

Backlash-free Servo-insert Couplings Product Range

Special Features

- Backlash free
- Simple, plug-in mounting
- Vibration damping
- Compensation of radial, axial and angular misalignment
- Transmission of torque values

between 0,5 and 650 Nm

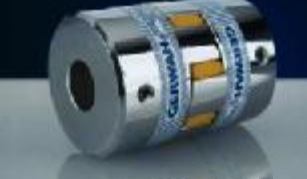
Common Applications

- Encoder
- Precision drives
- Feed drives
- Grinding and milling spindles

- Machine tools
- Packaging Machines
- Industrial robots
- Transfer lines
- Multi-spindle heads
- Wood processing equipment
- Textile machinery

- Conveying equipment
- Linear motion
- Measuring equipment and controls
- Test rigs...

EK/GS miniatur



Miniature Servo-insert Coupling with set screw style hubs

Technical Data Page 4

Servo-insert Coupling with shrink disc style hubs

Technical Data Page 8

ASS/A



DK/GS



Servo-insert Coupling with clamping style hubs and single slit

Technical Data Page 5

High Speed Servo-insert Coupling with shrink disc style hubs for short spindles acc. to DIN 69002

Technical Data Page 9

ASS/A-P



ADS



Servo-insert Coupling with clamping style hubs and dual slits

Technical Data Page 6

Combination Servo-insert Coupling and zero backlash torque limiter

Technical Data Page 10

DMK/ADS



ADS/R



Servo-insert Coupling – interchangeable with competitor's

Technical Data Page 7

Combination Servo-insert Coupling and zero backlash ball detent torque limiter

Technical Data Page 11

DXK/ADS



Technical information Page 12

Checklist for ordering Page 15

The information in this catalog contains product descriptions and does not constitute any specific promises. The user must define and

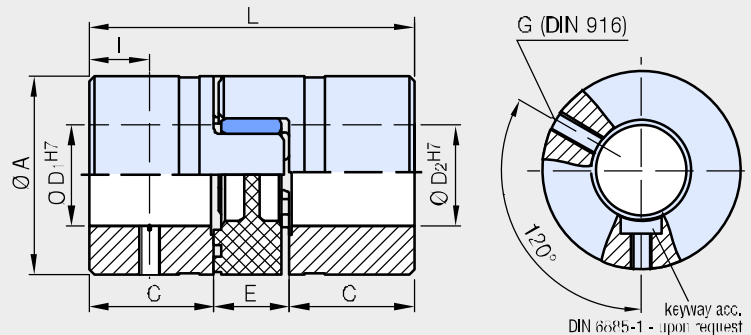
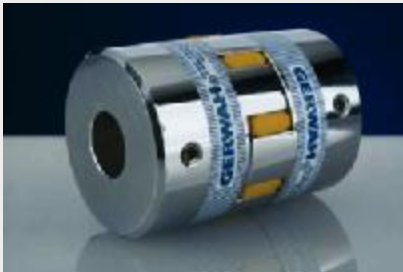
check the technical features for use in each specific application.
All data is subject to change without notice.

Only individual agreements are binding for products supplied.
Zero backlash torque limiters are critical components in potentially

dangerous areas and need to be protected against unintended contacts during operation.



Backlash-free Servo-insert Coupling Type EK/GS



Technical data series EK/GS

Type			5	7	9	14	19	24
Nominal torque	(Nm)	$T_{KN(92ShA)}$	0,5	1,2	3,0	7,5	10	35
Moment of inertia of coupling	(10^{-9} kgm ²)	$J^{(1)}$	0,034	0,196	1,08	5,7	36	162
Tightening torque of screws	(Nm)	MA	1,3	1,3	3	10	10	10
Weight per unit	(app. g)	m	0,9	2,6	7,3	18	70	160
Max. speed	(rpm)	n_{max}	47500	34000	24000	16000	12000	8500
Standard shore hardness			92 SH A (yellow)					

Dimensions (mm) Type EK/GS

Type		5	7	9	14	19	24
L		15	22	30	35	66	78
A		10	14	20	30	40	55
C		5	7	10	11	25	30
Ø D ₁ H7 / Ø D ₂ H7	min. - max.	2-5	3-7	4-11	4-16	6-24	8-28
E		5	8	10	13	16	18
I		2,5	2,5	5	5	10	10
G (DIN 916)		1xM3	1xM3	2xM4	2xM6	2xM6	2xM6
Hub material		aluminium alloy					

Bore range D1/D2 and corresponding transmissible torque values (Nm) of the coupling

Type	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 7	Ø 8	Ø 9	Ø 10	Ø 11	Ø 12	Ø 13	Ø 14	Ø 15	Ø 16	Ø 17	Ø 18	Ø 20	Ø 24	Ø 28
5	0,1	0,4	0,5	0,5																
7		0,4	1	1,2	1,2	1,2														
9			1	2	3	3	3	3	3	3										
14			1	2	3,6	6	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5						
19					3,6	6	9	10	10	10	10	10	10	10	10	10	10	10	10	
24							9	12	17	22	29	35	35	35	35	35	35	35	35	35

¹⁾ Moment of inertia and weigh. (mass) are calculated with reference to the largest bore size.

