US
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GERWAH®

Torsionally Rigid Disc Couplings

Partner for Performance
www.ringfeder.com

RINGFEDER
POWER TRANSMISSION

Welcome to your system supplier for every aspect of power transmission

RINGFEDER POWER TRANSMISSION

- We say what we mean and mean what we say.
- We see things from our customers' perspective.
- We are considerate of our employees and their families as well as our environment and the society.

RINGFEDER POWER TRANSMISSION is the global market leader in the niche markets of drive technology and is well regarded for its customer-specific, application-oriented solutions that ensure excellent and failure-free operation for its clients.

Mars Rover:
Courtesy NASA/
JPL-Caltech

We offer locking devices, couplings, bearing housings and damping technology for OEMs but also for the final customer under our strong brand names RINGFEDER, TSCHAN, HENFEL and GERWAH. Our brand ECOLOC supplies reliable products off the shelf.

We not only provide competent advice to our customers on the basis of our 90 years of experience but also develop innovative ideas in cooperation with them. This is part of our aspiration to be a **Partner for Performance.**

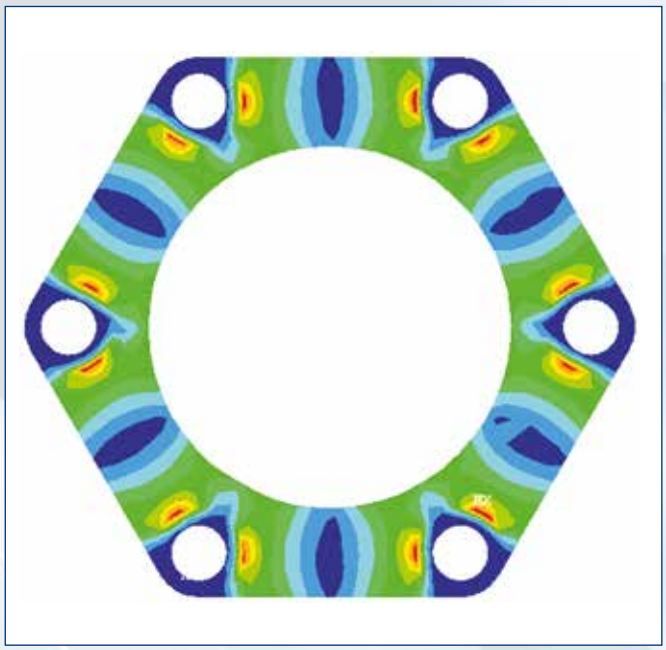
Around the power transmission we promise

- Excellent know-how for our challenging customers
- Best cost-benefit ratio
- Short reaction times and a high product availability

Introduction

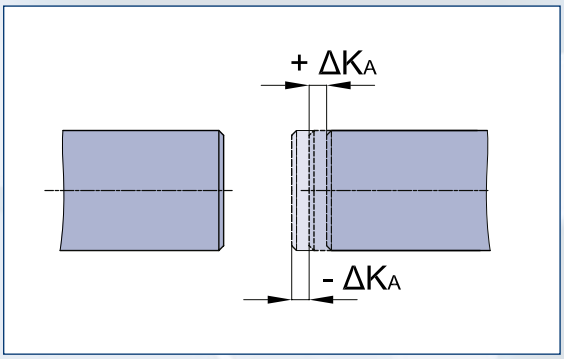
Torsional Stiffness, Flexible Multiple-Disc Couplings

GERWAH®, Backlash-free Couplings are a 100% steel construction. The flexible portion of this coupling consists of a disc pack developed with the help of FEM analysis made of stainless steel. The steel hubs are connected to the disc packs by means of precision sleeves and highly resilient bolts.

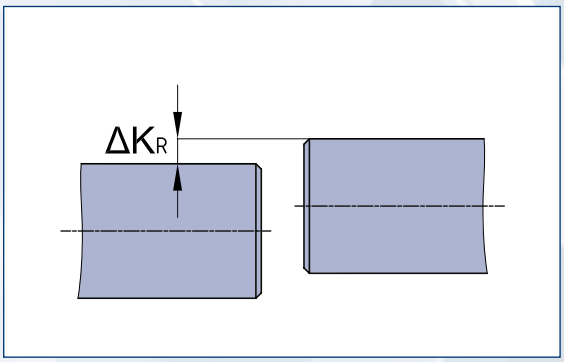


Depending on customer requirements, the hubs can be attached to the shafts in different ways, e.g. by means of shrink disc or - particularly inexpensive - with locking assemblies. This guarantees a really backlash-free connection of the two shaft ends that is simple and trouble free.

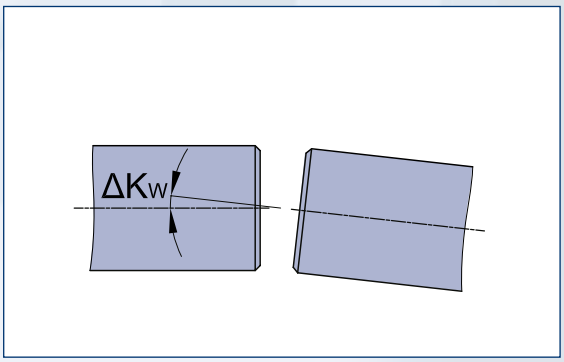
The disc packs guarantee high transmissible torques while compensating for axial, radial and angular misalignments.



Axial misalignment



Radial misalignment



Angular misalignment

Content

* Our special catalogue includes couplings suitable for ATEX / API

GERWAH®: The Advantages of the System

1. No Backlash

An important property for synchronous operation or for machines that are frequently used in start/stop or reverse operation. GERWAH® Disc Couplings are ideally suited to applications in which the positioning accuracy of the control system in both directions is important.

2. Torsional Stiffness

The design of the coupling guarantees a high level of torsional stiffness, which is an important property for applications in packaging machines, servomotors drives, printing presses and machine tools.

3. High Temperatures

GERWAH® Rigid Disc Couplings can be used under extreme temperature conditions up to 240 °C / 460 °F, for example in high-temperature fluid pumps.

4. High Speeds

Due to the very strict production tolerances, GERWAH® Rigid Disc allows precise vertical alignment and a high level of true running accuracy, making it ideal for applications involving high speeds even with irregular rotary forces.

5. Long Service Life

The highly accurate disc pack insures optimum force distribution, while its flexibility also protects against vibrations from the drive. GERWAH® Disc Couplings do not wear, so that a long service life is guaranteed.

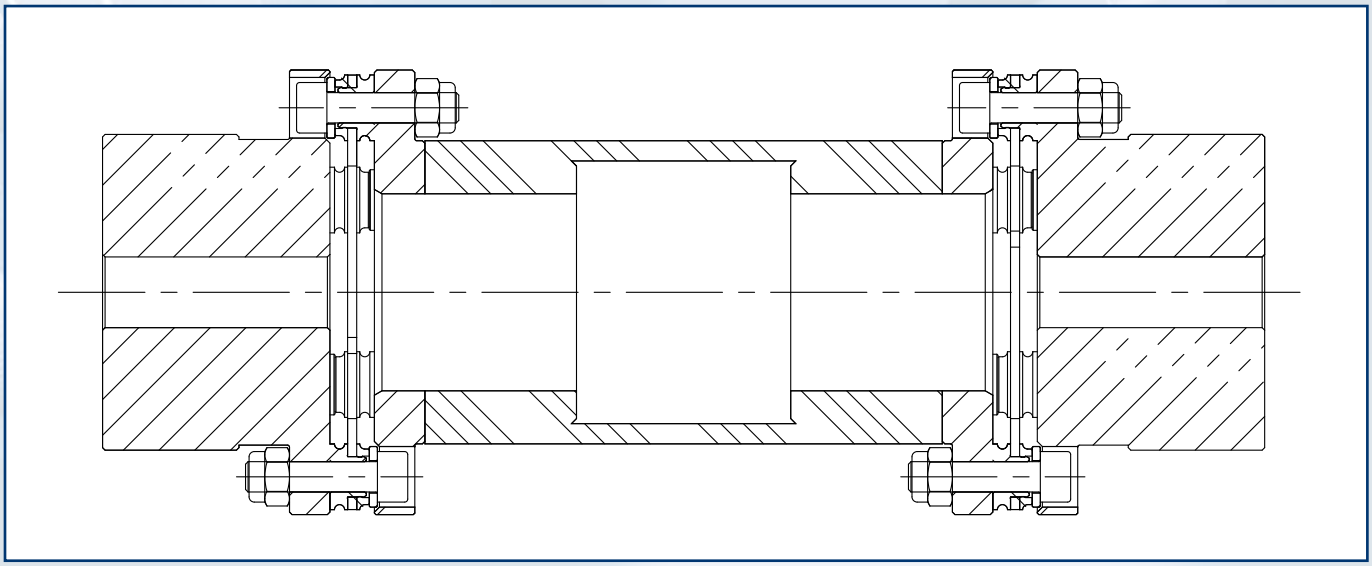
6. Maintenance-Free Operation

GERWAH® Torsionally Rigid Disc Couplings are maintenance-free and do not require greasing or cleaning.

7. Installation Position

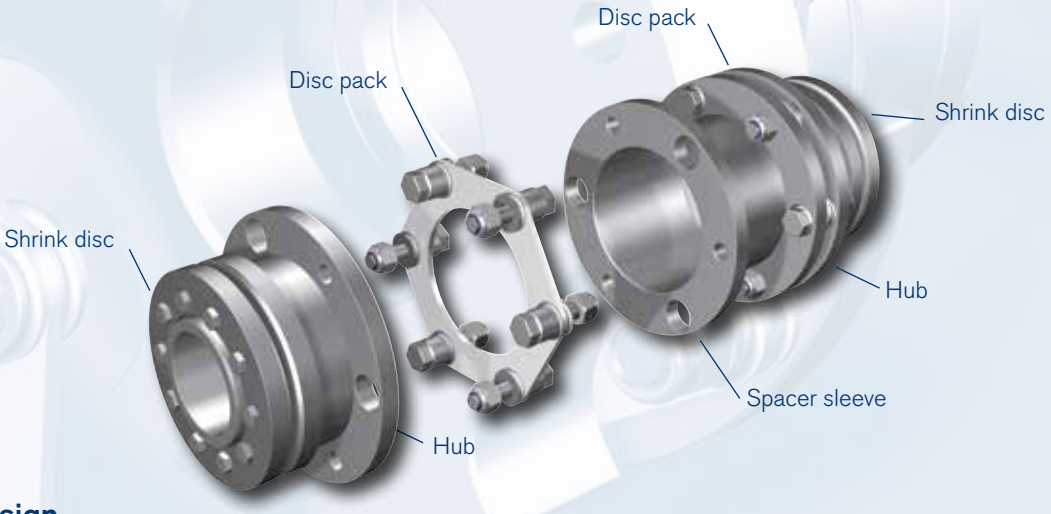
GERWAH® Torsionally Rigid Disc Couplings are designed for horizontal installation. In vertical installation situations the spacer may need to be supported (see sketch page 59).

Application example: Coupling with parasitic current insulation



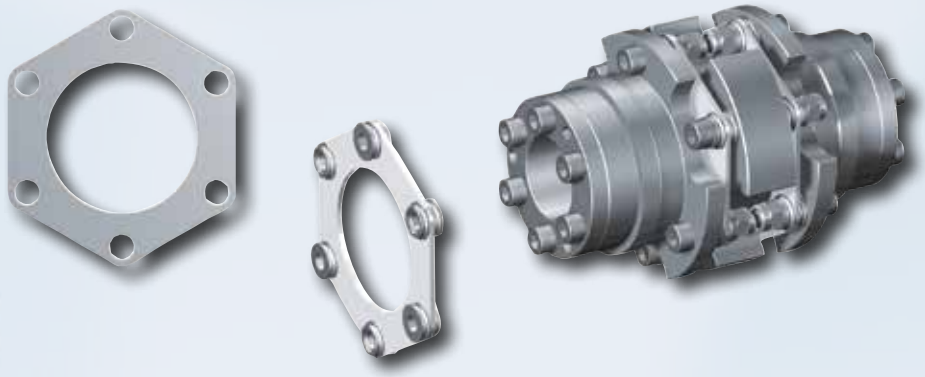
Basics

General design



6 bolt design

- Laminated disc pack
- Higher speeds
- Angular misalignment
  1° per disc pack depending on coupling size
- Higher torque



Compact design

- Laminated disc pack
- High speeds
- Low inertia
- Low to medium torques
- Angular misalignment
  1° per disc pack depending on coupling size

8 bolt design

- Medium to high torques

Characteristics

Mounting with key

GERWAH® HS, HD, HC

Multiple-disc coupling for compensating of axial and angular misalignments

Versions with 2 disc packs can also be used to compensate for radial misalignments.

- **High torsional stiffness**
- **High transmissible torques**
- **Can be used up to temperatures of approx. 240 °C / 460 °F**
- **Maintenance-free operation**
- **Attachment of the coupling to the shafts with keys**

Non-standard spacers

Many applications for GERWAH® Disc Couplings require special spacer lengths and dimensions. We can supply spacers with lengths of up to 195 inch.

Higher rotational speeds and / or special couplings

A coupling sometimes needs to fulfill certain industrial safety standards or is operated at very high rotational speeds. We can also provide solutions for this.

Characteristics

GERWAH® HS

Coupling without spacer

GERWAH® HD

Coupling with standard spacer

GERWAH® HC

Coupling with short spacer

GERWAH® Torsionally Rigid Disc Couplings that are installed horizontally are suitable for use in drives in explosion hazard zones. The couplings are assessed and confirmed devices in the category 2G/2D in accordance with the EU directive 94/9/EG (ATEX 95) and are therefore suitable for use in explosion hazard zones G1, G2, D21 and D22.

GERWAH® HS

Dimensions

d_{1k}; d_{2kmin} = Min. bore diameter with keyway acc. to DIN 6885-1
d_{1k}; d_{2kmax} = Max. bore diameter with keyway acc. to DIN 6885-1
A = Max. outer diameter
D_1 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack

GERWAH® HS-75

Dimensions

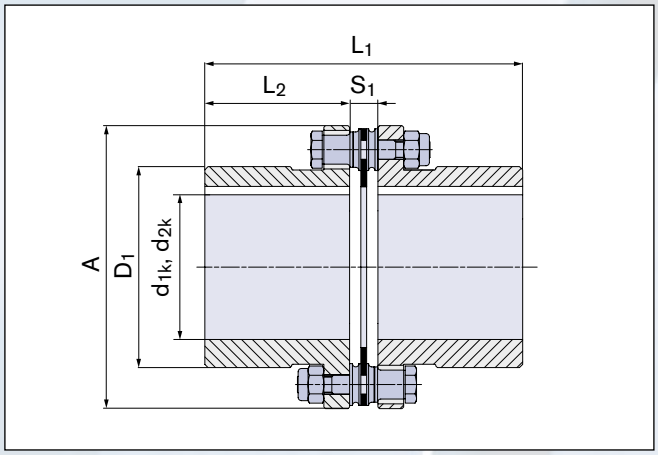
Size	d_{1k}; d_{2k} min.	d_{1k}; d_{2k} max.	A	D_1	L_1	L_2	S_1	
	inch		inch		inch	inch		
17	0.433	1.378	2.780	2.000	3.400	1.560	0.300	
32	0.591	1.772	3.460	2.500	3.900	1.770	0.350	
75	0.630	2.362	4.530	3.200	4.700	2.170	0.410	
135	0.787	2.756	5.530	3.900	5.200	2.360	0.470	
240	1.024	3.543	6.560	4.600	6.400	2.950	0.510	
400	1.220	4.331	7.810	5.600	7.700	3.540	0.590	
650	1.575	4.724	9.370	7.000	10.700	4.920	0.820	
1100	1.575	4.724	9.370	6.650	10.700	4.920	0.870	
2100	2.362	5.906	11.610	8.000	13.700	6.300	1.100	
3600	3.150	7.087	13.580	10.000	17.000	7.870	1.270	

More sizes on request.
Designs with keyway according to DIN 6885-1 / ANSI B17.1-1967.
Reinforced disc pack on request.
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Ordering example:

GERWAH® HS-75-2.0-2.3

Series/Size	Bore diameter d_{1k}	Bore diameter d_{2k}
HS 75	2.0	2.3



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_L = Tightening torque of screws in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	lbs	lbs-in²	10³ ft-lbs/rad
17	125	6	8400	0.02	1	2.8	1.7	128
32	236	10	6800	0.02	1	5.4	5.6	207
75	553	23	5400	0.03	1	11.5	33.9	470
135	995	46	4600	0.04	1	18.1	46.4	865
240	1769	81	3800	0.05	1	32.4	118.7	1475
400	2948	133	3400	0.06	1	55.1	285.9	2207
650	4791	207	3000	0.07	1	107	778.1	3886
1100	8107	263	3000	0.05	0.7	107	792.8	4858
2100	15477	421	2500	0.04	0.5	205	2406.1	16115
3600	26532	739	2100	0.05	0.5	359	5995.1	27442

