

Schmidt-Kupplung®



About us

Many years of experience

For 50 years, we have been advising machine manufacturers as partners for compact coupling systems. Our experience in power transmission has given us extensive know-how in many industries, as we know and understand the most varied applications, and this allows us to optimally support you. Our products are always a safe

choice. No matter if it is a standard product, a coupling tailored to a specific industry, or a coupling solution designed for a specific application.

Products with high technical functionality

Our product range includes torsionally stiff couplings which stand out due to their compactness and

high functionality. Their unique technical features offer technical users a variety of practice-oriented advantages. Renowned OEMs from all areas of machinery manufacturing are among our partners.





Industry-specific versions

Being familiar with the applications of a variety of industries, we can design tailored coupling versions. No matter if in the food, vacuum, packaging or printing industry, or in sensor or medical technology - we feel at home anywhere.



Your drive optimisation

Close cooperation with our customers in the design and implementation of a project results in coupling solutions precisely tailored to application-specific requirements. Comprehensive counselling, FEM analyses, prototype definition and production of Rapid Prototyping Models, as well as confirmation of the calculated design data on modern test

benches - all this ensures the optimisation of your drive train.

Continuous development work

Your wishes are our motivation - With us, new impulses from the market stream into the ongoing further development of our products.

Individual counselling
Closeness to customers
Tailored coupling systems
Industry know-how
Drive optimisation

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The coupling for an extreme offset

The Schmidt-Kupplung is a compact, torsionally stiff high-performance coupling for a large, variable radial offset. The angle synchronisation of the connected shafts is retained at all times. The modular design allows the torque and displacement to ideally adapt to their specific requirements.

The Schmidt-Kupplung coupling is used in a variety of applications, such as in printing machines, profiling systems, packaging machines and coating facilities.

Technique

Large offset with absolute angle synchronisation

The Schmidt-Kupplung coupling is a compactly built coupling for precise torque transmission of extremely radially offset shafts. The

shaft offset can be changed both at rest and while running under load, to any value within the required permissible swivel range. In this process, permanent angle-synchronous transmission is

ensured regardless of the shaft offset height. From one drive to the other, they operate permanently in synchronisation, with no phase shift.

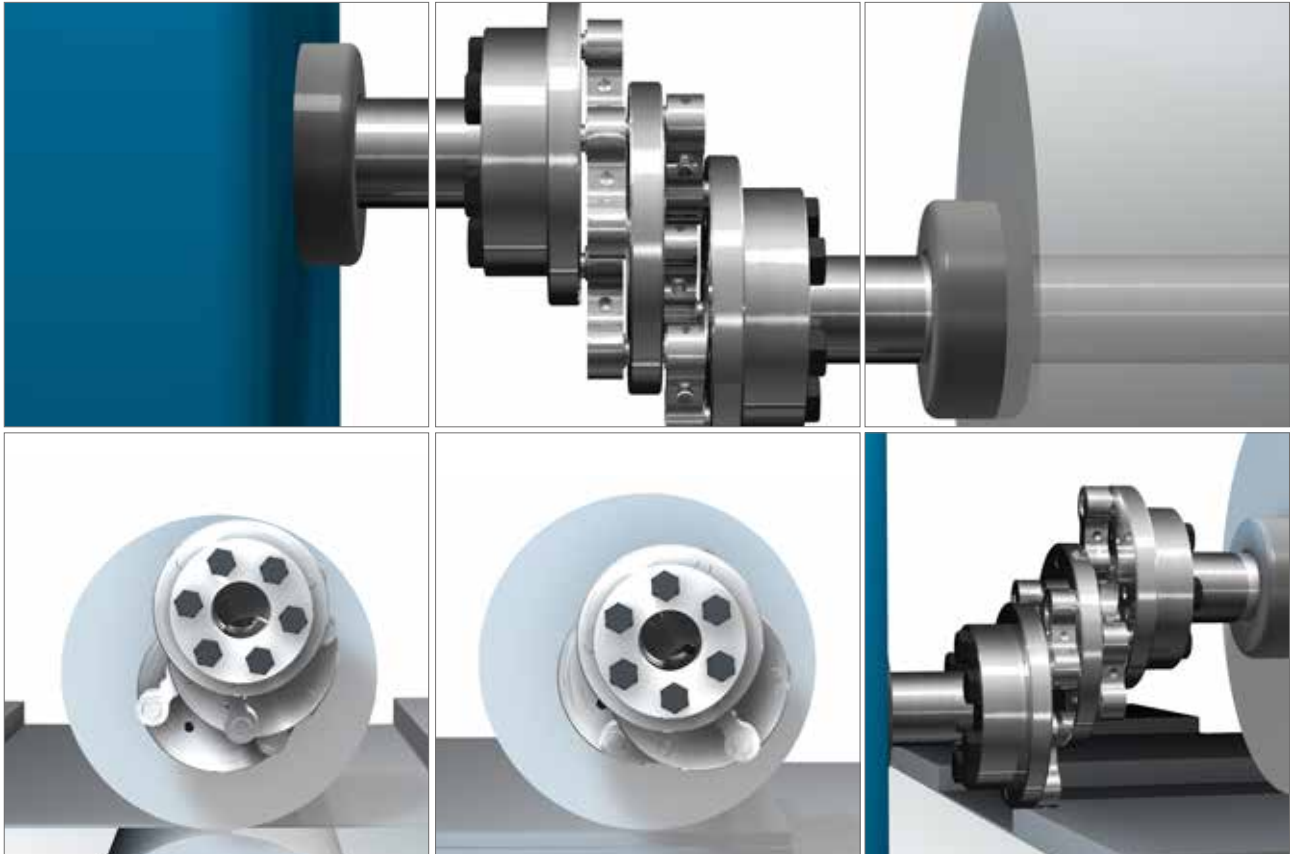


Figure 1.2: Application for roller drives such as coating rollers; various material thicknesses are processed. The Schmidt-Kupplung coupling allows variable functional shaft

offset in the machining process during operation while in continuous synchronisation. Picture 3: Turning the roller without stopping the machine. The roller can be replaced du-

ring operation. This eliminates any cost-intensive start-up for the machine.

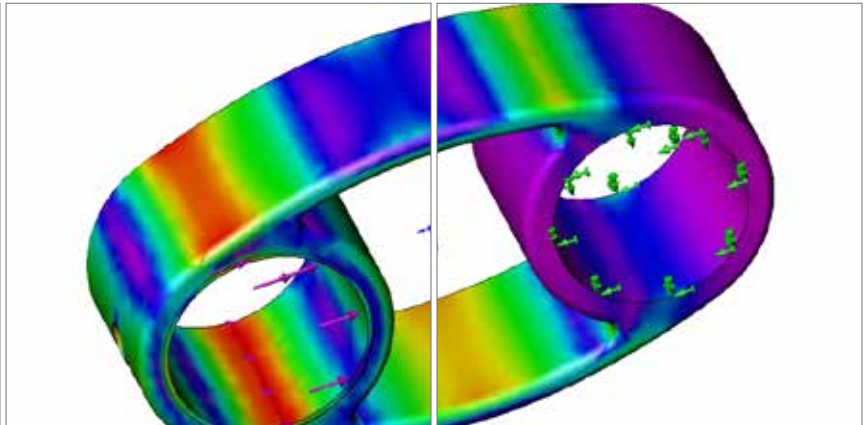
Precise and compact

The coupling runs with three discs and two link levels. This ensures

compactness and torsionally stiff work. The additional use of precision needle bearings in the coupling

links ensures very low rotational play and thus ensures precise torque transmission.

Combination of different Product line-up
High torsional stiffness
Absorbs radial vibration



Dynamically balanced

The Schmidt-Kupplung coupling is a dynamically balanced system. Radial vibration is absorbed by the coupling.

Free of reaction forces

The Schmidt-Kupplung coupling compensates shaft offset without any restoring forces and thus bearing loads.

Torsionally stiff and high torque transmission

The components of the Schmidt-Kupplung coupling are made of high-quality steel with high tensile strength and tempered steel.

It offers high torsional stiffness as an all-metal coupling and is designed for high torque transmission.

Different hub forms, in any combination

The program offers 3 different frictional and interlocking hub designs. They can be combined as required depending on size and can thus be precisely and individually adapted to specific requirements.

Radial offset

The Schmidt-Kupplung coupling can be radially offset within the relevant pivoting range. Please note the limits specified in the tables of values for maximum allowable offset, maximum displacement and minimum required offset. Compliance with these values ensures that the shafts of the coupling do not run in an inadmissible alignment or in extended position.

Minimal radial offset $\Delta K_{r \min}$

The coupling may not operate in alignment position $K_r=0$. In alignment position, the centre disc would have no definite position in space but would be stimulated to its own movement.

Therefore, a minimal required radial offset $\Delta K_{r \min}$ must be provided for both shafts to be connected.

To this end, the output shaft must be moved horizontally (Figure 1) or vertically to achieve this minimum offset. The figure below illustrates the installation position of the coupling when selecting $\Delta K_{r \min}$ in the lateral, horizontal direction. The centre disc can be located above (Figure 2a) or below (Figure 2b).

For the relevant value of the minimum required radial offset $\Delta K_{r \min}$ for a coupling size, please refer to the technical data.

