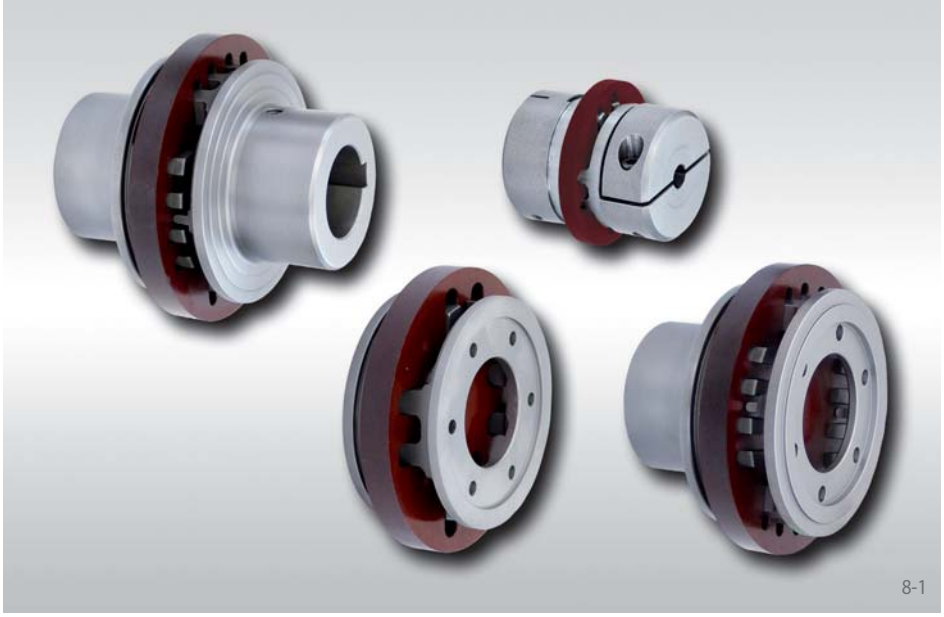
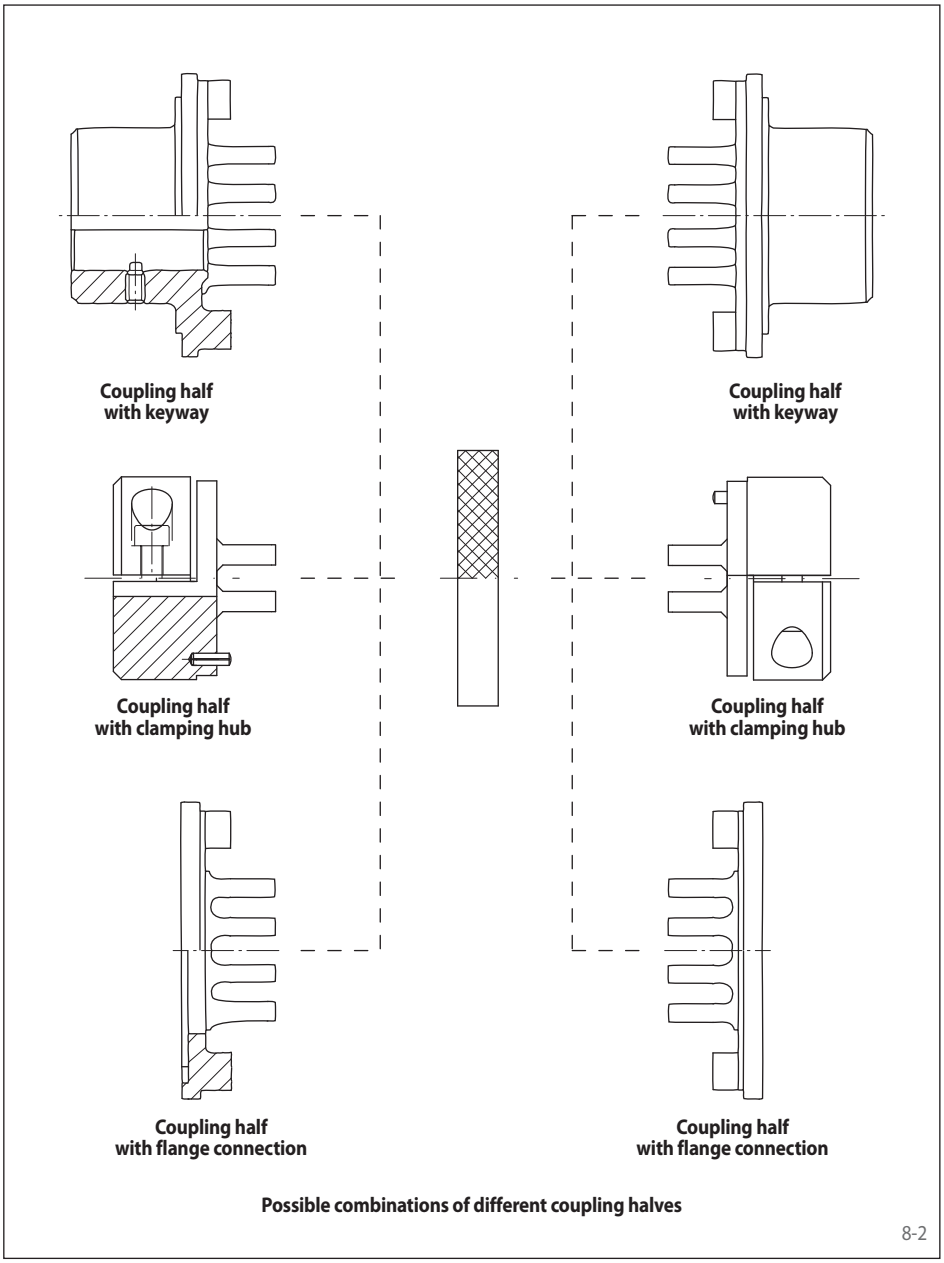


