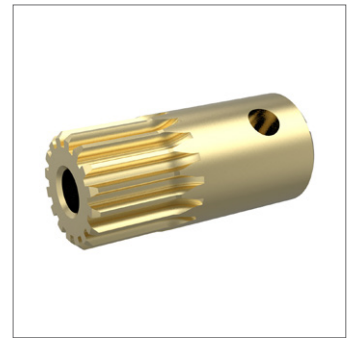
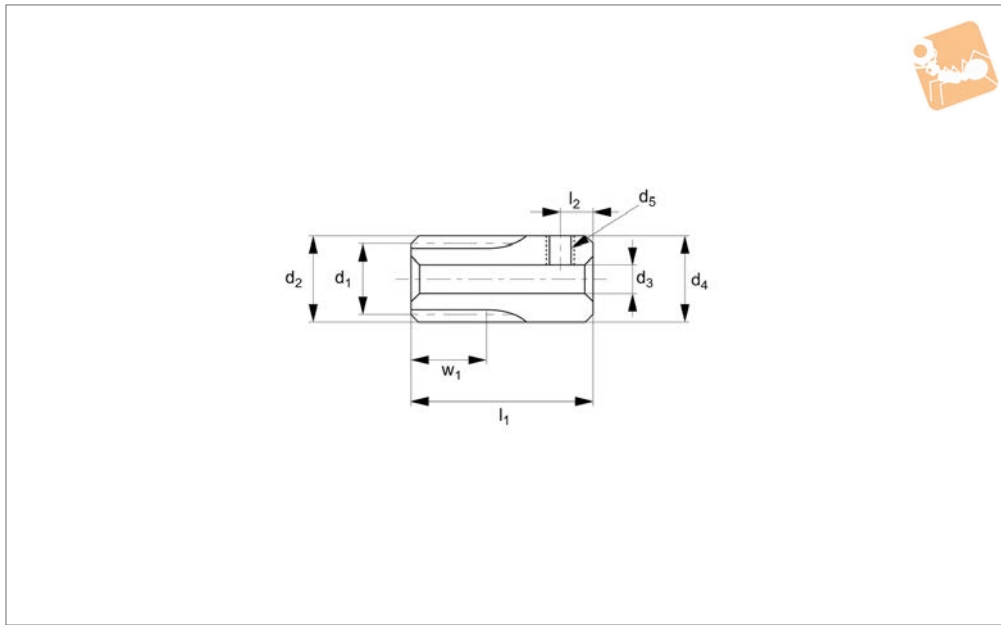




# Spur Gears - Module 0.3

brass - 14-18 teeth



**R5100**

STANDARD SPUR GEARS

**Material**

Brass (C3604B).  
Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

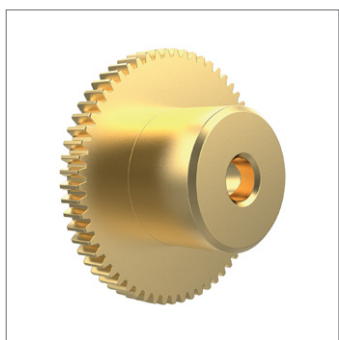
gears = 0,006 - 0,018 mm.

**Tips**

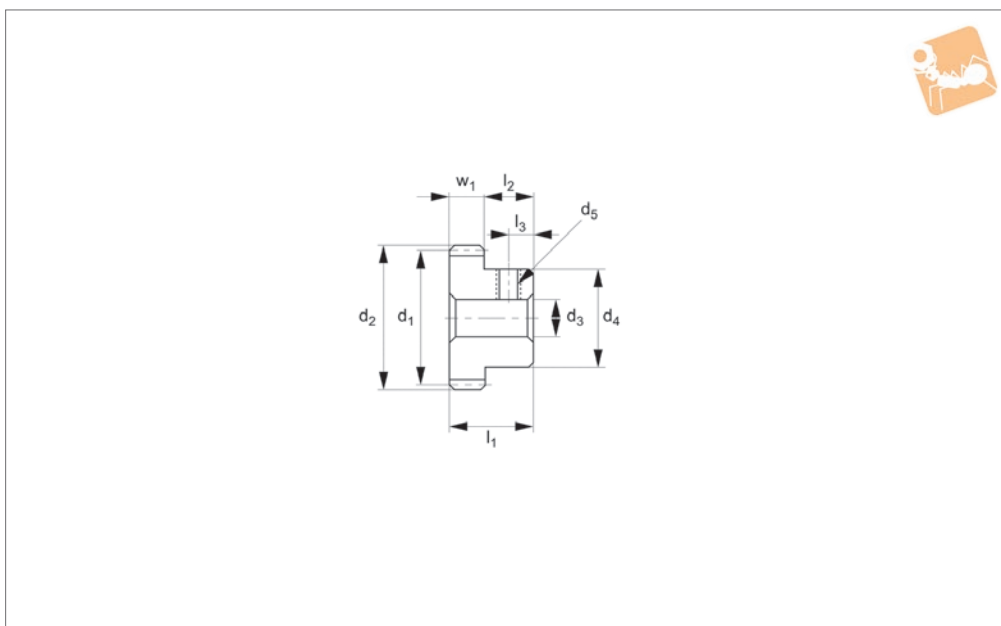
For module 0.3 brass gears with 20-120 teeth see R5101. Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a

safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	Thread d <sub>5</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5100.030-014	m 0.3	14	4.2	4.8	4	2	5.0	12	M 1,6	2.5	0.031	1.5
R5100.030-015	m 0.3	15	4.5	5.1	4	2	5.5	12	M 1,6	2.5	0.034	1.8
R5100.030-016	m 0.3	16	4.8	5.4	4	2	5.5	12	M 1,6	2.5	0.038	1.9
R5100.030-018	m 0.3	18	5.4	6.0	4	2	6.0	12	M 2,0	2.5	0.046	2.3



### R5101



#### Material

Brass (C3604B). Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,006 - 0,018mm.

#### Tips

For module 0.3 brass gears with 14-18 teeth see R5100. Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a

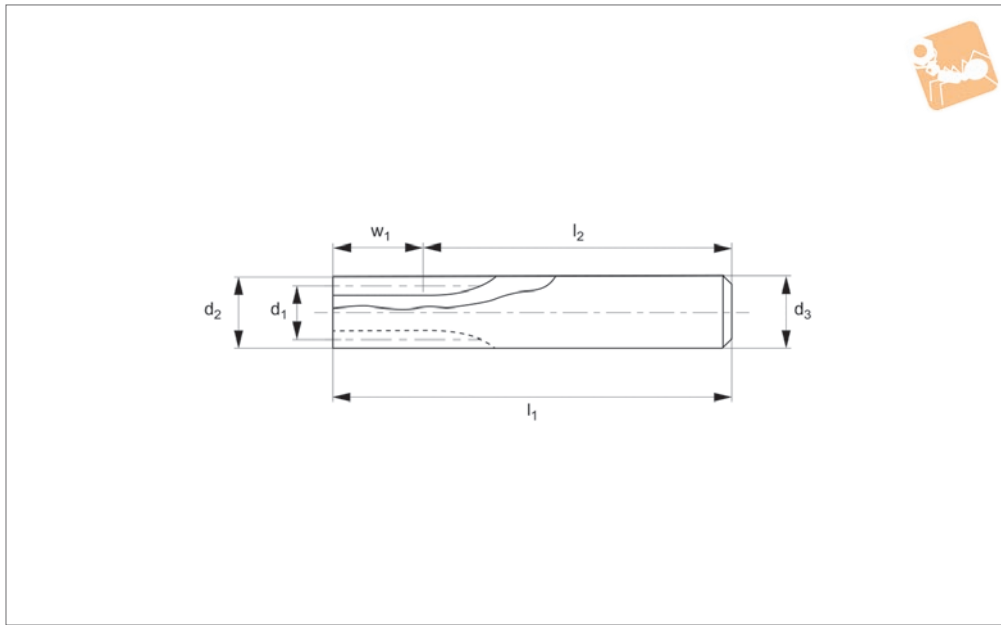
safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	Thread d <sub>5</sub>	l <sub>2</sub>	Torque Nm max.	l <sub>3</sub>	Weight g
R5101.030-020	m 0.3	20	6.0	6.6	3.2	2	5	8	M 1,6	4.8	0.043	2.5	1.3
R5101.030-024	m 0.3	24	7.2	7.8	3.2	2	6	8	M 2	4.8	0.055	2.5	2.0
R5101.030-025	m 0.3	25	7.5	8.1	3.2	2	6	8	M 2	4.8	0.059	2.5	2.1
R5101.030-028	m 0.3	28	8.4	9.0	3.2	2	7	8	M 4	4.8	0.069	2.5	2.8
R5101.030-030	m 0.3	30	9.0	9.6	3.2	2	8	8	M 2	4.8	0.075	2.5	3.5
R5101.030-032	m 0.3	32	9.6	10.2	2.0	2	8	8	M 2	6.0	0.052	2.5	3.5
R5101.030-035	m 0.3	35	10.5	11.1	2.0	2	8	8	M 2	6.0	0.058	3.0	3.8
R5101.030-036	m 0.3	36	10.8	11.4	2.0	3	9	8	M 3	6.0	0.060	3.0	4.2
R5101.030-040	m 0.3	40	12.0	12.6	2.0	3	10	8	M 3	6.0	0.069	3.0	5.3
R5101.030-045	m 0.3	45	13.5	14.1	2.0	3	10	8	M 3	6.0	0.080	3.0	5.8
R5101.030-048	m 0.3	48	14.4	15.0	2.0	3	10	8	M 3	6.0	0.087	3.0	6.1
R5101.030-050	m 0.3	50	15.0	15.6	2.0	3	10	8	M 3	6.0	0.092	3.0	6.4
R5101.030-056	m 0.3	56	16.8	17.4	2.0	3	10	8	M 3	6.0	0.105	3.0	7.1
R5101.030-060	m 0.3	60	18.0	18.6	2.0	3	10	8	M 3	6.0	0.115	3.0	7.7
R5101.030-064	m 0.3	64	19.2	19.8	2.0	3	10	8	M 3	6.0	0.123	3.0	8.3
R5101.030-066	m 0.3	66	19.8	20.4	2.0	3	10	8	M 3	6.0	0.128	3.0	8.6
R5101.030-070	m 0.3	70	21.0	21.6	2.0	3	10	8	M 3	6.0	0.137	3.0	9.3
R5101.030-072	m 0.3	72	21.6	22.2	2.0	3	10	8	M 3	6.0	0.141	3.0	9.6
R5101.030-075	m 0.3	75	22.5	23.1	2.0	3	10	8	M 3	6.0	0.149	3.0	10.1
R5101.030-080	m 0.3	80	24.0	24.6	2.0	3	10	8	M 3	6.0	0.160	3.0	11.1
R5101.030-090	m 0.3	90	27.0	27.6	2.0	3	10	8	M 3	6.0	0.183	3.0	13.1
R5101.030-096	m 0.3	96	28.8	29.4	2.0	3	10	8	M 3	6.0	0.197	3.0	14.4
R5101.030-100	m 0.3	100	30.0	30.6	2.0	3	10	8	M 3	6.0	0.206	3.0	15.4
R5101.030-108	m 0.3	108	32.4	33.0	2.0	3	10	8	M 3	6.0	0.225	3.0	17.4
R5101.030-120	m 0.3	120	36.0	36.6	2.0	3	10	8	M 3	6.0	0.253	3.0	20.7



# Spur Gears - Module 0.5

stainless steel - 10-15 teeth



**R5104**

STANDARD SPUR GEARS

**Material**

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,01 - 0,03mm.

**Tips**

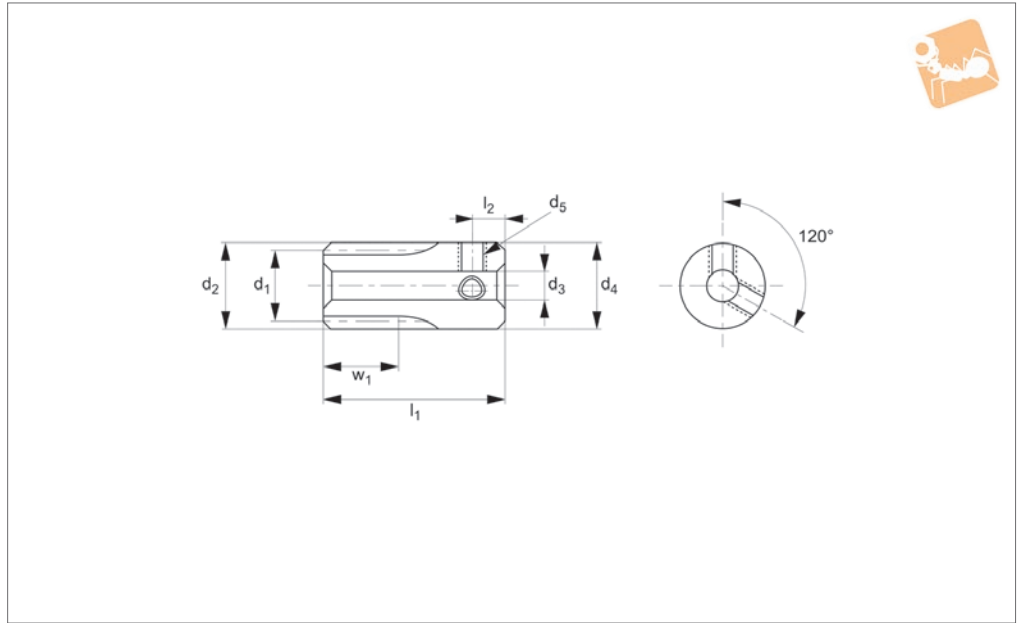
For module 0,5 stainless gears with 16-120 teeth see R5105, R5106 and R5108. Max. allowable torque (Nm) is based on standard operating conditions (see technical

pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5104.050-010	m 0.5	10	5.0	6.0	10	6.0	55	45	0.29	11.7
R5104.050-012	m 0.5	12	6.0	7.0	10	7.0	55	45	0.40	16.0
R5104.050-014	m 0.5	14	7.0	8.0	10	8.0	55	45	0.53	21.0
R5104.050-015	m 0.5	15	7.5	8.5	10	8.5	55	45	0.59	23.8



### R5105



#### Material

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,01 - 0,03mm.

#### Tips

Module 0.5 for gears with 10-15 teeth see R5104. For long spur gears with 16-20 teeth see R5106.  
Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5105.050-016	m 0.5	16	8.0	9.0	8	4	9.0	18	3	2xM 3	0.53	6.2
R5105.050-018	m 0.5	18	9.0	10.0	8	4	10.0	18	3	2xM 3	0.63	8.2
R5105.050-020	m 0.5	20	10.0	11.0	8	4	11.0	18	3	2xM 3	0.74	10.4
R5105.050-024	m 0.5	24	12.0	13.0	8	5	13.0	18	3	2xM 3	0.97	14.5
R5105.050-025	m 0.5	25	12.5	13.5	8	5	13.5	18	3	2xM 3	1.02	15.9
R5105.050-028	m 0.5	28	14.0	15.0	8	5	15.0	18	3	2xM 3	1.20	20.5
R5105.050-030	m 0.5	30	15.0	16.0	8	6	16.0	18	3	2xM 3	1.32	22.7



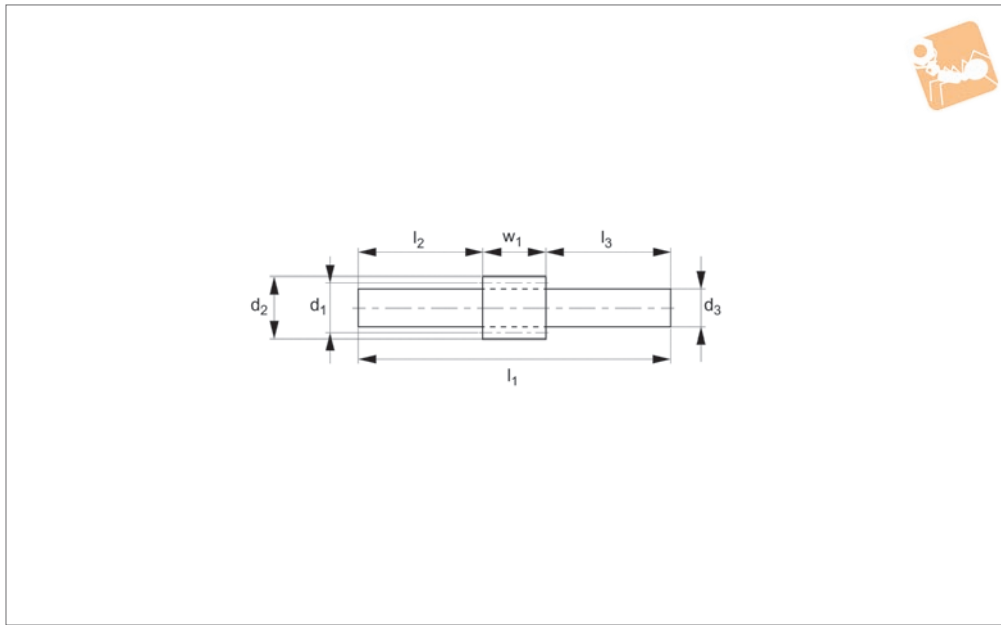


# Spur Gears - Module 0.5

stainless steel - 16-20 teeth



Standard Spur Gears



**R5106**

STANDARD SPUR GEARS

**Material**

Stainless steel (AISI 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

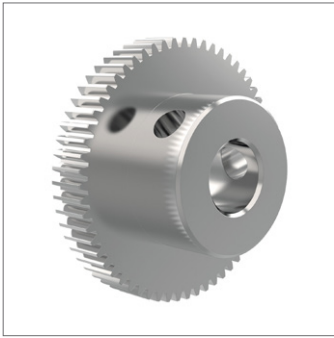
gears = 0,01 - 0,03mm.

**Tips**

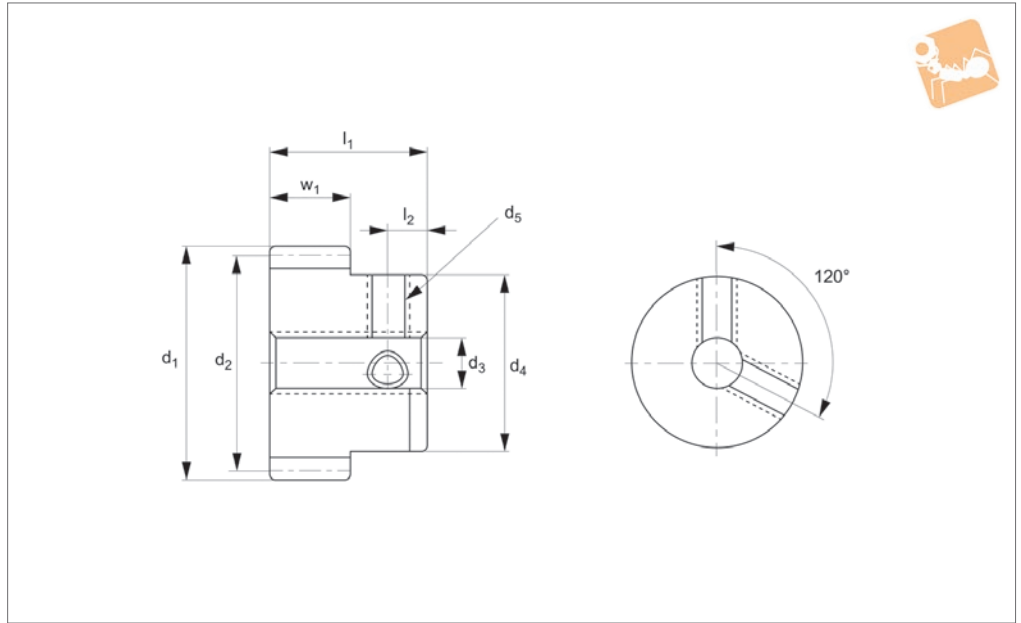
Module 0.5 for gears with 10-15 teeth see R5104, for gears with 16-30 teeth see R5105.  
Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Torque Nm max.	Weight g
R5106.050-016	m 0.5	16	8.0	9.0	8	5.0	80	22	50	0.53	14.4
R5106.050-018	m 0.5	18	9.0	10.0	8	6.0	80	22	50	0.63	20.2
R5106.050-020	m 0.5	20	10.0	11.0	8	6.0	80	22	50	0.74	21.1



### R5108



#### Material

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,01 - 0,03 mm.

#### Tips

Module 0.5 for gears with 10-15 teeth see R5104,  
for gears with 16-30 teeth see R5105,  
for gears with 16-20 teeth see R5106- long spur gear.  
Max. allowable torque (Nm) is based on

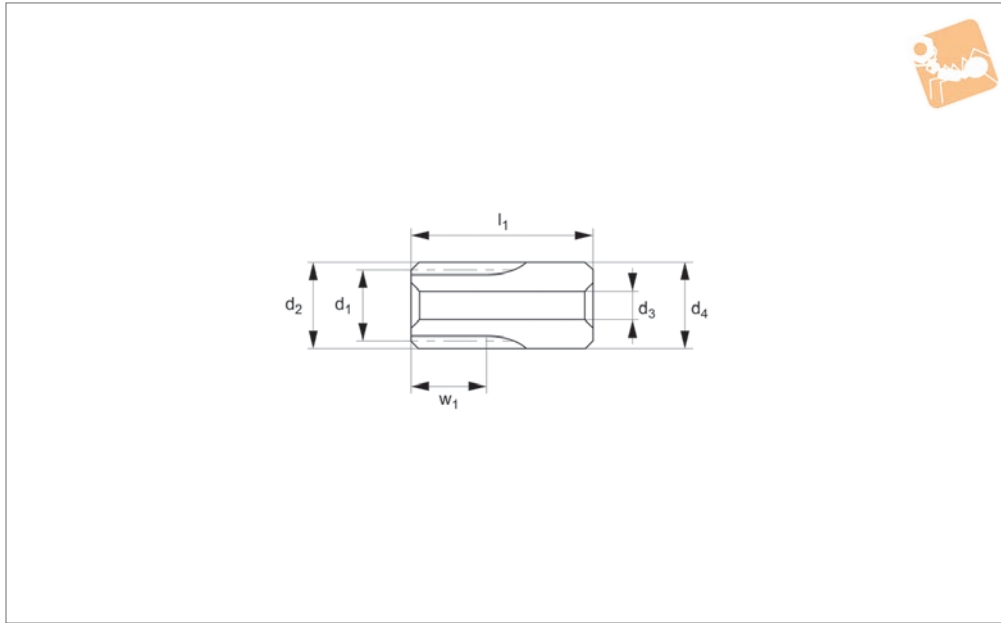
standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5108.050-032	m 0.5	32	16.0	17.0	5	6	12	13	4	2xM 3	0.90	12.0
R5108.050-036	m 0.5	36	18.0	19.0	5	6	12	13	4	2xM 3	1.05	14.1
R5108.050-040	m 0.5	40	20.0	21.0	5	6	15	13	4	2xM 4	1.20	20.0
R5108.050-045	m 0.5	45	22.5	23.5	5	6	15	13	4	2xM 4	1.39	23.3
R5108.050-048	m 0.5	48	24.0	25.0	5	6	15	13	4	2xM 4	1.51	25.5
R5108.050-050	m 0.5	50	25.0	26.0	5	6	15	13	4	2xM 4	1.59	27.0
R5108.050-054	m 0.5	54	27.0	28.0	5	6	15	13	4	2xM 4	1.74	30.3
R5108.050-056	m 0.5	56	28.0	29.0	5	6	15	13	4	2xM 4	1.82	32.0
R5108.050-060	m 0.5	60	30.0	31.0	5	8	18	13	4	2xM 4	1.98	38.2
R5108.050-064	m 0.5	64	32.0	33.0	5	8	18	13	4	2xM 4	2.14	42.0
R5108.050-070	m 0.5	70	35.0	36.0	5	8	18	13	4	2xM 4	2.38	48.3
R5108.050-072	m 0.5	72	36.0	37.0	5	8	18	13	4	2xM 4	2.46	50.5
R5108.050-075	m 0.5	75	37.5	38.5	5	8	18	13	4	2xM 4	2.58	53.9
R5108.050-080	m 0.5	80	40.0	41.0	5	10	22	13	4	2xM 5	2.78	64.3
R5108.050-090	m 0.5	90	45.0	46.0	5	10	22	13	4	2xM 5	3.18	77.5
R5108.050-100	m 0.5	100	50.0	51.0	5	10	25	13	4	2xM 5	3.58	98.9
R5108.050-120	m 0.5	120	60.0	61.0	5	10	25	13	4	2xM 5	4.39	133.2



# Spur Gears - Module 0.5 - Plastic

white polyacetal - 14-18 teeth



**R5109**

STANDARD SPUR GEARS

**Material**

White polyacetal, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9-10.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

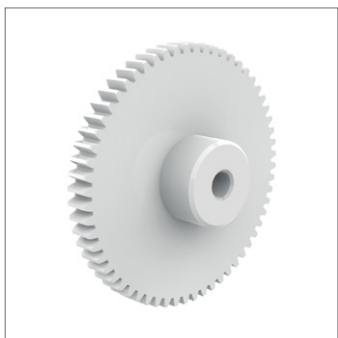
gears = 0,01 - 0,03mm.

**Tips**

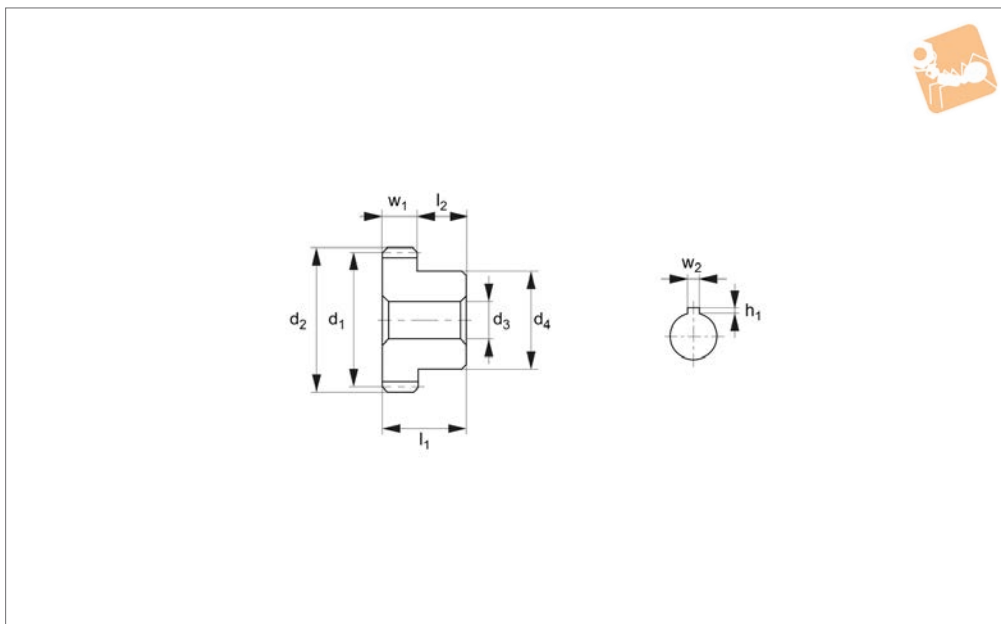
Module 0.5 for gears with 20-120 teeth see R5111.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	Torque Nm max.	Weight g
R5109.050-014	m 0.5	14	7.0	8.0	8	3	9	18	0.214	1.2
R5109.050-015	m 0.5	15	7.5	8.5	8	3	9	18	0.229	1.2
R5109.050-016	m 0.5	16	8.0	9.0	8	3	9	18	0.244	1.3
R5109.050-018	m 0.5	18	9.0	10.0	8	3	10	18	0.275	1.7



### R5111



#### Material

White polyacetal, machined. Accuracy to JIS B 1702-1 (ISO) class 9-10.

#### Technical Notes

20° pressure angle, full depth tooth.

Amount of backlash when assembling gears= 0,01- 0,03 mm.

#### Tips

Module 0.5 for gears with 14-18 teeth see R5109. Max. allowable torque (Nm) is

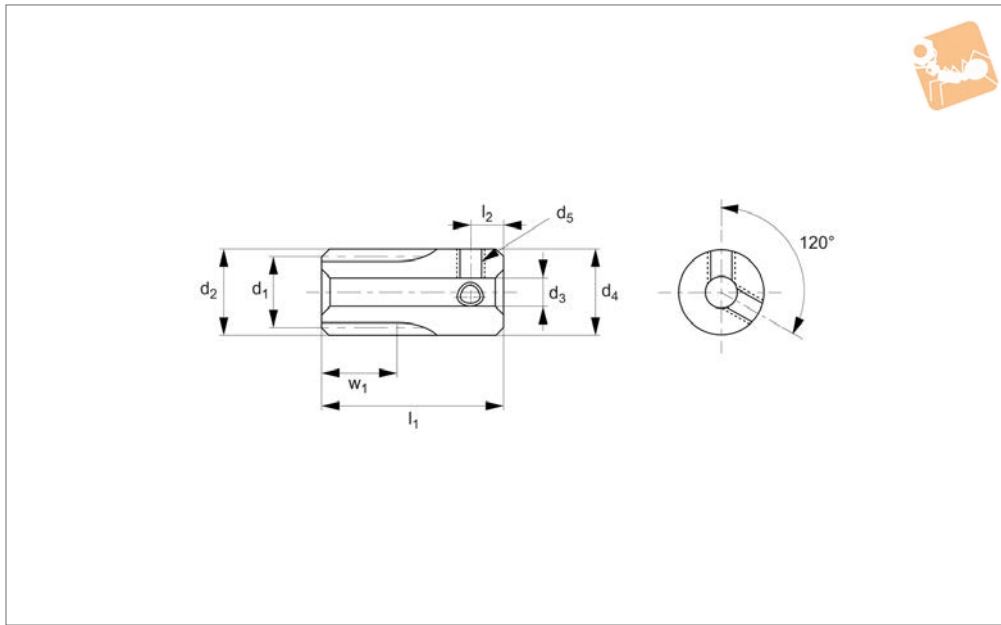
based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5111.050-020	m 0.5	20	10.0	11.0	3	3	8	8	5	0.11	0.6
R5111.050-024	m 0.5	24	12.0	13.0	3	3	8	8	5	0.17	0.8
R5111.050-025	m 0.5	25	12.5	13.5	3	3	8	8	5	0.17	0.8
R5111.050-028	m 0.5	28	14.0	15.0	3	3	8	8	5	0.19	0.9
R5111.050-030	m 0.5	30	15.0	16.0	3	3	8	8	5	0.21	1.0
R5111.050-032	m 0.5	32	16.0	17.0	3	3	8	8	5	0.22	1.1
R5111.050-036	m 0.5	36	18.0	19.0	3	3	8	8	5	0.25	1.4
R5111.050-040	m 0.5	40	20.0	21.0	3	3	10	8	5	0.28	1.8
R5111.050-045	m 0.5	45	22.5	23.5	3	3	10	8	5	0.31	2.2
R5111.050-050	m 0.5	50	25.0	26.0	3	3	10	8	5	0.35	2.6
R5111.050-056	m 0.5	56	28.0	29.0	3	3	10	8	5	0.39	3.1
R5111.050-060	m 0.5	60	30.0	31.0	3	3	10	8	5	0.42	3.4
R5111.050-064	m 0.5	64	32.0	33.0	3	3	10	8	5	0.44	3.9
R5111.050-070	m 0.5	70	35.0	36.0	3	4	12	8	5	0.49	4.7
R5111.050-072	m 0.5	72	36.0	37.0	3	4	12	8	5	0.50	5.0
R5111.050-080	m 0.5	80	40.0	41.0	3	4	12	8	5	0.55	6.0
R5111.050-090	m 0.5	90	45.0	46.0	3	5	14	8	5	0.62	7.6
R5111.050-100	m 0.5	100	50.0	51.0	3	5	14	8	5	0.69	9.2
R5111.050-120	m 0.5	120	60.0	61.0	3	5	14	8	5	0.83	12.9



# Spur Gears - Module 0.5 - Plastic

white - set screw - 14-18 teeth



**R5112**

STANDARD SPUR GEARS

**Material**

White polyacetal, machined. Accuracy to JIS B 1702-1 (ISO) class 9-10. Steel set screw.

**Technical Notes**

20° pressure angle, full depth tooth.

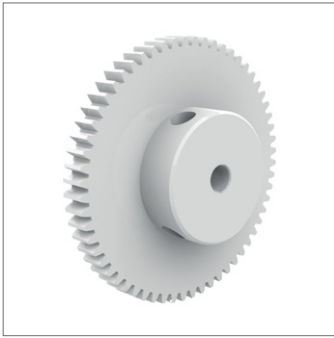
Amount of backlash when assembling gears = 0,01 - 0,03mm.

**Tips**

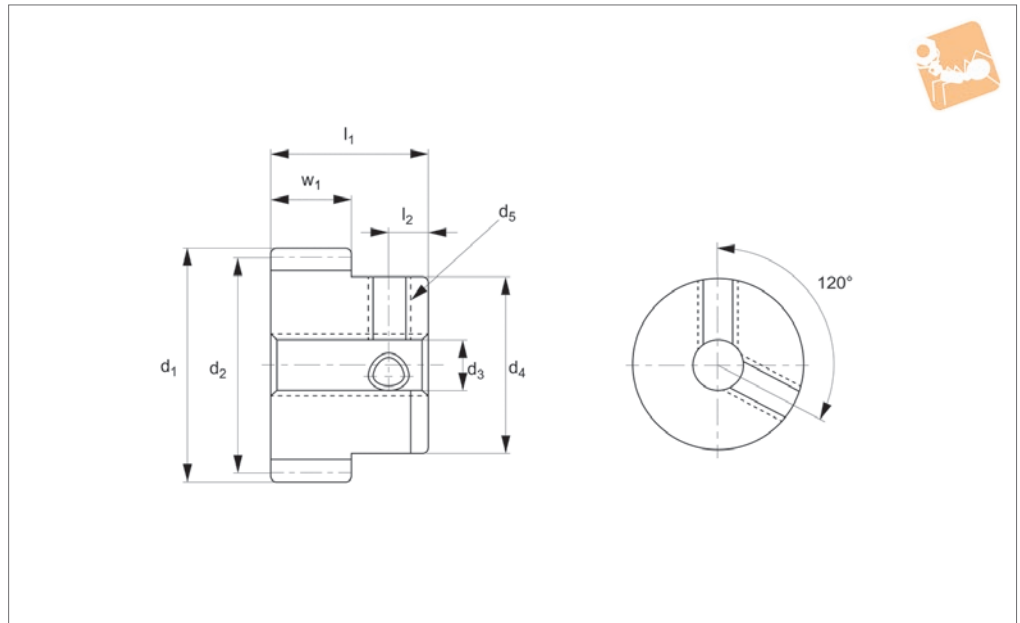
Module 0.5 for gears with 20-120 teeth see R5113. Max. allowable torque (Nm) is based on standard operating conditions

(see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5112.050-014	m 0.5	14	7.0	8.0	8	3	9	18	3	2xM 3	0.214	1.15
R5112.050-015	m 0.5	15	7.5	8.5	8	3	9	18	3	2xM 3	0.229	1.22
R5112.050-016	m 0.5	16	8.0	9.0	8	3	9	18	3	2xM 3	0.244	1.29
R5112.050-018	m 0.5	18	9.0	10.0	8	3	10	18	3	2xM 3	0.275	1.65



### R5113



#### Material

White polyacetal, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9-10.  
Steel set screw.

#### Technical Notes

20° pressure angle, full depth tooth.

Amount of backlash when assembling gears = 0,01 - 0,03mm.

#### Tips

Module 0.5 for gears with 20-120 teeth see R5112.  
Max. allowable torque (Nm) is based on

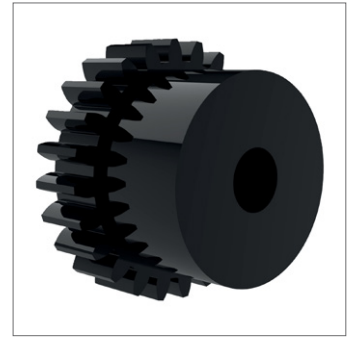
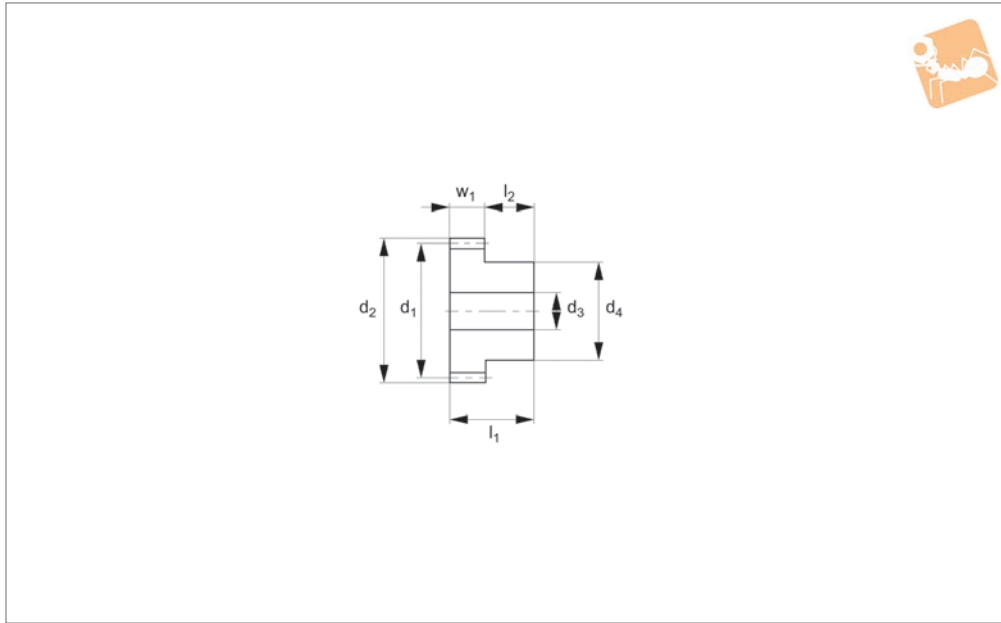
standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H9	$d_4$	$l_1$	$l_2$	Thread $d_5$	Torque Nm max.	Weight g
R5113.050-020	m 0.5	20	10.0	11.0	3	3	8	8	3	2xM 3	0.11	0.57
R5113.050-024	m 0.5	24	12.0	13.0	3	3	10	8	3	2xM 3	0.17	0.90
R5113.050-028	m 0.5	25	12.5	13.5	3	3	10	8	3	2xM 3	0.17	0.94
R5113.050-030	m 0.5	28	14.0	15.0	3	3	12	8	3	2xM 3	0.19	1.30
R5113.050-032	m 0.5	30	15.0	16.0	3	3	12	8	3	2xM 3	0.21	1.39
R5113.050-034	m 0.5	32	16.0	17.0	3	3	14	8	3	2xM 3	0.22	1.77
R5113.050-036	m 0.5	36	18.0	19.0	3	3	15	8	3	2xM 3	0.25	2.15
R5113.050-040	m 0.5	40	20.0	21.0	3	3	15	8	3	2xM 3	0.28	2.40
R5113.050-045	m 0.5	45	22.5	23.5	3	3	15	8	3	2xM 3	0.31	2.75
R5113.050-050	m 0.5	50	25.0	26.0	3	3	15	8	3	2xM 3	0.35	3.15
R5113.050-056	m 0.5	56	28.0	29.0	3	3	15	8	3	2xM 3	0.39	3.67
R5113.050-060	m 0.5	60	30.0	31.0	3	3	15	8	3	2xM 3	0.42	4.06
R5113.050-064	m 0.5	64	32.0	33.0	3	3	15	8	3	2xM 3	0.44	4.47
R5113.050-070	m 0.5	70	35.0	36.0	3	4	16	8	3	2xM 3	0.49	5.25
R5113.050-072	m 0.5	72	36.0	37.0	3	4	16	8	3	2xM 3	0.50	5.48
R5113.050-080	m 0.5	80	40.0	41.0	3	4	16	8	3	2xM 3	0.55	6.49
R5113.050-090	m 0.5	90	45.0	46.0	3	5	18	8	3	2xM 3	0.62	8.20
R5113.050-100	m 0.5	100	50.0	51.0	3	5	18	8	3	2xM 3	0.69	9.77
R5113.050-120	m 0.5	120	60.0	61.0	3	5	18	8	3	2xM 3	0.83	13.43



# Spur Gears - Module 0.5 - Plastic

black - 20-30 teeth



**R5115**

STANDARD SPUR GEARS

**Material**

Black polyacetal, injection molded.  
Accuracy to JIS B 1702-1 (ISO) class 11.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

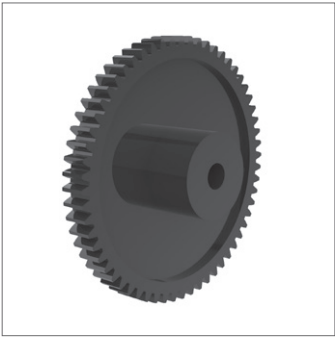
gears= 0,01- 0,03 mm.

**Tips**

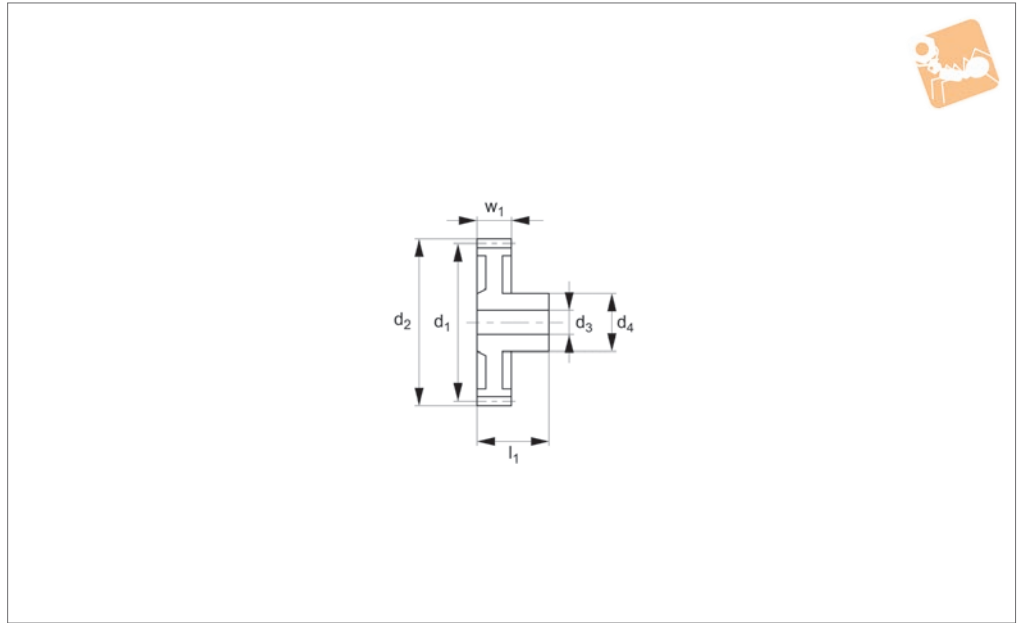
Module 0.5 for gears with 40-100 teeth see R5116. Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor

of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.e, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5115.050-020	m 0.5	20	10	11	4	3	8	8	4	0.176	0.9
R5115.050-024	m 0.5	24	12	13	3	3	10	8	5	0.158	1.0
R5115.050-030	m 0.5	30	15	16	3	3	10	8	5	0.198	1.2



### R5116



**Material**

Black polyacetal, injection molded.  
Accuracy to JIS B 1702-1 (ISO) class 11.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,01 - 0,03mm.

**Tips**

Module 0.5 for gears with 20-30 teeth see R5115.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

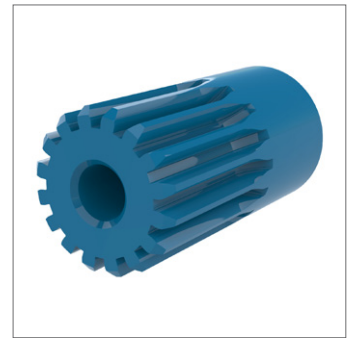
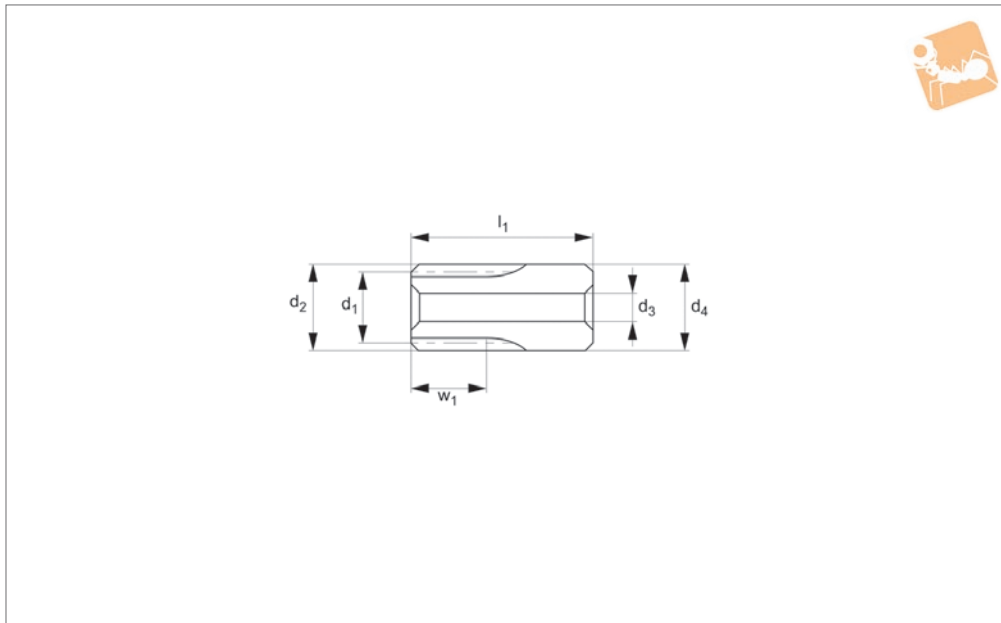
Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5116.050-040	m 0.5	40	20	21	3	3	10	8	8	0.26	1.5
R5116.050-050	m 0.5	50	25	26	3	3	10	8	8	0.33	2.0
R5116.050-060	m 0.5	60	30	31	3	3	10	8	8	0.39	2.7
R5116.050-080	m 0.5	80	40	41	3	3	10	8	8	0.53	4.4
R5116.050-100	m 0.5	100	50	51	3	3	10	8	8	0.66	6.6





# Spur Gears - Module 0.5 - Plastic

blue polyacetal - 14-18 teeth



**R5117**

STANDARD SPUR GEARS

**Material**

Blue polyacetal, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9-10.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears= 0,01- 0,03 mm.  
Blue polyacetal machined gears are

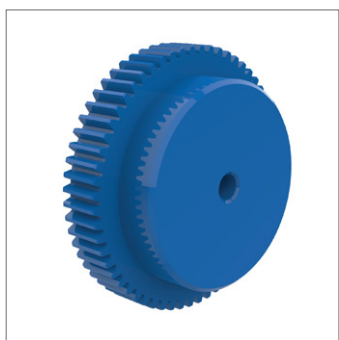
suitable for use in food machinery applications. Approved by the FDA (USA) and by regulators in the EU and Japan, where the food has an alcohol percentage of <15%. Please clean gears thoroughly before use.

**Tips**

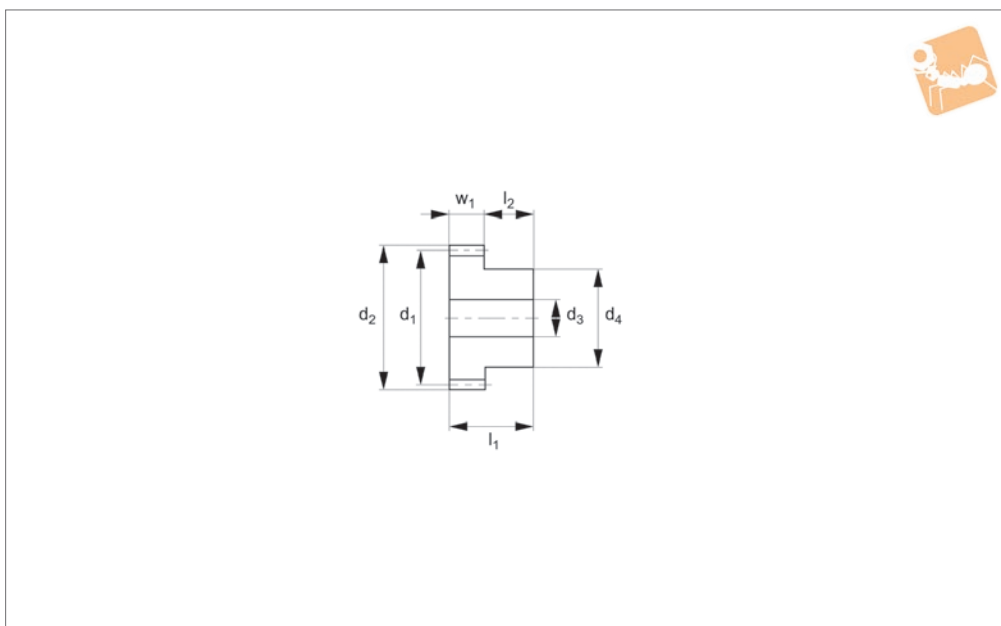
Module 0.5 for gears with 20-40 teeth see R5120.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	Torque Nm max.	Weight g
R5117.050-014	m 0.5	14	7.0	8.0	8	3	9	18	0.21	1.1
R5117.050-015	m 0.5	15	7.5	8.5	8	3	9	18	0.23	1.2
R5117.050-016	m 0.5	16	8.0	9.0	8	3	9	18	0.24	1.3
R5117.050-018	m 0.5	18	9.0	10.0	8	3	10	18	0.28	1.6



### R5120



#### Material

Blue polyacetal, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9 - 10.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears= 0,01 - 0,03mm.  
Blue polyacetal machined gears are

suitable for use in food machinery applications. Approved by the FDA (USA) and by regulators in the EU and Japan, where the food has an alcohol percentage of <15%. Please clean gears thoroughly before use.

#### Tips

Module 0.5 for gears with 14-18 teeth see R5117.

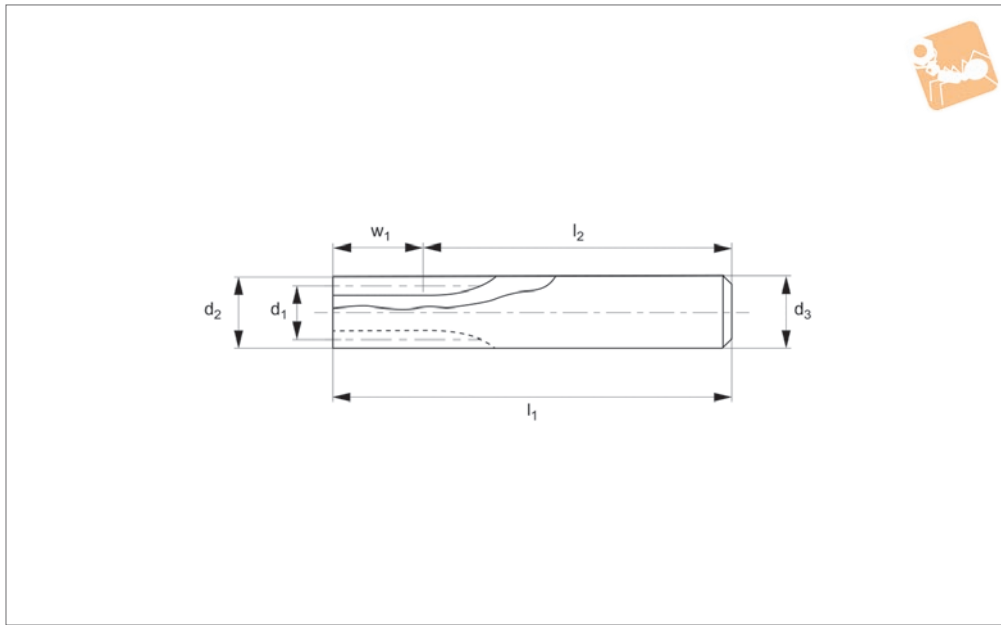
Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5120.050-020	m 0.5	20	10.0	11.0	5	3	8	10	5	0.17	0.8
R5120.050-024	m 0.5	24	12.0	13.0	5	3	10	10	5	0.21	1.2
R5120.050-025	m 0.5	25	12.5	13.5	5	3	10	10	5	0.22	1.3
R5120.050-028	m 0.5	28	14.0	15.0	5	3	12	10	5	0.26	1.8
R5120.050-030	m 0.5	30	15.0	16.0	5	3	12	10	5	0.29	1.9
R5120.050-032	m 0.5	32	16.0	17.0	5	3	14	10	5	0.31	2.4
R5120.050-036	m 0.5	36	18.0	19.0	5	3	15	10	5	0.36	2.9
R5120.050-040	m 0.5	40	20.0	21.0	5	3	15	10	5	0.42	3.3
R5120.050-045	m 0.5	45	22.5	23.5	5	3	18	10	5	0.48	4.5
R5120.050-050	m 0.5	50	25.0	26.0	5	3	20	10	5	0.54	5.6
R5120.050-056	m 0.5	56	28.0	29.0	5	3	22	10	5	0.61	6.9
R5120.050-060	m 0.5	60	30.0	31.0	5	3	24	10	5	0.67	8.1
R5120.050-064	m 0.5	64	32.0	33.0	5	3	26	10	5	0.72	9.3
R5120.050-070	m 0.5	70	35.0	36.0	5	4	26	10	5	0.79	10.3
R5120.050-072	m 0.5	72	36.0	37.0	5	4	28	10	5	0.82	11.3
R5120.050-080	m 0.5	80	40.0	41.0	5	4	32	10	5	0.92	14.3
R5120.050-090	m 0.5	90	45.0	46.0	5	5	36	10	5	1.04	18.1
R5120.050-100	m 0.5	100	50.0	51.0	5	5	40	10	5	1.18	22.4
R5120.050-120	m 0.5	120	60.0	61.0	5	5	50	10	5	1.43	33.5



# Spur Gears - Module 0.5

carbon steel - 10-14 teeth



**R5121**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8- 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears= 0,01- 0,03 mm.

**Tips**

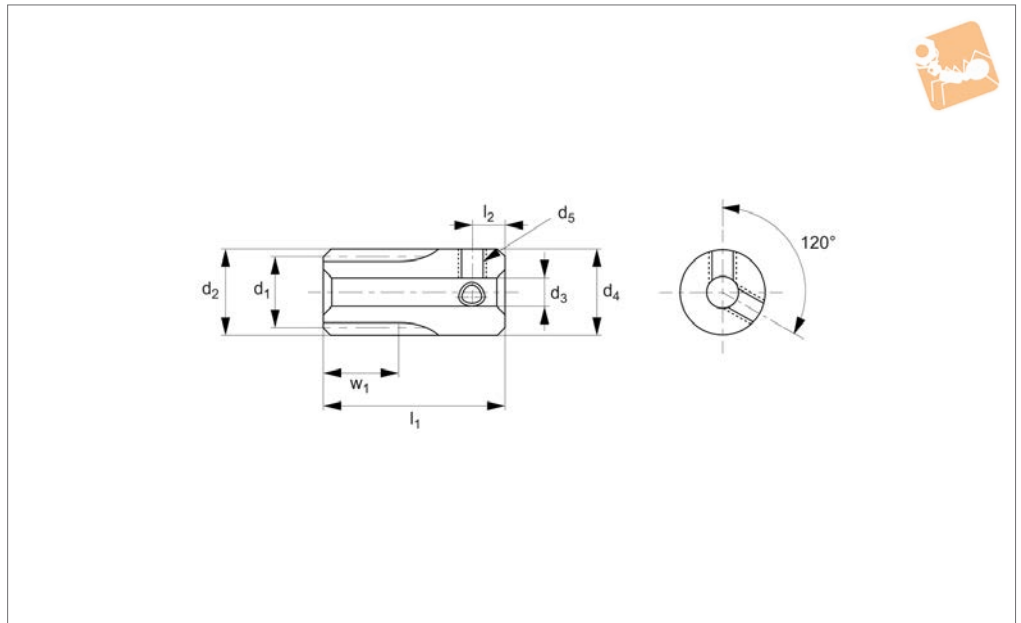
Module 0.5 for gears with 15-24 teeth see R5123, for gears with 25-120 teeth see R5125.  
Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5121.050-010	m 0.5	10	5	6	10	6	55	45	0.59	11.5
R5121.050-012	m 0.5	12	6	7	10	7	55	45	0.81	15.8
R5121.050-014	m 0.5	14	7	8	10	8	55	45	1.06	20.8



### R5123



#### Material

Carbon steel (ISO C45). Accuracy to JIS B 1702-1 (ISO) class 8-9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,01 - 0,03mm.

#### Tips

For module 0.5 steel gears with 10-14 teeth, see R5121; for 25-120 teeth see R5125.