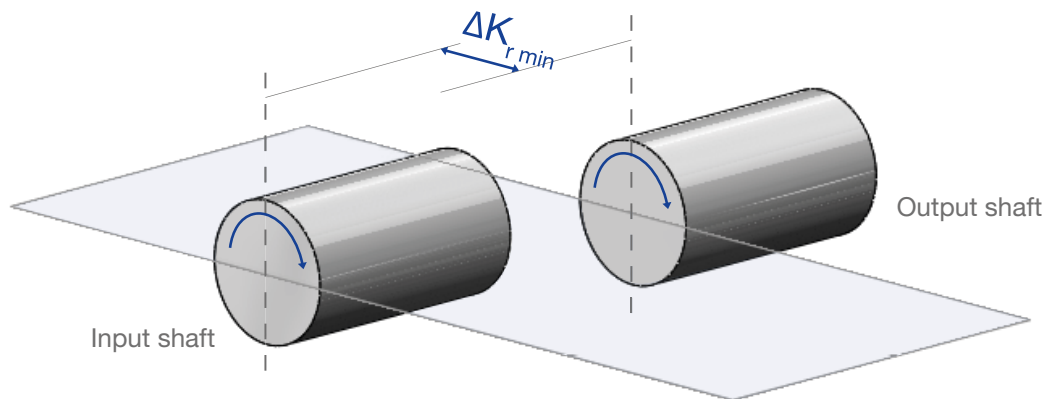


Figure 1 - Output shaft moved in the lateral, horizontal direction to achieve the minimum required radial offset

Alternative location of the center disc when selecting $\Delta K_{r \min}$ in horizontal direction

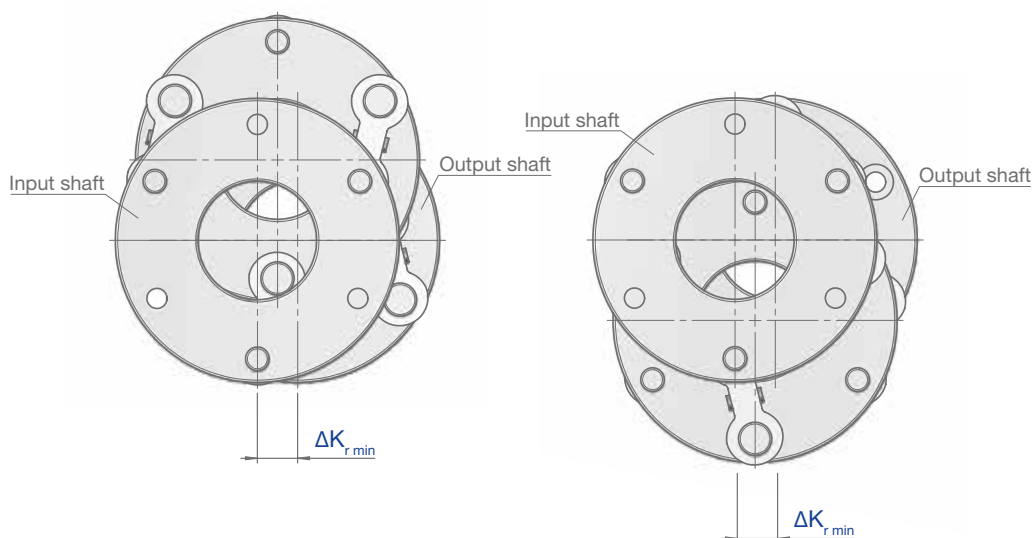


Figure 2a

Figure 2b

Maximum radial offset ΔK_r

The Schmidt-Kupplung coupling is a compactly built coupling for precise torque transmission of extremely radially offset shafts. The height of the maximum permissible radial displacement is dependent on the length/depth gauge of the coupling elements used for the relevant coupling size.

The maximum permissible radial offset results from the sum $\Delta K_{r \min}$ and the adjustment range (Figure 3). For the relevant value of the maximum permissible radial offset ΔK_r for a coupling size, please refer to the technical data.

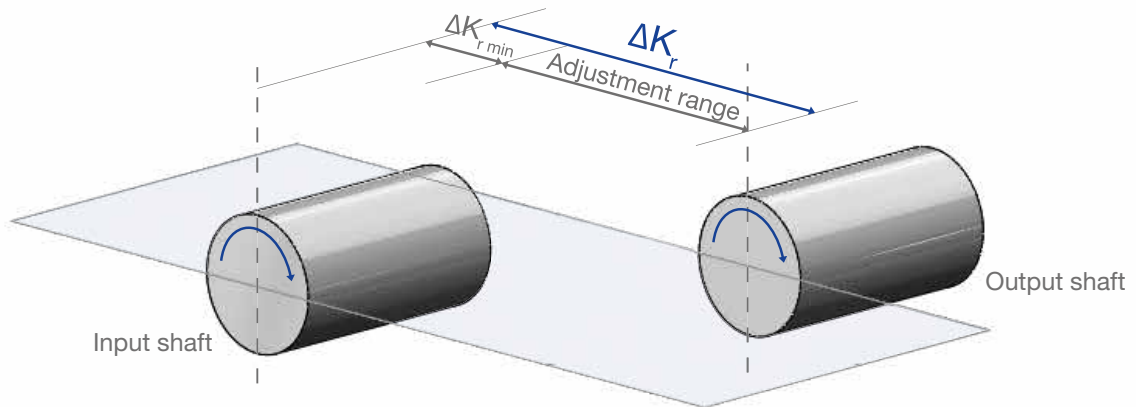


Figure 3

Figure 4 shows the path of the centre disc of the Schmidt-Kupplung coupling with adjusting movements starting at $\Delta K_{r \min}$ to ΔK_r . Here, the centre disc moves on a circular portion defined by the length/pitches of the coupling elements and thus always has a definite position.

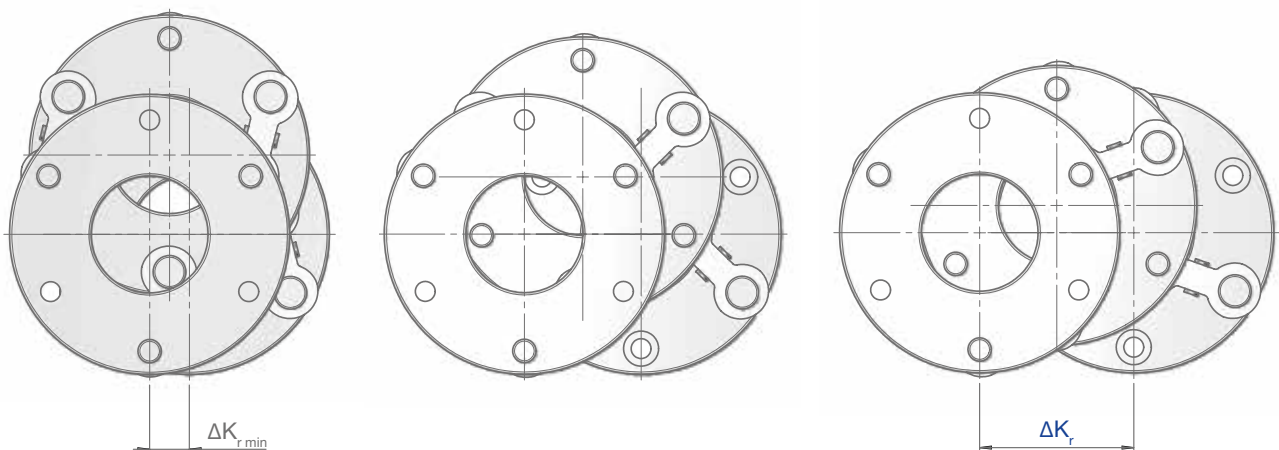
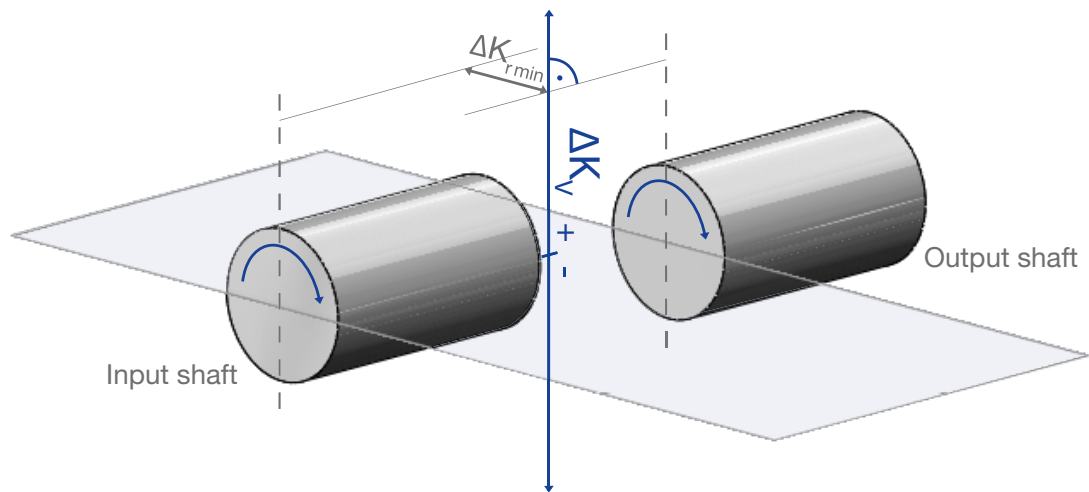


Figure 4

To determine the exact position of the center disc for required installation space our application engineers will be pleased to assist you.

