

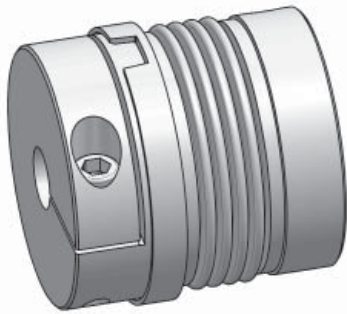
Metal bellows coupling I Series KPP

- /// plug-in design // simple installation // EASY-clamping hub
- /// high torsional stiffness // backlashfree, exakt torque transmission
- /// sturdy whole metal version // temperatures up to 300°C

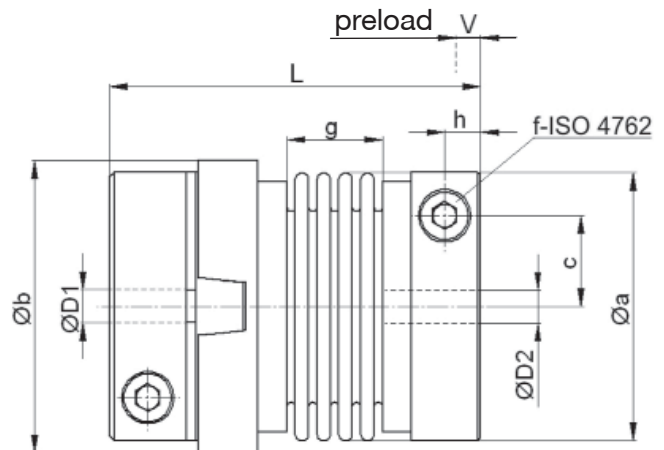
Technical data:

KPP size	T_N [Nm]	moment of inertia [10 ⁻³ kgm ²]	torsional stiffness [Nm/arcmin]	max. shaft displacement (mm)		axial spring rate [N/mm]	lateral spring rate [N/mm]	mass approx. [kg]	tightening torque of screws [Nm]	axial preload force approx. [N]
				axial ±	lateral					
10	10	0,033	2	0,6	0,15	20	93	0,15	8	30
20	20	0,17	4,6	0,5	0,2	70	480	0,38	14	110
35	35	0,17	5	0,5	0,2	70	480	0,38	14	110
60	60	0,34	8	0,6	0,2	70	650	0,60	30	110
100	100	0,46	12	0,6	0,2	120	1200	0,66	35	180
170	170	0,90	19	0,8	0,2	100	1000	0,95	65	150
270	270	2,2	31	0,8	0,2	95	1350	1,6	115	140
400	400	2,4	45	0,7	0,2	135	1500	1,7	115	200
600	600	5,5	67	0,7	0,2	145	3000	2,5	185	220

Temperature range: -40°C up to +300°C



Material: bellows: stainless steel
hubs: high tensile strength aluminium
screws: DIN 912 - nickel plated



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

KPP	Øa	Øb	c	f	g	h	V	L*	ØD1/2min	ØD1/2max
10	39,5	43	13	M 5	18	6	1-1,5	62	6	20/19
20	56	61	19	M 6	21	7,5	1-1,5	77,5	9	30
35	56	61	19	M 6	21	7,5	1-1,5	77,5	14	30
60	66	71	22	M 8	23	8,5	1-1,5	85,5	18	34
100	71	75	25	M 8	23,5	8,5	1-1,5	86	22	38
170	82	87	28,5	M 10	28	10,5	1-1,5	99,5	22	43
270	101	106	35	M 12	29	12	1-1,5	106,5	27	55
400	101	106	35	M 12	33	12	1-1,5	110,5	34	55
600	122	126	43,5	M 14	36	13,5	1-1,5	120,5	35	70

