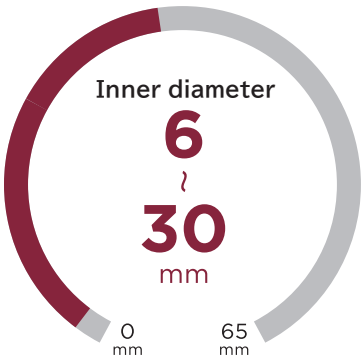
Friction Clutch

MSC/ MTLA series

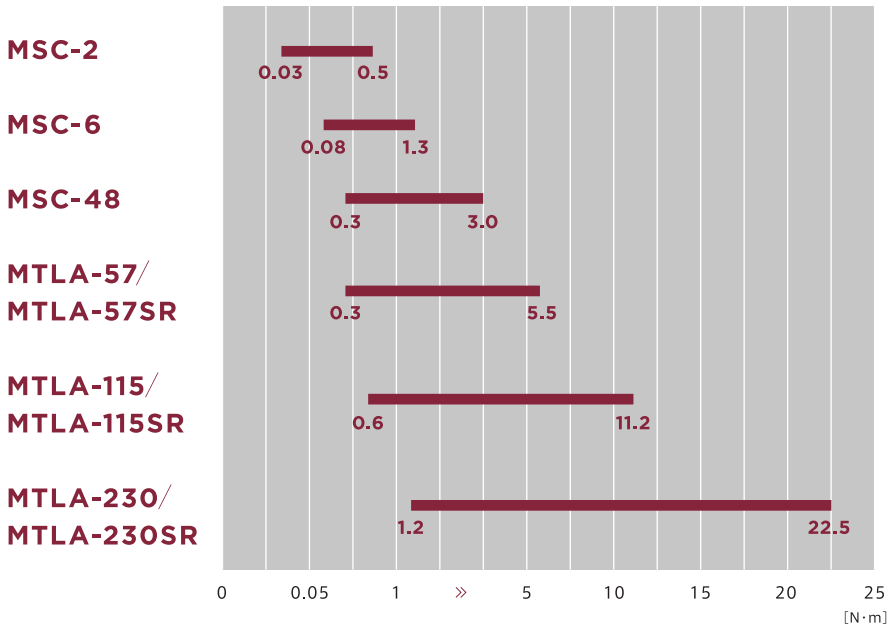
MSC-2 / 6 / 48 / SP-1
MTLA-57 / 115 / 230
MTLA-57SR / 115SR / 230SR



Features

Principle	A clutch that uses frictional forces to control the power between the driven and driven in one or two shafts
Slipped torque	Can be set arbitrarily
Misalignment	If there is misalignment between the two axes, select types C and D with couplings
Mounting and Dismounting	Set screw Fixes a shaft by digging sets crews into the shaft directly Clamp Fixes a shaft using elastic deformation of hub notch by tightening cap screws
Torque transmission characteristics	The torque between the driven and driven can be controlled
Consumable goods	MTLA series: friction plates C, D types: torque discs
Backlash	about 2 degrees
Electric isolation	A, B types: No magnetic properties C, D types: Electrically isolated
Magnetic properties	Magnetic

MSC/MTLA series slipped torque range



INNER DIA. [mm]

TORQUE [N·m]

Torque limitter

MTLA-57/115/230

Slipped torque
0.3~22.5 N·m

Size
MTLA-57
(0.3~5.5 N·m)
MTLA-115
(0.6~11.2 N·m)
MTLA-230
(1.2~22.5 N·m)

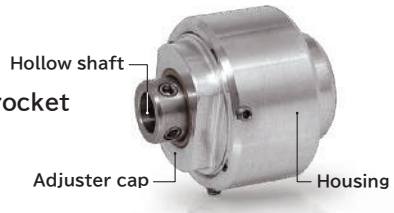
Inner diameter G6
6~30 mm

Set-screw Clutch side

MTLA-AB type

1 shaft
Mounted with pulley/sprocket

2 shafts
Set-screw rigid



MTLA-C type

2 shafts

Set-screw mounted with oldham coupling

MTLA-D type

2 shafts

Clamp mounted with oldham coupling

Specifications

Type			Slipped torque Max. [N·m]	Slipped torque Min. [N·m]	Limiting heat dissipation [W] (at20℃)	Lateral [mm]	Angular [°]	Endplay [mm]	Inertia [kg·m²×10⁻⁸]	Mass [g]
MTLA	57	AB	5.5	0.3	9	—	—	—	3,250	78
	115	AB	11.2	0.6	22	—	—	—	11,150	265
	230	AB	22.5	1.2	30	—	—	—	41,080	600
	57	C	4.0	0.3	9	3.0	1	0.2	4,650	103
	57	D	4.0	0.3	9	3.0	1	0.2	4,650	103
	115	C	11.2	0.6	22	5.0	1	0.3	17,840	395
	115	D	11.2	0.6	22	5.0	1	0.3	17,840	395
	230	C	22.5	1.2	30	7.0	1	0.4	86,260	931
	230	D	22.5	1.2	30	7.0	1	0.4	86,260	931