Max. allowable torque (Nm) is based on

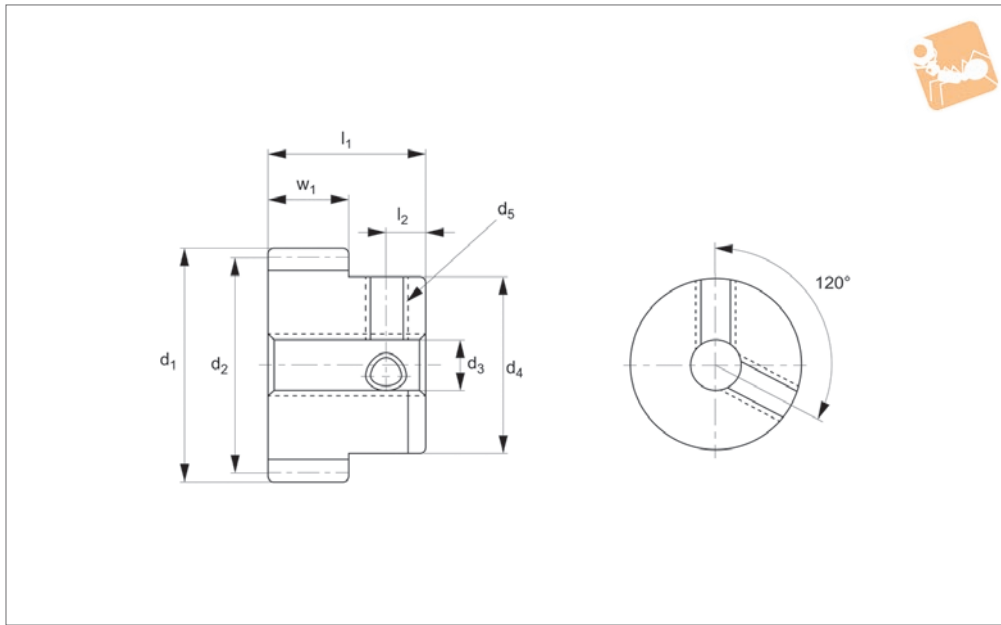
standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H8	$d_4$	$l_1$	$l_2$	Thread $d_5$	Torque Nm max.	Weight g
R5123.050-015	m 0.5	15	7.5	8.5	8	3	8.5	18	3	2xM 3	0.95	6.0
R5123.050-016	m 0.5	16	8.0	9.0	8	3	9.0	18	3	2xM 3	1.05	6.9
R5123.050-018	m 0.5	18	9.0	10.0	8	4	10.0	18	3	2xM 3	1.26	8.1
R5123.050-020	m 0.5	20	10.0	11.0	8	4	11.0	18	3	2xM 3	1.48	10.3
R5123.050-021	m 0.5	21	10.5	11.5	8	4	11.5	18	3	2xM 3	1.59	11.5
R5123.050-022	m 0.5	22	11.0	12.0	8	4	12.0	18	3	2xM 3	1.71	12.7
R5123.050-024	m 0.5	24	12.0	13.0	8	4	13.0	18	3	2xM 3	1.93	15.4



# Spur Gears - Module 0.5 - Steel

carbon steel - 25-120 teeth



**R5125**

STANDARD SPUR GEARS

### Material

Carbon steel (ISO C45) Accuracy to JIS B 1702-1 (ISO) Class 8-9. Gear tooth surface induction hardened to HRC 47-53.

Amount of backlash when assembling gears = 0,01 - 0,03mm.

### Tips

For module 0.5 steel gears with fewer teeth, see R5121 & R5123.

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

### Technical Notes

20° pressure angle, full depth tooth.

Max. allowable torque (Nm) is based on

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>4</sub>	Torque Nm max.	Weight g
R5125.050-025-04	m 0.5	25	12.5	13.5	8	4	10	16	4	2xM 3	2.05	10.8
R5125.050-026-04	m 0.5	26	13.0	14.0	8	4	10	16	4	2xM 3	2.17	11.4
R5125.050-027-04	m 0.5	27	13.5	14.5	8	4	10	16	4	2xM 3	2.27	12.1
R5125.050-028-04	m 0.5	28	14.0	15.0	8	4	10	16	4	2xM 3	2.40	12.8
R5125.050-030-04	m 0.5	30	15.0	16.0	8	5	12	16	4	2XM 3	1.65	12.7
R5125.050-030-H4	m 0.5	30	15.0	16.0	5	4 tol. H*	12	13	-	-	1.75	12.7
R5125.050-030-05	m 0.5	30	15.0	16.0	8	5	12	16	4	2xM 3	2.63	15.4
R5125.050-032-05	m 0.5	32	16.0	17.0	5	5	12	13	4	2xM 3	1.80	12.7
R5125.050-035-05	m 0.5	35	17.5	18.5	5	5	12	13	4	2xM 3	2.02	14.2
R5125.050-036-05	m 0.5	36	18.0	19.0	5	5	12	13	4	2xM 3	2.10	14.8
R5125.050-040-04	m 0.5	40	20.0	21.0	5	4 tol.H8	15	13	-	-	2.40	22.1
R5125.050-040-H4	m 0.5	40	20.0	21.0	5	4 tol. H*	15	13	-	-	2.54	22.1
R5125.050-040-05	m 0.5	40	20.0	21.0	5	5	15	13	4	2xM 3	2.40	21.0
R5125.050-040-H5	m 0.5	42	21.0	22.0	5	5	15	13	4	2xM 3	2.56	22.3
R5125.050-044-05	m 0.5	44	22.0	23.0	5	5	15	13	4	2xM 3	2.71	23.6
R5125.050-045-05	m 0.5	45	22.5	23.5	5	5	15	13	4	2xM 3	2.79	24.3
R5125.050-048-05	m 0.5	48	24.0	25.0	5	5	15	13	4	2xM 3	3.02	26.4
R5125.050-050-04	m 0.5	50	25.0	26.0	5	4 tol.H8	18	13	-	-	3.16	33.9
R5125.050-050-H4	m 0.5	50	25.0	26.0	5	4 tol. H*	18	13	-	-	3.35	33.9
R5125.050-050-05	m 0.5	50	25.0	26.0	5	5	15	13	4	2xM 3	3.18	27.9
R5125.050-052-05	m 0.5	52	26.0	27.0	5	5	15	13	4	2xM 3	3.33	29.5
R5125.050-054-05	m 0.5	54	27.0	28.0	5	5	15	13	4	2xM 3	3.49	31.1
R5125.050-055-05	m 0.5	55	27.5	28.5	5	5	15	13	4	2xM 3	3.57	32.0
R5125.050-056-05	m 0.5	56	28.0	29.0	5	5	15	13	4	2xM 3	3.65	32.8
R5125.050-060-05	m 0.5	60	30.0	31.0	5	5	22	13	-	-	3.94	49.5
R5125.050-060-H5	m 0.5	60	30.0	31.0	5	5 tol. H*	22	13	-	-	4.18	49.5
R5125.050-060-06	m 0.5	60	30.0	31.0	5	6	18	13	4	2xM 4	3.96	39.9
R5125.050-064-06	m 0.5	64	32.0	33.0	5	6	18	13	4	2xM 4	4.28	43.7
R5125.050-070-05	m 0.5	70	35.0	36.0	5	5	25	13	-	-	4.73	66.5
R5125.050-070-H5	m 0.5	70	35.0	36.0	5	5 tol. H*	25	13	-	-	5.01	66.5

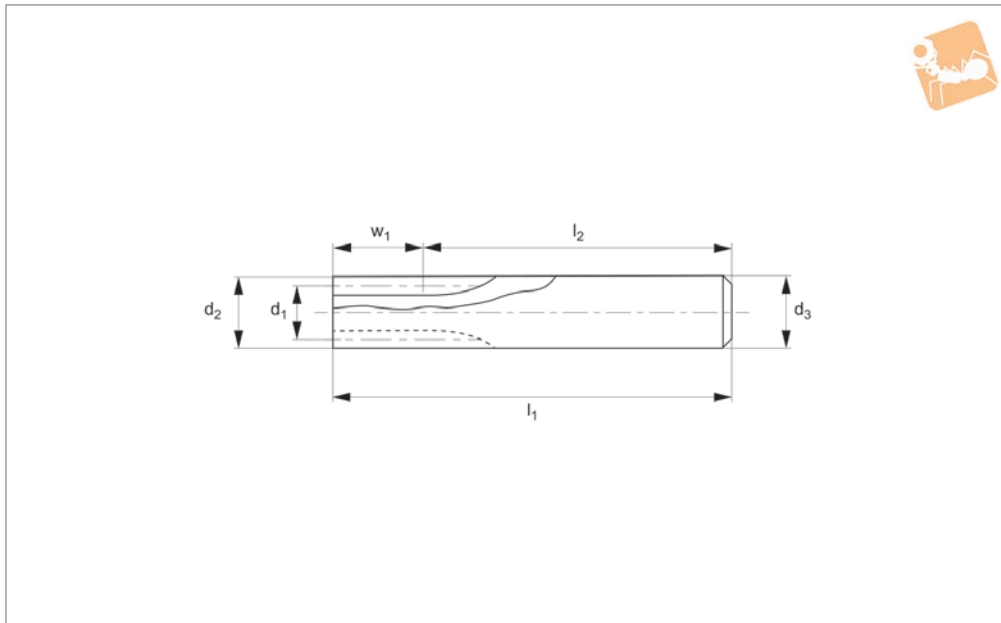


Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>4</sub>	Torque Nm max.	Weight g
<b>R5125.050-070-06</b>	m 0.5	70	35.0	36.0	5	6	18	13	4	2xM 4	4.76	49.9
<b>R5125.050-072-06</b>	m 0.5	72	36.0	37.0	5	6	18	13	4	2xM 4	4.92	52.1
<b>R5125.050-075-06</b>	m 0.5	75	37.5	38.5	5	6	18	13	4	2xM 4	5.16	55.5
<b>R5125.050-080-06</b>	m 0.5	80	40.0	41.0	5	6	28	13	-	-	5.52	85.0
<b>R5125.050-080-H6</b>	m 0.5	80	40.0	41.0	5	6 tol. H*	28	13	-	-	5.85	85.0
<b>R5125.050-080-08</b>	m 0.5	80	40.0	41.0	5	8	22	13	4	2xM 4	5.56	67.0
<b>R5125.050-090-06</b>	m 0.5	90	45.0	46.0	5	6	32	13	-	-	6.31	109.9
<b>R5125.050-090-H6</b>	m 0.5	90	45.0	46.0	5	6 tol. H*	32	13	-	-	6.69	109.9
<b>R5125.050-090-08</b>	m 0.5	90	45.0	46.0	5	8	22	13	4	2xM 4	6.36	80.1
<b>R5125.050-096-08</b>	m 0.5	96	48.0	49.0	5	8	22	13	4	2xM 4	6.84	88.7
<b>R5125.050-100-06</b>	m 0.5	100	50.0	51.0	5	6	35	13	-	-	7.10	134.4
<b>R5125.050-100-H6</b>	m 0.5	100	50.0	51.0	5	6 tol. H*	35	13	-	-	7.53	134.4
<b>R5125.050-100-08</b>	m 0.5	100	50.0	51.0	5	8	25	13	4	2xM 4	7.16	101.4
<b>R5125.050-110-08</b>	m 0.5	110	55.0	56.0	5	8	25	13	4	2xM 4	7.97	117.6
<b>R5125.050-120-06</b>	m 0.5	120	60.0	61.0	5	6	42	13	-	-	8.70	194.9
<b>R5125.050-120-H6</b>	m 0.5	120	60.0	61.0	5	6 tol. H*	42	13	-	-	9.23	194.9
<b>R5125.050-120-08</b>	m 0.5	120	60.0	61.0	5	8	25	13	4	2xM 4	8.78	135.4



# Spur Gears - Module 0.75 - Stainless

stainless steel - 10 teeth



**R5126**

STANDARD SPUR GEARS

**Material**

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,015 - 0,045mm.

**Tips**

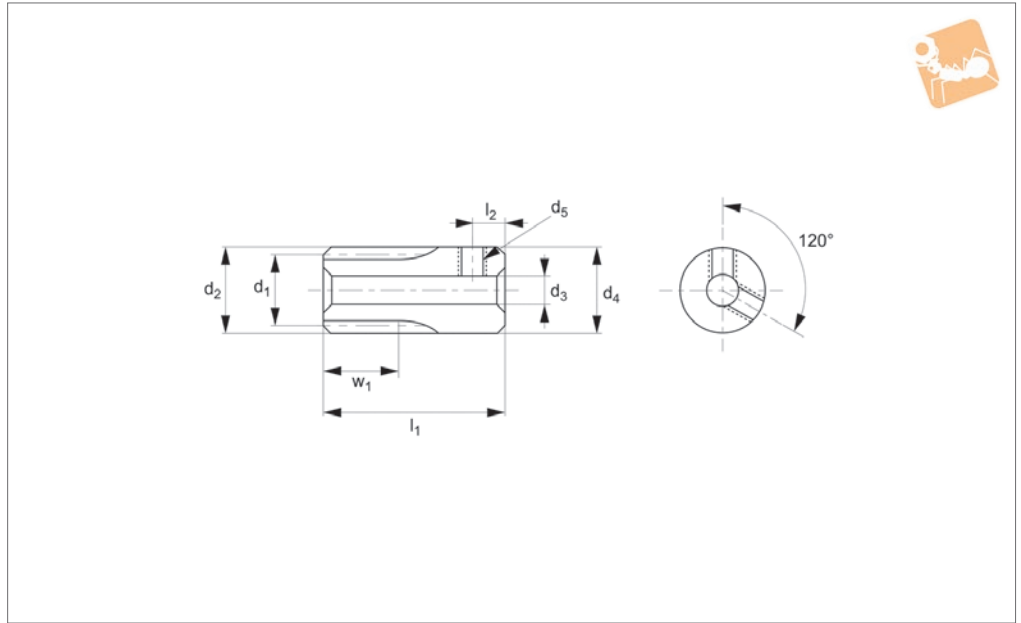
For module 0.75 stainless steel gears with more teeth, see R5128 & R5129.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5126.075-010	m 0.75	10	7.5	9	8	9	55	47	0.52	26.5



### R5128



#### Material

Carbon steel (ISO C45). Accuracy to JIS B 1702-1 (ISO) class 8- 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,015 - 0,045mm.

#### Tips

For a module 0.75 steel gear with 10 teeth, see R5126; or for 16-120 teeth, see R5129.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

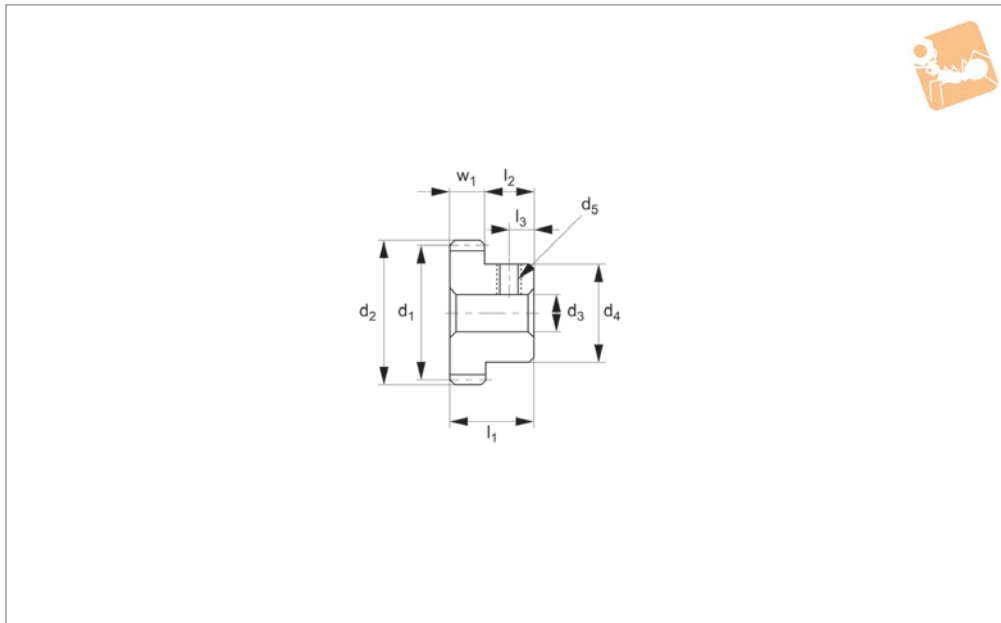
Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H8	$d_4$	$l_1$	$l_2$	Thread $d_5$	Torque Nm max.	Weight g
R5128.075-014	m 0.75	14	10.5	12.0	8	5	12.0	20	3.0	M 3	0.95	12.9
R5128.075-015	m 0.75	15	11.3	12.8	8	5	12.8	20	3.0	M 3	1.07	15.0





# Spur Gears - Module 0.75 - Stainless

stainless steel - 16-120 teeth



**R5129**

STANDARD SPUR GEARS

### Material

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

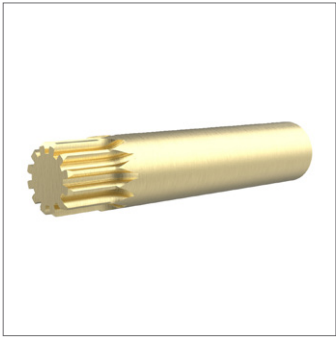
gears = 0,015 - 0,045mm.

### Tips

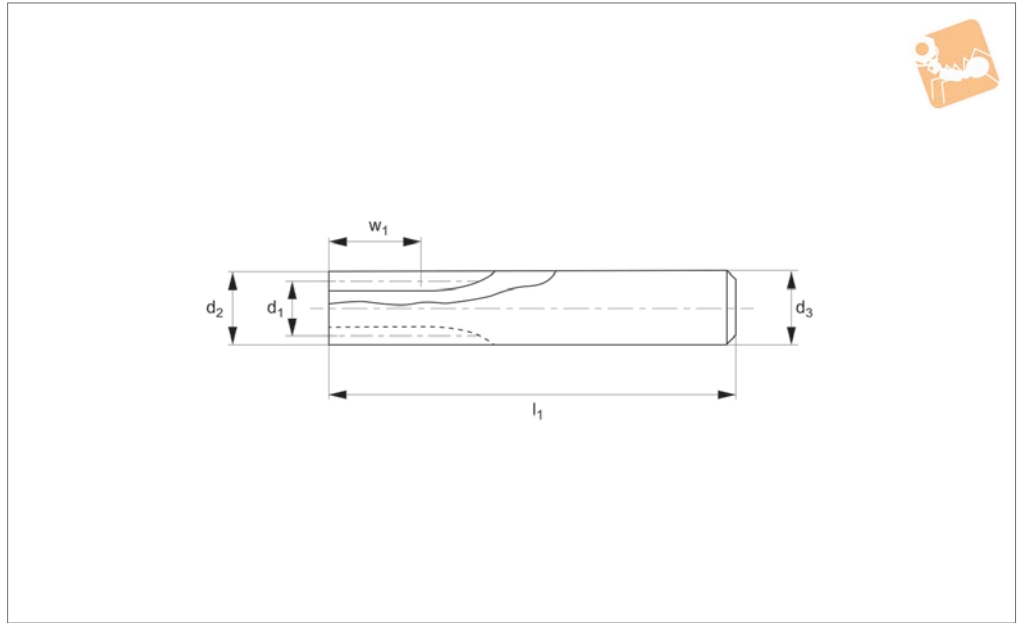
For module 0.75 stainless steel gears with fewer teeth, see R5126 & R5128.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5129.075-016	m 0.75	16	12.0	13.5	8	5	10	15	7	3.5	M 3	1.18	9.1
R5129.075-018	m 0.75	18	13.5	15.0	8	5	11	15	7	3.5	M 3	1.42	11.9
R5129.075-020	m 0.75	20	15.0	16.5	8	6	12	15	7	3.5	M 4	1.67	13.9
R5129.075-021	m 0.75	21	15.8	17.3	8	6	12	15	7	3.5	M 4	1.79	15.1
R5129.075-022	m 0.75	22	16.5	18.0	8	6	12	15	7	3.5	M 4	1.92	16.3
R5129.075-024	m 0.75	24	18.0	19.5	8	6	14	15	7	3.5	M 4	2.18	21.0
R5129.075-025	m 0.75	25	18.8	20.3	8	6	14	15	7	3.5	M 4	2.31	22.4
R5129.075-026	m 0.75	26	19.5	21.0	8	6	14	15	7	3.5	M 4	2.44	23.8
R5129.075-028	m 0.75	28	21.0	22.5	8	6	14	15	7	3.5	M 4	2.70	26.9
R5129.075-030	m 0.75	30	22.5	24.0	8	6	14	15	7	3.5	M 4	2.96	31.3
R5129.075-032	m 0.75	32	24.0	25.5	6	6	15	15	9	4.0	M 4	2.42	30.4
R5129.075-036	m 0.75	36	27.0	28.5	6	6	18	15	9	4.0	M 4	2.83	41.6
R5129.075-040	m 0.75	40	30.0	31.5	6	6	20	15	9	4.0	M 4	3.24	52.2
R5129.075-044	m 0.75	44	33.0	34.5	6	6	20	15	9	4.0	M 4	3.66	59.2
R5129.075-045	m 0.75	45	33.8	35.3	6	6	20	15	9	4.0	M 4	3.76	61.1
R5129.075-048	m 0.75	48	36.0	37.5	6	6	20	15	9	4.0	M 4	4.08	67.0
R5129.075-056	m 0.75	56	42.0	43.5	6	6	20	15	9	4.0	M 4	4.92	84.5
R5129.075-060	m 0.75	60	45.0	46.5	6	6	22	15	9	4.0	M 4	5.35	98.9
R5129.075-072	m 0.75	72	54.0	55.5	6	6	25	15	9	4.0	M 4	6.64	139.9
R5129.075-080	m 0.75	80	60.0	61.5	6	8	25	15	9	4.0	M 4	7.51	163.0
R5129.075-100	m 0.75	100	75.0	76.5	6	8	30	15	9	4.0	M 4	9.67	253.9
R5129.075-120	m 0.75	120	90.0	91.5	6	8	30	15	9	4.0	M 4	11.86	346.3



### R5130



#### Material

Brass (C3604B). Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,015 - 0,045mm.

#### Tips

For module 0.75 brass gears with 14-48 teeth, see R5132 & R5133; for 50-120 teeth, see R5135 & R5136.  
Max. allowable torque (Nm) is based on

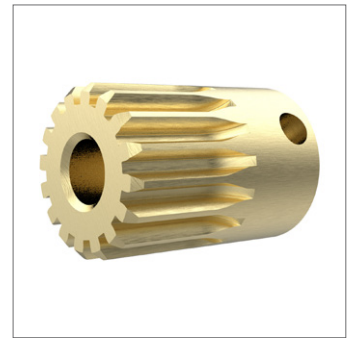
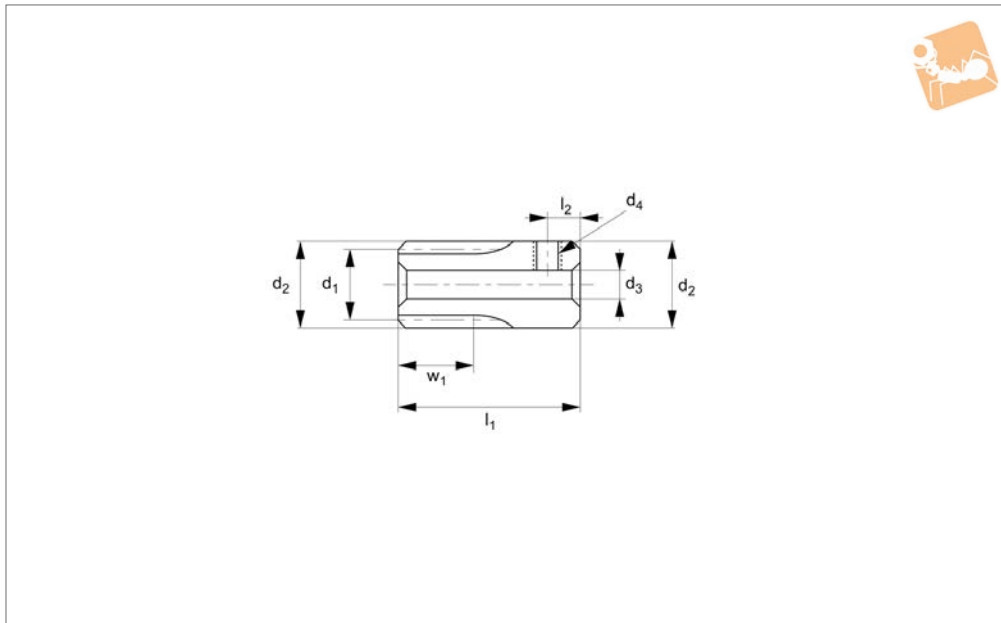
standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H8	$l_1$	Torque Nm max.	Weight g
R5130.075-010	m 0.75	10	7.5	9.0	8	9	55	0.21	28.4
R5130.075-012	m 0.75	12	9.0	10.5	8	11	55	0.29	42.3



# Spur Gears - Module 0.75 - Brass

brass - 14-20 teeth



**R5132**

STANDARD SPUR GEARS

**Material**

Brass (C3604B). Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,015 - 0,045mm.

**Tips**

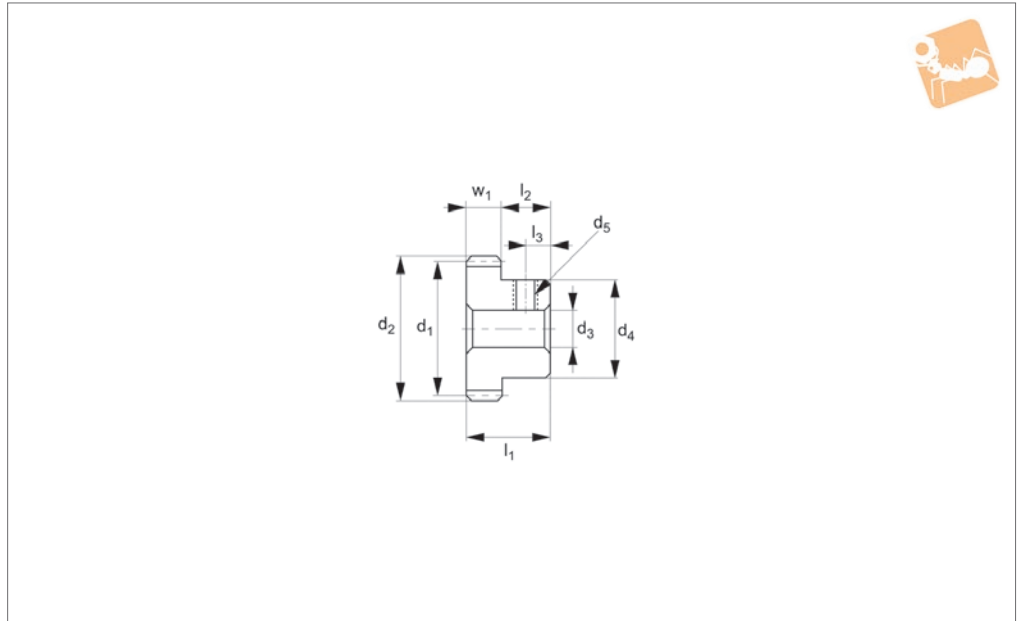
For module 0.75 brass gears with 10-12 teeth teeth, see R5130; for 16-48 teeth, see R5133; for gears with 50-120 teeth see R5135 (hubless) & R5136.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>4</sub>	Torque Nm max.	Weight g
R5132.075-014	m 0.75	14	10.5	12.0	8	5	20	3	M 3	0.38	13.9
R5132.075-015	m 0.75	15	11.3	12.8	8	5	20	3	M 3	0.43	16.3
R5132.075-016	m 0.75	16	12.0	13.5	8	5	20	3	M 3	0.47	18.8
R5132.075-018	m 0.75	18	13.5	15.0	8	5	20	3	M 3	0.57	24.2
R5132.075-020	m 0.75	20	15.0	16.5	8	5	20	3	M 3	0.67	30.2



### R5133



#### Material

Brass (C3604B). Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,015 - 0,045mm.

#### Tips

For module 0.75 brass gears with 10-12 teeth or 14-20 teeth, see R5130 & R5132; for 50-120 teeth see R5135 (hubless) & R5136.

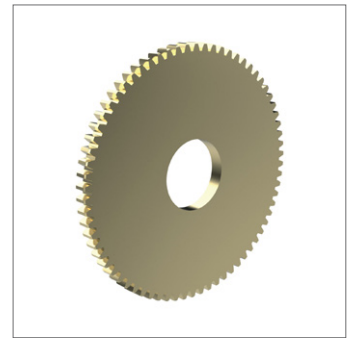
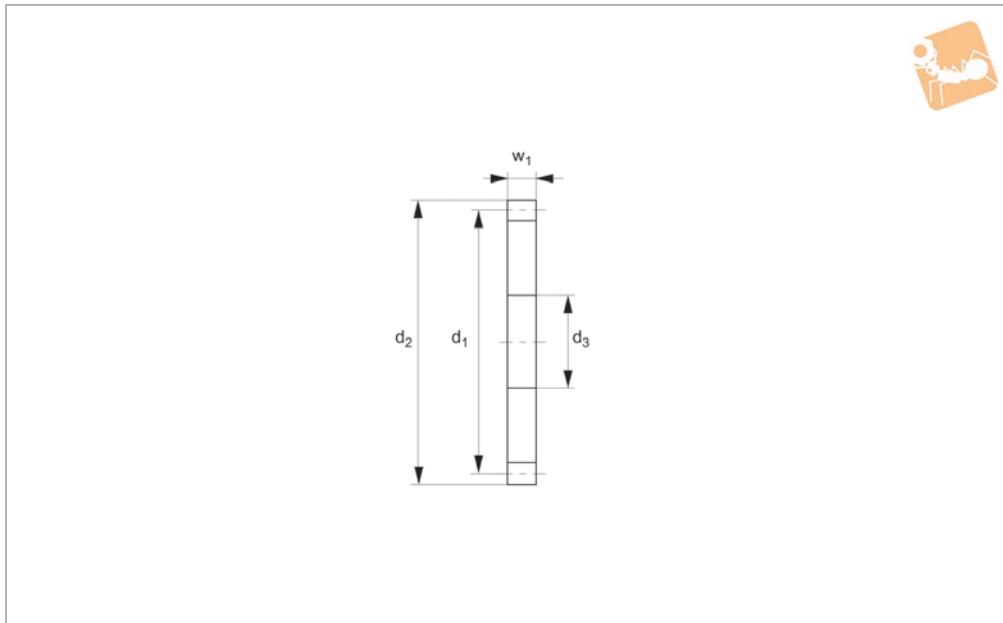
Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5133.075-016	m 0.75	16	12.0	13.5	3	5	10	10	7	3.5	M 3	0.18	5.8
R5133.075-018	m 0.75	18	13.5	15.0	3	5	11	10	7	3.5	M 3	0.21	7.5
R5133.075-020	m 0.75	20	15.0	16.5	3	6	12	10	7	3.5	M 4	0.25	8.6
R5133.075-024	m 0.75	24	18.0	19.5	3	6	14	10	7	3.5	M 4	0.33	11.7
R5133.075-025	m 0.75	25	18.8	20.3	3	6	14	10	7	3.5	M 4	0.35	12.3
R5133.075-026	m 0.75	26	19.5	21.0	3	6	14	10	7	3.5	M 4	0.37	12.9
R5133.075-028	m 0.75	28	21.0	22.5	3	6	14	10	7	3.5	M 4	0.40	14.1
R5133.075-030	m 0.75	30	22.5	24.0	3	6	15	10	7	3.5	M 4	0.45	16.7
R5133.075-032	m 0.75	32	24.0	25.5	3	6	15	10	7	3.5	M 4	0.49	18.1
R5133.075-035	m 0.75	35	26.3	27.8	3	6	18	10	7	3.5	M 4	0.55	24.9
R5133.075-036	m 0.75	36	27.0	28.5	3	6	18	10	7	3.5	M 4	0.57	25.7
R5133.075-040	m 0.75	40	30.0	31.5	3	6	20	10	7	3.5	M 4	0.65	33.8
R5133.075-042	m 0.75	42	31.5	33.0	3	6	20	10	7	3.5	M 4	0.69	35.6
R5133.075-045	m 0.75	45	33.8	35.3	3	6	20	10	7	3.5	M 4	0.75	38.6
R5133.075-048	m 0.75	48	36.0	37.5	3	6	20	10	7	3.5	M 4	0.82	41.7



# Spur Gears - Module 0.75 - Brass

brass - 50-120 teeth - hubless



**R5135**

STANDARD SPUR GEARS

### Material

Brass (C3604B). Accuracy to JIS B 1702-1 (ISO) class 9.

### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,015 - 0,045mm.

### Tips

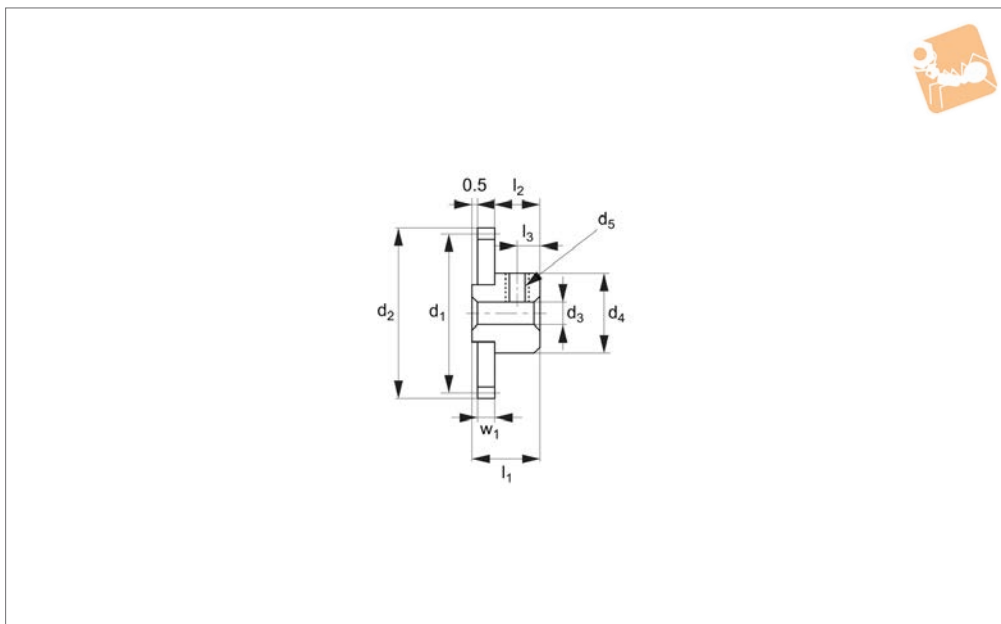
For module 0.75 brass gears with fewer teeth, see R5130, R5132 & R5133. For a version of this product with hub, see R5136.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	Torque Nm max.	Weight g
R5135.075-050	m 0.75	50	37.5	39.0	3	15	0.86	23.7
R5135.075-055	m 0.75	55	41.3	42.8	3	15	0.96	29.6
R5135.075-056	m 0.75	56	42.0	43.5	3	15	0.98	30.8
R5135.075-058	m 0.75	58	43.5	45.0	3	15	1.03	33.4
R5135.075-060	m 0.75	60	45.0	46.5	3	15	1.07	36.1
R5135.075-062	m 0.75	62	46.5	48.0	3	15	1.11	38.8
R5135.075-064	m 0.75	64	48.0	49.5	3	15	1.16	41.6
R5135.075-065	m 0.75	65	48.8	50.3	3	15	1.18	43.1
R5135.075-066	m 0.75	66	49.5	51.0	3	15	1.20	44.6
R5135.075-068	m 0.75	68	51.0	52.5	3	15	1.24	47.6
R5135.075-070	m 0.75	70	52.5	54.0	3	15	1.28	50.7
R5135.075-072	m 0.75	72	54.0	55.5	3	15	1.33	53.9
R5135.075-075	m 0.75	75	56.3	57.8	3	15	1.39	58.9
R5135.075-080	m 0.75	80	60.0	61.5	3	15	1.50	67.6
R5135.075-085	m 0.75	85	63.8	65.3	3	15	1.61	76.9
R5135.075-090	m 0.75	90	67.5	69.0	3	15	1.72	86.7
R5135.075-095	m 0.75	95	71.3	72.8	3	15	1.82	97.2
R5135.075-100	m 0.75	100	75.0	76.5	3	15	1.93	108.1
R5135.075-105	m 0.75	105	78.8	80.3	3	15	2.04	119.7
R5135.075-110	m 0.75	110	82.5	84.0	3	15	2.15	131.8
R5135.075-115	m 0.75	115	86.3	87.8	3	15	2.26	144.5
R5135.075-120	m 0.75	120	90.0	91.5	3	15	2.37	157.7



### R5136



#### Material

Brass (C3604B). Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,015- 0,045mm.

#### Tips

For module 0.75 brass gears with fewer teeth, see R5130, R5132 & R5133. For a hubless version of this product, see R5135.  
Max. allowable torque (Nm) is based on

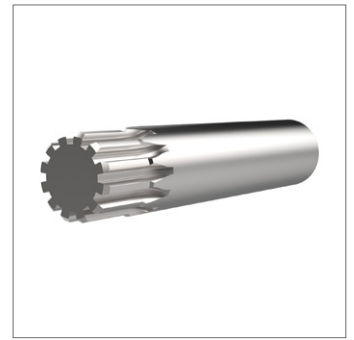
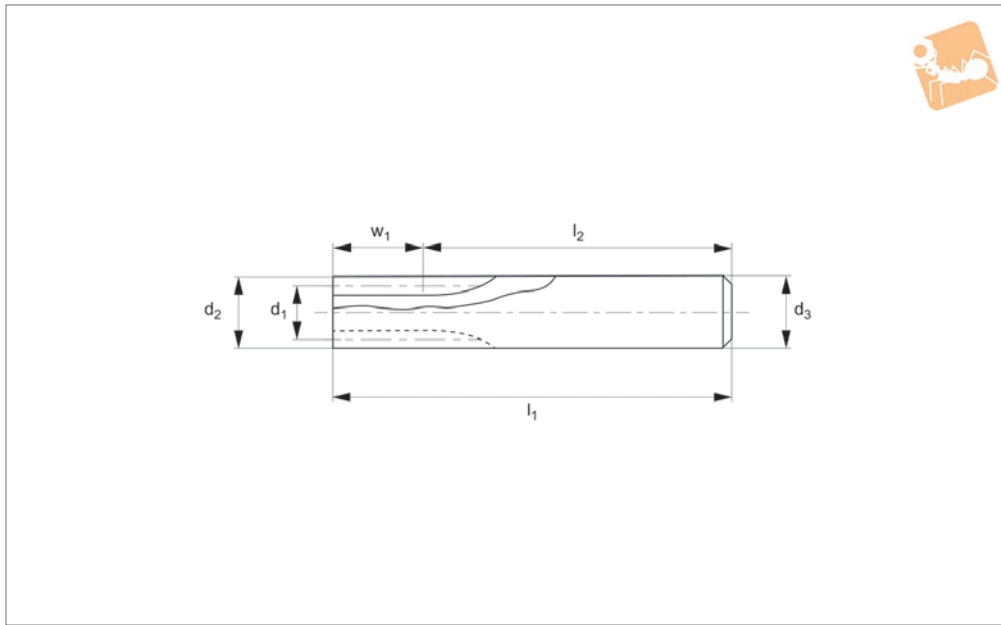
standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5136.075-050	m 0.75	50	37.5	39.0	3	6	20	10.5	7	3.5	M 4	0.86	43.8
R5136.075-055	m 0.75	55	41.3	42.8	3	6	20	10.5	7	3.5	M 4	0.96	49.7
R5136.075-056	m 0.75	56	42.0	43.5	3	6	20	10.5	7	3.5	M 4	0.98	50.9
R5136.075-058	m 0.75	58	43.5	45.0	3	6	20	10.5	7	3.5	M 4	1.03	53.5
R5548.075-060	m 0.75	60	45.0	46.5	3	6	20	10.5	7	3.5	M 4	1.07	56.2
R5136.075-062	m 0.75	62	46.5	48.0	3	6	20	10.5	7	3.5	M 4	1.11	58.9
R5136.075-064	m 0.75	64	48.0	49.5	3	6	20	10.5	7	3.5	M 4	1.16	61.8
R5136.075-065	m 0.75	65	48.8	50.3	3	6	20	10.5	7	3.5	M 4	1.18	63.2
R5136.075-066	m 0.75	66	49.5	51.0	3	6	20	10.5	7	3.5	M 4	1.20	64.7
R5136.075-068	m 0.75	68	51.0	52.5	3	6	20	10.5	7	3.5	M 4	1.24	67.7
R5136.075-070	m 0.75	70	52.5	54.0	3	6	20	10.5	7	3.5	M 4	1.28	70.8
R5136.075-072	m 0.75	72	54.0	55.5	3	6	20	10.5	7	3.5	M 4	1.33	74.0
R5136.075-075	m 0.75	75	56.3	57.8	3	6	20	10.5	7	3.5	M 4	1.39	79.0
R5136.075-080	m 0.75	80	60.0	61.5	3	6	20	10.5	7	3.5	M 4	1.50	87.7
R5136.075-085	m 0.75	85	63.8	65.3	3	6	20	10.5	7	3.5	M 4	1.61	97.0
R5136.075-090	m 0.75	90	67.5	69.0	3	6	20	10.5	7	3.5	M 4	1.72	106.9
R5136.075-095	m 0.75	95	71.3	72.8	3	6	20	10.5	7	3.5	M 4	1.82	117.3
R5136.075-100	m 0.75	100	75.0	76.5	3	6	20	10.5	7	3.5	M 4	1.93	128.3
R5136.075-105	m 0.75	105	78.8	80.3	3	6	20	10.5	7	3.5	M 4	2.04	139.8
R5136.075-110	m 0.75	110	82.5	84.0	3	6	20	10.5	7	3.5	M 4	2.15	151.9
R5136.075-115	m 0.75	115	86.3	87.8	3	6	20	10.5	7	3.5	M 4	2.26	164.6
R5136.075-120	m 0.75	120	90.0	91.5	3	6	20	10.5	7	3.5	M 4	2.37	177.8



# Spur Gears - Module 0.75 - Steel

carbon steel - 10-12 teeth



**R5137**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45). Accuracy to JIS B 1702-1 (ISO) class 8-9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,015 - 0,045mm.

**Tips**

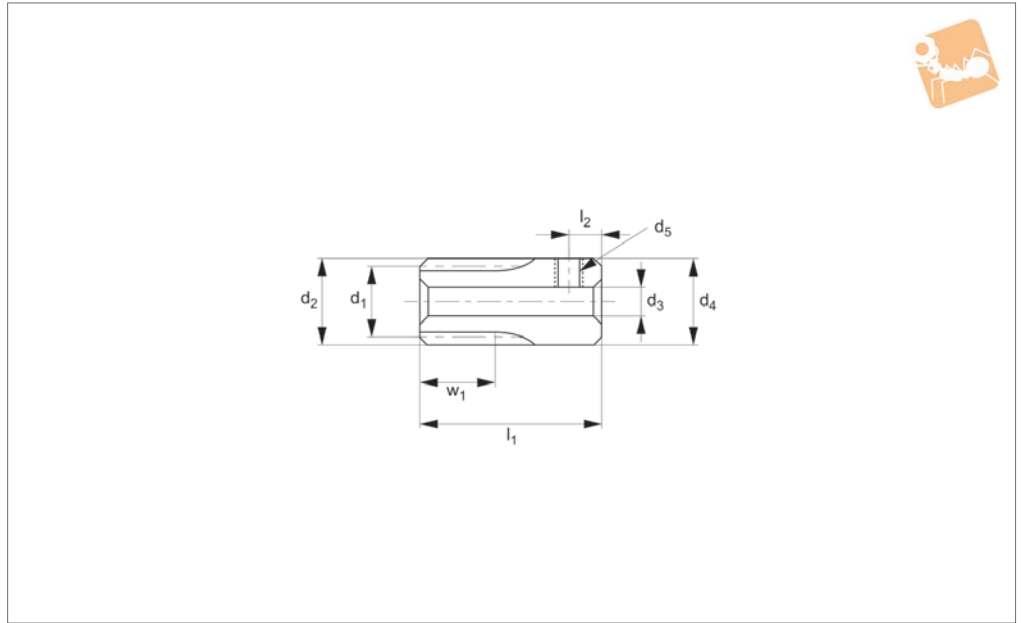
For module 0.75 steel gears with 14-15 teeth, see R5138; for 16-120 teeth, see R5140.  
Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5137.075-010	m 0.75	10	7.5	9.0	8	9	55	47	1.06	26.3
R5137.075-012	m 0.75	12	9.5	10.5	8	11	55	47	1.46	39.1



**R5138**



**Material**

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8- 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears= 0,015- 0,045 mm.

**Tips**

For module 0.75 steel gears with 10-12 teeth, see R5137; for 16-120 teeth see R5140.  
Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

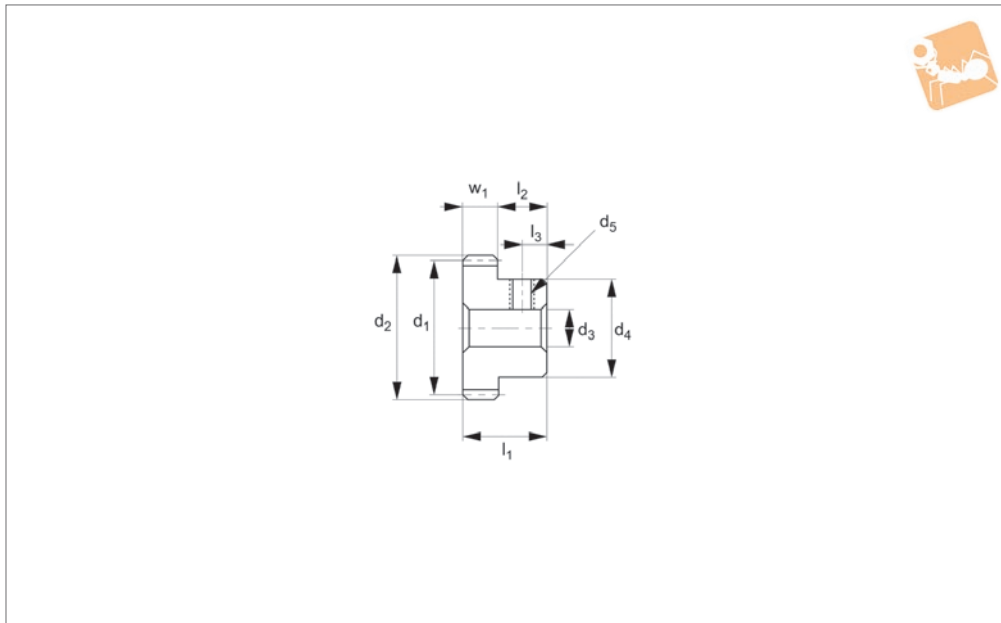
Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5138.075-014	m 0.75	14	10.5	12.0	8	5	12.0	20	3	M 3	1.90	12.9
R5138.075-015	m 0.75	15	11.3	12.8	8	5	12.8	20	3	M 3	2.13	15.0





# Spur Gears - Module 0.75 - Steel

carbon steel - 16-120 teeth



**R5140**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8- 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears= 0,015- 0,045 mm.

**Tips**

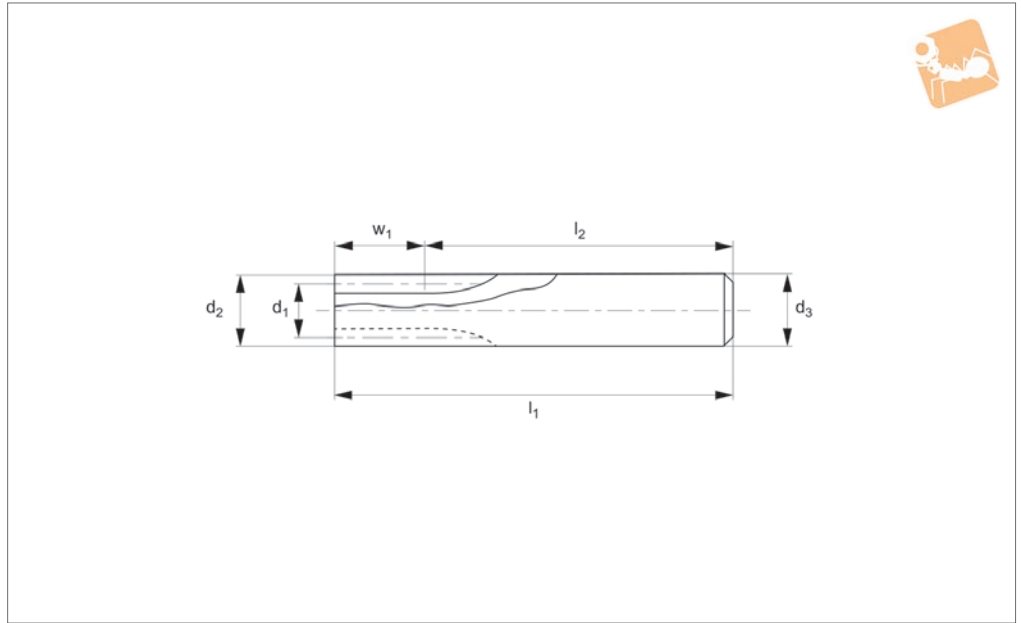
For module 0.75 steel gears with 10-12 teeth or 14-15 teeth, see R5137 & R5138.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5140.075-016	m 0.75	16	12.0	13.5	8	5	10	15	7	3.5	M 4	2.37	8.9
R5140.075-018	m 0.75	18	13.5	15.0	8	5	11	15	7	3.5	M 4	2.84	11.7
R5140.075-020	m 0.75	20	15.0	16.5	8	6	12	15	7	3.5	M 4	3.34	13.8
R5140.075-024	m 0.75	24	18.0	19.5	8	6	14	15	7	3.5	M 4	4.35	20.8
R5140.075-025	m 0.75	25	18.8	20.3	8	6	14	15	7	3.5	M 4	4.61	22.2
R5140.075-028	m 0.75	28	21.0	22.5	8	6	14	15	7	3.5	M 4	5.40	26.6
R5140.075-030	m 0.75	30	22.5	24.0	8	6	15	15	7	3.5	M 4	5.93	31.0
R5140.075-032	m 0.75	32	24.0	25.5	6	6	15	15	9	4.0	M 4	4.85	30.1
R5140.075-034	m 0.75	35	26.3	27.8	6	6	18	15	9	4.0	M 4	5.46	39.7
R5140.075-036	m 0.75	36	27.0	28.5	6	6	18	15	9	4.0	M 4	5.66	41.2
R5140.075-040	m 0.75	40	30.0	31.5	6	6	20	15	9	4.0	M 4	6.49	51.7
R5140.075-045	m 0.75	45	33.8	35.3	6	6	20	15	9	4.0	M 4	7.53	60.5
R5140.075-048	m 0.75	48	36.0	37.5	6	6	20	15	9	4.0	M 4	8.15	66.3
R5140.075-050	m 0.75	50	37.5	39.0	6	6	20	15	9	4.0	M 4	8.58	70.4
R5140.075-056	m 0.75	56	42.0	43.5	6	6	20	15	9	4.0	M 4	9.85	83.6
R5140.075-060	m 0.75	60	45.0	46.5	6	6	22	15	9	4.0	M 4	10.70	97.9
R5140.075-064	m 0.75	64	48.0	49.5	6	6	22	15	9	4.0	M 4	11.56	108.2
R5140.075-070	m 0.75	70	52.5	54.0	6	6	22	15	9	4.0	M 4	12.85	124.9
R5140.075-072	m 0.75	72	54.0	55.5	6	6	25	15	9	4.0	M 4	13.28	138.5
R5140.075-080	m 0.75	80	60.0	61.5	6	8	25	15	9	4.0	M 4	15.01	161.3
R5140.075-090	m 0.75	90	67.5	69.0	6	8	30	15	9	4.0	M 4	17.16	211.8
R5140.075-100	m 0.75	100	75.0	76.5	6	8	30	15	9	4.0	M 4	19.34	251.3
R5140.075-120	m 0.75	120	90.0	91.5	6	8	30	15	9	4.0	M 4	23.71	342.9



### R5141



#### Material

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,016 - 0,048mm.

#### Tips

For module 0.8 stainless steel gears with more teeth, see R5142, R5144 (boreless) & R5146.

Max. allowable torque (Nm) is based on

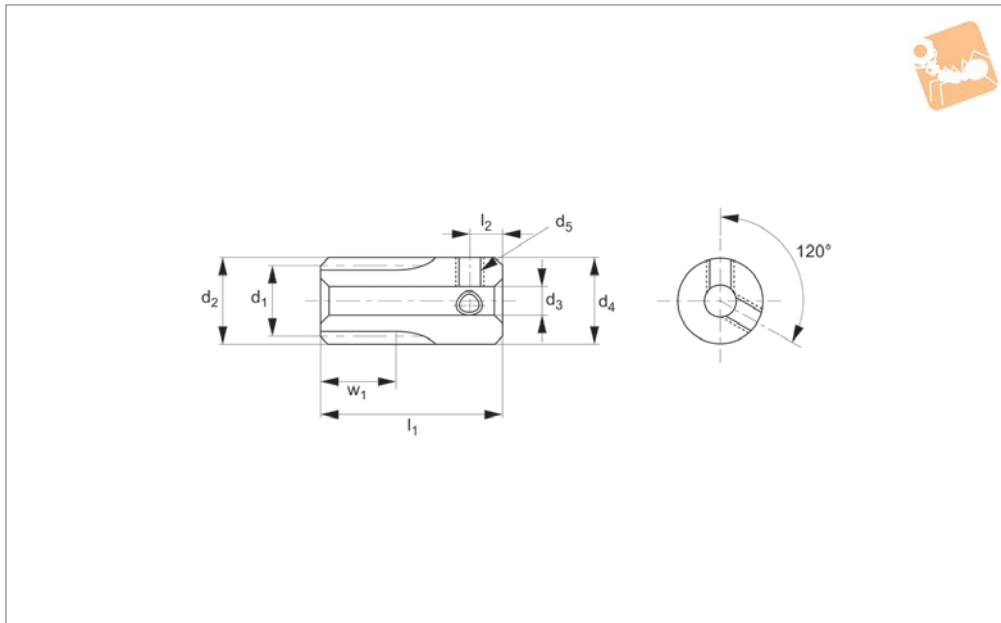
standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5141.080-010	m 0.8	10	8.0	9.6	10	10	60	50	0.74	35.1
R5141.080-012	m 0.8	12	9.6	11.2	10	12	60	50	1.04	50.6



# Spur Gears - Module 0.8 - Stainless

stainless steel - 14-15 teeth



**R5142**

STANDARD SPUR GEARS

**Material**

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,016 - 0,048mm.

**Tips**

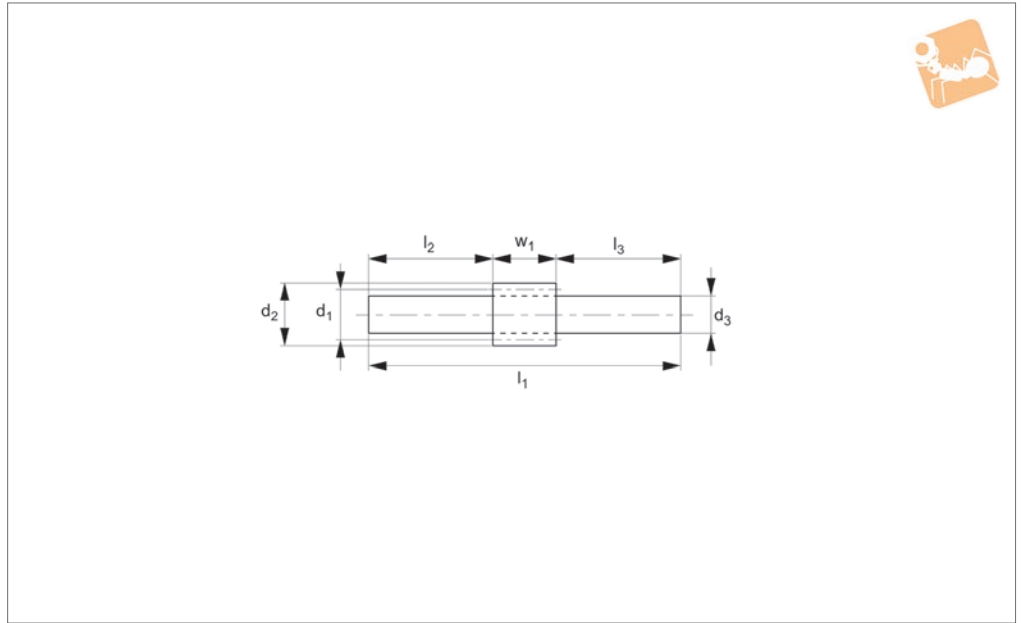
For a version of this product with fewer teeth, see R5141. Or, for module 0.8 stainless steel gears with more teeth, see R5144 (boreless) & R5146.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5142.080-014	m 0.8	14	11.2	12.8	7	4	12.8	20	13	2xM 3	0.95	16.3
R5142.080-015	m 0.8	15	12.0	13.6	7	4	13.6	20	13	2xM 3	1.06	18.8



### R5144



#### Material

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,016 - 0,048mm.

#### Tips

For a version of this product with a bore, see R5142. For stainless steel module 0.8 gears with 10-12 teeth, see R5141; for 16-120 teeth, see R5146.

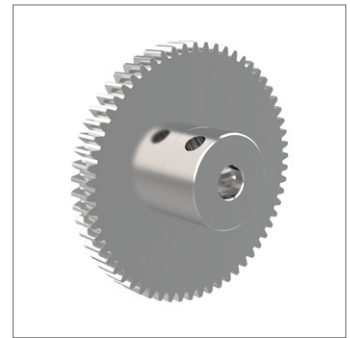
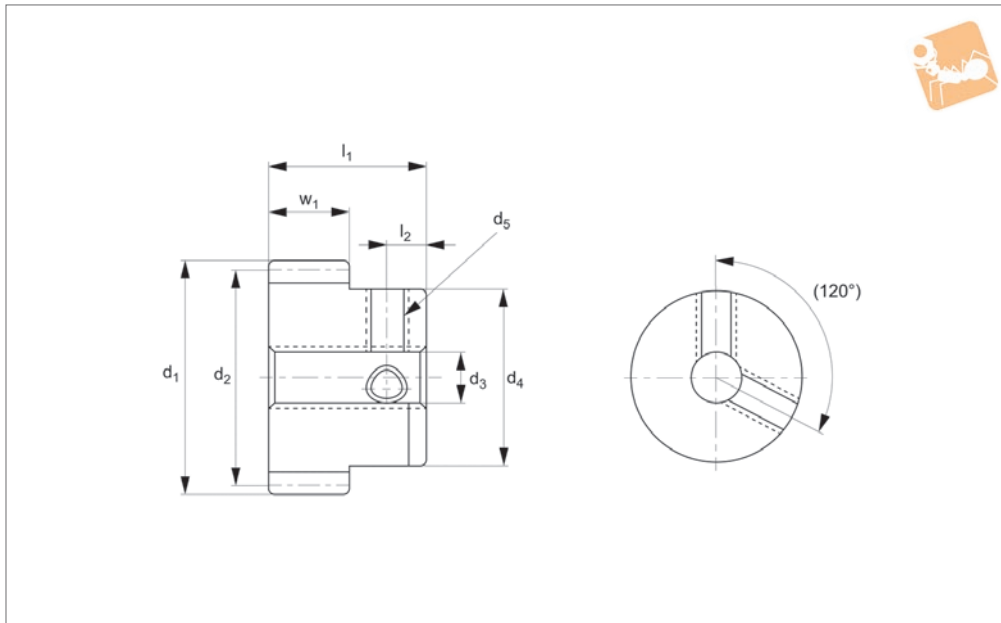
Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Torque Nm max.	Weight g
R5144.080-014	m 0.8	14	11.2	12.8	7	6	95	28	60	0.95	25.2
R5144.080-015	m 0.8	15	12.0	13.6	7	6	95	28	60	1.06	26.0
R5144.080-016	m 0.8	16	12.8	14.4	7	6	95	28	60	1.18	26.9
R5144.080-018	m 0.8	18	14.4	16.0	7	8	95	28	60	1.42	44.1
R5144.080-020	m 0.8	20	16.0	17.6	7	10	95	28	60	1.66	66.0



# Spur Gears - Module 0.8

stainless steel - 16-120 teeth



**R5146**

STANDARD SPUR GEARS

**Material**

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,016 - 0,048mm.