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Dimensions

d_{1k}; d_{2kmin} = Min. bore diameter with keyway acc. to DIN 6885-1
d_{1k}; d_{2kmax} = Max. bore diameter with keyway acc. to DIN 6885-1
A = Max. outer diameter
D_1 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends

GERWAH® HD-75

Dimensions

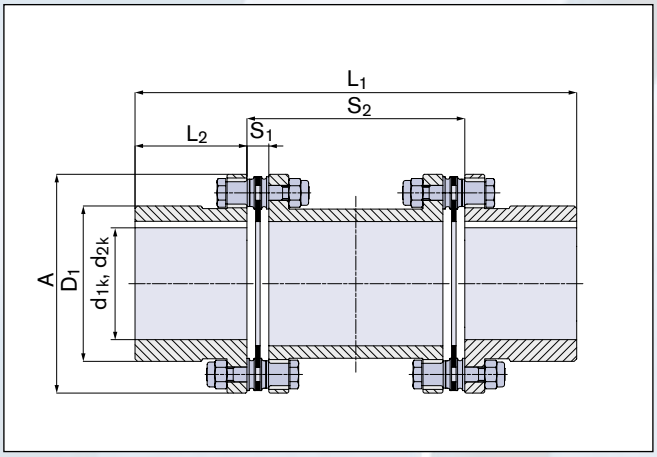
Size	d_{1k}; d_{2k} min.	d_{1k}; d_{2k} max.	A	D_1	L_1				L_2	S_1	S_2			
	inch		inch		inch									
17	0.433	1.378	2.780	1.850	5.470	7.050	8.620	---	1.560	0.300	2.360	3.940	5.510	---
32	0.591	1.772	3.460	2.460	6.300	6.690	7.480	9.060	1.770	0.350	2.760	3.150	3.940	5.510
75	0.630	2.362	4.590	3.200	8.270	9.840	11.420	---	2.170	0.410	3.940	5.510	7.090	---
135	0.787	2.756	5.530	3.900	8.660	10.240	11.810	---	2.360	0.470	3.940	5.510	7.090	---
240	1.024	3.543	6.560	4.600	9.840	11.420	12.990	---	2.950	0.510	3.940	5.510	7.090	---
400	1.220	4.331	7.810	5.600	12.600	14.170	---	---	3.540	0.590	5.510	7.090	---	---
650	1.575	4.724	9.370	6.650	15.350	16.930	19.690	---	4.920	0.820	5.510	7.090	9.840	---
1100	1.575	4.724	9.370	6.650	15.450	17.020	19.780	---	4.920	0.870	5.610	7.180	9.940	---
2100	2.362	5.906	11.600	8.100	20.500	22.400	---	---	6.300	1.100	7.900	9.800	---	---
3600	3.150	7.087	13.600	10.000	24.600	25.600	27.600	---	7.900	1.300	8.800	9.800	11.800	---
7200	3.543	7.874	17.400	11.630	28.540	---	---	---	8.860	1.220	10.830	---	---	---
13500	3.976	9.449	21.700	15.200	35.430	---	---	---	11.810	1.420	11.810	---	---	---

More sizes on request.
Designs with keyway according to DIN 6885-1 / ANSI B17.1-1967.
Reinforced disc pack on request.
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Ordering example:

GERWAH® HD-240-1.50-3.25-3.94

Series/Size	Bore diameter d_{1k}	Bore diameter d_{2k}	Spacer length S_2
HD 240	1.50	3.25	3.94



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_L = Tightening torque of screws in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	ΔKr				Gw				J				C_{Tdyn}			
	ft-lbs	ft-lbs	rpm	inch	degree	inch				lbs				lbs-in²				10^3 ft-lbs/rad			
17	125	6	8400	0.04	2	0.03	0.06	0.09	---	3.4	3.7	3.9	---	2.6	2.8	3.0	---	52	44	38	---
32	236	10	6800	0.05	2	0.04	0.04	0.06	0.08	6.8	6.9	7.2	7.7	8.6	8.8	9.1	9.6	93	91	86	77
75	553	23	5400	0.06	2	0.06	0.08	0.11	---	14.4	15.1	15.7	---	31.7	33.7	35.8	---	200	181	167	---
135	995	46	4600	0.08	2	0.06	0.08	0.11	---	22.7	23.6	24.6	---	71.5	74.5	77.4	---	378	346	319	---
240	1769	81	3800	0.10	2	0.06	0.08	0.11	---	39.3	40.8	42.3	---	176.8	183.8	190.8	---	674	631	592	---
400	2948	133	3400	0.11	2	0.08	0.10	---	---	66.5	68.2	---	---	424.1	435.2	---	---	963	907	---	---
650	4791	207	3000	0.13	2	0.08	0.10	0.15	---	129	133	137	---	1141.9	1181.0	1230.0	---	1820	1752	1646	---
1100	8107	236	3000	0.05	1.4	0.06	0.07	0.1	---	129	133	137	---	1142.0	1181.0	1230.0	---	2239	2138	1981	---
2100	15477	421	2500	0.10	1	0.06	0.07	---	---	129	133	---	---	3648.1	3753.6	---	---	6635	6096	---	---
3600	26532	739	2100	0.10	1	0.06	0.07	0.09	---	453	457	465	---	8935.4	9006.2	9142.1	---	11046	10549	9709	---
7200	53285	1600	2000	0.12	0.33	0.05	---	---	---	882	---	---	---	10544.0	---	---	---	13362	---	---	---
13500	99937	2700	1500	0.14	0.33	0.06	---	---	---	1786	---	---	---	33104.0	---	---	---	26652	---	---	---

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

GERWAH® HC

Dimensions

d_{1k}; d_{2kmin} = Min. bore diameter with keyway acc. to DIN 6885-1
d_{1k}; d_{2kmax} = Max. bore diameter with keyway acc. to DIN 6885-1
A = Max. outer diameter
D_1 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends

GERWAH® HC-75

Dimensions

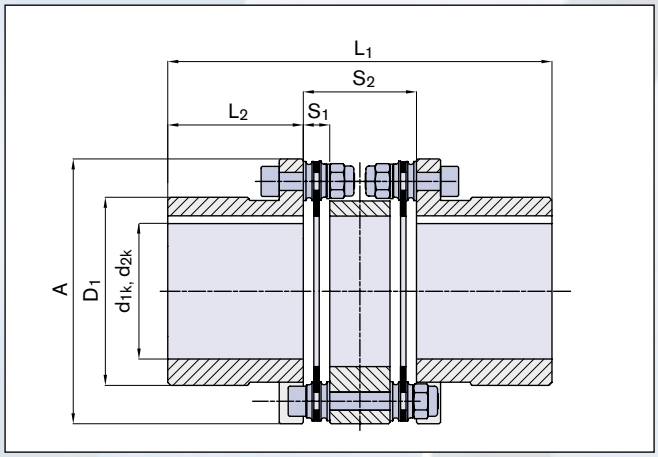
Size	d_{1k}; d_{2k} min.	d_{1k}; d_{2k} max.	A	D_1	L_1	L_2	S_1	S_2
	inch		inch		inch	inch		
17	0.433	1.378	2.780	1.850	4.340	1.560	0.300	1.230
32	0.591	1.772	3.460	2.460	5.020	1.770	0.350	1.480
75	0.630	2.362	4.590	3.200	6.150	2.170	0.410	1.820
135	0.787	2.756	5.530	3.900	6.890	2.360	0.470	2.170
240	1.024	3.543	6.560	4.600	8.370	2.950	0.510	2.460
400	1.220	4.331	7.810	5.600	9.910	3.540	0.590	2.830

Designs with keyway according to DIN 6885-1 / ANSI B17.1-1967.
Reinforced disc pack on request.
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Ordering example:

GERWAH® HC-32-1.5-1.625

Series/Size	Bore diameter d_{1k}	Bore diameter d_{2k}
HC 32	1.5	1.625



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_L = Tightening torque of screws in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	ΔKr	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	inch	lbs	lbs-in²	10^3 ft-lbs/rad
17	125	6	8400	0.04	2	0.012	3.3	2.4	62
32	236	10	6800	0.05	2	0.016	6.4	7.5	100
75	553	23	5400	0.06	2	0.020	13.7	27.2	228
135	995	46	4600	0.08	2	0.027	21.4	62.3	420
240	1769	81	3800	0.10	2	0.030	37.9	170.8	725
400	2948	207	3400	0.11	2	0.040	63.7	416.3	1036

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Characteristics

Mounting with RINGFEDER® Shrink Disc

GERWAH®
XHS, XHD, XHC

Multiple-disc coupling for compensating of axial, angular and radial misalignments

- Permanent backlash-free attachment of the multiple-disc coupling by means of RINGFEDER® Shrink Disc
- Overall length adaptable to customer requirements by the use of various center spacers (XHD, XHC)
- High torsional stiffness
- Backlash-free transmission of high torques
- Can be used up to temperatures of approx. 240 °C / 460 °F
- Maintenance-free operation

Non-standard spacers

Many applications for GERWAH® Disc Couplings require special spacer length dimensions. We can supply spacers with lengths of up to 195 inch.

Higher rotational speeds and / or special couplings

A coupling sometimes needs to fulfill certain industrial safety standards or is operated at very high rotational speeds. We can also provide solutions for this.

Test bench

Pump drive

Characteristics

GERWAH® XHS

Coupling without spacer

GERWAH® XHD

Coupling with standard spacer

GERWAH® XHC

Coupling with short spacer

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
A = Max. outer diameter
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
D = Outer diameter shrink disc (page 24-25)
d = Inner diameter shrink disc (page 24-25)

GERWAH® XHS-32

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	A[1)]	L_1	L_2	S_1
	inch		inch	inch	inch	
17	0.600	1.440	2.780	3.410	1.560	0.300
32	0.940	1.650	3.460	3.890	1.770	0.350
75	1.100	2.360	4.590	4.740	2.170	0.410
135	1.410	2.760	5.530	5.200	2.360	0.470
240	1.970	3.540	6.560	6.420	2.950	0.510
400	1.970	3.740	7.810	7.680	3.540	0.590
650	2.360	4.920	9.370	10.660	4.920	0.820
1100	2.360	4.920	9.370	10.720	4.920	0.870
2100	3.150	6.100	11.610	13.700	6.300	1.100
3600	3.740	7.480	13.580	17.020	7.870	1.270

1) The outer diameter of the shrink disc can be more than the outer diameter of the hub according to the shaft size.

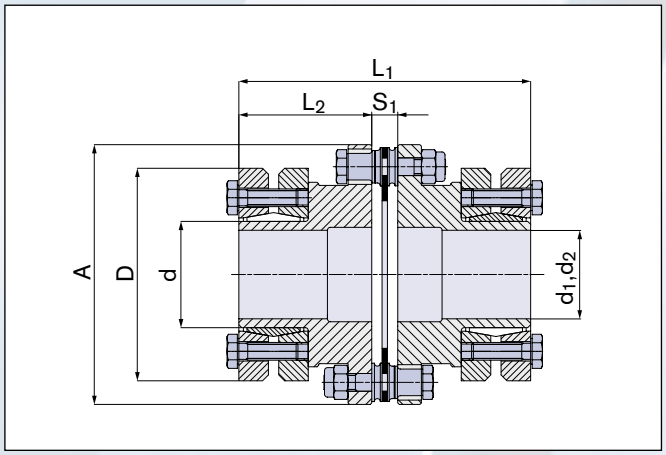
Reinforced disc pack on request.

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

Ordering example:

GERWAH® XHS-32-1.25-1.437

Series/Size	Bore diameter d_1	Bore diameter d_2
XHS 32	1.25	1.437



Sectional view

Technical Data

T_{KN} = Nom. Transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	lbs	lbs-in²	10^3 ft-lbs/rad
17	125	6	8400	0.020	1.0	2.8	2.5	128
32	236	10	6800	0.020	1.0	5.4	5.0	207
75	553	23	5400	0.030	1.0	11.5	33.9	470
135	996	46	4600	0.040	1.0	18.1	46.4	865
240	1770	81	3800	0.047	1.0	32.0	119.0	1475
400	2950	133	3400	0.055	1.0	55.0	286.0	2207
650	4794	207	3000	0.067	1.0	107.0	778.0	3886
1100	8113	236	3000	0.047	0.7	107.0	778.0	4858
2100	15489	421	2500	0.040	0.5	205.0	2406.0	16115
3600	26553	739	2100	0.050	0.5	359.0	5995.0	27442

If the transmissible torque T of the shrink disc is lower than the coupling torque, then the torque T counts maximum coupling torque, see page 24-25.
GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.
Shrink disc dimensions see on page 24-25.

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
A = Max. outer diameter
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends
D = Outer diameter shrink disc (page 24-25)
d = Inner diameter shrink disc (page 24-25)

GERWAH® XHD-32

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	A[1)]	L_1				L_2	S_1	S_2			
	inch		inch	inch									
17	0.60	1.44	2.78	5.47	7.05	8.62	---	1.56	0.30	2.36	3.94	5.51	---
32	0.94	1.65	3.46	6.30	6.69	7.48	9.06	1.77	0.35	2.76	3.15	3.94	5.51
75	1.10	2.36	4.59	8.27	9.84	11.42	---	2.17	0.41	3.94	5.51	7.09	---
135	1.41	2.76	5.53	8.66	10.24	11.81	---	2.36	0.47	3.94	5.51	7.09	---
240	1.97	3.54	6.56	9.84	11.42	12.99	---	2.95	0.51	3.94	5.51	7.09	---
400	1.97	3.74	7.81	12.60	14.17	---	---	3.54	0.59	5.51	7.09	---	---
650	2.36	4.92	9.37	15.35	16.93	19.69	---	4.92	0.82	5.51	7.09	9.84	---
1100	2.36	4.92	9.37	15.45	17.02	19.78	---	4.92	0.87	5.61	7.18	9.94	---
2100	3.15	6.10	11.61	20.47	22.44	---	---	6.30	1.10	7.87	9.84	---	---
3600	3.74	7.48	13.58	24.57	25.59	27.56	---	7.87	1.27	8.82	9.84	11.81	---

1) The outer diameter of the shrink disc can be more than the outer diameter of the hub according to the shaft size.

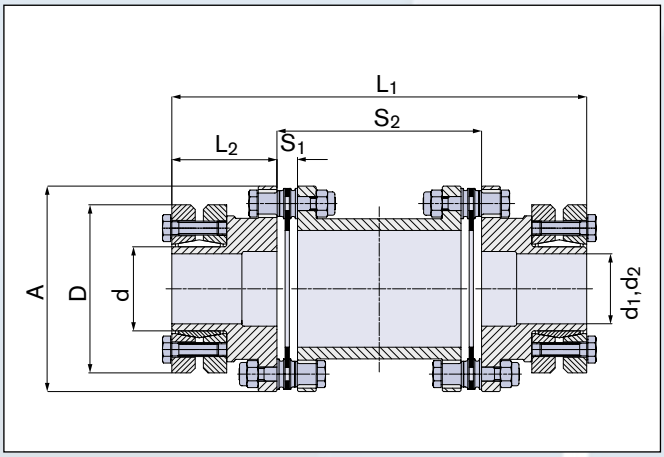
Reinforced disc pack on request.

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

Ordering example:

GERWAH® XHD-135-2.75-2.75-5.51

Series/Size	Bore diameter d_1	Bore diameter d_2	Spacer length S_2
XHD 135	2.75	2.75	5.51



Sectional view

Technical Data

T_{KN} = Nom. Transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	ΔKr				Gw				J				C_{Tdyn}			
	ft-lbs	ft-lbs	rpm	inch	degree	inch				lbs				lbs-in²				10^3 ft-lbs/rad			
17	125	6	8400	0.04	2	0.03	0.06	0.09	---	3.4	3.7	3.9	---	2.60	2.77	2.97	---	52.4	43.5	37.6	---
32	236	10	6800	0.05	2	0.04	0.04	0.06	0.08	6.8	6.9	7.2	7.7	8.61	8.75	9.05	9.64	93	90.7	85.6	77.4
75	553	23	5400	0.06	2	0.06	0.08	0.11	---	14.4	15.1	15.7	---	31.7	33.7	35.8	---	200	181.4	166.7	---
135	996	46	4600	0.08	2	0.06	0.08	0.11	---	23	24	25	---	71.5	74.5	77.4	---	378.4	345.9	319.4	---
240	1770	81	3800	0.10	2	0.06	0.08	0.11	---	39	41	42	---	176.8	183.8	190.1	---	674.2	630.6	592.3	---
400	2950	133	3400	0.11	2	0.08	0.10	---	---	67	68	---	---	424.1	435.2	---	---	963.3	906.5	---	---
650	4794	207	3000	0.13	2	0.08	0.10	0.15	---	129	133	137	---	1142	1181	1230	---	1819.6	1751.8	1645.6	---
1100	8113	236	3000	0.05	1.4	0.06	0.08	0.10	---	129	133	137	---	1142	1181	1230	---	2238.6	2137.6	1981.2	---
2100	15489	421	2500	0.09	1	0.06	0.07	---	---	249	256	---	---	3648	3754	---	---	6634.7	6096.3	---	---
3600	26553	739	2100	0.10	1	0.06	0.07	0.09	---	453	457	465	---	8935	9006	9142	---	111045.6	10549.2	9709	---

If the transmissible torque T of the shrink disc is lower than the coupling torque, then the torque T counts maximum coupling torque, see page 24-25.
GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.
Shrink disc dimensions see on page 24-25.