Maximum linear range of the coupling ΔK_v



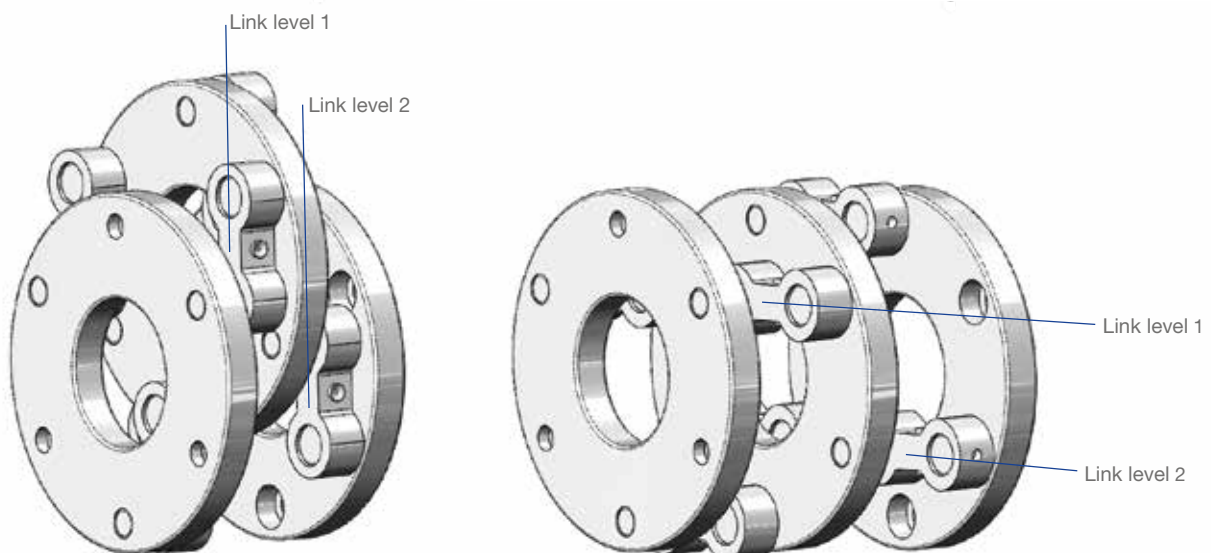
Two installation situations are not permitted

Inadmissible alignment

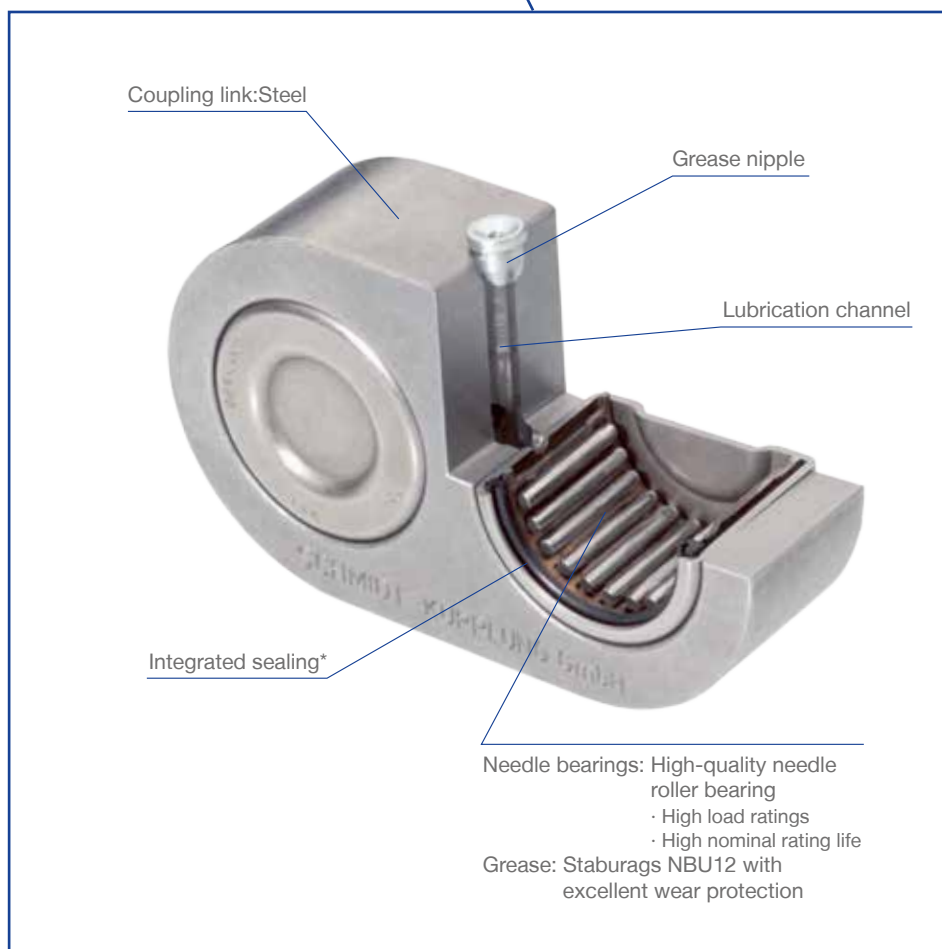
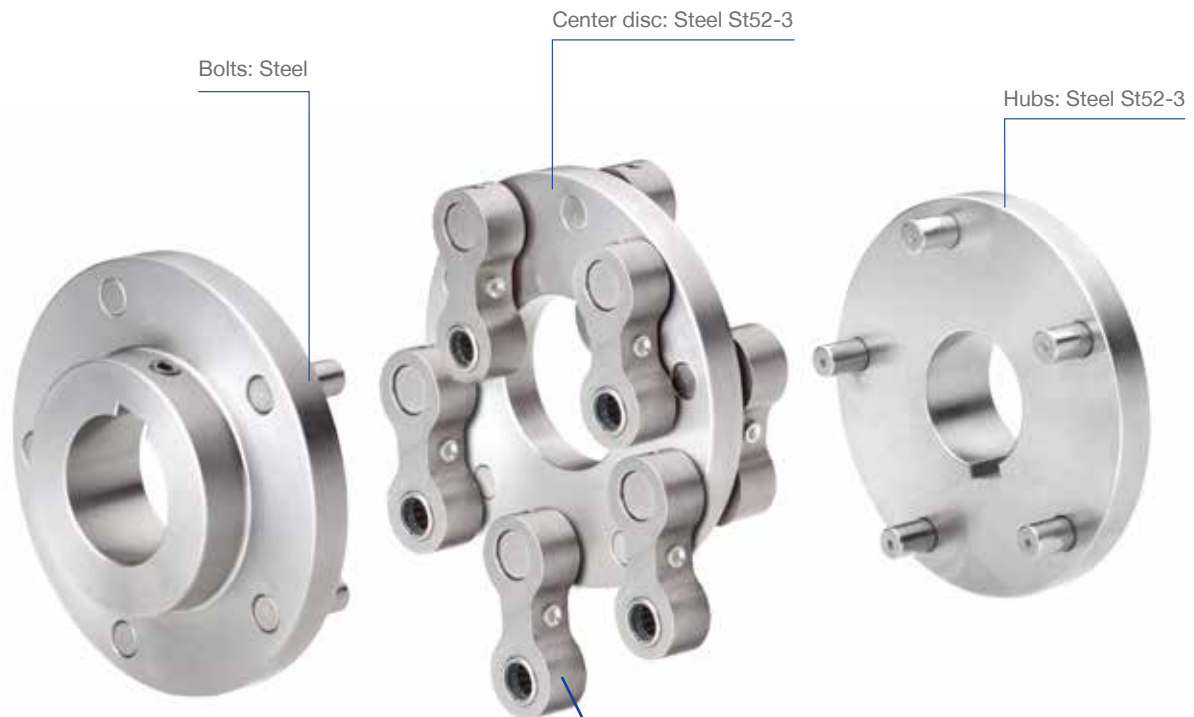
The coupling may not operate in alignment position $K_r=0$ (recognisable in that the coupling elements of link level 1 are parallel to the coupling elements in level 2). In alignment position, the centre disc would have no definite position in space but would be stimulated to its own movement. For this reason, the aforementioned minimum required radial offset must be provided for every Schmidt-Kupplung coupling (see comments on page 11).

Inadmissible extended position

The coupling may not operate in extended position (recognisable in that the coupling elements of link level 1 are parallel to the coupling elements in level 2).