**Tips**

For module 0.8 stainless steel gears with fewer teeth, see R5142; for boreless gears with fewer teeth, see R5141 & R5144.  
Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5146.080-016-12-05-04	m 0.8	16	12.8	14.4	5	4	10	12	3	2xM 3	0.84	8.0
R5146.080-016-14-07-04	m 0.8	16	12.8	14.4	7	4	10	14	3	2xM 3	1.18	9.8
R5146.080-018-12-05-04	m 0.8	18	14.4	16.0	5	4	10	12	3	2xM 3	1.01	9.3
R5146.080-018-14-07-04	m 0.8	18	14.4	16.0	7	4	10	14	3	2xM 3	1.42	11.7
R5146.080-020-12-05-04	m 0.8	20	16.0	17.6	5	4	10	12	3	2xM 3	1.19	10.9
R5146.080-020-14-07-04	m 0.8	20	16.0	17.6	7	4	10	14	3	2xM 3	1.66	13.9
R5146.080-022-12-05-04	m 0.8	22	17.6	19.2	5	4	10	12	3	2xM 3	1.37	12.5
R5146.080-022-14-07-04	m 0.8	22	17.6	19.2	7	4	10	14	3	2xM 3	1.91	16.2
R5146.080-024-12-05-05	m 0.8	24	19.2	20.8	5	5	15	12	4	2xM 4	1.55	18.6
R5146.080-024-14-07-05	m 0.8	24	19.2	20.8	7	5	15	14	4	2xM 4	2.17	22.9
R5146.080-025-12-05-05	m 0.8	25	20.0	21.6	5	5	15	12	4	2xM 4	1.64	19.6
R5146.080-025-14-07-05	m 0.8	25	20.0	21.6	7	5	15	14	4	2xM 4	2.30	24.2
R5146.080-028-12-05-05	m 0.8	28	22.4	24.0	5	5	15	12	4	2xM 4	1.92	22.7
R5146.080-028-14-07-05	m 0.8	28	22.4	24.0	7	5	15	14	4	2xM 4	2.69	28.7
R5146.080-030-12-05-05	m 0.8	30	24.0	25.6	5	5	15	12	4	2xM 4	2.11	25.0
R5146.080-030-14-07-05	m 0.8	30	24.0	25.6	7	5	15	14	4	2xM 4	2.95	31.9
R5146.080-032-14-05-05	m 0.8	32	25.6	27.2	5	5	15	14	4	2xM 4	2.30	30.0
R5146.080-036-14-05-06	m 0.8	36	28.8	30.4	5	6	18	14	4	2xM 4	2.68	39.9
R5146.080-040-14-05-06	m 0.8	40	32.0	33.6	5	6	18	14	4	2xM 4	3.08	45.9
R5146.080-045-14-05-06	m 0.8	45	36.0	37.6	5	6	18	14	4	2xM 4	3.57	54.4
R5146.080-048-14-05-06	m 0.8	48	38.4	40.0	5	6	18	14	4	2xM 4	3.87	59.9
R5146.080-050-14-05-06	m 0.8	50	40.0	41.6	5	6	18	14	4	2xM 4	4.07	63.9
R5146.080-054-14-05-06	m 0.8	54	43.2	44.8	5	6	18	14	4	2xM 4	4.47	72.1
R5146.080-056-14-05-06	m 0.8	56	44.8	46.4	5	6	18	14	4	2xM 4	4.67	76.5
R5146.080-060-14-05-06	m 0.8	60	48.0	49.6	5	6	18	14	4	2xM 4	5.07	85.8
R5146.080-064-14-05-06	m 0.8	64	51.2	52.8	5	6	18	14	4	2xM 4	5.48	95.7
R5146.080-070-14-05-08	m 0.8	70	56.0	57.6	5	8	28	14	4	2xM 4	6.09	134.4
R5146.080-072-14-05-08	m 0.8	72	57.6	59.2	5	8	28	14	4	2xM 4	6.30	140.0
R5146.080-080-14-05-08	m 0.8	80	64.0	65.6	5	8	28	14	4	2xM 4	7.12	164.3
R5146.080-080-14-05-10	m 0.8	80	64.0	65.6	5	10	28	14	4	2xM 4	7.12	161.3

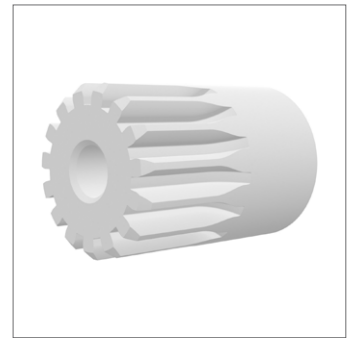
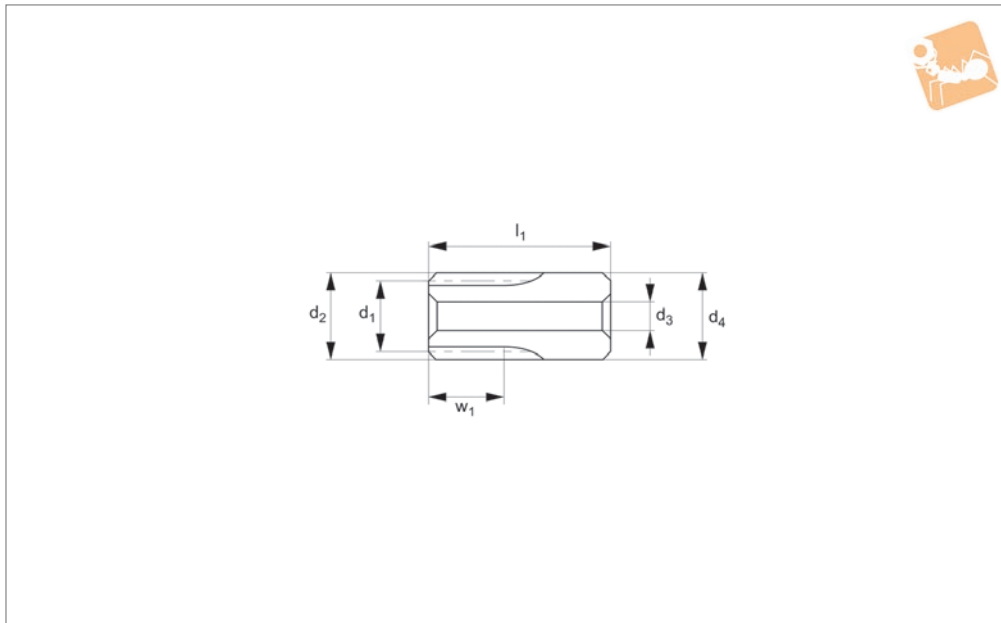


Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
<b>R5146.080-090-14-05-08</b>	m 0.8	90	72.0	73.6	5	8	28	14	4	2xM 4	8.14	198.1
<b>R5146.080-100-14-05-08</b>	m 0.8	100	80.0	81.6	5	8	28	14	4	2xM 4	9.17	236.0
<b>R5146.080-100-14-05-10</b>	m 0.8	100	80.0	81.6	5	10	28	14	4	2xM 4	9.17	233.0
<b>R5146.080-120-14-05-08</b>	m 0.8	120	96.0	97.6	5	8	30	14	4	2xM 4	11.24	330.0
<b>R5146.080-120-14-05-10</b>	m 0.8	120	96.0	97.6	5	10	30	14	4	2xM 4	11.24	327.1



# Spur Gears - Module 0.8

white polyacetal - 14-15 teeth



**R5148**

STANDARD SPUR GEARS

**Material**

White polyacetal (PA; also known as polyoxymethylene/POM), machined. Accuracy to JIS B 1702-1 (ISO) class 9-10.

**Technical Notes**

20° pressure angle, full depth tooth.

Amount of backlash when assembling gears = 0,016 - 0,048mm.

**Tips**

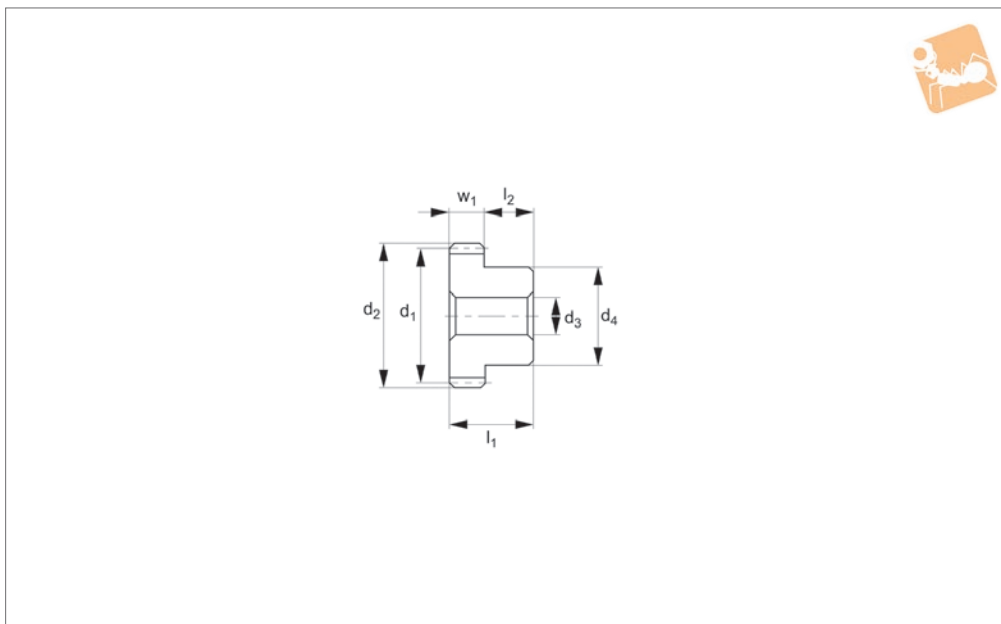
For module 0.8 white polyacetal gears with 16-120 teeth, see R5149. For versions with threaded holes for set screws, see R5150.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	Torque Nm max.	Weight g
R5148.080-014	m 0.8	14	11.2	12.8	7	4	12.8	20	0.48	3.0
R5148.080-015	m 0.8	15	12.0	13.6	7	4	13.6	20	0.51	3.4



**R5149**



**Material**

White polyacetal (PA, also known as polyoxymethylene/POM), machined. Accuracy to JIS B 1702-1 (ISO) class 9-10.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,016 - 0,048mm.

**Tips**

For a version of this product with 14-15 teeth, see R5148. For white polyacetal module 0.8 gears with threaded holes for set screws, see R5152.

Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

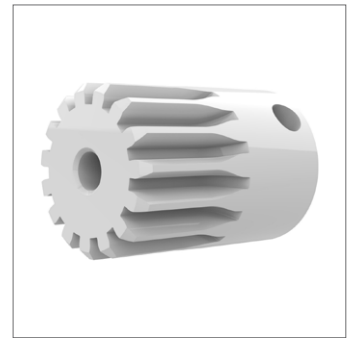
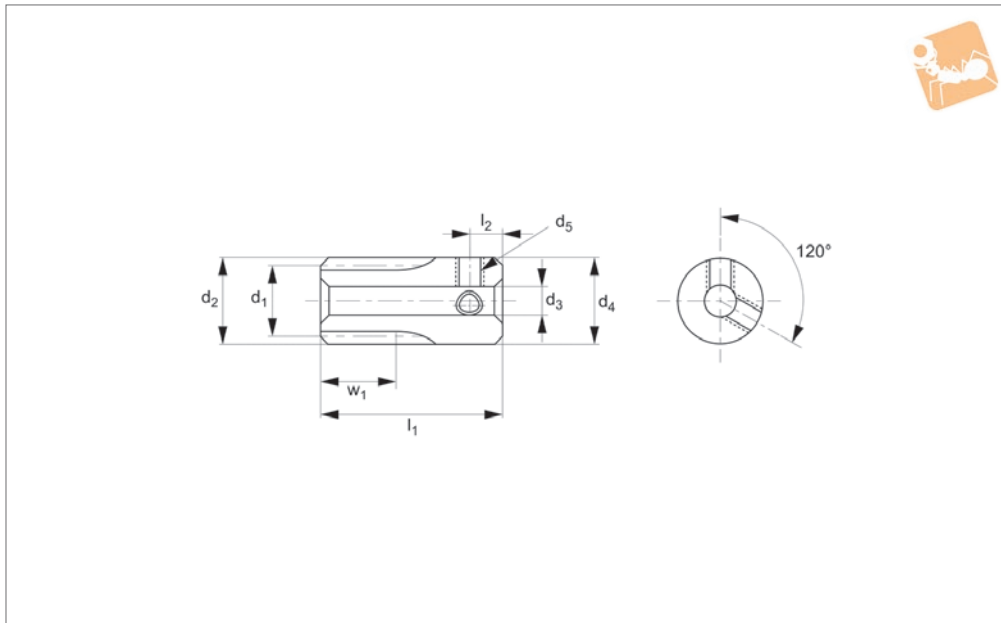
Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5149.080-016	m 0.8	16	12.8	14.4	5	4	10.0	14	9	0.39	1.7
R5149.080-018	m 0.8	18	14.4	16.0	5	4	10.0	14	9	0.44	1.9
R5149.080-020	m 0.8	20	16.0	17.6	5	4	10.0	14	9	0.49	2.2
R5149.080-022	m 0.8	22	17.6	19.2	5	5	12.5	14	9	0.54	2.9
R5149.080-024	m 0.8	24	19.2	20.8	5	5	12.5	14	9	0.59	3.2
R5149.080-025	m 0.8	25	20.0	21.6	5	5	12.5	14	9	0.61	3.4
R5149.080-028	m 0.8	28	22.4	24.0	5	5	12.5	14	9	0.68	4.0
R5149.080-030	m 0.8	30	24.0	25.6	5	5	12.5	14	9	0.73	4.4
R5149.080-032	m 0.8	32	25.6	27.2	5	5	12.5	14	9	0.78	4.8
R5149.080-036	m 0.8	36	28.8	30.4	5	6	14.0	14	9	0.88	6.0
R5149.080-040	m 0.8	40	32.0	33.6	5	6	14.0	14	9	0.98	7.1
R5149.080-045	m 0.8	45	36.0	37.6	5	6	14.0	14	9	1.10	8.6
R5149.080-048	m 0.8	48	38.4	40.0	5	6	14.0	14	9	1.17	9.6
R5149.080-050	m 0.8	50	40.0	41.6	5	6	14.0	14	9	1.22	10.3
R5149.080-056	m 0.8	56	44.8	46.4	5	6	14.0	14	9	1.37	12.6
R5149.080-060	m 0.8	60	48.0	49.6	5	6	14.0	14	9	1.46	14.2
R5149.080-064	m 0.8	64	51.2	52.8	5	6	14.0	14	9	1.56	15.9
R5149.080-070	m 0.8	70	56.0	57.6	5	8	16.0	14	9	1.71	19.0
R5149.080-072	m 0.8	72	57.6	59.2	5	8	16.0	14	9	1.76	20.1
R5149.080-080	m 0.8	80	64.0	65.6	5	8	16.0	14	9	1.95	24.2
R5149.080-090	m 0.8	90	72.0	73.6	5	8	20.0	14	9	2.20	31.7
R5149.080-100	m 0.8	100	80.0	81.6	5	8	24.0	14	9	2.44	40.2
R5149.080-120	m 0.8	120	96.0	97.6	5	8	30.0	14	9	2.93	59.0





# Spur Gears - Module 0.8 - Plastic

white polyacetal - set screw - 14-15 teeth



**R5150**

STANDARD SPUR GEARS

**Material**

White polyacetal (PA, also known as polyoxymethylene/POM), machined, with steel set screws. Accuracy to JIS B 1702-1 (ISO) class 9-10.

**Technical Notes**

20° pressure angle, full depth tooth.

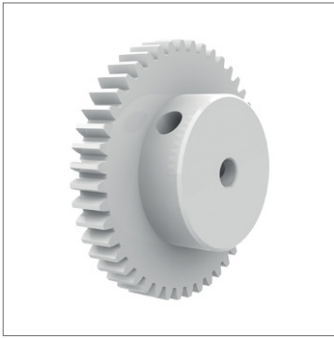
Amount of backlash when assembling gears = 0,016 - 0,048mm.

**Tips**

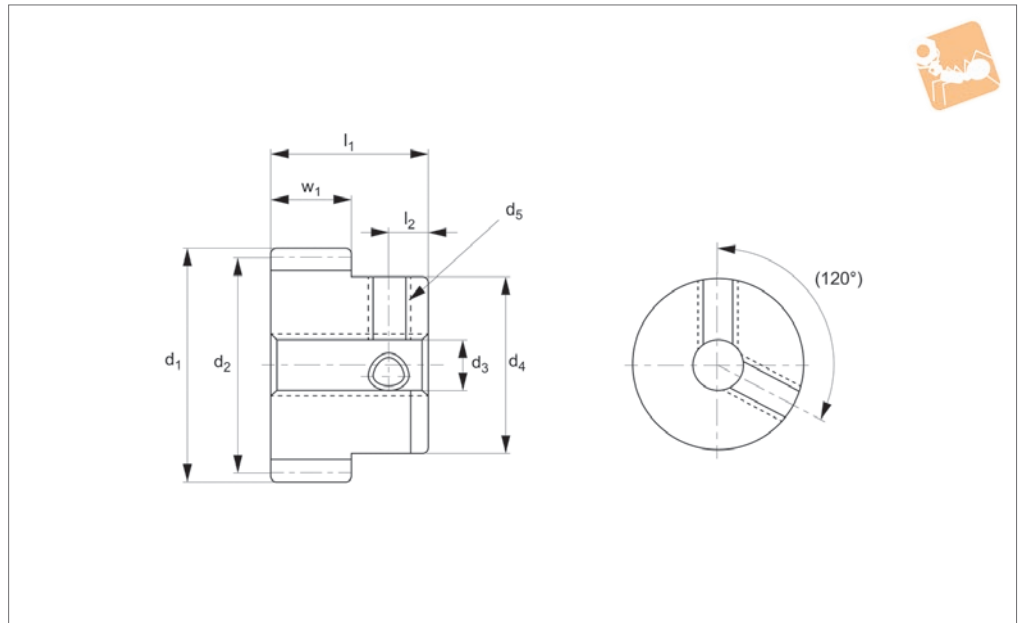
For module 0.8 white polyacetal gears with 16-120 teeth, see R5152.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5150.080-014	m 0.8	14	11.2	12.8	7	3	12.8	20	3	2xM 3	0.48	3.1
R5150.080-015	m 0.8	15	12.0	13.6	7	3	13.6	20	3	2xM 3	0.51	3.5



### R5152



#### Material

White polyacetal (PA, also known as polyoxymethylene/POM), machined. Accuracy to JIS B 1702-1 (ISO) class 9-10.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,016 - 0,048mm.

#### Tips

For module 0.8 white polyacetal gears with 14-15 teeth, see R5150. For versions of this product without threaded holes, see R5149 & R5150.

Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5152.080-016	m 0.8	16	12.8	14.4	5	3	10	12	4	2xM 3	0.39	1.5
R5152.080-018	m 0.8	18	14.4	16.0	5	3	12	12	4	2xM 3	0.44	2.1
R5152.080-020	m 0.8	20	16.0	17.6	5	3	12	12	4	2xM 3	0.49	2.4
R5152.080-022	m 0.8	22	17.6	19.2	5	3	15	12	4	2xM 3	0.54	3.3
R5152.080-024	m 0.8	24	19.2	20.8	5	3	16	12	4	2xM 3	0.59	3.9
R5152.080-025	m 0.8	25	20.0	21.6	5	3	16	12	4	2xM 3	0.61	4.0
R5152.080-028	m 0.8	28	22.4	24.0	5	3	20	12	4	2xM 3	0.68	5.7
R5152.080-030	m 0.8	30	24.0	25.6	5	3	20	12	4	2xM 3	0.73	6.1
R5152.080-032	m 0.8	32	25.6	27.2	5	3	20	12	4	2xM 3	0.78	6.6
R5152.080-036	m 0.8	36	28.8	30.4	5	4	22	12	4	2xM 4	0.88	8.1
R5152.080-040	m 0.8	40	32.0	33.6	5	4	22	12	4	2xM 4	0.98	9.2
R5152.080-045	m 0.8	45	36.0	37.6	5	4	22	12	4	2xM 4	1.10	10.7
R5152.080-048	m 0.8	48	38.4	40.0	5	4	22	12	4	2xM 4	1.17	11.7
R5152.080-050	m 0.8	50	40.0	41.6	5	4	22	12	4	2xM 4	1.22	12.4
R5152.080-056	m 0.8	56	44.8	46.4	5	4	22	12	4	2xM 4	1.37	14.6
R5152.080-060	m 0.8	60	48.0	49.6	5	4	22	12	4	2xM 4	1.46	16.3
R5152.080-064	m 0.8	64	51.2	52.8	5	4	22	12	4	2xM 4	1.56	18.0
R5152.080-070	m 0.8	70	56.0	57.6	5	5	24	12	4	2xM 4	1.71	21.5
R5152.080-072	m 0.8	72	57.6	59.2	5	5	24	12	4	2xM 4	1.76	22.5
R5152.080-080	m 0.8	80	64.0	65.6	5	5	24	12	4	2xM 4	1.95	26.8
R5152.080-090	m 0.8	90	72.0	73.6	5	5	24	12	4	2xM 4	2.20	32.8
R5152.080-100	m 0.8	100	80.0	81.6	5	5	24	12	4	2xM 4	2.44	39.5
R5152.080-120	m 0.8	120	96.0	97.6	5	5	24	12	4	2xM 4	2.93	55.1

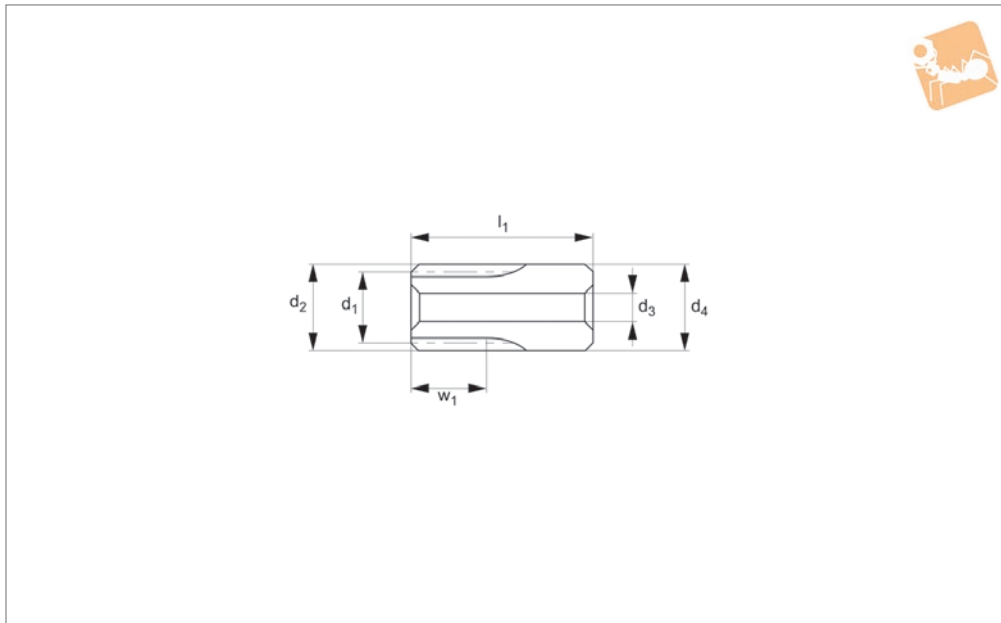


# Spur Gears - Module 0.8 - Plastic

blue polyacetal - 14-15 teeth



Standard Spur  
Gears



**R5156**

STANDARD SPUR GEARS

### Material

Blue polyacetal (PA, also known as polyoxymethylene/POM), machined. Accuracy to JIS B 1702-1 (ISO) class 9-10.

### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,016 - 0,048mm.

Blue polyacetal machined gears are suitable for use in food machinery applications. Approved by the FDA (USA) and by regulators in the EU and Japan, where the food has an alcohol percentage of <15%. Please clean gears thoroughly before use.

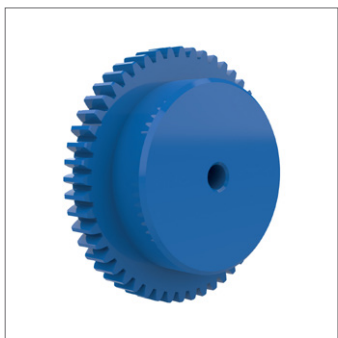
### Tips

For module 0.8 blue polyacetal gears with

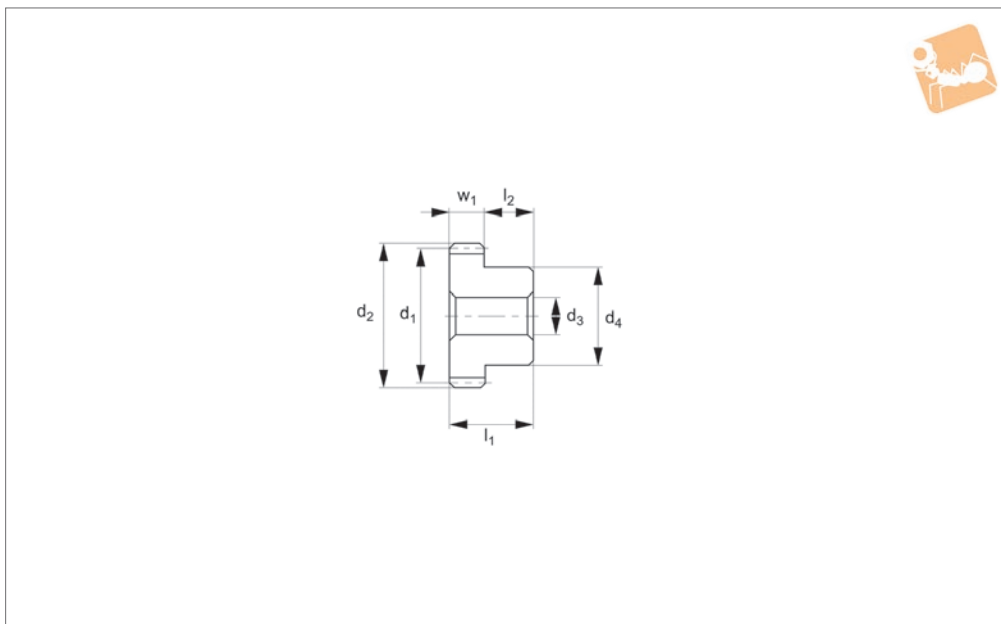
16-120 teeth, see R5157.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	Torque Nm max.	Weight g
R5156.080-014	m 0.8	14	11.2	12.8	7	3	12.8	20	0.48	3.1
R5156.080-015	m 0.8	15	12.0	13.6	7	3	13.6	20	0.51	3.6



### R5157



#### Material

Blue polyacetal (PA, also known as polyoxymethylene/POM), machined. Accuracy to JIS B 1702-1 (ISO) class 9-10.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,016 - 0,048mm.

Blue polyacetal machined gears are suitable for use in food machinery applications. Approved by the FDA (USA) and by regulators in the EU and Japan, where the food has an alcohol percentage of <15%. Please clean gears thoroughly before use.

#### Tips

For module 0.8 blue polyacetal gears with

14-15 teeth, see R5156.

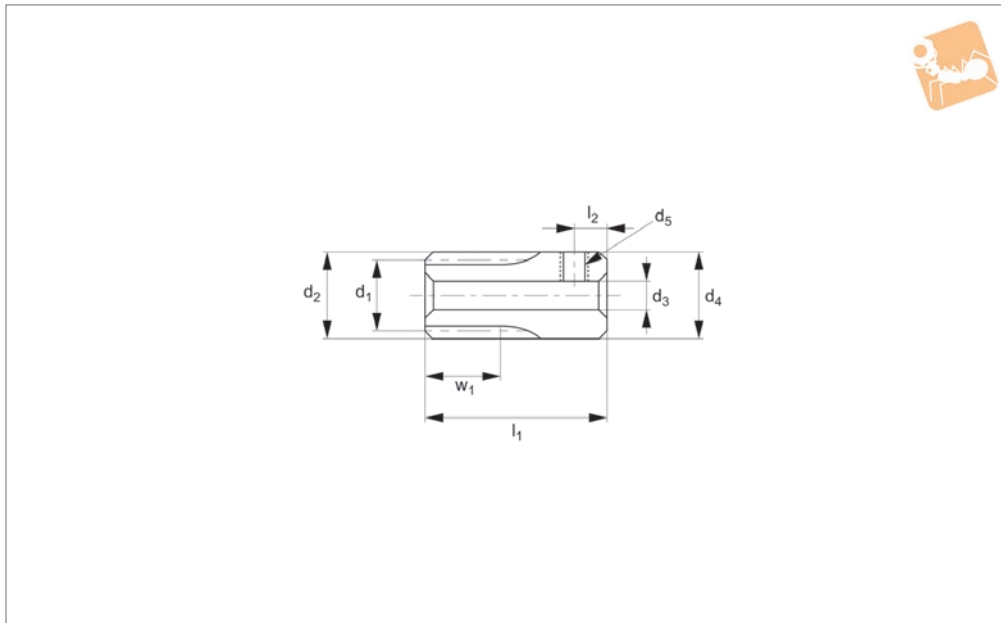
Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5157.080-016	m 0.8	16	12.8	14.4	5	3	10.0	12	7	0.39	1.5
R5157.080-018	m 0.8	18	14.4	16.0	5	3	12.0	12	7	0.44	2.1
R5157.080-020	m 0.8	20	16.0	17.6	5	3	12.0	12	7	0.49	2.4
R5157.080-022	m 0.8	22	17.6	19.2	5	3	15.0	12	7	0.54	3.3
R5157.080-024	m 0.8	24	19.2	20.8	5	3	16.0	12	7	0.59	3.9
R5157.080-025	m 0.8	25	20.0	21.6	5	3	16.0	12	7	0.61	4.1
R5157.080-028	m 0.8	28	22.4	24.0	5	3	20.0	12	7	0.68	5.7
R5157.080-030	m 0.8	30	24.0	25.6	5	3	20.0	12	7	0.73	6.1
R5157.080-032	m 0.8	32	25.6	27.2	5	3	20.0	12	7	0.78	6.6
R5157.080-036	m 0.8	36	28.8	30.4	5	4	22.0	12	7	0.88	8.1
R5157.080-040	m 0.8	40	32.0	33.6	5	4	22.0	12	7	0.98	9.2
R5157.080-045	m 0.8	45	36.0	37.6	5	4	28.0	12	7	1.10	13.0
R5157.080-048	m 0.8	48	38.4	40.0	5	4	30.0	12	7	1.17	14.9
R5157.080-050	m 0.8	50	40.0	41.6	5	4	30.0	12	7	1.22	15.6
R5157.080-056	m 0.8	56	44.8	46.4	5	4	35.0	12	7	1.37	20.4
R5157.080-060	m 0.8	60	48.0	49.6	5	4	38.0	12	7	1.46	23.7
R5157.080-064	m 0.8	64	51.2	52.8	5	4	38.0	12	7	1.56	25.4
R5157.080-070	m 0.8	70	56.0	57.6	5	5	42.0	12	7	1.71	30.6
R5157.080-072	m 0.8	72	57.6	59.2	5	5	45.0	12	7	1.76	33.7
R5157.080-080	m 0.8	80	64.0	65.6	5	5	50.0	12	7	1.95	41.7
R5157.080-090	m 0.8	90	72.0	73.6	5	5	54.0	12	7	2.20	50.9
R5157.080-100	m 0.8	100	80.0	81.6	5	5	58.0	12	7	2.44	61.1
R5157.080-120	m 0.8	120	96.0	97.6	5	5	68.0	12	7	2.93	86.4



# Spur Gears - Module 0.8

brass - 14-15 teeth



**R5158**

STANDARD SPUR GEARS

**Material**

Brass (C3604B). Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

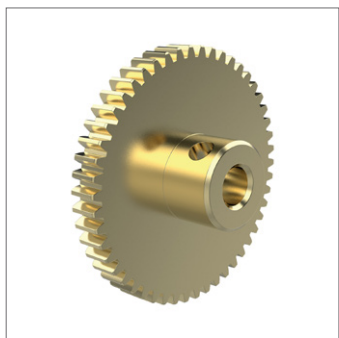
gears = 0,016 - 0,048mm.

**Tips**

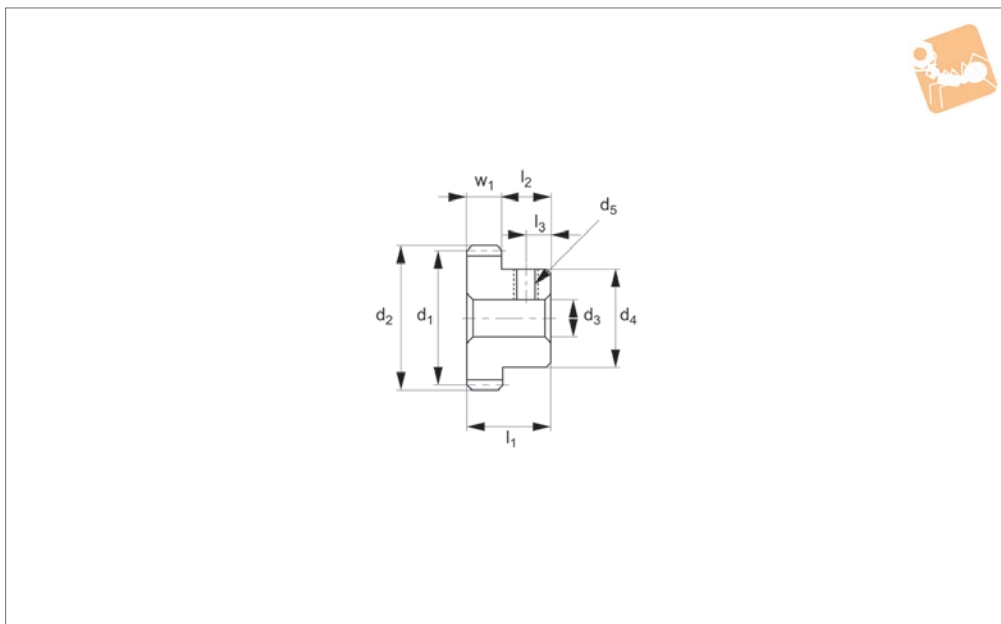
For module 0.8 brass gears with 16-120 teeth, see R5160.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5158.080-014	m 0.8	14	11.2	12.8	7	4	12.8	20	3	M 3	0.38	17.8
R5158.080-015	m 0.8	15	12.0	13.6	7	4	13.6	20	3	M 3	0.42	20.4



### R5160



#### Material

Brass (C3604B).  
Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.

Amount of backlash when assembling gears = 0,016 - 0,048mm.

#### Tips

For module 0.8 brass gears with 14-15 teeth see R5158.  
Max. allowable torque (Nm) is based on

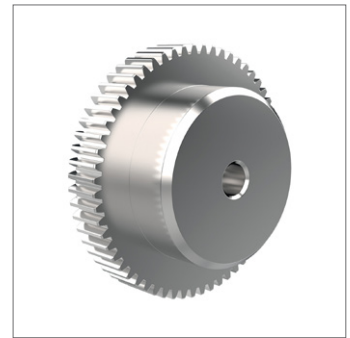
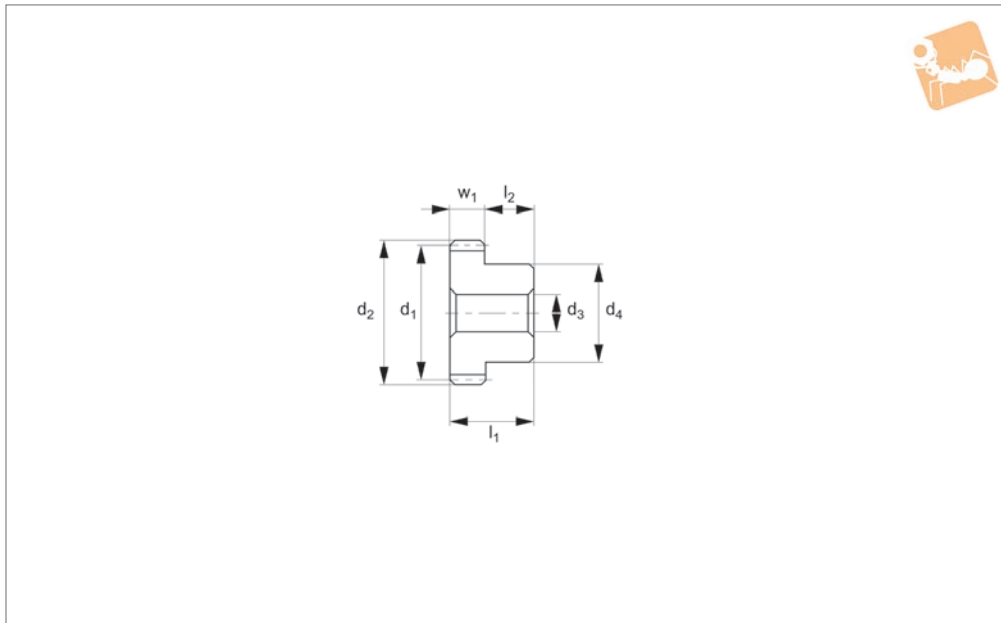
standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5160.080-016-05	m 0.8	16	12.8	14.4	5	4	10.0	14	9	3	M 3	0.34	9.8
R5160.080-016-07	m 0.8	16	12.8	14.4	7	4	10.0	14	7	3	M 3	0.47	10.7
R5160.080-018-05	m 0.8	18	14.4	16.0	5	4	10.0	14	9	3	M 3	0.40	11.3
R5160.080-018-07	m 0.8	18	14.4	16.0	7	4	10.0	14	7	3	M 3	0.57	12.7
R5160.080-020-05	m 0.8	20	16.0	17.6	5	4	10.0	14	9	3	M 3	0.47	12.9
R5160.080-020-07	m 0.8	20	16.0	17.6	7	4	10.0	14	7	3	M 3	0.66	15.0
R5160.080-024-05	m 0.8	24	19.2	20.8	5	5	12.5	14	9	3	M 3	0.62	19.2
R5160.080-024-07	m 0.8	24	19.2	20.8	7	5	12.5	14	7	3	M 3	0.87	22.0
R5160.080-025-05	m 0.8	25	20.0	21.6	5	5	12.5	14	9	3	M 3	0.66	20.2
R5160.080-025-07	m 0.8	25	20.0	21.6	7	5	12.5	14	7	3	M 3	0.92	23.5
R5160.080-028-05	m 0.8	28	22.4	24.0	5	5	12.5	14	9	3	M 3	0.77	23.6
R5160.080-028-07	m 0.8	28	22.4	24.0	7	5	12.5	14	7	3	M 3	1.08	28.2
R5160.080-030-05	m 0.8	30	24.0	25.6	5	5	12.5	14	9	3	M 3	0.84	26.1
R5160.080-030-07	m 0.8	30	24.0	25.6	7	5	12.5	14	7	3	M 3	1.18	31.7
R5160.080-032-05	m 0.8	32	25.6	27.2	5	5	12.5	14	9	4	M 3	0.92	28.8
R5160.080-036-05	m 0.8	36	28.8	30.4	5	6	14.0	14	9	4	M 4	1.07	35.8
R5160.080-040-05	m 0.8	40	32.0	33.6	5	6	14.0	14	9	4	M 4	1.23	42.3
R5160.080-045-05	m 0.8	45	36.0	37.6	5	6	14.0	14	9	4	M 4	1.43	51.4
R5160.080-048-05	m 0.8	48	38.4	40.0	5	6	14.0	14	9	4	M 4	1.55	57.3
R5160.080-050-05	m 0.8	50	40.0	41.6	5	6	14.0	14	9	4	M 4	1.63	61.5
R5160.080-056-05	m 0.8	56	44.8	46.4	5	6	14.0	14	9	4	M 4	1.87	75.1
R5160.080-060-05	m 0.8	60	48.0	49.6	5	6	14.0	14	9	4	M 4	2.03	85.0
R5160.080-064-05	m 0.8	64	51.2	52.8	5	6	16.0	14	9	4	M 4	2.19	99.1
R5160.080-070-05	m 0.8	70	56.0	57.6	5	8	16.0	14	9	4	M 4	2.44	113.8
R5160.080-072-05	m 0.8	72	57.6	59.2	5	8	16.0	14	9	4	M 4	2.52	119.8
R5160.080-080-05	m 0.8	80	64.0	65.6	5	8	16.0	14	9	4	M 4	2.85	145.8
R5160.080-090-05	m 0.8	90	72.0	73.6	5	8	20.0	14	9	4	M 4	3.25	190.6
R5160.080-100-05	m 0.8	100	80.0	81.6	5	8	24.0	14	9	4	M 4	3.67	241.6
R5160.080-120-05	m 0.8	120	96.0	97.6	5	8	30.0	14	9	4	M 4	4.50	354.8



# Spur Gears - Module 0.8

carbon steel - 25-120 teeth



**R5161**

STANDARD SPUR GEARS

### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8,  
(class 9 for hardened teeth versions). -H  
Gear teeth surface induction-hardened to  
47-53 HRC for increased durability.

### Technical Notes

20° pressure angle, full depth tooth.

Amount of backlash when assembling  
gears = 0,016 - 0,048mm.

### Tips

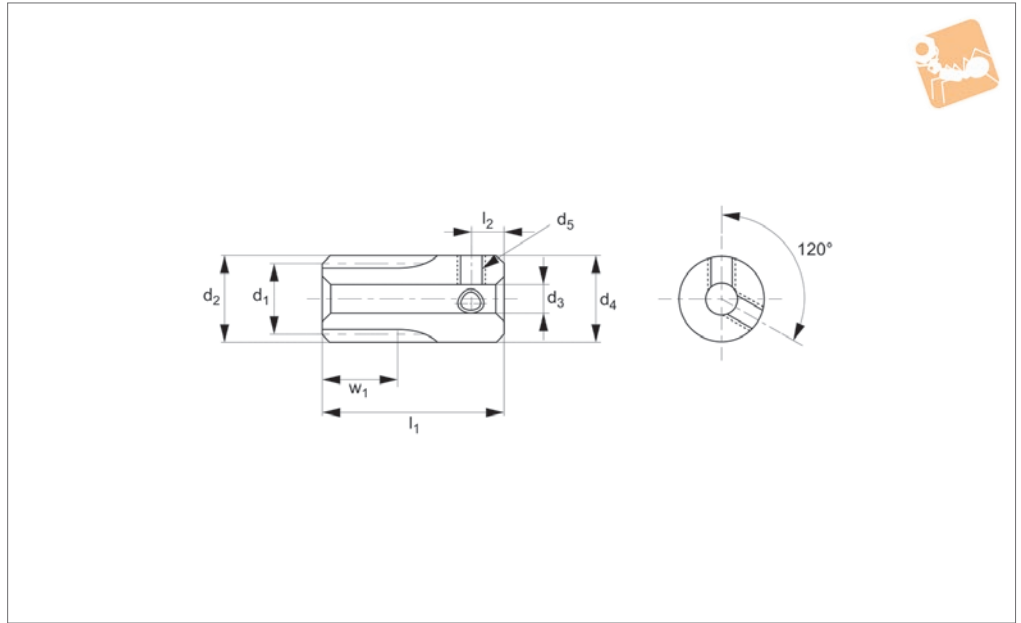
Max. allowable torque (Nm) is based on  
standard operating conditions (see technical  
pages) with a safety factor of 1.2. For  
non standard applications apply a suitable  
safety factor depending on frequency of

use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5161.080-025	m 0.8	25	20	21.6	8	5	16	18	10	5.27	32.5
R5161.080-025H	m 0.8	25	20	21.6	8	5	16	18	10	5.58	32.5
R5161.080-030	m 0.8	30	24	25.6	8	5	20	18	10	6.75	50.1
R5161.080-030H	m 0.8	30	24	25.6	8	5	20	18	10	7.16	50.1
R5161.080-040	m 0.8	40	32	33.6	8	6	25	18	10	9.82	84.7
R5161.080-040H	m 0.8	40	32	33.6	8	6	25	18	10	10.41	84.7
R5161.080-050	m 0.8	50	40	41.6	8	6	28	18	10	12.96	122.9
R5161.080-050H	m 0.8	50	40	41.6	8	6	28	18	10	13.73	122.9
R5161.080-060	m 0.8	60	48	49.6	8	6	34	18	10	16.14	180.5
R5161.080-060H	m 0.8	60	48	49.6	8	6	34	18	10	17.11	180.5
R5161.080-070	m 0.8	70	56	57.6	8	8 tol. H7	40	18	10	19.36	245.7
R5161.080-070H	m 0.8	70	56	57.6	8	8	40	18	10	20.53	245.7
R5161.080-080	m 0.8	80	64	65.6	8	8 tol. H7	45	18	10	22.61	319.2
R5161.080-080H	m 0.8	80	64	65.6	8	8	45	18	10	23.97	319.2
R5161.080-090	m 0.8	90	72	73.6	8	8 tol. H7	50	18	10	25.83	402.1
R5161.080-090H	m 0.8	90	72	73.6	8	8	50	18	10	27.39	402.1
R5161.080-100	m 0.8	100	80	81.6	8	10 tol. H7	60	18	10	29.10	525.8
R5161.080-100H	m 0.8	100	80	81.6	8	10	60	18	10	30.85	525.8
R5161.080-120	m 0.8	120	96	97.6	8	10 tol. H7	70	18	10	35.65	744.7
R5161.080-120H	m 0.8	120	96	97.6	8	10	70	18	10	37.80	744.7



### R5163



**Material**

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,06 - 0,12mm.

**Tips**

For stainless steel module 1 gears with 17-120 teeth, see R5165.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

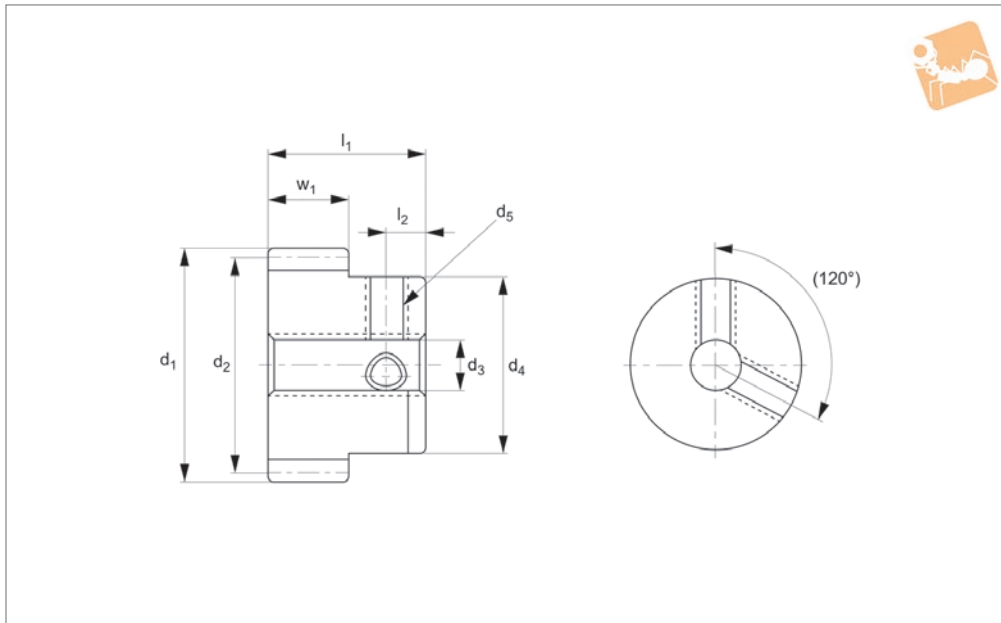
Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5163.100-014	m 1	14	14	16	8	6	16	25	4	2xM 4	1.69	30.4
R5163.100-015	m 1	15	15	17	8	6	17	25	4	2xM 4	1.89	35.3
R5163.100-016	m 1	16	16	18	8	6	18	25	4	2xM 4	2.10	40.5





# Spur Gears - Module 1

stainless steel - 17-120 teeth



**R5165**

STANDARD SPUR GEARS

### Material

Stainless steel (SUS 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,06 - 0,12mm.

### Tips

For stainless steel module 1 gears with 14-16 teeth, see R5163.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5165.100-017-08	m 1	17	17	19	8	6	14	16	4	2xM 4	2.31	19.9
R5165.100-018-08	m 1	18	18	20	8	6	14	16	4	2xM 4	2.53	21.7
R5165.100-018-10	m 1	18	18	20	10	6	14	20	4	2xM 4	3.16	27.2
R5165.100-020-08	m 1	20	20	22	8	6	16	16	4	2xM 4	2.97	28.3
R5165.100-020-10	m 1	20	20	22	10	6	16	20	4	2xM 4	3.71	35.5
R5165.100-021-08	m 1	21	21	23	8	6	18	16	4	2xM 4	3.19	33.5
R5165.100-022-08	m 1	22	22	24	8	6	18	16	4	2xM 4	3.41	35.7
R5165.100-024-08	m 1	24	24	26	8	6	18	16	4	2xM 4	3.87	40.3
R5165.100-024-10	m 1	24	24	26	10	6	18	20	4	2xM 4	4.84	50.6
R5165.100-025-08	m 1	25	25	27	8	6	18	16	4	2xM 4	4.10	42.7
R5165.100-025-10	m 1	25	25	27	10	6	20	20	4	2xM 4	5.12	58.2
R5165.100-026-08	m 1	26	26	28	8	6	20	16	4	2xM 4	4.33	48.9
R5165.100-028-08	m 1	28	28	30	8	6	20	16	4	2xM 4	4.80	54.2
R5165.100-028-10	m 1	28	28	30	10	6	20	20	4	2xM 4	6.00	68.1
R5165.100-030-08	m 1	30	30	32	8	6	24	16	4	2xM 4	5.27	68.5
R5165.100-030-10	m 1	30	30	32	8	6	24	20	4	2xM 4	6.68	86.0
R5165.100-032-06	m 1	32	32	34	10	6	24	16	4	2xM 4	4.31	69.1
R5165.100-034-06	m 1	34	34	36	6	6	24	16	4	2xM 4	4.67	74.0
R5165.100-035-06	m 1	35	35	37	6	6	24	16	4	2xM 4	4.85	76.6
R5165.100-036-06	m 1	36	36	38	6	8	24	16	4	2xM 4	5.03	76.6
R5165.100-040-06	m 1	40	40	42	6	8	28	16	4	2xM 4	5.77	100.6
R5165.100-042-06	m 1	42	42	44	6	8	28	16	4	2xM 4	6.14	106.7
R5165.100-044-06	m 1	44	44	46	6	8	28	16	4	2xM 4	6.50	113.1
R5165.100-045-06	m 1	45	45	47	6	8	28	16	4	2xM 4	6.69	116.5
R5165.100-048-06	m 1	48	48	50	6	8	28	16	4	2xM 4	7.25	126.9
R5165.100-050-06	m 1	50	50	52	6	8	28	16	4	2xM 4	7.62	134.2
R5165.100-052-06	m 1	52	52	54	6	8	28	16	5	2xM 5	8.00	140.9
R5165.100-054-06	m 1	54	54	56	6	8	28	16	5	2xM 5	8.38	148.8
R5165.100-056-06	m 1	56	56	58	6	10	30	16	5	2xM 5	8.75	160.6
R5165.100-060-06	m 1	60	60	62	6	10	30	16	5	2xM 5	9.51	178.0

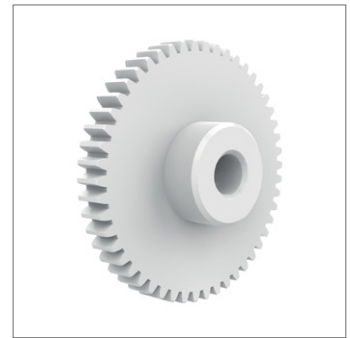
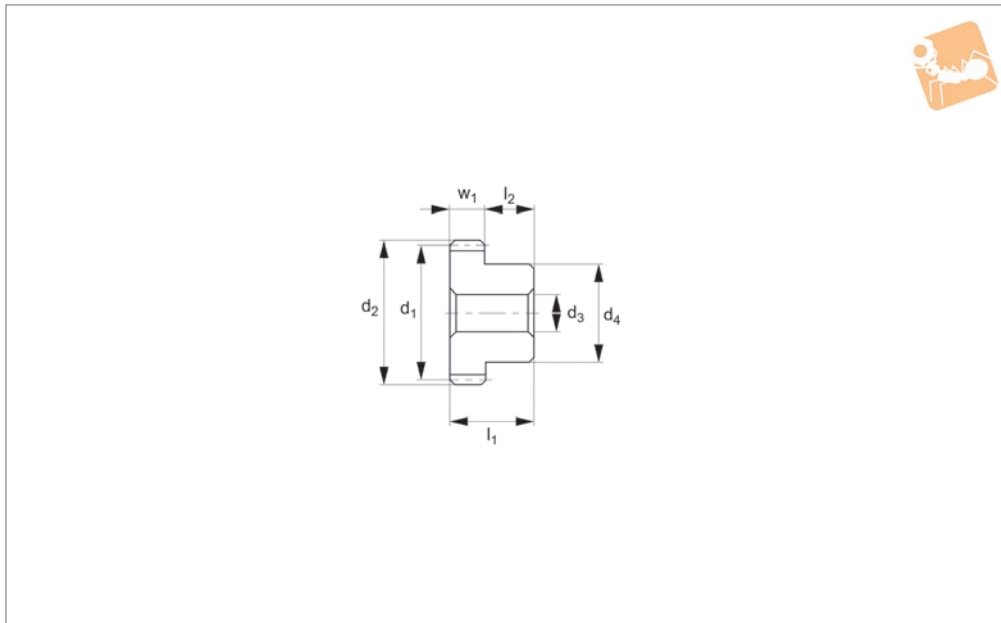


Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
<b>R5165.100-064-06</b>	m 1	64	64	66	6	10	30	16	5	2xM 5	10.27	196.5
<b>R5165.100-070-06</b>	m 1	70	70	72	6	10	30	16	5	2xM 5	11.42	226.6
<b>R5165.100-072-06</b>	m 1	72	72	74	6	10	30	16	5	2xM 5	11.80	237.2
<b>R5165.100-080-06</b>	m 1	80	80	82	6	10	30	16	5	2xM 5	13.34	282.6
<b>R5165.100-090-06</b>	m 1	90	90	92	6	10	30	16	5	2xM 5	15.26	346.1
<b>R5165.100-100-06</b>	m 1	100	100	102	6	10	30	16	5	2xM 5	17.19	417.1
<b>R5165.100-120-06</b>	m 1	120	120	122	6	10	30	16	5	2xM 5	21.08	581.6



# Spur Gears - Module 1 - Plastic

white polyacetal - 17-120 teeth



**R5166**

STANDARD SPUR GEARS

**Material**

White polyacetal (PA, also known as polyoxymethylene/POM), machined.  
Accuracy to JIS B 1702-1 (ISO) class 9-10.

**Technical Notes**

20° pressure angle, full depth tooth.

Amount of backlash when assembling gears = 0,06 - 0,12mm.

