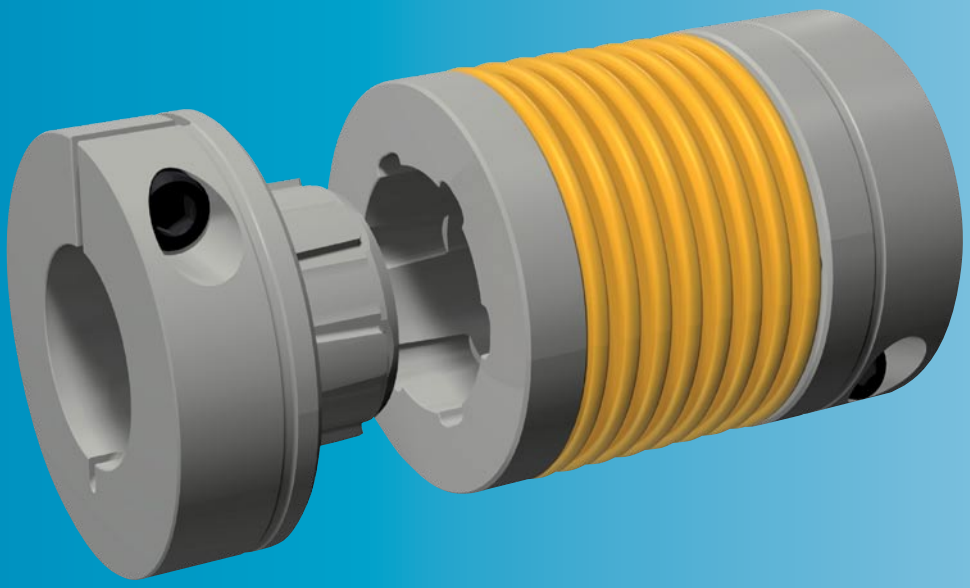
primeflex

The new, top-quality steel bellows coupling



- *Plug-in connection*
- *Backlash-free*
- *Easy to de-install*
- *Cost-effective*

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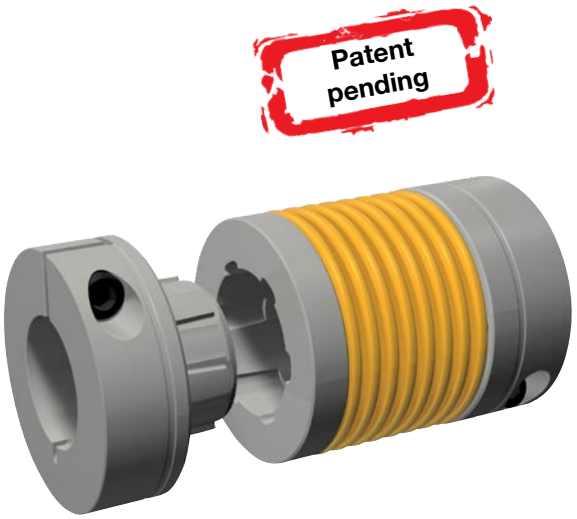
your reliable partner

primeflex

the new, top-quality steel bellows coupling

If innovative and market-leading shaft coupling technology designed to secure your future is important to you, have a closer look at our new primeflex.
This product contains all the qualities you should expect from a “first-class“ steel bellows coupling - at an exceptionally favourable price.

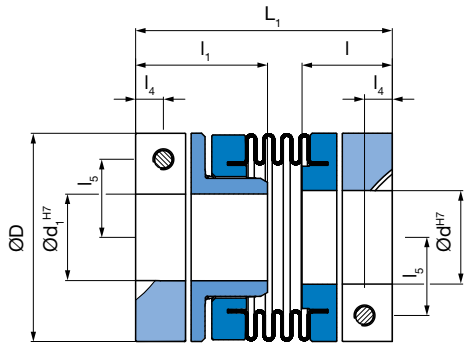
- Plug-in connection
- Backlash-free
- Can be de-installed even after longer operating periods without damaging the steel bellows
- Extremely compact and very high performance density
- Easy to install via clamping or shrink disk connections
- Frictionally-locking and positive-locking shaft-hub connections
- Excellent misalignment capability
- Can be variably dimensioned via the modular system
- Cost-effective