Material



* please consider our additional technical information on page 24

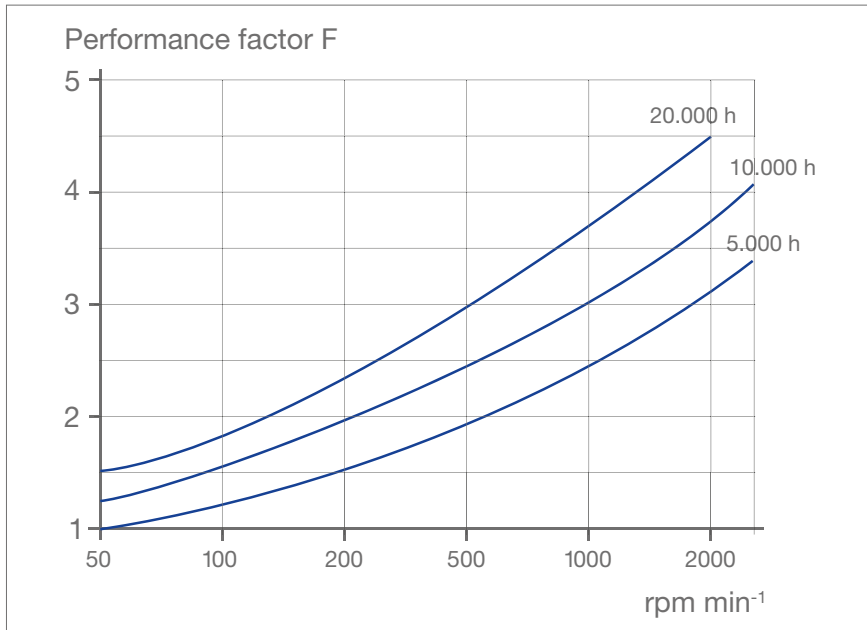
Selection sequence

The selection of the Schmidt coupling is determined by the various performance parameters. These include torque, speed and occurring displacement. The influences of these parameters are described below:

Selection according to torque

To calculate the dimensioning moment T_D , please multiply your drive torque T_A with the corresponding performance factor F and the expected load factor K .

$$T_D = T_A \times F \times K$$



Select the anticipated operating speed of your application combined with the desired service life in h^* .

Example:

Anticipated operating speed:

1.000 rpm

Desired service life in h : 10.000 h

Performance factor F : 3

Load factor K			
Uniform	Light shocks	Medium shocks	Heavy shocks
1,0	1,25	1,75	2,25

Select a coupling whose rated torque T_{KN} is larger than the calculated dimensioning torque T_D :

$$T_{KN} > T_D$$

Make sure that the maximum torque of coupling T_{Kmax} is not exceeded.

*Nominal life - the service life recommendation for the coupling needle bearing, expressed in the number of operating hours which a bearing can complete before the first signs of material fatigue occur.

Product line-up



Standard S

A symbiosis of performance, compact design and many offset options.

Couplings in this line have 3 coupling elements per level. For most coupling sizes, we offer 2 different lengths of these coupling elements for alternate offset values. Standard line couplings offer a symbiosis of offset capacity, torque transmission and compact design.

The Standard line is available for nominal torques up to 2,875 Nm and for radial offset up to 115 mm.



Power Plus P

Offers additional torque transmission in a compact design for confined installation spaces.

Couplings in the Power Plus line have 4 or more coupling elements per level. This increased number of coupling elements ensure an increase in torque transmission while maintaining the dimensional technical data compared to the Standard line - especially suitable for applications where very high torques must be transferred in confined installation conditions.

The Power Plus line is available for nominal torques up to 6,610 Nm and radial offset up to 115 mm.

Offset Plus V

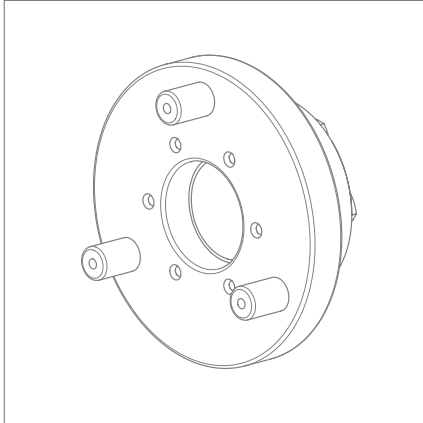
Offers additional displacement capacity in a compact design.

Most couplings in the Offset Plus line have 3 extra-long coupling elements per level. These extra long coupling elements ensure an increase in displacement capacity while maintaining the dimensional technical data compared to the Standard line - especially suitable for applications where very high offset requirements are present in confined installation conditions.

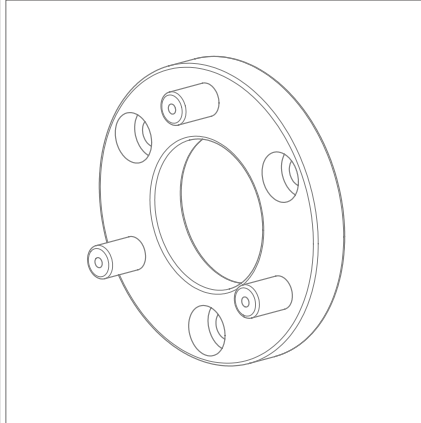
The Offset Plus line is available for nominal torques up to 3,830 Nm and radial offset up to 275 mm.



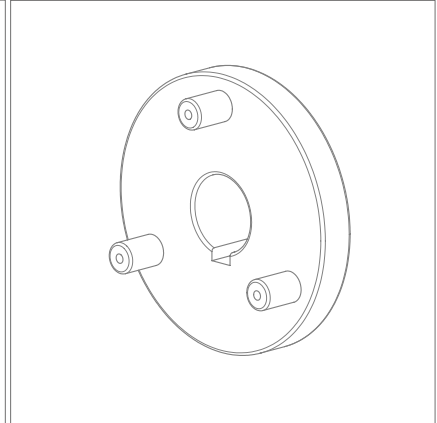
Hub forms/Combinations



*Hub version 3: Locking assembly
Backlash-free shaft connection, high
friction torque*



*Hub version 5: Flange mounting
Short-length integration into custo-
mer-specific parts*



*Hub version 6: Standard hub with keyway
Form-fit shaft connection with keyway
and set screw*

Different hub forms, in any combination

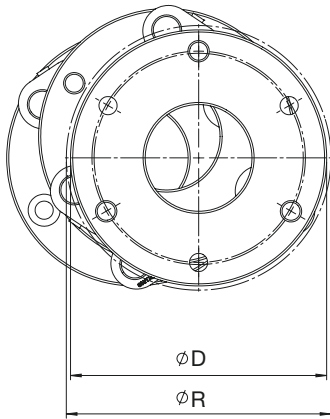
All the frictional and keyed hub designs can be combined as required depending on size and can thus be precisely adapted to your specific requirements.

That is, you can, for example, select a clamping hub design on the drive side (hub form 3) and a connection plate for flanging on the output side (hub form 5) in order to directly screw the elements to your attachment.

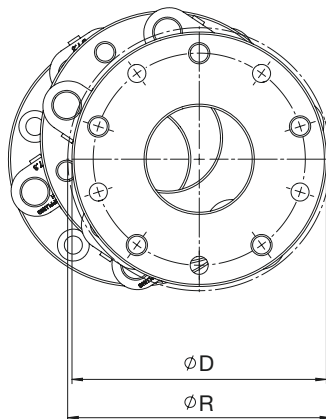
Other customised hub designs not listed here are available as options. Examples are listed on page 20, "Custom coupling designs". Our application engineers will be pleased to advise you on all these subjects.

Product line-up

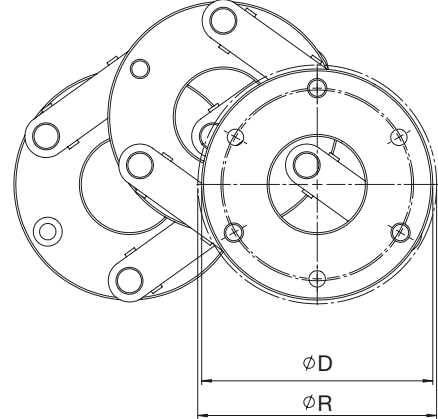
Standard S



Power Plus P



Offset Plus V



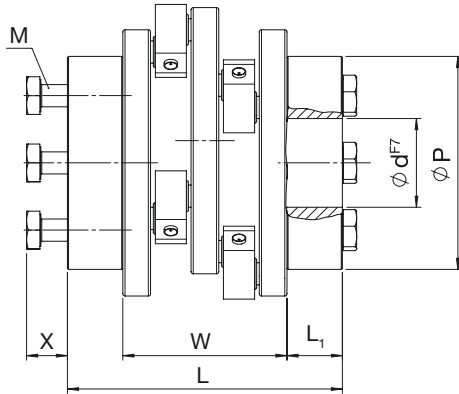
Specifications

Size	Technical data										
	T _{KN} Nm	T _{Kmax} Nm	ΔK _V mm	ΔK _{r min} mm	ΔK _r mm	ΔK _a mm	ΔK _w °	min ⁻¹	C _T kNm/rad	D mm	R mm
S 35	35	65	45	6	23	1	0,8	3.100	7	50	52
S 40	45	85	95	13	50	1	0,8	1.900	10	60	62
S 45	45	85	45	6	23	1	0,8	2.800	10	60	62
P 45	45	90	45	6	23	1	0,5	3.100	10	50	52
P 60	60	115	45	6	23	1	0,5	2.800	13	60	62
V 65	65	126	151	21	79	1	0,5	1.300	14	82	84
P 110	110	210	95	13	50	1	0,5	1.600	24	82	84
P 115	110	210	45	6	23	1	0,5	2.400	24	82	84
S 115	110	210	64	9	34	1	0,8	3.500	24	70	74
S 150	150	290	126	17	66	1	0,8	2.200	33	90	94
S 155	150	290	64	9	34	1	0,8	3.100	33	90	94
P 200	200	385	64	9	34	1	0,5	3.100	44	90	94
S 210	210	410	126	17	66	1	0,8	1.900	47	120	124
S 215	210	410	64	9	34	1	0,8	2.700	47	120	124
V 210	210	410	216	30	114	1	0,5	1.500	47	120	124
P 250	250	490	64	9	34	1	0,5	3.100	56	90	94
P 280	280	550	126	17	66	1	0,5	1.900	63	120	124
P 285	280	550	64	9	34	1	0,5	2.700	63	120	124
V 290	290	620	360	50	190	1	0,5	1.000	71	170	170
P 350	350	690	126	17	66	1	0,5	1.900	79	120	124
P 355	350	690	64	9	34	1	0,5	2.700	79	120	124

