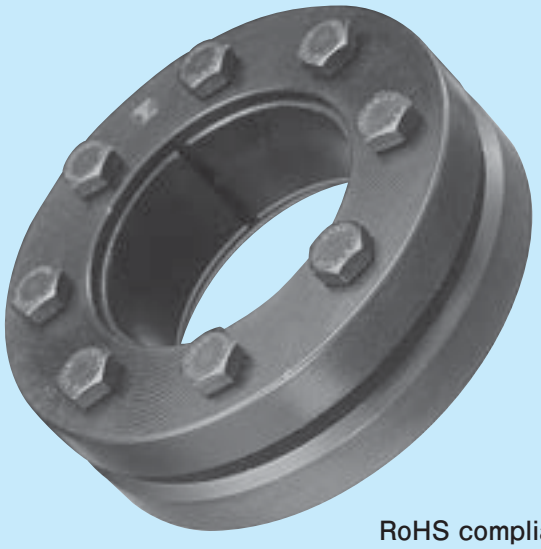
Power-Lock® SL Series

Sizes : φ24～φ300
Hub outer diameter tolerance : h7
Hub bore tolerance : H7
Surface roughness : Ra1.6
(Shaft tolerance : h6)



RoHS compliant.

Features

1 External Lock
Excellent for hollow shaft or space restricted installation.

2 High Torque
The larger the shaft diameter, the greater the transmissible torque.

3 Easy to Install and Remove
Installs or removes just by the tightening or loosening of bolts. No need to hassle with adjusting keyways and thermal fittings.

4 Simple Construction
Simply constructed with only an inner ring and taper rings A and B. Simply tighten the locking bolts to achieve a completely secure connection.

Parts

Locking Bolts

Taper Ring A

Inner Ring

Taper Ring B

"Power-Lock" SL Series shaft-hub locking devices are constructed of the following three parts: taper rings A and B—each with a tapered inner diameter—and an inner ring with a tapered outer diameter. As the locking bolts are tightened, the tapered surfaces of taper rings A and B slide together.

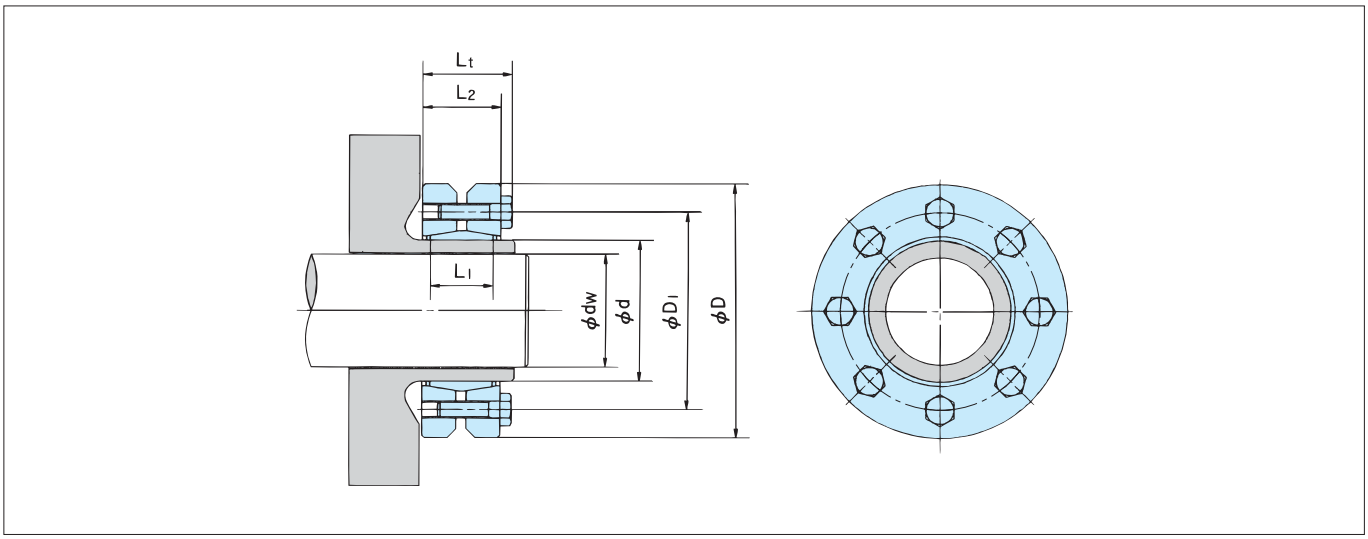
Reference Number System

PL 024 X 050 SL

- SL Series
- SL Outer Diameter mm
- Hub Outer Diameter mm
- Power-Lock

The inner ring and locking bolts are coated with a special lubricant to avoid rust and to maintain a constant friction coefficient. Application of oil and grease is thus not necessary.