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
d_4 = Pilot hole
A = Max. outer diameter
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends
D = Outer diameter shrink disc (page 24-25)
d = Inner diameter shrink disc (page 24-25)

GERWAH® XHC-32

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	d_4	A[1)]	L_1	L_2	S_1	S_2	
	inch		inch		inch	inch			
17	0.60	1.44	0.39	2.78	4.34	1.56	0.30	1.23	
32	0.94	1.65	0.55	3.46	5.02	1.77	0.35	1.48	
75	1.10	2.36	0.59	4.59	6.15	2.17	0.41	1.82	
135	1.41	2.76	0.75	5.53	6.89	2.36	0.47	2.17	
240	1.97	4.53	0.98	6.56	8.37	2.95	0.51	2.46	
400	1.97	3.74	1.18	7.81	9.91	3.54	0.59	2.83	

1) The outer diameter of the shrink disc can be more than the outer diameter of the hub according to the shaft size.

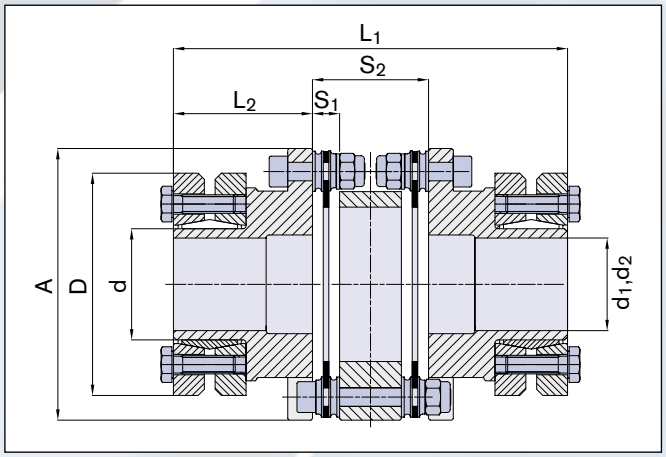
Reinforced disc pack on request.

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

Ordering example:

GERWAH® XHC-17-1.25-1.42

Series/Size	Bore diameter d_1	Bore diameter d_2
XHC 17	1.25	1.42



Sectional view

Technical Data

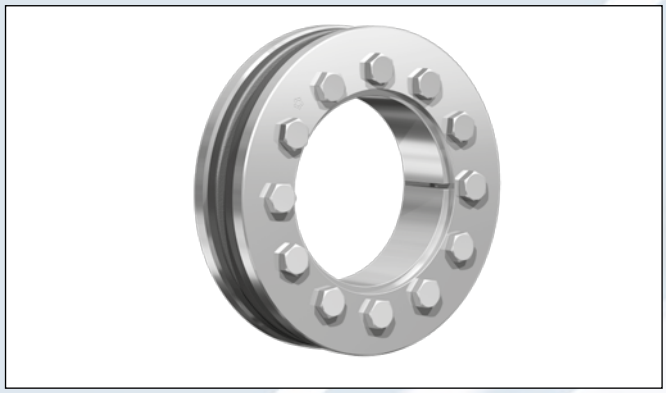
T_{KN} = Nom. Transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	ΔKr	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	inch	lbs	lbs-in²	10^3 ft-lbs/rad
17	125	6	8400	0.043	2	0.010	3.3	2.4	62
32	236	10	6800	0.05	2	0.015	6.4	7.5	100
75	553	23	5400	0.06	2	0.020	14	27.2	228
135	996	46	4600	0.08	2	0.027	21	62.3	420
240	1770	81	3800	0.10	2	0.027	38	171.0	725
400	2950	133	3400	0.11	2	0.027	64	416.0	1036

If the transmissible torque T of the shrink disc is lower than the coupling torque, then the torque T counts maximum coupling torque, see page 24-25.
GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.
Shrink disc dimensions see on page 24-25.

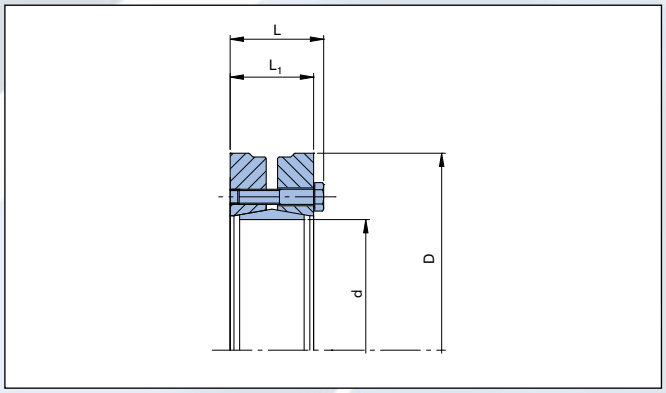
d = Inner diameter
D = Outer diameter
d_w = Solid shaft diameter
T = Transmissible torque at given T_A
L = Overall length
L_1 = Overall length without screws
Gw = Weight
D_G = Thread
SW = Wrench size
T_A = Max. tightened torque of the screws



RINGFEDER® RfN 4061

Shrink Disc Dimensions RfN 4061 / 4071

d	D	d	D	d_w	T	L	L_1	Gw	D_G	SW	T_A
mm		inch			ft-lbs	inch		lbs	mm		ft-lbs
20	46	0.787	1.811	0.591	81	0.827	0.689	0.44	M5	8	3
20	46	0.787	1.811	0.630	103	0.827	0.689	0.44	M5	8	3
20	46	0.787	1.811	0.669	118	0.827	0.689	0.44	M5	8	3
24	50	0.945	1.969	0.709	155	0.886	0.748	0.44	M5	8	3
24	50	0.945	1.969	0.748	177	0.886	0.748	0.44	M5	8	3
24	50	0.945	1.969	0.787	199	0.886	0.748	0.44	M5	8	3
24	50	0.945	1.969	0.827	221	0.886	0.748	0.44	M5	8	3
30	52	1.181	2.047	0.866	199	1.024	0.886	0.44	M5	8	3
30	52	1.181	2.047	0.906	229	1.024	0.886	0.44	M5	8	3
30	52	1.181	2.047	0.945	258	1.024	0.886	0.44	M5	8	3
30	52	1.181	2.047	0.984	295	1.024	0.886	0.44	M5	8	3
30	52	1.181	2.047	1.024	325	1.024	0.886	0.44	M5	8	3
36	72	1.417	2.835	1.102	435	1.083	0.925	1.10	M6	10	9
36	72	1.417	2.835	1.142	472	1.083	0.925	1.10	M6	10	9
36	72	1.417	2.835	1.181	509	1.083	0.925	1.10	M6	10	9
36	72	1.417	2.835	1.220	516	1.083	0.925	1.10	M6	10	9
44	80	1.732	3.150	1.260	590	1.181	1.024	1.10	M6	10	9
44	80	1.732	3.150	1.299	649	1.181	1.024	1.10	M6	10	9
44	80	1.732	3.150	1.378	738	1.181	1.024	1.10	M6	10	9
44	80	1.732	3.150	1.417	774	1.181	1.024	1.10	M6	10	9
50	90	1.969	3.543	1.496	996	1.240	1.083	1.98	M6	10	9
50	90	1.969	3.543	1.575	1106	1.240	1.083	1.98	M6	10	9
50	90	1.969	3.543	1.614	1180	1.240	1.083	1.98	M6	10	9
55	100	2.165	3.937	1.654	959	1.358	1.201	2.43	M6	10	9
55	100	2.165	3.937	1.732	1084	1.358	1.201	2.43	M6	10	9
55	100	2.165	3.937	1.772	1143	1.358	1.201	2.43	M6	10	9
55	100	2.165	3.937	1.811	1180	1.358	1.201	2.43	M6	10	9
55	100	2.165	3.937	1.890	1328	1.358	1.201	2.43	M6	10	9
68	115	2.677	4.528	1.969	1401	1.358	1.201	3.09	M6	10	9
68	115	2.677	4.528	2.047	1490	1.358	1.201	3.09	M6	10	9
68	115	2.677	4.528	2.165	1660	1.358	1.201	3.09	M6	10	9
68	115	2.677	4.528	2.283	1881	1.358	1.201	3.09	M6	10	9



Dimensions

d = Inner diameter
D = Outer diameter
d_w = Solid shaft diameter
T = Transmissible torque at given T_A
L = Overall length
L_1 = Overall length without screws
Gw = Weight
D_G = Thread
SW = Wrench size
T_A = Max. tightened torque of the screws

If the transmissible torque T of the shrink disc is lower than the coupling torque, then the torque T counts as the maximum coupling torque.

d	D	d	D	d_w	T	L	L_1	Gw	D_G	SW	T_A
mm		inch			ft-lbs	inch		lbs	mm		ft-lbs
80	145	3.150	5.709	2.362	2360	1.488	1.280	5.51	M8	13	22
80	145	3.150	5.709	2.441	2545	1.488	1.280	5.51	M8	13	22
80	145	3.150	5.709	2.520	2729	1.488	1.280	5.51	M8	13	22
90	155	3.543	6.102	2.559	3540	1.752	1.535	7.28	M8	13	22
90	155	3.543	6.102	2.677	4057	1.752	1.535	7.28	M8	13	22
90	155	3.543	6.102	2.756	4462	1.752	1.535	7.28	M8	13	22
90	155	3.543	6.102	2.835	4942	1.752	1.535	7.28	M8	13	22
110	185	4.331	7.283	2.953	6011	2.339	2.087	13.90	M10	16	45
110	185	4.331	7.283	3.071	6823	2.339	2.087	13.90	M10	16	45
110	185	4.331	7.283	3.150	7449	2.339	2.087	13.90	M10	16	45
110	185	4.331	7.283	3.228	8261	2.339	2.087	13.90	M10	16	45
125	215	4.921	8.465	3.346	8150	2.378	2.126	19.20	M10	16	45
125	215	4.921	8.465	3.465	8925	2.378	2.126	19.20	M10	16	45
125	215	4.921	8.465	3.543	9662	2.378	2.126	19.20	M10	16	45
140	230	5.512	9.055	3.740	11137	2.677	2.382	23.40	M12	18	75
140	230	5.512	9.055	3.937	12944	2.677	2.382	23.40	M12	18	75
140	230	5.512	9.055	4.134	14751	2.677	2.382	23.40	M12	18	75
165	290	6.496	11.417	4.331	19546	3.189	2.795	47.40	M16	24	185
165	290	6.496	11.417	4.528	23160	3.189	2.795	47.40	M16	24	185
165	290	6.496	11.417	4.724	26184	3.189	2.795	47.40	M16	24	185
165	290	6.496	11.417	4.921	29060	3.189	2.795	47.40	M16	24	185
185	330	7.283	12.992	5.118	33928	3.795	3.402	79.40	M16	24	185
185	330	7.283	12.992	5.315	38723	3.795	3.402	79.40	M16	24	185
195	350	7.677	13.780	5.512	42300	3.780	3.386	88.20	M16	24	185
195	350	7.677	13.780	5.709	46024	3.780	3.386	88.20	M16	24	185
195	350	7.677	13.780	5.906	57236	3.780	3.386	88.20	M16	24	185
195	350	7.677	13.780	6.102	61772	3.780	3.386	88.20	M16	24	185
220	370	8.661	14.567	6.299	70069	4.488	4.094	119.00	M16	24	185
220	370	8.661	14.567	6.496	75232	4.488	4.094	119.00	M16	24	185
240	405	9.449	15.945	6.693	88509	4.803	4.291	148.00	M20	30	361
240	405	9.449	15.945	7.087	101785	4.803	4.291	148.00	M20	30	361
240	405	9.449	15.945	7.480	115061	4.803	4.291	148.00	M20	30	361

Mounting with RINGFEDER® Locking Assembly

GERWAH® LHS, LHD, LHC

Permanent backlash-free attachment of the multiple-disc coupling by means of RINGFEDER® Locking Assemblies

- Multiple-disc coupling for compensating of axial and angular misalignments. Versions with 2 disc packs can also be used to compensate for radial misalignments.
- Overall length adaptable to customer requirements by use of various center spacers (LHD, LHC)
- High torsional stiffness
- High transmissible torques
- Can be used up to temperatures of approx. 240 °C / 460 °F
- Maintenance-free operation

Test bench

Machine tool

Non-standard spacers

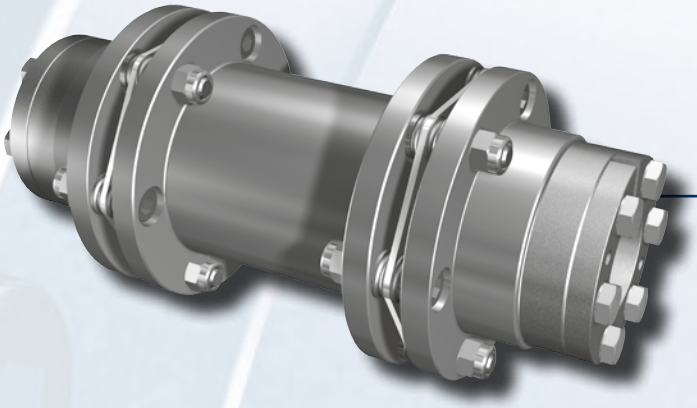
Many applications for GERWAH® Disc Couplings require special spacer length dimensions. We can supply spacers with lengths of up to 195 inch.

Higher rotational speeds and / or special couplings

A coupling sometimes needs to fulfill certain industrial safety standards or is operated at very high rotational speeds. We can also provide solutions for this.

GERWAH® LHS

Coupling without spacer



GERWAH® LHD

Coupling with standard spacer

GERWAH® LHC

Coupling with short spacer

GERWAH® LHS

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
A = Max. outer diameter
D_3 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack

GERWAH® LHS-32-30

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	A	D_3	L_1	L_2	S_1
	inch		inch	inch	inch	inch	
17-20	0.43	0.79	2.78	1.65	2.26	0.98	0.3
17-30	0.75	1.18	2.78	2.28	2.89	1.3	0.3
32-30	0.75	1.18	3.46	2.28	3.85	1.75	0.35
32-42	0.94	1.65	3.46	2.83	3.85	1.75	0.35
75-50	1.26	1.97	4.59	3.15	3.17	1.38	0.41
75-60	2.17	2.36	4.59	3.62	3.87	1.73	0.41
135-42	0.94	1.65	5.53	2.83	4.06	1.79	0.47
135-60	1.10	2.36	5.53	3.86	5.16	2.34	0.47
240-60	1.10	2.36	6.56	3.86	5.2	2.34	0.51
400-60	1.10	2.36	7.81	3.86	5.28	2.34	0.59

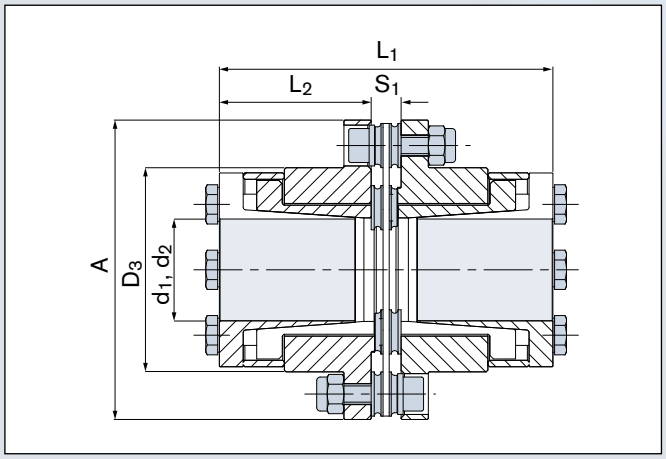
Reinforced disc pack on request.