Features

- Compact design
- Small dimensions
- Electrical insulation
- No stick-slip action
- Large radial shaft misalignment permissible
- For angular misalignments of up to 3°
- Torsionally rigid
- Minimal restoring forces on adjacent machine parts



Configuration

The RINGSPANN Flexible Couplings are based on the proven Oldham principle. They consist of a flexible disc made of highly wear-resistant plastic resin and two coupling halves made of steel or spherical graphite iron. Different coupling solutions can be achieved by combining different coupling halves (see Fig. 8-2). The robust design of only three basic elements guarantees excellent reliability and easy mounting.

The driving dogs of the two hubs engage by sliding into corresponding slots of the flexible disc, the slots being offset by 90°, thereby compensating very large parallel misalignments of the shafts, if necessary. Furthermore, the support dogs - offset by 90° to the driving dogs - can compensate angular misalignments of up to 3°.

The rotation movement is always transmitted angle true. The particularly large, low-stress transmission surfaces are not subject to any elastic distortion or play and therefore no fatigue.

Driving dogs and flexible disc should be greased with graphite paste or molybdenum disulphide as recommended in the operating instructions. This is not necessary if the couplings run in oil.

Care must be taken that the Flexible Couplings are not affected by undue axial forces caused, for example, by heat expansion of the shafts. If necessary, the coupling has to be mounted with axial tolerance between support dogs and flexible disc.

Selecting the size of the Flexible Coupling

The size of the Flexible Coupling is selected on the basis of the maximum load torque according to the familiar formula:

$M_L = 9550 \cdot P/n$ [Nm]

In this formula:

M_L = Load torque of driven machine [Nm]

P = Power required for driving the machine, which is in most cases lower than the nominal power of the motor [kW]

n = Coupling speed [min^{-1}]

The load torque requirement M_L calculated according to this formula is an average value, but in reality the transmitted torque M through the coupling is irregular, according to the irregularity of the driving power and the machine. The maximum peak torque of the drive, the selection torque M_A, should be lower than the transmissible torque M of the selected coupling according to the table.

$M_A < M$

Where the precise irregularities of the torque, thus the selection torque M_A are not known a service factor f should be applied:

$M_A = 9550 \cdot P/n \cdot f$ [Nm]

This factor f is dependant on the type of drive and type of driven machine, refer to table below.