Model Numbers and Specifications



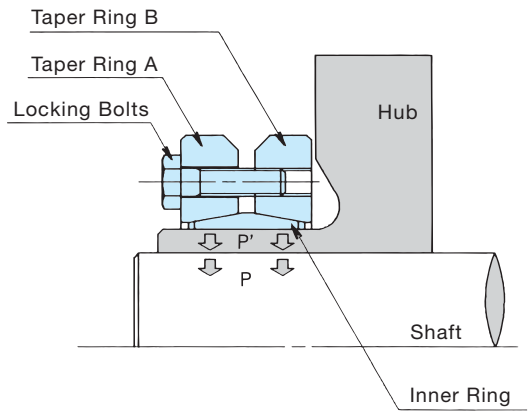
* Note) 3

Model No. (d X D / Hub Outer Diameter X SL / Outer Diameter) mm	Dimensions mm					Transmissible Torque		Transmissible Thrust		Shaft Contact Pressure		Hub Contact Pressure		Locking Bolts				Mass
	dw	D1	L1	L2	Lt	Mt N·m	Mt {kgf·m}	Pax kN	Pax {kgf}	P MPa	P {kgf/mm²}	P' MPa	P' {kgf/mm²}	Qty.	Size	Tightening Torque MA N·m	Tightening Torque MA {kgf·m}	kg
PL 024 X 050 SL	19	36	14	19.5	23	167	17	17.9	1830	199	20.3	314	32.0	6	M 5x18	4.9	0.5	0.2
	20					205	21	20.6	2100	216	22.1							
	21					243	25	23.2	2370	232	23.7							
PL 030 X 060 SL	24	44	16	21.5	25	256	26	21.4	2180	164	16.7	254	26.0	7	M 5x18	4.9	0.5	0.3
	25					297	30	23.7	2420	175	17.8							
	26					340	35	26.2	2670	185	18.9							
PL 036 X 072 SL	28	52	18	23.5	27.5	459	47	32.8	3350	192	19.6	271	27.6	5	M 6x20	11.8	1.2	0.4
	30					570	58	38.0	3880	208	21.2							
	31					599	61	38.7	3950	204	20.8							
PL 044 X 080 SL	34	61	20	25.5	29.5	784	80	46.1	4700	200	20.4	278	28.4	7	M 6x20	11.8	1.2	0.6
	35					857	87	49.0	5000	206	21.0							
	36					934	95	51.9	5300	212	21.7							
PL 050 X 090 SL	38	70	22	27.5	31.5	1010	103	53.0	5410	187	19.1	258	26.3	8	M 6x22	11.8	1.2	0.8
	40					1180	120	58.8	6000	197	20.1							
	42					1360	139	64.8	6610	207	21.1							
PL 055 X 100 SL	42	75	23	30.5	34.5	1120	115	53.5	5460	163	16.7	226	23.0	8	M 6x25	11.8	1.2	1.1
	45					1390	142	61.7	6300	176	17.9							
	48					1680	172	70.2	7160	187	19.1							
PL 062 X 110 SL	48	86	23	30.5	34.5	1850	189	77.2	7880	195	19.9	249	25.4	10	M 6x25	11.8	1.2	1.3
	50					2080	212	83.1	8480	202	20.6							
	52					2220	227	85.6	8730	200	20.4							
PL 068 X 115 SL	50	86	23	30.5	34.5	1780	182	71.2	7270	173	17.6	229	23.4	10	M 6x25	11.8	1.2	1.4
	55					2230	227	80.9	8260	179	18.2							
	60					2870	293	95.7	9770	194	19.8							
PL 075 X 138 SL	55	100	25	32.5	38	2590	265	94.4	9630	192	19.5	253	25.9	7	M 8x30	29.4	3.0	1.7
	60					3310	338	111	11300	206	21.0							
	65					4120	421	126	12900	218	22.2							
PL 080 X 145 SL	60	100	25	32.5	38	2980	304	99.3	10100	185	18.9	239	24.4	7	M 8x30	29.4	3.0	1.9
	65					3720	380	115	11700	197	20.1							
	70					4560	465	130	13300	208	21.2							
PL 090 X 155 SL	65	114	30	39	44.5	4600	469	141	14400	203	20.7	255	26.0	10	M 8x35	29.4	3.0	3.3
	70					5600	571	160	16300	213	21.7							
	75					6700	684	178	18200	222	22.6							
PL 100 X 170 SL	70	124	34	44	49.5	5710	582	163	16600	191	19.5	242	24.7	12	M 8x35	29.4	3.0	4.7
	75					6840	698	182	18600	200	20.4							
	80					8090	826	202	20600	208	21.2							
PL 110 X 185 SL	75	136	39	50	57	6960	711	185	18900	177	18.1	226	23.1	9	M10x40	57.8	5.9	5.9
	80					8250	842	207	21100	185	18.8							
	85					9360	955	221	22500	186	18.9							