**Tips**

For module 1 white polyacetal gears with set screws see R5169 & R5170. Max. allowable torque (Nm) is based on standard

operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5166.100-017	m 1	17	17	19	8	6	14	16	8	0.80	3.7
R5166.100-018	m 1	18	18	20	8	8	15	16	8	0.84	3.7
R5166.100-020	m 1	20	20	22	8	8	16	16	8	0.94	4.7
R5166.100-022	m 1	22	22	24	8	8	18	16	8	1.03	6.0
R5166.100-023	m 1	23	23	25	8	8	18	16	8	1.08	6.4
R5166.100-024	m 1	24	24	26	8	8	18	16	8	1.12	6.8
R5166.100-025	m 1	25	25	27	8	8	18	16	8	1.17	7.3
R5166.100-026	m 1	26	26	28	8	8	20	16	8	1.22	8.4
R5166.100-028	m 1	28	28	30	8	8	20	16	8	1.31	9.4
R5166.100-030	m 1	30	30	32	8	8	20	16	8	1.40	10.4
R5166.100-032	m 1	32	32	34	6	8	20	14	8	2.00	9.4
R5166.100-034	m 1	34	34	36	6	8	20	14	8	2.13	10.2
R5166.100-035	m 1	35	35	37	6	8	20	14	8	2.19	10.7
R5166.100-036	m 1	36	36	38	6	8	20	14	8	2.25	11.2
R5166.100-038	m 1	38	38	40	6	8	20	14	8	2.38	12.2
R5166.100-040	m 1	40	40	42	6	8	20	14	8	2.50	13.2
R5166.100-042	m 1	42	42	44	6	8	20	14	8	2.63	14.3
R5166.100-044	m 1	44	44	46	6	8	20	14	8	2.75	15.4
R5166.100-045	m 1	45	45	47	6	8	20	14	8	2.91	16.0
R5166.100-048	m 1	48	48	50	6	8	20	14	8	3.00	17.9
R5166.100-050	m 1	50	50	52	6	8	20	14	8	3.13	19.2
R5166.100-052	m 1	52	52	54	6	8	20	14	8	3.25	20.5
R5166.100-055	m 1	55	55	57	6	8	20	14	8	3.44	22.7
R5166.100-056	m 1	56	56	58	6	8	20	14	8	3.50	23.4
R5166.100-060	m 1	60	60	62	6	8	20	14	8	3.75	26.5
R5166.100-064	m 1	64	64	66	6	8	20	14	8	4.00	29.8
R5166.100-070	m 1	70	70	72	6	8	20	14	8	4.38	35.1
R5166.100-072	m 1	72	72	74	6	8	20	14	8	4.50	37.0
R5166.100-080	m 1	80	80	82	6	8	20	14	8	5.00	45.1
R5166.100-090	m 1	90	90	92	6	8	30	14	8	5.62	60.8

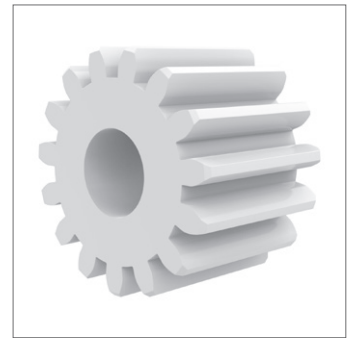
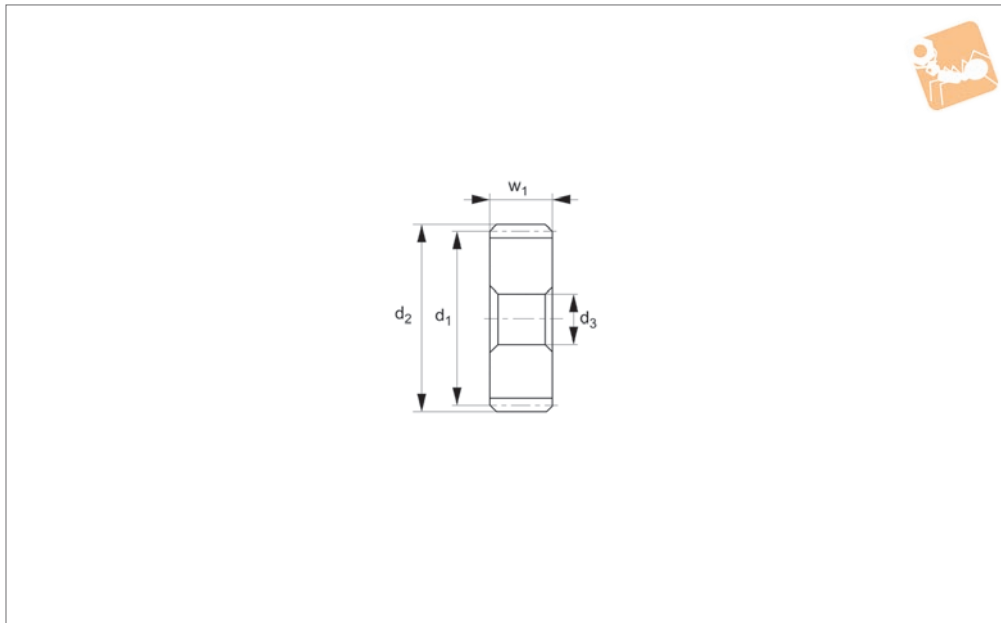


Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H9	$d_4$	$l_1$	$l_2$	Torque Nm max.	Weight g
<b>R5166.100-100</b>	m 1	100	100	102	6	8	30	14	8	6.25	73.4
<b>R5166.100-120</b>	m 1	120	120	122	6	8	30	14	8	7.49	102.7



# Spur Gears - Module 1 - Plastic

white polyacetal - 12-16 teeth



**R5167**

STANDARD SPUR GEARS

**Material**

White polyacetal, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9-10.

**Technical Notes**

20° pressure angle, full depth tooth.

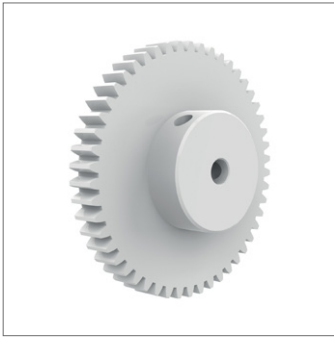
Amount of backlash when assembling gears = 0,06 - 0,12mm.

**Tips**

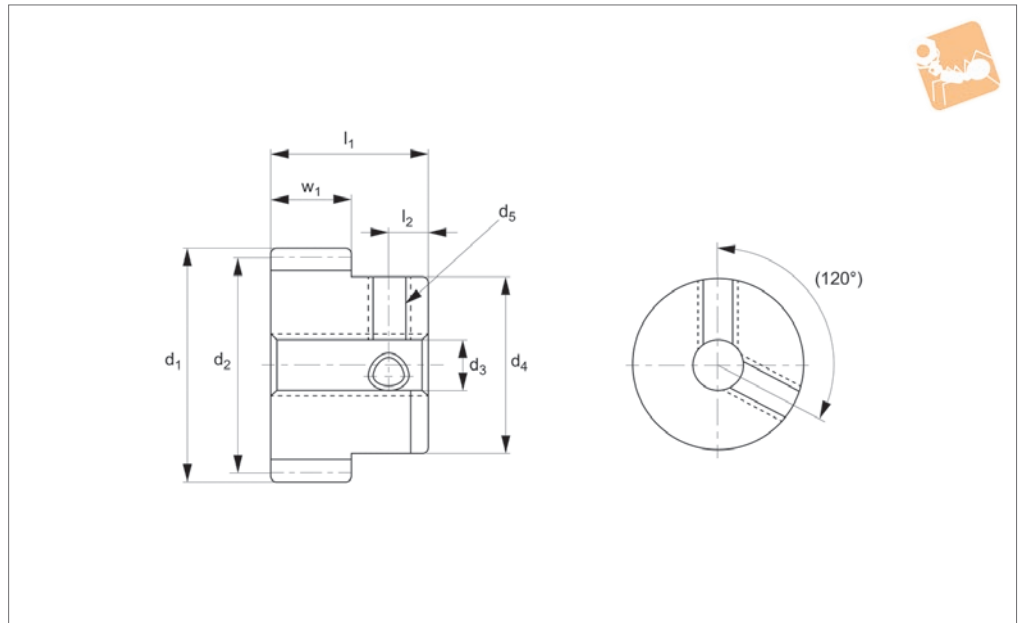
Module 1 for gears with 17-120 teeth see R5169. Max. allowable torque (Nm) is

based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	Torque Nm max.	Weight g
R5167.100-012	m 1	12	12	14	12	6	0.84	1.4
R5167.100-014	m 1	14	14	16	12	6	0.98	2.1
R5167.100-015	m 1	15	15	17	12	6	1.05	2.5
R5167.100-016	m 1	16	16	18	12	6	1.12	2.9



### R5169



#### Material

White polyacetal, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9 - 10.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,06-0,12mm.

#### Tips

Module 1 for gears with 12-16 teeth see R5167.

Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5169.100-017	m 1	17	17	19	8	4	14	16	4	2xM 4	0.80	4.0
R5169.100-018	m 1	18	18	20	8	4	15	16	4	2xM 4	0.84	4.5
R5169.100-020	m 1	20	20	22	8	5	16	16	4	2xM 4	0.94	5.3
R5169.100-022	m 1	22	22	24	8	5	18	16	4	2xM 4	1.03	6.7
R5169.100-023	m 1	23	23	25	8	5	20	16	4	2xM 4	1.08	7.7
R5169.100-024	m 1	24	24	26	8	5	20	16	4	2xM 4	1.12	8.2
R5169.100-025	m 1	25	25	27	8	5	22	16	4	2xM 4	1.17	9.3
R5169.100-026	m 1	26	26	28	8	5	22	16	4	2xM 4	1.22	9.8
R5169.100-028	m 1	28	28	30	8	5	24	16	4	2xM 4	1.31	11.6
R5169.100-030	m 1	30	30	32	8	5	24	16	4	2xM 4	1.40	12.6
R5169.100-032	m 1	32	32	34	6	5	24	14	4	2xM 4	2.00	11.5
R5169.100-034	m 1	34	34	36	6	5	24	14	4	2xM 4	2.13	12.4
R5169.100-035	m 1	35	35	37	6	5	24	14	4	2xM 4	2.19	12.8
R5169.100-036	m 1	36	36	38	6	5	24	14	4	2xM 4	2.25	13.3
R5169.100-038	m 1	38	38	40	6	5	24	14	4	2xM 4	2.38	14.3
R5169.100-040	m 1	40	40	42	6	5	24	14	4	2xM 4	2.50	15.3
R5169.100-042	m 1	42	42	44	6	5	24	14	4	2xM 4	2.63	16.4
R5169.100-044	m 1	44	44	46	6	5	24	14	4	2xM 4	2.75	17.5
R5169.100-045	m 1	45	45	47	6	5	24	14	4	2xM 4	2.91	18.1
R5169.100-048	m 1	48	48	50	6	5	24	14	4	2xM 4	3.00	20.0
R5169.100-050	m 1	50	50	52	6	5	24	14	4	2xM 4	3.13	21.3
R5169.100-052	m 1	52	52	54	6	5	24	14	4	2xM 4	3.25	22.6
R5169.100-055	m 1	55	55	57	6	5	24	14	4	2xM 4	3.44	24.8
R5169.100-056	m 1	56	56	58	6	5	24	14	4	2xM 4	3.50	25.5
R5169.100-060	m 1	60	60	62	6	5	24	14	4	2xM 4	3.75	28.6
R5169.100-064	m 1	64	64	66	6	5	24	14	4	2xM 4	4.00	31.9
R5169.100-070	m 1	70	70	72	6	5	24	14	4	2xM 4	4.38	37.2
R5169.100-072	m 1	72	72	74	6	5	24	14	4	2xM 4	4.50	39.1
R5169.100-080	m 1	80	80	82	6	5	24	14	4	2xM 4	5.00	47.2
R5169.100-090	m 1	90	90	92	6	5	24	14	4	2xM 4	5.62	58.5



# Spur Gears - Module 1 - Plastic

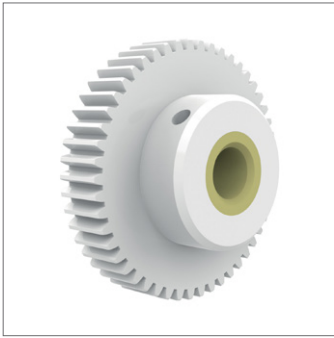
white polyacetal - set screw - 17-120 teeth



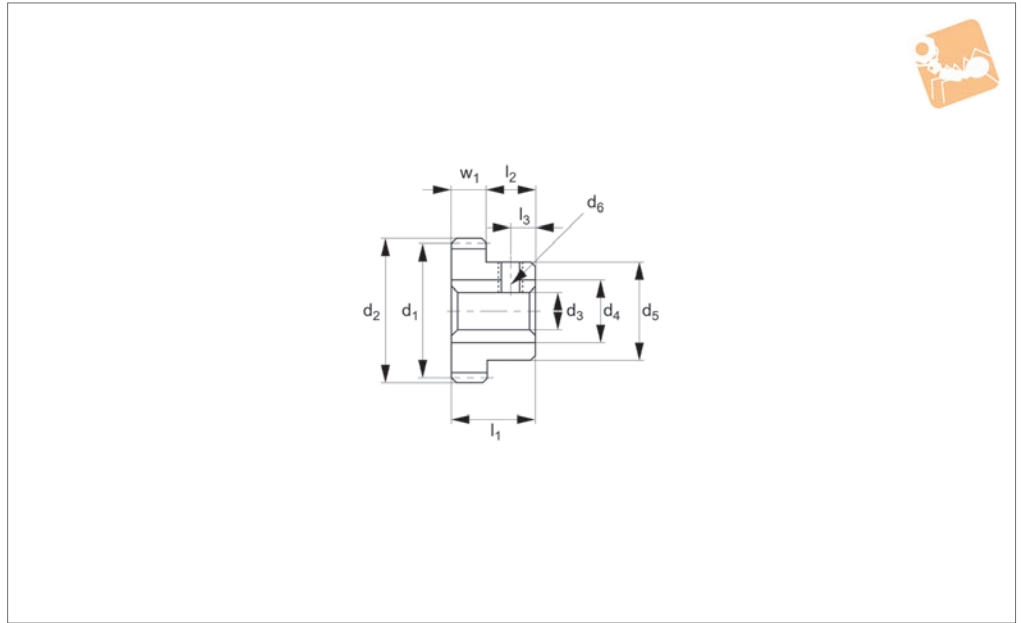
Standard Spur Gears

Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H9	$d_4$	$l_1$	$l_2$	Thread $d_5$	Torque Nm max.	Weight g
<b>R5169.100-100</b>	m 1	100	100	102	6	5	24	14	4	2xM 4	6.25	71.1
<b>R5169.100-120</b>	m 1	120	120	122	6	5	24	14	4	2xM 4	7.49	100.4

STANDARD SPUR GEARS



### R5170



#### Material

White polyacetal, with brass bushing.  
Accuracy to JIS B 1702-1 (ISO) class 9-10.

#### Technical Notes

20° pressure angle, full depth tooth.

Amount of backlash when assembling gears = 0,06 - 0,12mm.

#### Tips

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

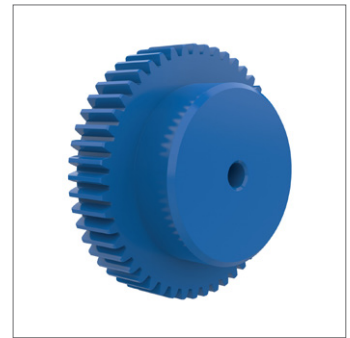
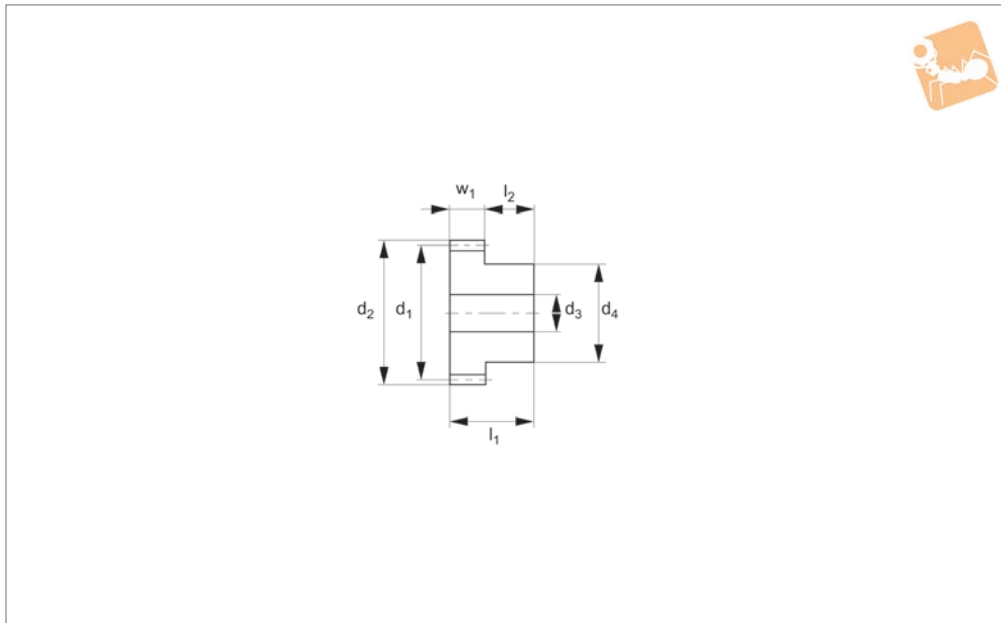
Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	d <sub>6</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5170.100-020	m 1	20	20	22	10	8	16	12	20	10	4	M 4	1.54	16.8
R5170.100-024	m 1	24	24	26	10	8	20	12	20	10	4	M 4	1.84	17.5
R5170.100-025	m 1	25	25	27	10	8	20	12	20	10	4	M 4	1.92	18.0
R5170.100-028	m 1	28	28	30	10	10	24	16	20	10	4	M 4	2.15	35.0
R5170.100-030	m 1	30	30	32	10	10	24	16	20	10	4	M 4	2.30	36.4
R5170.100-032	m 1	32	32	34	10	10	24	16	20	10	4	M 4	2.46	37.8
R5170.100-036	m 1	36	36	38	10	10	30	16	20	10	4	M 4	2.76	38.0
R5170.100-040	m 1	40	40	42	10	10	30	16	20	10	4	M 4	3.07	41.4
R5170.100-045	m 1	45	45	47	10	10	30	16	20	10	4	M 4	3.45	46.1
R5170.100-048	m 1	48	48	50	10	10	30	16	20	10	4	M 4	3.68	49.2
R5170.100-050	m 1	50	50	52	10	10	30	16	20	10	4	M 4	3.84	51.4
R5170.100-056	m 1	56	56	58	10	10	30	16	20	10	4	M 4	4.29	58.5
R5170.100-060	m 1	60	60	62	10	10	30	16	20	10	4	M 4	4.60	63.7
R5170.100-064	m 1	64	64	66	10	10	30	16	20	10	4	M 4	4.91	69.2
R5170.100-070	m 1	70	70	72	10	10	30	16	20	10	4	M 4	5.37	78.2
R5170.100-072	m 1	72	72	74	10	10	30	16	20	10	4	M 4	5.52	81.4
R5170.100-080	m 1	80	80	82	10	10	30	16	20	10	4	M 4	6.13	94.9
R5170.100-090	m 1	90	90	92	10	10	30	16	20	10	4	M 4	6.89	113.9
R5170.100-100	m 1	100	100	102	10	10	30	16	20	10	4	M 4	7.66	135.1
R5170.100-120	m 1	120	120	122	10	10	30	16	20	10	4	M 4	9.18	184.1





# Spur Gears - Module 1 - Plastic

blue polyacetal - 12-120 teeth



**R5172**

STANDARD SPUR GEARS

**Material**

Blue polyacetal, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9 - 10.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,06 - 0,12mm.

Blue polyacetal machined gears are suitable for use in food machinery applications. Approved by the FDA (USA) and by regulators in the EU and Japan, where the food has an alcohol percentage of <15%. Please clean gears thoroughly before use.

**Tips**

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5172.100-012	m 1	12	12	14	10	4	8	20	10	0.69	1.9
R5172.100-014	m 1	14	14	16	10	4	10	20	10	0.92	2.9
R5172.100-015	m 1	15	15	17	10	4	10	20	10	1.02	3.2
R5172.100-016	m 1	16	16	18	10	4	12	20	10	1.12	4.0
R5172.100-017	m 1	17	17	19	10	4	14	20	10	1.21	5.0
R5172.100-018	m 1	18	18	20	10	4	15	20	10	1.31	5.7
R5172.100-020	m 1	20	20	22	10	5	16	20	10	1.54	6.6
R5172.100-022	m 1	22	22	24	10	5	18	20	10	1.61	8.3
R5172.100-023	m 1	23	23	25	10	5	20	20	10	1.71	9.7
R5172.100-024	m 1	24	24	26	10	5	20	20	10	1.84	10.2
R5172.100-025	m 1	25	25	27	10	5	22	20	10	1.92	11.6
R5172.100-026	m 1	26	26	28	10	5	22	20	10	1.99	12.2
R5172.100-028	m 1	28	28	30	10	5	24	20	10	2.15	14.4
R5172.100-030	m 1	30	30	32	10	5	24	20	10	2.30	15.7
R5172.100-032	m 1	32	32	34	10	5	24	20	10	2.46	17.1
R5172.100-034	m 1	34	34	36	10	5	24	20	10	2.67	18.5
R5172.100-035	m 1	35	35	37	10	5	24	20	10	2.59	19.3
R5172.100-036	m 1	36	36	38	10	5	26	20	10	2.76	21.2
R5172.100-038	m 1	38	38	40	10	5	28	20	10	2.94	24.0
R5172.100-040	m 1	40	40	42	10	5	30	20	10	3.07	27.0
R5172.100-042	m 1	42	42	44	10	5	30	20	10	3.21	28.8
R5172.100-044	m 1	44	44	46	10	5	32	20	10	3.39	32.1
R5172.100-045	m 1	45	45	47	10	5	32	20	10	3.45	33.1
R5172.100-048	m 1	48	48	50	10	5	36	20	10	3.68	39.2
R5172.100-050	m 1	50	50	52	10	5	36	20	10	3.84	41.4
R5172.100-052	m 1	52	52	54	10	5	40	20	10	4.03	47.0
R5172.100-055	m 1	55	55	57	10	5	40	20	10	4.23	50.5
R5172.100-056	m 1	56	56	58	10	5	40	20	10	4.29	51.7
R5172.100-060	m 1	60	60	62	10	5	46	20	10	4.60	62.6

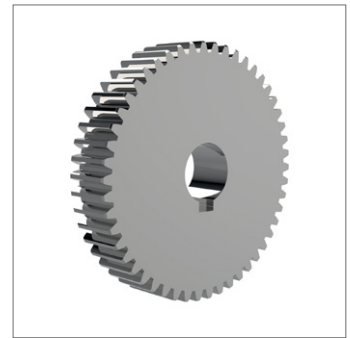
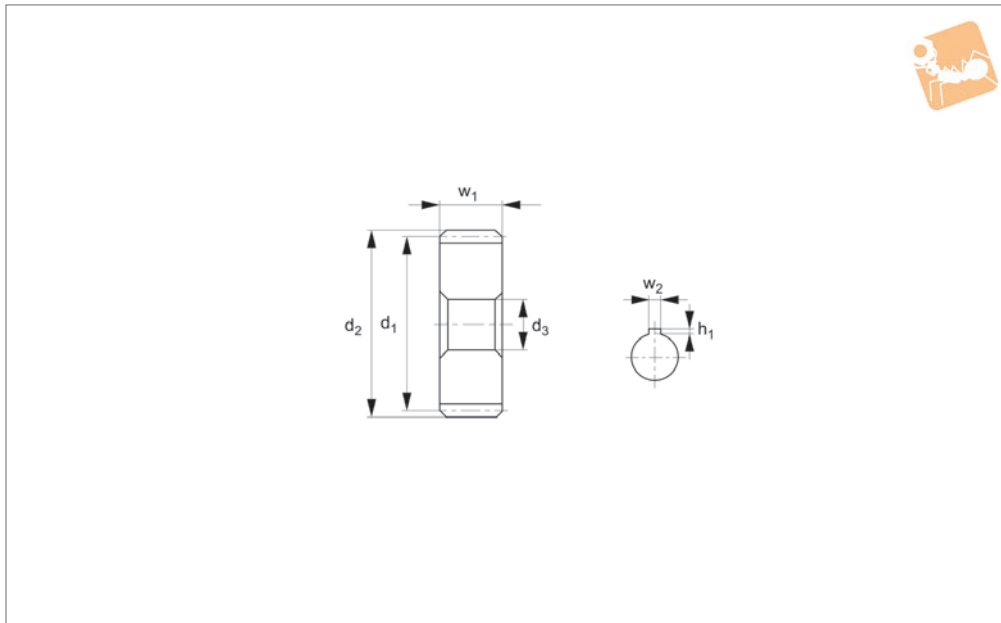


Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5172.100-064	m 1	64	64	66	10	5	48	20	10	4.91	70.2
R5172.100-065	m 1	65	65	67	10	5	48	20	10	4.97	71.6
R5172.100-070	m 1	70	70	72	10	5	52	20	10	5.37	83.5
R5172.100-072	m 1	72	72	74	10	5	52	20	10	5.52	86.6
R5172.100-075	m 1	75	75	77	10	5	52	20	10	5.81	91.5
R5172.100-080	m 1	80	80	82	10	5	58	20	10	6.13	107.4
R5172.100-085	m 1	85	85	87	10	5	62	20	10	6.44	121.8
R5172.100-090	m 1	90	90	92	10	5	65	20	10	6.89	135.7
R5172.100-100	m 1	100	100	102	10	5	70	20	10	7.66	164.0
R5172.100-120	m 1	120	120	122	10	5	84	20	10	9.18	236.8



# Spur Gears - Module 1

carbon steel - 14-68 teeth



**R5173**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8- 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,04 - 0,10mm.

**Tips**

Module 1 for gears with 8-10 teeth see R5175 & R5176, for gears with 12-18 teeth see R5177, for gears with 14-120 teeth with set screw see R5179.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Keyway (w <sub>2</sub> x h <sub>1</sub> )	Torque Nm max.	Weight g
R5173.100-050-06-10	m 1	50	50	52	6	10	-	14.32	89
R5173.100-050-06-12	m 1	50	50	52	6	12	4x1,8	14.32	87
R5173.100-050-10-08	m 1	50	50	52	10	8	-	24.83	151
R5173.100-050-10-10	m 1	50	50	52	10	10	3x1,4	24.83	148
R5173.100-050-10-12	m 1	50	50	52	10	12	4x1,8	24.83	145
R5173.100-050-10-15	m 1	50	50	52	10	15	5x2,3	24.83	140
R5173.100-052-06-10	m 1	52	52	54	6	10	-	15.28	97
R5173.100-052-10-10	m 1	52	52	54	10	10	-	25.78	161
R5173.100-054-06-10	m 1	54	54	56	6	10	-	16.23	105
R5173.100-054-10-10	m 1	54	54	56	10	10	-	27.69	174
R5173.100-055-06-10	m 1	55	55	57	6	10	-	16.23	109
R5173.100-055-10-10	m 1	55	55	57	10	10	-	27.69	181
R5173.100-056-06-10	m 1	56	56	58	6	10	-	17.19	113
R5173.100-056-06-12	m 1	56	56	58	6	12	4x1,8	17.19	111
R5173.100-056-10-10	m 1	56	56	58	10	10	-	28.65	188
R5173.100-056-10-12	m 1	56	56	58	10	12	4x1,8	28.65	184
R5173.100-056-10-15	m 1	56	56	58	10	15	5x2,3	28.65	179
R5173.100-058-06-10	m 1	58	58	60	6	10	-	18.14	115
R5173.100-058-10-10	m 1	58	58	60	10	10	-	29.60	196
R5173.100-060-06-10	m 1	60	60	62	6	10	-	18.14	130
R5173.100-060-06-12	m 1	60	60	62	6	12	4x1,8	18.14	128
R5173.100-060-10-10	m 1	60	60	62	10	10	-	31.51	216
R5173.100-060-10-10K	m 1	60	60	62	10	10	3x1,4	31.51	216
R5173.100-060-10-12	m 1	60	60	62	10	12	4x1,8	31.51	213
R5173.100-060-10-15	m 1	60	60	62	10	15	5x2,3	31.51	208
R5173.100-062-06-10	m 1	62	62	64	6	10	-	19.10	139
R5173.100-062-10-10	m 1	62	62	64	10	10	-	32.47	231
R5173.100-064-06-10	m 1	64	64	66	6	10	-	20.05	148
R5173.100-064-06-12	m 1	64	64	66	6	12	4x1,8	20.05	146
R5173.100-064-10-10	m 1	64	64	66	10	10	-	33.42	247



Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Keyway (w <sub>2</sub> x h <sub>1</sub> )	Torque Nm max.	Weight g
R5173.100-064-10-12	m 1	64	64	66	10	12	4×1,8	33.42	244
R5173.100-064-10-15	m 1	64	64	66	10	15	5×2,3	33.42	238
R5173.100-065-06-10	m 1	65	65	67	6	10	-	20.05	153
R5173.100-065-10-10	m 1	65	65	67	10	10	-	34.38	255
R5173.100-066-06-10	m 1	66	66	68	6	10	-	21.01	158
R5173.100-066-10-10	m 1	66	66	68	10	10	-	35.33	263
R5173.100-068-06-10	m 1	68	68	70	6	10	-	21.96	168
R5173.100-068-10-10	m 1	68	68	70	10	10	-	36.29	279
R5173.100-030-08-08	m 1	30	30	32	8	8	-	10.54	42
R5173.100-030-08-10	m 1	30	30	32	8	10	3×1,4	10.54	40
R5173.100-030-10-10	m 1	30	30	32	10	10	3×1,4	13.19	49
R5173.100-030-12-08	m 1	30	30	32	12	8	-	15.81	62
R5173.100-030-12-10	m 1	30	30	32	12	10	3×1,4	15.81	59
R5173.100-030-12-12	m 1	30	30	32	12	12	4×1,8	15.81	56
R5173.100-032-06-08	m 1	32	32	34	6	8	-	8.62	36
R5173.100-032-06-10	m 1	32	32	34	6	10	3×1,4	8.62	34
R5173.100-032-06-12	m 1	32	32	34	6	12	4×1,8	8.62	33
R5173.100-032-10-08	m 1	32	32	34	10	8	-	14.37	60
R5173.100-032-10-10	m 1	32	32	34	10	10	3×1,4	14.37	57
R5173.100-032-10-12	m 1	32	32	34	10	12	4×1,8	14.37	54
R5173.100-034-06-08	m 1	34	34	36	6	8	-	9.34	41
R5173.100-034-10-08	m 1	34	34	36	10	8	-	15.57	68
R5173.100-035-06-08	m 1	35	35	37	6	8	-	9.70	43
R5173.100-035-06-10	m 1	35	35	37	6	10	3×1,4	9.70	42
R5173.100-035-06-12	m 1	35	35	37	6	12	4×1,8	9.70	40
R5173.100-035-10-08	m 1	35	35	37	10	8	-	16.17	72
R5173.100-035-10-10	m 1	35	35	37	10	10	3×1,4	16.17	69
R5173.100-035-10-12	m 1	35	35	37	10	12	4×1,8	16.17	67
R5173.100-035-10-15	m 1	35	35	37	10	15	5×2,3	16.17	61
R5173.100-036-06-08	m 1	36	36	38	6	8	-	10.07	46
R5173.100-036-06-10	m 1	36	36	38	6	10	3×1,4	10.07	44
R5173.100-036-06-12	m 1	36	36	38	6	12	4×1,8	10.07	43
R5173.100-036-10-08	m 1	36	36	38	10	8	-	16.78	76
R5173.100-036-10-10	m 1	36	36	38	10	10	3×1,4	16.78	74
R5173.100-036-10-12	m 1	36	36	38	10	12	4×1,8	16.78	71
R5173.100-036-10-15	m 1	36	36	38	10	15	5×2,3	16.78	66
R5173.100-038-06-08	m 1	38	38	40	6	8	-	10.80	52
R5173.100-038-10-08	m 1	38	38	40	10	8	-	18.00	86
R5173.100-040-06-08	m 1	40	40	42	6	8	-	11.53	57
R5173.100-040-06-10	m 1	40	40	42	6	10	3×1,4	11.53	56
R5173.100-040-06-12	m 1	40	40	42	6	12	4×1,8	11.53	54
R5173.100-040-10-08	m 1	40	40	42	10	8	-	19.18	95
R5173.100-040-10-10	m 1	40	40	42	10	10	3×1,4	19.18	93
R5173.100-040-10-12	m 1	40	40	42	10	12	4×1,8	19.18	90
R5173.100-040-10-15	m 1	40	40	42	10	15	5×2,3	19.18	84
R5173.100-042-06-08	m 1	42	42	44	6	8	-	12.27	63
R5173.100-042-10-08	m 1	42	42	44	10	8	-	20.45	105
R5173.100-044-06-08	m 1	44	44	46	6	8	-	13.01	70
R5173.100-044-10-08	m 1	44	44	46	10	8	-	21.68	116
R5173.100-045-06-08	m 1	45	45	47	6	8	-	13.38	73
R5173.100-045-06-10	m 1	45	45	47	6	10	3×1,4	13.38	71
R5173.100-045-06-12	m 1	45	45	47	6	12	4×1,8	13.38	70
R5173.100-045-10-08	m 1	45	45	47	10	8	-	22.30	121
R5173.100-045-10-10	m 1	45	45	47	10	10	3×1,4	22.30	119
R5173.100-045-10-12	m 1	45	45	47	10	12	4×1,8	22.30	116
R5173.100-045-10-15	m 1	45	45	47	10	15	5×2,3	22.30	111
R5173.100-046-06-08	m 1	46	46	48	6	8	-	13.75	76
R5173.100-046-10-10	m 1	46	46	48	10	10	-	22.92	125
R5173.100-048-06-08	m 1	48	48	50	6	8	-	14.32	83
R5173.100-048-06-10	m 1	48	48	50	6	10	3×1,4	14.32	82
R5173.100-048-06-12	m 1	48	48	50	6	12	4×1,8	14.32	80
R5173.100-048-10-10	m 1	48	48	50	10	10	-	23.87	136
R5173.100-048-10-12	m 1	48	48	50	10	12	4×1,8	23.87	133
R5173.100-048-10-15	m 1	48	48	50	10	15	5×2,3	23.87	128
R5173.100-014-08-05	m 1	14	14	16	8	5	-	3.38	9
R5173.100-014-08-06	m 1	14	14	16	8	6	-	3.38	8
R5173.100-014-12-06	m 1	14	14	16	12	6	-	5.07	12



# Spur Gears - Module 1

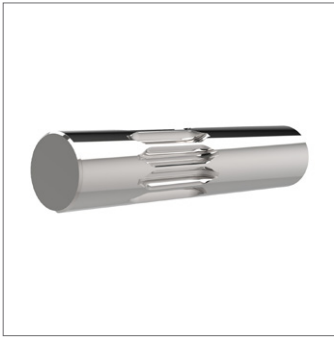
carbon steel - 14-68 teeth



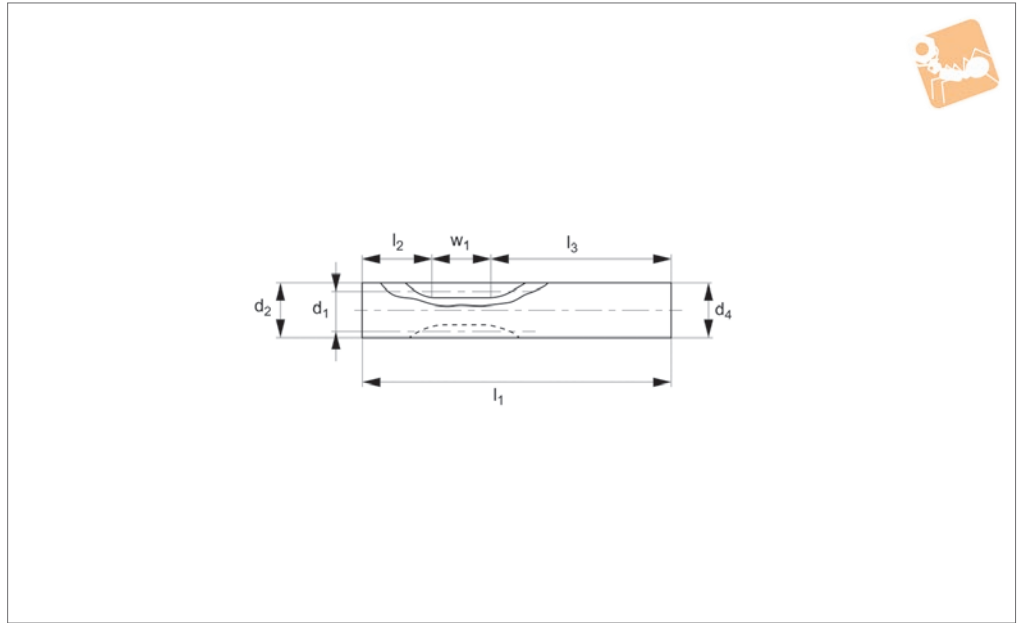
## Standard Spur Gears

Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H7	Keyway ( $w_2 \times h_1$ )	Torque Nm max.	Weight g
R5173.100-015-08-05	m 1	15	15	17	8	5	-	3.79	10
R5173.100-015-08-06	m 1	15	15	17	8	6	-	3.79	10
R5173.100-015-12-06	m 1	15	15	17	12	6	-	5.68	14
R5173.100-016-08-05	m 1	16	16	18	8	5	-	4.21	12
R5173.100-016-08-06	m 1	16	16	18	8	6	-	4.21	11
R5173.100-016-12-08	m 1	16	16	18	12	8	-	6.31	15
R5173.100-017-08-05	m 1	17	17	19	8	5	-	4.63	13
R5173.100-017-12-08	m 1	17	17	19	12	8	-	6.94	17
R5173.100-018-08-05	m 1	18	18	20	8	5	-	5.06	15
R5173.100-018-08-06	m 1	18	18	20	8	6	-	5.06	15
R5173.100-018-12-08	m 1	18	18	20	12	8	-	7.58	20
R5173.100-019-08-06	m 1	19	19	21	8	6	-	6.38	16
R5173.100-019-12-08	m 1	19	19	21	12	8	-	9.57	22
R5173.100-020-08-06	m 1	20	20	22	8	6	-	5.94	18
R5173.100-020-08-08	m 1	20	20	22	8	8	-	5.94	15
R5173.100-020-12-08	m 1	20	20	22	12	8	-	8.90	25
R5173.100-020-12-10	m 1	20	20	22	12	10	3×1,4	8.90	20
R5173.100-021-08-06	m 1	21	21	23	8	6	-	6.38	20
R5173.100-021-12-10	m 1	21	21	23	12	10	-	9.57	23
R5173.100-022-08-06	m 1	22	22	24	8	6	-	6.83	23
R5173.100-022-12-10	m 1	22	22	24	12	10	-	10.24	29
R5173.100-023-08-06	m 1	23	23	25	8	6	-	7.28	25
R5173.100-023-12-10	m 1	23	23	25	12	10	-	10.93	32
R5173.100-024-08-06	m 1	24	24	26	8	6	-	7.74	27
R5173.100-024-08-08	m 1	24	24	26	8	8	-	9.67	26
R5173.100-024-12-08	m 1	24	24	26	12	8	-	11.61	38
R5173.100-024-12-10	m 1	24	24	26	12	10	3×1,4	11.61	35
R5173.100-025-08-06	m 1	25	25	27	8	6	-	8.20	30
R5173.100-025-08-08	m 1	25	25	27	8	8	-	10.29	28
R5173.100-025-08-10	m 1	25	25	27	8	10	3×1,4	10.29	26
R5173.100-025-12-08	m 1	25	25	27	12	8	-	12.30	42
R5173.100-025-12-10	m 1	25	25	27	12	10	3×1,4	12.30	39
R5173.100-026-08-06	m 1	26	26	28	8	6	-	8.66	32
R5173.100-026-12-08	m 1	26	26	28	12	8	-	12.99	46
R5173.100-027-08-06	m 1	27	27	29	8	6	-	9.13	35
R5173.100-027-12-08	m 1	27	27	29	12	8	-	13.69	50
R5173.100-028-08-06	m 1	28	28	30	8	6	-	9.60	37
R5173.100-028-08-08	m 1	28	28	30	8	8	-	9.60	36
R5173.100-028-12-08	m 1	28	28	30	12	8	-	14.40	56
R5173.100-028-12-10	m 1	28	28	30	12	10	3×1,4	14.40	51
R5173.100-028-12-12	m 1	28	28	30	12	12	4×1,8	14.40	47

STANDARD SPUR GEARS



### R5175



#### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8-9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,04 - 0,10mm.

#### Tips

Module 1 for gears with 14-120 teeth see R5173 & R5179, for gears with 8-10 see R5176, for gears with 12-18 see R5177.  
Max. allowable torque (Nm) is based on

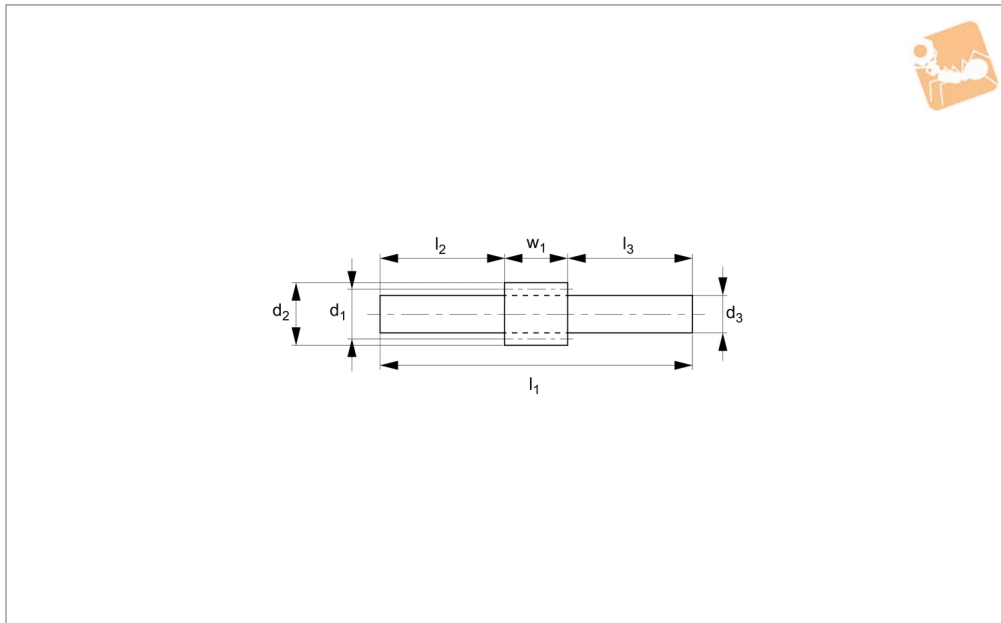
standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Torque Nm max.	Weight g
R5175.100-08	m 1	8	Shifted gear *	10.64	12	10.6	60	16	32	3.07	39.5
R5175.100-10	m 1	10	Shifted gear *	12.66	12	12.66	60	16	32	4.23	56.4



# Spur Gears - Module 1

carbon steel - 8-10 teeth



**R5176**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8-9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,04 - 0,10mm.

**Tips**

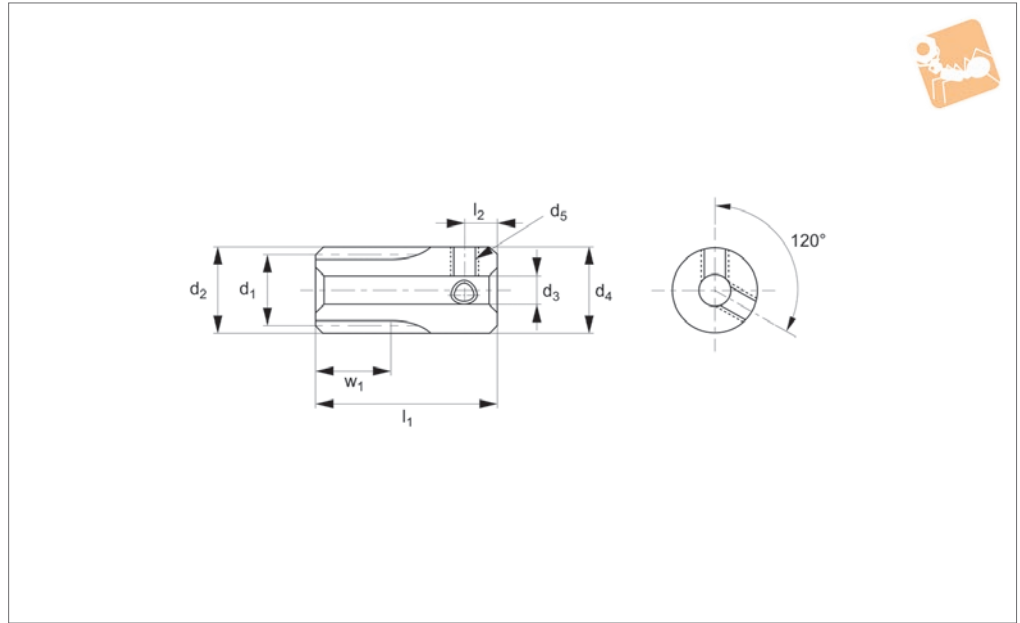
Module 1 for gears with 14-120 teeth see R5173 & R5179, for gears with 8-10 teeth see R175, for gears with 12-18 teeth see R5177.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Torque Nm max.	Weight g
R5176.100-008	m 1	8	Shifted Gear *	10.6	12	6	60	16	32	3.38	16.7
R5176.100-010	m 1	10	Shifted Gear *	12.7	12	6	60	16	32	5.07	27.9



### R5177



#### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8- 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,04 - 0,10mm.

#### Tips

Module 1 for gears with 14-120 teeth see R5173 & R5179, for gears with 8-10 teeth see R5175 & R5176.

Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

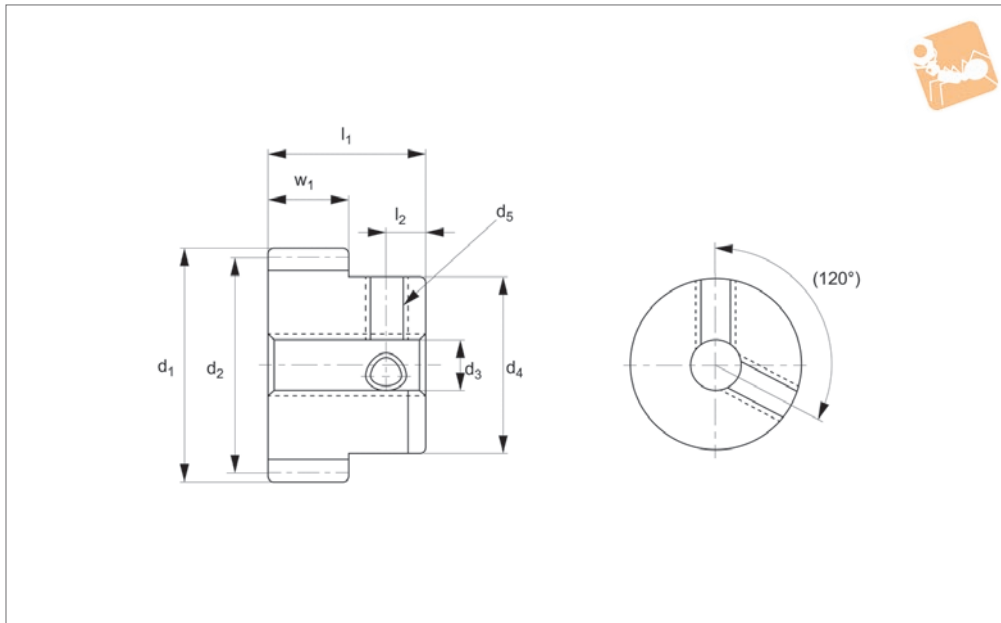
Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5177.100-012-12	m 1	12	12	14	12	6	14	30	5	2xM 4	3.89	25.1
R5177.100-013-12	m 1	13	13	15	12	6	15	30	5	2xM 4	4.47	30.1
R5177.100-014-08	m 1	14	14	16	8	6	16	25	4	2xM 4	3.38	30.1
R5177.100-014-12	m 1	14	14	16	12	6	16	30	5	2xM 5	5.07	35.0
R5177.100-015-08	m 1	15	15	17	8	6	17	25	4	2xM 4	3.79	35.0
R5177.100-015-12	m 1	15	15	17	12	6	17	30	5	2xM 5	5.10	40.7
R5177.100-016-06	m 1	16	16	18	8	6	18	25	4	2xM 4	4.21	40.0
R5177.100-016-08	m 1	16	16	18	8	8	18	25	4	2xM 4	4.21	35.9
R5177.100-016-12	m 1	16	16	18	12	8	18	30	5	2xM 5	6.31	41.8
R5177.100-017-08	m 1	17	17	19	8	8	19	25	4	2xM 4	4.63	41.3
R5177.100-017-12	m 1	17	17	19	12	8	19	30	5	2xM 5	6.94	48.2
R5177.100-018-08	m 1	18	18	20	8	8	20	25	4	2xM 4	5.06	47.1
R5177.100-018-12	m 1	18	18	20	12	8	20	30	4	2xM 4	7.58	55.6





# Spur Gears - Module 1

carbon steel - 14-120 teeth



**R5179**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45). Accuracy to JIS B 1702-1 (ISO) class 8, induction hardened class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears=0,04- 0,10 mm.

**Tips**

Module 1 for gears with 8-10 teeth see R5175 & R5176, for gears with 12-18 teeth see R5177, for gears with 14-120 teeth without screw see R5179. Max. allowable torque (Nm) is based on standard opera-

ting conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Hub dia. d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5179.100-014-08-05	m 1	14	14	16	8	5 tol. H8	11	16	-	-	3.38	13
R5179.100-014-10-05	m 1	14	14	16	10	5 tol. H8	11	20	-	-	3.80	17
R5179.100-015-08-05	m 1	15	15	17	8	5 tol. H8	12	16	-	-	3.79	16
R5179.100-015-10-05	m 1	15	15	17	10	5 tol. H8	12	20	-	-	4.30	20
R5179.100-016-08-05	m 1	16	16	18	8	5 tol. H8	13	16	-	-	4.21	19
R5179.100-016-10-05	m 1	16	16	18	10	5 tol. H8	13	20	-	-	4.80	22
R5179.100-017-08-05	m 1	17	17	19	8	5 tol. H8	14	16	-	-	4.63	22
R5179.100-017-10-05	m 1	17	17	19	10	5 tol. H8	14	20	-	-	5.23	27
R5179.100-018-08-06	m 1	18	18	20	8	6	14	16	4	2xM 4	5.06	22
R5179.100-018-10-06	m 1	18	18	20	10	6 tol. H8	15	20	-	-	6.32	30
R5179.100-018-10-08	m 1	18	18	20	10	8	15	20	5	2xM 5	6.62	26
R5179.100-019-08-06	m 1	19	19	21	8	6	16	16	-	-	6.38	26
R5179.100-019-12-08	m 1	19	19	21	12	8	16	20	-	-	9.57	31
R5179.100-020-08-06	m 1	20	20	22	8	6	16	16	-	-	5.94	29
R5179.100-020-08-06T	m 1	20	20	22	8	6	16	16	4	2xM 4	5.94	28
R5179.100-020-08-08	m 1	20	20	22	8	8	16	16	4	2xM 4	5.94	26
R5179.100-020-10-05	m 1	20	20	22	10	5 tol. H8	16	20	-	-	7.47	37
R5179.100-020-10-06	m 1	20	20	22	10	6 tol. H8	16	20	-	-	7.47	37
R5179.100-020-10-08	m 1	20	20	22	10	8	16	20	5	2xM 5	7.47	32
R5179.100-020-12-06	m 1	20	20	22	12	6 tol. H8	16	20	-	-	8.90	38
R5179.100-020-12-06T	m 1	20	20	22	12	6 tol. H8	16	20	4	2xM 4	8.90	37
R5179.100-020-12-08	m 1	20	20	22	12	8	16	20	4	2xM 4	8.90	34
R5179.100-021-08-06	m 1	21	21	23	8	6	18	16	-	-	6.38	34
R5179.100-021-12-08	m 1	21	21	23	12	8	18	20	-	-	9.57	49
R5179.100-022-08-06	m 1	22	22	24	8	6	18	16	-	-	6.83	37
R5179.100-022-12-08	m 1	22	22	24	12	8	18	20	-	-	10.24	44
R5179.100-023-08-06	m 1	23	23	25	8	6	20	16	-	-	7.28	43
R5179.100-023-12-08	m 1	23	23	25	12	8	20	20	-	-	10.93	51
R5179.100-024-08-06	m 1	24	24	26	8	6	16	16	-	-	7.74	38



Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Hub dia. d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5179.100-024-08-06T	m 1	24	24	26	8	6	16	16	4	2xM 4	7.74	37
R5179.100-024-08-08	m 1	24	24	26	8	8	16	16	4	2xM 4	7.74	35
R5179.100-024-10-06	m 1	24	24	26	10	6 tol. H8	20	20	-	-	9.67	56
R5179.100-024-10-08	m 1	24	24	26	10	8	20	20	5	2xM 5	9.67	51
R5179.100-024-12-08	m 1	24	24	26	12	8	20	20	-	-	11.61	55
R5179.100-024-12-08T	m 1	24	24	26	12	8	20	20	4	2xM 4	11.61	54
R5179.100-024-12-10	m 1	24	24	26	12	10	20	20	4	2xM 4	11.61	49
R5179.100-025-08-06	m 1	25	25	27	8	6	16	16	-	-	8.20	40
R5179.100-025-08-06T	m 1	25	25	27	8	6	16	16	4	2xM 4	8.20	40
R5179.100-025-08-08	m 1	25	25	27	8	8	16	16	4	2xM 4	8.20	37
R5179.100-025-10-05	m 1	25	25	27	10	5 tol. H8	20	20	-	-	10.90	60
R5179.100-025-10-06	m 1	25	25	27	10	6 tol. H8	20	20	-	-	10.90	59
R5179.100-025-10-08	m 1	25	25	27	10	8	20	20	5	2xM 5	10.90	54
R5179.100-025-12-08	m 1	25	25	27	12	8	20	20	-	-	12.30	59
R5179.100-025-12-08T	m 1	25	25	27	12	8	20	20	4	2xM 4	12.30	58
R5179.100-025-12-10	m 1	25	25	27	12	10	20	20	4	2xM 4	12.30	53
R5179.100-026-08-06	m 1	26	26	28	8	6	22	16	-	-	8.66	54
R5179.100-026-12-08	m 1	26	26	28	12	8	22	20	-	-	12.99	66
R5179.100-027-08-06	m 1	27	27	29	8	6	24	16	-	-	9.13	61
R5179.100-027-12-08	m 1	27	27	29	12	8	24	20	-	-	13.69	75
R5179.100-028-08-06	m 1	28	28	30	8	6	20	16	-	-	9.60	55
R5179.100-028-08-06T	m 1	28	28	30	8	6	20	16	4	2xM 4	9.60	54
R5179.100-028-08-08	m 1	28	28	30	8	8	20	16	4	2xM 4	9.60	52
R5179.100-028-08-10	m 1	28	28	30	8	10	20	16	4	2xM 4	9.60	52
R5179.100-028-10-08	m 1	28	28	30	10	8	24	20	-	-	12.90	77
R5179.100-028-10-10	m 1	28	28	30	10	10	24	20	5	2xM 5	12.90	70
R5179.100-028-12-10	m 1	28	28	30	12	10	24	20	-	-	14.40	75
R5179.100-028-12-10T	m 1	28	28	30	12	10	24	20	4	2xM 4	14.40	73
R5179.100-028-12-12	m 1	28	28	30	12	12	24	20	4	2xM 4	14.40	68
R5179.100-030-08-06	m1	30	30	32	8	6	24	16	-	-	10.54	70
R5179.100-030-08-06T	m1	30	30	32	8	6	24	16	4	2xM 4	10.54	68
R5179.100-030-08-08	m1	30	30	32	8	8	24	16	4	2xM 4	10.54	66
R5179.100-030-08-10	m1	30	30	32	8	10	24	16	4	2xM 4	10.54	62
R5179.100-030-08-12	m1	30	30	32	8	12	24	16	4	2xM 4	10.54	58
R5179.100-030-10-06	m1	30	30	32	10	6 tol. H8	25	20	-	-	13.19	90
R5179.100-030-10-08	m1	30	30	32	10	8	25	20	-	-	13.19	87
R5179.100-030-10-10	m1	30	30	32	10	10	25	20	5	2xM 5	13.19	80
R5179.100-030-12-10	m1	30	30	32	12	10	24	20	-	-	15.81	83
R5179.100-030-12-10T	m1	30	30	32	12	10	24	20	4	2xM 4	15.81	81
R5179.100-030-12-12	m1	30	30	32	12	12	24	20	4	2xM 4	15.81	76
R5179.100-032-06-06	m1	32	32	34	6	6	24	16	-	-	8.62	70
R5179.100-032-06-06T	m1	32	32	34	6	6	24	16	4	2xM 4	8.62	69
R5179.100-032-06-08	m1	32	32	34	6	8	24	16	4	2xM 4	8.62	66
R5179.100-032-06-10	m1	32	32	34	6	10	24	16	5	2xM 5	8.62	62
R5179.100-032-06-12	m1	32	32	34	6	12	24	16	5	2xM 5	8.62	58
R5179.100-032-10-10	m1	32	32	34	10	10	24	20	-	-	14.37	87
R5179.100-032-10-10T	m1	32	32	34	10	10	24	20	5	2xM 5	14.37	85
R5179.100-032-10-12	m1	32	32	34	10	12	24	20	5	2xM 5	14.37	80
R5179.100-034-06-06	m1	34	34	36	6	6	28	16	-	-	9.34	88
R5179.100-034-10-10	m1	34	34	36	10	10	28	20	-	-	15.57	108
R5179.100-035-06-06	m1	35	35	37	6	6	24	16	-	-	9.70	78
R5179.100-035-06-06T	m1	35	35	37	6	6	24	16	4	2xM 4	9.70	76
R5179.100-035-06-08	m1	35	35	37	6	8	24	16	4	2xM 4	9.70	74
R5179.100-035-06-10	m1	35	35	37	6	10	24	16	5	2xM 5	9.70	70
R5179.100-035-06-12	m1	35	35	37	6	12	24	16	5	2xM 5	9.70	66
R5179.100-035-10-10	m1	35	35	37	10	10	30	20	-	-	16.17	119
R5179.100-035-10-10T	m1	35	35	37	10	10	30	20	5	2xM 5	16.17	117
R5179.100-035-10-12	m1	35	35	37	10	12	30	20	5	2xM 5	16.17	111
R5179.100-035-10-15	m1	35	35	37	10	15	30	20	5	2xM 5	16.17	102
R5179.100-036-06-08	m1	36	36	38	6	8	24	16	-	-	10.07	78
R5179.100-036-06-08T	m1	36	36	38	6	8	24	16	4	2xM 4	10.07	76
R5179.100-036-06-10	m1	36	36	38	6	10	24	16	5	2xM 5	10.07	72
R5179.100-036-06-12	m1	36	36	38	6	12	24	16	5	2xM 5	10.07	68
R5179.100-036-10-10	m1	36	36	38	10	10	30	20	-	-	16.78	124
R5179.100-036-10-10T	m1	36	36	38	10	10	30	20	5	2xM 5	16.78	121
R5179.100-036-10-12	m1	36	36	38	10	12	30	20	5	2xM 5	16.78	116
R5179.100-036-10-15	m1	36	36	38	10	15	30	20	5	2xM 5	16.78	106