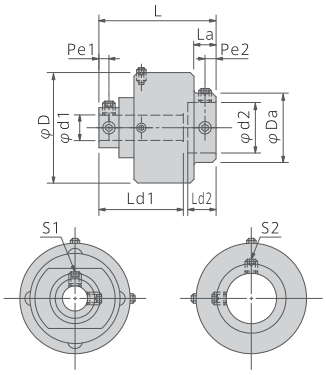
Materials

All types	Housing	Hollow shaft	Adjuster cap	CD adapter
	Al alloy	Steel	Al alloy	Al alloy

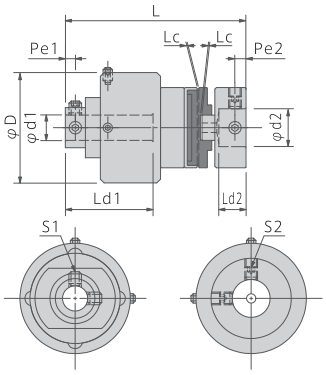
*For C/D types, please refer to the outer diameter of oldham coupling size25, 41, 57.

Drawings

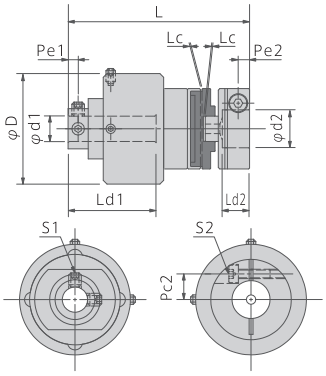
MTLA-57-AB



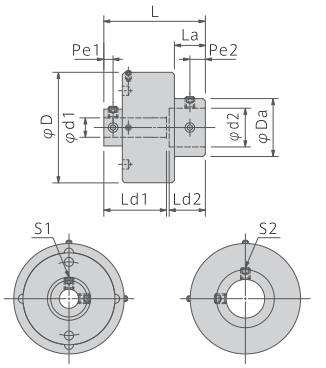
MTLA-57-C



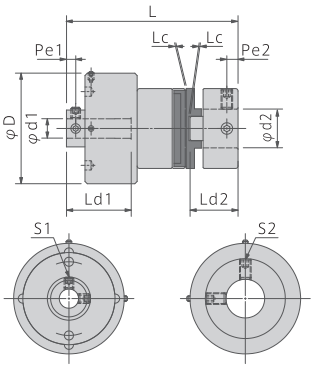
MTLA-57-D



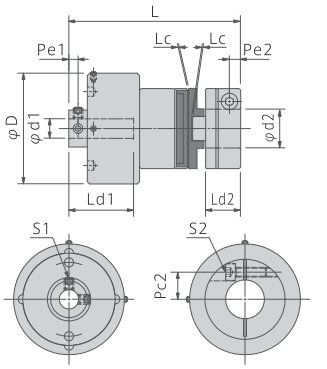
MTLA-115-AB MTLA-230-AB



MTLA-115-C MTLA-230-C



MTLA-115-D MTLA-230-D



Dimensions

Type			Shaft bore diameter	Shaft bore diameter		Overall length	Outer diameter	Length	Outer diameter	Clearance	Mouting length max.	Mouting length min.
			d1[mm]	d2[mm]		L[mm]	D[mm]	La[mm]	Da[mm]	Lc[mm]	Ld1[mm]	Ld1[mm]
MTLA	57	AB	8	8~16		37.2	35.0	7.0	21.97	—	27.8	8.0
	115	AB	10~14	10~20		52.5	57.2	16.0	29.97	—	33.4	10.0
	230	AB	12~20	12~26		66.7	73.1	25.4	46.97	—	35.6	12.0
	57	C	8	6~12		56.4	35.0	—	—	0.10	27.8	8.0
		D	8	6~12		56.4	35.0	—	—	0.10	27.8	8.0
	115	C	10~14	8~20		88.0	57.2	—	—	0.15	33.4	10.0
		D	10~14	8~20		88.0	57.2	—	—	0.15	33.4	10.0
	230	C	12~20	12~30	Key-way standard	120.2	73.1	—	—	0.20	35.6	12.0
		D	12~20	12~30		120.2	73.1	—	—	0.20	35.6	12.0