Ordering data

EK/GS 14 - 10H7 - 14H7 - xxxxx

Type

Bore size D₁

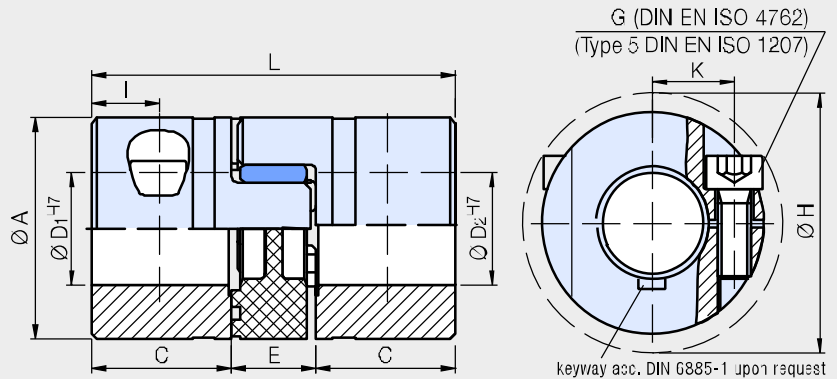
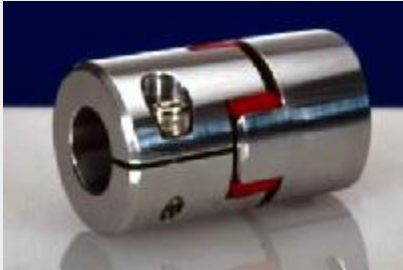
Bore size D₂

Additional details, e.g. different shore hardness (p. 14), keyway

- Compact design
- Economically priced
- Axial assembly
- Vibration damping
- Electrically isolating

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Backlash-free Servo-insert Coupling Type DK/GS



Technical data Type DK/GS

Type			5	7	9	14	19
Nominal torque	(Nm)	$T_{KN}(92SH A)$	0,5	1,2	3,0	7,5	10
Moment of inertia of coupling	(10^{-9} kgm^2)	$J^{(1)}$	0,034	0,196	1,08	5,7	36
Tightening torque of screws	(Nm)	MA	0,25	0,35	0,75	5	10
Weight per hub	(app. g)	m	0,9	2,6	7,3	18	70
Max. speed	(rpm)	n_{max}	38000	27000	19000	13000	10000
Standard shore hardness			92 SH A (yellow)				

Dimensions (mm) Type DK/GS

Type		5	7	9	14	19
L		15	22	30	35	66
A		10	14	20	30	40
C		5	7	10	11	25
$\varnothing D_1^{H7} / \varnothing D_2^{H7}$	min. - max.	2-4	3-7	4-11	9-14	10-20
K		3,2	5	7,3	10,5	15
E		5	8	10	13	16
I		2,5	3,5	5	5	6
G (DIN EN ISO 4762)		M1,6	M2	M2,5	M4	M5
H (clearance diameter)		11,5	16,5	23,5	34	45
Hub material		aluminium alloy				

Bore range D1/D2 and corresponding torque values (Nm) of the coupling

Type	$\varnothing 2$	$\varnothing 3$	$\varnothing 4$	$\varnothing 5$	$\varnothing 6$	$\varnothing 7$	$\varnothing 8$	$\varnothing 9$	$\varnothing 10$	$\varnothing 11$	$\varnothing 12$	$\varnothing 13$	$\varnothing 14$	$\varnothing 15$	$\varnothing 16$	$\varnothing 17$	$\varnothing 18$	$\varnothing 20$
5	0,1	0,4	0,5	0,5														
7		0,4	0,9	0,95	1	1,1												
9			1	2	2,3	2,4	2,5	2,6	2,7	2,8								
14								7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5			
19									10	10	10	10	10	10	10	10	10	10

¹⁾ Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Ordering data

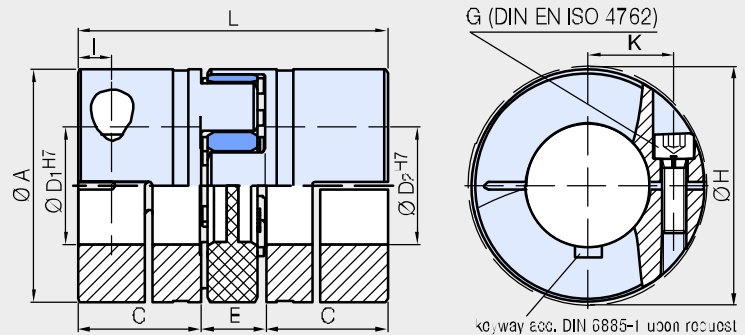
DK/GS 9	-	4H7	-	10H7	-	xxxxx
Type						
Bore size D1						
Bore size D2						
Additional details, e.g. different shore hardness (p. 14), keyway						

- Economical hub design
- Installation-friendly
- Electrically isolating
- Vibration damping
- Fail-safe design

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Backlash-free Servo-insert Coupling Type ADS



Technical data Type ADS

Type			14	19	24	28	38	42	48
Nominal torque	(Nm)	$T_{KN}(92SH A)$	12,5	17	60	160	325	450	525
Moment of inertia of coupling	(10^{-9} kgm^2)	$J^{(1)}$	0,0057	0,036	0,15	0,33	1,04	6,1	14,6
Tightening torque of screws	(Nm)	MA	5	10	18	43	94	84	145
Weight per hub	(app. kg)	m	0,013	0,07	0,15	0,24	0,45	2,06	2,6
Max. Speed	(rpm)	n_{max}	13000	10000	7000	6000	5000	4000	3600
Standard shore hardness			98 SH A (red)						