# Spur Gears - Module 1

carbon steel - 14-120 teeth

## Standard Spur Gears

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Hub dia. d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5179.100-038-06-08	m1	38	38	40	6	8	25	16	-	-	10.80	86
R5179.100-038-10-10	m1	38	38	40	10	10	30	20	-	-	18.00	133
R5179.100-040-06-08	m1	40	40	42	6	8	24	16	-	-	11.53	89
R5179.100-040-06-08T	m1	40	40	42	6	8	24	16	4	2xM 4	11.53	88
R5179.100-040-06-10	m1	40	40	42	6	10	24	16	5	2xM 5	11.53	84
R5179.100-040-06-12	m1	40	40	42	6	12	24	16	5	2xM 5	11.53	79
R5179.100-040-10-06	m1	40	40	42	10	6 tol. H8	30	20	-	-	19.18	150
R5179.100-040-10-10	m1	40	40	42	10	10	30	20	-	-	19.18	142
R5179.100-040-10-10T	m1	40	40	42	10	10	30	20	5	2xM 5	19.18	140
R5179.100-040-10-12	m1	40	40	42	10	12	30	20	5	2xM 5	19.18	135
R5179.100-040-10-15	m1	40	40	42	10	15	30	20	5	2xM 5	19.18	125
R5179.100-042-06-08	m1	42	42	44	6	8	28	16	-	-	12.27	108
R5179.100-042-10-10	m1	42	42	44	10	10	30	20	-	-	20.45	152
R5179.100-044-06-08	m1	44	44	46	6	8	28	16	-	-	13.01	114
R5179.100-044-10-10	m1	44	44	46	10	10	30	20	-	-	21.68	163
R5179.100-045-06-08	m1	45	45	47	6	8	24	16	-	-	13.38	105
R5179.100-045-06-08T	m1	45	45	47	6	8	24	16	4	2xM 4	13.38	103
R5179.100-045-06-10	m1	45	45	47	6	10	24	16	5	2xM 5	13.38	99
R5179.100-045-06-12	m1	45	45	47	6	12	24	16	5	2xM 5	13.38	95
R5179.100-045-10-10	m1	45	45	47	10	10	30	20	-	-	22.30	168
R5179.100-045-10-10T	m1	45	45	47	10	10	30	20	5	2xM 5	22.30	166
R5179.100-045-10-12	m1	45	45	47	10	12	30	20	5	2xM 5	22.30	161
R5179.100-045-10-15	m1	45	45	47	10	15	30	20	5	2xM 5	22.30	151
R5179.100-046-06-08	m1	46	46	48	6	8	30	16	-	-	13.75	128
R5179.100-046-10-10	m1	46	46	48	10	10	30	20	-	-	22.92	174
R5179.100-048-06-08	m1	48	48	50	6	8	24	16	-	-	15.18	115
R5179.100-048-06-08T	m1	48	48	50	6	8	24	16	4	2xM 4	15.18	114
R5179.100-048-06-10	m1	48	48	50	6	10	24	16	5	2xM 5	15.18	110
R5179.100-048-06-12	m1	48	48	50	6	12	24	16	5	2xM 5	15.18	105
R5179.100-048-10-10	m1	48	48	50	10	10	30	20	-	-	23.87	186
R5179.100-048-10-10T	m1	48	48	50	10	10	30	20	5	2xM 5	23.87	183
R5179.100-048-10-12	m1	48	48	50	10	12	30	20	5	2xM 5	23.87	178
R5179.100-048-10-15	m1	48	48	50	10	15	30	20	5	2xM 5	23.87	168
R5179.100-050-06-08	m1	50	50	52	6	8	24	16	-	-	14.32	122
R5179.100-050-06-08T	m1	50	50	52	6	8	24	16	4	2xM 4	14.32	121
R5179.100-050-06-10	m1	50	50	52	6	10	24	16	5	2xM 5	14.32	117
R5179.100-050-06-12	m1	50	50	52	6	12	24	16	5	2xM 5	14.32	113
R5179.100-050-10-08	m1	50	50	52	10	8	35	20	-	-	24.83	221
R5179.100-050-10-10	m1	50	50	52	10	10	30	20	-	-	24.83	198
R5179.100-050-10-10T	m1	50	50	52	10	10	30	20	5	2xM 5	24.83	195
R5179.100-050-10-12	m1	50	50	52	10	12	30	20	5	2xM 5	24.83	190
R5179.100-050-10-15	m1	50	50	52	10	15	30	20	5	2xM 5	24.83	180
R5179.100-052-06-10	m1	52	52	54	6	10	40	16	-	-	15.28	189
R5179.100-052-10-10	m1	52	52	54	10	10	46	20	-	-	25.78	285
R5179.100-054-06-10	m1	54	54	56	6	10	40	16	-	-	16.23	197
R5179.100-054-10-10	m1	54	54	56	10	10	46	20	-	-	27.69	298
R5179.100-055-06-10	m1	55	55	57	6	10	40	16	-	-	16.23	201
R5179.100-055-10-10	m1	55	55	57	10	10	46	20	-	-	27.69	305
R5179.100-056-06-10	m1	56	56	58	6	10	24	16	-	-	17.19	142
R5179.100-056-06-10T	m1	56	56	58	6	10	24	16	5	2xM 5	17.19	140
R5179.100-056-06-12	m1	56	56	58	6	12	24	16	5	2xM 5	17.19	136
R5179.100-056-10-10	m1	56	56	58	10	10	30	20	-	-	28.65	237
R5179.100-056-10-10T	m1	56	56	58	10	10	30	20	5	2xM 5	28.65	234
R5179.100-056-10-12	m1	56	56	58	10	12	30	20	5	2xM 5	28.65	229
R5179.100-056-10-15	m1	56	56	58	10	15	30	20	5	2xM 5	28.65	220
R5179.100-058-06-10	m1	58	58	60	6	10	40	16	-	-	18.14	214
R5179.100-058-10-10	m1	58	58	60	10	10	50	20	-	-	29.60	362
R5179.100-060-06-10	m1	60	60	62	6	10	30	16	-	-	18.14	179
R5179.100-060-06-10T	m1	60	60	62	6	10	30	16	5	2xM 5	18.14	177
R5179.100-060-06-12	m1	60	60	62	6	12	30	16	5	2xM 5	18.14	173
R5179.100-060-06-15	m1	60	60	62	6	15	30	16	5	2xM 5	18.14	165
R5179.100-060-10-08	m1	60	60	62	10	8	42	20	-	-	31.51	322
R5179.100-060-10-10	m1	60	60	62	10	10	30	20	-	-	31.51	266
R5179.100-060-10-10T	m1	60	60	62	10	10	30	20	5	2xM 5	31.51	263
R5179.100-060-10-12	m1	60	60	62	10	12	30	20	5	2xM 5	31.51	258
R5179.100-060-10-15	m1	60	60	62	10	15	30	20	5	2xM 5	31.51	248
R5179.100-062-06-10	m1	62	62	64	6	10	40	16	-	-	19.10	231

STANDARD SPUR GEARS



Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Hub dia. d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
R5179.100-062-10-10	m 1	62	62	64	10	10	50	20	-	-	32.47	379
R5179.100-064-06-10	m 1	64	64	66	6	10	30	16	-	-	20.05	178
R5179.100-064-06-10T	m 1	64	64	66	6	10	30	16	5	2xM 5	20.05	176
R5179.100-064-06-12	m 1	64	64	66	6	12	30	16	5	2xM 5	20.05	172
R5179.100-064-10-10	m 1	64	64	66	10	10	30	20	-	-	33.42	296
R5179.100-064-10-10T	m 1	64	64	66	10	10	30	20	5	2xM 5	33.42	294
R5179.100-064-10-12	m 1	64	64	66	10	12	30	20	5	2xM 5	33.42	289
R5179.100-064-10-15	m 1	64	64	66	10	15	30	20	5	2xM 5	33.42	279
R5179.100-065-06-10	m 1	65	65	67	6	10	40	16	-	-	20.05	246
R5179.100-065-10-10	m 1	65	65	67	10	10	50	20	-	-	34.38	403
R5179.100-066-06-10	m 1	66	66	68	6	10	40	16	-	-	21.01	250
R5179.100-066-10-10	m 1	66	66	68	10	10	50	20	-	-	35.33	411
R5179.100-068-06-10	m 1	68	68	70	6	10	40	16	-	-	21.96	260
R5179.100-068-10-10	m 1	68	68	70	10	10	50	20	-	-	36.29	427
R5179.100-070-06-10	m 1	70	70	72	6	10	40	16	-	-	21.96	270
R5179.100-070-10-10	m 1	70	70	72	10	10	50	20	-	-	38.20	443
R5179.100-070-10-10D	m 1	70	70	72	10	10	55	20	-	-	38.20	443
R5179.100-072-06-10	m 1	72	72	74	6	10	30	16	-	-	22.92	218
R5179.100-072-06-10T	m 1	72	72	74	6	10	30	16	5	2xM 5	22.92	216
R5179.100-072-06-12T	m 1	72	72	74	6	12	30	16	5	2xM 5	22.92	212
R5179.100-072-10-10	m 1	72	72	74	10	10	30	20	-	-	39.15	363
R5179.100-072-10-10T	m 1	72	72	74	10	10	30	20	5	2xM 5	39.15	361
R5179.100-072-10-12T	m 1	72	72	74	10	12	30	20	5	2xM 5	39.15	356
R5179.100-072-10-15T	m 1	72	72	74	10	15	30	20	5	2xM 5	39.15	346
R5179.100-075-06-10	m 1	75	75	77	6	10	40	16	-	-	23.87	297
R5179.100-075-10-10	m 1	75	75	77	10	10	50	20	-	-	41.06	489
R5179.100-080-06-10	m 1	80	80	82	6	10	30	16	-	-	25.78	283
R5179.100-080-06-10T	m 1	80	80	82	6	10	30	16	5	2xM 5	25.78	280
R5179.100-080-06-12T	m 1	80	80	82	6	12	30	16	5	2xM 5	25.78	276
R5179.100-080-06-15T	m 1	80	80	82	6	15	30	16	5	2xM 5	25.78	269
R5179.100-080-10-10D	m 1	80	80	82	10	10	60	20	-	-	43.93	604
R5179.100-080-10-10	m 1	80	80	82	10	10	32	20	-	-	17.19	446
R5179.100-080-10-10T	m 1	80	80	82	10	10	32	20	5	2xM 5	17.19	443
R5179.100-080-10-12T	m 1	80	80	82	10	12	32	20	5	2xM 5	17.19	438
R5179.100-080-10-15T	m 1	80	80	82	10	15	32	20	5	2xM 5	17.19	428
R5179.100-080-10-16T	m 1	80	80	82	10	16	32	20	5	2xM 5	17.19	425
R5179.100-084-06-10	m 1	84	84	86	6	10	50	16	-	-	27.69	406
R5179.100-084-10-10	m 1	84	84	86	10	10	50	20	-	-	46.79	577
R5179.100-085-06-10	m 1	85	85	87	6	10	50	16	-	-	27.69	412
R5179.100-085-10-10	m 1	85	85	87	10	10	50	20	-	-	46.79	588
R5179.100-090-06-10	m 1	90	90	92	6	10	50	16	-	-	29.60	444
R5179.100-090-10-10	m 1	90	90	92	10	10	50	20	-	-	50.61	642
R5179.100-090-10-10D	m 1	90	90	92	10	10	65	20	-	-	50.61	747
R5179.100-096-06-10	m 1	96	96	98	6	10	50	16	-	-	32.47	486
R5179.100-096-10-10	m 1	96	96	98	10	10	50	20	-	-	54.43	710
R5179.100-100-06-10	m 1	100	100	102	6	10	30	16	-	-	34.38	416
R5179.100-100-06-10T	m 1	100	100	102	6	10	30	16	5	2xM 5	34.38	414
R5179.100-100-06-12T	m 1	100	100	102	6	12	30	16	5	2xM 5	34.38	410
R5179.100-100-06-15T	m 1	100	100	102	6	15	30	16	5	2xM 5	34.38	402
R5179.100-100-10-10D	m 1	100	100	102	10	10	70	20	-	-	57.30	905
R5179.100-100-10-12	m 1	100	100	102	10	12	36	20	-	-	57.30	680
R5179.100-100-10-12T	m 1	100	100	102	10	12	36	20	5	2xM 5	57.30	676
R5179.100-100-10-15T	m 1	100	100	102	10	15	36	20	5	2xM 5	57.30	667
R5179.100-100-10-16T	m 1	100	100	102	10	16	36	20	5	2xM 5	57.30	663
R5179.100-105-06-10	m 1	105	105	107	6	10	50	16	-	-	36.29	553
R5179.100-105-10-12	m 1	105	105	107	10	12	50	20	-	-	60.16	817
R5179.100-110-06-10	m 1	110	110	112	6	10	50	16	-	-	38.20	592
R5179.100-110-10-12	m 1	110	110	112	10	12	50	20	-	-	63.03	883
R5179.100-115-06-10	m 1	115	115	117	6	10	50	16	-	-	40.11	634
R5179.100-115-10-12	m 1	115	115	117	10	12	50	20	-	-	66.85	952
R5179.100-120-06-10	m 1	120	120	122	6	10	30	16	-	-	42.02	579
R5179.100-120-06-10T	m 1	120	120	122	6	10	30	16	5	2xM 5	42.02	577
R5179.100-120-06-12T	m 1	120	120	122	6	12	30	16	5	2xM 5	42.02	572
R5179.100-120-06-15T	m 1	120	120	122	6	15	30	16	5	2xM 5	42.02	565
R5179.100-120-10-10D	m 1	120	120	122	10	10	90	20	-	-	69.71	1374
R5179.100-120-10-12	m 1	120	120	122	10	12	36	20	-	-	69.71	951
R5179.100-120-10-12T	m 1	120	120	122	10	12	36	20	5	2xM 5	69.71	948



# Spur Gears - Module 1

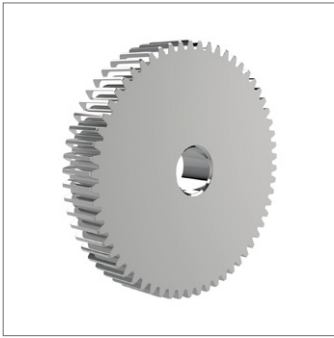
carbon steel - 14-120 teeth



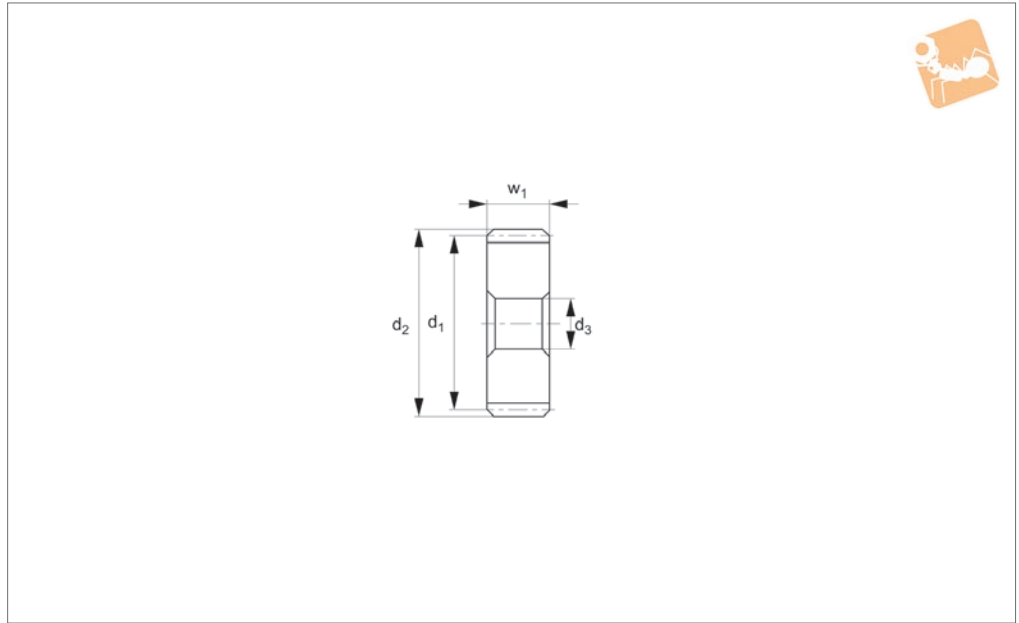
## Standard Spur Gears

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Hub dia. d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Thread d <sub>5</sub>	Torque Nm max.	Weight g
<b>R5179.100-120-10-15T</b>	m 1	120	120	122	10	15	36	20	5	2xM 5	69.71	938
<b>R5179.100-120-10-16T</b>	m 1	120	120	122	10	16	36	20	5	2xM 5	69.71	935
<b>R5179.100-120-10-18T</b>	m 1	120	120	122	10	18	36	20	5	2xM 5	69.71	926





### R5180



#### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8- 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,05 - 0,125mm.

#### Tips

Module 1.25 for gears with 8-11 teeth see R5181, for gears with 8-10 teeth see R5180, for gears with 12-17 teeth see R5183, for gears with 18-120 teeth see R5185.  
Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H7	Torque Nm max.	Weight g
R5180.125-014-15	m 1.25	14	17.5	20.0	15	6	9.91	25.0
R5180.125-015-15	m 1.25	15	18.8	21.3	15	6	11.10	29.2
R5180.125-016-15	m 1.25	16	20.0	22.5	15	6	12.32	33.7
R5180.125-017-15	m 1.25	17	21.3	23.8	15	6	13.56	38.4
R5180.125-018-10	m 1.25	18	22.5	25.0	10	6	9.87	29.0
R5180.125-018-15	m 1.25	18	22.5	25.0	15	8	14.81	40.9
R5180.125-019-10	m 1.25	19	23.8	26.3	10	6	10.73	32.6
R5180.125-019-15	m 1.25	19	23.8	26.3	15	8	16.10	46.3
R5180.125-020-10	m 1.25	20	25.0	27.5	10	8	11.59	34.6
R5180.125-020-15	m 1.25	20	25	27.5	15	10	17.39	48.6
R5180.125-021-10	m 1.25	21	26.3	28.8	10	8	12.46	38.5
R5180.125-021-15	m 1.25	21	26.3	28.8	15	10	18.69	54.5
R5180.125-022-10	m 1.25	22	27.5	30.0	10	8	13.34	42.7
R5180.125-022-15	m 1.25	22	27.5	30.0	15	10	20.01	60.7
R5180.125-023-10	m 1.25	23	28.8	31.3	10	8	14.23	47.0
R5180.125-023-15	m 1.25	23	28.8	31.3	15	10	21.34	67.2
R5180.125-024-10	m 1.25	24	30.0	32.5	10	8	15.11	51.5
R5180.125-024-15	m 1.25	24	30.0	32.5	15	10	22.67	74.0
R5180.125-025-10	m 1.25	25	31.3	33.8	10	8	16.01	56.3
R5180.125-025-15	m 1.25	25	31.3	33.8	15	10	24.02	81.1
R5180.125-026-10	m 1.25	26	32.5	35.0	10	8	16.92	61.2
R5180.125-026-15	m 1.25	26	32.5	35.0	15	10	25.38	88.4
R5180.125-027-10	m 1.25	27	33.8	36.3	10	8	17.83	66.3
R5180.125-027-15	m 1.25	27	33.8	36.3	15	10	26.75	96.1
R5180.125-028-10	m 1.25	28	35.0	37.5	10	8	18.14	71.6
R5180.125-028-15	m 1.25	28	35.0	37.5	15	10	27.69	104.0
R5180.125-029-10	m 1.25	29	36.3	38.8	10	8	19.10	77.1
R5180.125-029-15	m 1.25	29	36.3	38.8	15	10	28.65	112.3
R5180.125-030-10	m 1.25	30	37.5	40.0	10	8	20.05	82.8



# Spur Gears - Module 1.25

carbon steel - 14-120 teeth



Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H7	Torque Nm max.	Weight g
R5180.125-030-15	m 1.25	30	37.5	40.0	15	10	30.56	120.8
R5180.125-032-08	m 1.25	32	40.0	42.5	8	10	17.19	74.0
R5180.125-032-13	m 1.25	32	40.0	42.5	13	12	28.65	116.7
R5180.125-034-08	m 1.25	34	42.5	45.0	8	10	19.10	84.2
R5180.125-034-13	m 1.25	34	42.5	45.0	13	12	31.51	133.2
R5180.125-035-08	m 1.25	35	43.8	46.3	8	10	20.05	89.5
R5180.125-035-13	m 1.25	35	43.8	46.3	13	12	32.47	141.9
R5180.125-036-08	m 1.25	36	45.0	47.5	8	10	20.05	95.0
R5180.125-036-13	m 1.25	36	45.0	47.5	13	12	33.42	150.8
R5180.125-038-08	m 1.25	38	47.5	50.0	8	10	21.96	106.4
R5180.125-038-13	m 1.25	38	47.5	50.0	13	12	36.29	169.3
R5180.125-040-08	m 1.25	40	50.0	52.5	8	10	23.87	118.4
R5180.125-040-13	m 1.25	40	50.0	52.5	13	12	38.20	188.8
R5180.125-042-08	m 1.25	42	52.5	55.0	8	10	24.83	131.0
R5180.125-042-13	m 1.25	42	52.5	55.0	13	12	41.06	209.4
R5180.125-044-08	m 1.25	44	55.0	57.5	8	10	26.74	144.3
R5180.125-044-13	m 1.25	44	55.0	57.5	13	12	43.93	230.9
R5180.125-045-08	m 1.25	45	56.3	58.8	8	10	27.69	151.1
R5180.125-045-13	m 1.25	45	56.3	58.8	13	12	44.88	242.1
R5180.125-046-08	m 1.25	46	57.5	60.0	8	10	27.69	158.1
R5180.125-046-13	m 1.25	46	57.5	60.0	13	12	45.84	253.5
R5180.125-048-08	m 1.25	48	60.0	62.5	8	10	29.60	172.6
R5180.125-048-13	m 1.25	48	60.0	62.5	13	12	48.70	277.0
R5180.125-050-08	m 1.25	50	62.5	65.0	8	12	29.60	185.6
R5180.125-050-13	m 1.25	50	62.5	65.0	13	14	48.70	297.4
R5180.125-052-08	m 1.25	52	65.0	67.5	8	12	32.47	201.3
R5180.125-052-13	m 1.25	52	65.0	67.5	13	14	53.48	322.9
R5180.125-054-08	m 1.25	54	67.5	70.0	8	12	34.38	217.6
R5180.125-054-13	m 1.25	54	67.5	70.0	13	14	56.34	349.5
R5180.125-055-08	m 1.25	55	68.8	71.3	8	12	35.33	226.0
R5180.125-055-13	m 1.25	55	68.8	71.3	13	14	57.30	363.1
R5180.125-056-08	m 1.25	56	70.0	72.5	8	12	36.29	234.6
R5180.125-056-13	m 1.25	56	70.0	72.5	13	14	59.21	377.0
R5180.125-058-08	m 1.25	58	72.5	75.0	8	12	37.24	252.2
R5180.125-058-13	m 1.25	58	72.5	75.0	13	14	61.12	405.6
R5180.125-060-08	m 1.25	60	75.0	77.5	8	12	39.15	270.3
R5180.125-060-13	m 1.25	60	75.0	77.5	13	14	63.98	435.1
R5180.125-062-08	m 1.25	62	77.5	80.0	8	12	41.06	289.1
R5180.125-062-13	m 1.25	62	77.5	80.0	13	14	66.85	465.7
R5180.125-064-08	m 1.25	64	80.0	82.5	8	12	42.02	308.6
R5180.125-064-13	m 1.25	64	80.0	82.5	13	14	68.76	497.2
R5180.125-065-08	m 1.25	65	81.3	83.8	8	12	42.97	318.5
R5180.125-065-13	m 1.25	65	81.3	83.8	13	14	70.67	513.4
R5180.125-066-08	m 1.25	66	82.5	85.0	8	12	43.93	328.6
R5180.125-066-13	m 1.25	66	82.5	85.0	13	14	71.62	529.8
R5180.125-068-08	m 1.25	68	85.0	87.5	8	12	45.84	349.3
R5180.125-068-13	m 1.25	68	85.0	87.5	13	14	74.49	563.4
R5180.125-070-08	m 1.25	70	87.5	90.0	8	14	46.79	368.0
R5180.125-070-13	m 1.25	70	87.5	90.0	13	16	76.40	593.1
R5180.125-072-08	m 1.25	72	90.0	92.5	8	14	48.70	389.8
R5180.125-072-13	m 1.25	72	90.0	92.5	13	16	80.22	628.7
R5180.125-075-08	m 1.25	75	93.8	96.3	8	14	51.57	423.8
R5180.125-075-13	m 1.25	75	93.8	96.3	13	16	84.04	683.9
R5180.125-080-08	m 1.25	80	100.0	102.5	8	14	55.39	483.6
R5180.125-080-13	m 1.25	80	100.0	102.5	13	16	90.72	781.0
R5180.125-084-08	m 1.25	84	105.0	107.5	8	14	58.25	530.0
R5180.125-084-13	m 1.25	84	105.0	107.5	13	16	95.50	860.0
R5180.125-085-08	m 1.25	85	106.3	108.8	8	14	59.21	550.0
R5180.125-085-13	m 1.25	85	106.3	108.8	13	16	96.45	880.0
R5180.125-090-08	m 1.25	90	112.5	115.0	8	16	63.03	610.0
R5180.125-090-13	m 1.25	90	112.5	115.0	13	18	103.14	990.0
R5180.125-095-08	m 1.25	95	118.8	121.3	8	16	66.85	680.0
R5180.125-095-13	m 1.25	95	118.8	121.3	13	18	109.82	1100.0
R5180.125-096-08	m 1.25	96	120.0	122.5	8	16	67.80	700.0
R5180.125-096-13	m 1.25	96	120.0	122.5	13	18	110.78	1130.0
R5180.125-100-08	m 1.25	100	125.0	127.5	8	16	71.62	760.0
R5180.125-100-13	m 1.25	100	125.0	127.5	13	18	116.51	1230.0

STANDARD SPUR GEARS



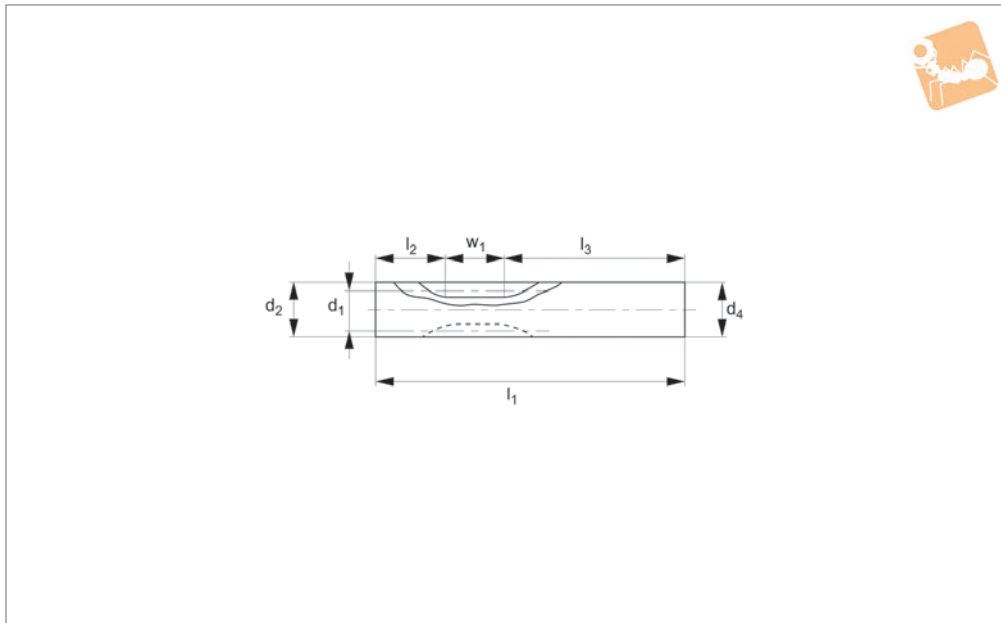
Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H7	Torque Nm max.	Weight g
<b>R5180.125-105-08</b>	<i>m</i> 1.25	105	131.3	133.8	8	16	75.44	840.0
<b>R5180.125-105-13</b>	<i>m</i> 1.25	105	131.3	133.8	13	18	123.19	1350.0
<b>R5180.125-110-08</b>	<i>m</i> 1.25	110	137.5	140.0	8	18	79.26	920.0
<b>R5180.125-110-13</b>	<i>m</i> 1.25	110	137.5	140.0	13	20	129.88	1480.0
<b>R5180.125-115-08</b>	<i>m</i> 1.25	115	143.8	146.3	8	18	84.04	1000.0
<b>R5180.125-115-13</b>	<i>m</i> 1.25	115	143.8	146.3	13	20	136.56	1620.0
<b>R5180.125-120-08</b>	<i>m</i> 1.25	120	150.0	152.5	8	18	87.86	1090.0
<b>R5180.125-120-13</b>	<i>m</i> 1.25	120	150.0	152.5	13	20	142.29	1770.0





# Spur Gears - Module 1.25

carbon steel - 8-11 teeth



**R5181**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8-9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,05 - 0,125mm. Rack shift coefficient x = 0.5.

cient x = 0.5.

**Tips**

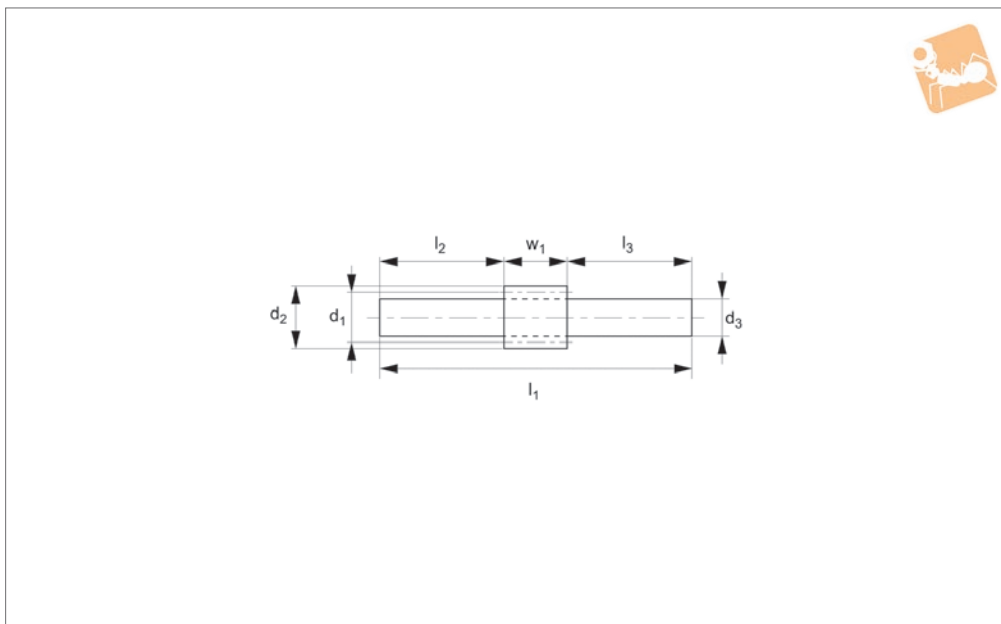
Module 1.25 for gears with 14-120 teeth see R5180, for gears with 8-10 teeth see R5182, for gears with 12-17 teeth see R5183, for gears with 18-120 teeth see R5185.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Torque Nm max.	Weight g
R5181.125-08	m 1.25	8	Shifted gear *	13.3	15	13.3	75	20	40	6.00	77.1
R5181.125-09	m 1.25	9	Shifted gear *	14.6	15	14.6	75	20	40	7.11	92.9
R5181.125-10	m 1.25	10	Shifted gear *	15.8	15	15.8	75	20	40	8.27	110.2
R5181.125-11	m 1.25	11	Shifted gear *	17.1	15	17.1	75	20	40	9.44	129.0



### R5182



#### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8-9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,05 - 0,125mm. Rack shift coefficient  $x = 0.5$ .

cient  $x = 0.5$ .

#### Tips

Module 1.25 for gears with 14-120 teeth see R5180, for gears with 8-11 teeth see R5181, for gears with 12-17 teeth see R5183, for gears with 18-120 teeth see R185.

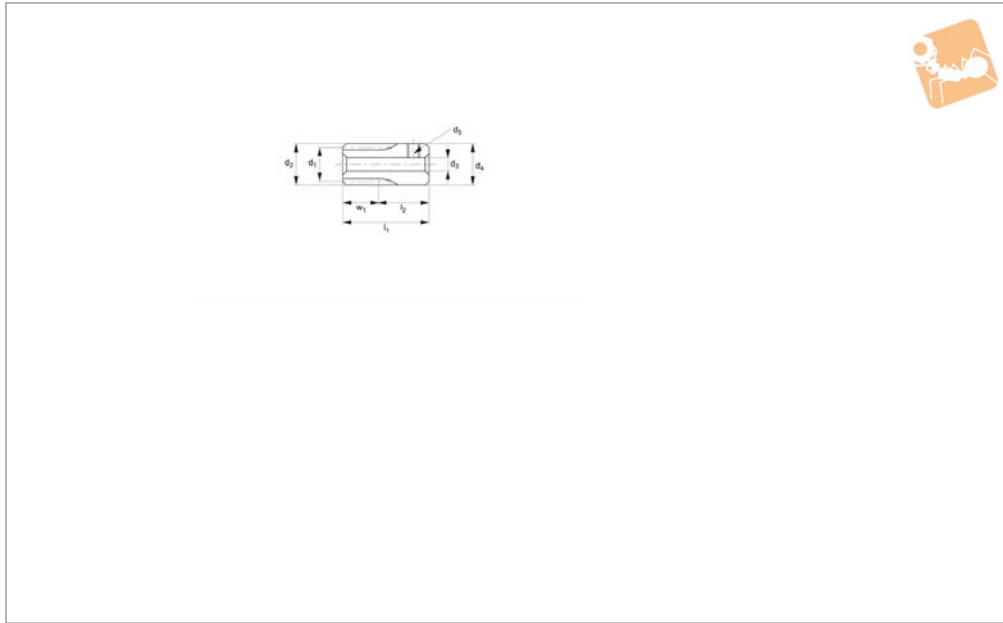
Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth $z$	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H9	$l_1$	$l_2$	$l_3$	Torque Nm max.	Weight g
R5182.125-08	$m$ 1.25	8	Shifted gear *	13.3	15	7	75	20	40	6.00	29.8
R5182.125-10	$m$ 1.25	10	Shifted gear *	15.8	15	10	75	20	40	7.11	54.5



# Spur Gears - Module 1.25

carbon steel - 12-17 teeth



**R5183**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,05 - 0,125 mm.

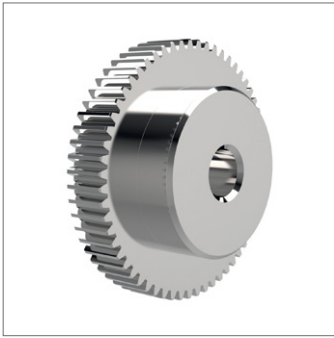
**Tips**

Module 1.25 for gears with 14-120 teeth see R5180, for gears with 8-11 teeth see R5181, for gears with 8-10 teeth see R5182, for gears with 18-120 teeth see R5185.

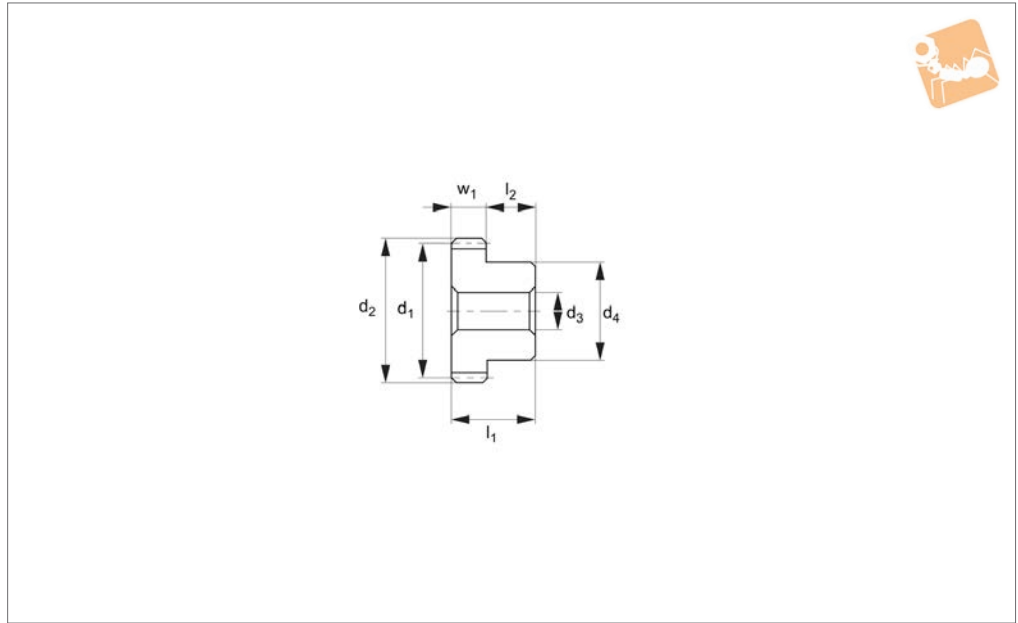
Max. allowable torque (Nm) is based on

standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5183.125-012	m 1.25	12	15.0	17.5	15	8	17.50	37.5	22.5	7.60	48.5
R5183.125-013	m 1.25	13	16.3	18.8	15	8	18.75	37.5	22.5	8.74	58.4
R5183.125-014	m 1.25	14	17.5	20.0	15	8	20.00	37.5	22.5	9.91	69.0
R5183.125-015	m 1.25	15	18.8	21.3	15	8	21.75	37.5	22.5	11.10	80.4
R5183.125-016	m 1.25	16	20.0	22.5	15	8	22.50	37.5	22.5	12.32	92.4
R5183.125-017	m 1.25	17	21.3	23.8	15	8	23.75	37.5	22.5	13.56	105.2



### R5185



#### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,05 - 0,125mm.

#### Tips

Module 1.25 for gears with 14-120 teeth see R5180, for gears with 8-11 teeth see R5181, for gears with 8-10 teeth see R5182, for gears with 12-17 teeth see R5183.  
To calculate the max. allowable torque that

the gear can produce (in Nm) take the figure (in Watts) from the transfer capability table below, and apply to formula:  
**Torque (in Nm) = 9550\* [value in kW (from table below)/rpm]**. Apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5185.125-018-10	m 1.25	18	22.5	25.0	10	6 tol. H8	16	25	15	9.87	48.5
R5185.125-018-15	m 1.25	18	22.5	25.0	15	8 tol. H8	16	30	15	14.81	58.7
R5185.125-019-10	m 1.25	19	23.8	26.3	10	6 tol. H8	16	25	15	10.73	52.9
R5185.125-019-15	m 1.25	19	23.8	26.3	15	8 tol. H8	16	30	15	16.10	64.0
R5185.125-020-10	m 1.25	20	25.0	27.5	10	8 tol. H8	20	25	15	11.59	65.7
R5185.125-020-15	m 1.25	20	25.0	27.5	15	10 tol. H8	20	30	15	17.39	76.3
R5185.125-021-10	m 1.25	21	26.3	28.8	10	8 tol. H8	20	25	15	12.46	69.6
R5185.125-021-15	m 1.25	21	26.3	28.8	15	10 tol. H8	20	30	15	18.69	82.2
R5185.125-022-10	m 1.25	22	27.5	30.0	10	8 tol. H8	20	25	15	13.34	73.8
R5185.125-022-15	m 1.25	22	27.5	30.0	15	10 tol. H8	20	30	15	20.01	88.4
R5185.125-023-10	m 1.25	23	28.8	31.3	10	8 tol. H8	24	25	15	14.23	94.4
R5185.125-023-15	m 1.25	23	28.8	31.3	15	10 tol. H8	24	30	15	21.34	111.2
R5185.125-024-10	m 1.25	24	30.0	32.5	10	8 tol. H8	24	25	15	15.11	98.9
R5185.125-024-15	m 1.25	24	30.0	32.5	15	10 tol. H8	24	30	15	22.67	118.0
R5185.125-025-10	m 1.25	25	31.3	33.8	10	8 tol. H8	24	25	15	16.01	103.6
R5185.125-025-15	m 1.25	25	31.3	33.8	15	10 tol. H8	24	30	15	24.02	125.1
R5185.125-026-10	m 1.25	26	32.5	35.0	10	8 tol. H8	28	25	15	11.19	127.8
R5185.125-026-15	m 1.25	26	32.5	35.0	15	10 tol. H8	28	30	15	25.38	151.7
R5185.125-027-10	m 1.25	27	33.8	36.3	10	8 tol. H8	28	25	15	17.83	132.9
R5185.125-027-15	m 1.25	27	33.8	36.3	15	10 tol. H8	28	30	15	26.75	159.3
R5185.125-028-10	m 1.25	28	35.0	37.5	10	8 tol. H8	28	25	15	18.14	138.2
R5185.125-028-15	m 1.25	28	35.0	37.5	15	10 tol. H8	28	30	15	27.69	167.3
R5185.125-029-10	m 1.25	29	36.3	38.8	10	8 tol. H8	28	25	15	19.10	143.7
R5185.125-029-15	m 1.25	29	36.3	38.8	15	10 tol. H8	28	30	15	28.65	175.5
R5185.125-030-10	m 1.25	30	37.5	40.0	10	8 tol. H8	30	25	15	20.05	160.1
R5185.125-030-15	m 1.25	30	37.5	40.0	15	10 tol. H8	30	30	15	30.56	194.8
R5185.125-032-08	m 1.25	32	40.0	42.5	8	10	30	18	10	17.19	123.3
R5185.125-032-13	m 1.25	32	40.0	42.5	13	12	30	25	12	28.65	172.6
R5185.125-034-08	m 1.25	34	42.5	45.0	8	10	30	18	10	19.10	133.5



# Spur Gears - Module 1.25

carbon steel - 18-120 teeth



Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5185.125-034-13	m 1.25	34	42.5	45.0	13	12	30	25	12	31.51	189.2
R5185.125-035-08	m 1.25	35	43.8	46.3	8	10	36	18	10	20.05	163.2
R5185.125-035-13	m 1.25	35	43.8	46.3	13	12	36	25	12	32.47	227.1
R5185.125-036-08	m 1.25	36	45.0	47.5	8	10	36	18	10	20.05	168.7
R5185.125-036-13	m 1.25	36	45.0	47.5	13	12	36	25	12	33.42	236.0
R5185.125-038-08	m 1.25	38	47.5	50.0	8	10	36	18	10	21.96	180.1
R5185.125-038-13	m 1.25	38	47.5	50.0	13	12	36	25	12	36.29	254.5
R5185.125-040-08	m 1.25	40	50.0	52.5	8	10	40	18	10	23.87	210.9
R5185.125-040-13	m 1.25	40	50.0	52.5	13	12	40	25	12	38.20	296.6
R5185.125-042-08	m 1.25	42	52.5	55.0	8	10	40	18	10	24.83	223.5
R5185.125-042-13	m 1.25	42	52.5	55.0	13	12	40	25	12	41.06	317.1
R5185.125-044-08	m 1.25	44	55.0	57.5	8	10	40	18	10	26.74	236.8
R5185.125-044-13	m 1.25	44	55.0	57.5	13	12	40	25	12	43.93	338.6
R5185.125-045-08	m 1.25	45	56.3	58.8	8	10	40	18	10	27.69	243.6
R5185.125-045-13	m 1.25	45	56.3	58.8	13	12	40	25	12	44.88	349.8
R5185.125-046-08	m 1.25	46	57.5	60.0	8	10	40	18	10	27.69	250.6
R5185.125-046-13	m 1.25	46	57.5	60.0	13	12	40	25	12	45.84	361.2
R5185.125-048-08	m 1.25	48	60.0	62.5	8	10	40	18	10	29.60	265.1
R5185.125-048-13	m 1.25	48	60.0	62.5	13	12	40	25	12	48.70	384.7
R5185.125-050-08	m 1.25	50	62.5	65.0	8	12	45	18	10	31.51	301.5
R5185.125-050-13	m 1.25	50	62.5	65.0	13	14	45	25	12	51.57	432.7
R5185.125-052-08	m 1.25	52	65.0	67.5	8	12	45	18	10	32.47	317.3
R5185.125-052-13	m 1.25	52	65.0	67.5	13	14	45	25	12	53.48	458.2
R5185.125-054-08	m 1.25	54	67.5	70.0	8	12	45	18	10	34.38	333.6
R5185.125-054-13	m 1.25	54	67.5	70.0	13	14	45	25	12	56.34	484.8
R5185.125-055-08	m 1.25	55	68.8	71.3	8	12	45	18	10	35.33	342.1
R5185.125-055-13	m 1.25	55	68.8	71.3	13	14	45	25	12	57.30	498.4
R5185.125-056-08	m 1.25	56	70.0	72.5	8	12	45	18	10	36.29	350.6
R5185.125-056-13	m 1.25	56	70.0	72.5	13	14	45	25	12	59.21	512.3
R5185.125-058-08	m 1.25	58	72.5	75.0	8	12	45	18	10	37.24	368.1
R5185.125-058-13	m 1.25	58	72.5	75.0	13	14	45	25	12	61.12	540.9
R5185.125-060-08	m 1.25	60	75.0	77.5	8	12	50	18	10	39.15	415.6
R5185.125-060-13	m 1.25	60	75.0	77.5	13	14	50	25	12	63.98	605.6
R5185.125-062-08	m 1.25	62	77.5	80.0	8	12	50	18	10	41.06	434.4
R5185.125-062-13	m 1.25	62	77.5	80.0	13	14	50	25	12	66.85	636.2
R5185.125-064-08	m 1.25	64	80.0	82.5	8	12	50	18	10	42.02	453.8
R5185.125-064-13	m 1.25	64	80.0	82.5	13	14	50	25	12	68.76	667.7
R5185.125-065-08	m 1.25	65	81.3	83.8	8	12	50	18	10	42.97	463.8
R5185.125-065-13	m 1.25	65	81.3	83.8	13	14	50	25	12	70.67	683.9
R5185.125-066-08	m 1.25	66	82.5	85.0	8	12	50	18	10	43.93	473.9
R5185.125-066-13	m 1.25	66	82.5	85.0	13	14	50	25	12	71.62	700.3
R5185.125-068-08	m 1.25	68	85.0	87.5	8	12	50	18	10	45.84	494.5
R5185.125-068-13	m 1.25	68	85.0	87.5	13	14	50	25	12	74.49	733.8
R5185.125-070-08	m 1.25	70	87.5	90.0	8	14	55	18	10	46.79	542.4
R5185.125-070-13	m 1.25	70	87.5	90.0	13	16	55	25	12	76.40	798.0
R5185.125-072-08	m 1.25	72	90.0	92.5	8	14	55	18	10	48.70	564.3
R5185.125-072-13	m 1.25	72	90.0	92.5	13	16	55	25	12	80.22	833.6
R5185.125-075-08	m 1.25	75	93.8	96.3	8	14	55	18	10	51.57	598.3
R5185.125-075-13	m 1.25	75	93.8	96.3	13	16	55	25	12	84.04	888.8
R5185.125-080-08	m 1.25	80	100.0	102.5	8	14	60	18	10	55.39	693.4
R5185.125-080-13	m 1.25	80	100.0	102.5	13	16	60	25	12	90.72	1028.0
R5185.125-084-08	m 1.25	84	105.0	107.5	8	14	60	18	10	58.25	740.0
R5185.125-084-13	m 1.25	84	105.0	107.5	13	16	60	25	12	95.50	1110.0
R5185.125-085-08	m 1.25	85	106.3	108.8	8	14	60	18	10	59.21	760.0
R5185.125-085-13	m 1.25	85	106.3	108.8	13	16	60	25	12	96.45	1130.0
R5185.125-090-08	m 1.25	90	112.5	115.0	8	16	65	18	10	63.03	860.0
R5185.125-090-13	m 1.25	90	112.5	115.0	13	18	65	25	12	103.14	1280.0
R5185.125-095-08	m 1.25	95	118.8	121.3	8	16	65	18	10	66.85	930.0
R5185.125-095-13	m 1.25	95	118.8	121.3	13	18	65	25	12	109.82	1390.0
R5185.125-096-08	m 1.25	96	120.0	122.5	8	16	65	18	10	67.80	940.0
R5185.125-096-13	m 1.25	96	120.0	122.5	13	18	65	25	12	110.78	1420.0
R5185.125-100-08	m 1.25	100	125.0	127.5	8	16	65	18	10	71.62	1000.0
R5185.125-100-13	m 1.25	100	125.0	127.5	13	18	65	25	12	116.51	1500.0
R5185.125-105-08	m 1.25	105	131.3	133.8	8	16	70	18	10	75.44	1120.0
R5185.125-105-13	m 1.25	105	131.3	133.8	13	18	70	25	12	123.19	1690.0
R5185.125-110-08	m 1.25	110	137.5	140.0	8	18	75	18	10	79.26	1240.0
R5185.125-110-13	m 1.25	110	137.5	140.0	13	20	75	25	12	129.88	1870.0

STANDARD SPUR GEARS

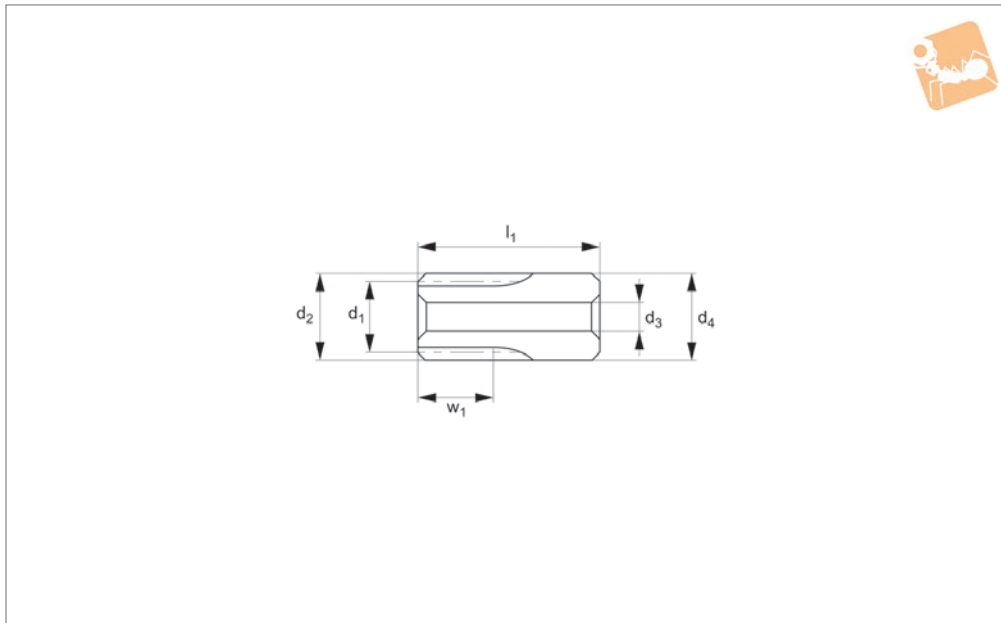


Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H7	$d_4$	$l_1$	$l_2$	Torque Nm max.	Weight g
<b>R5185.125-115-08</b>	m 1.25	115	143.8	146.3	8	18	75	18	10	84.04	1330.0
<b>R5185.125-115-13</b>	m 1.25	115	143.8	146.3	13	20	75	25	12	136.56	2010.0
<b>R5185.125-120-08</b>	m 1.25	120	150.0	152.5	8	18	80	18	10	87.86	1500.0
<b>R5185.125-120-13</b>	m 1.25	120	150.0	152.5	13	20	80	25	12	142.29	2220.0



# Spur Gears - Module 1.5

stainless steel - 14 teeth



**R5188**

STANDARD SPUR GEARS

**Material**

Stainless steel (AISI 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,09 - 0,18mm.

**Tips**

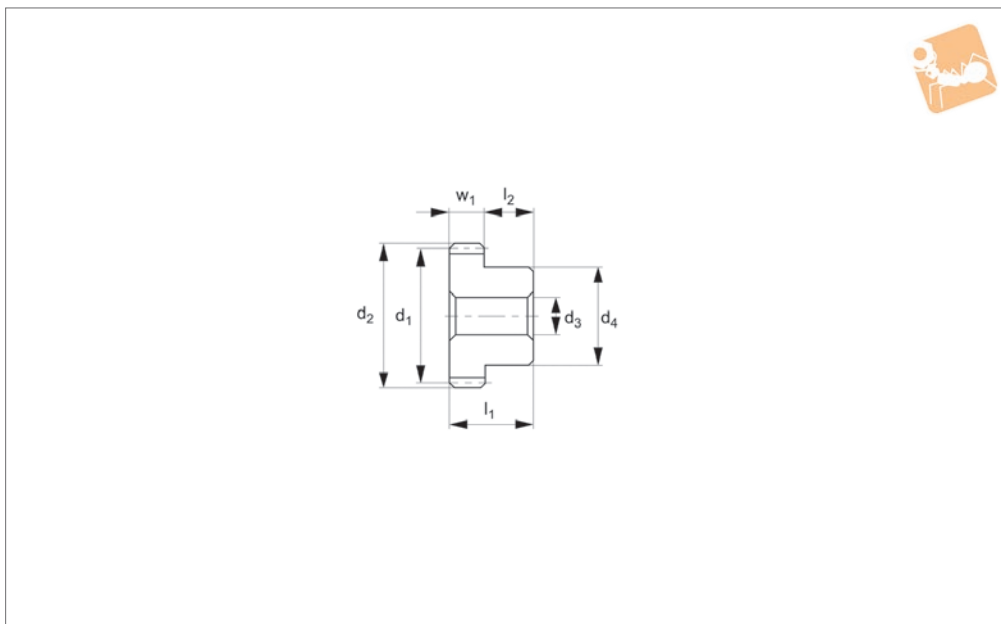
For module 1.5 stainless gears with 15-100 teeth see R5190.  
Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	Torque Nm max.	Weight g
R5188.150-014	m 1.5	14	21	24	12	8	24	36	5.71	105



### R5190



#### Material

Stainless steel (AISI 304, JIS G 4303).  
Accuracy to JIS B 1702-1 (ISO) class 9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling

gears = 0,09 - 0,18mm.

#### Tips

For module 1.5 stainless gears with 14 teeth see R5188.

Max. allowable torque (Nm) is based on standard operating conditions (see tech-

nical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H8	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5190.150-015-12	m 1.5	15	22.5	25.5	12	8	18	22	10	6.40	49.3
R5190.150-015-16	m 1.5	15	22.5	25.5	16	8	18	26	10	8.53	60.3
R5190.150-016-12	m 1.5	16	24.0	27.0	12	8	20	22	10	7.10	59.2
R5190.150-016-16	m 1.5	16	24.0	27.0	16	8	20	26	10	9.46	72.0
R5190.150-018-12	m 1.5	18	27.0	30.0	12	10	22	22	10	8.53	70.9
R5190.150-018-16	m 1.5	18	27.0	30.0	16	10	22	26	10	11.38	86.6
R5190.150-020-12	m 1.5	20	30.0	33.0	12	10	25	22	10	10.02	92.5
R5190.150-020-16	m 1.5	20	30.0	33.0	16	10	25	26	10	13.36	112.4
R5190.150-024-12	m 1.5	24	36.0	39.0	12	10	30	22	10	13.06	139.2
R5190.150-025-12	m 1.5	25	37.5	40.5	12	10	30	22	10	13.84	147.5
R5190.150-025-16	m 1.5	25	37.5	40.5	16	10	30	26	10	18.45	180.0
R5190.150-028-12	m 1.5	28	42.0	45.0	12	10	30	22	10	16.20	174.2
R5190.150-030-12	m 1.5	30	45.0	48.0	12	10	30	22	10	17.79	193.7
R5190.150-030-16	m 1.5	30	45.0	48.0	16	10	30	26	10	23.71	241.7
R5190.150-032-10	m 1.5	32	48.0	51.0	10	10	30	20	10	16.16	187.1
R5190.150-036-10	m 1.5	36	54.0	57.0	10	10	30	20	10	18.88	225.2
R5190.150-040-10	m 1.5	40	60.0	63.0	10	12	36	20	10	21.63	287.0
R5190.150-045-10	m 1.5	45	67.5	70.5	10	12	36	20	10	25.08	346.6
R5190.150-048-10	m 1.5	48	72.0	75.0	10	12	36	20	10	27.18	385.7
R5190.150-050-10	m 1.5	50	75.0	78.0	10	12	42	20	10	28.59	442.3
R5190.150-060-10	m 1.5	60	90.0	93.0	10	14	50	20	10	35.67	635.8
R5190.150-080-10	m 1.5	80	120.0	123.0	10	16	60	20	10	50.03	1089.0
R5190.150-090-10	m 1.5	90	135.0	138.0	10	16	60	20	10	57.21	1327.0
R5190.150-100-10	m 1.5	100	150.0	153.0	10	16	60	20	10	64.47	1594.0



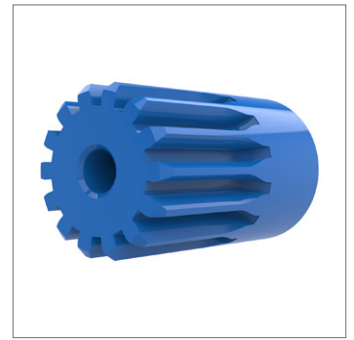
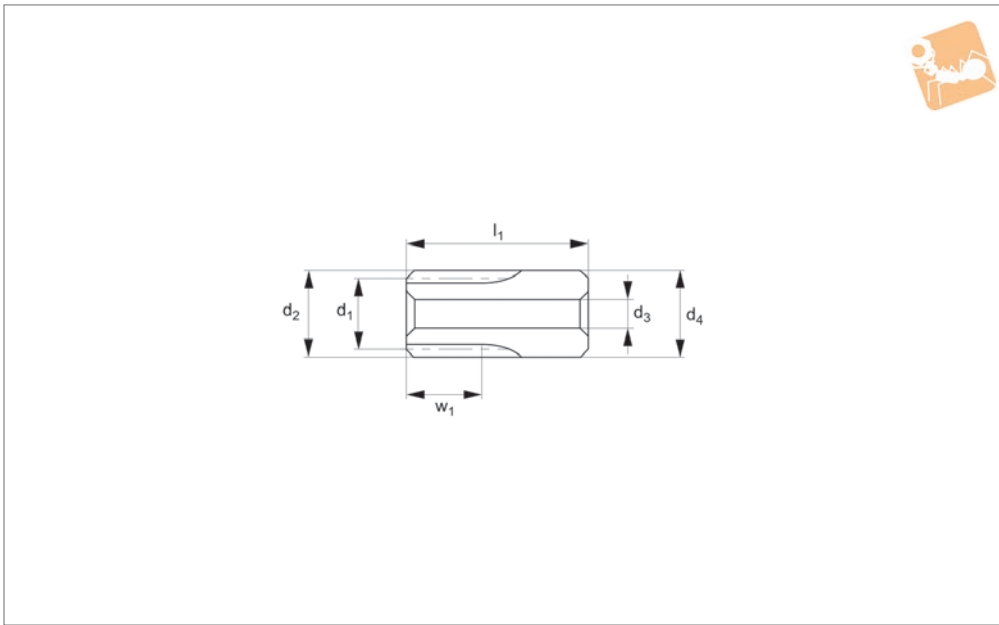


# Spur Gears - Module 1.5 - Plastic

blue polyacetal - 14 teeth



Standard Spur Gears



**R5191**

STANDARD SPUR GEARS

**Material**

Polyacetal, blue, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9-10.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,09-0,18mm.  
Blue polyacetal machined gears are

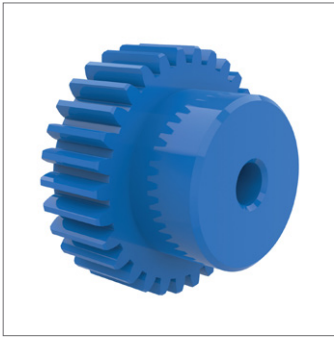
suitable for use in food machinery applications. Approved by the FDA (USA) and by regulators in the EU and Japan, where the food has an alcohol percentage of <15%. Please clean gears thoroughly before use.

