

# DOUBLE DISK TYPE FLEXIBLE COUPLINGS

# SDP/SI

ZERO BACKLASH  
HIGH TORSIONAL STIFFNESS  
HIGH TORQUE  
HIGH RESPONSE

PHONE: 516.328.3300 • FAX: 516.326.8827 • WWW.SDP-SI.COM



### > MATERIAL:

**Disk & Collar** - Stainless Steel  
**Hubs & Spacer** - Anodized Aluminum

### > SPECIFICATION:

Shaft Tolerance (h7):  
3 mm 0/-0.010  
4 to 6 mm 0/-0.012  
8 to 10 mm 0/-0.015  
12 to 18 mm 0/-0.018  
20 mm 0/-0.021

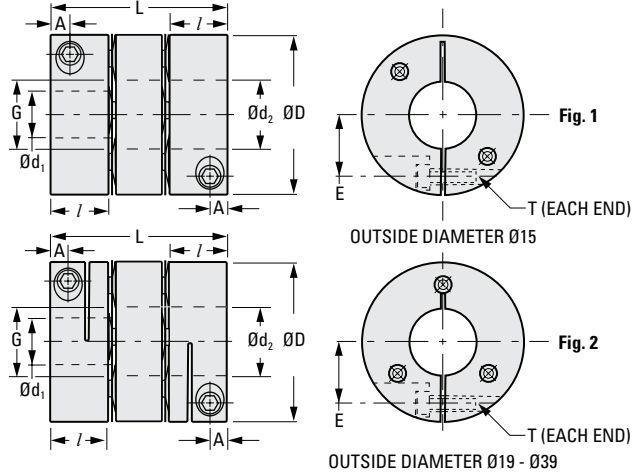
### > NEW:

**Disk Type Flexible Coupling, series S50XHWM... is superior!**

- Higher-torque capability
- Lower price
- More sizes

Compare to S50MHWM... series, and make the switch today, call us!

\*\*Other bore diameter combinations and bore sizes not exceeding the maximum listed below are available on special order.



The projections shown are per ISO convention.

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**NEW**

## METRIC COMPONENT

Catalog Number	Fig. No.	D Dia.	d <sub>1</sub> Bore	d <sub>2</sub> Bore	L	l	G Ref.	A	E	T Cap Screw	Screw Tightening Torque N • m	Max. ** Bore
S50XHWM15H03H03	1	15	3	3	22.4	7.8	6.3	2.3	5	M2	0.45	6
S50XHWM15H03H04				4								
S50XHWM15H03H05				5								
S50XHWM15H05H05				5								
S50XHWM19H03H03	2	19	3	3	25.7	9.2	8.5	2.6	7	M2	0.5	8
S50XHWM19H03H05				5								
S50XHWM19H05H06				6								
S50XHWM19H06H06				6								
S50XHWM25H04H04				4								
S50XHWM25H04H05				4								
S50XHWM25H05H06	5											
S50XHWM25H06H06	6											
S50XHWM25H06H08	6											
S50XHWM25H08H08	8											
S50XHWM25H08H10	8											

Coupling Series (Ref.)	Rated* Torque N • m	Max. rpm	Moment of Inertia Δ kg • m <sup>2</sup>	Static Torsional Stiffness N • m/rad	Max. Lateral Offset mm	Max. Angular Offset mm	Max. Axial Motion mm	Weight Δ grams
S50XHWM15...	0.6	42000	3 x 10 <sup>-7</sup>	100	0.1	1.4	±0.2	9.6
S50XHWM19...	1.5	33000	8.8 x 10 <sup>-7</sup>	300	0.12	2	±0.2	17
S50XHWM25...	3	25000	3.4 x 10 <sup>-6</sup>	1000	0.15		±0.3	35

\*NOTE: The shaft's slip torque may be smaller than the coupling's rated torque depending on the shaft bore. Please see *Slip Torque Chart*.  
ΔThese are values with max. bore diameter.

