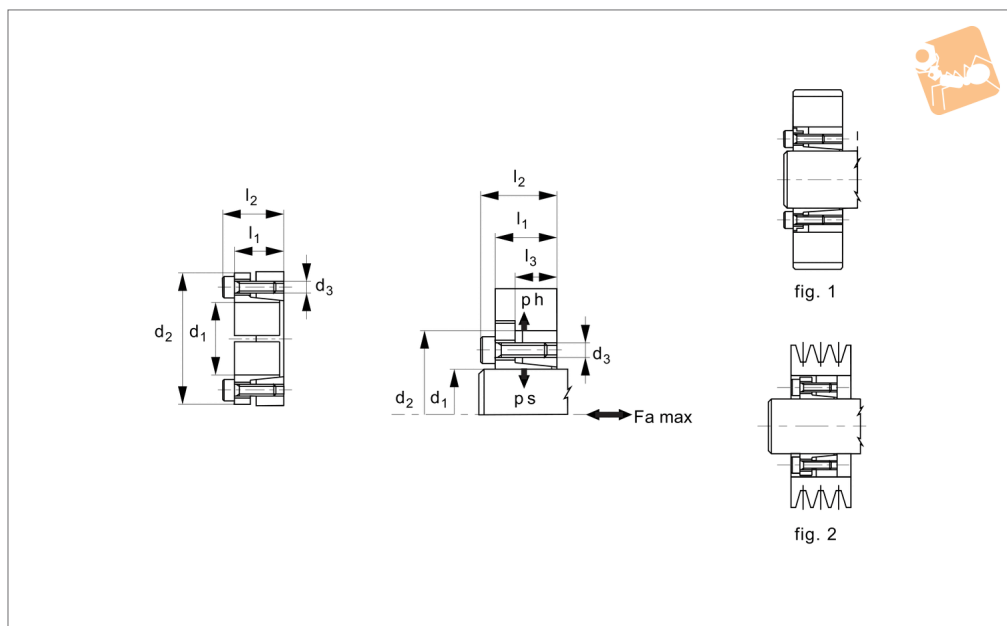




Keyless Locking Devices

self centring, high torque

Rigid Couplings



R3230

RIGID COUPLINGS

Material

Steel.

Technical Notes

Economical, quick installation, compact size.

Tolerances: Inner diameter h8, outer diameter H8.

Surface Roughness: Rt max. 16µm, Ra 3µm

Tips

Do not use any oil with molybdenum bisulphide, high pressure additives, or grease as these reduce the coefficient of

friction.

Max Torque (Mt) and Axial Thrust (Fa) values are only valid if standard oils are used.

Important Notes

Assembly:

Carefully clean the hub and shaft contact surfaces and apply a film of lightweight oil. Slide the locking assembly into the hub bore, insert the shaft and tighten gradually in cross sequence to indicated torque.

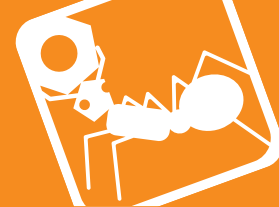
When tightening the mounting screws the hub has slight axial movement with respect to the shaft.

Dismantling:

Gradually loosen the cap screws. Remove and re-insert the correct number of screws into the jacking holes and tighten gradually and regularly in crossed sequence until the back cone is released.

If the element is to be re-used then re-lubricate screws and threads.