Dimensions (mm) Type ADS

Type		14	19	24	28	38	42	48
L		35	66	78	90	114	126	140
A		30	40	55	65	80	95	105
C		11	25	30	35	45	50	56
$\text{Ø } D_1^{H7} / \text{Ø } D_2^{H7}$	min. - max.	10-14	10-20	20-28	24-35	32-44	35-50	40-60
K		10,5	15	20	24	30	35	40
E		13	16	18	20	24	26	28
I		5	6	10	11	13	14	15
G (DIN EN ISO 4762)		M4	M5	M6	M8	M10	M10	M12
H (clearance diameter)		34	45	57	70	89	96	110
Hub material		aluminium alloy						steel

Bore range D1/D2 and corresponding transmissible torque values (Nm) of the coupling

Type	Ø 10	Ø 11	Ø 13	Ø 14	Ø 16	Ø 18	Ø 19	Ø 20	Ø 24	Ø 25	Ø 28	Ø 30	Ø 32	Ø 35	Ø 38	Ø 40	Ø 42	Ø 44	Ø 48	Ø 50	Ø 60
14	12,5	12,5	12,5	12,5	12,5																
19	17	17	17	17	17	17	17	17													
24								60	60	60	60										
28									160	160	160	160	160								
38														325	325	325	325	325			
42														415	427	435	443	450	450	450	
48																525	525	525	525	525	525

¹⁾ The moment of inertia and the weight (mass) are calculated with reference to the largest bore size.

Ordering data

ADS 42

- 40H7

- 44H7

- xxxx

Type

Bore size D1

Bore size D2

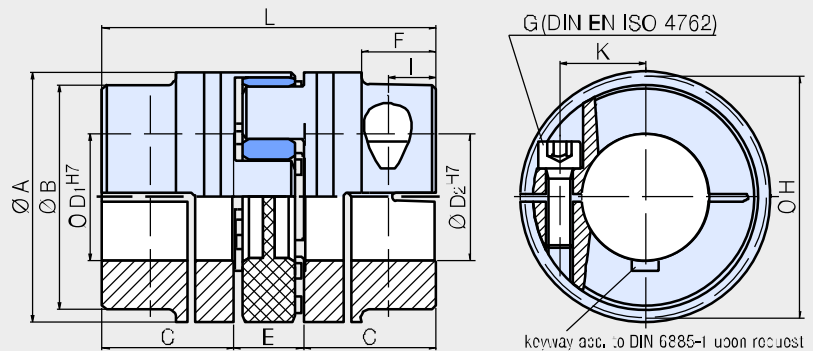
Additional details, e.g. different shore hardness (p.14), keyway

- Clamping hub for higher torque capacity
- Simple assembly
- Vibration damping
- Electrically isolating

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Backlash-free Servo-insert Coupling Type ADS/R



Technical data Type ADS/R

Type			14	19	24	28	38	42	48
Nominal torque (Nm)	$T_N(92\%HA)$		12,5	17	60	160	325	450	525
Moment of inertia of coupling (10^{-3} kgm^2)	$J^{(1)}$		0,0057	0,036	0,15	0,33	0,96	4,92	8,26
Tightening torque of screws (Nm)	MA		1,5	11	11	25	25	69	120
Weight per hub (app. kg)	m		0,013	0,07	0,15	0,22	0,45	1,78	2,4
Max. speed (rpm)	n_{max}		13000	10000	7000	6000	5000	4000	3600
Standard shore hardness			98 SH A (red)						

Dimensions (mm) Type ADS/R

Type		14	19	24	28	38	42	48
L		35	66	78	90	114	126	140
A		30	40	55	65	80	95	105
B		only for sizes 42 and 48						85 95
C		11	25	30	35	45	50	56
Ø D1 H7 / Ø D2 H7	min. - max.	5-16	8-20	10-28	14-38	15-45	20-48	25-55
F		only for sizes 42 and 48						28 32
K		11	14,5	20	24,5	30	32,5	36
E		13	16	18	20	24	26	28
I		5	12	10,5	11,5	15,5	18	21
G (DIN EN ISO 4762)		M3	M6	M6	M8	M8	M10	M12
H (clearance diameter)		32,2	46	57	71	83	91	104,5
Hub material		aluminium alloy						steel

Bore range D1/D2 and corresponding torque values (Nm) of the coupling

Type	Ø 11	Ø 14	Ø 16	Ø 18	Ø 19	Ø 20	Ø 24	Ø 25	Ø 28	Ø 30	Ø 32	Ø 35	Ø 38	Ø 40	Ø 42	Ø 45	Ø 48	Ø 50	Ø 55
14	5,6	6,1	6,5																
19	22	36	38	33	40	41													
24	22	45	47	49	50	51	54	55	57										
28		46	68	97	98	100	105	107	111	114	117	121	126						
38			68	99	114	116	121	123	127	130	133	137	141	144	147	152			
42						134	230	261	301	308	314	324	333	340	346	356	366		
48								261	366	460	494	508	522	525	525	525	525	525	525

¹⁾ Moment of inertia and weight (mass) are calculated with reference to the largest bore size.
Hub design: up to size 19 one slit, from size 24 up two slits.