* delivery length (± 1mm) – without preload -> see Function page 19

Note: Size KPP 1300 with conical clamping hub on request

Ordering example: KPP 170 - D1 = 28^{G7} D2 = 35^{H7}

Metal bellows coupling I Technics Series KPP

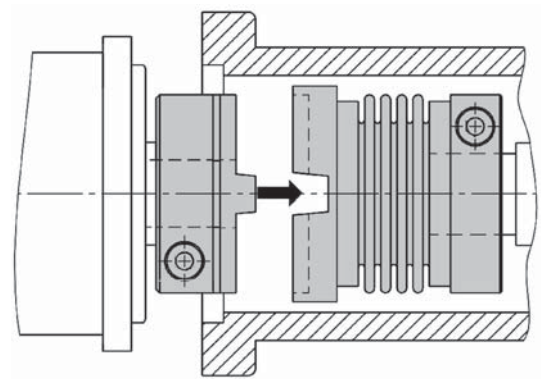
General:

The pluggable, two-parted metal bellows couplings are constructed for applications which are difficult to reach, applications without assembly boring for the clamping screws of the coupling hubs or where generally only blind fitting is possible. For such applications, the assembly is facilitated by the axial pluggability. Also, in case of service, the disassembly is much easier, because the drive unit can be torn off „backwards“ without the difficult loosening of the hubs. Product specific characteristics, which define the

metal bellows couplings, nevertheless apply for the KPP couplings, too. These are the absolute zero backlash, high torsional stiffness, low mass moment of inertia, compensation of misalignments as well as high operating speed and high operating temperatures. Depending on the special operation parameters, plug-in elastomer couplings of series EKM & ESM provide a very good alternative.

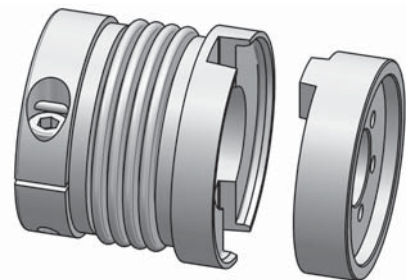
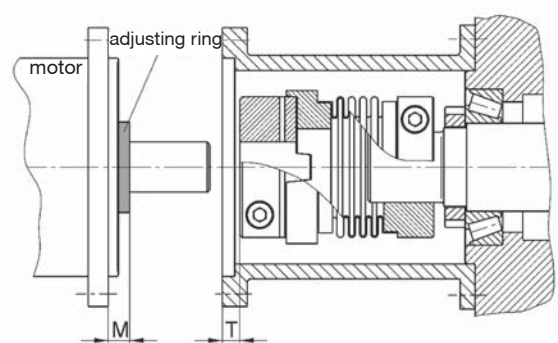
Function:

The axial pluggability is achieved by a backlash-free carrierkeyway connection in whole metal version (aluminium anodized). For this, one hub part is delivered as a conical carrier, the counterpart with a congruent conical keyway. An additional centering element guarantees an exact alignment of both hub halves. To achieve the necessary axial prestress of the plug-in-connection, the spring tension of the metal bellow is used. For this, the bellow is pressed during assembly by 1-1,5 mm. This means, that the unstressed coupling length „l“ (see measuring table) is reduced by the prestress value „V“ after assembly. Because of the low prestress, the operativeness of the metal bellow is not reduced. The resulting residual forces usually have no negative influence on the shaft bearing.



Assembly notes:

To guarantee optimum performance of the plug-in-connection, the prestress value of 1-1,5 mm at the metal bellow must definitely be given special care. In most cases, it is sufficient, if the designer considers this. Another possibility for the mechanic is, to mount the whole coupling onto the drive shaft before fitting it to the motor (see drawing). With a depth gage the distance value „T“ from the bearing surface of the bell to the front-part of the plug-in hub can be defined. The mounting value „M“ on the motor wave is given by adding the distance value „T“ to the prestress value „V“. In serial use the mounting can be facilitated to a great extent by using a corresponding adjusting ring. If the angular position of the carrier to the keyway does not fit during the plug-in, the metal bellow may be pressed for some more millimeters (this bellow deformation is allowed in exceptional cases). By slow turning of the drive shaft, the carrier fits the keyway in synchronous position and the coupling is ready for use.



Application example: KPP-flange type for direct gear extension