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

Ordering example:

GERWAH® LHS-75-50-1.50-1.815

Series/Size	Bore diameter d_1	Bore diameter d_2
LHS 75-50	1.50	1.815



Sectional view

Technical Data

T_{max} = Max. transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{max} 1)	T_L	n_{max}	ΔKa	ΔKw	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	lbs	lbs-in²	10^3 ft-lbs/rad
17-20	107	6	8400	0.02	0.75	2.8	1.7	128
17-30	243	6	8400	0.02	0.75	2.8	1.7	128
32-30	369	10	6800	0.024	0.75	5.4	5.6	207
32-42	679	10	6800	0.024	0.75	5.4	5.6	207
75-50	841	23	5400	0.03	0.75	11.5	33.9	470
75-60	1010	23	5400	0.03	0.75	11.5	33.9	470
135-42	553	46	4600	0.04	0.75	18.1	46.4	865
135-60	2080	46	4600	0.04	0.75	18.1	46.4	865
240-60	2080	81	3800	0.047	0.75	32.4	118.7	1475
400-60	2080	133	3400	0.055	0.75	55.1	285.9	2207

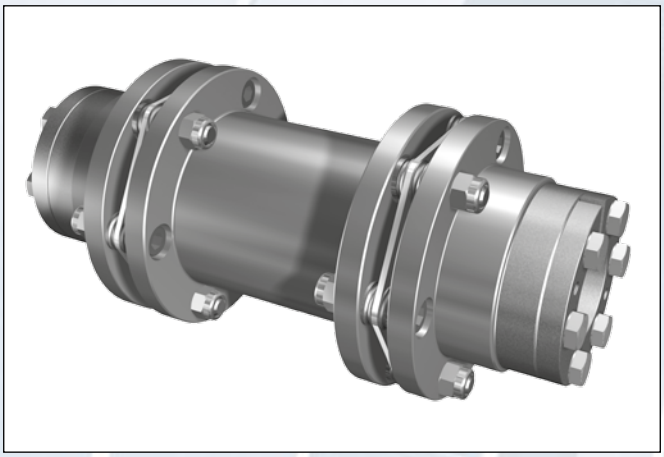
1) transmissible torque, depending on size of shaft fixing, is less than or equal to T_{max}.

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.
Torque is limited by the locking device capacity of the smallest shaft, see page 34 and 35.

GERWAH® LHD

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
A = Max. outer diameter
D_3 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends



GERWAH® LHD-32-30

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	A	D_3	L_1				L_2	S_1	S_2			
	inch		inch	inch	inch									
17-20	0.43	0.79	2.78	1.65	4.33	5.91	7.48	---	0.98	0.30	2.36	3.94	5.51	---
17-30	0.75	1.18	2.78	2.28	4.96	6.54	8.11	---	1.30	0.30	2.36	3.94	5.51	---
32-30	0.75	1.18	3.46	2.28	6.26	6.65	7.44	9.02	1.75	0.35	2.76	3.15	3.94	5.51
32-42	0.94	1.65	3.46	2.83	6.26	6.65	7.44	9.02	1.75	0.35	2.76	3.15	3.94	5.51
75-50	1.26	1.97	4.59	3.15	6.69	8.27	9.84	---	1.35	0.41	3.94	5.51	7.09	---
75-60	2.17	2.36	4.59	3.62	7.40	8.98	10.55	---	1.73	0.41	3.94	5.51	7.09	---
135-42	0.94	1.65	5.53	2.83	7.52	9.09	10.67	---	1.79	0.47	3.94	5.51	7.09	---
135-60	1.10	2.36	5.53	3.86	8.62	10.20	11.77	---	2.34	0.47	3.94	5.51	7.09	---
240-60	1.10	2.362	6.56	3.86	8.62	10.20	11.77	---	2.34	0.51	3.94	5.51	7.09	---
400-60	1.10	2.36	7.81	3.86	10.2	11.77	---	---	2.34	0.59	5.51	7.09	---	---

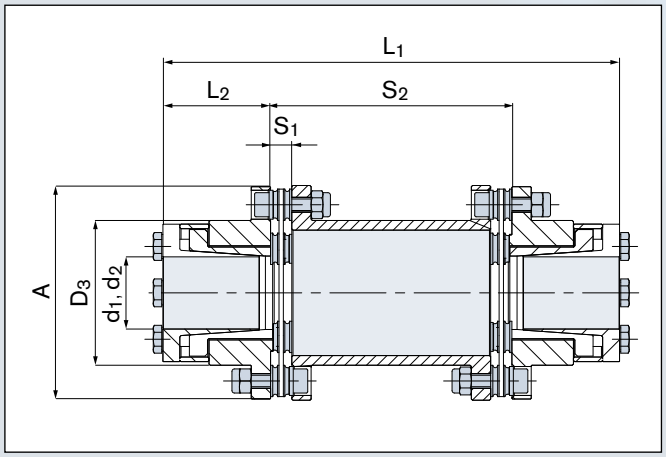
Reinforced disc pack on request.

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

Ordering example:

GERWAH® LHD-32-30-0.75-1.15-3.15

Series/Size	Bore diameter d_1	Bore diameter d_2	Spacer length S_2
LHD 32-30	0.75	1.125	3.15



Sectional view

Technical Data

T_{max} = Max. transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{max} [1]	T_L	n_{max}	ΔKa	ΔKw	ΔKr				Gw				J				C_{Tdyn}			
	ft-lbs	ft-lbs	rpm	inch	degree	inch				lbs				lbs-in²				10^3 ft-lbs/rad			
17-20	107	6	8400	0.04	1.5	0.03	0.047	0.055	---	0.06	0.07	0.07	---	2.6	2.8	3.0	---	43	44	38	---
17-30	243	6	8400	0.04	1.5	0.03	0.047	0.055	---	0.06	0.07	0.07	---	2.6	2.8	3.0	---	43	44	38	---
32-30	369	10	6800	0.05	1.5	0.030	0.035	0.047	0.075	0.12	0.12	0.13	0.14	8.6	8.8	9.1	9.6	93	91	86	77
32-42	679	10	6800	0.05	1.5	0.03	0.035	0.047	0.075	0.12	0.12	0.13	0.14	8.6	8.8	9.1	9.6	93	91	86	77
75-50	841	23	5400	0.06	1.5	0.05	0.067	0.086	---	0.26	0.27	0.28	---	31.7	33.7	35.8	---	200	181	167	---
75-60	1010	23	5400	0.06	1.5	0.05	0.067	0.086	---	0.26	0.27	0.28	---	31.7	33.7	35.8	---	200	181	167	---
135-42	553	46	4600	0.08	1.5	0.04	0.067	0.086	---	0.41	0.42	0.44	---	71.5	74.5	77.4	---	378	346	319	---
135-60	2080	46	4600	0.08	1.5	0.04	0.067	0.086	---	0.41	0.42	0.44	---	71.5	74.5	77.4	---	378	346	319	---
240-60	2080	81	3800	0.10	1.5	0.04	0.067	0.086	---	0.70	0.73	0.76	---	176.8	183.8	190.8	---	674	631	592	---
400-60	2080	133	3400	0.11	1.5	0.06	0.086	---	---	1.19	1.22	---	---	424.1	435.2	---	---	963	907	---	---

1) transmissible torque, depending on size of shaft fixing, is less than or equal to T_{max}.

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.
Torque is limited by the locking device capacity of the smallest shaft, see page 34 and 35.

GERWAH® LHC

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
A = Max. outer diameter
D_3 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends

GERWAH® LHC-32-36

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	A	D_3	L_1	L_2	S_1	S_2
	inch		inch	inch	inch			
17-20	0.43	0.79	2.78	1.65	3.20	0.98	0.30	1.23
17-30	0.75	1.18	2.78	2.28	3.83	1.30	0.30	2.36
32-30	0.75	1.18	3.46	2.28	4.98	1.75	0.35	1.48
32-42	0.94	1.65	3.46	2.83	4.98	1.75	0.35	1.48
75-50	1.26	1.97	4.59	3.15	4.58	1.38	0.41	1.82
75-60	2.17	2.36	4.59	3.62	5.29	1.73	0.41	1.82
135-42	0.94	1.65	5.53	2.83	5.75	1.79	0.47	2.17
135-60	1.10	2.36	5.53	3.86	6.85	2.34	0.47	2.17
240-60	1.10	2.36	6.56	3.86	7.18	2.34	0.51	2.46
400-60	1.10	2.36	7.81	3.86	7.51	2.34	0.59	2.83

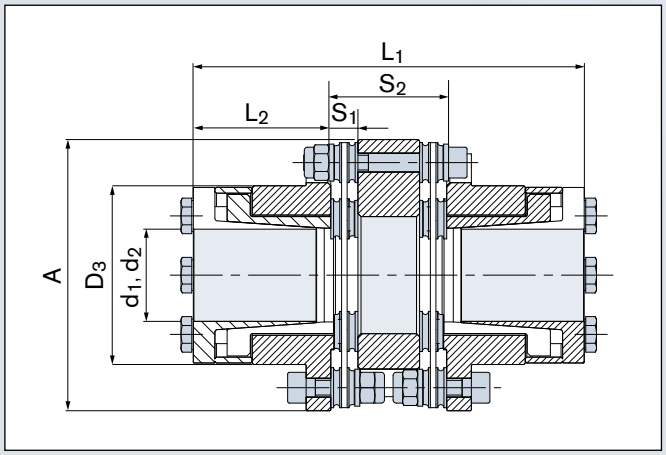
Reinforced disc pack on request.

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

Ordering example:

GERWAH® LHC-17-30-0.75-1.0

Series/Size	Bore diameter d_1	Bore diameter d_2
LHC 17-30	0.75	1.0



Sectional view

Technical Data

T_{max} = Max. transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{max} [1]	T_L	n_{max}	ΔKa	ΔKw	ΔKr	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	inch	lbs	lbs-in²	10^3 ft-lbs/rad
17-20	107	6	8400	0.04	1.5	0.01	0.06	2.4	62
17-30	243	6	8400	0.04	1.5	0.01	0.06	2.4	62
32-30	369	10	6800	0.05	1.5	0.016	0.11	7.5	100
32-42	679	10	6800	0.05	1.5	0.016	0.11	7.5	100
75-50	841	23	5400	0.06	1.5	0.016	0.24	27.2	228
75-60	1010	23	5400	0.06	1.5	0.016	0.24	27.2	228
135-42	553	46	4600	0.08	1.5	0.03	0.4	62.3	420
135-60	2080	46	4600	0.08	1.5	0.03	0.4	62.3	420
240-60	2080	81	3800	0.10	1.5	0.03	0.68	170.8	725
400-60	2080	133	3400	0.11	1.5	0.03	1.16	416.3	1036

1) transmissible torque, depending on size of shaft fixing, is less than or equal to T_{max}.

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.
Torque is limited by the locking device capacity of the smallest shaft, see page 34 and 35.

Additional Table

Locking Device Torque Capacity by Coupling and Shaft Size

Use the table below to verify if the coupling max. torque capacity is limited by the shaft size. The coupling torque capacity will be the smaller number from the coupling and shaft table.

Dimensions and Technical Data

D_G = Thread
SW = Wrench size
T_A = Max. tightened torque of the screws
Ø = Transmissible torque, depending on bore diameter
d_1, d_2 = Bore diameter

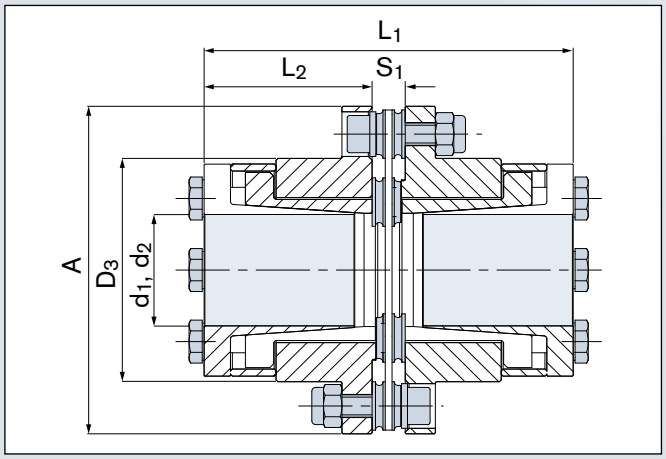
				Ø mm																						
				11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60
Size	D_G	SW	T_A	0.433	0.472	0.551	0.591	0.630	0.707	0.748	0.787	0.866	0.945	0.984	1.102	1.181	1.260	1.378	1.496	1.575	1.654	1.772	1.890	1.989	2.165	2.362
	mm		ft-lbs	ft-lbs																						
17-20	M4	7	3.7	37	41	66	70	85	85	103	107	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17-30	M6	10	13.0	---	---	---	---	---	---	144	148	177	195	203	229	243	---	---	---	---	---	---	---	---	---	---
32-30	M6	10	13.0	---	---	---	---	---	---	229	243	266	295	302	339	369	---	---	---	---	---	---	---	---	---	---
32-42	M6	10	13.0	---	---	---	---	---	---	---	---	---	347	361	406	435	516	568	620	649	679	---	---	---	---	---
75-50	M6	10	13.0	---	---	---	---	---	---	---	---	---	---	---	---	---	406	524	575	605	701	752	804	841	---	---
75-60	M6	10	13.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	922	1010

Example:
Size 17-20 with bore 0.707 inch
transmissible torque: 85 ft-lbs

Example:
Size 75-50 with bore 1.772 inch
transmissible torque: 752 ft-lbs

Torque is limited by the locking device capacity of the smallest shaft

GERWAH® LHS, LHD, LHC

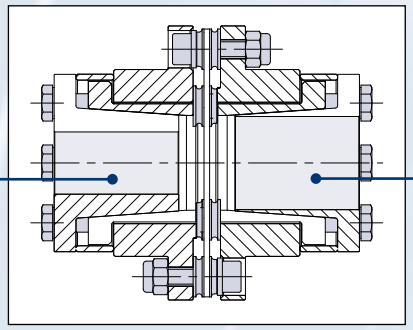


Sectional view

Dimensions and Technical Data

D_G = Thread
SW = Wrench size
T_A = Max. tightened torque of the screws
Ø = Transmissible torque, depending on bore diameter
d_1, d_2 = Bore diameter

Size	D_G	SW	T_A	Ø mm / Ø inch																						
				11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60
				0.433	0.472	0.551	0.591	0.630	0.707	0.748	0.787	0.866	0.945	0.984	1.102	1.181	1.260	1.378	1.496	1.575	1.654	1.772	1.890	1.989	2.165	2.362
	mm		ft-lbs	ft-lbs																						
135-42	M6	10	13.0	---	---	---	---	---	---	---	---	---	347	361	406	435	516	553	553	553	553	---	---	---	---	---
135-60	M8	13	30.0	---	---	---	---	---	---	---	---	---	---	---	937	981	1047	1143	1313	1387	1453	1556	1660	1733	1910	2080
240-60	M8	13	30.0	---	---	---	---	---	---	---	---	---	---	---	937	981	1047	1143	1313	1387	1453	1556	1660	1733	1910	2080
400-60	M8	13	30.0	---	---	---	---	---	---	---	---	---	---	---	937	981	1047	1143	1313	1387	1453	1556	1660	1733	1910	2080



d_1 Bore = 1.102 inch

d_2 Bore = 1.890 inch

Torque is limited by the locking device capacity of the smallest shaft

Characteristics

Mounting with Clamping Hub

GERWAH® CCS, CCD

Coupling with axial, angular and parallel (CCD) misalignment capability

- Low inertia, high speeds
- Minimized dimensions
- Can be used up to temperatures of approx. 240 °C / 460 °F
- Maintenance-free operation

GERWAH® CHS, CHD, CHC

Coupling for compensating of axial, angular and radial (CHD and CHC) misalignments

- Permanent backlash-free attachment of the disc coupling by means of clamping hub
- Overall length adaptable to customer requirements by use of different spacer sleeves (CHD) or very short length with close coupled sleeve (CHC)
- High torsional stiffness
- Backlash-free transmission of high torques
- Can be used up to temperatures of approx. 240 °C / 460 °F
- Maintenance-free operation

Machine tool

Higher rotational speeds and / or special couplings

A coupling sometimes needs to fulfill certain industrial safety standards or is operated at very high rotational speeds. We can also provide solutions for this.

Non-standard spacers

Many applications with GERWAH® Couplings require special spacer length dimensions. We can supply spacers with lengths of up to 195 inch.

GERWAH® GWL 5406.1, 5406.2, 5406.3

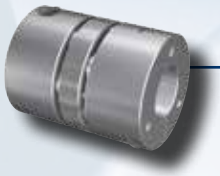
Disc Coupling in split hub design

Half-shell GERWAH® multi-plate clutches can fit in the smallest installation spaces as no axial displacement of the clutch is necessary for assembly and disassembly. This achieves a substantial reduction in assembly time. GERWAH® half shell multi-plate clutches can also be precisely aligned to one another, reducing the risk of alignment errors.

