

# Metal Bellows Coupling with Intermediate Pipe I WD / WDS

- /// backlash-free, precise torque transfer // no additional intermediate bearing
- /// high-speed and torsional stiffness // simple installation

series WD: Variable length up to 4 m / Tmax = 90°C  
 series WDS: Variable length up to 6 m / Tmax = 200°C

technical data:

WD WDS size	T <sub>N</sub> [Nm]	torsional stiffness [Nm/arcmin]				moment of inertia [10 <sup>-3</sup> kgm <sup>2</sup> ]				max. speed approx. [min <sup>-1</sup> ]				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

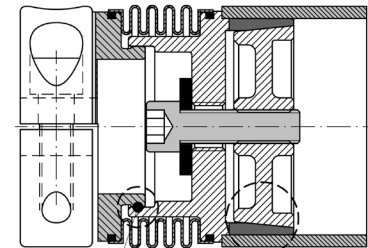
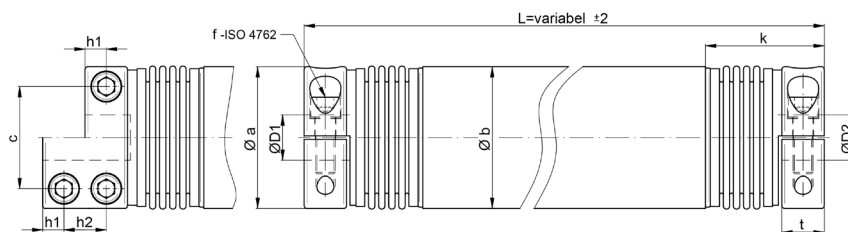
maximum temperature range: -40°C up to +200°C | series WD: -40°C up to +90°C

maximum axial shaft misalignment: Δ A = ± 1,5 mm

maximum angular shaft misalignment : α = 1°

maximum lateral shaft misalignment: Δ R = tan α • L<sub>x</sub> with L<sub>x</sub> = L - (2 • k) / tan 1° = 0,0174

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



integrated gimbal  
intermediate tube  
support

Coupling pipe connection  
WDS: Expansion cone clamping  
WD: high-strength adhesive

**material:**

bellows: stainless steel

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

precision intermediate pipe: high tensile aluminum

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

WD/ WDS size	Øa	Øb	c	f-tightening- torque*	h1	h2	k	t	L <sub>min</sub>	ØD1/2 min	ØD1/2 max(*)
15	36	35	21	2x M5 - 8Nm	9	-	54	18	160	6	15
50	58	50	36	2x M8 - 35Nm	13	-	67	26	190	9	25
100	75	60	47	2x M10 - 65Nm (50)*	13	-	69	26	210	12,5	31 (35)*
200	89	80	56	2x M12 - 115Nm (80)*	14	-	77	28	220	19	34 (42)*
400	109	100	72	2x M14 - 180Nm (140)*	15	-	84	30	240	24	48 (55)*
800	123	120	80	4x M12 - 115Nm	13	22	101	45	300	24	65
1600	158	160	108	4x M16 - 290Nm	18	30	125	64	360	35	85

- Øa: interfering edge - bolt head
- (\*) note: reduced tightening torque (see brackets) for bigger hub bore diameter - see also Ø D 1/2max!
- Size 15 only as WDS type / pipe diameter Øb with WD-800 = 110mm or WD 1600 = 150mm

order example: WDS 400 - D1 = 28 F6 D2 = 38 F6 L = 1850  
 WD 100 - D1 = 18 F6 D2 = 24 F6 L = 1220