**Tips**

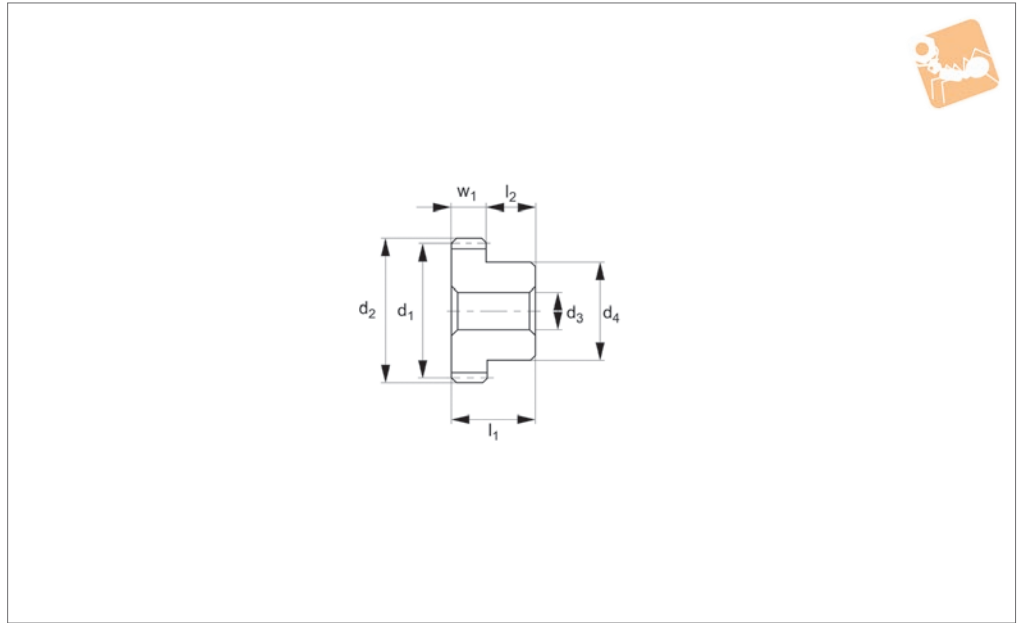
For module 1.5 blue plastic gears with 15-60 teeth see R5193.

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	Torque Nm max.	Weight g
R5191.150-014	m 1.5	14	21	24	18	6	24	40	1.36	21



### R5193



#### Material

Polyacetal, blue, machined.  
Accuracy to JIS B 1702-1 (ISO) class 9-10.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,09 - 0,18 mm.  
Blue polyacetal machined gears are

suitable for use in food machinery applications. Approved by the FDA (USA) and by regulators in the EU and Japan, where the food has an alcohol percentage of <15%. Please clean gears thoroughly before use.

#### Tips

For module 1.5 blue plastic gears with 14 teeth see R5191.

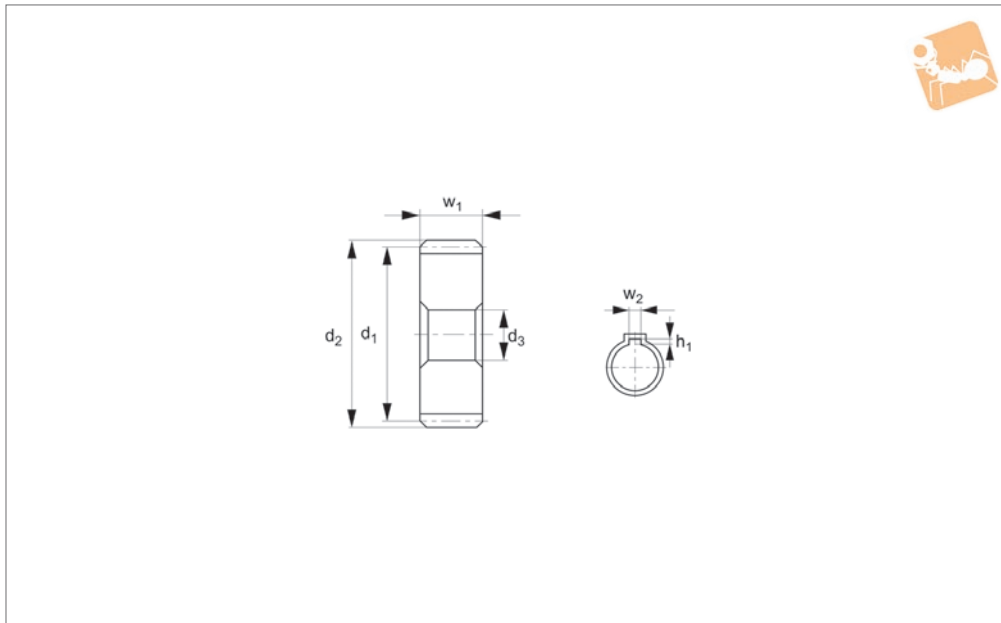
Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	d <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	Torque Nm max.	Weight g
R5193.150-015	m 1.5	15	22.5	25.5	15	6	18	30	15	1.51	12.4
R5193.150-016	m 1.5	16	24.0	27.0	15	6	18	30	15	1.65	13.6
R5193.150-018	m 1.5	18	27.0	30.0	15	8	20	30	15	1.94	16.4
R5193.150-020	m 1.5	20	30.0	33.0	15	8	22	30	15	2.23	20.6
R5193.150-022	m 1.5	22	33.0	36.0	15	8	24	30	15	2.53	25.3
R5193.150-024	m 1.5	24	36.0	39.0	15	8	24	30	15	2.82	28.7
R5193.150-025	m 1.5	25	37.5	40.5	15	8	28	30	15	2.97	32.8
R5193.150-026	m 1.5	26	39.0	42.0	15	8	28	30	15	3.12	35.9
R5193.150-028	m 1.5	28	42.0	45.0	15	8	30	30	15	3.41	41.8
R5193.150-030	m 1.5	30	45.0	48.0	15	8	32	30	15	3.83	48.2
R5193.150-032	m 1.5	32	48.0	51.0	15	8	35	30	15	4.14	56.2
R5193.150-035	m 1.5	35	52.5	55.5	15	8	40	30	15	4.60	69.9
R5193.150-036	m 1.5	36	54.0	57.0	15	8	40	30	15	4.75	72.5
R5193.150-040	m 1.5	40	60.0	63.0	15	10	45	30	15	5.53	89.7
R5193.150-045	m 1.5	45	67.5	70.5	15	10	50	30	15	6.33	113.5
R5193.150-048	m 1.5	48	72.0	75.0	15	10	55	30	15	6.81	132.6
R5193.150-050	m 1.5	50	75.0	78.0	15	10	55	30	15	7.13	139.9
R5193.150-055	m 1.5	55	82.5	85.5	15	10	60	30	15	7.93	136.8
R5193.150-056	m 1.5	56	84.0	87.0	15	10	60	30	15	8.09	173.2
R5193.150-060	m 1.5	60	90.0	93.0	15	10	65	30	15	8.90	200.9



# Spur Gears - Module 1.5

carbon steel - 15-100 teeth



**R5194**

STANDARD SPUR GEARS

### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8-9.

### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,06 - 0,15mm

### Tips

For module 1.5 steel gears with 60-100

teeth see R5195 (hubless) & R5204 (with hub),  
for gears with 8-10 see teeth R5198 & R5199, for gears with 12-14 teeth see R5200, for gears with 15-100 teeth alternative see R5201 and R5204 (reduced weight version).  
Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For

non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Keyway (w <sub>2</sub> x h <sub>1</sub> )	Torque Nm max.	Weight g
R5194.150-015-12-08	m 1.5	15	22.5	25.5	12	8	-	13.08	32.7
R5194.150-015-18-08	m 1.5	15	22.5	25.5	18	8	-	19.10	49.1
R5194.150-016-12-08	m 1.5	16	24.0	27.0	12	8	-	14.13	37.9
R5194.150-016-16-08	m 1.5	16	24.0	27.0	16	8	-	18.91	50.5
R5194.150-016-18-08	m 1.5	16	24.0	27.0	18	8	-	21.20	56.8
R5194.150-018-12-10	m 1.5	18	27.0	30.0	12	10	-	17.00	46.5
R5194.150-018-16-10	m 1.5	18	27.0	30.0	16	10	-	22.73	62.1
R5194.150-018-18-10	m 1.5	18	27.0	30.0	18	10	-	25.59	69.8
R5194.150-019-12-10	m 1.5	19	28.5	31.5	12	10	-	18.53	52.7
R5194.150-019-18-10	m 1.5	19	28.5	31.5	18	10	-	27.79	79.0
R5194.150-020-10-10	m 1.5	20	30.0	33.0	10	10	-	16.62	49.3
R5194.150-020-12-10	m 1.5	20	30.0	33.0	12	10	-	19.96	59.2
R5194.150-020-12-12	m 1.5	20	30.0	33.0	12	12	4x1,8	19.96	55.3
R5194.150-020-12-15	m 1.5	20	30.0	33.0	12	15	5x2,3	19.96	48.9
R5194.150-020-16-10	m 1.5	20	30.0	33.0	16	10	-	26.64	78.9
R5194.150-020-18-10	m 1.5	20	30.0	33.0	18	10	-	29.99	88.8
R5194.150-020-18-12	m 1.5	20	30.0	33.0	18	12	4x1,8	29.99	82.9
R5194.150-020-18-15	m 1.5	20	30.0	33.0	18	15	5x2,3	29.99	73.3
R5194.150-021-12-10	m 1.5	21	31.5	34.5	12	10	-	21.49	66.0
R5194.150-021-18-10	m 1.5	21	31.5	34.5	18	10	-	32.28	99.0
R5194.150-022-12-10	m 1.5	22	33.0	36.0	12	10	-	23.01	73.2
R5194.150-022-18-10	m 1.5	22	33.0	36.0	18	10	-	34.57	109.8
R5194.150-023-12-10	m 1.5	23	34.5	37.5	12	10	-	24.54	80.7
R5194.150-023-18-10	m 1.5	23	34.5	37.5	18	10	-	36.86	121.0
R5194.150-024-10-10	m 1.5	24	36.0	39.0	10	10	-	21.68	73.7
R5194.150-024-12-10	m 1.5	24	36.0	39.0	12	10	-	26.07	88.5



Order No.	Module	No. of teeth z	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. H7	Keyway ( $w_2 \times h_1$ )	Torque Nm max.	Weight g
R5194.150-024-12-12	m 1.5	24	36.0	39.0	12	12	4×1,8	26.07	84.6
R5194.150-024-12-15	m 1.5	24	36.0	39.0	12	15	5×2,3	26.07	78.2
R5194.150-024-16-10	m 1.5	24	36.0	39.0	16	10	-	34.76	118.0
R5194.150-024-18-12	m 1.5	24	36.0	39.0	18	12	-	39.15	127.8
R5194.150-024-18-15	m 1.5	24	36.0	39.0	18	15	5×2,3	39.15	117.2
R5194.150-024-18-16	m 1.5	24	36.0	39.0	18	16	5×2,3	39.15	113.8
R5194.150-025-10-10	m 1.5	25	37.5	40.5	10	10	-	23.01	80.5
R5194.150-025-12-10	m 1.5	25	37.5	40.5	12	10	-	27.60	96.6
R5194.150-025-12-12	m 1.5	25	37.5	40.5	12	12	4×1,8	27.60	92.7
R5194.150-025-12-15	m 1.5	25	37.5	40.5	12	15	5×2,3	27.60	86.3
R5194.150-025-16-12	m 1.5	25	37.5	40.5	16	12	-	36.86	124.5
R5194.150-025-18-12	m 1.5	25	37.5	40.5	18	12	-	36.86	140.1
R5194.150-025-18-15	m 1.5	25	37.5	40.5	18	15	5×2,3	36.86	129.5
R5194.150-025-18-16	m 1.5	25	37.5	40.5	18	16	5×2,3	36.86	126.0
R5194.150-026-12-10	m 1.5	26	39.0	42.0	12	10	-	29.22	105.1
R5194.150-026-18-12	m 1.5	26	39.0	42.0	18	12	-	43.83	152.8
R5194.150-027-12-10	m 1.5	27	40.5	43.5	12	10	-	30.75	114.0
R5194.150-027-18-12	m 1.5	27	40.5	43.5	18	12	-	46.13	166.0
R5194.150-028-10-12	m 1.5	28	42.0	45.0	10	12	-	26.93	99.9
R5194.150-028-12-10	m 1.5	28	42.0	45.0	12	10	-	32.37	123.1
R5194.150-028-12-12	m 1.5	28	42.0	45.0	12	12	4×1,8	32.37	119.2
R5194.150-028-12-15	m 1.5	28	42.0	45.0	12	15	5×2,3	32.37	112.8
R5194.150-028-16-12	m 1.5	28	42.0	45.0	16	12	-	43.16	159.8
R5194.150-028-18-12	m 1.5	28	42.0	45.0	18	12	-	48.51	179.8
R5194.150-028-18-15	m 1.5	28	42.0	45.0	18	15	5×2,3	48.51	169.2
R5194.150-028-18-20	m 1.5	28	42.0	45.0	18	20	6×2,8	48.51	149.0
R5194.150-029-12-10	m 1.5	29	43.5	46.5	12	10	-	33.90	132.6
R5194.150-029-18-12	m 1.5	29	43.5	46.5	18	12	-	50.90	194.0
R5194.150-030-10-12	m 1.5	30	45.0	48.0	10	12	-	29.60	116.0
R5194.150-030-12-10	m 1.5	30	45.0	48.0	12	10	-	35.52	142.4
R5194.150-030-12-12	m 1.5	30	45.0	48.0	12	12	4×1,8	35.52	138.5
R5194.150-030-12-15	m 1.5	30	45.0	48.0	12	15	5×2,3	35.52	132.1
R5194.150-030-16-14	m 1.5	30	45.0	48.0	16	14	-	47.37	180.4
R5194.150-030-18-14	m 1.5	30	45.0	48.0	18	14	-	53.29	203.0
R5194.150-030-18-15	m 1.5	30	45.0	48.0	18	15	5×2,3	53.29	198.1
R5194.150-030-18-18	m 1.5	30	45.0	48.0	18	18	6×2,8	53.29	186.4
R5194.150-030-18-20	m 1.5	30	45.0	48.0	18	20	6×2,8	53.29	178.0
R5194.150-032-10-10	m 1.5	32	48.0	51.0	10	10	-	32.28	135.9
R5194.150-032-10-12	m 1.5	32	48.0	51.0	10	12	4×1,8	32.28	132.6
R5194.150-032-10-15	m 1.5	32	48.0	51.0	10	15	5×2,3	32.28	127.3
R5194.150-032-16-14	m 1.5	32	48.0	51.0	16	14	-	51.66	207.9
R5194.150-032-16-15	m 1.5	32	48.0	51.0	16	15	5×2,3	51.66	203.6
R5194.150-032-16-18	m 1.5	32	48.0	51.0	16	18	6×2,8	51.66	193.2
R5194.150-032-16-20	m 1.5	32	48.0	51.0	16	20	6×2,8	51.66	185.7
R5194.150-034-10-12	m 1.5	34	51.0	54.0	10	12	-	34.95	151.5
R5194.150-034-16-14	m 1.5	34	51.0	54.0	16	14	-	55.96	237.2
R5194.150-035-10-12	m 1.5	35	52.5	55.5	10	12	-	36.38	161.1
R5194.150-035-16-14	m 1.5	35	52.5	55.5	16	14	-	58.16	252.6
R5194.150-036-10-12	m 1.5	36	54.0	57.0	10	12	-	37.72	170.9
R5194.150-036-10-15	m 1.5	36	54.0	57.0	10	15	5×2,3	37.72	165.0
R5194.150-036-10-16	m 1.5	36	54.0	57.0	10	16	5×2,3	37.72	163.1
R5194.150-036-16-14	m 1.5	36	54.0	57.0	16	14	-	60.35	268.3
R5194.150-036-16-15	m 1.5	36	54.0	57.0	16	15	5×2,3	60.35	264.0
R5194.150-036-16-18	m 1.5	36	54.0	57.0	16	18	6×2,8	60.35	253.6
R5194.150-036-16-20	m 1.5	36	54.0	57.0	16	20	6×2,8	60.35	246.1
R5194.150-038-10-12	m 1.5	38	57.0	60.0	10	12	-	40.49	191.4
R5194.150-038-16-14	m 1.5	38	57.0	60.0	16	14	-	64.75	301.2
R5194.150-040-10-12	m 1.5	40	60.0	63.0	10	12	-	43.16	213.1
R5194.150-040-10-15	m 1.5	40	60.0	63.0	10	15	5×2,3	43.16	207.2
R5194.150-040-10-16	m 1.5	40	60.0	63.0	10	16	5×2,3	43.16	205.3
R5194.150-040-10-18	m 1.5	40	60.0	63.0	10	18	6×2,8	43.16	200.7
R5194.150-040-16-14	m 1.5	40	60.0	63.0	16	14	-	69.14	335.8
R5194.150-040-16-15	m 1.5	40	60.0	63.0	16	15	5×2,3	69.14	331.5
R5194.150-040-16-18	m 1.5	40	60.0	63.0	16	18	6×2,8	69.14	321.1
R5194.150-040-16-20	m 1.5	40	60.0	63.0	16	20	6×2,8	69.14	313.6
R5194.150-042-10-12	m 1.5	42	63.0	66.0	10	12	-	45.93	235.8
R5194.150-042-16-12	m 1.5	42	63.0	66.0	16	12	-	73.63	377.3



# Spur Gears - Module 1.5

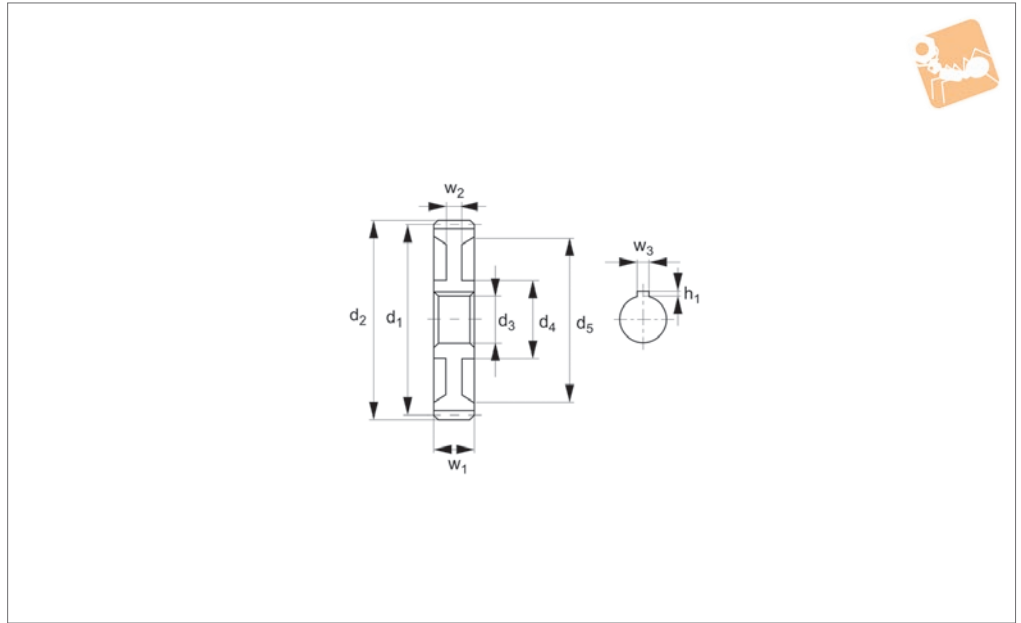
carbon steel - 15-100 teeth



Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	Keyway (w <sub>2</sub> x h <sub>1</sub> )	Torque Nm max.	Weight g
R5194.150-044-10-12	m 1.5	44	66.0	69.0	10	12	-	48.70	259.7
R5194.150-044-16-12	m 1.5	44	66.0	69.0	16	12	-	78.31	415.5
R5194.150-045-10-12	m 1.5	45	67.5	70.5	10	12	-	50.14	272.0
R5194.150-045-16-12	m 1.5	45	67.5	70.5	16	12	-	80.22	435.3
R5194.150-046-10-12	m 1.5	46	69.0	72.0	10	12	-	51.47	284.7
R5194.150-046-16-12	m 1.5	46	69.0	72.0	16	12	-	82.13	455.4
R5194.150-048-10-14	m 1.5	48	72.0	75.0	10	14	-	53.48	307.5
R5194.150-048-10-15	m 1.5	48	72.0	75.0	10	15	5×2,3	53.48	304.8
R5194.150-048-10-16	m 1.5	48	72.0	75.0	10	16	5×2,3	53.48	302.9
R5194.150-048-10-18	m 1.5	48	72.0	75.0	10	18	6×2,8	53.48	298.3
R5194.150-048-16-16	m 1.5	48	72.0	75.0	16	16	-	86.90	486.1
R5194.150-048-16-20	m 1.5	48	72.0	75.0	16	20	6×2,8	86.90	469.8
R5194.150-050-10-14	m 1.5	50	75.0	78.0	10	14	-	56.34	334.7
R5194.150-050-10-15	m 1.5	50	75.0	78.0	10	15	5×2,3	56.34	332.0
R5194.150-050-10-18	m 1.5	50	75.0	78.0	10	18	6×2,8	56.34	325.5
R5194.150-050-10-20	m 1.5	50	75.0	78.0	10	20	6×2,8	56.34	320.8
R5194.150-050-16-16	m 1.5	50	75.0	78.0	16	16	-	84.99	529.6
R5194.150-050-16-20	m 1.5	50	75.0	78.0	16	20	6×2,8	84.99	513.3
R5194.150-050-16-25	m 1.5	50	75.0	78.0	16	25	8×3,3	84.99	489.9
R5194.150-052-10-14	m 1.5	52	78.0	81.0	10	14	-	59.21	363.0
R5194.150-052-16-16	m 1.5	52	78.0	81.0	16	16	-	96.45	574.9
R5194.150-054-10-14	m 1.5	54	81.0	84.0	10	14	-	62.07	392.4
R5194.150-054-16-16	m 1.5	54	81.0	84.0	16	16	-	100.27	622.0
R5194.150-055-10-14	m 1.5	55	82.5	85.5	10	14	-	63.98	407.5
R5194.150-055-16-16	m 1.5	55	82.5	85.5	16	16	-	103.14	646.2
R5194.150-056-10-14	m 1.5	56	84.0	87.0	10	14	-	64.94	422.9
R5194.150-056-10-15	m 1.5	56	84.0	87.0	10	15	5×2,3	64.94	420.3
R5194.150-056-10-18	m 1.5	56	84.0	87.0	10	18	6×2,8	64.94	413.7
R5194.150-056-16-16	m 1.5	56	84.0	87.0	16	16	-	105.05	670.8
R5194.150-056-16-20	m 1.5	56	84.0	87.0	16	20	6×2,8	105.05	654.5
R5194.150-058-10-14	m 1.5	58	87.0	90.0	10	14	-	67.80	454.6
R5194.150-058-16-16	m 1.5	58	87.0	90.0	16	16	-	109.82	721.4
R5194.150-060-10-14	m 1.5	60	90.0	93.0	10	14	-	70.67	487.3
R5194.150-060-10-15	m 1.5	60	90.0	93.0	10	15	5×2,3	70.67	484.6
R5194.150-060-10-18	m 1.5	60	90.0	93.0	10	18	6×2,8	70.67	478.1
R5194.150-060-10-20	m 1.5	60	90.0	93.0	10	20	6×2,8	70.67	473.4
R5194.150-060-16-16	m 1.5	60	90.0	93.0	16	16	-	114.60	773.8
R5194.150-064-10-14	m 1.5	64	96.0	99.0	10	14	-	76.40	560.0
R5194.150-064-10-15	m 1.5	64	96.0	99.0	10	15	5×2,3	76.40	550.0
R5194.150-064-10-18	m 1.5	64	96.0	99.0	10	18	6×2,8	76.40	550.0
R5194.150-064-16-16	m 1.5	64	96.0	99.0	16	16	-	123.19	880.0
R5194.150-068-10-14	m 1.5	68	102.0	105.0	10	14	-	83.08	630.0
R5194.150-068-16-16	m 1.5	68	102.0	105.0	16	16	-	132.74	1000.0
R5194.150-070-10-14	m 1.5	70	105.0	108.0	10	14	-	85.95	670.0
R5194.150-070-10-15	m 1.5	70	105.0	108.0	10	15	5×2,3	85.95	670.0
R5194.150-070-10-18	m 1.5	70	105.0	108.0	10	18	6×2,8	85.95	660.0
R5194.150-070-16-16	m 1.5	70	105.0	108.0	16	16	-	136.56	1060.0
R5194.150-072-10-16	m 1.5	72	108.0	111.0	10	16	-	88.81	700.0
R5194.150-072-10-18	m 1.5	72	108.0	111.0	10	18	6×2,8	88.81	700.0
R5194.150-072-10-20	m 1.5	72	108.0	111.0	10	20	6×2,8	88.81	690.0
R5194.150-072-16-18	m 1.5	72	108.0	111.0	16	18	-	141.34	1120.0
R5194.150-075-10-16	m 1.5	75	112.5	115.5	10	16	-	92.63	760.0
R5194.150-075-16-18	m 1.5	75	112.5	115.5	16	18	-	148.98	1220.0
R5194.150-080-10-16	m 1.5	80	120.0	123.0	10	16	-	100.27	870.0
R5194.150-080-10-18	m 1.5	80	120.0	123.0	10	18	6×2,8	100.27	870.0
R5194.150-080-10-20	m 1.5	80	120.0	123.0	10	20	6×2,8	100.27	860.0
R5194.150-080-16-18	m 1.5	80	120.0	123.0	16	18	-	148.98	1390.0
R5194.150-084-10-16	m 1.5	84	126.0	129.0	10	16	-	105.05	960.0
R5194.150-084-16-22	m 1.5	84	126.0	129.0	16	22	-	148.98	1520.0
R5194.150-090-10-16	m 1.5	90	135.0	138.0	10	16	-	114.60	1110.0
R5194.150-090-16-22	m 1.5	90	135.0	138.0	16	22	-	183.35	1750.0
R5194.150-100-10-16	m 1.5	100	150.0	153.0	10	16	-	128.92	1370.0
R5194.150-100-10-18	m 1.5	100	150.0	153.0	10	18	6×2,8	128.92	1370.0
R5194.150-100-10-20	m 1.5	100	150.0	153.0	10	20	6×2,8	128.92	1360.0
R5194.150-100-16-18	m 1.5	100	150.0	153.0	16	18	-	206.27	2190.0



### R5195



#### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8-9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,06 - 0,15mm. This is a reduced

weight version of the hubless gears R5194.

#### Tips

For module 1.5 hubless steel gears with 60-100 teeth see R5194. For gears with 8-10 teeth see R5198 & R5199, for 12-14 teeth see R5200, for gears with 15-100 teeth See R5201 & R5194 (reduced weight

version).

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

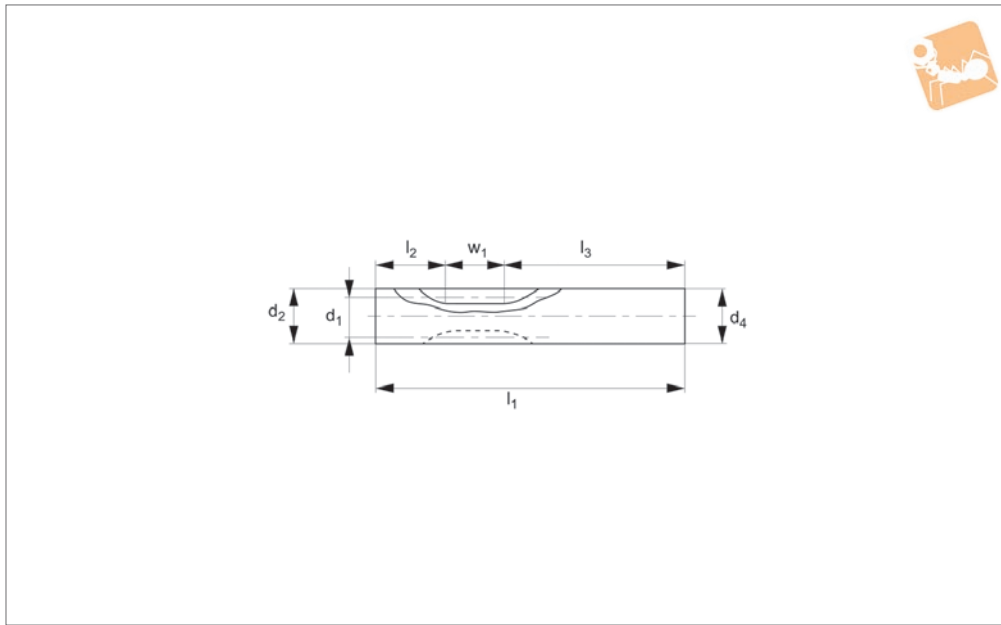
Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H7	d <sub>4</sub>	d <sub>5</sub>	Keyway (w <sub>3</sub> x h <sub>1</sub> )	Torque Nm max.	w <sub>2</sub>	Weight g
R5195.150-060-40	m 1.5	60	90	93	16	20	40	76	6×2,8	114.60	8	568.5
R5195.150-060-50	m 1.5	60	90	93	16	25	50	76	8×3,3	114.60	8	589.4
R5195.150-064-40	m 1.5	64	96	99	16	20	40	82	6×2,8	123.19	8	630.0
R5195.150-070-40	m 1.5	70	105	108	16	20	40	91	6×2,8	136.56	8	740.0
R5195.150-072-40	m 1.5	72	108	111	16	20	40	94	6×2,8	141.34	8	770.0
R5195.150-072-50	m 1.5	72	108	111	16	25	50	94	8×3,3	141.34	8	790.0
R5195.150-080-40	m 1.5	80	120	123	16	20	40	106	6×2,8	160.43	8	930.0
R5195.150-080-50	m 1.5	80	120	123	16	25	50	106	8×3,3	160.43	8	950.0
R5195.150-100-40	m 1.5	100	150	153	16	20	40	136	6×2,8	206.27	8	1380.0
R5195.150-100-50	m 1.5	100	150	153	16	25	50	136	8×3,3	206.27	8	1400.0





# Spur Gears - Module 1.5

carbon steel - 8-10 teeth



**R5198**

STANDARD SPUR GEARS

**Material**

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8-9.

**Technical Notes**

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,06 - 0,15mm. Rack shift coefficient x = 0.5.

cient x = 0.5.

**Tips**

For module 1.5 hubless steel gears with 60-100 teeth see R5194. For gears with 8-10 teeth see R5198 & R5199, for gears with 12-14 teeth see R5200, for gears with 15-100 teeth See R5201 &

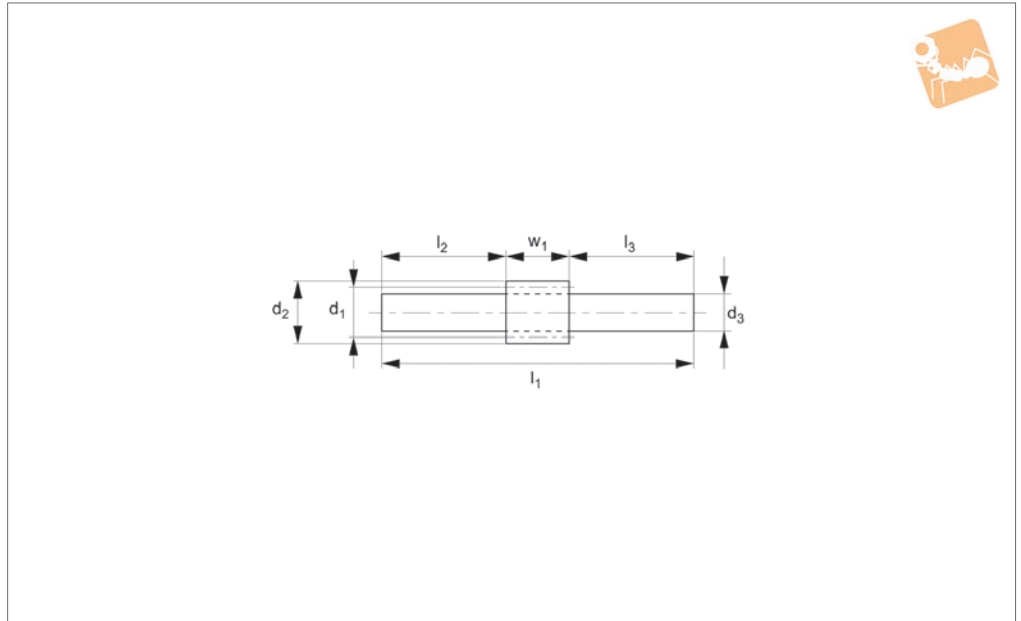
R5204 (reduced weight version).

Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth z	Pitch dia. d <sub>1</sub>	d <sub>2</sub>	w <sub>1</sub>	d <sub>3</sub> tol. H9	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Torque Nm max.	Weight g
R5198.150-08	m 1.5	8	Shifted Gear *	16	18	16	90	24	48	10.31	133.3
R5198.150-10	m 1.5	10	Shifted Gear *	19	18	19	90	24	48	14.23	190.5



### R5199



#### Material

Carbon steel (ISO C45).  
Accuracy to JIS B 1702-1 (ISO) class 8-9.

#### Technical Notes

20° pressure angle, full depth tooth.  
Amount of backlash when assembling gears = 0,06 - 0,15mm. Rack shift coefficient  $x = 0.5$ .

#### Tips

For module 1.5 hubless steel gears with 60-100 teeth see R5194.  
For gears with 8-10 teeth alternative see R5198,  
for gears with 12-14 teeth see R5200,  
for gears with 15-100 teeth See R5201 & R5204 (reduced weight version).

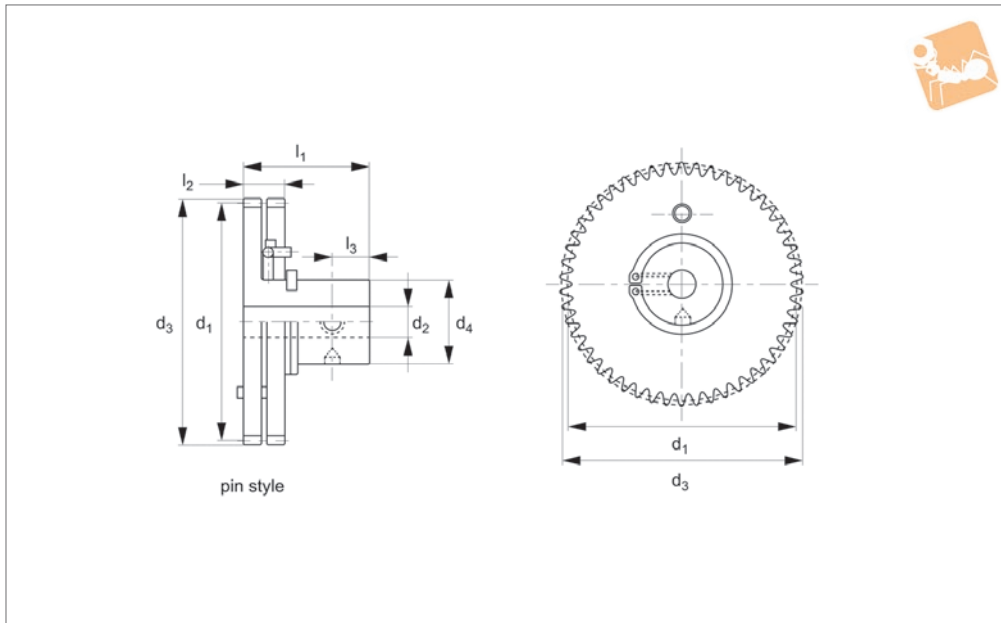
Max. allowable torque (Nm) is based on standard operating conditions (see technical pages) with a safety factor of 1.2. For non standard applications apply a suitable safety factor depending on frequency of use, type of working etc.

Order No.	Module	No. of teeth $z$	Pitch dia. $d_1$	$d_2$	$w_1$	$d_3$ tol. h9	$l_1$	$l_2$	$l_3$	Torque Nm max.	Weight g
R5199.150-008	$m$ 1.5	8	Shifted gear *	16	18	9	90	24	48	10.31	56.2
R5199.150-010	$m$ 1.5	10	Shifted gear *	19	18	12	90	24	48	14.23	94.1





# 1,0 to 0,5 Module Anti-backlash stainless steel or aluminium pin hub



**R2080**

STANDARD SPUR GEARS

**Material**

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355 anodized before cutting).

**Technical Notes**

20° pressure angle, zero backlash.  
Quality class DIN 7, AGMA 10.  
The split gear design incorporates springs

which force the floating gear in a direction opposite to the rotation of the fixed gear, effectively enlarging the teeth width and overcoming the space, or backlash, between the teeth of the gear. Two types of design, one utilising scissor springs (figure

1), and the second, for larger diameter gears, utilising extension springs (figure 2).

**Tips**

Special versions available on request (e.g. different number of teeth, 14,5° pressure angle etc).

Order No.	No. of teeth	d <sub>1</sub> p.d.	d <sub>2</sub> tol. H8	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	Module
R2080.1.0-18-S	18	18.0	8	20.0	14	6	1.0
R2080.1.0-21-S	21	21.0	8	23.0	14	6	1.0
R2080.1.0-24-S	24	24.0	8	26.0	14	6	1.0
R2080.0.8-24-S	24	19.2	8	20.8	14	6	0.8
R2080.0.8-28-S	28	22.4	8	24.0	14	6	0.8
R2080.0.8-32-S	32	25.6	8	27.2	14	6	0.8
R2080.0.6-28-S	28	16.8	8	18.0	14	6	0.6
R2080.0.6-32-S	32	19.2	8	20.4	14	6	0.6
R2080.0.6-36-S	36	21.6	8	22.8	14	6	0.6
R2080.0.5-36-S	36	18.0	8	19.0	14	6	0.5
R2080.0.5-42-S	42	21.0	8	22.0	14	6	0.5
R2080.0.5-48-S	48	24.0	8	25.0	14	6	0.5
R2080.1.0-18-A	18	18.0	8	20.0	14	6	1.0
R2080.1.0-21-A	21	21.0	8	23.0	14	6	1.0
R2080.1.0-24-A	24	24.0	8	26.0	14	6	1.0
R2080.0.8-24-A	24	19.2	8	20.8	14	6	0.8
R2080.0.8-28-A	28	22.4	8	24.0	14	6	0.8
R2080.0.8-32-A	32	25.6	8	27.2	14	6	0.8
R2080.0.6-28-A	28	16.8	8	18.0	14	6	0.6
R2080.0.6-32-A	32	19.2	8	20.4	14	6	0.6
R2080.0.6-36-A	36	21.6	8	22.8	14	6	0.6
R2080.0.5-36-A	36	18.0	8	19.0	14	6	0.5
R2080.0.5-42-A	42	21.0	8	22.0	14	6	0.5
R2080.0.5-48-A	48	24.0	8	25.0	14	6	0.5



### R2082



**Material**  
Carbon Steel

Quality class DIN 7, AGMA 10.

pressure angle, quality class DIN 5 & 3 etc).

**Technical Notes**  
20° pressure angle.

**Tips**  
Special versions available on request  
(e.g. different number of teeth, 14.5°

Order No.	No. of teeth	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	h
R2082.015-008	15	8	18	22.5	25.5	12	10	-	-
R2082.016-008	16	8	20	24	27	12	10	-	-
R2082.018-010	18	10	22	27	30	12	10	-	-
R2082.020-010	20	10	25	30	33	12	10	-	-
R2082.024-010	24	10	30	36	39	12	10	-	-
R2082.025-010	25	10	32	37.5	40.5	12	10	-	-
R2082.028-010	28	10	36	42	45	12	10	-	-
R2082.030-010	30	10	40	45	48	12	10	-	-
R2082.032-010	32	10	40	48	51	10	10	-	-
R2082.036-010	36	10	50	54	57	10	10	-	-
R2082.040-012	40	12	50	60	63	10	10	-	-
R2082.048-012	48	12	50	72	75	10	10	-	-
R2082.050-012	50	12	50	75	78	10	10	-	-
R2082.056-014	56	14	50	84	87	10	10	-	-
R2082.060-014	60	14	50	90	93	10	10	-	-
R2082.064-014	64	14	50	96	99	10	10	-	-
R2082.070-014	70	14	50	105	108	10	10	-	-
R2082.072-015	72	15	50	108	111	10	10	-	-
R2082.080-015	80	15	60	120	123	10	10	-	-
R2082.100-015	100	15	60	150	153	10	10	-	-
R2082.020-015-K	20	15	25	30	33	12	10	5	2.3
R2082.025-015-K	25	15	30	37.5	40.5	12	10	5	2.3
R2082.028-015-K	28	15	30	42	45	12	10	5	2.3
R2082.030-015-K	30	15	30	45	48	12	10	5	2.3
R2082.036-015-K	36	15	30	54	57	10	10	5	2.3
R2082.040-018-K	40	18	36	60	63	10	10	6	2.8
R2082.048-018-K	48	18	36	72	75	10	10	6	2.8
R2082.050-018-K	50	18	36	75	78	10	10	6	2.8
R2082.056-015-K	56	15	30	84	87	10	10	5	2.3
R2082.060-018-K	60	18	36	90	93	10	10	6	2.8
R2082.064-015-K	64	15	30	96	99	10	10	5	2.3
R2082.070-015-K	70	15	30	105	108	10	10	5	2.3
R2082.072-018-K	72	18	36	108	111	10	10	6	2.8
R2082.080-018-K	80	18	36	120	123	10	10	6	2.8



# Spur Gears

Steel



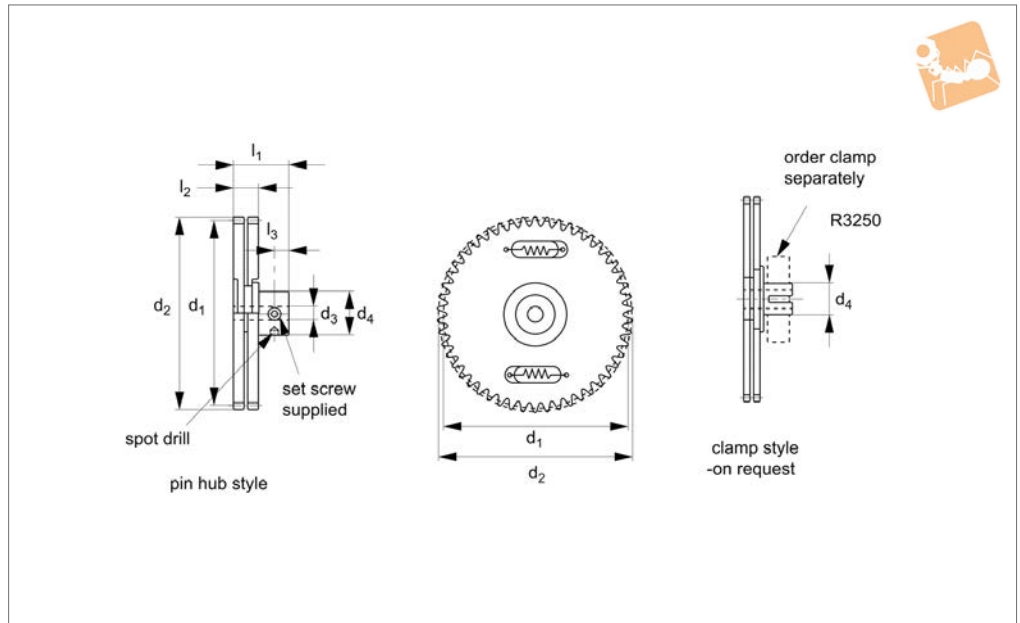
## Standard Spur Gears

Order No.	No. of teeth	$d_1$	$d_2$	$d_3$	$d_4$	$w_1$	$w_2$	$w_3$	$h$
R2082.100-020-K	100	20	40	150	153	10	10	6	2.8

STANDARD SPUR GEARS



### R2084



**Material**  
A2 Stainless

Quality class DIN 7, AGMA 10.

pressure angle, quality class DIN 5 & 3 etc).

**Technical Notes**  
20° pressure angle.

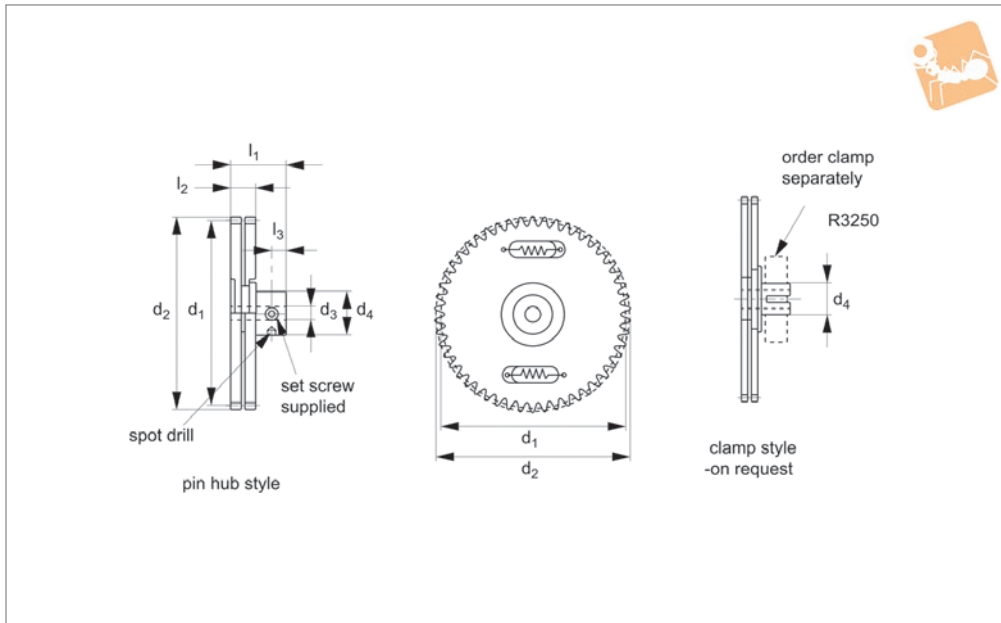
**Tips**  
Special versions available on request (e.g. different number of teeth, 14.5°

Order No.	No. of teeth	$d_1$ p.d.	$d_2$	$d_3$	$d_4$	$w_1$	$w_2$
R2084.018-12-SS	18	12	20	27.0	30.0	25	12
R2084.020-12-SS	20	12	20	30.0	33.0	25	12
R2084.024-12-SS	24	12	20	36.0	39.0	25	12
R2084.028-12-SS	28	12	20	42.0	45.0	25	12
R2084.030-12-SS	30	12	20	45.0	48.0	25	12
R2084.032-12-SS	32	12	20	48.0	51.0	25	12
R2084.036-12-SS	36	12	20	54.0	57.0	25	12
R2084.040-12-SS	40	12	20	60.0	63.0	25	12
R2084.042-12-SS	42	12	20	63.0	66.0	25	12
R2084.045-12-SS	45	12	20	67.5	70.5	25	12
R2084.048-12-SS	48	12	20	72.0	75.0	25	12
R2084.050-12-SS	50	12	20	75.0	78.0	25	12
R2084.056-12-SS	56	12	20	84.0	87.0	25	12
R2084.060-12-SS	60	12	20	90.0	93.0	25	12
R2084.064-12-SS	64	12	20	96.0	99.0	25	12



# Hubless Spur Gears

## Stainless Steel



**R2086**

STANDARD SPUR GEARS

**Material**  
A2 Stainless

Quality class DIN 7, AGMA 10.

pressure angle, quality class DIN 5 & 3 etc).

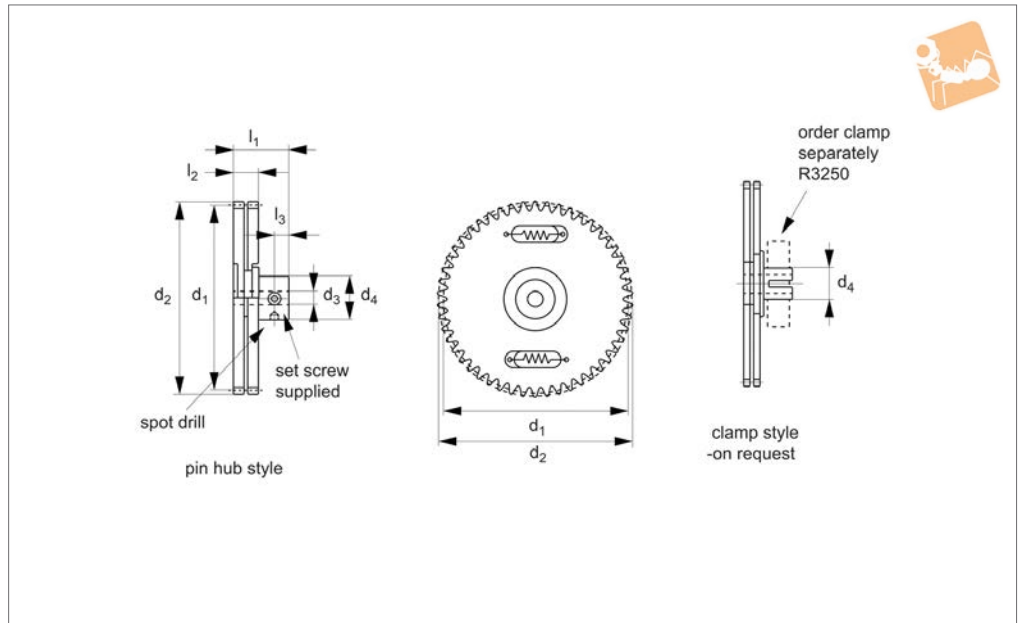
**Technical Notes**  
20° pressure angle.

**Tips**  
Special versions available on request (e.g. different number of teeth, 14.5°

Order No.	No. of teeth	d <sub>1</sub> p.d.	d <sub>2</sub>	d <sub>3</sub>	w
R2086.018-16-SS	18	16	27.0	30.0	10
R2086.020-16-SS	20	16	30.0	33.0	10
R2086.024-16-SS	24	16	36.0	39.0	10
R2086.028-16-SS	28	16	42.0	45.0	10
R2086.030-16-SS	30	16	45.0	48.0	10
R2086.032-16-SS	32	16	48.0	51.0	10
R2086.036-16-SS	36	16	54.0	57.0	10
R2086.040-16-SS	40	16	60.0	63.0	10
R2086.042-16-SS	42	16	63.0	66.0	10
R2086.045-16-SS	45	16	67.5	70.5	10
R2086.048-16-SS	48	16	72.0	75.0	10
R2086.050-16-SS	50	16	75.0	78.0	10
R2086.056-16-SS	56	16	84.0	87.0	10
R2086.060-16-SS	60	16	90.0	93.0	10
R2086.064-16-SS	64	16	96.0	99.0	10



## R2088



**Material**  
Carbon Steel

ØH= 10 when bore=5mm  
ØH= 13 when bore=8mm.

**Tips**  
Special versions available on request (e.g. different number of teeth, 14.5° pressure angle, quality class DIN 5 & 3 etc).

**Technical Notes**  
20° pressure angle.  
Quality class DIN 7, AGMA 10.

Order No.	No. of teeth	Type	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	h
R2088.016-08-ST	16	W/o Keyway	8	-	-	24.0	27.0	18	-	-	-
R2088.018-10-ST	18	W/o Keyway	10	-	-	27.0	30.0	18	-	-	-
R2088.020-10-ST	20	W/o Keyway	10	-	-	30.0	33.0	18	-	-	-
R2088.024-12-ST	24	W/o Keyway	12	-	-	36.0	39.0	18	-	-	-
R2088.025-12-ST	25	W/o Keyway	12	-	-	37.5	40.5	18	-	-	-
R2088.028-12-ST	28	W/o Keyway	12	-	-	42.0	45.0	18	-	-	-
R2088.030-14-ST	30	W/o Keyway	14	-	-	45.0	48.0	18	-	-	-
R2088.032-14-ST	32	W/o Keyway	14	-	-	48.0	51.0	16	-	-	-
R2088.036-14-ST	36	W/o Keyway	14	-	-	54.0	57.0	16	-	-	-
R2088.040-14-ST	40	W/o Keyway	14	-	-	60.0	63.0	16	-	-	-
R2088.048-16-ST	48	W/o Keyway	16	-	-	72.0	75.0	16	-	-	-
R2088.050-16-ST	50	W/o Keyway	16	-	-	75.0	78.0	16	-	-	-
R2088.056-16-ST	56	W/o Keyway	16	-	-	84.0	87.0	16	-	-	-
R2088.060-16-ST	60	W/o Keyway	16	-	-	90.0	93.0	16	-	-	-
R2088.064-16-ST	64	W/o Keyway	16	-	-	96.0	99.0	16	-	-	-
R2088.070-16-ST	70	W/o Keyway	16	-	-	105.0	108.0	16	-	-	-
R2088.072-18-ST	72	W/o Keyway	18	-	-	108.0	111.0	18	-	-	-
R2088.080-18-ST	80	W/o Keyway	18	-	-	120.0	123.0	18	-	-	-
R2088.100-18-ST	100	W/o Keyway	18	-	-	150.0	153.0	18	-	-	-
R2088.020-14-ST	20	With Keyway	14	-	-	30.0	33.0	18	8	4	1.8
R2088.024-16-ST	24	With Keyway	16	-	-	36.0	39.0	18	8	5	2.3
R2088.025-16-ST	25	With Keyway	16	-	-	37.5	40.5	18	8	5	2.3
R2088.028-16-ST	28	With Keyway	16	-	-	42.0	45.0	18	8	5	2.3
R2088.030-18-ST	30	With Keyway	18	-	-	45.0	48.0	18	8	6	2.8
R2088.032-18-ST	32	With Keyway	18	-	-	48.0	51.0	16	8	6	2.8
R2088.036-18-ST	36	With Keyway	18	-	-	54.0	57.0	16	8	6	2.8
R2088.040-18-ST	40	With Keyway	18	-	-	60.0	63.0	16	8	6	2.8
R2088.048-20-ST	48	With Keyway	20	-	-	72.0	75.0	16	8	6	2.8
R2088.050-20-ST	50	With Keyway	20	-	-	75.0	78.0	16	8	6	2.8
R2088.056-20-ST	56	With Keyway	20	-	-	84.0	87.0	16	8	6	2.8
R2088.060-20-ST	60	With Keyway	20	40	76	90.0	93.0	16	8	6	2.8
R2088.064-20-ST	64	With Keyway	20	40	82	96.0	99.0	16	8	6	2.8
R2088.070-20-ST	70	With Keyway	20	40	91	105.0	108.0	16	8	6	2.8



# Hubless Spur Gears

Steel

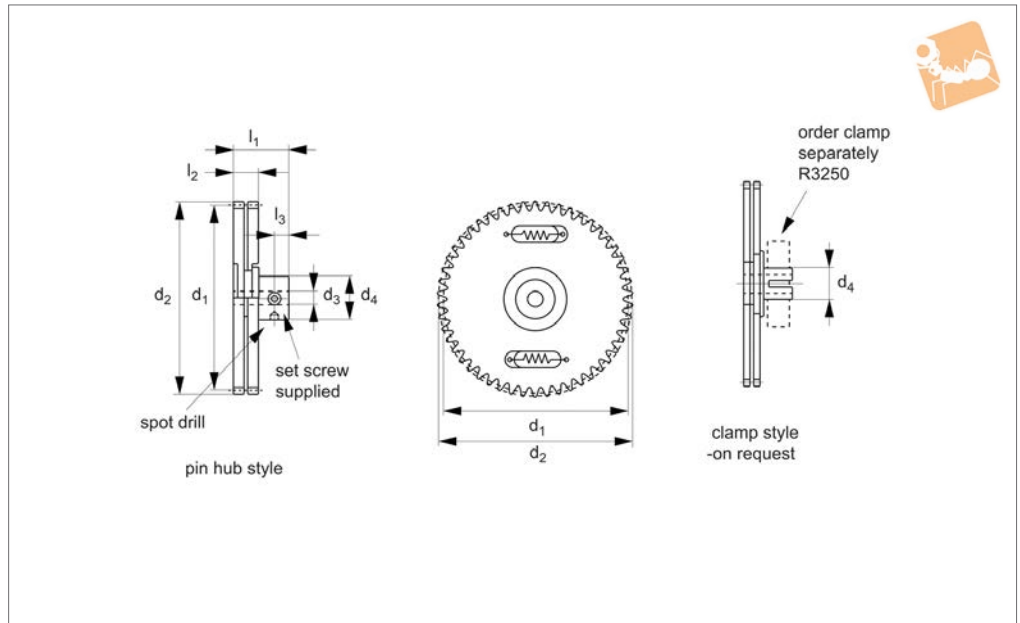
## Standard Spur Gears



Order No.	No. of teeth	Type	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	h
R2088.072-25-ST	72	With Keyway	25	50	94	108.0	111.0	16	8	8	3.3
R2088.080-25-ST	80	With Keyway	25	50	106	120.0	123.0	16	8	8	3.3
R2088.100-25-ST	100	With Keyway	25	50	136	150.0	153.0	16	8	8	3.3



### R2088.1



#### Material

Aluminium (DIN 3,1355 anodized before cutting).

Hub - stainless steel (DIN 1,4305).

Quality class DIN 7, AGMA 10.

ØH= 10 when bore=5mm

ØH= 13 when bore=8mm.

#### Tips

Special versions available on request (e.g. different number of teeth, 14.5° pressure angle, quality class DIN 5 & 3 etc).

#### Technical Notes

20° pressure angle.