Characteristics

GERWAH® CCS

Aluminum Clamping Hub Coupling without spacer



GERWAH® CCD

Aluminum Clamping Hub Coupling with standard spacer

GERWAH® CHS

Clamping Hub Coupling without spacer

GERWAH® CHD

Clamping Hub Coupling with standard spacer

GERWAH® CHC

Clamping Hub Coupling with short spacer

GERWAH® GWL 5406.1

Clamping Hub Coupling without spacer in split hub design

GERWAH® GWL 5406.2

Clamping Hub Coupling with standard spacer in split hub design

GERWAH® GWL 5406.3

Clamping Hub Coupling with short spacer in split hub design

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
A = Max. outer diameter
H = Clearance diameter
H (2) = Clearance diameter 2 (screw is bigger when using small shafts)
K = Distance shaft axis - clamping screw axis
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack

GERWAH® CCS-17

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	A	H	H (2)	K	L_1	L_2	S_1
	inch		inch	inch			inch	inch	
9	0.55	1.18	2.20	2.28	2.44	0.79	2.08	0.98	0.11
17	0.75	1.57	2.83	3.03	3.19	0.93	2.58	1.22	0.14
32	1.10	2.36	3.66	3.86	3.94	1.38	2.94	1.38	0.19

Optional designs with keyway according to DIN 6885-1 / ANSI B17.1-1967.
Reinforced disc pack on request.
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

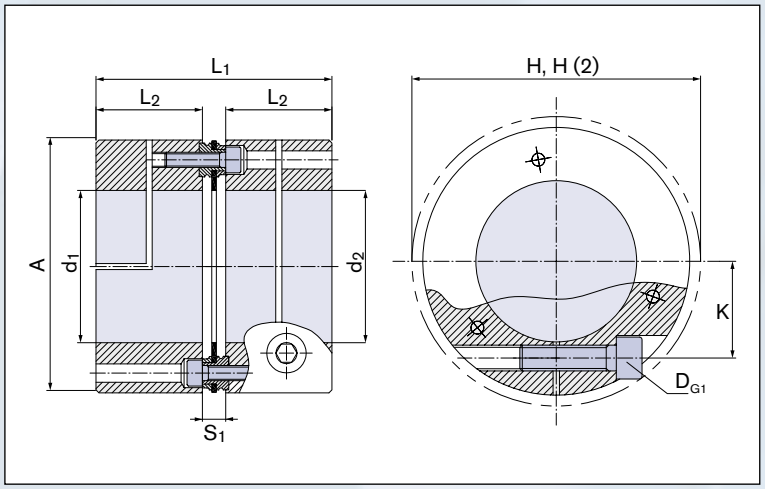
Shaft diameter inch		h7 Shaft tolerance inch	
up	to	up	to
> 0.24	0.39	+0.000 / -0.0006	
> 0.39	0.71	+0.000 / -0.0007	
> 0.71	1.18	+0.000 / -0.0008	
> 1.18	1.97	+0.000 / -0.0010	
> 1.97	3.15	+0.000 / -0.0012	

Ordering example:

GERWAH® CCS-17-0.75-1.00

Series/Size	Bore diameter d_1	Bore diameter d_2
CCS 17	0.75	1.00

Compact design



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_L = Tightening torque of srews in disc pack
T_A = Max. tightened torque of the screws
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	lbs	lbs-in²	10^3 ft-lbs/rad
9	110	4	10000	0.016	1	0.66	0.54	66.4
17	250	6	8400	0.020	1	1.32	1.6	127.6
32	405	10	6800	0.024	1	2.36	5.48	207.3

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Transmissible torques

Size		d_1; d_2 Ø mm Ø inch																					T_A
		Ø14 0.551	Ø15 0.591	Ø16 0.630	Ø18 0.707	Ø19 0.748	Ø20 0.787	Ø22 0.866	Ø24 0.945	Ø25 0.984	Ø28 1.102	Ø30 1.181	Ø32 1.260	Ø35 1.378	Ø38 1.496	Ø40 1.575	Ø42 1.654	Ø45 1.772	Ø48 1.890	Ø50 1.989	Ø55 2.165	Ø60 2.362	
9	ft-lbs	81 (M8)	88 (M8)	96 (M8)	110 M8)	66 (M6)	74 (M6)	81 (M6)	88 (M6)	96 (M6)	103 (M6)	110 (M6)	---	---	---	---	---	---	---	---	---	---	10 (M6) / 24 (M8)
17	ft-lbs	---	---	140 (M10)	155 (M10)	184 (M10)	199 (M10)	214 (M10)	236 (M10)	243 (M10)	177 (M8)	184 (M8)	199 (M8)	221 (M8)	236 (M8)	250 (M8)	---	---	---	---	---	---	24 (M8) / 48 (M10)
32	ft-lbs	---	---	---	---	177 (M10)	192 (M10)	206 (M10)	228 (M10)	236 (M10)	269 (M10)	287 (M10)	310 (M10)	339 (M10)	368 (M10)	390 (M10)	405 (M10)	280 (M8)	295 (M8)	317 (M8)	346 (M8)	369 (M8)	24 (M8) / 48 (M10)

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
A = Max. outer diameter
H = Clearance diameter
H (2) = Clearance diameter 2 (screw is bigger when using small shafts)
K = Distance shaft axis - clamping screw axis
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends

GERWAH® CCD-32

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	A	H	H (2)	K	L_1	L_2	S_1	S_2
	inch		inch	inch			inch	inch		
9	0.55	1.18	2.20	2.28	2.44	0.79	2.53	0.98	0.11	0.56
17	0.75	1.57	2.83	3.03	3.19	0.93	3.11	1.22	0.14	0.67
32	1.10	2.36	3.66	3.82	3.94	1.38	3.57	1.38	0.19	0.81

Optional designs with keyway according to DIN 6885-1 / ANSI B17.1-1967.
Reinforced disc pack on request.
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

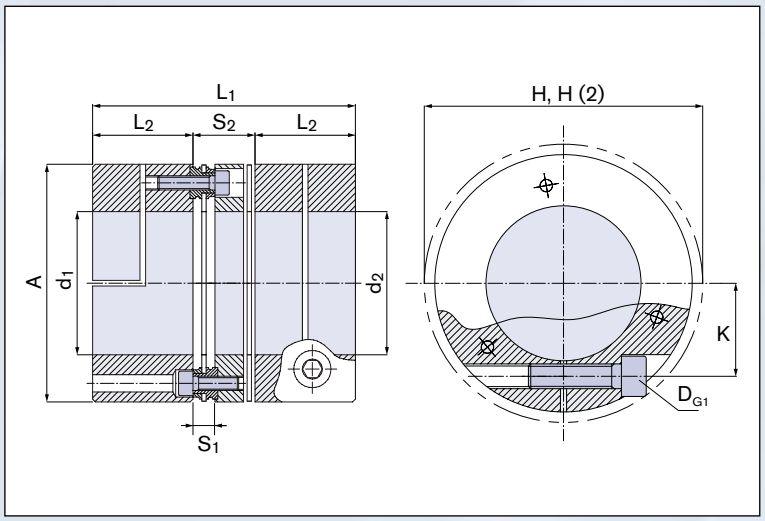
Shaft diameter inch		h7 Shaft tolerance inch	
up	to	up	to
> 0.24	0.39	+0.000 / -0.0006	
> 0.39	0.71	+0.000 / -0.0007	
> 0.71	1.18	+0.000 / -0.0008	
> 1.18	1.97	+0.000 / -0.0010	
> 1.97	3.15	+0.000 / -0.0012	

Ordering example:

GERWAH® CCD-32-1.25-1.50

Series/Size	Bore diameter d_1	Bore diameter d_2
CCD 32	1.25	1.50

Compact design



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_L = Tightening torque of srews in disc pack
T_A = Max. tightened torque of the screws
n_{max} = Max. Drehzahl/Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	ΔKr	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	inch	lbs	lbs-in²	10^3 ft-lbs/rad
9	110	4	10000	0.03	1	0.008	0.80	0.89	32.5
17	250	6	8400	0.04	1	0.009	1.61	2.48	62
32	405	10	6800	0.05	1	0.011	2.87	7.94	100.3

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Transmissible torques

Size		d_1; d_2 Ø mm Ø inch																					T_A
		14 0.551	15 0.591	16 0.630	18 0.707	19 0.748	20 0.787	22 0.866	24 0.945	25 0.984	28 1.102	30 1.181	32 1.260	35 1.378	38 1.496	40 1.575	42 1.654	44 1.732	45 1.772	50 1.989	55 2.165	60 2.362	
9	ft-lbs	81 (M8)	88 (M8)	96 (M8)	110 (M8)	66 (M6)	74 (M6)	81 (M6)	88 (M6)	96 (M6)	103 (M6)	110 (M6)	---	---	---	---	---	---	---	---	---	---	10 (M6) / 24 (M8)
17	ft-lbs	---	---	140 (M10)	155 (M10)	184 (M10)	199 (M10)	214 (M10)	236 (M10)	330 (M10)	177 (M8)	184 (M8)	199 (M8)	221 (M8)	236 (M8)	250 (M8)	---	---	---	---	---	---	24 (M8) / 48 (M10)
32	ft-lbs	---	---	---	---	177 (M10)	192 (M10)	206 (M10)	228 (M10)	236 (M10)	269 (M10)	287 (M10)	310 (M10)	339 (M10)	369 (M10)	391 (M10)	405 (M10)	280 (M8)	295 (M8)	317 (M8)	346 (M8)	369 (M8)	24 (M8) / 48 (M10)

GERWAH® CHS

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
d_4 = Pilot hole
A = Max. outer diameter
D_1 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack

GERWAH® CHS-32

Dimensions

Size	d_1; d_2 min.	d_1; d_2 max.	d_4	A	D_1	L_1	L_2	S_1
	inch		inch			inch	inch	
17	0.433	0.980	0.390	2.780	1.850	3.410	1.560	0.300
32	0.591	1.380	0.550	3.460	2.460	3.890	1.770	0.350
75	0.630	1.770	0.590	4.590	3.230	4.740	2.170	0.410
135	0.787	2.360	0.750	5.530	3.900	5.200	2.360	0.470

Reinforced disc pack on request.

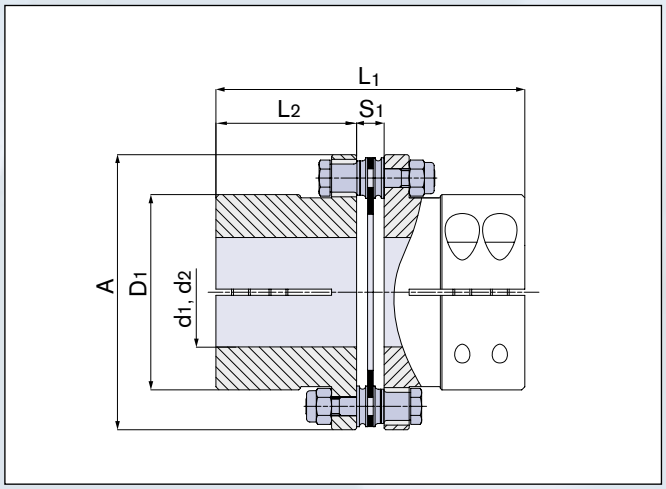
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Shaft diameter inch		h7 Shaft tolerance inch	
up	to	up	to
> 0.24	0.39	+0.000 / -0.0006	
> 0.39	0.71	+0.000 / -0.0007	
> 0.71	1.18	+0.000 / -0.0008	
> 1.18	1.97	+0.000 / -0.0010	
> 1.97	3.15	+0.000 / -0.0012	

Ordering example:

GERWAH® CHS-75-1.375-1.50

Series/Size	Bore diameter d_1	Bore diameter d_2
CHS 75	1.375	1.50



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_L = Tightening torque of srews in disc pack
T_A = Max. tightened torque of the screws
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	lbs	lbs-in²	10^3 ft-lbs/rad
17	133	6	8400	0.04	2	2.8	1.7	128
32	265	10	6800	0.047	2	5.4	5.6	207
75	582	23	5400	0.06	2	11.5	33.9	470
135	1069	46	4600	0.08	2	18.1	46.4	865

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Transmissible torques

Size	d_1; d_2 Ø mm Ø inch																				T_A
	15 0.591	16 0.630	18 0.707	19 0.748	20 0.787	22 0.866	24 0.945	25 0.984	28 1.102	30 1.181	32 1.260	35 1.378	38 1.496	40 1.575	42 1.654	45 1.772	48 1.890	50 1.989	55 2.165	60 2.362	
17	48	55	66	74	85	103	125	133	---	---	---	---	---	---	---	---	---	---	---	---	10 (M6)
32	---	---	---	---	88	110	133	155	184	221	258	265	---	---	---	---	---	---	---	---	30 (M8)
75	---	---	---	---	---	---	---	---	---	265	310	361	405	479	582	582	---	---	---	---	61 (M10)
135	---	---	---	---	---	---	---	---	---	250	280	310	346	369	442	479	553	663	884	1069	61 (M10)

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
d_4 = Pilot hole
A = Max. outer diameter
D_1 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends

GERWAH® CHD-32

Dimensions

Size	d_1;d_2 min.	d_1;d_2 max.	d_4	A	D_1	L_1				L_2	S_1	S_2		
	inch		inch			inch								
17	0.433	0.980	0.390	2.780	1.850	5.470	7.050	8.620	---	1.560	0.300	2.360	3.940	5.510
32	0.591	1.380	0.550	3.460	2.460	6.300	6.690	7.480	9.060	1.770	0.350	2.760	3.150	3.940
75	0.630	1.770	0.590	4.590	3.190	8.270	9.840	11.420	---	2.170	0.410	3.940	5.510	7.090
135	0.787	2.360	0.750	5.530	3.700	8.660	10.240	11.810	---	2.360	0.470	3.940	5.510	7.090

Reinforced disc pack on request.

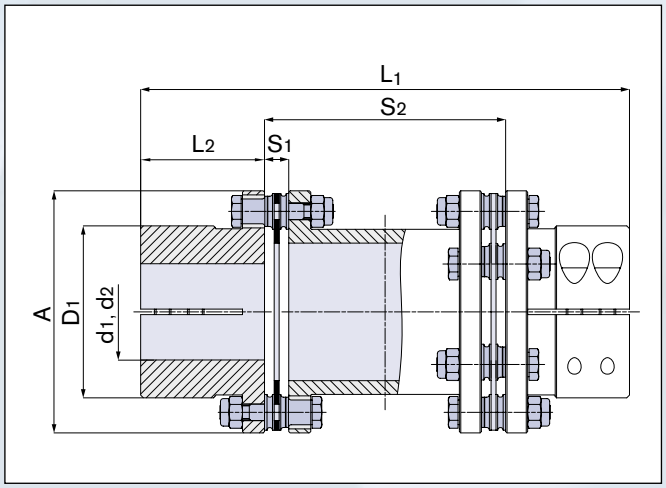
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Shaft diameter inch		h7 Shaft tolerance inch	
up	to	up	to
> 0.24	0.39	+0.000 / -0.0006	
> 0.39	0.71	+0.000 / -0.0007	
> 0.71	1.18	+0.000 / -0.0008	
> 1.18	1.97	+0.000 / -0.0010	
> 1.97	3.15	+0.000 / -0.0012	

Ordering example:

GERWAH® CHD-135-2.0-2.25-5.51

Series/Size	Bore diameter d_1	Bore diameter d_2	Spacer length S_2
CHD 135	2.0	2.25	5.51



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_L = Tightening torque of srews in disc pack
T_A = Max. tightened torque of the screws
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	ΔKr				Gw				J				C_{Tdyn}			
	ft-lbs	ft-lbs	rpm	inch	degree	inch				lbs				lbs-in²				10^3 ft-lbs/rad			
17	133	6	8400	0.04	2	0.028	0.047	0.055	---	3.4	3.7	3.9	---	2.6	2.8	3.0	---	52	44	38	---
32	265	10	6800	0.047	2	0.032	0.035	0.047	0.067	6.8	6.9	7.2	7.7	8.6	8.8	9.1	9.6	93	91	86	77
75	582	23	5400	0.06	2	0.047	0.067	0.087	---	14.4	15.1	15.7	---	31.7	33.7	35.8	---	200	181	167	---
135	1069	46	4600	0.08	2	0.043	0.067	0.087	---	22.7	23.6	24.6	---	71.5	74.5	77.4	---	378	346	319	---

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Transmissible torques

Size	d_1; d_2 Ø mm Ø inch																				T_A
	15 0.591	16 0.630	18 0.707	19 0.748	20 0.787	22 0.866	24 0.945	25 0.984	28 1.102	30 1.181	32 1.260	35 1.378	38 1.496	40 1.575	42 1.654	45 1.772	48 1.890	50 1.989	55 2.165	60 2.362	
17	48	55	66	74	85	103	125	133	---	---	---	---	---	---	---	---	---	---	---	---	10 (M6)
32	---	---	---	---	88	110	133	155	184	221	258	265	---	---	---	---	---	---	---	---	30 (M8)
75	---	---	---	---	---	---	---	---	---	265	310	361	405	479	582	582	---	---	---	---	61 (M10)
135	---	---	---	---	---	---	---	---	---	250	280	310	346	369	442	479	553	663	884	1069	61 (M10)

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
d_4 = Pilot hole
A = Max. outer diameter
D_1 = Outer diameter hub
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends

GERWAH® CHC-32

Dimensions

Size	d_1;d_2 min.	d_1;d_2 max.	d_4	A	D_1	L_1	L_2	S_1	S_2
	inch		inch			inch	inch		
17	0.433	0.980	0.390	2.780	1.850	4.340	1.560	0.300	1.230
32	0.591	1.380	0.550	3.460	2.460	5.020	1.770	0.350	1.480
75	0.630	1.770	0.590	4.590	3.190	6.150	2.170	0.410	1.820
135	0.787	2.360	0.750	5.530	3.700	6.890	2.360	0.470	2.170

Reinforced disc pack on request.