Order No.	d ₁ tol. h8	l ₁	d ₂ tol. H8	l ₂	No. of screws	d ₃	Torque to Nm	M _t torque Nm max.	F _a kN max.	P _h N/mm ² max.	P _s N/mm ² max.	Weight kg
R3230.019	19	28	47	34	5	M 6x20	14	355	31	120	280	0.250
R3230.020	20	28	47	34	5	M 6x20	14	360	33	120	280	0.250
R3230.022	22	28	47	34	5	M 6x20	14	400	33	123	268	0.250
R3230.024	24	28	50	34	6	M 6x20	14	440	36	120	243	0.276
R3230.025	25	28	50	34	6	M 6x20	14	560	36	138	280	0.268
R3230.028	28	28	55	34	6	M 6x20	14	625	36	128	250	0.322
R3230.030	30	28	55	34	6	M 6x20	14	650	36	128	235	0.304
R3230.032	32	28	60	34	8	M 6x20	14	950	50	150	290	0.370
R3230.035	35	28	60	34	8	M 6x20	14	1050	50	150	268	0.344
R3230.038	38	28	65	34	8	M 6x20	14	1140	50	146	252	0.408
R3230.040	40	28	65	34	8	M 6x20	14	1200	50	146	232	0.378
R3230.042	42	33	75	41	7	M 8x25	35	2034	70	168	305	0.630
R3230.045	45	33	75	41	7	M 8x25	35	2180	70	168	285	0.610
R3230.048	48	33	80	41	8	M 8x25	35	1800	75	140	330	0.680
R3230.050	50	33	80	41	7	M 8x25	35	2430	85	158	258	0.690
R3230.055	55	33	85	41	8	M 8x25	35	3050	85	173	268	0.720
R3230.060	60	33	90	41	8	M 8x25	35	3350	85	163	243	0.794
R3230.065	65	33	95	41	9	M 8x25	35	4080	85	173	253	0.842
R3230.070	70	40	110	50	8	M10x30	70	6280	119	178	278	1.534
R3230.075	75	40	115	50	8	M10x30	70	6680	119	168	258	1.634
R3230.080	80	40	120	50	8	M10x30	70	7130	119	168	248	1.722
R3230.085	85	40	125	50	9	M10x30	70	8750	132	178	258	1.834
R3230.090	90	40	130	50	9	M10x30	70	9080	132	168	248	1.900



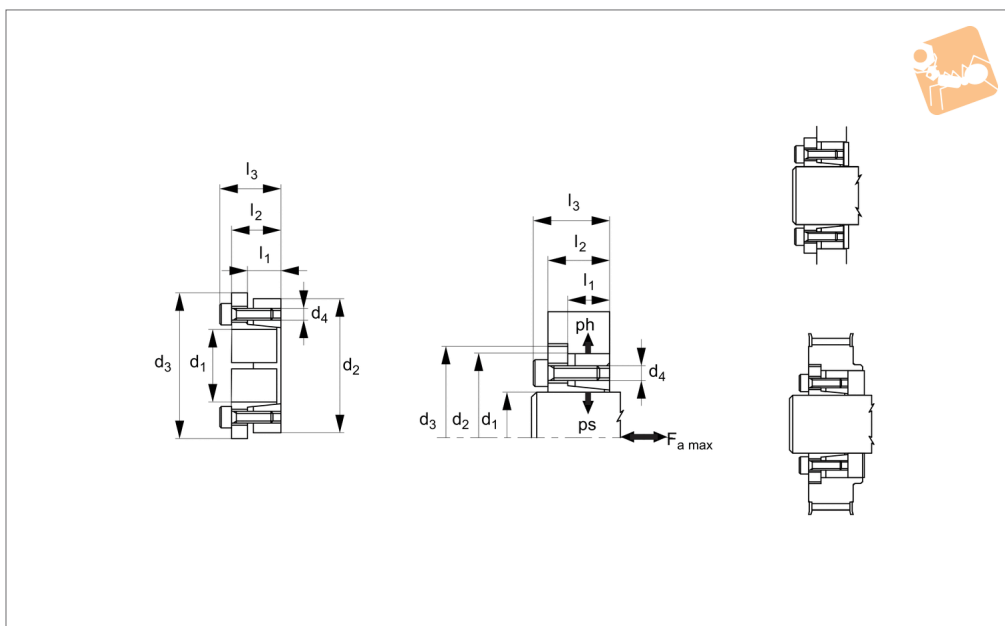
Order No.	d ₁ tol. h8	l ₁	d ₂ tol. H8	l ₂	No. of screws	d ₃	Torque to Nm	M _t torque Nm max.	F _a kN max.	P _n N/mm ² max.	P _s N/mm ² max.	Weight kg
R3230.095	95	40	135	50	10	M10x30	70	10580	132	178	258	1.980
R3230.100	100	44	145	56	8	M12x35	125	13380	170	188	268	2.618
R3230.110	110	44	155	56	8	M12x35	125	14580	170	178	238	2.788
R3230.120	120	44	165	56	9	M12x35	125	17880	200	178	248	3.600
R3230.130	130	52	180	64	12	M14x40	190	25950	270	168	238	4.410
R3230.140	140	54	190	68	9	M14x40	190	26950	270	148	208	4.920
R3230.150	150	54	200	68	10	M14x40	190	32950	320	168	228	5.200
R3230.160	160	54	210	68	11	M14x41	190	37950	470	168	230	5.601
R3230.170	170	64	255	78	12	M14x42	190	44950	528	130	180	7.701
R3230.180	180	64	235	78	12	M14x43	190	46950	528	130	170	8.501
R3230.190	190	64	250	78	15	M14x40	190	50100	520	130	170	9.501
R3230.200	200	64	260	78	15	M14x40	190	52700	530	130	160	9.601



Keyless Locking Devices

self centring, high torque

Rigid Couplings



R3231

RIGID COUPLINGS

Material

Steel.