Order No.	No. of teeth	d <sub>1</sub> p.d.	d <sub>2</sub> tol. H8	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	Module
R2088.A065-08	65	39.0	8	40.2	10	3	0.6
R2088.A070-08	70	42.0	8	43.2	10	3	0.6
R2088.A072-08	72	43.2	8	44.4	10	3	0.6
R2088.A075-08	75	45.0	8	46.2	10	3	0.6
R2088.A080-08	80	48	8	49.2	10	3	0.6
R2088.A084-08	84	50.4	8	51.6	10	3	0.6
R2088.A085-08	85	51.0	8	52.2	10	3	0.6
R2088.A090-08	90	54.0	8	55.2	10	3	0.6
R2088.A095-08	95	57.0	8	58.2	10	3	0.6
R2088.A096-08	96	57.6	8	58.8	10	3	0.6
R2088.A100-08	100	60.0	8	61.2	10	3	0.6
R2088.A105-08	105	63.0	8	64.2	10	3	0.6
R2088.A110-08	110	66.0	8	67.2	10	3	0.6
R2088.A115-08	115	69.0	8	70.2	10	3	0.6
R2088.A120-08	120	72.0	8	73.2	10	3	0.6
R2088.A125-08	125	75.0	8	76.2	10	3	0.6
R2088.A130-08	130	78.0	8	79.2	10	3	0.6
R2088.A132-08	132	79.2	8	80.4	10	3	0.6
R2088.A140-08	140	84.0	8	85.2	10	3	0.6
R2088.A144-08	144	86.4	8	87.6	10	3	0.6
R2088.A150-08	150	90.0	8	91.2	10	3	0.6
R2088.A065-05	65	39.0	8	40.2	10	3	0.6
R2088.A070-05	70	42.0	8	43.2	10	3	0.6
R2088.A072-05	72	43.2	8	44.4	10	3	0.6
R2088.A075-05	75	45.0	8	46.2	10	3	0.6
R2088.A080-05	80	48.0	8	49.2	10	3	0.6
R2088.A084-05	84	50.4	8	51.6	10	3	0.6
R2088.A085-05	85	51.0	8	52.2	10	3	0.6
R2088.A090-05	90	54.0	8	55.2	10	3	0.6
R2088.A095-05	95	57.0	8	58.2	10	3	0.6
R2088.A096-05	96	57.6	8	58.8	10	3	0.6





# 0,6 Module Anti-backlash Gears

aluminium



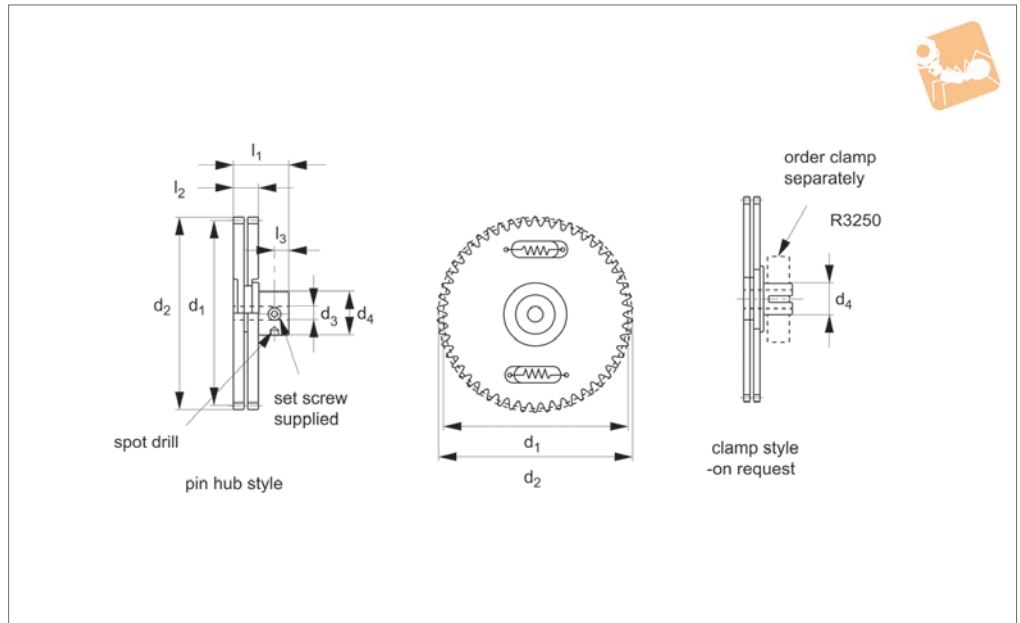
## Standard Spur Gears

Order No.	No. of teeth	d <sub>1</sub> p.d.	d <sub>2</sub> tol. H8	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	Module
R2088.A100-05	100	60.0	8	61.2	10	3	0.6
R2088.A105-05	105	63.0	8	64.2	10	3	0.6
R2088.A110-05	110	66.0	8	67.2	10	3	0.6
R2088.A115-05	115	69.0	8	70.2	10	3	0.6
R2088.A120-05	120	72.0	8	73.2	10	3	0.6
R2088.A125-05	125	75.0	8	76.2	10	3	0.6
R2088.A130-05	130	78.0	8	79.2	10	3	0.6
R2088.A132-05	132	79.2	8	80.4	10	3	0.6
R2088.A140-05	140	84.0	8	85.2	10	3	0.6
R2088.A144-05	144	86.4	8	87.6	10	3	0.6
R2088.A150-05	150	90.0	8	91.2	10	3	0.6

STANDARD SPUR GEARS



### R2090



#### Material

Core - A2 Stainless Steel  
 Gear - Machined from cast Nylon blocks

Quality class DIN 7, AGMA 10.  
 $\emptyset H = 10$  when bore=5mm  
 $\emptyset H = 13$  when bore=8mm.

(e.g. different number of teeth, 14.5° pressure angle, quality class DIN 5 & 3 etc).

#### Technical Notes

20° pressure angle.

#### Tips

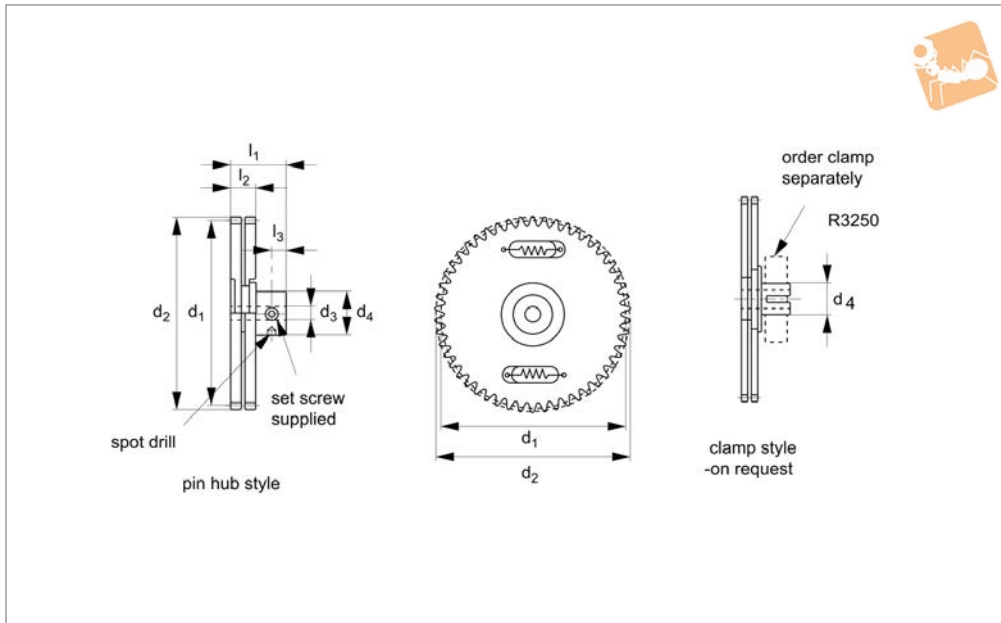
Special versions available on request

Order No.	No. of teeth	$d_1$	$d_2$	$d_3$	$d_4$	$d_5$	$w_1$	$w_2$	$w_3$
R2090.030-10	30	10	30	30	45.0	48.0	27	15	12
R2090.035-10	35	10	33	36	52.5	55.5	27	15	12
R2090.040-10	40	10	40	45	60.0	63.0	27	15	12
R2090.050-12	50	12	40	45	75.0	78.0	27	15	12
R2090.060-12	60	12	50	55	90.0	93.0	27	15	12
R2090.018-12	18	12	60	85	120.0	123.0	27	15	12



# 0,25 Module Anti-backlash Gears

stainless or aluminium



**R2096**

STANDARD SPUR GEARS

**Material**

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355 anodized before cutting).  
Hub - stainless steel (DIN 1,4305).

Quality class DIN 7, AGMA 10.

**ØH= 10 when bore=5mm**  
**ØH= 13 when bore=8mm.**

pressure angle, quality class DIN 5 & 3 etc).

**Technical Notes**

20° pressure angle.

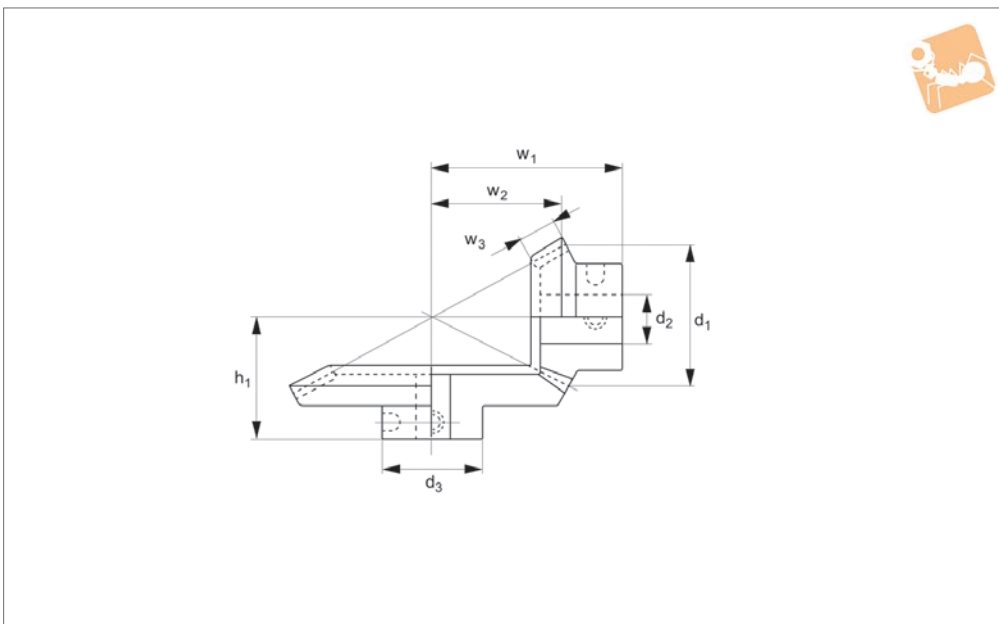
**Tips**

Special versions available on request (e.g. different number of teeth, 14.5°

Order No.	No. of teeth	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>
R2096.015-12-SS	15	12	24	30	34	36	20	16
R2096.016-12-SS	16	12	26	32	36	36	20	16
R2096.018-12-SS	18	12	30	36	40	36	20	16
R2096.020-12-SS	20	12	32	40	44	36	20	16
R2096.022-12-SS	22	12	36	44	48	36	20	16
R2096.024-12-SS	24	12	38	48	52	36	20	16
R2096.025-12-SS	25	12	40	50	54	36	20	16
R2096.028-12-SS	28	12	45	56	60	36	20	16
R2096.030-12-SS	30	12	50	60	64	36	20	16



R2100



**Material**

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

**Tips**

Gears will only mesh at right angles when used as sets described in chart.

**Technical Notes**

20° pressure angle.

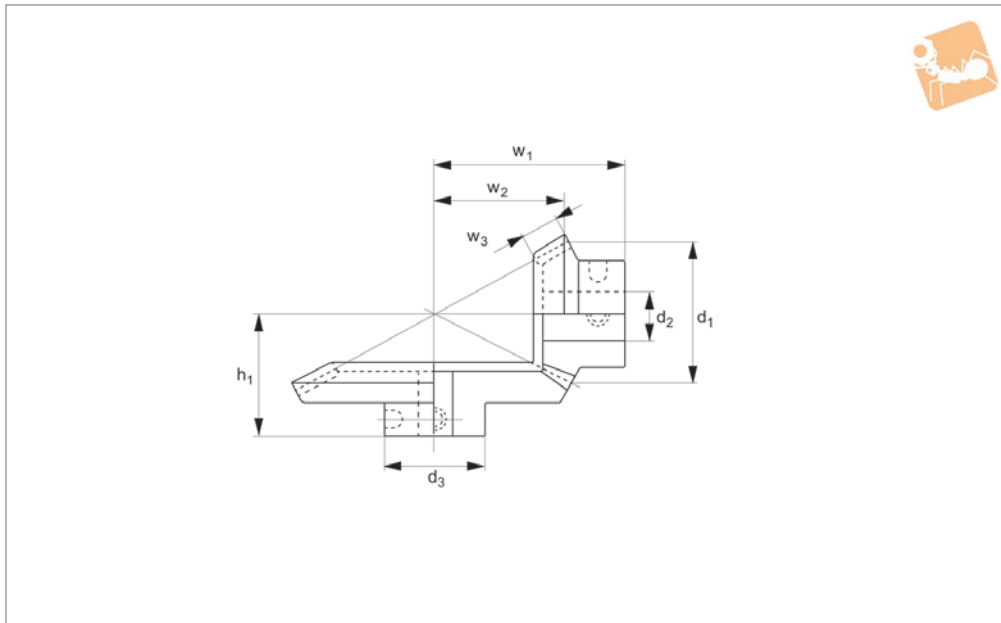
Order No.	d <sub>1</sub> (gear)	d <sub>1</sub> (pinion)	d <sub>2</sub> tol. H7	d <sub>3</sub>	Ratio	No. of teeth (pinion)	No. of teeth (gear)	w <sub>1</sub>	w <sub>2</sub> (gear)	w <sub>2</sub> (pinion)	w <sub>3</sub>	h <sub>1</sub>	Material (pinion)	Material (gear)
R2100.001	30	30	Ø12	26	1 to 1	20	20	32,0	13,94	13,94	8	32	Stainless	Aluminium
R2100.001S	30	30	Ø12	26	1 to 1	20	20	32,0	13,94	13,94	8	32	Stainless	Stainless
R2100.001A	30	30	Ø12	26	1 to 1	20	20	32,0	13,94	13,94	8	32	Aluminium	Aluminium
R2100.002	60	30	Ø12	26	1 to 2	20	40	47,5	14,12	29,10	8	32	Stainless	Aluminium
R2100.003	90	30	Ø12	26	1 to 3	20	60	63,5	14,16	44,33	8	32	Stainless	Aluminium
R2100.001P	30	30	Ø12	26	1 to 1	20	20	32,0	13,94	13,94	8	32	Stainless	Aluminium
R2100.001G	30	30	Ø12	26	1 to 1	20	20	32,0	13,94	13,94	8	32	Aluminium	Aluminium



# 1,0 Module Mitre & Bevel gears

stainless/aluminium

## Other Precision Gears



**R2102**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

**Tips**

Gears will only mesh at right angles when used as sets described in chart.

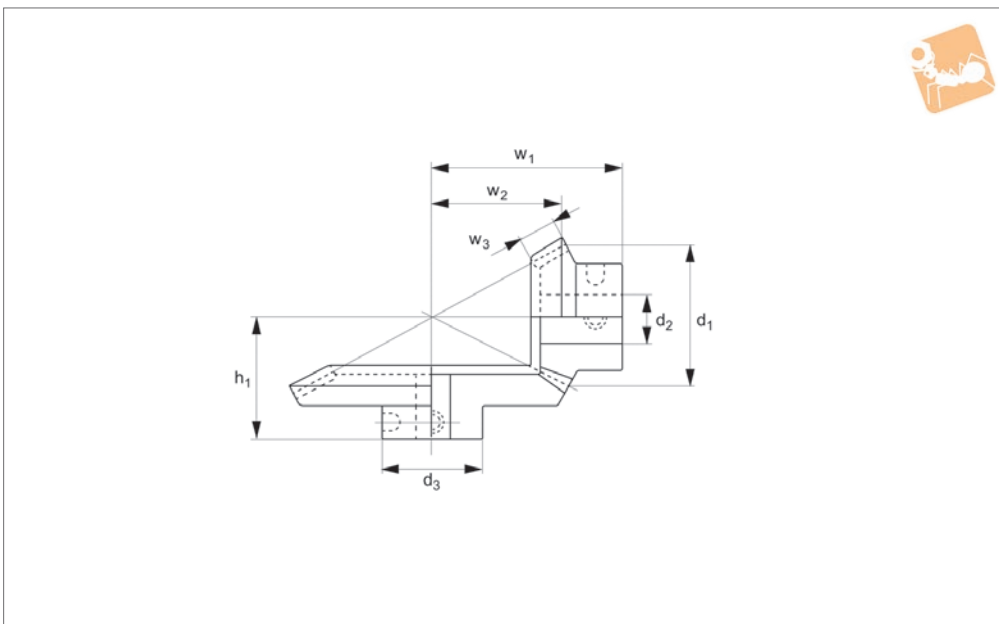
**Technical Notes**

20° pressure angle.

Order No.	d <sub>1</sub> (gear)	d <sub>1</sub> (pinion)	d <sub>2</sub> tol. H7	d <sub>3</sub>	Ratio	No. of teeth (pinion)	No. of teeth (gear)	w <sub>1</sub>	w <sub>2</sub> (gear)	w <sub>2</sub> (pinion)	w <sub>3</sub>	h <sub>1</sub>	Material (pinion)	Material (gear)
R2102.001	24	24	Ø10	19	1 to 1	24	24	25,5	11,29	11,29	7	25,5	Stainless	Aluminium
R2102.001S	24	24	Ø10	19	1 to 1	24	24	25,5	11,29	11,29	7	25,5	Stainless	Stainless
R2102.001A	24	24	Ø10	19	1 to 1	24	24	25,5	11,29	11,29	7	25,5	Aluminium	Aluminium
R2102.002	58	24	Ø10	19	1 to 2	24	48	38,0	11,42	23,40	7	25,5	Stainless	Aluminium
R2102.003	72	24	Ø10	19	1 to 3	24	72	51,0	11,44	35,56	7	25,5	Stainless	Aluminium
R2102.004	96	24	Ø10	19	1 to 4	24	96	63,5	11,45	47,65	7	25,5	Stainless	Aluminium
R2102.001P		24	Ø10	19	1 to 1	24		25,5		11,29	7	25,5	Stainless	
R2102.001G	24		Ø10	19	1 to 1		24	25,5	11,29		7	25,5		Aluminium



R2104



**Material**

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

**Tips**

Gears will only mesh at right angles when used as sets described in chart.

**Technical Notes**

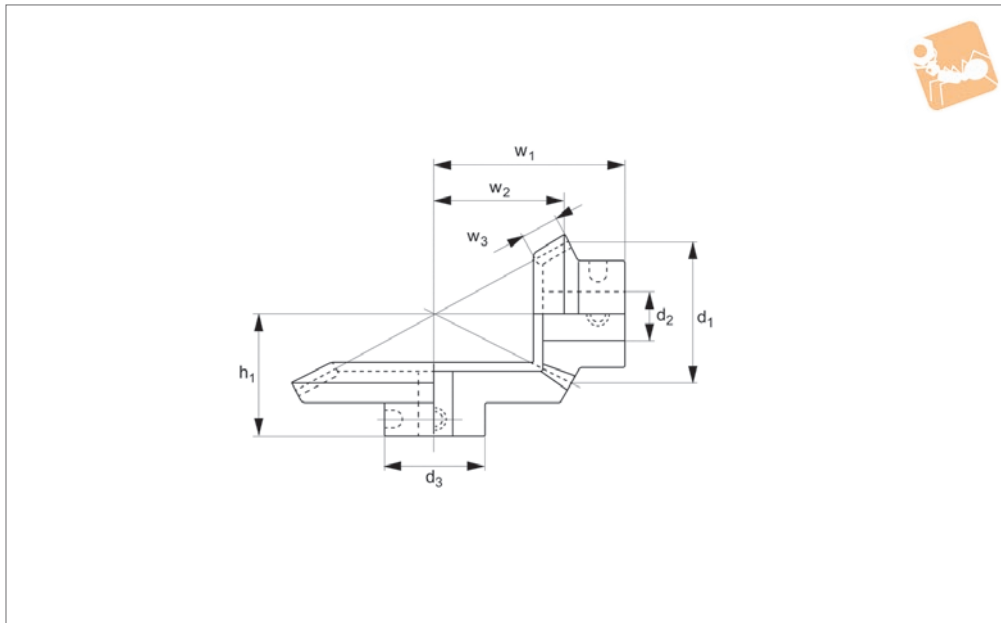
20° pressure angle.

Order No.	d <sub>1</sub> (gear)	d <sub>1</sub> (pinion)	d <sub>2</sub> tol. H7	d <sub>3</sub>	Ratio	No. of teeth (pinion)	No. of teeth (gear)	w <sub>1</sub>	w <sub>2</sub> (gear)	w <sub>2</sub> (pinion)	w <sub>3</sub>	h <sub>1</sub>	Material (pinion)	Material (gear)
R2104.001	19,20	19,20	Ø8	16	1 to 1	24	24	19,0	9,03	9,03	7	19	Stainless	Aluminium
R2104.001S		19,20	Ø8	16	1 to 1	24	24	19,0	9,03	9,03	7	19	Stainless	Stainless
R2104.001A	19,20	19,20	Ø8	16	1 to 1	24	24	19,0	9,03	9,03	7	19	Aluminium	Aluminium
R2104.002	38,40	19,20	Ø8	16	1 to 2	24	48	28,5	9,13	18,72	7	19	Stainless	Aluminium
R2104.003	57,60	19,20	Ø8	16	1 to 3	24	72	38,0	9,15	28,44	7	19	Stainless	Aluminium
R2104.004	76,80	19,20	Ø8	16	1 to 4	24	96	47,5	9,16	38,12	7	19	Stainless	Aluminium
R2104.001P		19,20	Ø8	16	1 to 1	24		19,0		9,03	7	19	Stainless	
R2104.001G	19,20		Ø8	16	1 to 1		24	19,0	9,03		7	19		Aluminium



# 0,6 Module Mitre & Bevel gears stainless/aluminium

Other Precision  
Gears



**R2106**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

**Tips**

Gears will only mesh at right angles when used as sets described in chart.

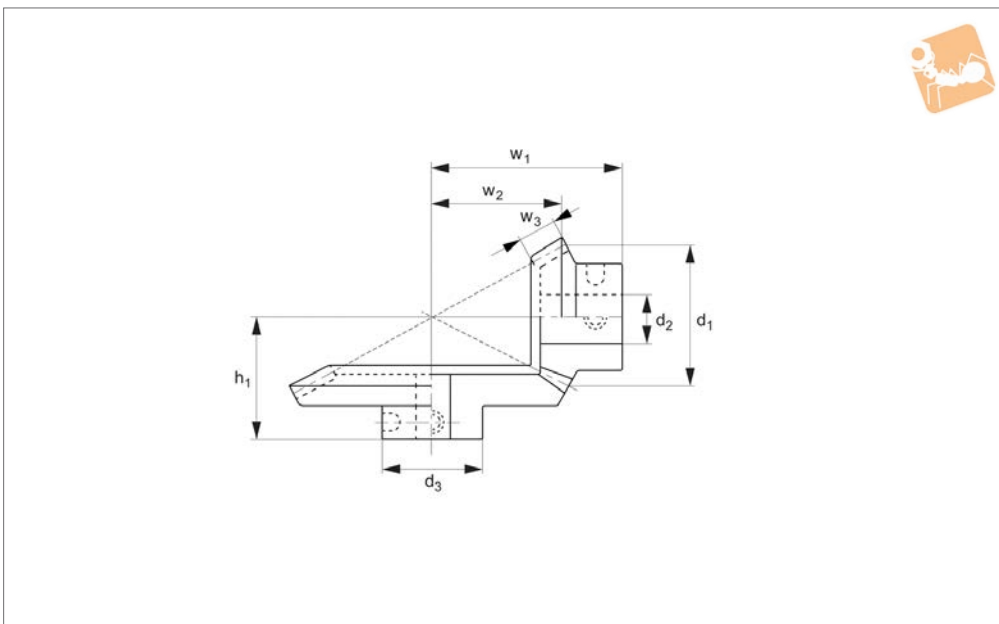
**Technical Notes**

20° pressure angle.

Order No.	d <sub>1</sub> (gear)	d <sub>1</sub> (pinion)	d <sub>2</sub> tol. H7	d <sub>3</sub>	Ratio	No. of teeth (pinion)	No. of teeth (gear)	w <sub>1</sub>	w <sub>2</sub> (gear)	w <sub>2</sub> (pinion)	w <sub>3</sub>	h <sub>1</sub>	Material (pinion)	Material (gear)
R2106.001	18	18	Ø8	13	1 to 1	30	30	18	8,58	8,58	5	18	Stainless	Aluminium
R2106.001S	18	18	Ø8	13	1 to 1	30	30	18	8,58	8,58	5	18	Stainless	Stainless
R2106.001A	18	18	Ø8	13	1 to 1	30	30	18	8,58	8,58	5	18	Aluminium	Aluminium
R2106.002	36	18	Ø8	13	1 to 2	30	60	26	8,65	17,64	5	18	Stainless	Aluminium
R2106.003	54	18	Ø8	13	1 to 3	30	90	36	8,66	26,73	5	18	Stainless	Aluminium
R2106.004	72	18	Ø8	13	1 to 4	30	120	44	8,67	35,79	5	18	Stainless	Aluminium
R2106.001P		18	Ø8	13	1 to 1	30		18		8,58	5	18	Stainless	
R2106.001G	18		Ø8	13	1 to 1		30	18	8,58		5	18		Aluminium



R2108



Material

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

Tips

Gears will only mesh at right angles when used as sets described in chart.

Technical Notes

20° pressure angle.

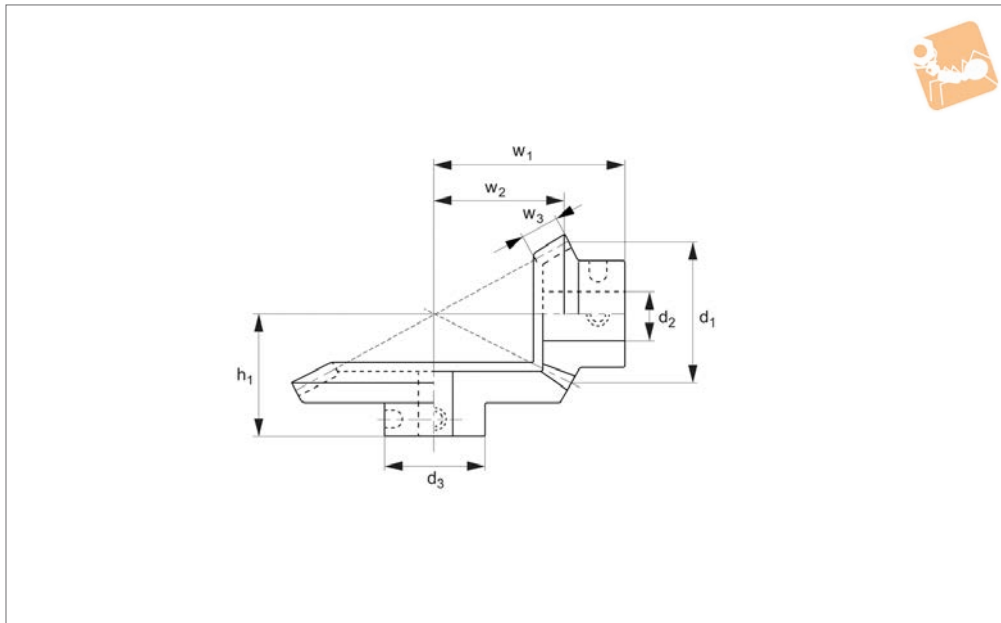
Order No.	d <sub>1</sub> (gear)	d <sub>1</sub> (pinion)	d <sub>2</sub> tol. H7	d <sub>3</sub>	Ratio	No. of teeth (pinion)	No. of teeth (gear)	w <sub>1</sub>	w <sub>2</sub> (gear)	w <sub>2</sub> (pinion)	w <sub>3</sub>	h <sub>1</sub>	Material (pinion)	Material (gear)
R2108.01	16	16	Ø5	10	1 to 1	30	30	15	7,65	7,65	4	15	Stainless	Aluminium
R2108.01S	16	16	Ø5	10	1 to 1	30	30	15	7,65	7,65	4	15	Stainless	Stainless
R2108.01A	16	16	Ø5	10	1 to 1	30	30	15	7,65	7,65	4	15	Aluminium	Aluminium
R2108.02	32	16	Ø5	10	1 to 2	30	60	23	7,71	15,70	4	15	Stainless	Aluminium
R2108.03	48	16	Ø5	10	1 to 3	30	90	32	7,72	23,78	4	15	Stainless	Aluminium
R2108.04	64	16	Ø5	10	1 to 4	30	120	39	7,72	31,83	4	15	Stainless	Stainless
R2108.01P		16	Ø5	10	1 to 1	30		15		7,65	4	15	Stainless	
R2108.01G	16		Ø5	10	1 to 1		30	15	7,65		4	15		Aluminium





# 0,4 Module Mitre & Bevel gears stainless/aluminium

## Other Precision Gears



**R2110**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

**Tips**

Gears will only mesh at right angles when used as sets described in chart.

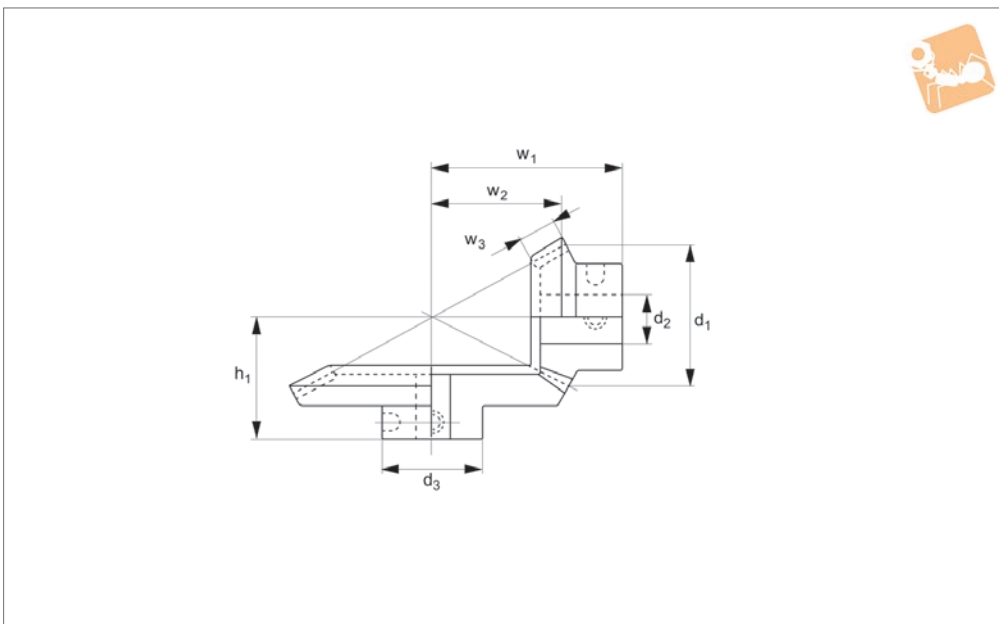
**Technical Notes**

20° pressure angle.

Order No.	d <sub>1</sub> (gear)	d <sub>1</sub> (pinion)	d <sub>2</sub> tol. H7	d <sub>3</sub>	Ratio	No. of teeth (pinion)	No. of teeth (gear)	w <sub>1</sub>	w <sub>2</sub> (gear)	w <sub>2</sub> (pinion)	w <sub>3</sub>	h <sub>1</sub>	Material (pinion)	Material (gear)
R2110.001	14,40	14,40	Ø5	10	1 to 1	36	36	15,0	6,92	6,92	4	15	Stainless	Aluminium
R2110.001S	14,40	14,40	Ø5	10	1 to 1	36	36	15,0	6,92	6,92	4	15	Stainless	Stainless
R2110.001A	14,40	14,40	Ø5	10	1 to 1	36	36	15,0	6,92	6,92	4	15	Aluminium	Aluminium
R2110.002	28,80	14,40	Ø5	10	1 to 2	36	72	22	6,97	14,16	4	15	Stainless	Aluminium
R2110.003	43,20	14,40	Ø5	10	1 to 3	36	108	29,5	6,97	21,42	4	15	Stainless	Aluminium
R2110.001P		14,40	Ø5	10	1 to 1	36		15,0		6,92	4	15	Stainless	
R2110.001G	14,40		Ø5	10	1 to 1		36	15,0	6,92		4	15		Aluminium



R2112



Material

Stainless steel (DIN 1,4305) or aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

Tips

Gears will only mesh at right angles when used as sets described in chart.

Technical Notes

20° pressure angle.

Order No.	d <sub>1</sub> (gear)	d <sub>1</sub> (pinion)	d <sub>2</sub> tol. H7	d <sub>3</sub>	Ratio	No. of teeth (pinion)	No. of teeth (gear)	w <sub>1</sub>	w <sub>2</sub> (gear)	w <sub>2</sub> (pinion)	w <sub>3</sub>	h <sub>1</sub>	Material (pinion)	Material (gear)
R2112.001	10,80	10,80	Ø3	8	1 to 1	36	36	13,0	5,19	5,19	3	13	Stainless	Aluminium
R2112.001S	10,80	10,80	Ø3	8	1 to 1	36	36	13,0	5,19	5,19	3	13	Stainless	Stainless
R2112.001A	10,80	10,80	Ø3	8	1 to 1	36	36	13,0	5,19	5,19	3	13	Aluminium	Aluminium
R2112.002	21,60	10,80	Ø3	8	1 to 2	36	72	18,5	5,23	10,62	3	13	Stainless	Aluminium
R2112.003	32,40	10,80	Ø3	8	1 to 3	36	108	24,0	5,23	16,07	3	13	Stainless	Aluminium
R2112.001P		10,80	Ø3	8	1 to 1	36		13,0		5,19	3	13	Stainless	
R2112.001G	10,80		Ø3	8	1 to 1		36	13,0	5,19		3	13		Aluminium

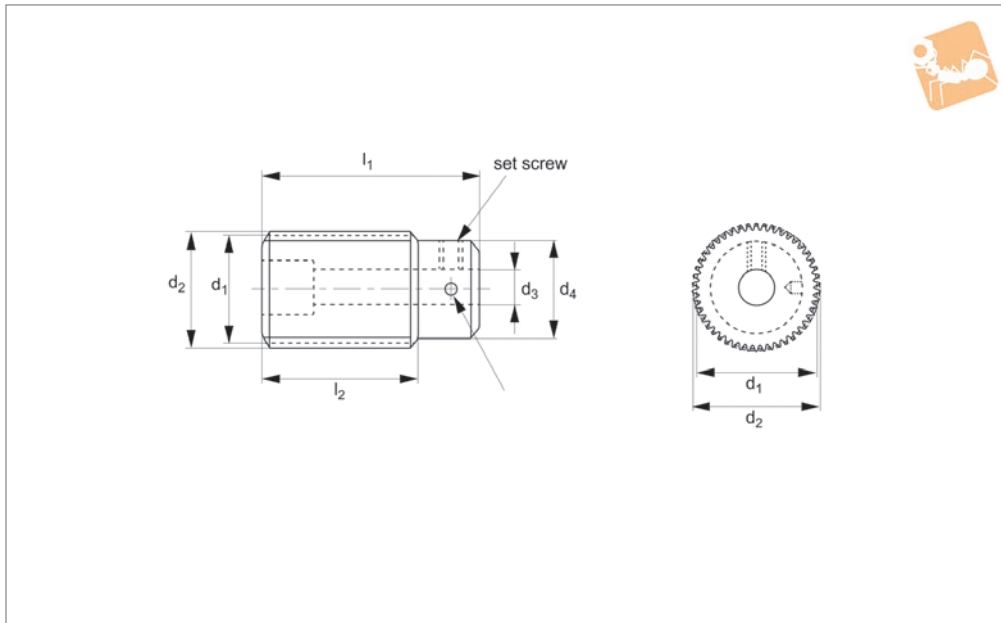




# 1,5 Module Precision Worms

stainless steel

Other Precision Gears



**R2132**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305).

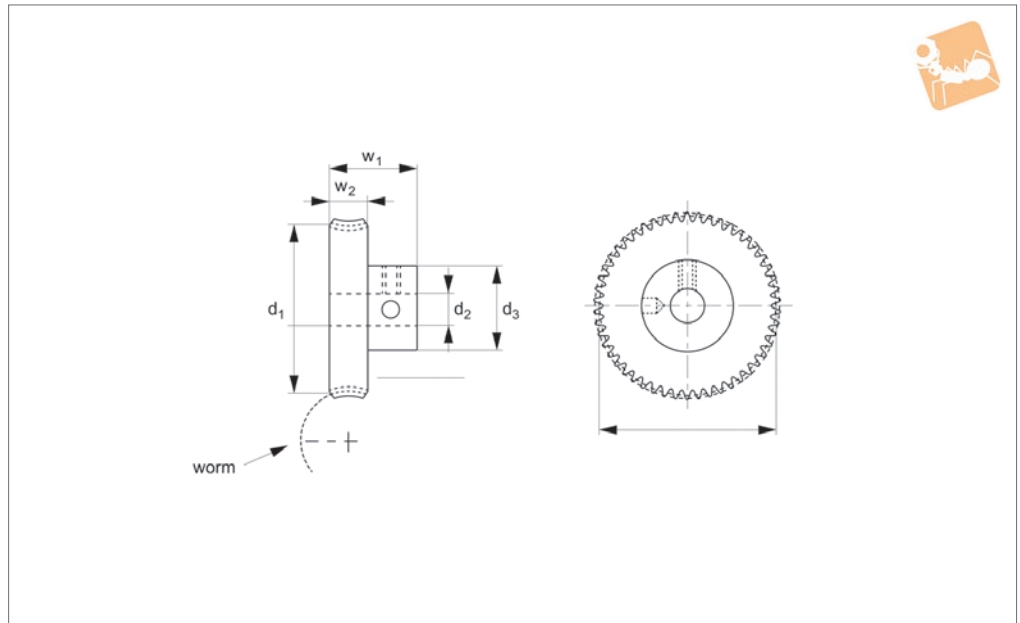
**Technical Notes**

Quality class DIN 7/AGMA 10.  
Right hand.

Order No.	Ø B	Thread	Lead	Lead angle	Pressure angle
WAS-7S	7	Single	4.712	5° 21'	14½°
WAS-7D	7	Double	9.425	10° 37'	14½°
WAS-7F	7	Four	18.850	20° 33'	20°
WAS-8S	8	Single	4.712	5° 21'	14½°
WAS-8D	8	Double	9.425	10° 37'	14½°
WAS-8F	8	Four	18.850	20° 33'	20°



**R2134**



**Material**

Brass.

**Technical Notes**

Quality class DIN 7/AGMA 10.

Right hand.

Select worm part R2136 with corresponding number of threads.

**Tips**

Ratio=(No. of teeth/No. of worm threads).  
For larger sizes, please see the following page.

Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2134.020-10S	Single	20	10	20.00	3.142	4° 45'	14½°
R2134.030-10S	Single	30	10	30.00	3.142	4° 45'	14½°
R2134.040-10S	Single	40	10	40.00	3.142	4° 45'	14½°
R2134.050-10S	Single	50	10	50.00	3.142	4° 45'	14½°
R2134.060-10S	Single	60	10	60.00	3.142	4° 45'	14½°
R2134.072-10S	Single	72	10	72.00	3.142	4° 45'	14½°
R2134.080-10S	Single	80	10	80.00	3.142	4° 45'	14½°
R2134.096-10S	Single	96	10	96.00	3.142	4° 45'	14½°
R2134.100-10S	Single	100	10	100.00	3.142	4° 45'	14½°
R2134.020-10D	Double	20	10	20.00	6.283	9° 27'	20°
R2134.030-10D	Double	30	10	30.00	6.283	9° 27'	20°
R2134.040-10D	Double	40	10	40.00	6.283	9° 27'	20°
R2134.050-10D	Double	50	10	50.00	6.283	9° 27'	20°
R2134.060-10D	Double	60	10	60.00	6.283	9° 27'	20°
R2134.072-10D	Double	72	10	72.00	6.283	9° 27'	20°
R2134.080-10D	Double	80	10	80.00	6.283	9° 27'	20°
R2134.096-10D	Double	96	10	96.00	6.283	9° 27'	20°
R2134.100-10D	Double	100	10	100.00	6.283	9° 27'	20°
R2134.020-10F	Four	20	10	20.00	12.566	18° 26'	25°
R2134.030-10F	Four	30	10	30.00	12.566	18° 26'	25°
R2134.040-10F	Four	40	10	40.00	12.566	18° 26'	25°
R2134.050-10F	Four	50	10	50.00	12.566	18° 26'	25°
R2134.060-10F	Four	60	10	60.00	12.566	18° 26'	25°
R2134.072-10F	Four	72	10	72.00	12.566	18° 26'	25°
R2134.080-10F	Four	80	10	80.00	12.566	18° 26'	25°
R2134.096-10F	Four	96	10	96.00	12.566	18° 26'	25°
R2134.100-10F	Four	100	10	100.00	12.566	18° 26'	25°
R2134.020-12S	Single	20	12	20.00	3.142	4° 45'	14½°
R2134.030-12S	Single	30	12	30.00	3.142	4° 45'	14½°
R2134.040-12S	Single	40	12	40.00	3.142	4° 45'	14½°
R2134.050-12S	Single	50	12	50.00	3.142	4° 45'	14½°
R2134.060-12S	Single	60	12	60.00	3.142	4° 45'	14½°
R2134.072-12S	Single	72	12	72.00	3.142	4° 45'	14½°
R2134.080-12S	Single	80	12	80.00	3.142	4° 45'	14½°



# 1,0 Module Precision Worm Gears

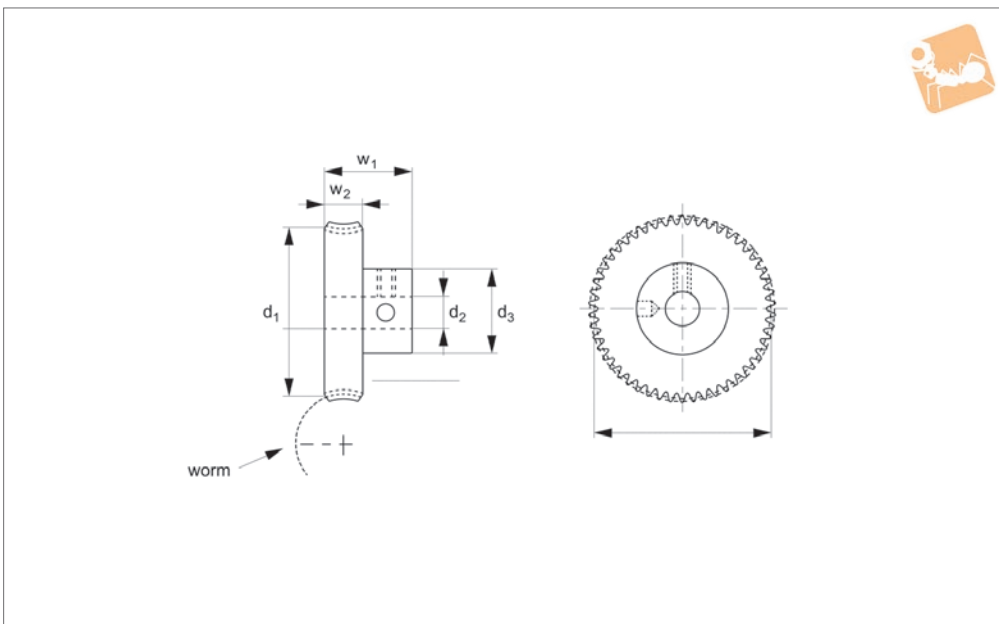
## Right Hand

## Other Precision Gears

Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
<b>R2134.096-12S</b>	Single	96	12	96.00	3.142	4° 45'	14½°
<b>R2134.100-12S</b>	Single	100	12	100.00	3.142	4° 45'	14½°
<b>R2134.020-12D</b>	Double	20	12	20.00	6.283	9° 27'	20°
<b>R2134.030-12D</b>	Double	30	12	30.00	6.283	9° 27'	20°
<b>R2134.040-12D</b>	Double	40	12	40.00	6.283	9° 27'	20°
<b>R2134.050-12D</b>	Double	50	12	50.00	6.283	9° 27'	20°
<b>R2134.060-12D</b>	Double	60	12	60.00	6.283	9° 27'	20°
<b>R2134.072-12D</b>	Double	72	12	72.00	6.283	9° 27'	20°
<b>R2134.080-12D</b>	Double	80	12	80.00	6.283	9° 27'	20°
<b>R2134.096-12D</b>	Double	96	12	96.00	6.283	9° 27'	20°
<b>R2134.100-12D</b>	Double	100	12	100.00	6.283	9° 27'	20°



R2134.1



**Material**  
Brass.

**Technical Notes**  
Quality class DIN 7/AGMA 10.

Right hand.  
Select worm R2136 with corresponding number of threads.

**Tips**  
Ratio=(No. of teeth/No. of worm threads).  
For smaller sizes, please see the previous page.

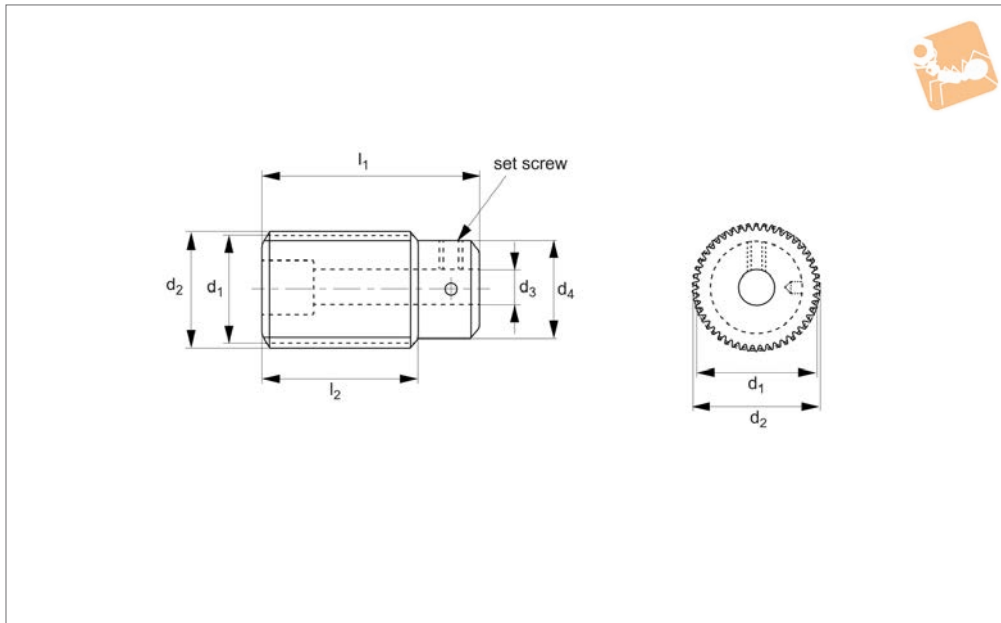
Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2134.020-12F	Four	20	12	20.00	12.566	18° 26'	25°
R2134.030-12F	Four	30	12	30.00	12.566	18° 26'	25°
R2134.040-12F	Four	40	12	40.00	12.566	18° 26'	25°
R2134.050-12F	Four	50	12	50.00	12.566	18° 26'	25°
R2134.060-12F	Four	60	12	60.00	12.566	18° 26'	25°
R2134.072-12F	Four	72	12	72.00	12.566	18° 26'	25°
R2134.080-12F	Four	80	12	80.00	12.566	18° 26'	25°
R2134.096-12F	Four	96	12	96.00	12.566	18° 26'	25°
R2134.100-12F	Four	100	12	100.00	12.566	18° 26'	25°



# 1,0 Module Precision Worms

stainless steel

Other Precision Gears



**R2136**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305).

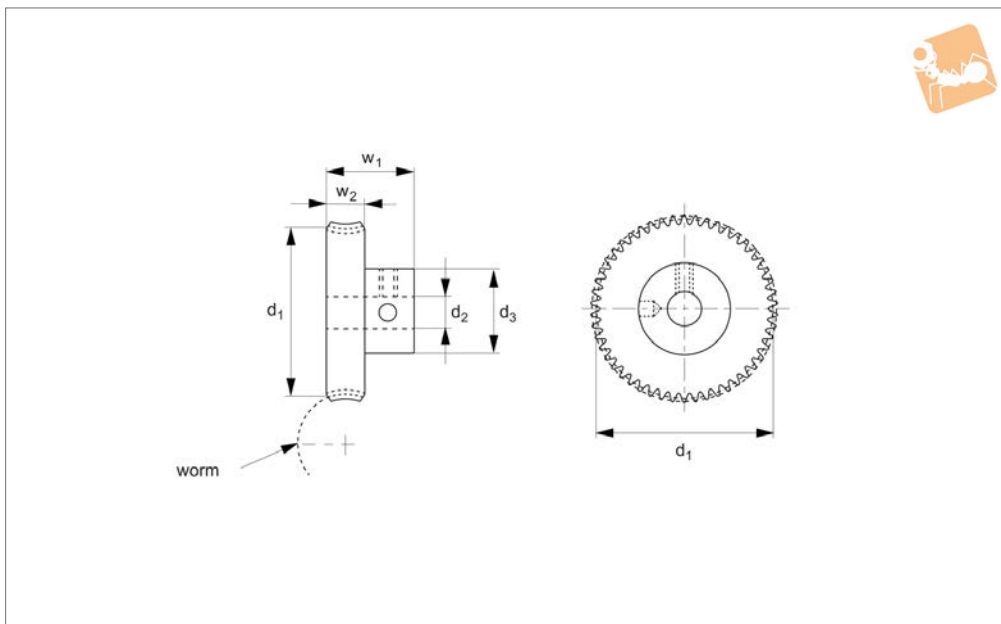
**Technical Notes**

Quality class DIN 7/AGMA 10.  
Right hand.

Order No.	Ø B	Starts	Lead	Lead angle	Pressure angle
R2136.07S	7	Single	3.142	4° 45'	14½°
R2136.07D	7	Double	6.283	9° 27'	20°
R2136.07F	7	Four	12.566	18° 26'	25°
R2136.08S	8	Single	3.142	4° 45'	14½°
R2136.08D	8	Double	6.283	9° 27'	20°
R2136.08F	8	Four	12.566	18° 26'	25°



R2138



**Material**

Brass.

Right hand.

Select worm part R2136 with corresponding number of threads.

**Tips**

Ratio=(No. of teeth/No. of worm threads).

**Technical Notes**

Quality class DIN 7/AGMA 10.

Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2138.020S-05	Single	20	5	16.00	2.513	4° -0'	14½°
R2138.030S-05	Single	30	5	24.00	2.513	4° -0'	14½°
R2138.040S-05	Single	40	5	32.00	2.513	4° -0'	14½°
R2138.050S-05	Single	50	5	40.00	2.513	4° -0'	14A°
R2138.060S-05	Single	60	5	48.00	2.513	4° -0'	14A°
R2138.080S-05	Single	80	5	64.00	2.513	4° -0'	14A°
R2138.090S-05	Single	90	5	76.80	2.513	4° -0'	14A°
R2138.100S-05	Single	100	5	80.00	2.513	4° -0'	14A°
R2138.020D-05	Double	20	5	16.00	5.027	7° -59'	20°
R2138.030D-05	Double	30	5	24.00	5.027	7° -59'	20°
R2138.040D-05	Double	40	5	32.00	5.027	7° -59'	20°
R2138.050D-05	Double	50	5	40.00	5.027	7° -59'	20°
R2138.060D-05	Double	60	5	48.00	5.027	7° -59'	20°
R2138.080D-05	Double	80	5	64.00	5.027	7° -59'	20°
R2138.090D-05	Double	90	5	76.80	5.027	7° -59'	20°
R2138.100D-05	Double	100	5	80.00	5.027	7° -59'	20°
R2138.020F-05	Four	20	5	16.00	10.053	15° -40'	25°
R2138.030F-05	Four	30	5	24.00	10.053	15° -40'	25°
R2138.040F-05	Four	40	5	32.00	10.053	15° -40'	25°
R2138.050F-05	Four	50	5	40.00	10.053	15° -40'	25°
R2138.060F-05	Four	60	5	48.00	10.053	15° -40'	25°
R2138.080F-05	Four	80	5	64.00	10.053	15° -40'	25°
R2138.090F-05	Four	90	5	76.80	10.053	15° -40'	25°
R2138.100F-05	Four	100	5	80.00	10.053	15° -40'	25°
R2138.020S-08	Single	20	8	16.00	2.513	4° -0'	14½°
R2138.030S-08	Single	30	8	24.00	2.513	4° -0'	14½°
R2138.040S-08	Single	40	8	32.00	2.513	4° -0'	14½°
R2138.050S-08	Single	50	8	40.00	2.513	4° -0'	14A°
R2138.060S-08	Single	60	8	48.00	2.513	4° -0'	14A°
R2138.080S-08	Single	80	8	64.00	2.513	4° -0'	14A°
R2138.090S-08	Single	90	8	76.80	2.513	4° -0'	14A°
R2138.100S-08	Single	100	8	80.00	2.513	4° -0'	14A°
R2138.020D-08	Double	20	8	16.00	5.027	7° -59'	20°
R2138.030D-08	Double	30	8	24.00	5.027	7° -59'	20°





## 0,8 Module Precision Worm Gears brass

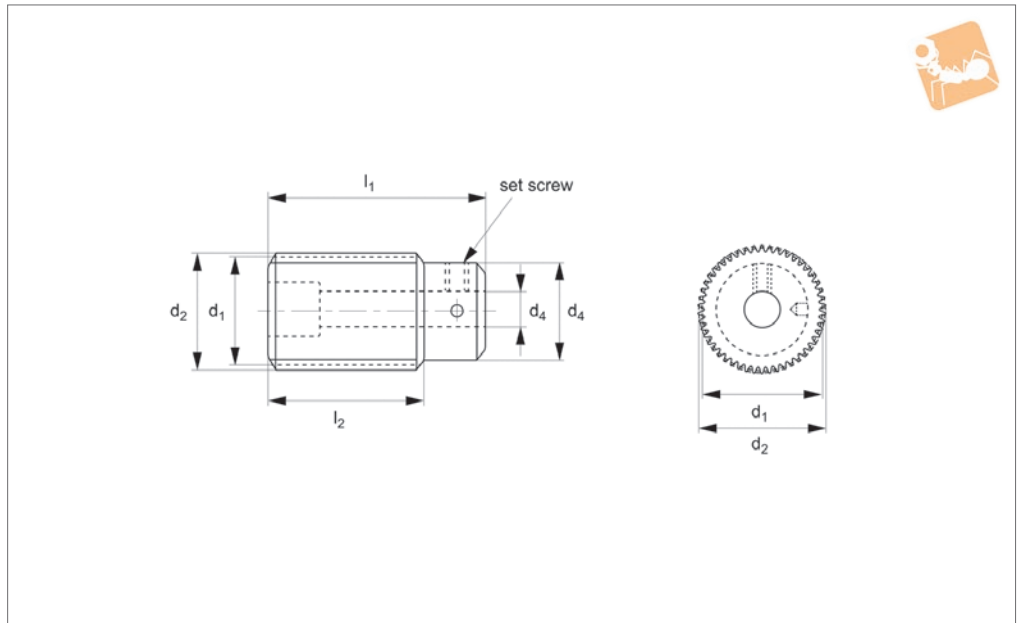
Other Precision  
Gears

Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2138.040D-08	Double	40	8	32.00	5.027	7° -59'	20°
R2138.050D-08	Double	50	8	40.00	5.027	7° -59'	20°
R2138.060D-08	Double	60	8	48.00	5.027	7° -59'	20°
R2138.080D-08	Double	80	8	64.00	5.027	7° -59'	20°
R2138.090D-08	Double	90	8	76.80	5.027	7° -59'	20°
R2138.100D-08	Double	100	8	80.00	5.027	7° -59'	20°
R2138.020F-08	Four	20	8	16.00	10.053	15° -40'	25°
R2138.030F-08	Four	30	8	24.00	10.053	15° -40'	25°
R2138.040F-08	Four	40	8	32.00	10.053	15° -40'	25°
R2138.050F-08	Four	50	8	40.00	10.053	15° -40'	25°
R2138.060F-08	Four	60	8	48.00	10.053	15° -40'	25°
R2138.080F-08	Four	80	8	64.00	10.053	15° -40'	25°
R2138.090F-08	Four	90	8	76.80	10.053	15° -40'	25°
R2138.100F-08	Four	100	8	80.00	10.053	15° -40'	25°

OTHER PRECISION GEARS



**R2140**



**Material**

Stainless steel (DIN 1,4305).

**Technical Notes**

Quality class DIN 7/AGMA 10.  
Right hand.

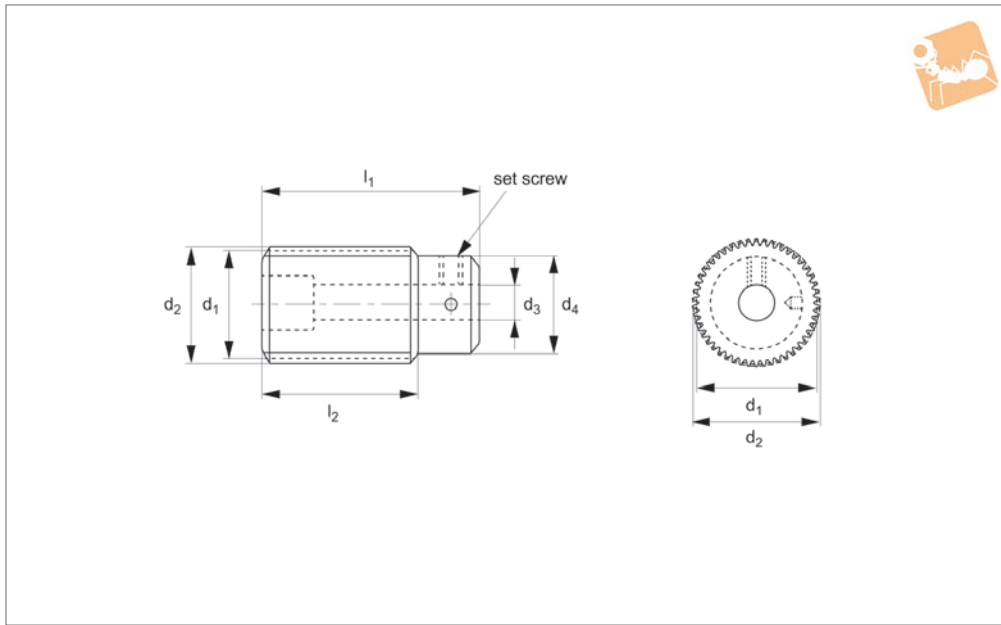
Order No.	Starts	Lead	Lead angle	Pressure angle
R2140.05S	Single	2.513	4° 0'	14½°
R2140.05D	Double	5.027	7° 59'	20°
R2140.04F	Four	10.053	15° 40'	25°



# 0,5 Module Precision Worms

stainless steel

Other Precision Gears



**R2144**

OTHER PRECISION GEARS

### Material

Stainless steel (DIN 1,4305).