Ordering data

ADS/R 42 - 20H7 - 25H7 - xxxxx

Type

Bore size D1

Bore size D2

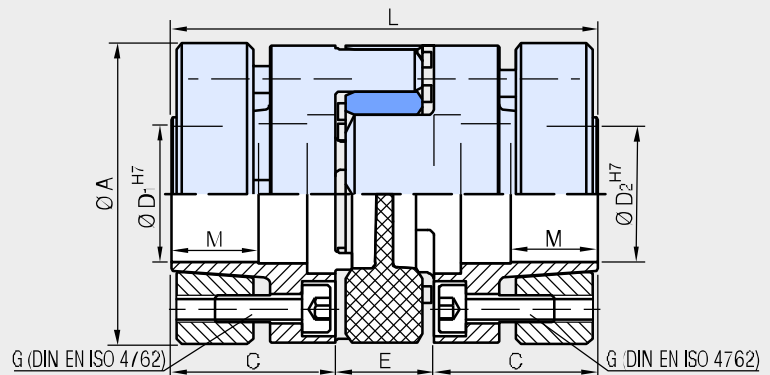
Additional details, e.g. different shore hardness (p. 14), keyway

- Dimensionally equivalent to competitor's type

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Backlash-free Servo-insert Coupling Type ASS/A



Technical data Type ASS/A

Type			14	19	24	28	38	42	48
Nominal torque (Nm)	T_N (92 ShA)		12,5	17	60	160	325	450	525
Moment of inertia of coupling (10^{-3} kgm ²)	$J^{(1)}$		0,014	0,063	0,26	0,63	1,96	6,43	10,54
Tightening torque of screws (Nm)	MA		1,8	3	6	6	10	35	69
Weight per unit (app. kg)	m		0,049	0,12	0,28	0,45	0,95	2,3	3,08
Max. speed (rpm)	n_{max}		25400	19000	13800	11700	9550	9050	7200
Standard shore hardness			98 SH A (rod)						

Dimensions (mm) Type ASS/A

Type		14	19	24	28	38	42	48
L		50	66	78	90	114	126	140
A		32	40	55	65	80	95	105
C		18,5	25	30	35	45	50	56
$\varnothing D_1^{H7} / \varnothing D_2^{H7}$	min. - max.	6-14	10-20	11-25	15-36	20-41	27-50	30-55
E		13	16	18	20	24	26	28
G (DIN EN ISO 4762)		1xM3	6xM4	1xM5	8xM5	8xM6	4xM8	1xM10
M		11	14	16	21	28	28	30
Hub material		aluminium alloy						steel

Bore range D1/D2 and corresponding torque values (Nm) of the coupling

Typ	$\varnothing 6$	$\varnothing 10$	$\varnothing 11$	$\varnothing 13$	$\varnothing 14$	$\varnothing 15$	$\varnothing 17$	$\varnothing 19$	$\varnothing 20$	$\varnothing 24$	$\varnothing 25$	$\varnothing 27$	$\varnothing 30$	$\varnothing 32$	$\varnothing 36$	$\varnothing 38$	$\varnothing 41$	$\varnothing 42$	$\varnothing 44$	$\varnothing 48$	$\varnothing 50$	$\varnothing 55$
14	3,6	12,5	12,5	12,5	12,5																	
19		17	17	17	17	17	17	17	17													
24			22	37	46	56	60	60	60	60	80											
28						56	68	114	134	160	160	160	160	160								
38									134	230	261	325	325	325	325	325	325					
42												329	450	450	450	450	435	450	450	450	450	
48													450	525	525	525	525	525	525	525	525	525

¹⁾ Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

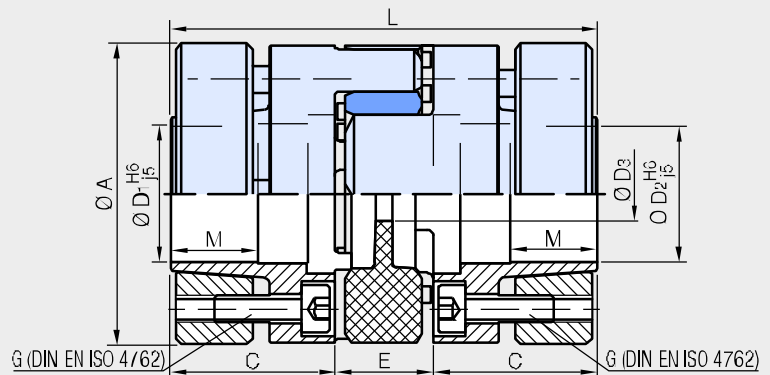
Ordering data

ASS/A 42	-	32H7	-	41H7	-	xxxxx
Type						
Bore size D1						
Bore size D2						
Additional details, e.g. different shore hardness (p.14)						

- Very high torque transmission
- Well suited for alternating loads
- Vibration damping
- Easy to install
- Electrically isolating

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Backlash-free Servo-insert Coupling Type ASS/A-P



Technical data Type ASS/A-P

Type			14	19	24	28	38	42	48
Nominal torque (Nm)	T_N (92 ShA)		12,5	17	60	160	325	450	525
Moment of inertia of coupling (10^{-3} kgm ²)	$J^{(1)}$		0,022	0,032	0,41	0,87	2,7	6,5	10,6
Tightening torque of screws (Nm)	M_A		1,9	3	8,5	8,5	14	35	69
Weight per hub (app. kg)	m		0,08	0,19	0,44	0,64	1,32	2,23	3,09
Max. speed (rpm)	n_{max}		31800	23800	17300	14700	11900	10000	9100
Standard shore hardness			98 SH A (rod)						

Dimensions (mm) Type ASS/A-P

Type	14	19	24	28	38	42	48
L	50	66	78	90	114	126	140
Λ	32	40	55	65	80	95	105
C	18,5	25	30	35	45	50	56
Ø D ₁ H6 / Ø D ₂ H6	14	19	25	35	40	42	45
Ø D ₃	8,5	9,5	12,5	14,5	16,5	18,5	20,5
E	13	16	13	20	24	26	26
G (DIN EN ISO 4762)	4xM3	6xM4	4xM5	8xM5	8xM6	4xM8	4xM10
M	11	14	16	21	28	28	30
Hub material	steel						

Transmissible torque capacity of the coupling (Nm)

Typ	Ø 14	Ø 19	Ø 25	Ø 35	Ø 40	Ø 42	Ø 45
14	12,5						
19		17					
24			60				
28				160			
38					325		
42						450	
48							525

Clamping hub material: alloy steel

Push-off threads between the locking screws for size G

Dynamically balanced to G 6.3 specification according to ISO 1940-1.