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6-2E  
D815  
REV: 4.19.23 JC

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# SDPSI

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Fig. 2 Shown

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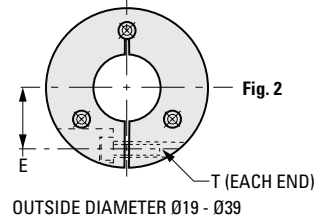
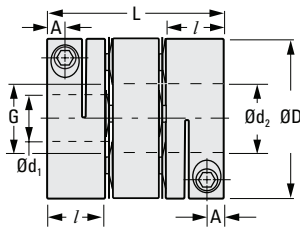


Fig. 2

OUTSIDE DIAMETER Ø19 - Ø39

The projections shown are per ISO convention.

\*\*Other bore diameter combinations and bore sizes not exceeding the maximum listed below are available on special order.

### METRIC COMPONENT

Catalog Number	Fig. No.	D Dia.	d <sub>1</sub> Bore	d <sub>2</sub> Bore	L	l	G Ref.	A	E	T Cap Screw	Screw Tightening Torque N • m	Max** Bore										
S50XHWM27H04H04	27	27	4	4	32.2	11	14.5	3.3	10.25	M2.5	1	14										
S50XHWM27H04H05			4	5																		
S50XHWM27H05H06			5	6																		
S50XHWM27H06H06			6	6																		
S50XHWM27H06H08			6	8																		
S50XHWM27H08H10			8	10																		
S50XHWM27H10H10			10	10																		
S50XHWM34H05H05			34	34									5	5	36.8	12.5	3.75	3.75	13	M3	1.5	16
S50XHWM34H06H06													6	6								
S50XHWM34H06H08													6	8								
S50XHWM34H08H08	8	8																				
S50XHWM34H08H10	8	10																				
S50XHWM34H10H10	10	10																				
S50XHWM34H10H12	10	12																				
S50XHWM39H06H06	39	39			6	6	46.6	15.5	4.5	4.5	14.5	M4	3.5	20								
S50XHWM39H06H08					6	8																
S50XHWM39H08H08					8	8																
S50XHWM39H08H10			8	10																		
S50XHWM39H10H10			10	10																		
S50XHWM39H10H12			10	12																		
S50XHWM39H12H12	12	12																				

Coupling Series (Ref.)	Rated* Torque N • m	Max. rpm	Moment of Inertia Δ kg • m <sup>2</sup>	Static Torsional Stiffness N • m/rad	Max. Lateral Offset mm	Max. Angular Offset mm	Max. Axial Motion mm	Weight Δ grams
S50XHWM27...	3.3	23000	4.4 x 10 <sup>-6</sup>	1400	0.15	2	±0.4	39
S50XHWM34...	6.3	18000	1.3 x 10 <sup>-5</sup>	2500	0.2		±0.5	75
S50XHWM39...	12	16000	2.9 x 10 <sup>-5</sup>	4700	0.25		±0.5	123

NOTE: The shaft's slip torque may be smaller than the coupling's rated torque depending on the shaft bore. Please see Slip Torque Chart.

ΔThese are values with max. bore diameter.

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REV: 4.19.23 JC

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## › APPLICATIONS

Actuator  
Surface-Mount Machine  
High Precision XY Stage  
Index Table

## › MOUNTING ON A D-CUT SHAFT

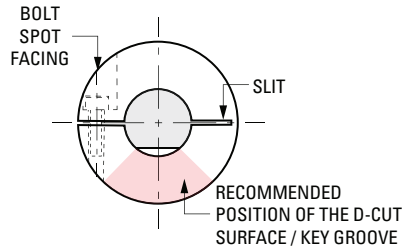
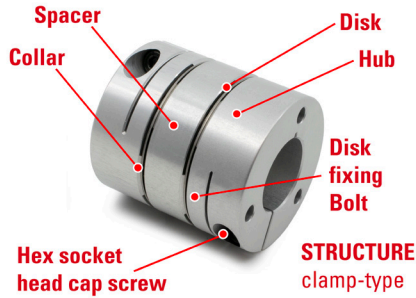
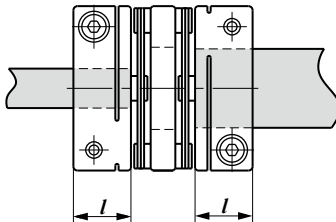
As a rule, use round shafts with clamping types. When using D-cut shafts or shafts with key grooves, mount the D-cut surface or key groove in a position which avoids slits and bolt spot facing. If the D-cut surface or key groove is not in the recommended position, the clamp part may be damaged if excessive load is applied due to hexagon socket head cap screw tightening.