Technical Notes

Wide tolerance, quick installation, compact size.

Tolerances: Inner diameter H8, outer diameter h8.

Surface Roughness: Rt max. 16µm, Ra 3µm

Tips

Do not use any oil with molybdenum bisulphide, high pressure additives, or grease as these reduce the coefficient of

friction.

Max Torque (Mt) and Axial Thrust (Fa) values are only valid if standard oils are used.

Important Notes

Assembly:

Carefully clean the hub and shaft contact surfaces and apply a film of lightweight oil. Slide the locking assembly into the hub bore, insert the shaft and tighten gradually in cross sequence to indicated torque.

When tightening the mounting screws the hub has slight axial movement with respect to the shaft.

Dismantling:

Gradually loosen the cap screws. Remove and re-insert the correct number of screws into the jacking holes and tighten gradually and regularly in crossed sequence until the back cone is released.

If the element is to be re-used then re-lubricate screws and threads.

Order No.	d ₁ tol. H8	l ₁	d ₂ tol. h8	l ₂	No. of screws	d ₃	d ₄	Torque to Nm	l ₃	M _t torque Nm max.	F _a kN max.	P _h N/mm ² max.	P _s N/mm ² max.	Weight kg
R3231.019	19	31	47	39	4	53	M 6x20	17	45	294	20	96	228	0.422
R3231.020	20	31	47	39	4	53	M 6x20	17	45	313	20	96	226	0.416
R3231.022	22	31	47	39	4	53	M 6x20	17	45	362	23	97	206	0.398
R3231.024	24	31	50	39	6	56	M 6x20	17	45	421	35	100	206	0.442
R3231.025	25	31	50	39	6	56	M 6x20	17	45	470	35	110	221	0.434
R3231.028	28	31	55	39	6	61	M 6x20	17	45	578	35	105	202	0.516
R3231.030	30	31	55	39	6	61	M 6x20	17	45	637	35	118	221	0.492
R3231.032	32	31	60	39	8	66	M 6x20	17	45	784	47	114	197	0.560
R3231.035	35	31	60	39	8	66	M 6x20	17	45	843	47	118	202	0.548
R3231.038	38	31	65	39	8	71	M 6x20	17	45	1010	47	121	197	0.640
R3231.040	40	31	65	39	8	71	M 6x20	17	45	1108	47	143	234	0.608
R3231.042	42	36	75	47	6	81	M 8x30	41	55	1892	47	135	216	1.090
R3231.045	45	36	75	47	6	81	M 8x30	41	55	1912	64	135	216	1.004
R3231.048	48	36	80	47	6	86	M 8x30	41	55	2137	74	142	221	1.116
R3231.050	50	36	80	47	6	86	M 8x30	41	55	2167	86	143	221	1.074
R3231.055	55	36	85	47	8	91	M 8x30	41	55	2677	86	143	221	1.204
R3231.060	60	36	90	47	8	96	M 8x30	41	55	2853	86	131	197	1.292
R3231.065	65	36	95	47	8	101	M 8x30	41	55	3500	86	142	206	1.320
R3231.070	70	46	110	57	8	116	M10x35	83	67	5717	135	142	221	2.440
R3231.075	75	46	115	62	8	121	M10x35	83	72	6207	135	148	216	2.602
R3231.080	80	46	120	62	8	126	M10x35	83	72	6707	135	139	198	2.730
R3231.085	85	46	125	62	10	131	M10x35	83	72	8002	169	157	216	2.844
R3231.090	90	46	130	62	10	136	M10x35	83	72	8502	169	143	197	2.986