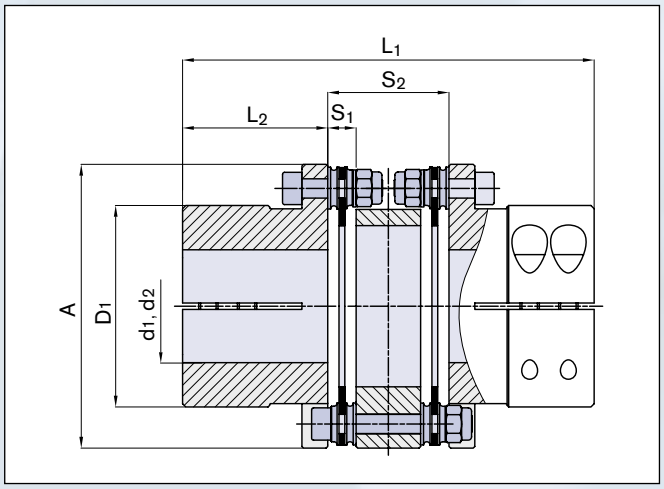
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Ordering example:

GERWAH® CHC-32-1.25-1.25

Series/Size	Bore diameter d_1	Bore diameter d_2
CHC 32	1.25	1.25

Shaft diameter inch		h7 Shaft tolerance inch	
up	to	up	to
> 0.24	0.39	+0.000 / -0.0006	
> 0.39	0.71	+0.000 / -0.0007	
> 0.71	1.18	+0.000 / -0.0008	
> 1.18	1.97	+0.000 / -0.0010	
> 1.97	3.15	+0.000 / -0.0012	



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_L = Tightening torque of srews in disc pack
T_A = Max. tightened torque of the screws
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness

Technical Data

Size	T_{KN}	T_L	n_{max}	ΔKa	ΔKw	ΔKr	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	rpm	inch	degree	inch	lbs	lbs-in²	10^3 ft-lbs/rad
17	133	6	8400	0.04	1.5	0.012	3.3	2	62.0
32	265	10	6800	0.05	1.5	0.016	6.4	7	100.3
75	582	23	5400	0.06	1.5	0.020	13.7	27	227.9
135	1069	46	4600	0.08	1.5	0.028	21.4	62	419.7

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Transmissible torques

Size		d_1; d_2 Ø mm Ø inch																				T_A
		15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	
		0.591	0.630	0.707	0.748	0.787	0.866	0.945	0.984	1.102	1.181	1.260	1.378	1.496	1.575	1.654	1.772	1.890	1.989	2.165	2.362	
17	ft-lbs	48	55	66	74	85	103	125	133	---	---	---	---	---	---	---	---	---	---	---	---	13 (M6)
32	ft-lbs	---	---	---	---	88	110	133	155	184	221	258	265	---	---	---	---	---	---	---	---	30 (M8)
75	ft-lbs	---	---	---	---	---	---	---	---	---	265	310	361	405	479	582	582	---	---	---	---	61 (M10)
135	ft-lbs	---	---	---	---	---	---	---	---	---	250	280	310	346	369	442	479	553	663	884	1069	61 (M10)

GERWAH® GWL 5406.1

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
d_4 = Pilot hole
A = Max. outer diameter
D_1 = Outer diameter hub
DB_{SE} = Distance between shaft ends
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack

GERWAH® GWL 5406.1

Size	d_1; d_2 min.	d_1; d_2 max.	d_4	A	D_1	DB_{SE}	L_1	L_2	S_1
	inch		inch			inch	inch	inch	
17	0.433	1.181	0.394	2.776	1.850	1.280	3.406	1.555	0.295
17	0.433	1.181	0.394	2.776	1.850	1.280	3.406	1.555	0.295
32	0.591	1.575	0.551	3.465	2.461	1.724	3.890	1.772	0.346
32	0.591	1.575	0.551	3.465	2.461	1.724	3.890	1.772	0.346
75	0.630	2.165	0.591	4.587	3.228	2.063	4.740	2.165	0.409
75	0.630	2.165	0.591	4.587	3.228	2.063	4.740	2.165	0.409
135	0.787	2.559	0.748	5.531	3.858	2.441	5.200	2.362	0.472

Reinforced disc pack on request.

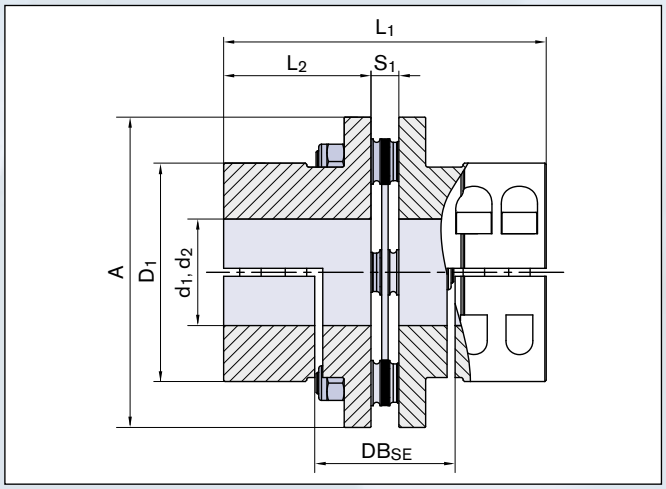
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Ordering example:

GERWAH® GWL 5406.1-75-2.165-2.165

Series/Size	Bore diameter d_1	Bore diameter d_2
GWL 5406.1 75	2.165	2.165

Shaft diameter inch		h7 Shaft tolerance inch	
up	to	up	to
> 0.24	0.39	+0.000 / -0.0006	
> 0.39	0.71	+0.000 / -0.0007	
> 0.71	1.18	+0.000 / -0.0008	
> 1.18	1.97	+0.000 / -0.0010	
> 1.97	3.15	+0.000 / -0.0012	



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_{max} = Max. transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness
T_{AM5} = Tightening torque of screw M5
T_{AM6} = Tightening torque of screw M6
T_{AM8} = Tightening torque of screw M8
T_{AM10} = Tightening torque of screw M10

Size	T_{KN}	T_{max}	T_L	n_{max}	ΔKa	ΔKw	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	ft-lbs	rpm	inch	degree	lbs	lbs-in²	10^3 ft-lbs/rad
17	162	284	6	8800.0	0.020	1.000	2.8	1.7	127.6
17	162	284	6	8800.0	0.020	1.000	2.8	1.7	127.6
32	413	723	10	7000.0	0.024	1.000	5.4	5.5	207.3
32	413	723	10	7000.0	0.024	1.000	5.4	5.5	207.3
75	867	1689	23	6200.0	0.031	1.000	11.5	34.2	469.9
75	867	1689	23	6200.0	0.031	1.000	11.5	34.2	469.8
135	1254	2194	46	5100.0	0.043	1.000	18.1	47.8	865.2

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Transmissible torques

Size	d_1 ; d_2 mm (2)																					T_A			
	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	M5	M6	M8	M10
17	---	---	---	---	---	---	---	---	125	136	---	---	---	---	---	---	---	---	---	---	---	7.2	---	---	---
17	96	103	114	122	129	140	155	162	---	---	---	---	---	---	---	---	---	---	---	---	---	---	12.5	---	---
32	---	---	---	---	---	---	---	---	---	---	---	---	247	258	---	---	---	---	---	---	---	---	12.5	---	---
32	---	---	---	---	236	258	284	295	332	354	380	413	---	---	---	---	---	---	---	---	---	---	---	30.2	---
75	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	568	594	653	---	---	---	---	30.2	---
75	---	---	---	---	---	---	---	---	---	575	616	671	730	767	808	867	---	---	---	---	---	---	---	---	61.2
135	---	---	---	---	---	---	---	---	---	575	616	671	730	767	808	867	922	963	1058	1154	1254	---	---	---	61.2

GERWAH® GWL 5406.2

Dimensions

d_1; d_{2min} = Min. bore diameter
d_1; d_{2max} = Max. bore diameter
d_4 = Pilot hole
A = Max. outer diameter
D_1 = Outer diameter hub
DB_{SE} = Distance between shaft ends
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends

GERWAH® GWL 5406.2

Size	d_1; d_2 min.	d_1; d_2 max.	d_4	A	D_1	DB_{SE}				L_1				L_2	S_1	S_2		
	inch		inch			inch				inch								
17	0.433	1.181	0.394	2.776	1.850	3.346	4.921	6.496	---	5.472	7.047	8.622	---	1.555	0.295	2.362	3.937	5.512
17	0.433	1.181	0.394	2.776	1.850	3.346	4.921	6.496	---	5.472	7.047	8.622	---	1.555	0.295	2.362	3.937	5.512
32	0.591	1.575	0.551	3.465	2.461	4.134	4.528	5.315	6.890	6.299	6.693	7.480	9.055	1.772	0.346	2.756	3.150	3.937
32	0.591	1.575	0.551	3.465	2.461	4.134	4.528	5.315	6.890	6.299	6.693	7.480	9.055	1.772	0.346	2.756	3.150	3.937
75	0.630	2.165	0.591	4.587	3.228	5.591	7.165	8.740	---	8.268	9.843	11.417	---	2.165	0.409	3.937	5.512	7.087
75	0.630	2.165	0.591	4.587	3.228	5.591	7.165	8.740	---	8.268	9.843	11.417	---	2.165	0.409	3.937	5.512	7.087
135	0.787	2.559	0.748	5.531	3.858	5.906	7.480	9.055	---	8.661	10.236	11.811	---	2.362	0.472	3.937	5.512	7.087

Reinforced disc pack on request.

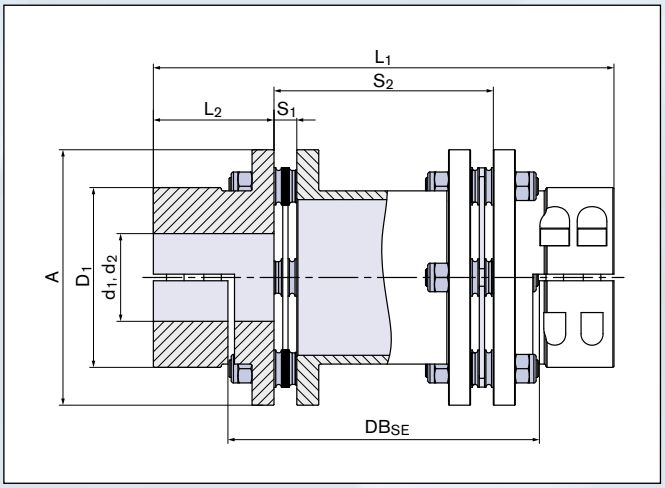
Moment of inertia and weight (mass) are calculated with reference to the largest bore size.

Shaft diameter inch		h7 Shaft tolerance inch	
up	to	up	to
> 0.24	0.39	+0.000 / -0.0006	
> 0.39	0.71	+0.000 / -0.0007	
> 0.71	1.18	+0.000 / -0.0008	
> 1.18	1.97	+0.000 / -0.0010	
> 1.97	3.15	+0.000 / -0.0012	

Ordering example:

GERWAH® GWL 5406.2-135-2.165-2.165-5.510

Series / Size	Bore diameter d_1	Bore diameter d_2	Spacer length S_2
GWL 5406.2 135	2.165	2.165	5.510



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_{max} = Max. transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness
T_{AM5} = Tightening torque of screw M5
T_{AM6} = Tightening torque of screw M6
T_{AM8} = Tightening torque of screw M8
T_{AM10} = Tightening torque of screw M10

Size	T_{KN}	T_{max}	T_L	n_{max}	ΔKa	ΔKw	ΔKr				Gw				J				C_{Tdyn}			
	ft-lbs	ft-lbs	ft-lbs	rpm	inch	degree	inch				lbs				lbs-in²				10^3 ft-lbs/rad			
17	162.3	284.0	5.9	8800	0.043	2.000	0.031	0.059	0.087	---	3.4	3.7	3.9	---	3	3	3	---	52	44	38	---
17	162.3	284.0	5.9	8800	0.040	2.000	0.031	0.059	0.087	---	3.4	3.7	3.9	---	3	3	3	---	52	44	38	---
32	413.0	722.8	10.3	7000	0.047	2.000	0.039	0.043	0.059	0.083	6.8	6.9	7.2	7.7	10	10	10	10	93	91	86	77
32	413.0	722.8	10.3	7000	0.047	2.000	0.039	0.043	0.059	0.083	6.8	6.9	7.2	7.7	9	9	9	10	93	91	86	77
75	866.6	1689.0	22.9	6200	0.063	2.000	0.055	0.083	0.110	---	14.4	15.1	15.7	---	31	34	34	---	200	181	167	---
75	866.6	1689.0	22.9	6200	0.060	2.000	0.055	0.083	0.110	---	14.4	15.1	15.7	---	31	34	34	---	200	181	167	---
135	1253.9	2194.3	45.7	5100	0.080	2.000	0.059	0.083	0.110	---	22.7	23.6	24.6	---	72	74	77	---	378	346	319	---

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Transmissible torques

Size	d_1 ; d_2 mm (2)																					T_A			
	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	M5	M6	M8	M10
17	---	---	---	---	---	---	---	---	125	136	---	---	---	---	---	---	---	---	---	---	---	7.2	---	---	---
17	96	103	114	122	129	140	155	162	---	---	---	---	---	---	---	---	---	---	---	---	---	---	13	---	---
32	---	---	---	---	---	---	---	---	---	---	---	---	247	258	---	---	---	---	---	---	---	---	13	---	---
32	---	---	---	---	236	258	284	295	332	354	380	413	---	---	---	---	---	---	---	---	---	---	---	30	---
75	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	568	594	653	---	---	---	---	30	---
75	---	---	---	---	---	---	---	---	---	575	616	671	730	767	808	867	---	---	---	---	---	---	---	---	61
135	---	---	---	---	---	---	---	---	---	575	616	671	730	767	808	867	922	963	1058	1154	1254	---	---	---	61

GERWAH® GWL 5406.3

Dimensions

d_1; d_{2max} = Max. bore diameter
d_4 = Pilot hole
A = Max. outer diameter
D_1 = Outer diameter hub
DB_{SE} = Distance between shaft ends
L_1 = Length of coupling
L_2 = Length on the hub
S_1 = Length of disc pack
S_2 = Distance between the shaft ends

GERWAH® GWL 5406.3

Size	d_1; d_2 min.	d_1; d_2 max.	d_4	A	D_1	DB_{SE}	L_1	L_2	S_1	S_2
	inch		inch			inch	inch	inch		
17	0.433	1.181	0.394	2.776	1.850	2.213	4.339	1.555	0.295	1.228
17	0.433	1.181	0.394	2.776	1.850	2.213	4.339	1.555	0.295	1.228
32	0.591	1.575	0.551	3.465	2.461	2.858	5.024	1.772	0.346	1.480
32	0.591	1.575	0.551	3.465	2.461	2.858	5.024	1.772	0.346	1.480
75	0.630	2.165	0.591	4.567	3.228	3.476	6.154	2.165	0.409	1.823
75	0.630	2.165	0.591	4.567	3.228	3.476	6.154	2.165	0.409	1.823
135	0.787	2.559	0.748	5.531	3.858	4.134	6.890	2.362	0.472	2.165

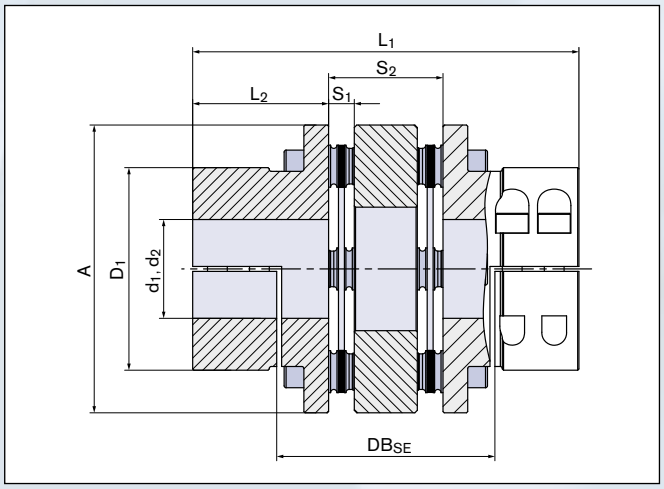
Reinforced disc pack on request.