Type			Mouting length max.	Mouting length min.	Distance	Set screw	Tightning torque	Distance	Distance	Set screw	Cap screw	Tightning torque
			Ld2[mm]	Ld2[mm]	Pe1[mm]	S1[mm]	[N·m]	Pe2[mm]	Pc2[mm]	S2[mm]	S2[mm]	[N·m]
MTLA	57	AB	9.0	7.0	3.2	M4	1.6	3.5	—	M4	—	1.6
	115	AB	18.7	11.5	4.8	M5	3.0	8.0	—	M5	—	3.0
	230	AB	30.7	13.5	6.4	M6	5.1	9.5	—	M6	—	5.1
	57	C	8.6	7.0	3.2	M4	1.6	3.5	—	M4	—	2.0
		D	8.6	8.2	3.2	M4	1.6	3.6	8.1	—	M3	2.1
	115	C	18.1	11.9	4.8	M5	3.0	5.8	—	M6	—	6.5
		D	18.1	15.5	4.8	M5	3.0	5.8	14.0	—	M5	9.6
	230	C	28.8	18.4	6.4	M6	5.1	8.0	—	M6	—	6.5
		D	28.8	23.3	6.4	M6	5.1	8.0	21.0	—	M6	16.3

*Overall length values include clearance.

INNER DIA. [mm]

Torque limitter

MTLA-57SR/ 115SR/230SR

Slipped torque
0.3~22.5 N·m

Size
MTLA-57SR
(0.3~5.5 N·m)
MTLA-115SR
(0.6~11.2 N·m)
MTLA-230SR
(2.3~22.5 N·m)

Inner diameter G6
6~30 mm

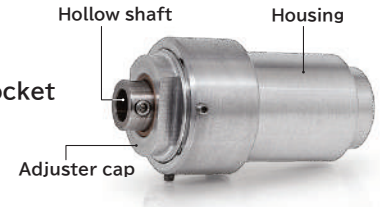
TORQUE [N·m]

Set-screw Clutch side

MTLA-SR-AB

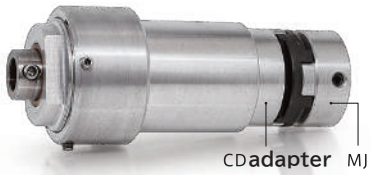
1 shaft
Mounted with pulley/sprocket

2 shafts
Set-screw rigid



MTLA-SR-C

2 shafts



Set-screw mounted with oldham coupling

MTLA-SR-D

2 shafts

Clamp mounted with oldham coupling

Specifications

Type			Slipped torque Max. [N·m]	Slipped torque Min. [N·m]	Toqrue [N·m]	Limiting heat dissipation [W] (at20℃)	Lateral [mm]	Angular [°]	Endplay [mm]	Inertia [kg·m²×10⁻⁴]	Mass [g]
MTLA	57 SR	AB	5.5	0.3	13.3	9	—	—	—	1,550	157
	115 SR	AB	11.2	0.6	22.1	22	—	—	—	11,000	420
	230 SR	AB	22.5	1.2	46.5	30	—	—	—	36,700	867
	57 SR	C	4.0	0.3	4.0	9	3.0	1	0.2	2,950	182
		D	4.0	0.3	4.0	9	3.0	1	0.2	2,950	182
	115 SR	C	11.2	0.6	17.0	22	5.0	1	0.3	17,690	550
		D	11.2	0.6	17.0	22	5.0	1	0.3	17,690	550
	230 SR	C	22.5	1.2	37.5	30	7.0	1	0.4	81,880	1,198
		D	22.5	1.2	37.5	30	7.0	1	0.4	81,880	1,198

Materials

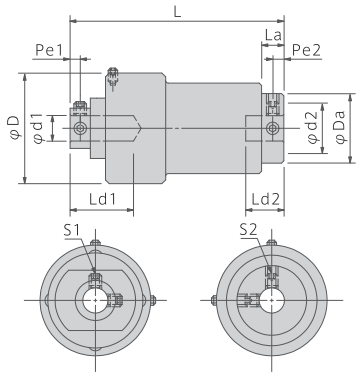
All types	Housing	Hollow shaft	Adjuster cap	CD adapter
	Al alloy	Steel	Al alloy	Al alloy

<Allowable torque>
This is the torque in the driven direction of the clutch.

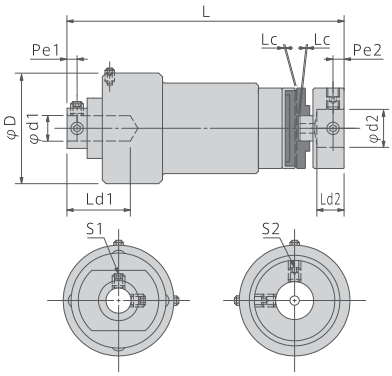
<Direction of clutch operation>
The operating direction of the clutch can be selected from CW or CCW.