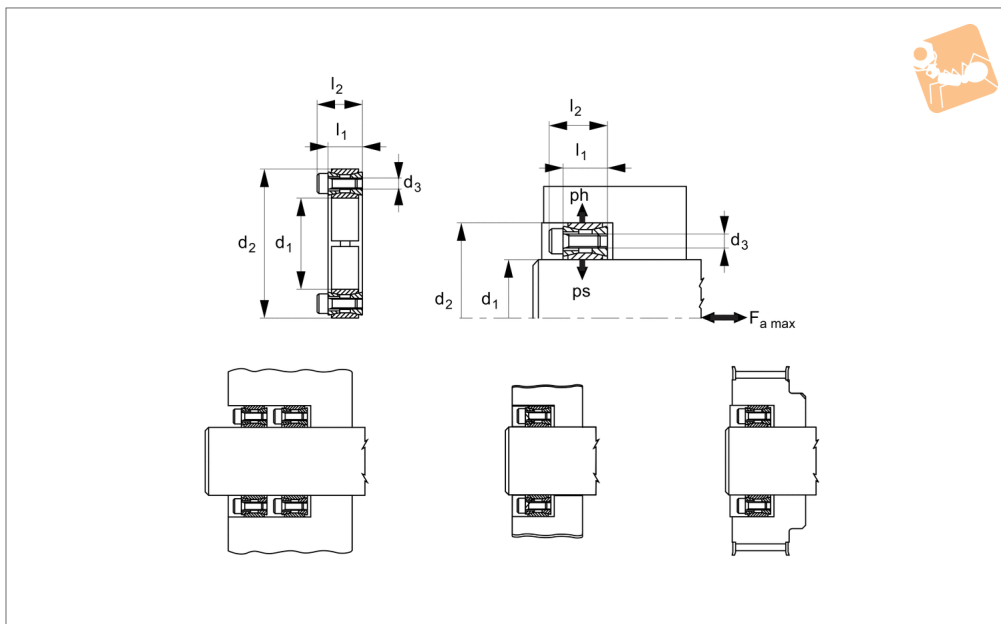
Order No.	d ₁ tol. H8	l ₁	d ₂ tol. h8	l ₂	No. of screws	d ₃	d ₄	Torque to Nm	l ₃	M _t torque Nm max.	F _a kN max.	P _h N/mm ² max.	P _s N/mm ² max.	Weight kg
R3231.095	95	46	135	62	10	141	M10x35	83	72	10002	169	138	187	3.144
R3231.100	100	52	145	77	8	151	M12x45	145	89	13336	198	148	197	4.136
R3231.110	110	52	155	77	8	161	M12x45	145	89	14582	198	178	197	4.552
R3231.120	120	52	165	77	10	171	M12x45	145	89	19083	248	158	216	4.844



Keyless Locking Devices

medium/high torque

Rigid Couplings



R3232

RIGID COUPLINGS

Material
Steel.

Technical Notes
Economical, quick installation, compact size.
Tolerances: Inner diameter k11, h11, outer diameter N11, H11.
Surface Roughness: Rt max. 16µm, Ra 3µm

Tips
Do not use any oil with molybdenum bisulphide, high pressure additives, or grease as these reduce the coefficient of

friction.
Max Torque (Mt) and Axial Thrust (Fa) values are only valid if standard oils are used.

Important Notes
Assembly:
Carefully clean the hub and shaft contact surfaces and apply a film of lightweight oil. Slide the locking assembly into the hub bore, insert the shaft. Tighten the plated clamping screws until the inner ring grips the shaft and the outer

ring grips the hub bore. Then tighten gradually and regularly in cross sequence to indicated torque. When tightening the mounting screws the hub has NO axial movement with respect to the shaft.
Dismantling:
Loosening the cap screws normally releases the unit.
In case of difficulties slightly hammer the released screws to push back the rear pressure cone.