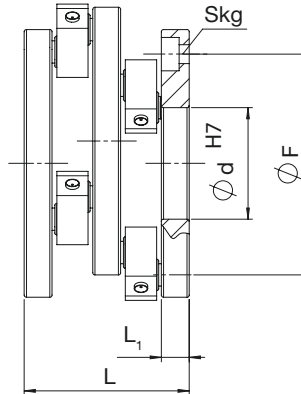
T_{KN} = Nominal torque, T_{Kmax} = Maximum torque capacity, min⁻¹ = Max. rpm, ΔK_V = Maximum linear range of the coupling, ΔK_r = Maximum radial offset capacity, ΔK_{r min} = Min. required radial offset, ΔK_a = Max. axial misalignment capacity, ΔK_w = Max. angular misalignment capacity, C_T = Torsional stiffness

Product line-up

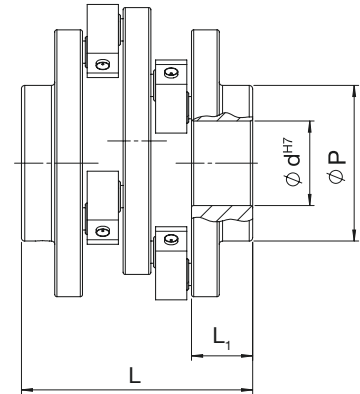
33: Locking-assembly



55: Flange mounting



66: Standard hub



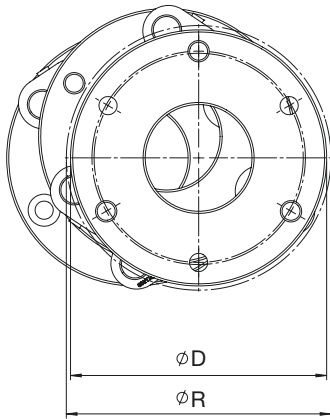
Specifications

Size	33: Locking-assembly								55: Flange mounting						66: Standard hub					
	J kg cm ²	m kg	L mm	W mm	X mm	L ₁ mm	P mm	d _{max} mm	J kg cm ²	m kg	L mm	L ₁ mm	F mm	Skg	J kg cm ²	m kg	L mm	L ₁ mm	P mm	d _{max} mm
S 35	2,1	0,7	74	44	9	15	41	16	1,5	0,4	44	8	35	3xM6	2,2	0,6	60	16	50	25
S 40	4,1	1	74	44	9	15	47	20	3,1	0,6	44	8	45	3xM6	4,2	0,8	60	16	60	30
S 45	4	0,9	74	44	9	15	47	20	2,8	0,5	44	8	45	3xM6	4,4	0,9	60	16	60	30
P 45	2,7	0,8	74	44	9	15	47	16	1,8	0,4	44	8	35	4xM6	2,3	0,6	60	16	50	25
P 60	4,2	1	74	44	9	15	47	16	3,1	0,6	44	8	45	4xM6	4,3	0,8	60	16	60	36
V 65	30,2	1,7	82	44	11	19	50	25	8,9	1,1	48	8	67	3xM6	12,6	1,4	72	20	50	30
P 110	29,2	1,6	82	44	10	19	50	25	9,1	0,9	44	8	67	5xM6	12,3	1,6	78	25	50	30
P 115	28,9	1,5	82	44	10	19	50	25	8,8	1,8	44	8	67	5xM6	11,7	1,4	78	25	50	30
S 115	13	2,2	108	74	14	17	60	20	7,5	1,1	74	12,5	48	3xM8	13	1,9	94	22,5	70	30
S 150	34,8	3,3	116	74	15	21	76	30	24	1,9	74	12,5	70	3xM8	27,3	2,4	104	27,5	56	36
S 155	29,1	2,9	116	74	15	21	76	30	21,5	1,7	74	12,5	70	3xM8	25,9	2,3	104	27,5	56	36
P 200	36,7	3,5	116	74	15	21	76	30	23	1,8	74	12,5	70	4xM8	31,5	3,2	104	27,5	56	36
S 210	105,5	5,9	124	74	17	25	96	40	61	2,9	74	12,5	100	3xM8	77,9	4,1	104	27,5	70	40
S 215	102,6	5,8	124	74	17	25	96	40	60	2,8	74	12,5	100	3xM8	75	4	104	27,5	70	40
V 210	92	5,2	116	74	17	21	76	30	78	3,7	74	12,5	100	3xM8	86	4,4	104	27,5	70	40
P 250	33,9	3,3	112	74	17	19	66	25	25	2	74	12,5	71	5xM8	29,9	2,6	104	27,5	56	36
P 280	110,2	6,1	124	74	17	25	96	40	63	3	74	12,5	98	4xM8	82,6	4,3	104	27,5	70	40
P 285	106,4	5,9	124	74	17	25	96	40	61	2,9	74	12,5	98	4xM8	78,8	4,1	104	27,5	70	40
V 290	570,8	12,6	124	74	17	25	96	40	285	7	74	12,5	148	3xM8	339,3	9,2	104	37,5	90	50
P 350	115,8	6,3	124	74	17	25	96	40	65	3,2	74	12,5	100	5xM8	88,2	4,5	104	27,5	70	40
P 355	110,9	6,1	124	74	17	25	96	40	63	3	74	12,5	100	5xM8	83,3	4,3	104	27,5	70	40

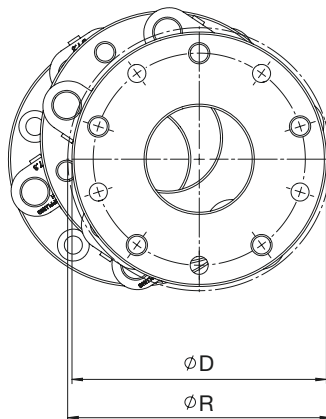
J= Moment of inertia, m= Mass, L= Coupling length, X= Mounting space, W= Coupling bases, L₁= hub length, Skg= numbers of counter bores x bolt size, F= Bolt circle diameter, M= Size of screw

Product line-up

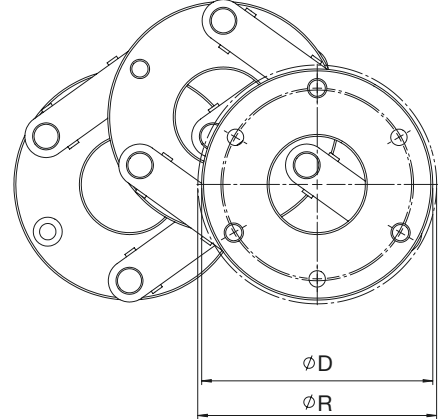
Standard S



Power Plus P



Offset Plus V



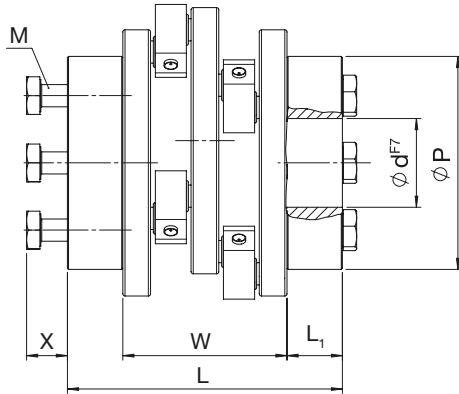
Specifications

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S 285	280	550	100	14	53	1	0,5	2.500	63	100	100
S 360	360	710	162	22	85	1	0,5	1.800	81	120	120
S 365	360	710	100	14	53	1	0,5	2.300	81	120	120
S 440	440	865	162	22	85	1	0,5	1.700	99	140	140
S 445	440	865	100	14	53	1	0,5	2.100	99	140	140
V 440	440	865	216	30	114	1	0,5	1.500	99	140	140
P 480	480	945	100	14	53	1	0,5	2.300	108	120	120
P 590	590	1.155	162	22	85	1	0,5	1.700	132	140	140
P 595	590	1.155	100	14	53	1	0,5	2.100	132	140	140
V 680	680	1.340	396	55	209	1	0,3	900	154	200	200
P 700	700	1.365	162	22	85	1	0,5	1.600	156	160	160
P 705	700	1.365	100	14	53	1	0,5	2.000	156	160	160
V 700	700	1.365	216	30	114	1	0,5	1.400	156	160	160
S 630	630	1.240	162	22	85	1	0,5	1.500	142	140	143
S 635	630	1.240	122	17	64	1	0,5	1.700	142	140	143
S 760	760	1.485	162	22	85	1	0,5	1.400	170	158	163
S 765	760	1.485	122	17	64	1	0,5	1.600	170	158	163
V 760	760	1.485	216	30	114	1	0,5	1.200	170	160	163
S 950	950	1.820	162	22	85	1	0,5	1.300	209	190	190
S 955	950	1.820	122	17	64	1	0,5	1.500	209	190	190
V 950	950	1.820	270	37	142	1	0,5	1.000	209	190	190
V 955	950	1.820	216	30	114	1	0,5	1.100	209	190	190
P 1010	1.010	1.980	162	22	85	1	0,5	1.400	227	158	164
P 1015	1.010	1.980	122	17	64	1	0,5	1.600	227	158	164
V 1200	1.200	2.350	432	60	228	1	0,3	700	269	230	230
P 1580	1.580	3.095	162	22	85	1	0,5	1.300	355	190	193
P 1585	1.580	3.095	122	17	64	1	0,5	1.500	355	190	193

