8	28	28	28	28	21	32	32	32	32	28	28	24	24
	7	24	24	24	24	19	28	28	28	28	24	24	21	21
	6	21	21	21	21	17	24	24	24	24	21	21	19	19
	5	19	19	19	19	15	21	21	21	21	19	19	17	17
	4	17	17	17	17	14	17	17	17	17	17	17	15	15
	3	15	15	15	15	13	15	15	15	15	15	15	13	13
	2	13	13	13	13	12	13	13	13	13	13	13	12	12
	1	11	11	11	11	11	11	11	11	11	11	11	11	11
Material		Steel												
Surface treatment		Chrome plated												
Bracket spider		Y	N	Y	N		Y	N	Y	N	Y	N		
lock ring		Aluminum	Steel	Aluminum	Steel		Aluminum	Steel	Aluminum	Steel	Aluminum	Steel		
Average weight		441.5g	557g	434.5g	549.5g	371g	415g	535.5g	408g	527g	357g	446g	377g	351g
Recommended chain		HG 11-speed					HG 10-speed							

* - 7075 Aluminum

Model no.		CS-G100	CS-H100	CS-G100	CS-H100	CS-H092	CS-H092	CS-H092	CS-H092	CS-H092	CS-H092	CS-H081	CS-H081	CS-H081	CS-H081	CS-H081
Speeds		10	10	10	10	9	9	9	9	9	9	8	8	8	8	8
Combination	11															
	10	28	28	25	25											
	9	24	24	23	23	36	34	32	28	25	25					
	8	21	21	21	21	32	28	28	24	23	23	34	32	32	28	25
	7	19	19	19	19	28	24	24	21	21	21	28	28	28	24	23
	6	17	17	17	17	24	21	21	19	19	19	24	24	24	21	21
	5	15	15	15	15	21	19	19	17	17	17	21	21	21	19	19
	4	14	14	14	14	17	17	17	15	15	15	17	17	19	17	17
	3	13	13	13	13	15	15	15	13	13	14	15	15	17	15	15
	2	12	12	12	12	13	13	13	12	12	13	13	13	14	13	13
	1	11	11	11	11	11	11	11	11	11	12	11	11	12	11	12
Material		Steel														
Surface treatment		Chrome plated				Nickel						Black				
Bracket spider		Y	N	Y	N											
lock ring		Aluminum	Steel	Aluminum	Steel											
Average weight		255g	289g	239g	274g	442.5g	363g	337g	276g	273g	276g	344g	318.5g	339g	270g	264g
Recommended chain		HG 10-speed				HG 9-speed						HG 8-speed				



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