Order No.	d ₁ tol. K11, h11	l ₁	d ₂ tol. N11, H11	l ₂	No. of screws	d ₃	Torque to Nm	M _t torque Nm max.	F _a kN max.	P _h N/mm ² max.	P _s N/mm ² max.	Weight kg
R3232.019	19	20	47	26	8	M 6x18	16	260	27	93	220	0.212
R3232.020	20	20	47	26	8	M 6x18	16	268	27	93	210	0.210
R3232.022	22	20	47	26	8	M 6x18	16	283	27	96	207	0.200
R3232.024	24	20	50	26	9	M 6x18	16	361	30	103	206	0.222
R3232.025	25	20	50	26	9	M 6x18	16	376	30	103	206	0.220
R3232.028	28	20	55	26	10	M 6x18	16	420	34	103	204	0.266
R3232.030	30	20	55	26	10	M 6x18	16	450	34	103	190	0.254
R3232.032	32	20	60	26	12	M 6x18	16	643	40	114	214	0.302
R3232.035	35	20	60	26	12	M 6x18	16	703	40	114	196	0.282
R3232.038	38	20	65	26	14	M 6x18	16	891	47	122	204	0.328
R3232.040	40	20	65	26	14	M 6x18	16	938	47	122	200	0.318
R3232.042	42	24	75	32	12	M 8x22	38	1537	73	125	228	0.560
R3232.045	45	24	75	32	12	M 8x22	38	1647	73	125	208	0.528
R3232.048	48	24	80	32	12	M 8x22	38	1756	73	110	190	0.590
R3232.050	50	24	80	32	12	M 8x22	38	1830	73	115	189	0.560
R3232.055	55	24	85	32	14	M 8x22	38	2348	85	130	200	0.622
R3232.060	60	24	90	32	14	M 8x22	38	2560	85	122	180	0.660
R3232.065	65	24	95	32	16	M 8x22	38	3170	98	130	191	0.798
R3232.070	70	28	110	38	14	M10x25	75	4700	134	132	211	1.238
R3232.075	75	28	115	38	14	M10x25	75	5000	134	128	194	1.294
R3232.080	80	28	120	38	14	M10x25	75	5300	134	124	182	1.364
R3232.085	85	28	125	38	16	M10x25	75	6500	154	133	196	1.428
R3232.090	90	28	130	38	16	M10x25	75	6900	154	128	181	1.482



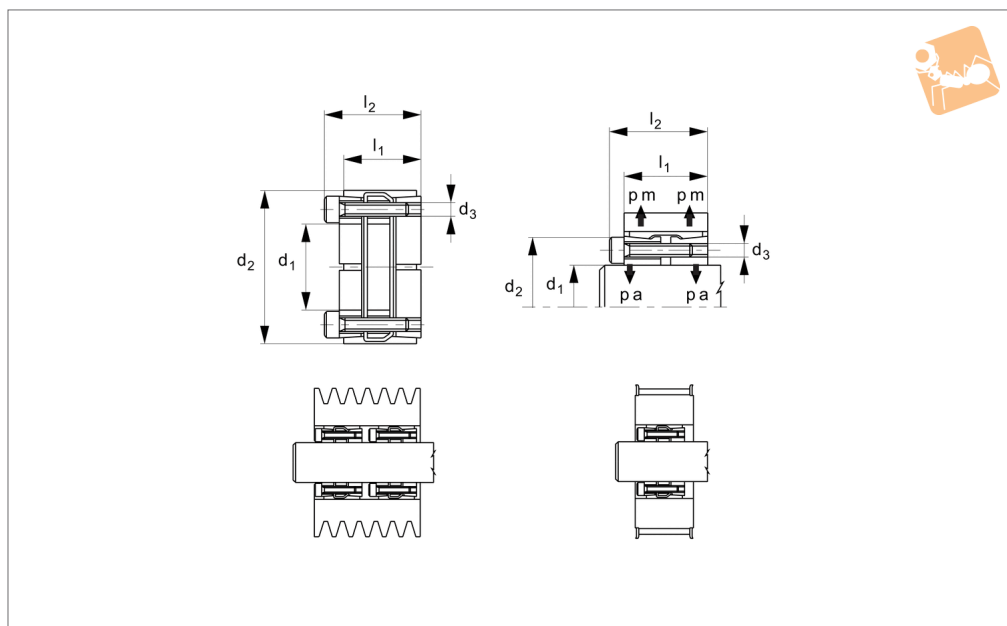
Order No.	d_1 tol. K11, h11	l_1	d_2 tol. N11, H11	l_2	No. of screws	d_3	Torque to Nm	M_t torque Nm max.	F_a kN max.	P_h N/mm ² max.	P_s N/mm ² max.	Weight kg
R3232.095	95	28	135	38	18	M10x25	75	8200	173	139	196	1.568
R3232.100	100	33	145	45	14	M12x30	130	9870	197	139	198	2.154
R3232.110	110	33	155	45	14	M12x30	130	10800	187	128	181	2.306
R3232.120	120	33	165	45	16	M12x30	130	13500	226	139	187	2.486
R3232.130	130	38	180	50	20	M12x35	130	18300	282	119	168	3.586
R3232.140	140	38	190	50	22	M12x35	130	21700	310	128	168	3.810
R3232.150	150	38	200	50	24	M12x35	130	25300	338	128	170	4.084
R3232.160	160	38	210	50	26	M12x35	130	29300	367	132	171	4.360
R3232.170	170	44	225	58	22	M14x40	207	33000	389	123	162	5.700
R3232.180	180	44	235	58	24	M14x40	207	38000	424	128	168	6.000
R3232.190	190	52	250	66	28	M14x45	207	47000	495	114	154	8.000
R3232.200	200	52	260	66	30	M14x45	207	53000	531	118	157	8.200
R3232.220	220	56	285	72	26	M16x50	300	91000	920	150	195	11.000
R3232.240	240	56	305	72	30	M16x50	300	115000	960	160	205	12.300
R3232.260	260	56	325	72	34	M16x50	300	140000	1050	170	210	13.000
R3232.280	280	66	355	84	32	M18x60	400	170000	1200	150	190	19.000
R3232.300	300	66	375	84	36	M18x60	400	210000	1400	160	200	20.200