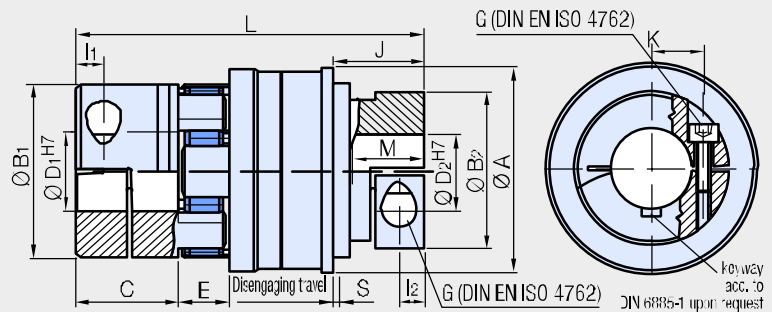
Ordering data

ASS/A-P 42	-	42H6	-	42H6	-	xxxxx
Type						
Bore size D ₁						
Bore size D ₂						
Additional details, e.g. different shore hardness (p.14)						

- Extreme precision
- High torque transmission
- Very quiet running condition
- Easy to install
- Vibration damping



Backlash-free Safety Coupling Type DMK/ADS



Technical data Type DMK/ADS

Type	14	19	24	28	38	42
Disengaging torque (Nm)	2-5	5-15	12-35	25-75	30-140	140-350
adjustable	5-10	15-20 ¹⁾	20-70 ¹⁾	65-150	100-300	250-500
Moment of inertia (10 ⁻³ kgm ²)	J hub side	0,05	0,1	0,32	0,8	3
	J elastomer side	0,006	0,036	0,15	0,33	1,04
Weight (appr. kg)	m	0,35	0,5	1,4	2,8	4,6
Tightening torque of retaining screws (Nm)	G1	5	10	18	43	84
	G2	6	15	25	49	100
Max. speed (rpm)	n _{max}	11450	8950	7000	6000	5000
Disengaging travel (mm)	S	0,7	1,2	1,8	2	2
Spider shore hardness	98 SH A (red)					

Dimensions (mm) Type DMK/ADS

Type	14	19	24	28	38	42
L	68	96	124	143	162	185
A	50	65	75	95	115	129
C	11	25	30	35	45	56
→ D ₁ H7	min. - max.	9-14	10-20	20-28	24-35	32-44
→ D ₂ H7	min. - max.	8-14	12-20	20-23	24-35	32-40
K	10,5	15	20	24	30	40
E	13	16	18	20	21	28
I 1	5	6	10	11	13	15
I 2	5,5	7,5	10	11	13	13
G 1 (DIN EN ISO 4762)	M4	M5	M6	M8	M10	M12
G 2 (DIN EN ISO 4762)	M5	M6	M8	M10	M12	M12
B 1	30	40	55	65	80	105
B 2	45	56	55	76	92	92
J	19	21	36	42	48	46
M	39	51	28,5	32,5	37	37,5
Hub material	elastomer side/hub side	al/al	al/al	al/al	st/st	st/st

¹⁾ To obtain the maximum adjustment range for type b, use spider with 64Sh D. ²⁾ al = aluminum alloy, st = Steel
A mechanical or electrical device sensing the position of the steel ring is necessary for torque limiters DMK/ADS (disengaging travel). In case of overload the drive must be switched off.

Ordering data

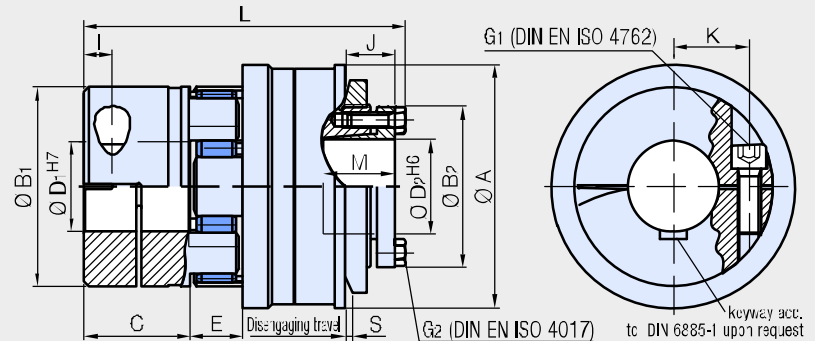
DMK/ADS 28 - 30H7 - 35H7 - 80Nm - C - b

Type
Bore size D₁
Bore size D₂
Disengaging travel
C = synchronizing engagement resp. D = Pardon engagement
Adjustment range a bzw. b

- For highest dynamic loads, with rollers
- Torque limiter with integrated shaft coupling
- Adjustable torque range
- Compensation of shaft misalignment

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Backlash-free Safety Coupling Type DXK/ADS