Notes) 1. Stocked models are in bold.
2. Mt indicates torque at 0 transmissible thrust, while Pax indicates transmissible thrust at 0 torque. If transmissible torque and thrust apply simultaneously calculate and compare the combined value with the transmissible torque provided in the table.
3. Dimensions when this product is attached to the shaft and hub.

SL

Model Numbers and Specifications



When this product is tightened, the wedging action between the inner ring and the taper rings applies radial pressure P' on the hub exterior. This pressure P' molds the hub towards the radial direction and strengthens the hub-shaft connection. The greater the value of P', the tighter the connection.

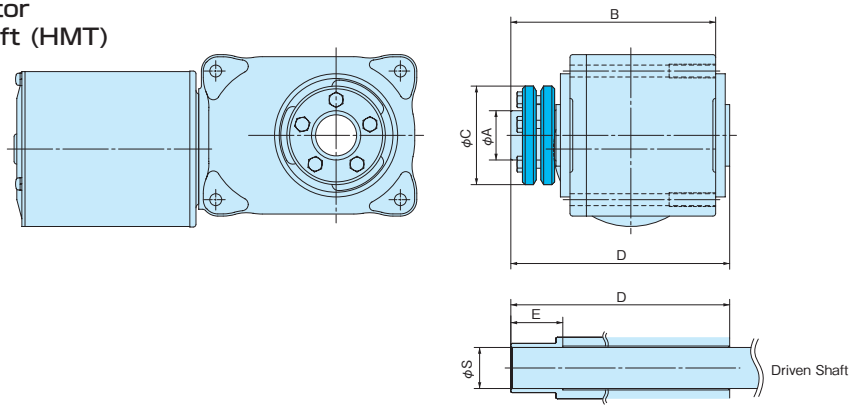
* Note) 2

Model No. d X D / Hub Outer Diameter X / SL Outer Diameter (mm)	Dimensions mm					Transmissible Torque Mt		Transmissible Thrust Pax		Shaft Contact Pressure P		Hub Contact Pressure P'		Locking Bolts				Mass
	dw	D_1	L_1	L_2	L_t	N · m	{kgf · m}	kN	{kgf}	MPa	{kgf/mm²}	MPa	{kgf/mm²}	Quantity	Size	Tightening Torque M_A N · m	{kgf · m}	kg
PL 125 X 215 SL	85	160	42	54	61	10200	1040	240	24500	187	19.1	240	24.4	12	M10×40	57.8	5.9	8.3
	90					11800	1200	262	26700	194	19.8							
	95					13500	1380	285	29100	200	20.4							
PL 140 X 230 SL	95	175	46	60.5	68.5	14600	1490	308	31400	196	20.0	242	24.7	10	M12×45	98.0	10	10
	100					16600	1690	331	33800	201	20.5							
	105					18700	1910	357	36400	206	21.0							
PL 155 X 265 SL	105	192	50	64.5	72.5	19200	1960	366	37300	195	19.9	237	24.2	12	M12×50	98.0	10	15
	110					21600	2200	392	40000	199	20.3							
	115					24000	2450	417	42600	203	20.7							
PL 165 X 290 SL	115	210	56	71	81	29500	3010	513	52300	222	22.7	259	26.4	8	M16×55	245	25	22
	120					32600	3330	544	55500	226	23.0							
	125					35300	3600	564	57600	225	23.0							
PL 175 X 300 SL	125	220	56	71	81	32600	3330	522	53300	208	21.2	246	25.1	8	M16×55	245	25	22
	130					35900	3660	552	56300	212	21.6							
	135					39400	4020	584	59600	215	22.0							
PL 185 X 330 SL	135	236	71	86	96	45000	4590	666	68000	194	19.8	228	23.2	10	M16×65	245	25	37
	140					49100	5010	702	71600	197	20.1							
	145					53500	5460	738	75300	200	20.4							
PL 195 X 350 SL	140	246	71	86	96	54800	5590	783	79900	220	22.5	254	26.0	12	M16×65	245	25	41
	150					64600	6590	861	87900	226	23.0							
	155					69800	7120	901	91900	228	23.3							