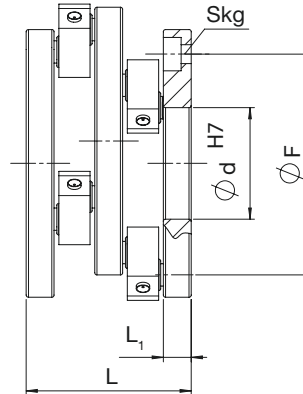
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Product line-up

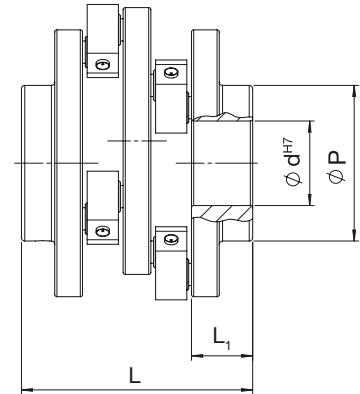
33: Locking-assembly



55: Flange mounting



66: Standard hub



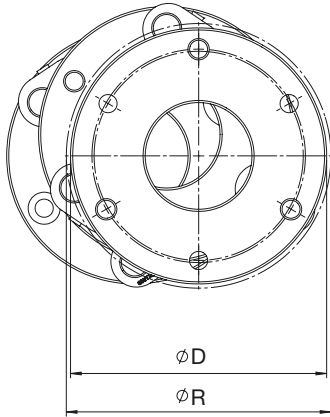
Specifications

Size	33: Locking-assembly								55: Flange mounting						66: Standard hub					
	J kg cm ²	m kg	L mm	W mm	X mm	L ₁ mm	P mm	d _{max} mm	J kg cm ²	m kg	L mm	L ₁ mm	F mm	Skg	J kg cm ²	m kg	L mm	L ₁ mm	P mm	d _{max} mm
S 285	84	6,2	151	101	17	25	96	40	52	3,6	101	17	70	3xM12	54	4,2	143	38	53	36
S 360	141	7,7	151	101	17	25	96	40	107	5,1	101	17	90	3xM12	115	6	143	38	70	45
S 365	135	7,4	151	101	17	25	96	40	95	4,5	101	17	90	3xM12	109	5,7	143	38	70	45
S 440	225	9,4	151	101	17	25	96	40	175	6,3	101	17	110	3xM12	205	8,4	143	38	80	50
S 445	216	9,1	151	101	17	25	96	40	160	5,8	101	17	110	3xM12	194	7,5	143	38	80	50
V 440	237	9,8	151	101	17	25	96	40	187	6,8	101	17	110	3xM12	215	8,2	143	38	80	50
P 480	-	-	-	-	-	-	-	-	105	5	101	17	90	4xM12	117	6,1	143	38	70	45
P 590	239	9,8	151	101	17	25	96	40	187	6,8	101	17	110	4xM12	217	8,3	143	38	80	50
P 595	227	9,5	151	101	17	25	96	40	175	6,3	101	17	110	4xM12	205	7,9	143	38	80	50
V 680	1.110	20	151	101	17	25	96	40	790	13	101	17	170	3xM12	1.090	19	151	42	80	50
P 700	415	13,2	161	101	23	30	115	50	304	8	101	17	130	4xM12	348	10,2	151	42	80	50
P 705	399	12,8	161	101	23	30	115	50	295	7,4	101	17	130	4xM12	331	9,9	151	42	80	50
V 700	391	12,2	151	101	17	25	96	40	313	8,6	101	17	130	4xM12	371	10,8	151	42	80	50
S 630	370	14,5	194	134	23	30	112	50	285	10	134	26	100	3xM16	295	11,5	162	40	77	50
S 635	365	14,5	194	134	23	30	112	50	275	9,8	134	26	100	3xM16	290	10	162	40	77	50
S 760	535	17	184	134	17	25	96	40	460	12,5	134	26	120	3xM16	475	14	170	44	90	60
S 765	495	16	184	134	17	25	96	40	450	12,4	134	26	120	3xM16	465	13,5	170	44	90	60
V 760	550	17,5	194	134	23	30	115	50	465	12,7	134	26	120	3xM16	485	14	170	44	90	60
S 950	1.020	22,5	202	134	24	34	120	60	865	17	134	26	150	3xM16	970	20	192	55	110	70
S 955	1.010	22,5	202	134	24	34	120	60	855	16,5	134	26	150	3xM16	955	20	192	55	110	70
V 950	1.015	22,5	194	134	23	30	115	50	930	18	134	26	150	3xM16	985	20,5	192	55	110	70
V 955	945	21,5	194	134	23	30	115	50	875	17	134	26	150	3xM16	915	19	192	55	110	70
P 1010	570	18	194	134	23	30	112	50	480	13,2	134	26	120	4xM16	505	14,5	170	44	90	60
P 1015	560	17,5	194	134	23	30	112	50	475	13	134	26	120	4xM16	495	14	170	44	90	60
V 1200	2.240	32,5	194	134	23	30	115	50	2.040	26	134	26	190	3xM16	2.235	30,5	202	60	120	80
P 1580	1.120	24,5	202	134	24	34	120	60	920	18	134	26	150	5xM16	1.065	22	192	55	110	70
P 1585	1.100	24	202	134	24	34	120	60	910	17,5	134	26	150	5xM16	1.045	21,5	192	55	110	70

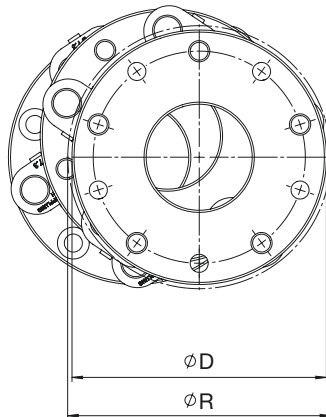
J= Moment of inertia, m= Mass, L= Coupling length, X= Mounting space, W= Coupling bases, L₁= hub length, Skg= numbers of counter bores x bolt size, F= Bolt circle diameter, M= Size of screw

Product line-up

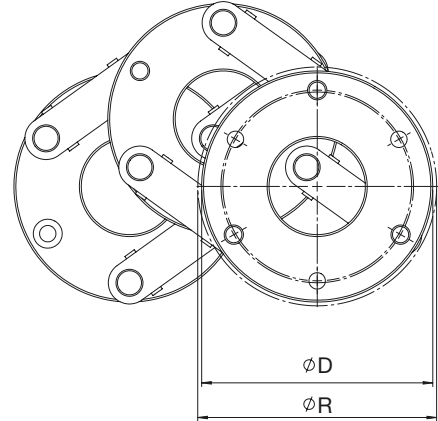
Standard S



Power Plus P



Offset Plus V



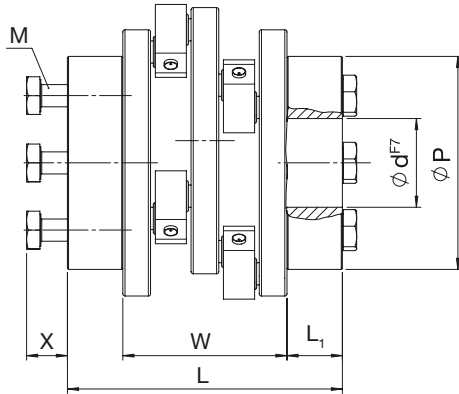
Specifications

Size	Technical data										
	T _{KN} Nm	T _{Kmax} Nm	ΔK _V mm	ΔK _{rmin} mm	ΔK _r mm	ΔK _a mm	ΔK _w °	min ⁻¹	C _T kNm/rad	D mm	R mm
S 1130	1.130	2.200	180	25	95	1	0,5	1.200	252	158	164
S 1135	1.130	2.200	129	18	68	1	0,5	1.500	252	158	164
S 1320	1.320	2.580	180	25	95	1	0,5	1.200	296	180	185
S 1325	1.320	2.580	129	18	68	1	0,5	1.400	296	180	184
V 1320	1.320	2.580	234	32	123	1	0,5	1.000	296	180	184
S 1520	1.520	2.965	180	25	95	1	0,5	1.100	340	200	205
S 1525	1.520	2.965	129	18	68	1	0,5	1.300	340	200	204
V 1520	1.520	2.965	320	44	169	1	0,5	800	340	200	205
V 1525	1.520	2.965	234	32	123	1	0,5	1.000	340	200	204
V 2100	2.100	4.110	504	70	266	1	0,3	600	471	260	264
S 2160	2.160	4.220	219	30	115	2	0,3	1.000	484	200	202
S 2165	2.160	4.220	162	22	85	2	0,3	1.200	484	200	202
V 2160	2.160	4.220	270	37	142	2	0,3	900	484	200	202
S 2870	2.875	5.625	219	30	115	2	0,3	900	645	250	252
S 2875	2.875	5.625	162	22	85	2	0,3	1.000	645	250	252
V 2875	2.875	5.625	270	37	142	2	0,3	800	645	250	252
P 2880	2.880	5.620	162	22	85	2	0,3	1.200	644	200	200
V 3300	3.300	6.470	522	72	275	2	0,2	500	742	280	280
P 3830	3.830	7.500	219	30	115	2	0,3	900	860	250	252
P 3835	3.830	7.500	162	22	85	2	0,3	1.000	860	250	250
V 3840	3.830	7.500	270	37	142	2	0,3	800	860	250	252
P 4800	4.800	9.380	219	30	115	2	0,3	900	1.075	250	252
P 4805	4.800	9.380	162	22	85	2	0,3	1.000	1.075	250	250
P 6610	6.610	12.940	219	30	115	2	0,2	800	1.483	280	282
P 6615	6.610	12.940	162	22	85	2	0,2	1.000	1.483	280	280