## › SHAFT INSERTION LENGTH

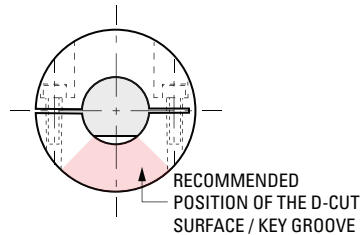
For the length of the shaft that should be inserted into the coupling, we recommend the hub length ( $l$  dimension) listed in the catalog.

If the insertion amount is longer than the  $l$  dimension, check that there is no interference of the shaft inside the coupling.

If the inserted amount is too short, the shaft may slip or the clamping part may break.



FOR CLAMPING TYPES WITH  
1 HEX SOCKET HEAD CAP SCREW



FOR CLAMPING TYPES WITH  
2 HEX SOCKET HEAD CAP SCREWS

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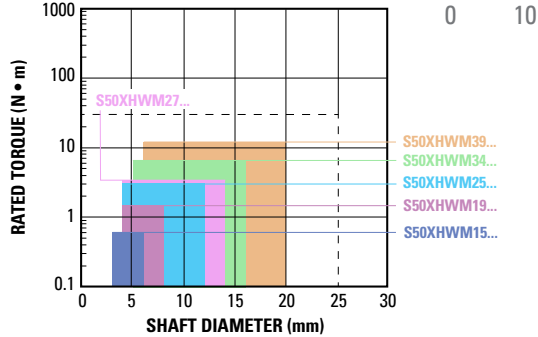
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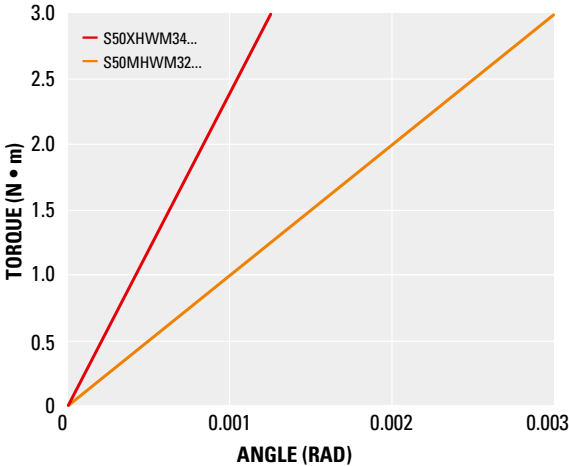
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**SELECTION BASED ON SHAFT DIAMETER AND RATED TORQUE**



**COMPARISON OF STATIC TORSIONAL STIFFNESS**



S50XHWM... series, double disk coupling has improved static torsional stiffness and responsiveness.

**SLIP TORQUE CHART**

Slip torque varies according to the bore diameter and operating conditions. The values shown in the table (N · m) are not guaranteed but are to serve as a guide during selection. Values based on shaft dimensional allowance: h7, hardness: 34-40 HRC and screw tightening torque as shown in the parts table for S50XHWM... .

Coupling Series (Ref.)	Bore Diameter (mm)									
	3	4	5	6	6.35	8	9.525	10	11	12
S50XHWM15...	0.7									
S50XHWM19...	0.7	1.7	3							
S50XHWM25...		2.5	3.6	4.7	5					
S50XHWM27...		2	2.9	4	4.2	5.8				
S50XHWM34...			3.5	4.9	5.5	7.9	10	11	12	
S50XHWM39...				6	8	13	18	19	23	

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