PL 200 X 350 SL	150	246	71	86	96	64600	6590	861	87900	226	23.0	254	26.0	12	M16×65	245	25	41
	155					69800	7120	901	91900	228	23.3							
	160					75200	7670	940	95900	231	23.6							
PL 220 X 370 SL	160	270	88	104	114	83000	8470	1040	106000	206	21.0	234	23.9	15	M16×80	245	25	54
	165					89200	9100	1080	110000	208	21.2							
	170					95700	9770	1130	115000	210	21.4							
PL 240 X 405 SL	170	295	92	109	122	111000	11300	1300	133000	233	23.8	260	26.6	12	M20×80	480	49	67
	180					126000	12900	1400	143000	237	24.2							
	190					141000	14400	1490	152000	238	24.2							
PL 260 X 430 SL	190	321	103	120	133	149000	15200	1570	160000	224	22.9	251	25.6	14	M20×90	480	49	82
	200					169000	17200	1690	172000	228	23.3							
	210					188000	19200	1790	183000	231	23.6							
PL 280 X 460 SL	210	346	114	134	147	196000	20000	1860	190000	218	22.2	241	24.6	16	M20×100	480	49	102
	220					219000	22300	1990	203000	221	22.5							
	230					242000	24700	2110	215000	224	22.8							
PL 300 X 485 SL	230	364	122	142	155	251000	25600	2190	223000	217	22.2	237	24.2	18	M20×100	480	49	118
	240					277000	28300	2310	236000	220	22.5							
	245					290000	29600	2370	242000	221	22.6							

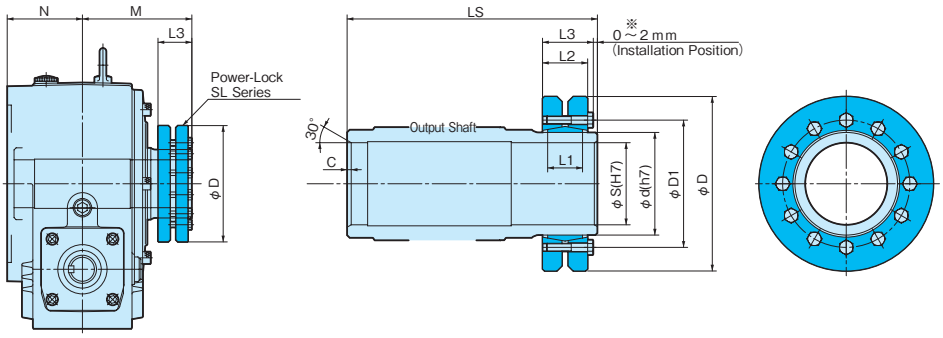
Notes) 1. Mt indicates torque at 0 transmissible thrust, while Pax indicates transmissible thrust at 0 torque. If transmissible torque and thrust apply simultaneously calculate and compare the combined value with the transmissible torque provided in the table.
2. Dimensions when this product is attached to the shaft and hub.

Design Examples

Hypoid Motor
Hollow Shaft (HMT)

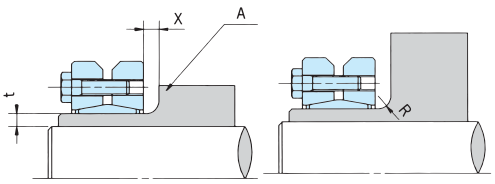


Worm Reducer
SW, SWM



■ Notes on mounting to high-rigidity hubs (Refer to the diagram below)

When mounting this product on a highly rigid hub that has a large diameter at point A shown in the diagram, the distance X—the clearance between the product and the hub shoulder—must be considered. When X is too small it indicates an incomplete installation, thus standard torque will not be achieved. In this case, increase X so that it is greater than the thickness of the hub wall t. Only install this product if X is greater than t. For flanges or other hubs with large outer diameters, make sure the value of R is also large or at least R6mm.



SL

Innovation in Motion

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