Keyless Locking Devices

self centring, high torque

Rigid Couplings



R3234

RIGID COUPLINGS

Material
Steel.

Technical Notes

Capable of withstanding bending movements. Compact size.
Shaft & hub surface roughness: Rt max. 16μ, Ra 3μ

Tips

Do not use any oil with molybdenum bisulphide, high pressure additives, or grease as these reduce the coefficient of friction.

Max torque (Mt) and Axial thrust (Fa)

values are only valid if standard oils are used.

Important Notes

Assembly:

Carefully clean the hub and shaft contact surfaces and apply a film of lightweight oil. Slide the locking assembly into the hub bore, insert the shaft and tighten gradually in cross sequence to 50% of torque value indicated in table. Repeat the same operation by tightening all screws to rated torque.

Re-check screws are tightened up to torque value in the table.

Disassembly:

Loosen the cap screws. Insert the screws into the dismantling threading and tighten gradually and regularly in crossed sequence up to 50% of torque value indicated in the rating table.

When the front cone is loose, to release the rear cone keep tightening the screws and repeat the sequence above.

Order No.	d ₁ tol. h8	l ₁	d ₂ tol. H8	l ₂	No. of screws	d ₃	Torque to Nm	M _t torque Nm max.	F _a kN max.	P _a N/mm ² max.	P _m N/mm ² max.	Weight kg
R3234.025	25	40	55	46	6	M 6x35	18	840	67	295	134	0.602
R3234.028	28	40	55	46	6	M 6x35	18	940	67	264	134	0.510
R3234.030	30	40	55	46	6	M 6x35	18	1000	67	246	134	0.420
R3234.035	35	54	60	60	7	M 6x45	18	1300	74	174	101	0.498
R3234.038	38	54	75	62	7	M 8x50	41	2600	74	296	150	1.108
R3234.040	40	54	75	62	7	M 8x50	41	2900	145	281	150	1.048
R3234.042	42	54	75	62	7	M 8x50	41	2930	145	268	150	1.050
R3234.045	45	54	75	62	7	M 8x50	41	3260	145	250	150	0.982
R3234.048	48	54	80	62	8	M 8x55	41	3800	155	207	124	1.330
R3234.050	50	64	80	72	8	M 8x55	41	4150	155	200	98	1.284
R3234.055	55	64	85	72	9	M 8x55	41	5150	186	205	104	1.376
R3234.060	60	64	90	72	10	M 8x55	41	6200	207	202	106	1.524
R3234.065	65	64	95	72	10	M 8x55	41	6750	207	187	100	1.630
R3234.070	70	78	110	88	10	M10x60	83	11500	329	223	114	2.932
R3234.075	75	78	115	88	10	M10x60	83	12060	329	223	114	3.128
R3234.080	80	78	120	88	11	M10x60	83	14500	360	215	115	3.258
R3234.085	85	78	125	88	12	M10x60	83	15100	360	215	115	3.400
R3234.090	90	78	130	88	12	M10x60	83	17600	390	208	115	3.602
R3234.095	95	78	135	88	12	M10x60	83	18300	390	208	115	4.000
R3234.100	100	100	145	112	11	M12x80	145	23300	467	200	107	5.900
R3234.110	110	100	155	112	12	M12x80	145	30400	553	198	110	6.000