Technical data Type DXK/ADS

Type			14	19	24	28	38	42
Disengaging torque	(Nm)	T<N version a	2-5	5-15	12-35	25-75	70-160	90-250
adjustable		T<N version b	5-10	15-20 ¹⁾	30-70 ¹⁾	65-150	150-300	200-500
Moment of inertia	(10 ⁻³ kgm ²)	J hub side	0,064	0,23	0,88	1,52	5,41	7,84
		J elastomer side	0,006	0,036	0,15	0,33	1,04	3,1
Weight	(appr. kg)	m	0,28	0,58	1,1	1,7	3,7	4,4
Tightening torque		G1	5	10	18	43	84	145
of retaining screws	(Nm) MA	G2	3	5	3,5	14	18	25
Max. speed	(rpm)	n _{max}	11450	8950	7000	6000	5000	3600
Disengaging travel	(mm)	S	0,7	1,2	1,2	2	2	2
Spider shore hardness			98 SH A (red)					

Dimensions (mm) Type DXK/ADS

Type		14	19	24	28	38	42
L		66,5	88,5	111	123	151	170
A		50	65	80	95	119	130
C		11	25	30	35	45	56
→ D ₁ ^{H7}	min. - max.	9-14	10-20	20-28	24-35	32-44	40-60
→ D ₂ ^{H6}	min. - max.	8-16	12-20	12-25	21-35	30-45	35-50
K		10,5	15	20	24	30	40
E		13	16	19	20	24	28
I		5	6	10	11	13	15
G 1 (DIN EN ISO 4762)		M4	M5	M6	M8	M10	M12
G 2 (DIN EN ISO 4762)		6xM4	6xM4	6xM6	6xM6	6xM8	6xM8
B 1		30	40	55	65	80	105
B 2		34	41,5	50	62	76	95
J		15	16	17	20	26	26
M		16	20	25	30	35	38
Hub material	elastomer side	al	al	al	al	st	st

¹⁾ To obtain the maximum adjustment range for type b, use spider with 64Sh D. ²⁾ al = aluminum alloy, st = steel. A mechanical or electrical device sensing the position of the steel ring is necessary for torque limiters DMK/ADS (Disengaging travel). In case of overload the drive must be switched off.

Ordering data

DXK/ADS 28 - 30^{H7} - 35^{H6} - 80Nm - C - b

Type
Bore size D₁
Bore size D₂
Disengaging travel
C = synchronizing engagement resp. D = Random engagement
Adjustment range a or b

- Low cost version, with balls
- Torque limiter with integrated shaft coupling
- Simple design
- Compensation of shaft misalignment



Backlash-free Servo-insert Coupling Assembly Instructions

Installation

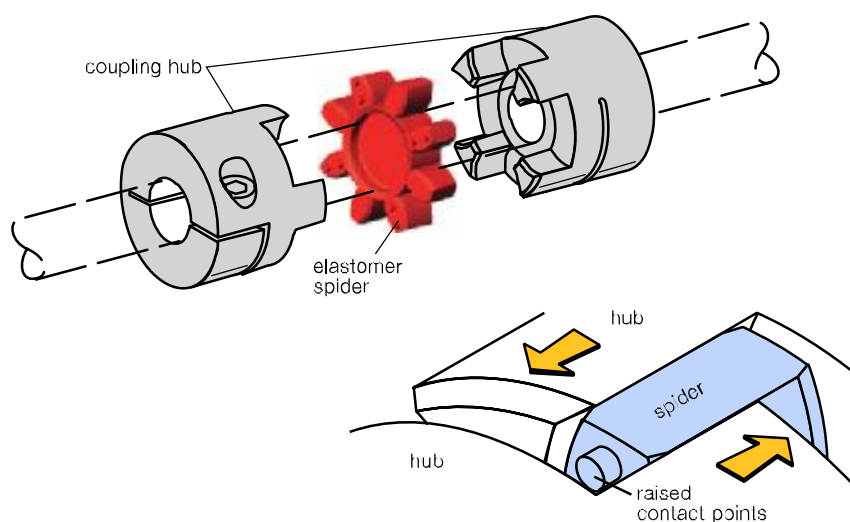
Clean and degrease both shaft surface and coupling hub bores. Re-check shaft diameters and coupling bores for proper tolerances.

Slide a coupling hub onto each shaft and proceed to torque the screws of one clamp ring or shrink disc after checking axial dimensions. Refer to the technical data to assure correct screw tightening torque.

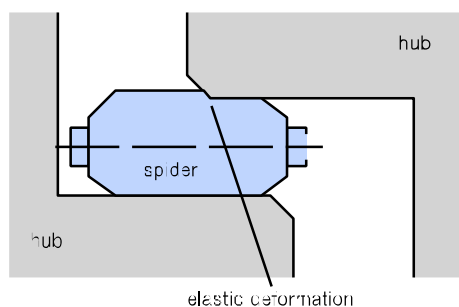
Firmly press elastomer spider into one of the two hubs. Because of the interference fit, the force necessary to install the spider may be quite high, therefore a PU tolerant grease such as Vaseline may be applied to ease assembly. The edges of the spider and the jaws of the coupling hubs are both chamfered to ease assembly.

Raised contact points visible on the front and back side of the elastomer spider help maintain proper spacing between the two hubs assuring electrical isolation and full angular misalignment capabilities.