Drawings

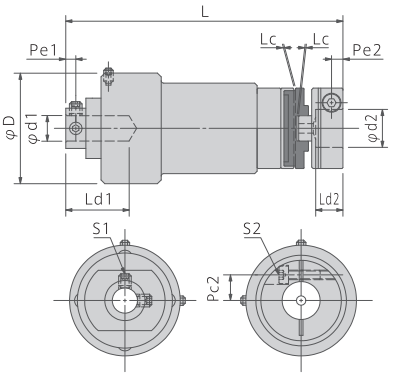
MTLA-57SR-AB



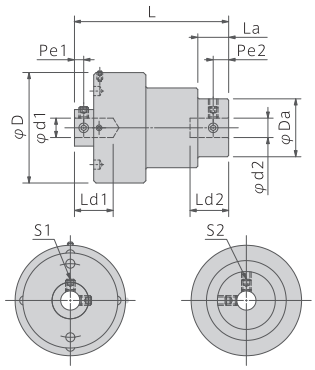
MTLA-57SR-C



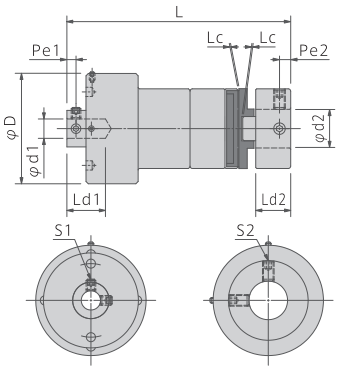
MTLA-57SR-D



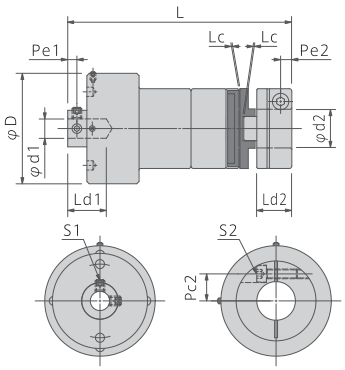
MTLA-115SR-AB MTLA-230SR-AB



MTLA-115SR-C MTLA-230SR-C



MTLA-115SR-D MTLA-230SR-D



Dimensions

Type			Shaft bore diameter d1[mm]	Shaft bore diameter d2[mm]		Overall length L[mm]	Outer diameter D[mm]	Length La[mm]	Outer diameter Da[mm]	Clearance Lc[mm]	Mouting length max. Ld1[mm]	Mouting length min. Ld1[mm]
MTLA	57 SR	AB	8	8		67.4	35.0	7.0	21.97	—	20.0	12.0
	115 SR	AB	10	10		79.8	57.2	16.0	29.97	—	20.0	15.0
	230 SR	AB	12	12		88.9	73.1	25.4	46.97	—	24.0	18.0
	57 SR	C	8	6～12		86.7	35.0	—	—	0.10	20.0	12.0
		D	8	6～12		86.7	35.0	—	—	0.10	20.0	12.0
	115 SR	C	10	8～20		115.3	57.2	—	—	0.15	20.0	15.0
		D	10	8～20		115.3	57.2	—	—	0.15	20.0	15.0
	230 SR	C	12	12～30	Key-way standard	142.4	73.1	—	—	0.20	24.0	18.0
		D	12	12～30		142.4	73.1	—	—	0.20	24.0	18.0

Type			Mouting length max. Ld2[mm]	Mouting length min. Ld2[mm]	Distance Pe1[mm]	Set screw S1[mm]	Tightning torque [N·m]	Distance Pe2[mm]	Distance Pc2[mm]	Set screw S2[mm]	Cap screw S2[mm]	Tightning torque [N·m]
MTLA	57 SR	AB	12.0	6.0	3.2	M4	1.6	3.5	—	M4	—	1.6
	115 SR	AB	20.0	15.0	4.8	M5	3.0	8.0	—	M5	—	3.0
	230 SR	AB	24.0	18.0	6.4	M6	5.1	9.5	—	M6	—	5.1
	57 SR	C	8.6	7.0	3.2	M4	1.6	3.5	—	M4	—	2.0
		D	8.6	8.2	3.2	M4	1.6	3.6	8.1	—	M3	2.1
	115 SR	C	18.1	11.9	4.8	M5	3.0	5.8	—	M6	—	6.5
		D	18.1	15.5	4.8	M5	3.0	5.8	14.0	—	M5	9.6
	230 SR	C	28.8	18.4	6.4	M6	5.1	8.0	—	M6	—	6.5
		D	28.8	23.3	6.4	M6	5.1	8.0	21.0	—	M6	16.3

*Overall length values include clearance.