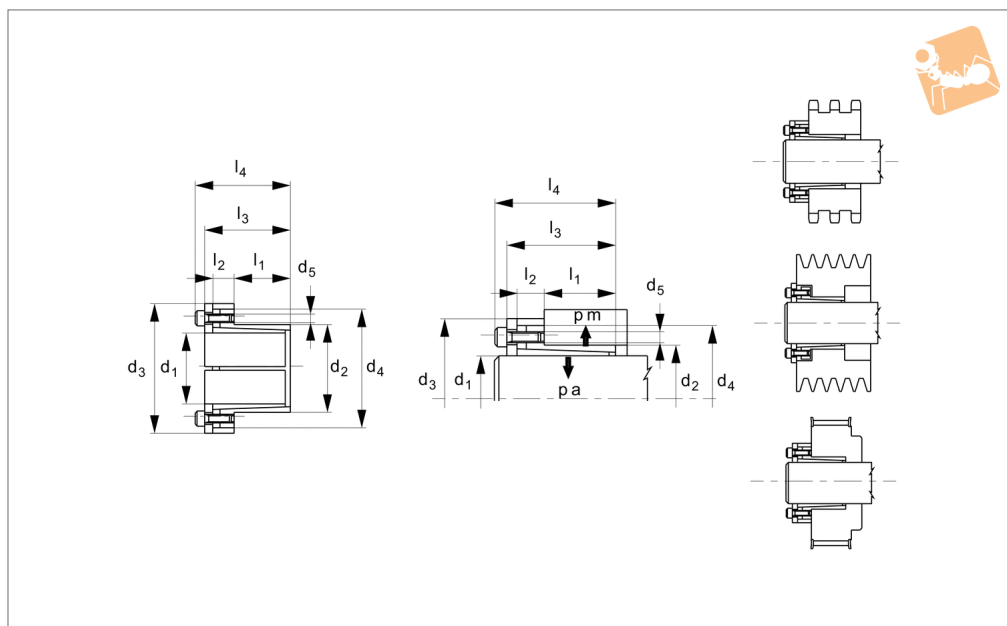


Order No.	d ₁ tol. h8	l ₁	d ₂ tol. H8	l ₂	No. of screws	d ₃	Torque to Nm	M _t torque Nm max.	F _a kN max.	P _a N/mm ² max.	P _m N/mm ² max.	Weight kg
R3234.120	120	100	165	112	14	M12x80	145	37000	617	212	120	6.600
R3234.130	130	116	180	130	12	M14x90	230	49000	759	192	112	10.200
R3234.140	140	116	190	130	14	M14x90	230	59000	843	208	124	10.500
R3234.150	150	116	200	130	15	M14x90	230	67000	897	208	127	11.000
R3234.160	160	116	210	130	16	M14x90	230	76000	950	208	128	12.000
R3234.170	170	148	225	164	16	M16x110	360	102000	1223	182	113	17.000
R3234.180	180	148	235	164	16	M16x111	360	115000	1289	184	115	18.400
R3234.190	190	148	250	164	16	M16x112	360	130000	1363	186	116	21.400
R3234.200	200	148	260	164	16	M16x113	360	143700	1438	177	112	21.800



Keyless Locking Devices self centring

Rigid Couplings



R3236

RIGID COUPLINGS

Material

Steel.

Technical Notes

Capable of withstanding bending movements. Compact size.

Shaft & hub surface roughness: Rt max.

16μ, Ra 3μ

Tips

Do not use any oil with molybdenum bisulphide, high pressure additives, or grease as these reduce the coefficient of

friction.

Max torque (Mt) and Axial thrust (Fa) values are only valid if standard oils are used.

Important Notes

Assembly:

Carefully clean the hub and shaft contact surfaces and apply a film of lightweight oil. Slide the locking assembly into the hub bore, insert the shaft and tighten gradually in cross sequence to 50% of Torque value indicated in table.

Repeat the same operation by tightening all screws to rated torque.

Re-check screws are torqued up to torque value in the table.

Disassembly:

Loosen the cap screws. Insert the screws into the dismantling threading and tighten gradually and regularly in crossed sequence up to 50% of Torque value indicated in the rating table. When the front cone is loose, to release the rear cone keep tightening the screws and repeat the sequence above.