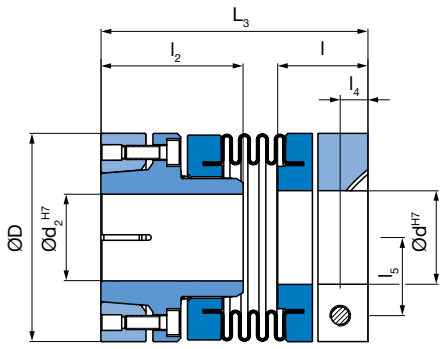
Technical Data					Size 1	Size 2	Size 3
Nominal torque [1]			T_{KN}	[Nm]	24	60	120
Hub bore Ød	Minimum		d_{min}	[mm]	12	19	25
	Maximum without keyway		d_{max}	[mm]	25	35	45
	Maximum with keyway		d_{max}	[mm]	21	30	38
Hub bore Ød$_1$	Minimum		d_{min}	[mm]	12	19	25
	Maximum without keyway		d_{max}	[mm]	20	30	40
	Maximum with keyway		d_{max}	[mm]	17	25	35
Hub bore Ød$_2$	Minimum		d_{min}	[mm]	10	15	18
	Maximum without keyway		d_{max}	[mm]	20	30	40
	Maximum with keyway		d_{max}	[mm]	17	25	35
Maximum speed			n_{max}	[rpm]	8 000	6 000	4 000
Screws	Tightening torque ± 5%		T_{A1}	[Nm]	10	17	40
	Key width, screw 1		SW1	[mm]	4	5	6
	Tightening torque ± 5%		T_{A2}	[Nm]	1,8	4,1	8,1
	Key width, screw 2		SW2	[mm]	2,5	3	4
Permitted misalignments [2]	Permitted axial displacement	Type 933.3__.1	ΔK_a	[mm]	± 0,1	± 0,15	± 0,15
		Type 933.5__.1	ΔK_a	[mm]	± 0,2	± 0,25	± 0,25
	Permitted radial misalignment	Type 933.3__.1	ΔK_r	[mm]	0,1	0,1	0,1
		Type 933.5__.1	ΔK_r	[mm]	0,2	0,3	0,3
	Permitted angular misalignment	Type 933.3__.1	ΔK_w	[°]	1	1	1
		Type 933.5__.1	ΔK_w	[°]	1	1	1
Spring rigidities	Axial spring rigidity	Type 933.3__.1	C_{ax}	[N/mm]	140	180	240
		Type 933.5__.1	C_{ax}	[N/mm]	70	90	120
	Torsion	Type 933.3__.1	C_T	[Nm/rad]	18 000	44 000	100 000
		Type 933.5__.1	C_T	[Nm/rad]	9 000	22 000	50 000

We reserve the right to make dimensional and constructional changes.

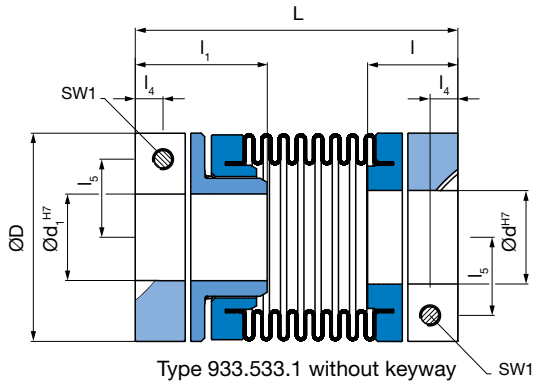
Smaller bores than the finish bores d, d_1 and d_2 mentioned here are available on request.
1) The nominal torque may be temporarily exceeded by 50 %. Please contact the manufacturers for details.
2) The permitted misalignments must not simultaneously reach their maximum value.



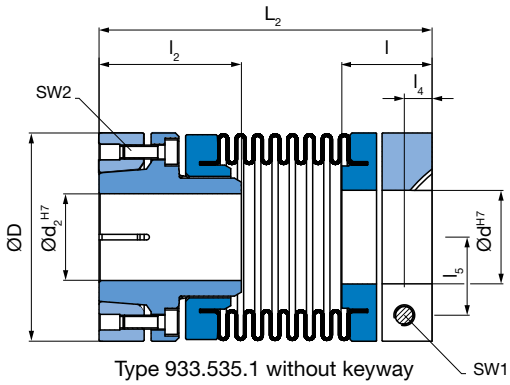
Type 933.333.1 without keyway
Type 933.366.1 with keyway



Type 933.335.1 without keyway
Type 933.367.1 with keyway



Type 933.533.1 without keyway
Type 933.566.1 with keyway



Type 933.535.1 without keyway
Type 933.567.1 with keyway

Dimensions	Size		
	1	2	3
D	47	60	79
L	77	93	117
L_1	62	74	92
L_2	78	96	118
L_3	63	77	93
l	23	26	32
l_1	29	38	47
l_2	30	41	48
l_4	6,5	8	10,5
l_5	16,7	22,5	29,5

Mass moments of inertia [10^{-6} kgm²]	Size		
	1	2	3
Type 933.533.1	73,9	267	983
Type 933.333.1	63,6	219	810
Type 933.535.1	95,6	341	1231
Type 933.335.1	85,3	293	1058

Weights [kg]	Size		
	1	2	3
Type 933.533.1	0,234	0,487	1,031
Type 933.333.1	0,203	0,407	0,865
Type 933.535.1	0,292	0,607	1,259
Type 933.335.1	0,261	0,527	1,093

Size selection

The coupling is dimensioned via the maximum torque M_{max} occurring in the system and the appropriate service and temperature factors. The calculated torque M must be smaller than the nominal torque on the selected coupling.

M	=	$M_{max} \times f_t \times f_B$	**[Nm]**
M_{max}	=	Maximum occurring torque	
f_t	=	Temperature factors	
f_B	=	Service factors	

	Temperature			
	50 °C	80 °C	100 °C	120 °C
Temperature faktor f_t	1	1,1	1,2	1,5

	Load		
	Even	Uneven	Impacts
Service factor f_B	1,5	2	2,5 - 4

In our experience, f_B values of 1,5 should be calculated for drives in machine tools (servo motors).

Installation Guidelines

The coupling must be pre-tensioned to pressure between 0,5 and 1,0 mm during installation, based on the non-tensioned installation dimensions L, L_1, L_2 and L_3. Both hubs are to be mounted onto the shafts so that this pre-tension is achieved after the components are plugged together. Only with this pre-tensioning can the coupling work permanently backlash-free and with full torsional rigidity.

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