In this formula:

M_A = Selection torque [Nm]

f = Service factor

Service factor f

Type of driven machine	Driven by			
	Belt drives, electric motors	Combustion engines 4 and 6 cylinders	Combustion engines 2 and 3 cylinders, single cylinder, steam engines	Single cylinder combustion engines
Belt drives, small generators, small ventilators, rotary blowers	1,5	1,7	1,9	2,2
Small hoists, larger ventilators, light machines for metal, wood and textile, small conveyors	1,8	2,0	2,2	2,5
Hoists for heavy loads, heavier conveyors, hanging conveyors, mixers, textile machines with high inertias	2,0	2,2	2,4	2,7
Presses, sheers, stumping machines, reciprocating pumps, calendars, pan grinders, hammer mills	2,5	2,7	2,9	3,2
Welding generators, stone crushers, pinch roll drives, reciprocating compressors and reciprocating pumps without flywheels, rolling mills	3,0	3,2	3,4	3,7

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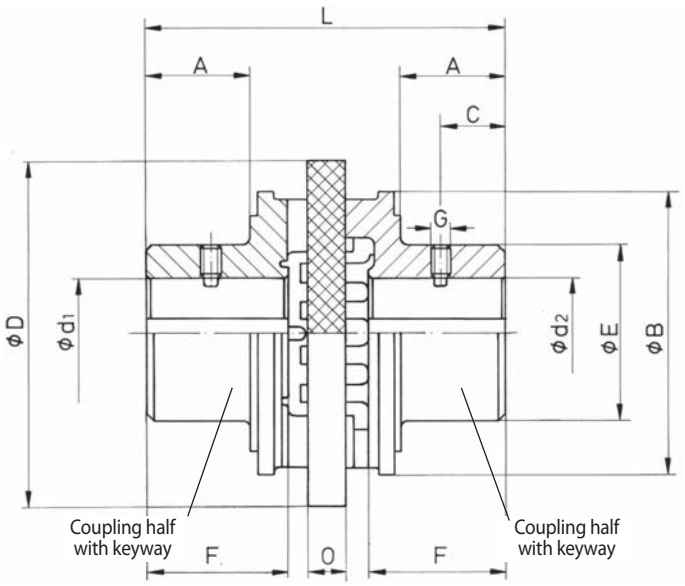

10-1

Technical Data and Dimensions

Coupling size	Max. torque M	Max. speed	Inertia J	Max. parallel misalign-ment	Rough bore d_1 or d_2	Finished bore d_1 or d_2		A	B	C	D	E	F*	G	L	O	Weight with rough bore
						min.	max.										
	Nm	min^{-1}	kgm^2	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	kg
L 10	2	13000	0,0001	0,50	4,3	5	15	–	–	7	32	26	13	M 4	35	6	0,10
L 12	4	10500	0,0002	0,60	5	6	18	–	–	10	40	32	16	M 4	42	4	0,20
L 16	8	8400	0,0003	0,80	7	8	25	–	–	10,5	50	40	18,5	M 5	51	6	0,38
L 20	16	6800	0,0004	1,00	9	10	30	–	–	17	63	50	25	M 6	64	6	0,78
L 27	32	5350	0,0008	1,35	11	12	40	–	–	24	80	65	32	M 6	85	8	1,70
L 35	85	4100	0,0013	1,75	15	16	35	33	90	25	110	53	42	M 8	112	12	1,90
L 42	190	3400	0,0039	2,10	19	20	42	41	110	30	135	66	53	M 8	136	14	3,70
L 50	500	2670	0,0097	2,50	29	30	50	51	135	40	160	85	62	M 10	159	16	6,30
L 70	1000	2140	0,0268	3,50	33	34	70	65	163	45	200	104	79	M 12	200	20	12,10
L 90	2000	1700	0,1110	4,50	48	50	90	81	202	60	250	150	100	M 12	247	25	28,90
L 110	4000	1350	0,2911	5,50	58	60	110	101	254	70	315	175	124	M 12	312	32	50,90
L 140	8000	1050	0,9767	7,00	72	75	140	130	330	90	400	216	160	M 12	402	40	104,00

* Hub lengths F_1 and F_2 can be shortened with corresponding changes to dimensions A, C and L.

Please specify when ordering:

- Whether supply is required with rough bores as per catalogue or finished bores.
- If finish bored, give diameters d_1 and d_2. Tolerance of finished bores is H7. Keyways as per DIN 6885, p. 1.

Example for ordering

Flexible Coupling L 90 with finished bore d_1 55 mm and finished bore d_2 87 mm:

- L 90, d_1 = 55 mm, d_2 = 87 mm

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