Order No.	d ₁ tol. h8	l ₁	d ₂ tol. H8	l ₂	No. of screws	d ₃	d ₄	Torque to Nm	d ₅	l ₃	l ₄	M _t torque Nm max.	F _a kN max.	P _a N/mm ² max.	P _m N/mm ² max.	Weight kg
R3236.008	8	12	15	9	3	32	28	5	M4x12	24	28	30	7	190	105	0,050
R3236.009	9	14	16	9	3	32	28	5	M4x12	27	31	32	7	150	92	0,059
R3236.010	10	14	16	9	3	32	28	5	M4x12	27	31	40	9	140	90	0,056
R3236.011	11	14	18	9	4	34	30	5	M4x12	27	31	50	9	175	107	0,064
R3236.012	12	14	18	9	4	34	30	5	M4x12	27	31	55	9	161	107	0,070
R3236.014	14	14	23	9	4	39	35	5	M4x12	27	31	64	9	137	84	0,103
R3236.015	15	16	24	13	4	45	40	17	M6x17	36	42	99	13	162	101	0,209
R3236.016	16	16	24	13	4	45	40	17	M6x18	36	42	105	13	152	101	0,218
R3236.017	17	16	26	13	4	45	40	17	M6x15	36	42	190	23	200	140	0,216
R3236.018	18	18	26	13	4	47	42	17	M6x18	38	44	158	18	160	111	0,226
R3236.019	19	18	27	13	4	48	43	17	M6x18	38	44	167	18	151	107	0,248
R3236.020	20	18	28	13	4	49	44	17	M6x18	38	44	176	21	144	103	0,248
R3236.022	22	25	32	13	4	54	48	17	M6x18	45	51	232	21	113	78	0,325
R3236.024	24	25	34	13	4	56	50	17	M6x18	45	51	253	21	103	73	0,344
R3236.025	25	25	34	13	4	56	50	17	M6x18	45	51	263	21	99	73	0,332
R3236.028	28	25	39	13	6	61	55	17	M6x18	45	51	368	31	111	80	0,410
R3236.030	30	25	41	13	6	63	57	17	M6x18	45	51	474	31	124	91	0,414
R3236.032	32	30	43	13	6	65	59	17	M6x18	50	56	505	31	97	72	0,478
R3236.035	35	30	47	13	8	69	63	17	M6x18	50	56	737	42	119	88	0,546
R3236.038	38	30	50	13	8	72	66	17	M6x18	50	56	800	42	109	83	0,580
R3236.040	40	32	53	13	8	75	69	17	M6x18	52	58	947	53	109	82	0,626
R3236.042	42	32	55	23	8	77	71	42	M8x22	52	70	994	78	104	79	0,880
R3236.045	45	40	59	16	8	85	79	42	M8x22	64	72	1750	78	127	97	1,032



Order No.	d ₁ tol. h8	l ₁	d ₂ tol. H8	l ₂	No. of screws	d ₃	d ₄	Torque to Nm	d ₅	l ₃	l ₄	M _t torque Nm max.	F _a kN max.	P _a N/mm ² max.	P _m N/mm ² max.	Weight kg
R3236.048	48	40	62	16	8	88	82	42	M8x22	64	72	1867	78	120	93	1,108
R3236.050	50	50	65	16	10	92	85	42	M8x22	74	82	2431	97	115	98	1,270
R3236.055	55	50	71	16	10	98	91	42	M8x22	74	82	2674	97	104	81	1,480
R3236.060	60	50	77	16	10	104	97	42	M8x22	74	82	2917	97	96	75	1,658
R3236.065	65	50	84	16	10	111	104	42	M8x22	74	82	3160	97	88	69	1,922
R3236.070	70	60	90	20	10	122	115	84	M10x25	91	101	4322	123	87	67	2,692
R3236.075	75	60	95	20	10	126	119	84	M10x25	91	101	6171	197	93	74	2,950
R3236.080	80	65	100	20	12	131	124	84	M10x25	96	106	7899	237	97	77	3,342
R3236.085	85	65	106	20	12	137	130	84	M10x25	96	106	8393	237	91	73	3,622
R3236.090	90	65	112	20	12	143	136	84	M10x25	96	106	10367	276	100	51	3,956
R3236.095	95	65	120	20	14	153	144	84	M10x25	96	106	10943	276	95	75	4,648
R3236.100	100	65	125	24	12	162	153	145	M12x30	102	114	14520	348	114	91	6,000