

Metal Bellows Coupling with Intermediate Pipe I Series WDS

- variable length: 0,2 up to 6 m
- simple installation
- split-hub design
- backlash-free, precise torque transfer
- no additional intermediate bearing
- high-speed and torsional stiffness
- low moment of inertia

technical data:

WDS	T _N [Nm]	torsional stiffness [Nm/arcmin]				moment of inertia [10 ⁻³ kgm ²]				max. speed approx. [min ⁻¹]				mass approx. [kg]			
		1m	2m	3m	4m	1m	2m	3m	4m	1m	2m	3m	4m	1m	2m	3m	4m
15	15	0,4	0,2	0,15	-	0,2	0,4	0,6	-	3900	880	370	-	0,9	1,5	2,3	-
50	50	1,5	0,8	0,6	0,5	0,9	1,6	2,2	2,9	6000	1300	550	300	1,8	3	4,3	5,5
100	100	2,6	1,5	1,0	0,8	1,8	2,9	4,1	5,3	7300	1600	670	360	2,5	4	5,5	7
200	200	5,9	3,5	2,5	1,9	5,3	9,1	13	17	8000	2100	900	500	3,8	6	8	10
400	400	17	10	7,5	6	12	21	31	40	8000	2700	1100	600	7	11	15	19
800	800	26	16	11	9	32	48	64	80	8000	3400	1400	760	15	20	25	30
1600	1600	61	37	27	21	116	150	190	230	8000	4800	2000	1100	31	38	44	51

maximum temperature range: -40°C up to +200°C

maximum axial shaft misalignment: $\Delta A = \pm 1,5 \text{ mm}$

maximum angular shaft misalignment: $\alpha = 1^\circ$

maximum lateral shaft misalignment: $\Delta R = \tan \alpha \cdot L_x$ with $L_x = L - (2 \cdot L_1) / \tan 1^\circ = 0,0174$

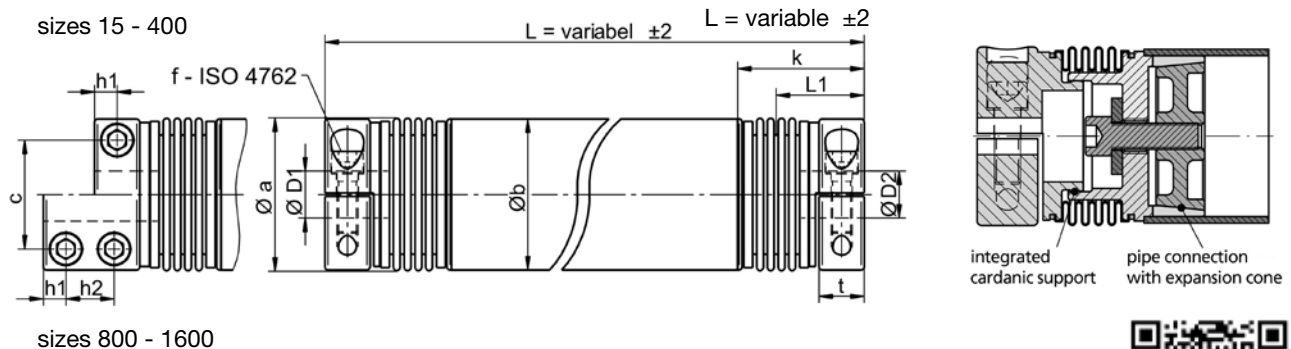
calculation example:

WDS 200 / L = 1200 mm $\rightarrow \Delta R = \tan \alpha \cdot L_x$

with $L_x = 1200 - (2 \cdot 53) = 1094 \text{ mm}$

$\Delta R = \tan 1^\circ \cdot 1094 \text{ mm} \approx 20 \text{ mm}$

note: lengths of over 4 m and in-house production of intermediate pipe are possible on request



material:

bellows: stainless steel

hubs: sizes 15 - 400: high-tensile aluminum / sizes 800-1600: steel – oxidized

intermediate pipe: aluminum – optional: steel, stainless steel, CFC



update version

Dimensions [mm]: length dimensions according to DIN ISO 2768 cH

WDS size	Øa	Øb	c	f-tightening- torque*	h1	h2	L1	k	t	L _{min}	ØD1/2 min	ØD1/2 max(*)
15	36	35	21	2x M5 - 8Nm	9	-	37	54	18	108	6	15
50	58	50	36	2x M8 - 35Nm	13	-	48	67	26	132	9	25
100	75	60	47	2x M10 - 65Nm (50)	13	-	48	69	26	136	12,5	35 (31)
200	89	80	56	2x M12 - 115Nm (80)	14	-	53	77	28	152	19	42 (34)
400	109	100	72	2x M14 - 180Nm (140)	15	-	58	84	30	165	24	55 (48)
800	123	120	80	4x M12 - 115Nm	13	22	74	101	45	200	24	65
1600	158	160	108	4x M16 - 290Nm	18	30	95	125	64	250	35	85

Øa: interfering edge - bolt head

(*) note: reduced tightening torque (see brackets) for bigger hub bore diameter - see also Ø D 1/2max!

order example: WDS 400 - D1 = 28 F6 D2 = 38 F6 L = 1250