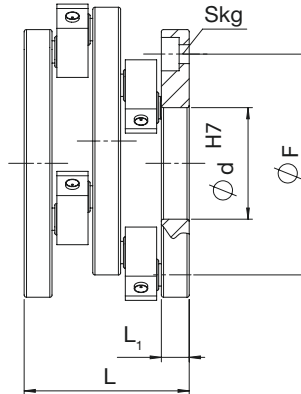
T_{KN} = Nominal torque, T_{Kmax} = Maximum torque capacity, min⁻¹ = Max. rpm, ΔK_V = Maximum linear range of the coupling, ΔK_r = Maximum radial offset capacity, ΔK_{rmin} = Min. required radial offset, ΔK_a = Max. axial misalignment capacity, ΔK_w = Max. angular misalignment capacity, C_T = Torsional stiffness

Product line-up

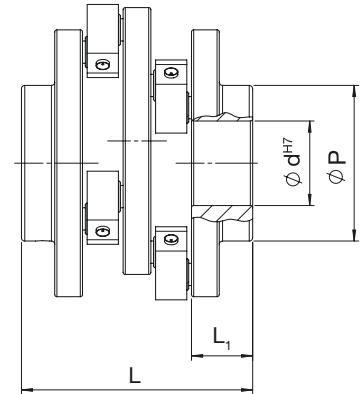
33: Locking-assembly



55: Flange mounting



66: Standard hub



Specifications

Size	33: Locking-assembly							
	J kg cm ²	m kg	L mm	W mm	X mm	L ₁ mm	P mm	d _{max} mm
S 1130	620	20	209	155	20	30	115	40
S 1135	590	19	209	155	20	30	115	40
S 1320	1.040	25	223	155	24	34	120	60
S 1325	1.010	25	223	155	24	34	120	60
V 1320	1.080	26	223	155	24	34	120	60
S 1520	1.490	29	235	155	30	40	155	70
S 1525	1.630	32	235	155	30	40	155	70
V 1520	1.610	31	223	155	24	34	120	60
V 1525	1.540	30	223	155	24	34	120	60
V 2100	3.910	53	235	155	30	40	155	70

55: Flange mounting						
J kg cm ²	m kg	L mm	L ₁ mm	F mm	Skg	
585	16	155	31	115	6xM16	
550	15	155	31	115	6xM16	
885	19	155	31	135	6xM16	
850	18	155	31	135	6xM16	
910	20	155	31	135	6xM16	
1.310	23	155	31	155	6xM16	
1.265	22	155	31	155	6xM16	
1.540	26	155	31	130	6xM16	
1.355	23	155	31	130	6xM16	
4.070	44	155	31	130	6xM16	

66: Standard hub						
J kg cm ²	m kg	L mm	L ₁ mm	P mm	d _{max} mm	
590	18	185	46	80	50	
570	17	185	46	80	50	
950	22	195	51	90	60	
920	21	195	51	90	60	
990	23	195	51	90	60	
1.440	27	215	61	110	70	
1.400	26	215	61	110	70	
1.560	29	215	61	110	70	
1.490	28	215	61	110	70	
3.690	47	215	61	120	80	

S 2160	1.825	35	264	196	24	34	120	60
S 2165	1.725	34	264	196	24	34	120	60
V 2160	2.075	40	276	196	30	40	155	70
S 2870	4.400	55	284	196	31	44	170	80
S 2875	4.250	54	284	196	31	44	170	80
V 2875	4.525	56	284	196	31	44	170	80
P 2880	2.050	40	276	196	30	40	155	70
V 3300	7.550	74	284	196	31	44	170	80
P 3830	4.700	58	276	196	30	40	155	70
P 3835	4.250	53	276	196	30	40	155	70
V 3840	4.450	53	276	196	30	40	155	70
P 4800	5.000	61	284	196	31	44	170	80
P 4805	4.500	55	284	196	31	44	170	80
P 6610	7.575	73	296	196	30	50	185	90
P 6615	7.500	73	296	196	30	50	185	90

1.700	30	196	33	150	6xM20	
1.500	26	196	33	150	6xM20	
1.850	32	196	33	150	6xM20	
3.500	38	196	33	200	6xM20	
3.400	37	196	33	200	6xM20	
3.650	40	196	33	200	6xM20	
1.600	28	196	33	150	4xM20	
6.800	59	196	33	200	6xM20	
3.750	41	196	33	200	8xM20	
3.700	41	196	33	200	8xM20	
4.100	44	196	33	200	8xM20	
4.080	45	196	33	200	10xM20	
4.000	43	196	33	200	10xM20	
8.700	52	196	33	230	12xM20	
5.600	43	196	33	230	12xM20	

1.750	32	236	53	110	70	
1.675	31	236	53	110	70	
1.825	33	236	53	110	70	
3.950	46	266	68	120	80	
3.800	45	266	68	120	80	
4.075	47	266	68	120	80	
1.800	33	236	53	110	70	
7.100	65	266	68	120	80	
4.250	49	266	68	120	80	
4.050	47	266	68	120	80	
4.425	51	266	68	120	80	
4.550	52	276	73	120	80	
4.325	50	276	73	120	80	
7.425	70	322	96	150	95	
7.025	67	322	96	150	95	

J= Moment of inertia, m= Mass, L= Coupling length, X= Mounting space, W= Coupling bases, L₁= hub length, Skg= numbers of counter bores x bolt size, F= Bolt circle diameter, M= Size of screw

Installation instructions

Installation

See measurement list or an assembly drawing. Observe installation dimensions, especially the permissible min/max. radial offset.

Compliance with these values is important for its correct functioning, since the coupling must not be moved during operation or in its extended position and may not be moved into direct shaft alignment.

The coupling is generally installed as a complete unit.

For example, if the coupling in a version with two hubs (hub form 6) is initially disconnected and connected to the shafts in parts, then care must be taken to ensure that the bearings and the running bolts are not dirty or damaged. The elements are assembled without force and with consideration paid to the gaskets and air escaping to the desired construction length. All coupling elements for a level must be installed in parallel. The shaft ends and hub bores to be connected must be clean, dry and burr-free. Check shaft connection dimensions (also feather key dimensions) and tolerances. Adjust length in accordance to the list or drawing (the smallest size is often available upon delivery). Changes in length, e.g. due to the effect of heat on long shafts, must be considered in terms of direction and magnitude.

The coupling should be shielded against direct exposure to heat, dust, sand, solvents, etc. with a metal cover, for example. Attention! The coupling can be pulled apart unintentionally during disassembly. Exercise caution during transportation, installation and assembly. Please do not pull apart, as parts of the coupling could fall off.

Hub shape 3

Versions with clamping hubs

Bores are supplied in fit F7.

In the clamping hub designs, the torque is transmitted frictionally from the coupling via the outer ring and the inner ring onto the shaft. The clamping screws enable the required pressure. In its untensioned state, a defined gap is present between the outer ring and the coupling. The gap width and number of screws are coordinated so that a tension reserve remains after closing the gap, which is used to firmly tighten the outer ring against the coupling.

To assemble, please lubricate the shaft and the plane surface at the coupling. Screw the coupling and adapter set together again loosely, slide them onto the shaft and adjust the length. Tighten the clamping screws with several turns until all tensioning screws until the full torque has been achieved (table). For disassembly, please loosen the screws in sequence and with several turns.

Typ	Size of screw	Tightening torque (Nm)
Standard		
S 35, S 40, S 45	M6	12
S 115, S 150, S 155	M8	29
S 210, S 285, S 360, S 365, S 440, S 445, S 760, S 765, S 1130, S 1135,	M10	58
S 630, S 635, S 950, S 955, S 1320, S 1325, S 2160, S 2165	M12	100
S 1520, S 1525, S 2870, S 2875	M16	240
Power Plus		
P 45, P 60, P 110, P 115	M6	12
P 200, P 250	M8	29
P 280, P 285, P 350, P 355, P 590, P 595	M10	58
P 700, P 705, P 1010, P 1015, P 1580, P 1585	M12	100
P 2880, P 3340, P 3345, P 3830, P 3835, P 4800, P 4805, P 6610, P 6615	M16	240
Offset Plus		
V 65	M6	12
V 210	M8	29
V 290, V 440, V 680, V 700	M10	58
V 760, V 950, V 955, V 1200, V 1320, V 1520, V 1525	M12	100
V 2100, V 2160, V 2875, V 3300, V 3840	M16	240

Hub shape 5

Versions for flanging

Screw the coupling with the mounting flanges fixed to the hubs manufactured by the client or other components. Tighten flange fastening screws with a torque wrench to the torque specified by the client.