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

Ordering example:
GERWAH® GWL 5406.3-32-1.181-1.181

Series/Size	Bore diameter d_1	Bore diameter d_2
GWL 5406.3 32	1.181	1.181

Shaft diameter inch		h7 Shaft tolerance inch	
up	to	up	to
> 0.24	0.39	+0.000 / -0.0006	
> 0.39	0.71	+0.000 / -0.0007	
> 0.71	1.18	+0.000 / -0.0008	
> 1.18	1.97	+0.000 / -0.0010	
> 1.97	3.15	+0.000 / -0.0012	



Sectional view

Technical Data

T_{KN} = Nom. transmissible torque
T_{max} = Max. transmissible torque
T_L = Tightening torque of srews in disc pack
n_{max} = Max. rotation speed
ΔKa = Max. permissible axial misalignment
ΔKw = Max. permissible angular misalignment
ΔKr = Max. permissible radial misalignment
Gw = Weight
J = Total moment of inertia
C_{Tdyn} = Dynamic torsional stiffness
T_{AM5} = Tightening torque of screw M5
T_{AM6} = Tightening torque of screw M6
T_{AM8} = Tightening torque of screw M8
T_{AM10} = Tightening torque of screw M10

Size	T_{KN}	T_{max}	T_L	n_{max}	ΔKa	ΔKw	ΔKr	Gw	J	C_{Tdyn}
	ft-lbs	ft-lbs	ft-lbs	rpm	inch	degree	inch	lbs	lbs-in²	10^3 ft-lbs/rad
17	162	284	6	8800	0.043	2.000	0.012	3.3	3.4	62
17	162	284	6	8800	0.043	2.000	0.012	3.3	3.4	62
32	413	723	10	7000	0.047	2.000	0.016	6.4	6.8	100
32	413	723	10	7000	0.047	2.000	0.016	6.4	6.8	100
75	867	1689	23	6200	0.063	2.000	0.020	13.7	27.3	228
75	867	1689	23	6200	0.063	2.000	0.020	13.7	27.3	228
135	1254	2194	46	5100	0.083	2.000	0.028	21.4	61.5	420

GERWAH® Torsionally Rigid Disc Couplings allow at least 1,75 times the nominal torque T_{KN} at d_{wmax} for short periods of time.

Transmissible torques

Size	d_1 ; d_2 mm (2)																					T_A			
	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	M5	M6	M8	M10
17	---	---	---	---	---	---	---	---	125	136	---	---	---	---	---	---	---	---	---	---	---	7	---	---	---
17	96	103	114	122	129	140	155	162	---	---	---	---	---	---	---	---	---	---	---	---	---	---	13	---	---
32	---	---	---	---	---	---	---	---	---	---	---	---	247	258	---	---	---	---	---	---	---	---	13	---	---
32	---	---	---	---	236	258	280	295	332	354	380	413	---	---	---	---	---	---	---	---	---	---	---	30	---
75	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	568	594	653	---	---	---	---	30	---
75	---	---	---	---	---	---	---	---	---	575	616	671	730	767	808	867	---	---	---	---	---	---	---	---	61
135	---	---	---	---	---	---	---	---	---	575	616	671	730	767	808	867	922	963	1058	1154	1254	---	---	---	61

Selection Guide

The selection of the coupling size depends entirely on the torque to be transmitted and required shaft sizes. However, for the selection of the coupling type, application conditions (e.g., shaft misalignments, expansions and operating speeds) must be taken into consideration. For any special applications, please consult with us. When selecting a coupling size, make sure that under all operating conditions its torque capacity and speed range are not exceeded.

1. Calculate the driving torque (T_{AN}) to be transmitted from

$$T_{AN}\ (\text{in-lbs}) = 63000 \cdot HP/RPM$$
$$T_{AN}\ (\text{Nm}) = 9550 \cdot KW/RPM$$

2. Determine required coupling nominal torque capacity (T_{KN}) by finding the appropriate service factor (SM) in Table 1 for your application. Multiply the torque calculated above (T_{AN}) by this service factor.

$$T_{KN}\ (\text{in-lbs}) = T_{AN} \cdot SM$$

Find T_{KN} in coupling data sheets that is larger than the calculated T_{KN}. This will be correct size of the coupling.

NOTE: GERWAH® Torsionally Rigid Disc Couplings can transmit higher torques for a short period of time without having to consider an additional service factor. Please consult coupling data sheets for maximum torque values.

3. Check if existing or predicted axial, angular and radial misalignments are within permissible values as shown in the catalog. If any one of the misalignments is close to the maximum allowable, the maximum misalignment in the other directions and the torque capacity will be effected. For this reason, we recommend selecting a coupling with more misalignment capacity than required. See empirical formula:

$$\frac{\text{(Installation situation)}}{\text{(Data sheet)}}\ \frac{\Delta K_r}{\Delta K_r}\cdot 100\% + \frac{\Delta K_a}{\Delta K_a}\cdot 100\% + \frac{\Delta K_w}{\Delta K_w}\cdot 100\% < 100\%$$

4. Verify the maximum hub bore and speed required. Do not exceed the maximum values for the coupling.

NOTE: For a given hub size, larger shafts can be used with the RINGFEDER® Shrink Disc rather than with traditional keyed connections.

5. If the RINGFEDER® Shrink Disc or Locking Assembly connection is used, verify the torque capacity of the locking device connection is less than the couplings torque capacity. The locking device torque capacities for each shaft size can be found in the appropriate catalog.

6. Use Fig. 1 to verify if your coupling does or does not need to be dynamically balanced.

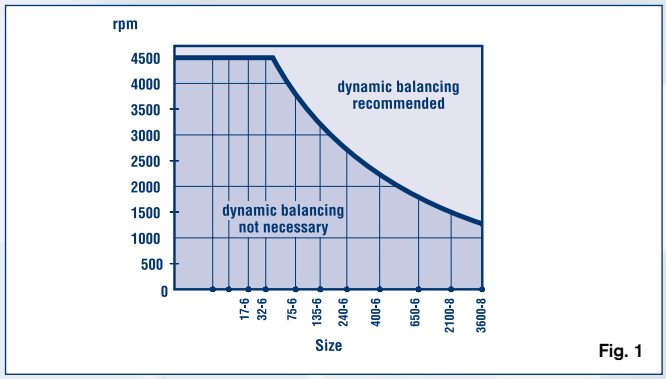


Fig. 1

The balancing class of the standard elements is Q6,3 - VDI 2060 medium speeds. Balancing is recommended only over speed curve of Fig. 1.

	Operating factor SM		
	Electric motors Turbines Hydraulic motors	Piston engines with more than 2 zylinders	Piston engines with 1 or 2 zylinders
Building construction machines	2,1	2,5	3
Chemical industry			
Agiators (semi-liquid material)	1,7	2,1	2,6
Agiators (liquid material)	1	1,4	1,7
Centrifuges	1,35	1,75	2,2
Pipeline pumps	1,7	2,1	2,6
Conveyors and lifts			
Goods lifts	1,7	2,1	2,6
Passenger lifts	1,7	2,1	2,6
Belt conveyors	1,7	2,1	2,6
Blowers, ventilators	1,35	1,75	2,2
Generators, transformers	1	1,4	1,7
Wood-plastic industry machinery			
Planing machines	1,7	2,1	2,6
Woodworking machines	1	1,4	1,7
Mixers	1,7	2,1	2,6
Extruders	1,7	2,1	2,6
Cranes	1,7	2,1	2,6
Metal working machines			
Presses	2,4	2,8	3,3
Machine tools	1,7	2,1	2,6
Food industry machinery			
Kneading machines	1,7	2,1	2,6
Mills	2,4	2,8	3,3
Packaging machines	1	1,4	1,7
Paper machines			
Pulp grinders	2,4	2,8	3,3
Shredder	2,4	2,8	3,3
Presses, rolls	2,4	2,8	3,3
Calenders	1,7	2,1	2,6
Pumps			
Piston pumps	2,4	2,8	3,3
Centrifugal pumps	1,35	1,75	2,2
Stone and clay working machines			
Mills, breakers	2,4	2,8	3,3
Rotary ovens	2,4	2,8	3,3
Textile machines			
Looms	1,7	2,1	2,6
Winders	1,7	2,1	2,6
Compressors			
Piston compressors	2,4	2,8	3,3
Turbo compressors	1,7	2,1	2,6
Metal rolling mills			
Shears	2,4	2,8	3,3
Plate-mill lines	2,4	2,8	3,3
Cold rolling mills	2,4	2,8	3,3
Rolling mill adjusters	1,7	2,1	2,6
Winding machines	1,7	2,1	2,6
Continous casting plant	2,4	2,8	3,3
Laundries	1,7	2,1	2,6

Table 1: Operating factor (SM)

GERWAH® Disc Coupling installation instructions

TOOLS REQUIRED:

- Torque wrench and sockets for shrink disc, locking assembly and coupling hex bolts (see tables page 57)
- Open end wrench for coupling hex bolts
- Straight edge and/or dial indicator
- Feeler gauges

THESE INSTRUCTIONS ARE FOR STANDARD COUP-LINGS WITH NORMAL RUNNING CONDITIONS. ALL COUPLINGS SHIPPED LOOSELY ASSEMBLED. BOLTS MUST BE TORQUED PRIOR TO USE. SEE PAGE 57.

It is recommended to disassemble the coupling for easier installation. Note page 58 for the correct arrangement of the bolts, washers, disc pack, and nuts.

Attachment to the shaft – Shrink Disc (XHS, XHD, XHC)

1. Inspect both driving and driven shafts making sure they are clean and free from burrs. Lightly oil shaft and hub bore.

2. Place first hub with shrink disc on one shaft and the second hub on the other shaft. Slide them back so that both shaft ends are visible.

3. Move first hub to be flush with shaft end. Gradually tighten all shrink disc locking screws, in several passes, to specified tightening torque (T_A); see page 24/25. Shrink disc is not fully installed until one pass is completed without any bolts turning. Use torque wrench! For in-depth instructions, see appropriate catalogue.

4. Follow instructions for axial alignment and then fit second hub to shaft as explained in step 3, see table on page 24-25.

Attachment to shaft – Locking Assembly (LHS, LHD, LHC)

1. Inspect both driving and driven shafts making sure they are clean and free from burrs. Lightly oil shaft and hub bore. DO NOT USE MOLYBDENUM DISULFIDE BASED PRODUCTS.

2. Place the first hub with locking assembly on one shaft and the second hub on the other shaft. Slide them on so that the shaft ends are exposed.

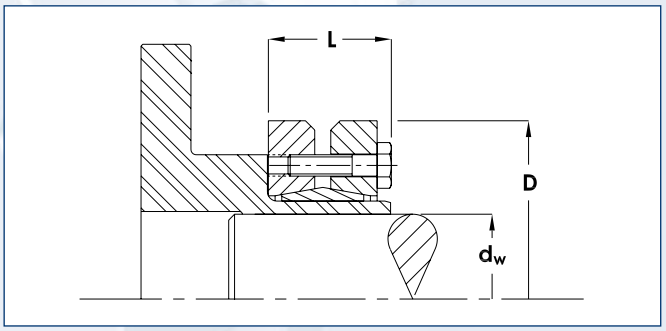


Fig. 2: Hub configuration for shrink disc connection

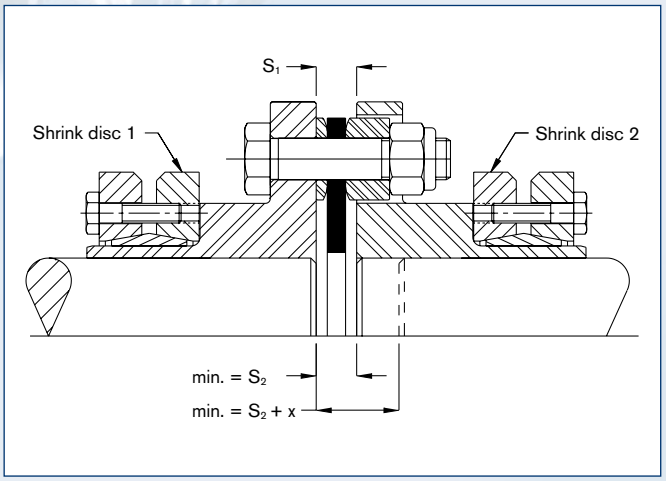


Fig. 3: Single flexing

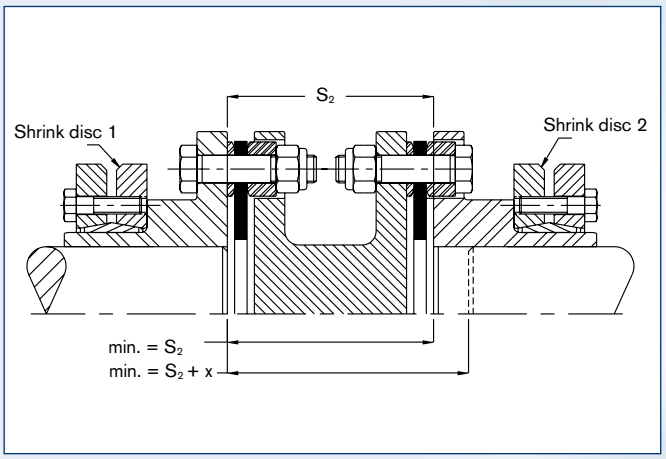


Fig. 4: Double flexing

3. Follow instructions for axial alignment and then fit the second hub to shaft as explained in step 3. Again, be sure that the locking assembly is fully supported by the shaft.

4. Move the first hub so that locking assembly is completely on and supported by the shaft. Gradually tighten all locking assembly screws, in several passes, to the specified tightening torque (T_A, see table, page 34/35). Locking assembly is not fully installed until one pass is completed without bolts turning. Use a torque wrench!

Attachment to the shaft – keyway (HS, HD, HC)

1. Inspect shaft and hub bores and keyways to make sure that they are clean and free of burrs. Lightly oiling the shaft will also make it easier to assemble.

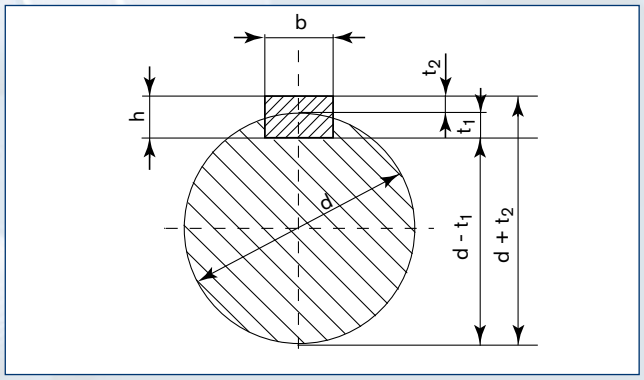
2. Place the first hub on one shaft and the second hub on the second shaft. Slide them until shaft ends are visible.

3. Hubs are supplied standard with a slight clearance fit. Interference fits would be recommended for bores larger than 3". For more information, please contact our technical department.

4. Move hubs to be flush with end of the shaft. Hubs will last longest when the key is engaged for the full length of the hub.

5. Fit key into hub and turn set screw until top of key is contacted in the hub.

6. Follow instructions for axial alignment and then secure second hub to shaft as explained in steps 4 and 5.



Keyway joint to DIN 6885-1 / ANSI B17.1-1967

Shaft - diameter		Width	Height	Depth	Tolerance	Depth	Tolerance
	d	b*	h	t^1		t^2	
Dimensions (inch)	>0,394 to 0,472	0,157	0,157	0,098	0,004	0,071	0,004
	>0,472 to 0,669	0,197	0,197	0,118	0,004	0,091	0,004
	>0,669 to 0,866	0,236	0,236	0,138	0,004	0,110	0,004
	>0,866 to 1,181	0,315	0,276	0,157	0,008	0,130	0,008
	>1,181 to 1,496	0,394	0,315	0,197	0,008	0,130	0,008
	>1,496 to 1,732	0,472	0,315	0,197	0,008	0,130	0,008
	>1,732 to 1,969	0,551	0,354	0,217	0,008	0,150	0,008
	>1,969 to 2,283	0,63	0,394	0,236	0,008	0,169	0,008
	>2,283 to 2,559	0,709	0,433	0,276	0,008	0,173	0,008
	>2,559 to 2,953	0,787	0,472	0,295	0,008	0,193	0,008
	>2,953 to 3,346	0,866	0,551	0,354	0,008	0,213	0,008
	>3,346 to 3,740	0,984	0,551	0,354	0,008	0,213	0,008
	>3,740 to 4,331	1,102	0,63	0,394	0,008	0,252	0,008
	>4,331 to 5,118	1,260	0,709	0,433	0,008	0,291	0,008
	>5,118 to 5,906	1,417	0,787	0,472	0,012	0,331	0,012

Table 2 according to DIN 6885-1 / ANSI B17.1-1967
***Tolerance of „b" JS9 or P9.**

Attachment to shaft – clamping hub (CCS, CCD, CHS, CHD, CHC)

1. Inspect both driving and driven shafts making sure they are clean and free from burrs. Lightly oil shaft and hub bore. DO NOT USE MOLYBDENUM DISULFIDE BASED PRODUCTS.

