Couplings

Type CPS

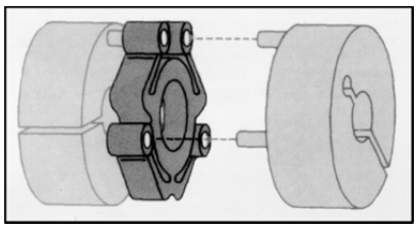
Document-/Rev.-No.:
TR-V-TI-GB-0410-05
02/12/2020

Stock photo

Advantages

- Large compensation of misalignment
- Slight radial restoring forces
- No change of angular velocity in case of shaft displacement
- Damps vibrations
- Easy installation with clamping element
- Electrical insulating

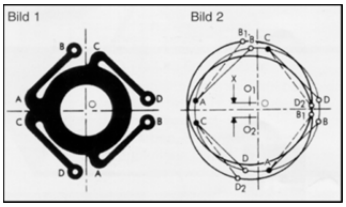
Description



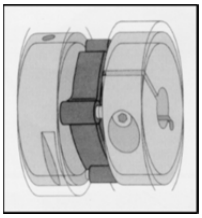
The CONTROLFLEX-coupling serves to couple two shafts whose axes don't exactly in a straight line. The middle plate of this coupling allows a relative loose parallel shaft displacement due to the special elasticity of the coupling elements without changing the angular velocity. In addition, form and material allow the compensation of angular mistakes (= dip of the axes to one another) up to 1,5°.

In practice and with good rotating stiffness, the elasticity of the used material and the length of the coupling elements give rise to negligible restoring forces. For higher torques and improved rotating stiffness please choose multi-plate versions, for example **CPS15/2**.

The CONTROLFLEX-coupling is made of two hard-coated aluminum clamping hubs. Two pins are pressed into the hubs. These drive pins reach into the CONTROLFLEX – spring element without clearance, make possible an easy mounting and ensure accurately and reliably that the shafts are coupled. By using different sizes and varying the number of middle plates, the coupling can be adapted exactly to your demands.



The geometry is made clear in picture 1. The shafts which have to be coupled align. In picture 2, one shaft is staggered x/2 towards the other. Around the same measure have been displaced B1 from B and D2 from D, while the driving arms AB and CD have remained parallel.



It follows that no angular displacement has happened (straight line). This parallel deflection is repeated twice during each rotation.

Subject to change.

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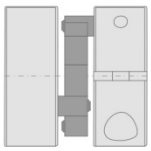
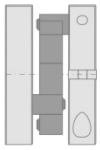
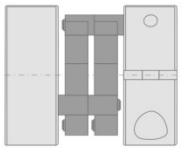
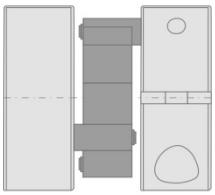
Product line-up

		**Standard** The perfect choice for common-practice shaft encoders. This line provides an outstanding combination of precision and minimal restoring forces.
		**Compact** Short axial design. This line is specially designed for encoder applications where the coupling must be integrated into an axially limited installation space.
		**Impuls Plus** A product line for maximum measuring system resolution. It is perfect for shaft encoders whose high resolution is ensured by fine-tuned signal sequences per revolution.
		**Industry** A product line for rugged industrial encoders with large shaft diameters.

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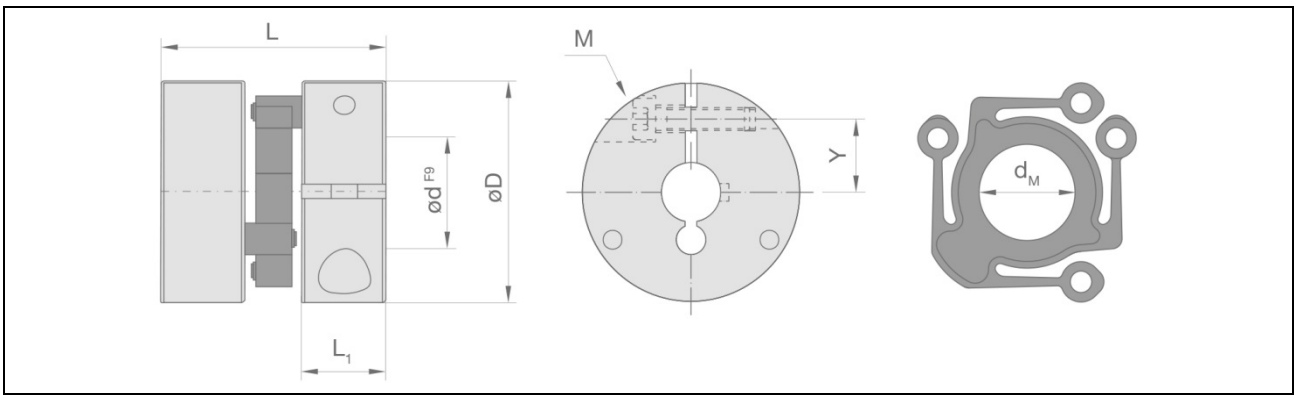
Mechanical Data



Mass of coupling size measured at max. bore diameter
M = Size of screw, M_A= Tightening torque, T_{KN}= Nominal torque, T_{Kmax}= Maximum torque, m = Mass, C_T= Torsional stiffness, C_R= Radial stiffness

Standard:

Size	D mm	L mm	L_1 mm	M	M_A Nm	Y mm	d_M mm	m g	T_{KN} Nm	T_{Kmax} Nm	max rpm min^{-1}	Misalignment angular °	Misalignment axial mm	Misalignment radial mm	C_T Nm/rad	C_R N/mm
CPS 8.1	19	16	5,6	UNC2-56	0,4	6,4	7	8	0,3	0,7	25.000	1,5	0,3	0,4	16	15
CPS 10.1	25	25,5	9,5	M3	1,3	8	8	25	0,7	1	22.000	1,5	0,5	0,7	37,3	17
CPS 15.1	37	30	10	M4	3	12,4	14,3	59	2	3	15.000	1,5	0,7	1	97,4	22

Compact:

Size	D mm	L mm	L_1 mm	M	M_A Nm	Y mm	d_M mm	m g	T_{KN} Nm	T_{Kmax} Nm	max rpm min^{-1}	Misalignment angular °	Misalignment axial mm	Misalignment radial mm	C_T Nm/rad	C_R N/mm
CPS 9.1	25	20,5	7	M2,5	0,7	8	8	18	0,7	1	22.000	1,5	0,5	0,7	37,3	17
CPS 14.1	37	24	7	M3	1,3	14	14,3	42	2	3	15.000	1,5	0,7	1	97,4	22

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Impuls Plus:

Size	D mm	L mm	L_1 mm	M	M_A Nm	Y mm	d_M mm	m g	T_{KN} Nm	T_{Kmax} Nm	max rpm min^{-1}	Misalignment angular °	Misalignment axial mm	Misalignment radial mm	C_T Nm/rad	C_R N/mm
CPS 8.2	19	20	5,6	UNC2-56	0,4	6,4	7	9	0,6	1,4	25.000	1	0,3	0,4	32	30
CPS 9.2	25	26	7	M2,5	0,7	8	8	20	1,4	2	22.000	1	0,5	0,7	74,5	34
CPS 10.2	25	31	9,5	M3	1,3	8	8	27	1,4	2	22.000	1	0,5	0,7	74,5	34
CPS 14.2	37	32	7	M3	1,3	14	14,3	47	4	5	15.000	1	0,7	1	194,8	44
CPS 15.2	37	38	10	M4	3	12,4	14,3	65	4	6	15.000	1	0,7	1	194,8	44

Industry:

Size	D mm	L mm	L_1 mm	M	M_A Nm	Y mm	d_M mm	m g	T_{KN} Nm	T_{Kmax} Nm	max rpm min^{-1}	Misalignment angular °	Misalignment axial mm	Misalignment radial mm	C_T Nm/rad	C_R N/mm
CPS 22.1	56	39	12	M5	5,7	21	18	163	7	10	10.000	1,5	1	1,5	412,6	20
CPS 23.1	56	45	15	M6	8	19,3	18	200	7	10	10.000	1,5	1	1,5	412,6	20
CPS 22.2	56	51	12	M5	5,7	21	18	182	14	16	10.000	1	1	1,5	825	40
CPS 23.2	56	57	15	M6	8	19,3	18	220	14	18	10.000	1	1	1,5	825	40
CPS 30.1	75	57	18	M8	24	25	28,5	430	15	22	10.000	1,5	1,5	2	601,7	50
CPS 30.2	75	73	18	M8	24	25	28,5	475	30	40	7.500	1	1,5	2	1.203,3	100

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CPS 23/1 12 / 16 N

- coupling type
- drive side Ø 12
- driven side Ø 16…
- … with hub according to DIN 6885 -1

Type	Boring-Ø	Article–No.
CPS 8/1	6 / 5	34000090
CPS 8/1	6 / 6	34000053
CPS 8/1	6 / 10	34000054
CPS 8/1	10 / 8	34000104
CPS 9/1	5 / 10	34000087
CPS 9/1	6 / 6	34000100
CPS 9/1	6 / 10	34000038
CPS 9/1	8 / 10	34000035
CPS 9/1	10 / 10	34000025
CPS 10/1	10 / 10	34000075
CPS 10/2	6 / 6	34000055
CPS 10/2	6 / 10	34000072
CPS 10/2	8 / 10	34000048
CPS 10/2	10 / 10	34000044
CPS 10/2	10 / 12	34000026
CPS 10/2	12 / 12	34000027
CPS 10/2	12N / 12N	34000034
CPS 14/2	10 / 10	34000068
CPS 15/1	6 / 10	34000031
CPS 15/1	10 / 10	34000050
CPS 15/1	10 / 12	34000061
CPS 15/1	10 / 20	34000021
CPS 15/1	12 / 12	34000062
CPS 15/1	12 / 20	34000029
CPS 15/2	4 / 6	34000059
CPS 15/2	6 / 6	34000091
CPS 15/2	6 / 8	34000060
CPS 15/2	6 / 10	34000058
CPS 15/2	8 / 10	34000084
CPS 15/2	10 / 10	34000022
CPS 15/2	10N / 10N	34000132
CPS 15/2	10 / 11	34000081
CPS 15/2	10 / 12	34000064
CPS 15/2	10N / 12N	34000063
CPS 15/2	10 / 14	34000057
CPS 15/2	10N / 15N	34000069
CPS 15/2	10 / 16	34000078
CPS 15/2	10 / 20	34000039
CPS 15/2	10N / 20N	34000088
CPS 15/2	12 / 6	34000045
CPS 15/2	12 / 12	34000047
CPS 15/2	12N / 12N	34000086
CPS 15/2	12 / 14	34000096
CPS 15/2	14N / 14N	34000070
CPS 15/2	15 / 6	34000102
CPS 15/2	10N / 19N	34000173
CPS 22/2	10 / 20	34000043
CPS 23/1	12 / 28	34000099
CPS 23/2	10 / 15	34000076
CPS 23/2	10N / 25N	34000079
CPS 23/2	20 / 20	34000032
CPS 30/1	12 / 14	34000080
Further types on inquiry.		

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