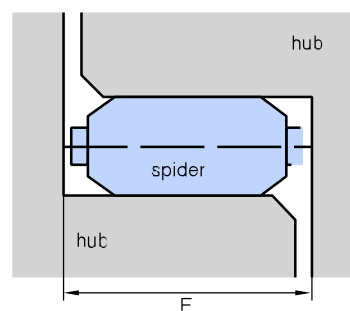
Carefully push the coupling hubs together while maintaining the necessary spacing, tighten the screws of the remaining clamp ring or shrink disc to the recommended torque. The function of the gap is to prevent the coupling hubs from restraining the axial movement of the spider. This ensures optimum life of the coupling and spider.



While mounting



Backlash free after final assembly preloaded

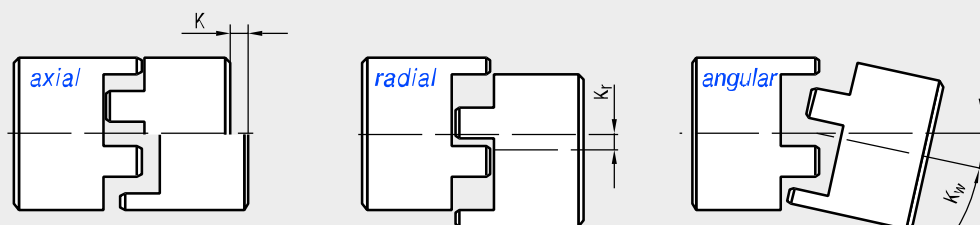


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Backlash-free Servo-insert Coupling Assembly Instructions

Types of misalignment



Alignment

The picture above shows the (3) types of misalignment. The mounted coupling needs to be aligned. The more accurate the initial alignment, the better the coupling can absorb additional misalignment during operation, thereby assuring optimum lifetime and quiet running conditions. If all (3) types of misalignment occur simultaneously, each type must not reach the maximum allowable value. The combined impact of the actual misalignment types, expressed as a percentage of the maximum allowable value,

must not exceed 100%. The diagram below shows the combined misalignment.

Removal

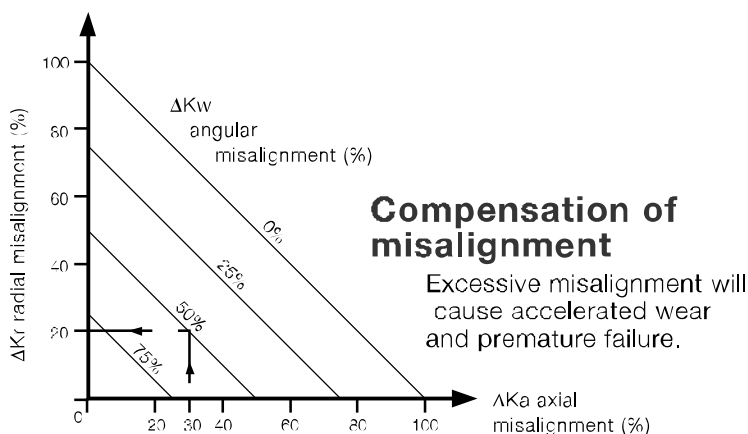
Remove the locking screws, e.g. on the motor. Pull the drive unit, including the jaw coupling apart. Inspect the spider for wear and if necessary, insert a new spider or one with a different shore hardness. After loosening the keyless clamp ring or shrink disc, the hubs can be removed.

Please contact us for detailed installation and removal instructions.

Misalignments

Typ	elast. Spider	Shore-scale	Misalignment type		
			mm axial $\Delta K_a^{1)}$	mm radial ΔK_r	scale angular ΔK_w
5	80	A	+0,4	0,12	1,1°
	92	A	-0,2	0,06	1,0°
	98	A		0,04	0,9°
7	80	A		0,15	1,1°
	92	A	+0,6	0,10	1,0°
	98	A	-0,3	0,06	0,9°
	64	D		0,04	0,8°
9	80	A		0,19	1,1°
	92	A	+0,8	0,13	1,0°
	98	A	-0,4	0,08	0,9°
	64	D		0,06	0,8°
14	80	A		0,21	1,1°
	92	A	+1,0	0,15	1,0°
	98	A	-0,5	0,09	0,9°
	64	D		0,06	0,8°
19	80	A		0,15	1,1°
	92	A	+1,2	0,10	1,0°
	98	A	-0,5	0,06	0,9°
	64	D		0,04	0,8°
24	92	A	+1,4	0,14	1,0°
	98	A	-0,5	0,10	0,9°
	64	D		0,07	0,8°
28	92	A	+1,5	0,15	1,0°
	98	A	-0,7	0,11	0,9°
	64	D		0,08	0,8°
38	92	A	+1,8	0,17	1,0°
	98	A	-0,7	0,12	0,9°
	64	D		0,09	0,8°
42	92	A	+2,0	0,19	1,0°
	98	A	-1,0	0,14	0,9°
	64	D		0,10	0,8°
48	92	A	+2,1	0,23	1,0°
	98	A	-1,0	0,16	0,9°
	64	D		0,11	0,8°

¹⁾ The K_s values need to be added to the dimension L of the coupling selected



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Backlash-free Servo-insert Coupling Technical Description

The couplings can be fine tuned to the specific application requirements in terms of torsional stiffness and vibration behavior by selecting from various color coded elastomeric spiders having different grades of shore hardness.