2. Place hubs on shafts. Move first hub flush with the end of the hub (Fig. 3 and Fig. 4 page 55). Tighten the respective coupling with the tightening torques T_A listed in the table. Use a torque wrench!

3. Follow instructions for adjusting axial alignment and then fit the second hub as explained in step 4.

4. Repeat step 2 for second hub. Be sure shaft is completely covered by clamping portion of hub.

Machinery Alignment

The life of the coupling is directly affected by the alignment accuracy of the two coupling halves. Careful initial alignment will allow the coupling to operate at full capacity and tolerate for some future operational misalignments (i.e. equipment settling). For this reason, the maximum misalignment values given in the next tables are 30% of the maximum values for the coupling. Keeping all three directions of misalignment within these limits will increase the coupling life.

Axial Alignment

1. Bring components into the best visual alignment possible. Position the hubs axially so that the distance between shaft ends is within min. and max. dimensions S_1 (single flexing) and S_2 (double flexing) for standard couplings. See figures 3 and 4, page 55. For non-standard couplings, check corresponding coupling drawing.

2. Now position first hub so that the shaft end is flush with the hub face and lock in place. Please see pertinent “Attachment to the shaft” instructions on page 49.

3. Slide second hub into position axially using the S_1 (single flexing) or S_2 (double flexing).

Parallel (Radial) Alignment

1. Initial parallel alignment can be checked by using a straight-edge across the hub flanges (per Fig. 6, page 58) to measure the approx. distance (r) as shown in Table 4. Use a more precise method by using a dial indicator the parallel off-set is measured in at least two places 90 degrees apart while rotating one hub. This is shown in Fig. 7, page 58.

2. Adjust or shim equipment to bring indicator reading within max. allowable parallel misalignment (r) per Table 4.

Shaft diameter inch	h7 Shaft tolerance inch
0.24 - 0.39	+0.000 / -0.0006
0.39 - 0.71	+0.000 / -0.0007
0.71- 1.18	+0.000 / -0.0008
1.18 - 1.99	+0.000 / -0.0010
1.99 - 3.15	+0.000 / -0.0012
3.15 - 4.72	+0.000 / -0.0014

Table 3: Standard shaft tolerances h7

Size	S_1 mm	S_2 mm	+/- mm	U mm	r mm	T_L Nm	Hex or socket [1]
	axial			angular	parallel	Bolt information [2]	
17	0,299	2,36	0,012	0,012	0,012	5,9	4 mm
32	0,346	2,76	0,012	0,012	0,012	10	5 mm
75	0,409	3,94	0,012	0,020	0,012	23	13 mm
135	0,472	3,94	0,012	0,024	0,012	46	16 mm
240	0,512	5,51	0,020	0,028	0,020	81,0	18 mm
400	0,591	5,51	0,020	0,031	0,020	133	14 mm
650	0,819	7,09	0,020	0,035	0,020	207	24 mm
2100	1,102	9,84	0,012	0,031	0,020	420	30 mm
3600	1,268	9,84	0,020	0,035	0,020	740	36 mm

Table 4: Alignment values and coupling bolt information
[1] Wrench sizes hexagon, [2] Applies to screws in the disc pack

Installing Disc Pack and Sleeve

1. Once the hubs are aligned in the axial, angular and parallel directions, install the disc pack and sleeve. Figure 8 shows the hardware orientation for each coupling type.

2. Tighten the coupling bolts to the prescribed tightening torque (T_L) (see page 57, table 4). Use a torque wrench for this purpose, in order to ensure the necessary tightening torque.

3. It is useful to check the alignment one last time before finally fixing the coupling. To do this measure the height of the disc pack S1 at two positions at 180 degrees to one another (fig. 5). The difference between the two measured values may not exceed the value U (page 57, table 4).

CAUTION: All rotating equipment is potentially dangerous and must be properly guarded. It is the user's responsibility to check for all applicable safety codes and provide suitable guards and protection.

All protective shields must be mounted and tested for clearance before initial operation.

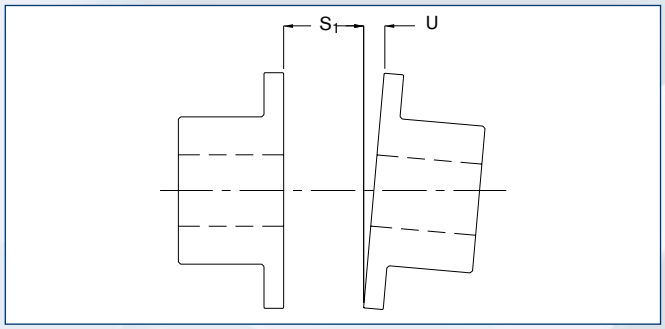


Fig. 5

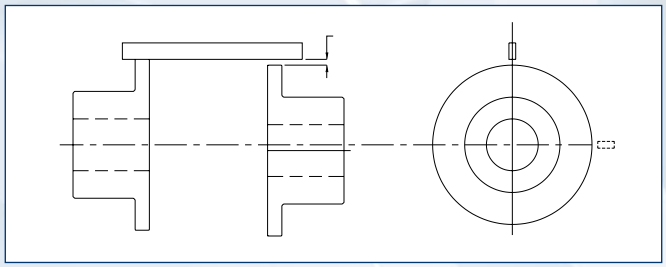


Fig. 6

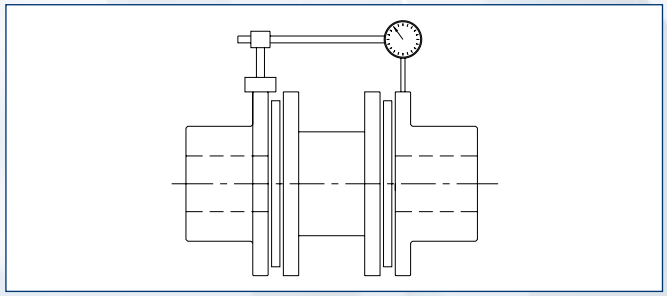


Fig. 7

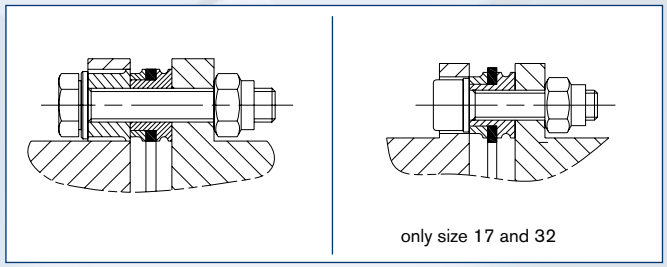


Fig. 8: Hardware arrangement

Misalignment and Misalignment Factor f1

The maximum misalignments stated in the tables only apply if they occur individually. If there is a combination of misalignments, the permitted individual misalignments are reduced accordingly. The combined total angular misalignment D_{tot} is a function of the angular misalignment $\Delta_{angular}$ and offset misalignment Δ_{radial} of the shafts, according to the following formula:

$$\Delta_{tot}\,[°] = \frac{\Delta_{angular}}{2} + \arctan\frac{\Delta_{radial}}{(S_2 - S_1)}$$

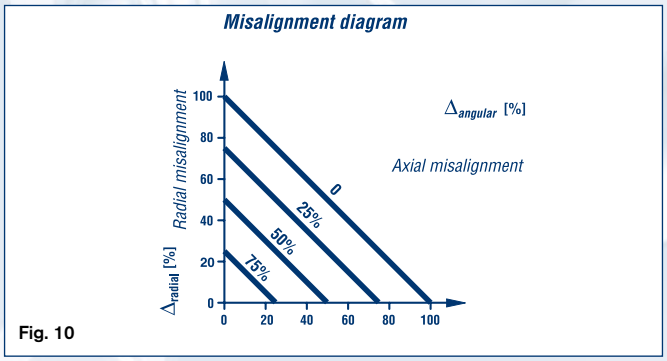


Fig. 10

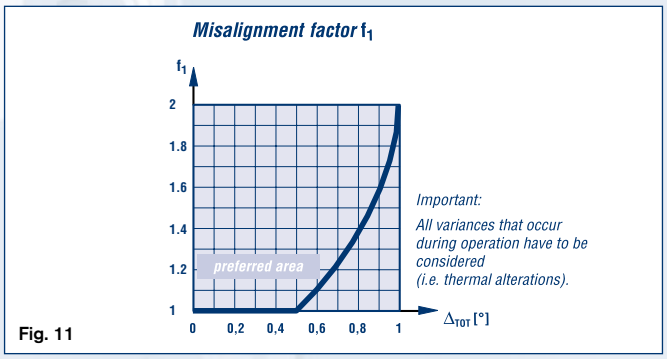


Fig. 11

Temperature Factor f_3

GERWAH® Torsionally Ridig Disc Couplings allow temperature operation up to 240 °C / 460 °F. For higher temperatures the temperature factor f_3 must be taken into account.

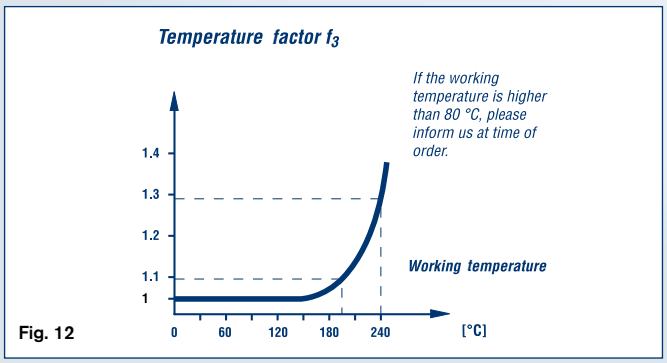
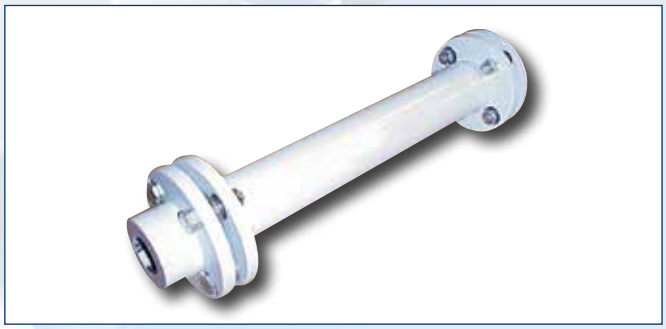


Fig. 12

Non-Standard Spacers

Many GERWAH® Disc Coupling applications require special spacer lengths and dimensions. At RINGFEDER, we can offer spacer lengths up to 195 inch.

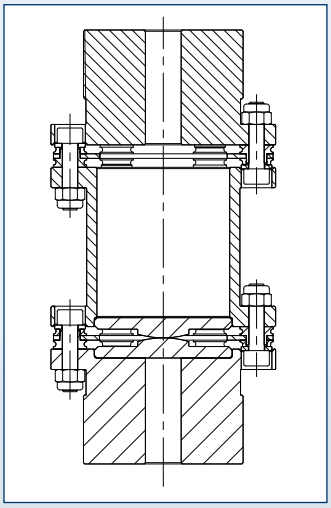


GD coupling with special spacer for printing press application

Higher Speed or Special Couplings

If a coupling needs to meet more demanding industrial standards in safety, or will be operated at higher speeds, RINGFEDER has a solution. Please contact our Engineering Department.

HD coupling that meets API 610



Vertical installation

Fax Inquiry

On this page please explain the planned application of a GERWAH disc coupling and we will propose our solution. Please send this page to:

USA and Mexico: **RINGFEDER POWER TRANSMISSION USA CORP. · FAX: +1 (201) 664-6053**

1. Application

Planned use of the coupling (machine, machine group or plant):

2. Type of attachment (please check)

☐ Keyway ☐ Shrink Disc ☐ Locking Assembly ☐ Clamping Hub ☐ Other (please enclose drawing)

3. Dimensions

Length (inch) | Bore size D_1 (inch) | Max. OD (inch) | Bore size D_2 (inch)

4. Shaft misalignment

Axial (inch) | Radial (inch) | Angular (degree)

5. Drive

Drive power **P =** **HP** | Nominal torque of the drive **Mt_{nom} =** **lb-ft**

Input speed **n =** **rpm** | Peak torque of the drive **Mt_{max} =** **lb-ft**

6. Mass moment of inertia

On the drive side **JA =** **lb-in²** | On the driven side **J_L =** **lb-in²**

7. Environmental influences

Temperature in the area of the coupling **Temp =** **°F** | Special materials (e.g. stainless steel)

Are there any impacts on the load side? ☐ no ☐ slight ☐ medium ☐ severe

other, special forces

8. Expected quantities

☐ Production ☐ Project ☐ Repair ☐ Number of items/p.a.

9. Target price

$/each

Please send your offer to:

Company | Attention

Address

Phone | Fax

E-mail

Online Service

Calculation program for Locking Assemblies and Locking Elements

In order to meet the complex requirements on the correct design and selection of RINGFEDER products under practise-relevant demands, RINGFEDER POWER TRANSMISSION GMBH has developed a calculation program.

Interested? Visit our Website at **www.ringfeder.com!**

Our Website

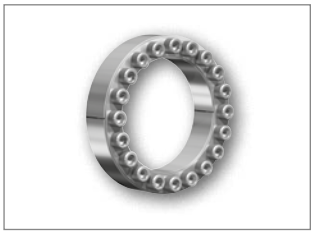
Easily accessible information.
RINGFEDER POWER TRANSMISSION – one of the top addresses for drive and damping technology in mechanical engineering. You can find first-hand service details and information on our website. It contains both details on our entire range of products and numerous documents such as product catalogues, data sheets and assembly instruction for you to download.
Visit **www.ringfeder.com** to get right up to date.

RINGFEDER

Locking Devices

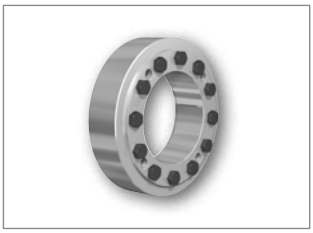
Locking Assemblies

Locking Assemblies for bending moments

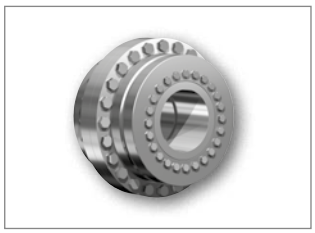


Locking Assemblies – Stainless steel

Locking Elements



Shrink Discs



Flange Couplings

Damping Technology

Friction Springs

DEFORM *plus*®

DEFORM *plus*® R

TSCHAN

Couplings

Torsionally Flexible Couplings

Torsionally Flexible Couplings

Torsionally Flexible Couplings

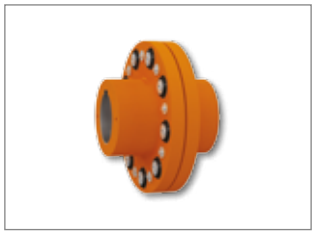
Torsionally Rigid Gear Couplings

Torsionally Rigid Barrel Coupling

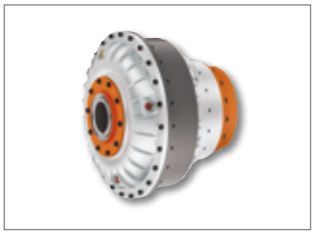
Couplings with variable Stiffness

HENFEL

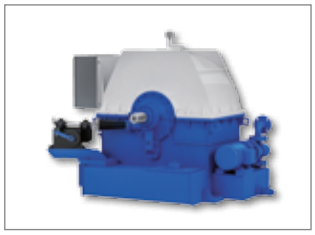
Couplings



Flexible Couplings Henflex

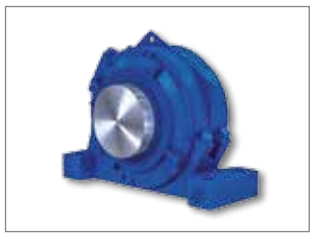


Hydrodynamic Couplings Henfluid



Hydrodynamic Couplings with variable speed

Bearing Housings



Bearing Housings

Remark:
HENFEL products are only available in South America and selected markets.

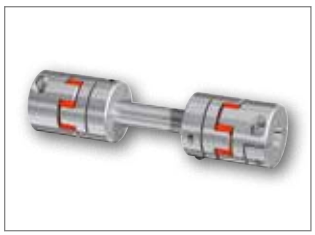
GERWAH®

Couplings

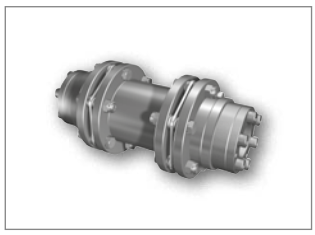
Metal Bellows Couplings

Servo-Insert Couplings

Safety Couplings



Line Shafts



Torsionally Rigid Disc Couplings

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