Hub shape 6

Versions with hub

A fixed shaft seat is desirable to ensure a low backlash shaft connection. The axial compressive forces occurring during assembly must be kept away from the coupling. For this purpose, axial support for the coupling elements is recommended.

Alternatively, the hubs can be separately mounted on the shafts and the coupling can then be fitted together cleanly. Bores are supplied in fit H7.

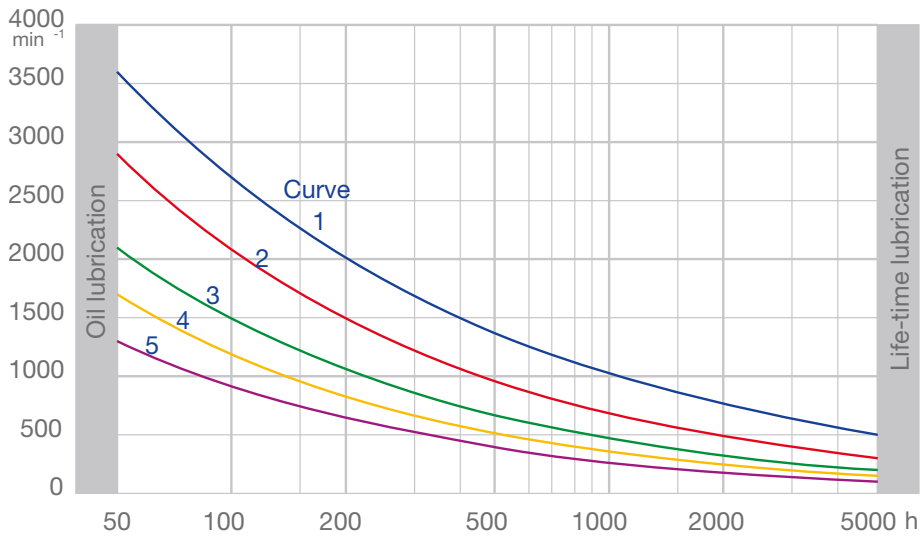
Maintenance

We then recommend lubrication with Klüber Staburags grease, type NBU 12-300 KP. The coupling elements are generally fitted with funnel lubrication fittings. The recommended lubrication intervals must be observed (see figure on the following page). The most important functional parts of the coupling are the bearing points in the coupling elements, i.e. the running bolts in the coupling plates. In order to troubleshoot errors quickly, we recommend stocking installation-ready coupling elements as an installation kit at the plant operator. For example: for 2 levels of the Standard line, 6 coupling elements of the appropriate size are needed. For safety purposes, please list the coupling type with the item number.

The replacement of individual bearings or elements on-site is not permitted. In the event of damages to the bolts, we recommend that repairs be carried out at the factory. This maintenance work on the Schmidt-Kupplung coupling may only be carried out by personnel of SCHMIDT-KUPPLUNG GmbH. The original grease is provided in 400 gr. cartridges.

We assume no liability or warranty for own maintenance work and/or the equipment of the Schmidt-Kupplung coupling with components not originally supplied by SCHMIDT-KUPPLUNG GmbH.

Lubrication period



Standard				
Curve 1	Curve 2	Curve 3	Curve 4	Curve 5
S 115	S 285	S 630	S 1130	S 2160
S 150	S 360	S 635	S 1135	S 2165
S 155	S 365	S 760	S 1320	S 2870
S 210	S 440	S 765	S 1325	S 2875
S 215	S 445	S 950	S 1520	
		S 955	S 1525	

Offset Plus				
Curve 1	Curve 2	Curve 3	Curve 4	Curve 5
V 210	V 440	V 760	V 1320	V 2160
V 290	V 680	V 950	V 1520	V 2875
	V 700	V 955	V 2100	V 3300
		V 1200		V 3840

Power Plus				
Curve 1	Curve 2	Curve 3	Curve 4	Curve 5
P 200	P 480	P 1010		P 2880
P 250	P 590	P 1015		P 3830
P 280	P 595	P 1580		P 3835
P 285	P 700	P 1585		P 4800
P 350	P 705	S 950		P 4805
P 355		S 955		P 6610
				P 6615

The Schmidt-Kupplung, except for size S 34, S 40, S 45, P 60, P 110 and V 65, has a lubrication fitting for regreasing. Adequate lubrication is required for full operating life. The Schmidt-Kupplung, should be regreased exclusively with Klüber Staburags NBU12300KP. Mixing lubrication is not recommended and will reduce coupling operating life.

Schmidt-Kupplung coupling solutions

In addition to standard products, SCHMIDT-KUPPLUNG manufactures industry-specific versions and application-specific coupling solutions in the Schmidt-Kupplung range. These are, for example:



Special ambient conditions

Versions with specially tailored surface coatings, or completely made of stainless steel. In addition, tailored slide bearings run the coupling elements, which are used, for example, in the pharmaceutical industry.

Likewise, versions for high speeds or high operating temperatures with oil lubrication are available.



Application-specific Product line-up

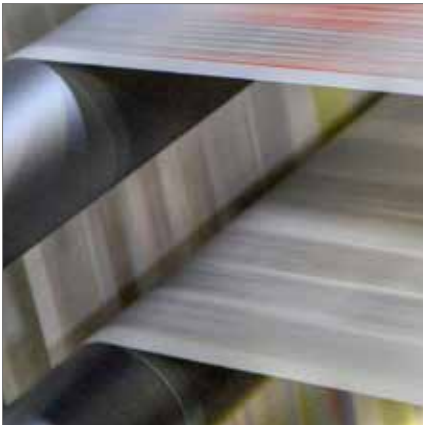
Versions with split clamp hubs for radial mounting and dismounting in axially non-adjustable shafts. Also optional versions, for example with pins or toothed wheels, are available.



Extremely high torque requirements

Versions with roller bearings for heavy duty applications for torque requirements up to 250.000 Nm.

Applications



Wood working and
furniture industry
Packaging machines
Forming
Paper machines
Printing machines
and much more



We speak your language

Every industry has its own peculiarities. Understanding this is a key task for the successful implementation of industry-specific applications.

For 50 years, the release of countless applications in various

industries has given us the experience and know-how to implement, jointly with our customers, the most suitable and efficient coupling solution for each application. No matter whether you deal with assembly or exposure systems for

PCB production, medical technology or process engineering, forming or machine tools: We speak your language!

The optimal solution for every application

Wood working and furniture industry

When laminating panels for the furniture industry, uniform and precise application of each decorative material is required.

The Schmidt-Kupplung coupling provides the precise, short-length actuation of the adjustable applicator rolls used in the lamination process to apply laminates onto the carrier material with paint or glue as a protective or decorative layer. Deburrers are also driven with the help of the Schmidt-Kupplung coupling.

Packaging machines

Thanks to their precision, compactness and high radial displacement and offset capacity, Schmidt-Kupplung couplings are used in various packaging machines and processes. They are used, for example, for driving cartoner modules, box folding machines and folding mechanisms; in

deep-drawing units in thermoforming machines for the packaging industry; in filling systems or, in VA version, for blister packaging machines in the pharmaceutical industry.

Forming

Schmidt-Kupplung couplings are used in all kinds of roller feeds; they are employed, inter alia, in precise, clocked operations such as metal sheets transport, products crosscutting and punching as well as embossing rollers.

Likewise, precision couplings are used for driving edge trimming shears, the final process of sheet metal processing.

Paper machines

Schmidt-Kupplung couplings are used in almost all mentioned stations due to their precision, compactness and displacement capacity. Thus, Schmidt-Kupplung couplings can be found, inter alia,

in the drives of sieve and breast rolls; in paper cutters such as longitudinal and cross cutting machines, three-knife trimmers and rotary cutter systems.

Printing machines

Schmidt-Kupplung couplings are used in many stages of the printing process.

Thanks to the compact design of the coupling systems, the construction of each drive train can be made very compact. The use of Schmidt-Kupplung precision couplings begins with the drive of printing mechanisms, paint rollers and duct rollers. High production performance and productivity is ensured by these compact, and torsionally stiff couplings. Individual paint rollers and duct rollers can be swivelled during operation thanks to the high displacement and offset capacity of compact coupling systems.

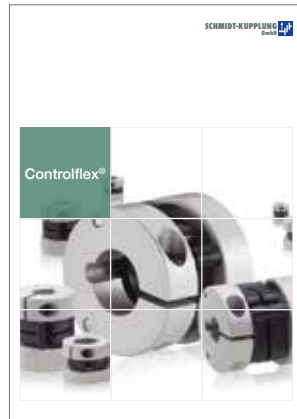
Roller feeds
Edge trimming shears
Sieve rolls
Rotary cutter systems
Duct rollers
and much more



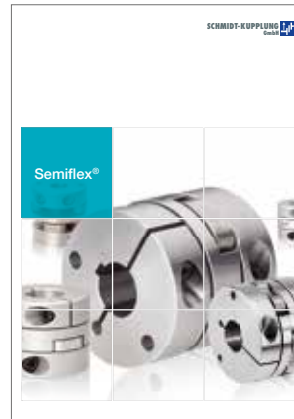
Product Overview



Catalogue Spinplus



Catalogue Controlflex



Catalogue Semiflex



Catalogue Schmidt-Kupplung



Catalogue Servoflex



Catalogue Loewe GK



Catalogue Omniflex



Overview Industries

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