Spider durometer (shore hardness)	Colour code	Material	Allowable temperature range °C	continuous temperature	max. temp. short term	Available for type	Typical applications
80 SH A	blue	polyurethane	-50 till +80	-60 till +120	5-19		Drives in electronic measuring systems; backlash free when pre-compressed
92 SH A	yellow	polyurethane	-40 till +90	-60 till +120	5-48		Central spindle drives; backlash free when pre-compressed
98 SH A	red	polyurethane	-30 till +100	-40 till +120	5-18		Positioning drives; backlash free when pre-compressed
64 SH D-I	green	hytel	-60 till +120	-60 till +160	7-38		Machine tool spindles, control drives, feed units, planetary gearboxes;
64 SH D	green	polyurethane	-20 till +110	-30 till +120	12-78		Heavy loads, torsionally stiff, high ambient temperature, water proof

Technical terms for the coupling design

Pre-Compression: The curved jaw couplings are designed to have an interference fit between the coupling hubs and elastomer element for true backlash free operation. Therefore, the flexible spider needs to be pre-compressed for proper seating during the assembly procedure. The amount of pre-compression varies widely depending on the shore hardness of the spider, the size of the coupling and the machining tolerances. A light force is necessary to pre-compress the torsionally soft spiders while a large force is required to pre-compress a torsionally stiff spider.

TkN – Nominal Torque of coupling (Nm): Continuous torque which can be transmitted throughout the entire speed range, taking into consideration operational factors such as ambient temperature and torsional stiffness.

Tkmax – Maximum Torque of coupling (Nm): Torque to be transmitted 1×10^5 times as a peak load or 0.5×10^4 times as an alternating load during the entire life of the coupling taking into consideration factors such as temperature, torsional stiffness and shock loading.

Type	Servo insert	Shore-scale	Max. speed for type					Torque (Nm)		Static torsional stiffness (Nm/rad)	Dynamic torsional stiffness (Nm/rad) ¹⁾	Axial stiffness (Nm/mm)
			DK/GS ADS ADS/R	EK/GS	ASS/A	ASS/A-P	DMK/ADS DXK/ADS	TkN	Tkmax			
5	80	A	38000	47500				0,3	0,6	3,2	10	82
	92	A						0,5	1,0	5,2	16	154
	98	A						0,9	1,7	8,3	25	296
7	80	A	27000	34000				0,7	1,4	8,6	26	111
	92	A						1,2	2,4	14,3	43	219
	98	A						2,0	4,0	23	69	421
9	64	D	19000	21000				2,4	4,8	34	103	630
	80	A						1,8	3,6	17	52	125
	92	A						3	6	31	95	262
14	98	A	13000	16000	25400	31800	11450	5	10	51	155	518
	64	D						6	12	74	224	769
	80	A						4	8	60	180	153
19	92	A	10000	12000	19000	23800	8950	7,5	15	115	344	336
	98	A						12,5	25	172	513	651
	64	D						16	32	234	702	856
24	80	A	7000	8500	13800	17300	7000	5	10	340	1030	582
	92	A						10	20	570	1720	1120
	98	A						17	34	860	2580	2010
28	64	D	6000		11700	14700	6000	21	42	1240	3720	2930
	92	A						35	70	1430	4296	1480
	98	A						60	120	2060	6189	2560
38	64	D	5000		9550	11900	5000	75	150	2980	8934	3696
	92	A						95	190	2290	6876	1780
	98	A						160	320	3440	10314	3200
42	64	D	4000		8050	10000	4000	200	400	4350	13050	4348
	92	A						190	380	4580	13752	2350
	98	A						325	650	7160	21486	4400
48	64	D	3600		7200	9100		405	810	10540	31620	6474
	92	A						265	530	6300	2430	2430
	98	A						450	900	19200	5570	5570
	64	D						560	1120	27580	7170	7270
	92	A						310	620	7850	2580	2580
	98	A						525	1050	22370	5930	5930
	64	D						655	1310	36200	8274	8274

¹⁾ Dynamic torsional stiffness at $0.5 \times T_{kN}$
Dynamic balancing is required for speeds exceeding $V=30\text{m/s}$

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Checklist For Your Couplings Inquiry

For your convenience just copy, fill it out and fax back to us!

Company	Address
Street	City
Zip/Postcode	State
Phone	Fax

Please ask for personalized technical assistance!

1. Application: how is the coupling supposed to be used? (machine, machine group or system)

2. Type of connection

☐ clamp ring hub
 ☐ shrink disc hub
 ☐ locking assembly hub
 ☐ hub with set screw
☐ flange connection
☐ ??????
☐ Fanuc
☐ spec. customer drawing

3. Dimensions

Length mm bore size D1 mm keyway ☐ yes ☐ no
 Diameter mm bore size D2 mm keyway ☐ yes ☐ no

4. Misalignment of shafts

axial mm radial mm angular °

5. Drive

5.1 Drive output $P_{AN} =$ kW
 5.2 Drive speed $n =$ 1/min
 5.3 Nominal torque of drive $M_{t_{nenn}} =$ Nm
 5.4 Peak torque of drive $M_{t_{max}} =$ Nm
 5.5 Shaft diameter drive side = mm
 driven side = mm

6. Mass moment of inertia

6.1 drive side $J_A =$ Nm
 6.2 driven side $J_L =$ Nm

7. Special influences

7.1 Ambient temperature surrounding the coupling? $T =$ °C
 7.2 Are there any shock loads? ☐ light ☐ medium ☐ heavy
 7.3 Special materials (e.g. stainless steel)
 7.4 Special circumstances

8. Planned quantities

☐ production
☐ prototype
☐ repair
 yearly
 quantity

9. Target price

€/piece

Sales Representative

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