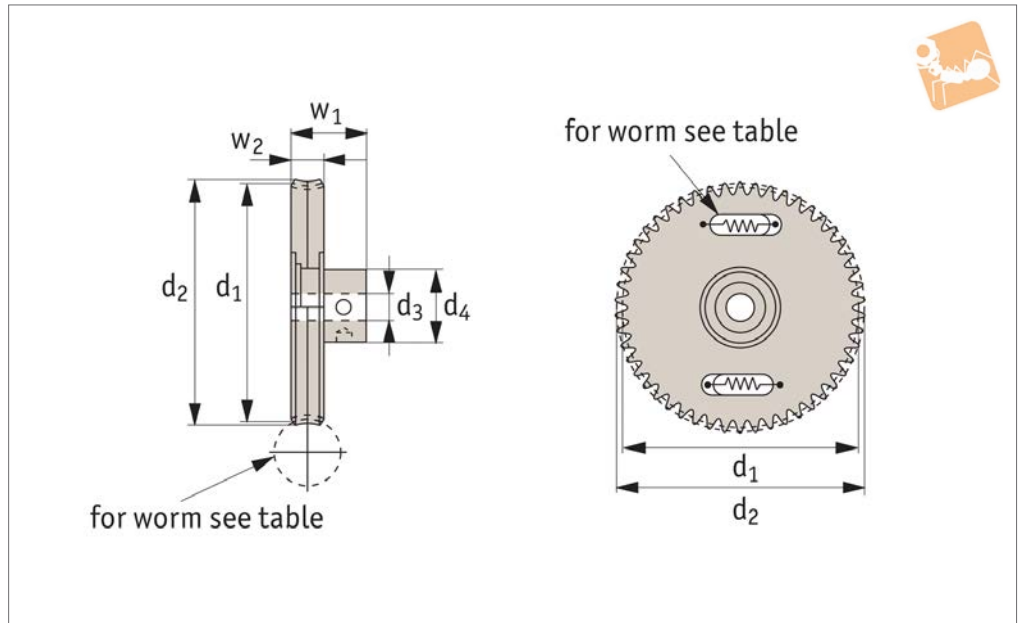
### Technical Notes

Quality class DIN 7/AGMA 10.  
Right hand.

Order No.	Starts	$l_1$	$l_2$	$d_1$	$d_2$	$d_3$ tol. H7	$d_4$	Lead	Lead angle	Pressure angle
<b>R2144.3S</b>	Single	19	14	9	10	3	8	1.571	3° 10'	14 1/2°
<b>R2144.3D</b>	Double	19	14	9	10	3	8	3.142	6° 20'	20°
<b>R2144.3F</b>	Four	19	14	9	10	3	8	6.283	12° 31'	25°
<b>R2144.5S</b>	Single	19	14	9	10	5	8	1.571	3° 10'	14 1/2°
<b>R2144.5D</b>	Double	19	14	9	10	5	8	3.142	6° 20'	20°
<b>R2144.5F</b>	Four	19	14	9	10	5	8	6.283	12° 31'	25°



R2147



Material

Brass.

Technical Notes

Quality class DIN 7/AGMA 10.

Right hand.

Select worm with corresponding number of threads - see part no. R2144.

Also available with clamp style hub.

Tips

Ratio=(No. of teeth/No. of worm threads).  
For larger sizes, please see following page.

Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2147.040S-05	Single	40	5	20.00	1.571	3° 10'	14A°
R2147.050S-05	Single	50	5	25.00	1.571	3° 10'	14A°
R2147.060S-05	Single	60	5	30.00	1.571	3° 10'	14A°
R2147.070S-05	Single	70	5	35.00	1.571	3° 10'	14A°
R2147.080S-05	Single	80	5	40.00	1.571	3° 10'	14A°
R2147.090S-05	Single	90	5	45.00	1.571	3° 10'	14A°
R2147.100S-05	Single	100	5	50.00	1.571	3° 10'	14A°
R2147.120S-05	Single	120	5	60.00	1.571	3° 10'	14A°
R2147.180S-05	Single	180	5	90.00	1.571	3° 10'	14A°
R2147.040D-05	Double	40	5	20.00	3.142	6° 20'	20°
R2147.050D-05	Double	50	5	25.00	3.142	6° 20'	20°
R2147.060D-05	Double	60	5	30.00	3.142	6° 20'	20°
R2147.120D-05	Double	120	5	60.00	3.142	6° 20'	20°
R2147.070D-05	Double	70	5	35.00	3.142	6° 20'	20°
R2147.080D-05	Double	80	5	40.00	3.142	6° 20'	20°
R2147.090D-05	Double	90	5	45.00	3.142	6° 20'	20°
R2147.100D-05	Double	100	5	50.00	3.142	6° 20'	20°
R2147.180D-05	Double	180	5	90.00	3.142	6° 20'	20°
R2147.040F-05	Four	40	5	20.00	6.283	12° 31'	25°
R2147.050F-05	Four	50	5	25.00	6.283	12° 31'	25°
R2147.060F-05	Four	60	5	30.00	6.283	12° 31'	25°
R2147.070F-05	Four	70	5	35.00	6.283	12° 31'	25°
R2147.080F-05	Four	80	5	40.00	6.283	12° 31'	25°
R2147.090F-05	Four	90	5	45.00	6.283	12° 31'	25°
R2147.100F-05	Four	100	5	50.00	6.283	12° 31'	25°
R2147.120F-05	Four	120	5	60.00	6.283	12° 31'	25°
R2147.180F-05	Four	180	5	90.00	6.283	12° 31'	25°
R2147.040S-08	Single	40	8	20.00	1.571	3° 10'	14A°
R2147.050S-08	Single	50	8	25.00	1.571	3° 10'	14A°
R2147.060S-08	Single	60	8	30.00	1.571	3° 10'	14A°
R2147.070S-08	Single	70	8	35.00	1.571	3° 10'	14A°
R2147.080S-08	Single	80	8	40.00	1.571	3° 10'	14A°
R2147.090S-08	Single	90	8	45.00	1.571	3° 10'	14A°
R2147.100S-08	Single	100	8	50.00	1.571	3° 10'	14A°



# 0,5 Module Anti-backlash Worm Gears brass

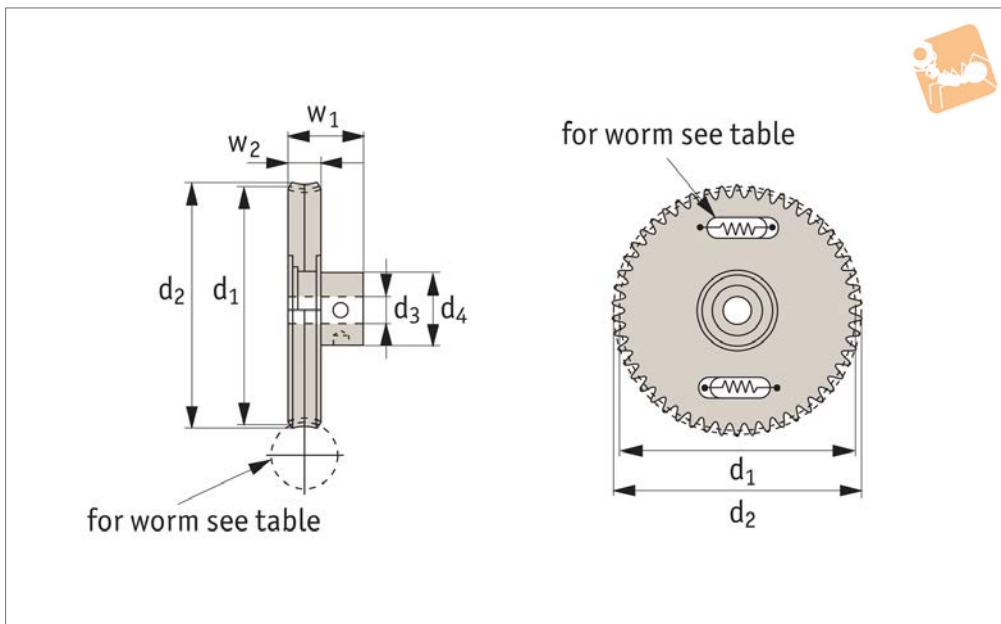
Other Precision  
Gears

Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2147.120S-08	Single	120	8	60.00	1.571	3° 10'	14A°
R2147.180S-08	Single	180	8	90.00	1.571	3° 10'	14A°

OTHER PRECISION GEARS



**R2147.1**



**Material**

Brass.

**Technical Notes**

Quality class DIN 7/AGMA 10.

Right hand.

Select worm with corresponding number of threads - see part no. R2144.

Also available with clamp style hub.

**Tips**

Ratio=(No. of teeth/No. of worm threads).  
For smaller sizes, please see previous page.

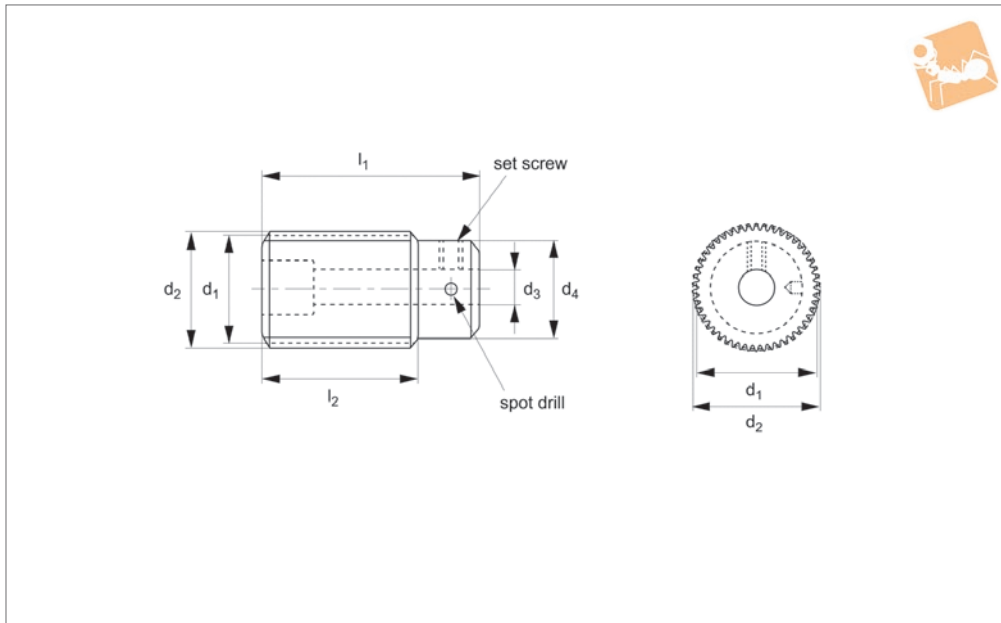
Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2147.D040-05	Double	40	5	20.00	3.142	6° 20'	20°
R2147.D050-05	Double	50	5	25.00	3.142	6° 20'	20°
R2147.D060-05	Double	60	5	30.00	3.142	6° 20'	20°
R2147.D070-05	Double	70	5	35.00	3.142	6° 20'	20°
R2147.D080-05	Double	80	5	40.00	3.142	6° 20'	20°
R2147.D090-05	Double	90	5	45.00	3.142	6° 20'	20°
R2147.D100-05	Double	100	5	50.00	3.142	6° 20'	20°
R2147.D120-05	Double	120	5	60.00	3.142	6° 20'	20°
R2147.D180-05	Double	180	5	90.00	3.142	6° 20'	20°
R2147.F040-05	Four	40	5	20.00	6.283	12° 31'	25°
R2147.F050-05	Four	50	5	25.00	6.283	12° 31'	25°
R2147.F060-05	Four	60	5	30.00	6.283	12° 31'	25°
R2147.F070-05	Four	70	5	35.00	6.283	12° 31'	25°
R2147.F080-05	Four	80	5	40.00	6.283	12° 31'	25°
R2147.F090-05	Four	90	5	45.00	6.283	12° 31'	25°
R2147.F100-05	Four	100	5	50.00	6.283	12° 31'	25°
R2147.F120-05	Four	120	5	60.00	6.283	12° 31'	25°
R2147.F180-05	Four	180	5	90.00	6.283	12° 31'	25°



# Precision Worms - Module 0,4

stainless steel

## Other Precision Gears



**R2149**

OTHER PRECISION GEARS

### Material

Stainless steel (AISI 303, 1,4305).

Right hand.

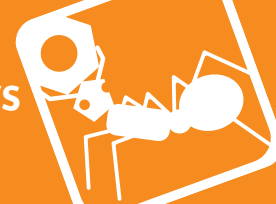
### Technical Notes

Quality class DIN 7/AGMA 10.

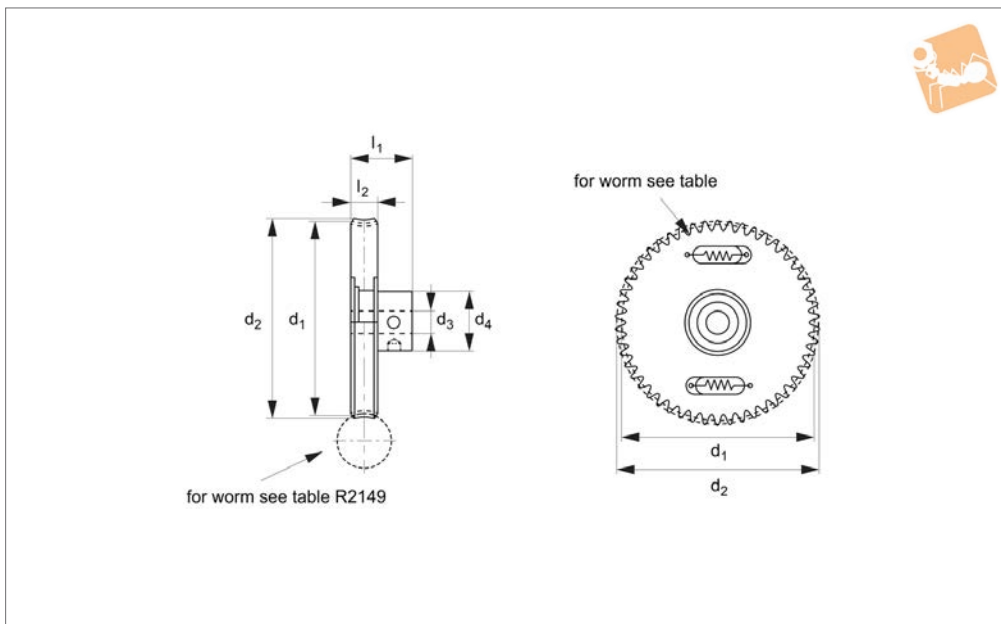
### Tips

Ratio = No. of teeth/No. of worm threads.

Order No.	$l_1$	$l_2$	$d_1$	$d_2$ +0.00 -0.11	$d_3$ tol. H7	$d_4$	Thread	Lead	Lead angle	Pressure angle
R2149.S03	25	19	13.2	14	3	8	single	1.257	1° 44'	14-1/2°
R2149.D03	25	19	13.2	14	3	8	double	2.513	3° 28'	14-1/2°
R2149.F03	25	19	13.2	14	3	8	four	5.027	6° 54'	14-1/2°
R2149.S05	25	19	13.2	14	5	10	single	1.257	1° 44'	14-1/2°
R2149.D05	25	19	13.2	14	5	10	double	2.513	3° 28'	14-1/2°
R2149.F05	25	19	13.2	14	5	10	four	5.027	6° 54'	14-1/2°
R2149.S07	25	19	13.2	14	7	11	single	1.257	1° 44'	14-1/2°
R2149.D07	25	19	13.2	14	7	11	double	2.513	3° 28'	14-1/2°
R2149.F07	25	19	13.2	14	7	11	four	5.027	6° 54'	14-1/2°



## R2150



### Material

Gears: Brass  
Hubs: Stainless steel (DIN 1,4305).

Right hand.

Select worm with corresponding number of threads - see part no. R2144.

### Tips

Ratio=(No. of teeth/No. of worm threads).  
For larger sizes, please see following page.

### Technical Notes

Quality class DIN 7/AGMA 10.

Also available with clamp style hub.

Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2150.S050-05	Single	50	5	20.00	1.257	1° 44'	14 1/2°
R2150.S060-05	Single	60	5	24.00	1.257	1° 44'	14 1/2°
R2150.S070-05	Single	70	5	28.00	1.257	1° 44'	14 1/2°
R2150.S080-05	Single	80	5	32.00	1.257	1° 44'	14 1/2°
R2150.S090-05	Single	90	5	36.00	1.257	1° 44'	14 1/2°
R2150.D050-05	Double	50	5	20.00	2.513	3° 28'	14 1/2°
R2150.F050-05	Four	50	5	20.00	5.027	6° 54'	14 1/2°
R2150.S100-05	Single	100	5	40.00	1.257	1° 44'	14 1/2°
R2150.S110-05	Single	110	5	44.00	1.257	1° 44'	14 1/2°
R2150.S120-05	Single	120	5	48.00	1.257	1° 44'	14 1/2°
R2150.S180-05	Single	180	5	72.00	1.257	1° 44'	14 1/2°
R2150.D060-05	Double	60	5	24.00	2.513	3° 28'	14 1/2°
R2150.D070-05	Double	70	5	28.00	2.513	3° 28'	14 1/2°
R2150.D080-05	Double	80	5	32.00	2.513	3° 28'	14 1/2°
R2150.D090-05	Double	90	5	36.00	2.513	3° 28'	14 1/2°
R2150.D100-05	Double	100	5	40.00	2.513	3° 28'	14 1/2°
R2150.D110-05	Double	110	5	44.00	2.513	3° 28'	14 1/2°
R2150.D120-05	Double	120	5	48.00	2.513	3° 28'	14 1/2°
R2150.D180-05	Double	180	5	72.00	2.513	3° 28'	14 1/2°
R2150.F060-05	Four	60	5	24.00	5.027	6° 54'	14 1/2°
R2150.F070-05	Four	70	5	28.00	5.027	6° 54'	14 1/2°
R2150.F080-05	Four	80	5	32.00	5.027	6° 54'	14 1/2°
R2150.F090-05	Four	90	5	36.00	5.027	6° 54'	14 1/2°
R2150.F100-05	Four	100	5	40.00	5.027	6° 54'	14 1/2°
R2150.F110-05	Four	110	5	44.00	5.027	6° 54'	14 1/2°
R2150.F120-05	Four	120	5	48.00	5.027	6° 54'	14 1/2°
R2150.F180-05	Four	180	5	72.00	5.027	6° 54'	14 1/2°
R2150.S050-08	Single	50	8	20.00	1.257	1° 44'	14 1/2°
R2150.S060-08	Single	60	8	24.00	1.257	1° 44'	14 1/2°
R2150.S070-08	Single	70	8	28.00	1.257	1° 44'	14 1/2°
R2150.S080-08	Single	80	8	32.00	1.257	1° 44'	14 1/2°
R2150.S090-08	Single	90	8	36.00	1.257	1° 44'	14 1/2°
R2150.S100-08	Single	100	8	40.00	1.257	1° 44'	14 1/2°





## 0,4 Module Anti-backlash Worm Gears brass

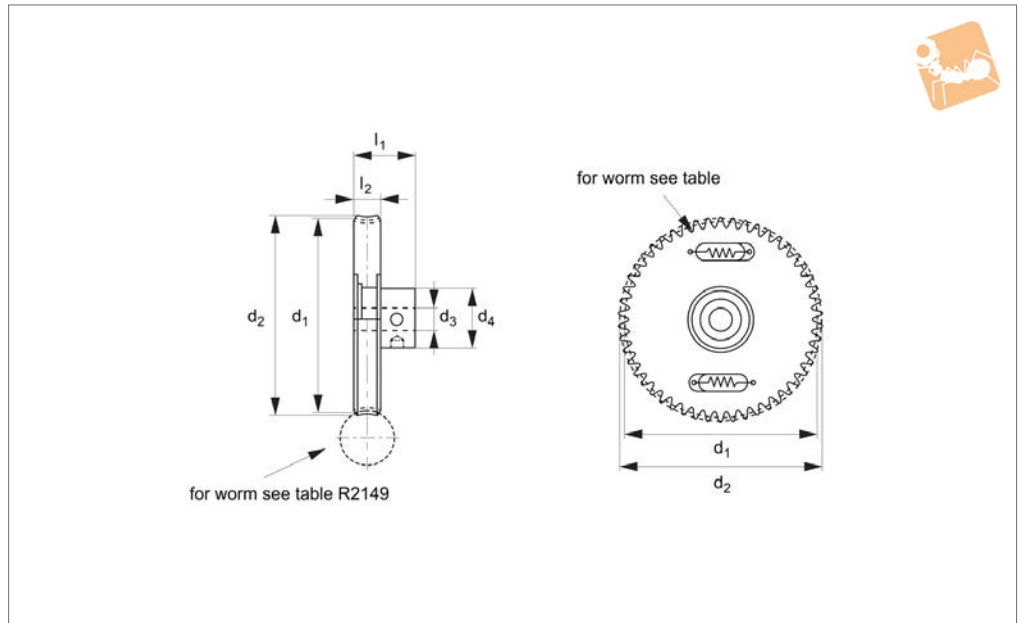
Other Precision  
Gears

Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
<b>R2150.S110-08</b>	Single	110	8	44.00	1.257	1° 44'	14 1/2°
<b>R2150.S120-08</b>	Single	120	8	48.00	1.257	1° 44'	14 1/2°
<b>R2150.S180-08</b>	Single	180	8	72.00	1.257	1° 44'	14 1/2°

OTHER PRECISION GEARS



## R2150.1



### Material

Gears: Brass  
Hubs: Stainless steel (DIN 1,4305).

Right hand.

Select worm with corresponding number of threads - see part no. R2144.

Also available with clamp style hub.

### Tips

Ratio=(No. of teeth/No. of worm threads).  
For smaller sizes, please see previous page.

### Technical Notes

Quality class DIN 7/AGMA 10.

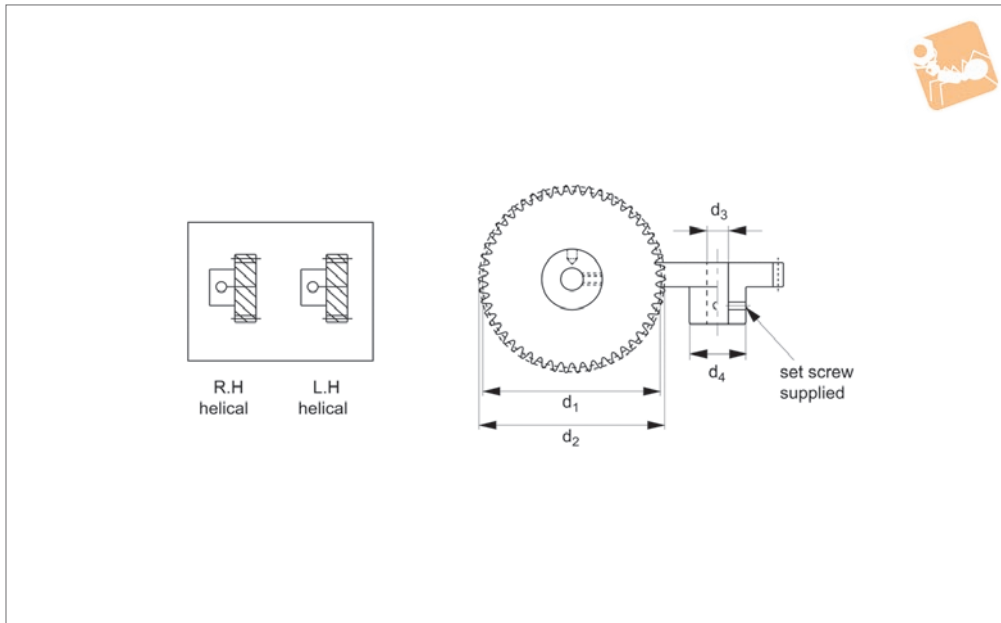
Order No.	Starts	No. of teeth	Bore dia.	Pitch dia. P.D.	Circular pitch	Helix angle	Pressure angle
R2150.D050-08	Double	50	8	20.00	2.513	3° 28'	14 1/2°
R2150.D060-08	Double	60	8	24.00	2.513	3° 28'	14 1/2°
R2150.D070-08	Double	70	8	28.00	2.513	3° 28'	14 1/2°
R2150.D080-08	Double	80	8	32.00	2.513	3° 28'	14 1/2°
R2150.D090-08	Double	90	8	36.00	2.513	3° 28'	14 1/2°
R2150.D100-08	Double	100	8	40.00	2.513	3° 28'	14 1/2°
R2150.D110-08	Double	110	8	44.00	2.513	3° 28'	14 1/2°
R2150.D120-08	Double	120	8	48.00	2.513	3° 28'	14 1/2°
R2150.D180-08	Double	180	8	72.00	2.513	3° 28'	14 1/2°
R2150.F050-08	Four	50	8	20.00	5.027	6° 54'	14 1/2°
R2150.F060-08	Four	60	8	24.00	5.027	6° 54'	14 1/2°
R2150.F070-08	Four	70	8	28.00	5.027	6° 54'	14 1/2°
R2150.F080-08	Four	80	8	32.00	5.027	6° 54'	14 1/2°
R2150.F090-08	Four	90	8	36.00	5.027	6° 54'	14 1/2°
R2150.F100-08	Four	100	8	40.00	5.027	6° 54'	14 1/2°
R2150.F110-08	Four	110	8	44.00	5.027	6° 54'	14 1/2°
R2150.F120-08	Four	120	8	48.00	5.027	6° 54'	14 1/2°
R2150.F180-08	Four	180	8	72.00	5.027	6° 54'	14 1/2°



# 1,5 Module Helical Gears

stainless steel, pin hub

Other Precision Gears



**R2152**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305).

20° pressure angle.

Quality class DIN 8, AGMA 9.

with same helical direction.

For parallel transmission use right and left helix.

**Technical Notes**

45° helix angle.

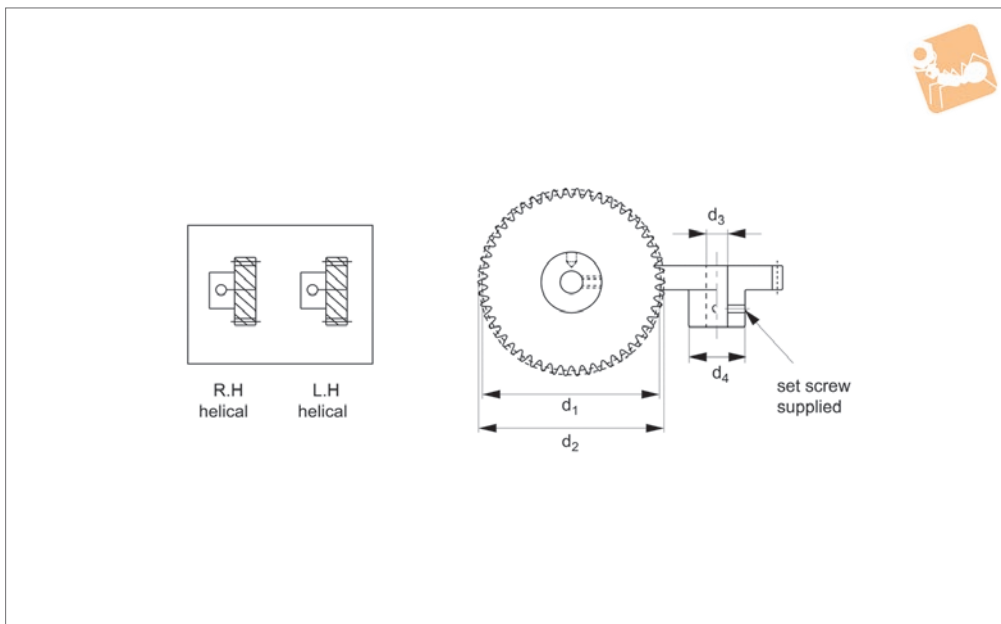
**Tips**

For right angle transmission use two gears

Order No.	Hand	No. of teeth	Pitch dia. P.D.	O.D. dia.
R2152.R012	Right	12	25.46	28.46
R2152.R016	Right	16	33.94	36.94
R2152.R020	Right	20	42.43	45.43
R2152.L012	Left	12	25.46	28.46
R2152.L016	Left	16	33.94	36.94
R2152.L020	Left	20	42.43	45.43
R2152.R024	Right	24	50.91	53.91
R2152.L024	Left	24	50.91	53.91
R2152.R032	Right	32	67.88	70.88
R2152.R040	Right	40	84.85	87.85
R2152.R048	Right	48	101.82	104.82
R2152.L032	Left	32	67.88	70.88
R2152.L040	Left	40	84.85	87.85
R2152.L048	Left	48	101.82	104.82



## R2154



**Material**  
Stainless steel (DIN 1,4305).

20° pressure angle.  
Quality class DIN 8, AGMA 9.

with same helical direction.  
For parallel transmission use right and left helix.

**Technical Notes**  
45° helix angle.

**Tips**  
For right angle transmission use two gears

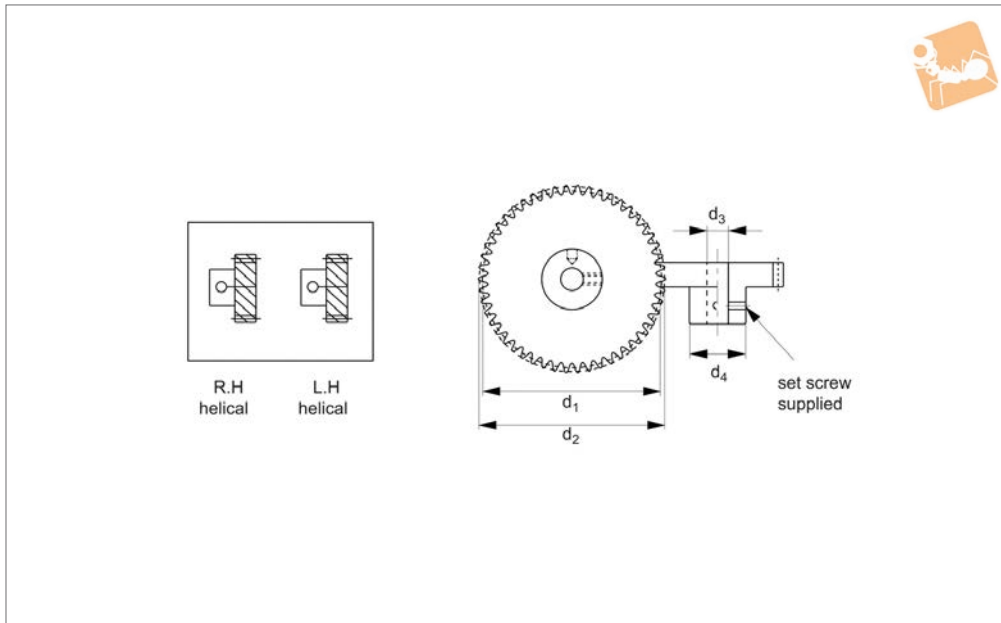
Order No.	Hand	No. of teeth	Pitch dia. P.D.	O.D. dia.
R2154.R010	Right	10	17.68	20.18
R2154.R015	Right	15	26.52	29.02
R2154.R020	Right	20	35.36	37.86
R2154.L010	Left	10	17.68	20.18
R2154.L015	Left	15	26.52	29.02
R2154.L020	Left	20	35.36	37.86
R2154.R025	Right	25	44.19	46.69
R2154.L025	Left	25	44.19	46.69
R2154.R030	Right	30	53.03	55.53
R2154.R040	Right	40	70.71	73.21
R2154.R050	Right	50	88.39	90.89
R2154.R060	Right	60	106.07	108.57
R2154.L030	Left	30	53.03	55.53
R2154.L040	Left	40	70.71	73.21
R2154.L050	Left	50	88.39	90.89
R2154.L060	Left	60	106.07	108.57



# 1,0 Module Helical Gears

stainless steel or aluminium, pin hub

Other Precision Gears



**R2156**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305), or aluminium (DIN 3,1355).

20° pressure angle.

Quality class DIN 7, AGMA 10.

transmission use right and left helix.

**Technical Notes**

45° helix angle.

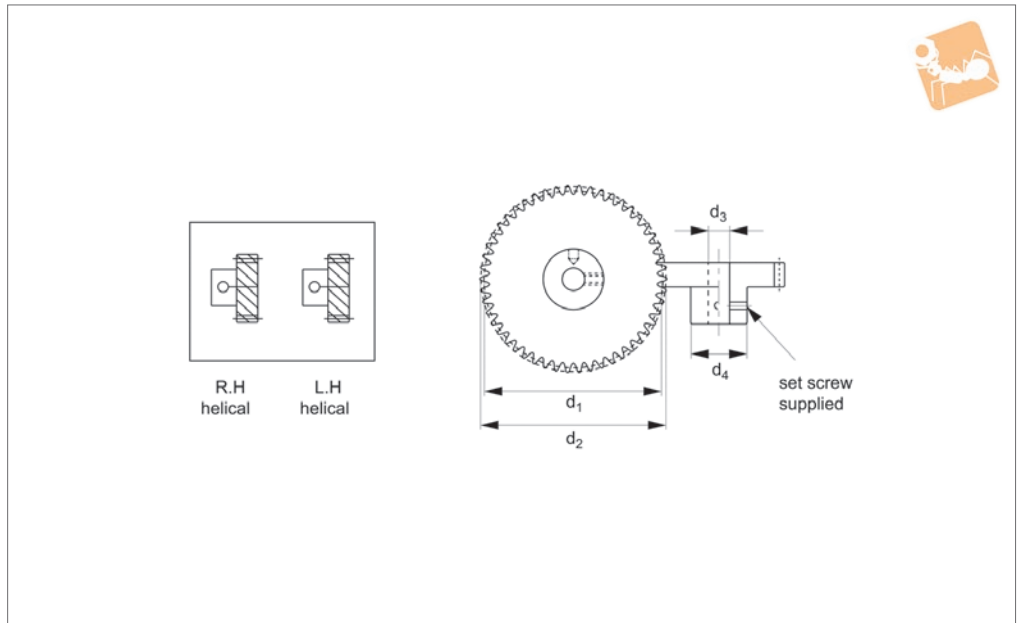
**Tips**

For right angle transmission use two gears with same helical direction. For parallel

Order No.	Hand	No. of teeth	Material	Pitch dia. P.D.	O.D. dia.
R2156.R012	Right	12	Stainless	16.94	18.97
R2156.R018	Right	18	Stainless	25.45	27.45
R2156.R024	Right	24	Stainless	33.94	35.94
R2156.R030	Right	30	Stainless	42.42	44.42
R2156.R036	Right	36	Stainless	50.91	52.91
R2156.R048	Right	48	Stainless	67.88	69.88
R2156.R060	Right	60	Stainless	84.85	86.85
R2156.R072	Right	72	Stainless	101.82	103.82
R2156.R512	Right	12	Aluminium	16.94	18.97
R2156.R518	Right	18	Aluminium	25.45	27.45
R2156.R524	Right	24	Aluminium	33.94	35.94
R2156.R530	Right	30	Aluminium	42.42	44.42
R2156.R536	Right	36	Aluminium	50.91	52.91
R2156.R548	Right	48	Aluminium	67.88	69.88
R2156.R560	Right	60	Aluminium	84.85	86.85
R2156.R572	Right	72	Aluminium	101.82	103.82
R2156.L012	Left	12	Stainless	16.94	18.97
R2156.L018	Left	18	Stainless	25.45	27.45
R2156.L024	Left	24	Stainless	33.94	35.94
R2156.L030	Left	30	Stainless	42.42	44.42
R2156.L036	Left	36	Stainless	50.91	52.91
R2156.L048	Left	48	Stainless	67.88	69.88
R2156.L060	Left	60	Stainless	84.85	86.85
R2156.L072	Left	72	Stainless	101.82	103.82
R2156.L512	Left	12	Aluminium	16.94	18.97
R2156.L518	Left	18	Aluminium	25.45	27.45
R2156.L524	Left	24	Aluminium	33.94	35.94
R2156.L530	Left	30	Aluminium	42.42	44.42
R2156.L536	Left	36	Aluminium	50.91	52.91
R2156.L548	Left	48	Aluminium	67.88	69.88
R2156.L560	Left	60	Aluminium	84.85	86.85
R2156.L572	Left	72	Aluminium	101.82	103.82



## R2158



### Material

Stainless steel (DIN 1,4305), or aluminium (DIN 3,1355).

20° pressure angle.

Quality class DIN 7, AGMA 10.

For parallel transmission use right and left helix.

### Technical Notes

45° helix angle.

### Tips

For right angle transmission use two gears with same helical direction.

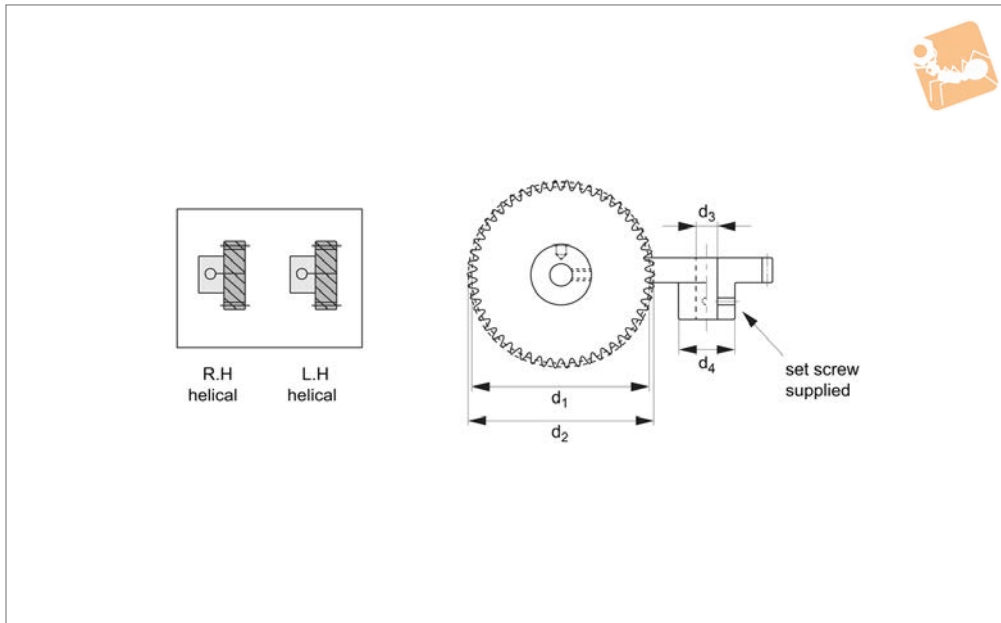
Order No.	Hand	No. of teeth	Material	Pitch dia. P.D.	O.D. dia.
R2158.R016	Right	16	Stainless	18.10	19.70
R2158.R024	Right	24	Stainless	27.15	28.75
R2158.R032	Right	32	Stainless	36.20	37.80
R2158.R040	Right	40	Stainless	45.25	46.85
R2158.R048	Right	48	Stainless	54.30	55.90
R2158.R064	Right	64	Stainless	72.40	74.00
R2158.R080	Right	80	Stainless	90.50	92.10
R2158.R096	Right	96	Stainless	108.61	110.21
R2158.R516	Right	16	Aluminium	18.10	19.70
R2158.R524	Right	24	Aluminium	27.15	28.75
R2158.R532	Right	32	Aluminium	36.20	37.80
R2158.R540	Right	40	Aluminium	45.25	46.85
R2158.R548	Right	48	Aluminium	54.30	55.90
R2158.R564	Right	64	Aluminium	72.40	74.00
R2158.R580	Right	80	Aluminium	90.50	92.10
R2158.R596	Right	96	Aluminium	108.61	110.21
R2158.L016	Left	16	Stainless	18.10	19.70
R2158.L024	Left	24	Stainless	27.15	28.75
R2158.L032	Left	32	Stainless	36.20	37.80
R2158.L040	Left	40	Stainless	45.25	46.85
R2158.L048	Left	48	Stainless	54.30	55.90
R2158.L516	Left	16	Aluminium	18.10	19.70
R2158.L064	Left	64	Stainless	72.40	74.00
R2158.L080	Left	80	Stainless	90.50	92.10
R2158.L096	Left	96	Stainless	108.61	110.21
R2158.L524	Left	24	Aluminium	27.15	28.75
R2158.L532	Left	32	Aluminium	36.20	37.80
R2158.L540	Left	40	Aluminium	45.25	46.85
R2158.L548	Left	48	Aluminium	54.30	55.90
R2158.L564	Left	64	Aluminium	72.40	74.00
R2158.L580	Left	80	Aluminium	90.50	92.10
R2158.L596	Left	96	Aluminium	108.61	110.21



# 0,5 Module Right Hand Helical Gears

stainless steel pin hub

Other Precision  
Gears



**R2160**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305).

**Technical Notes**

45° helix angle.  
20° pressure angle.

Quality class DIN 7, AGMA 10.

**Tips**

For right angle transmission use two gears with same helical direction. For parallel transmission use right and left helix.

**Important Notes**

For 0,5 module left hand helical gears see R2161.

Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
R2160.R020-05	Right	20	Stainless	5	14.14	15.14
R2160.R024-05	Right	24	Stainless	5	16.97	17.97
R2160.R025-05	Right	25	Stainless	5	17.68	18.68
R2160.R030-05	Right	30	Stainless	5	21.21	22.21
R2160.R035-05	Right	35	Stainless	5	24.75	25.75
R2160.R036-05	Right	36	Stainless	5	25.46	26.46
R2160.R040-05	Right	40	Stainless	5	28.28	29.28
R2160.R045-05	Right	45	Stainless	5	31.82	32.82
R2160.R048-05	Right	48	Stainless	5	33.94	34.94
R2160.R050-05	Right	50	Stainless	5	35.36	36.36
R2160.R060-05	Right	60	Stainless	5	42.43	43.43
R2160.R070-05	Right	70	Stainless	5	49.50	50.50
R2160.R072-05	Right	72	Stainless	5	50.91	51.91
R2160.R080-05	Right	80	Stainless	5	56.57	57.57
R2160.R090-05	Right	90	Stainless	5	63.64	64.64
R2160.R096-05	Right	96	Stainless	5	67.88	68.88
R2160.R100-05	Right	100	Stainless	5	70.71	71.71
R2160.R120-05	Right	120	Stainless	5	84.85	85.85
R2160.R144-05	Right	144	Stainless	5	101.82	102.82
R2160.R020-08	Right	20	Stainless	8	14.14	15.14
R2160.R024-08	Right	24	Stainless	8	16.97	17.97
R2160.R025-08	Right	25	Stainless	8	17.68	18.68
R2160.R030-08	Right	30	Stainless	8	21.21	22.21
R2160.R035-08	Right	35	Stainless	8	24.75	25.27
R2160.R036-08	Right	36	Stainless	8	25.46	26.46
R2160.R040-08	Right	40	Stainless	8	28.28	29.28
R2160.R045-08	Right	45	Stainless	8	31.82	32.82
R2160.R048-08	Right	48	Stainless	8	33.94	34.94
R2160.R050-08	Right	50	Stainless	8	35.36	36.36
R2160.R060-08	Right	60	Stainless	8	42.43	43.43
R2160.R070-08	Right	70	Stainless	8	49.50	50.50
R2160.R072-08	Right	72	Stainless	8	50.91	51.91
R2160.R080-08	Right	80	Stainless	8	56.57	57.57



Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
R2160.R090-08	Right	90	Stainless	8	63.64	64.64
R2160.R096-08	Right	96	Stainless	8	67.88	68.88
R2160.R100-08	Right	100	Stainless	8	70.71	71.71
R2160.R120-08	Right	120	Stainless	8	84.85	85.85
R2160.R144-08	Right	144	Stainless	8	101.82	102.82

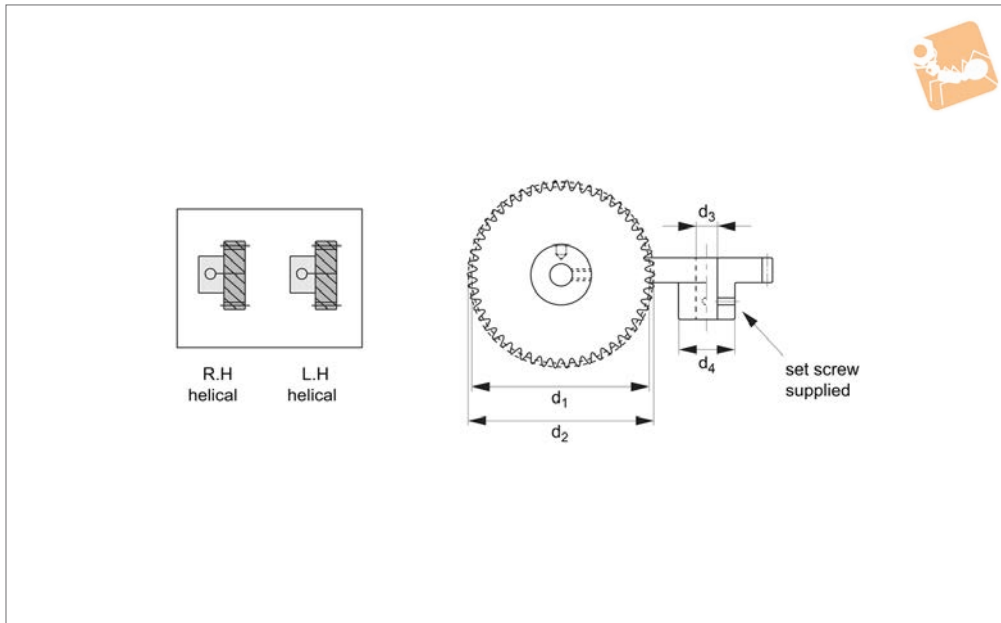




# 0,5 Module Right Hand Helical Gears

aluminium pin hub

## Other Precision Gears



**R2160.1**

OTHER PRECISION GEARS

### Material

Aluminium (DIN 3,1355).

### Technical Notes

45° helix angle.  
20° pressure angle.

Quality class DIN 7, AGMA 10.

### Tips

For right angle transmission use two gears with same helical direction. For parallel transmission use right and left helix.

### Important Notes

For 0,5 module left hand helical gears see R2161.

Order No.	Hand	No. of teeth	Material	Bore dia.	Outside	Pitch
R2160.R520-05	Right	20	5	Aluminium	15.14	14.14
R2160.R524-05	Right	24	5	Aluminium	17.97	16.97
R2160.R525-05	Right	25	5	Aluminium	18.68	17.68
R2160.R530-05	Right	30	5	Aluminium	22.21	21.21
R2160.R535-05	Right	35	5	Aluminium	25.75	24.75
R2160.R536-05	Right	36	5	Aluminium	26.46	25.46
R2160.R540-05	Right	40	5	Aluminium	29.28	28.28
R2160.R545-05	Right	45	5	Aluminium	32.82	31.82
R2160.R548-05	Right	48	5	Aluminium	34.94	33.94
R2160.R550-05	Right	50	5	Aluminium	36.36	35.36
R2160.R560-05	Right	60	5	Aluminium	43.43	42.43
R2160.R570-05	Right	70	5	Aluminium	50.50	49.50
R2160.R572-05	Right	72	5	Aluminium	51.91	50.91
R2160.R580-05	Right	80	5	Aluminium	57.57	56.57
R2160.R590-05	Right	90	5	Aluminium	64.64	63.64
R2160.R596-05	Right	96	5	Aluminium	68.88	67.88
R2160.R600-05	Right	100	5	Aluminium	71.71	70.71
R2160.R620-05	Right	120	5	Aluminium	85.85	84.85
R2160.R644-05	Right	144	5	Aluminium	102.82	101.82
R2160.R520-08	Right	20	8	Aluminium	15.14	14.14
R2160.R524-08	Right	24	8	Aluminium	17.97	16.97
R2160.R525-08	Right	25	8	Aluminium	18.68	17.68
R2160.R530-08	Right	30	8	Aluminium	22.21	21.21
R2160.R535-08	Right	35	8	Aluminium	25.27	24.75
R2160.R536-08	Right	36	8	Aluminium	26.46	25.46
R2160.R540-08	Right	40	8	Aluminium	29.28	28.28
R2160.R545-08	Right	45	8	Aluminium	32.82	31.82
R2160.R548-08	Right	48	8	Aluminium	34.94	33.94
R2160.R550-08	Right	50	8	Aluminium	36.36	35.36
R2160.R560-08	Right	60	8	Aluminium	43.43	42.43
R2160.R570-08	Right	70	8	Aluminium	50.50	49.50
R2160.R572-08	Right	72	8	Aluminium	51.91	50.91
R2160.R580-08	Right	80	8	Aluminium	57.57	56.57



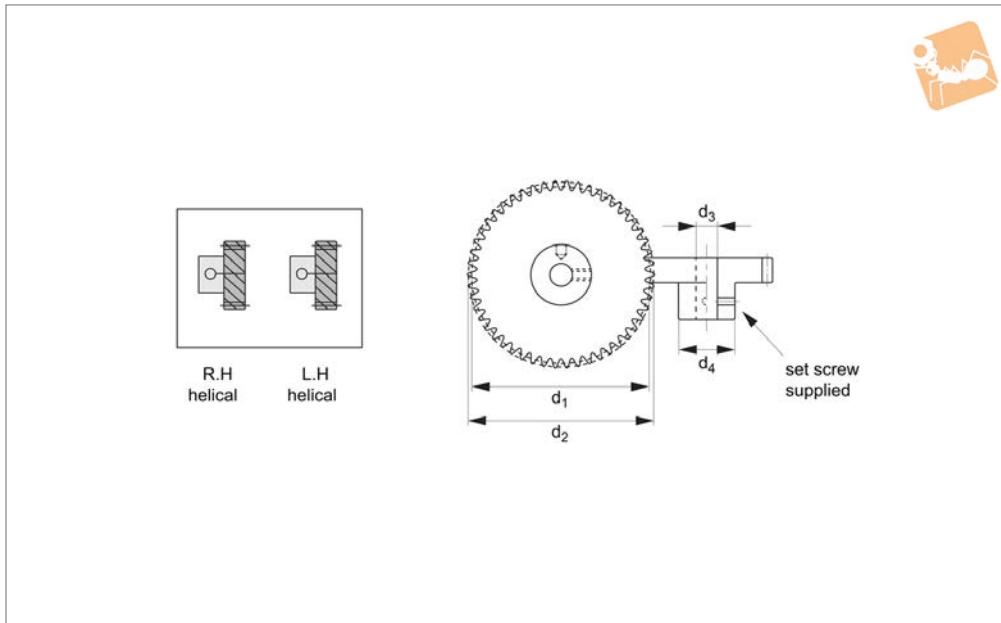
Order No.	Hand	No. of teeth	Material	Bore dia.	Outside	Pitch
R2160.R590-08	Right	90	8	Aluminium	64.64	63.64
R2160.R596-08	Right	96	8	Aluminium	68.88	67.88
R2160.R600-08	Right	100	8	Aluminium	71.71	70.71
R2160.R620-08	Right	120	8	Aluminium	85.85	84.85
R2160.R644-08	Right	144	8	Aluminium	102.82	101.82



# 0,5 Module Left Hand Helical Gears

stainless steel, pin hub

Other Precision  
Gears



**R2161**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305).

Quality class DIN 7, AGMA 10.

helix..

**Technical Notes**

45° helix angle.  
20° pressure angle.

**Tips**

For right angle transmission use two gears with same helical direction.  
For parallel transmission use right and left

**Important Notes**

For 0,5 module right hand helical gears see R2160.

Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
R2161.L020-05	Left	20	Stainless	5	14.14	15.14
R2161.L024-05	Left	24	Stainless	5	16.97	16.97
R2161.L025-05	Left	25	Stainless	5	17.68	17.68
R2161.L020-08	Left	20	Stainless	8	14.14	15.14
R2161.L024-08	Left	24	Stainless	8	16.97	17.97
R2161.L025-08	Left	25	Stainless	8	17.68	18.68
R2161.L030-08	Left	30	Stainless	8	21.21	22.21
R2161.L030-05	Left	30	Stainless	5	21.21	21.21
R2161.L035-05	Left	35	Stainless	5	24.75	25.75
R2161.L036-05	Left	36	Stainless	5	25.46	26.46
R2161.L040-05	Left	40	Stainless	5	28.28	29.28
R2161.L045-05	Left	45	Stainless	5	31.82	32.82
R2161.L035-08	Left	35	Stainless	8	24.75	25.75
R2161.L036-08	Left	36	Stainless	8	25.46	26.46
R2161.L040-08	Left	40	Stainless	8	28.28	29.28
R2161.L045-08	Left	45	Stainless	8	31.82	32.82
R2161.L048-08	Left	48	Stainless	8	33.94	34.94
R2161.L048-05	Left	48	Stainless	5	33.94	34.94
R2161.L050-05	Left	50	Stainless	5	35.36	36.36
R2161.L060-05	Left	60	Stainless	5	42.43	43.43
R2161.L070-05	Left	70	Stainless	5	49.50	50.50
R2161.L072-05	Left	72	Stainless	5	50.91	51.91
R2161.L050-08	Left	50	Stainless	8	35.36	36.36
R2161.L060-08	Left	60	Stainless	8	42.43	43.43
R2161.L070-08	Left	70	Stainless	8	49.50	50.50
R2161.L072-08	Left	72	Stainless	8	50.91	51.91
R2161.L080-08	Left	80	Stainless	8	56.57	57.57
R2161.L080-05	Left	80	Stainless	5	56.57	57.57
R2161.L090-05	Left	90	Stainless	5	63.64	64.64
R2161.L096-05	Left	96	Stainless	5	67.88	68.88
R2161.L100-05	Left	100	Stainless	5	70.71	71.71
R2161.L120-05	Left	120	Stainless	5	84.85	85.85
R2161.L090-08	Left	90	Stainless	8	63.64	64.64



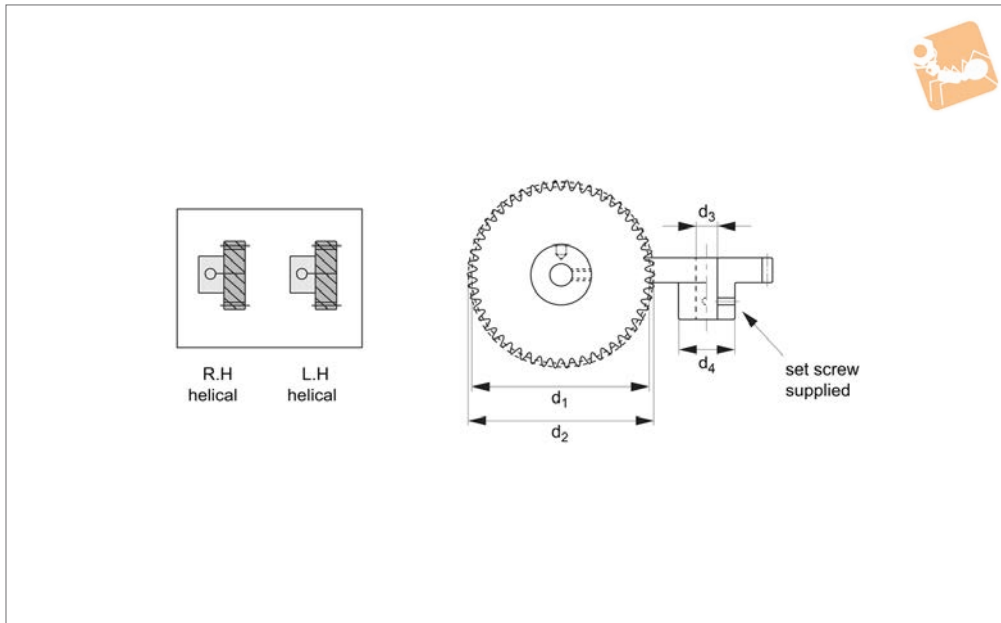
Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
R2161.L096-08	Left	96	Stainless	8	67.88	68.88
R2161.L100-08	Left	100	Stainless	8	70.71	71.71
R2161.L120-08	Left	120	Stainless	8	84.85	85.85
R2161.L144-08	Left	144	Stainless	8	101.82	102.82
R2161.L144-05	Left	144	Stainless	5	101.82	102.82



# 0,5 Module Left Hand Helical Gears

aluminium, pin hub

Other Precision Gears



**R2161.1**

OTHER PRECISION GEARS

**Material**

Aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

helix.

**Technical Notes**

45° helix angle.  
20° pressure angle.

**Tips**

For right angle transmission use two gears with same helical direction.  
For parallel transmission use right and left

**Important Notes**

For 0,5 module right hand helical gears see R2160.

Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
R2161.L520-05	Left	20	Aluminium	5	14.14	15.14
R2161.L524-05	Left	24	Aluminium	5	16.97	16.97
R2161.L525-05	Left	25	Aluminium	5	17.68	17.68
R2161.L530-05	Left	30	Aluminium	5	21.21	21.21
R2161.L535-05	Left	35	Aluminium	5	24.75	25.75
R2161.L536-05	Left	36	Aluminium	5	25.46	26.46
R2161.L540-05	Left	40	Aluminium	5	28.28	29.28
R2161.L545-05	Left	45	Aluminium	5	31.82	32.82
R2161.L548-05	Left	48	Aluminium	5	33.94	34.94
R2161.L550-05	Left	50	Aluminium	5	35.36	36.36
R2161.L560-05	Left	60	Aluminium	5	42.43	43.43
R2161.L570-05	Left	70	Aluminium	5	49.50	50.50
R2161.L572-05	Left	72	Aluminium	5	50.91	51.91
R2161.L580-05	Left	80	Aluminium	5	56.57	57.57
R2161.L590-05	Left	90	Aluminium	5	63.64	64.64
R2161.L596-05	Left	96	Aluminium	5	67.88	68.88
R2161.L600-05	Left	100	Aluminium	5	70.71	71.71
R2161.L620-05	Left	120	Aluminium	5	84.85	85.85
R2161.L644-05	Left	144	Aluminium	5	101.82	102.82
R2161.L520-08	Left	20	Aluminium	8	14.14	15.14
R2161.L524-08	Left	24	Aluminium	8	16.97	17.97
R2161.L525-08	Left	25	Aluminium	8	17.68	18.68
R2161.L530-08	Left	30	Aluminium	8	21.21	22.21
R2161.L535-08	Left	35	Aluminium	8	24.75	25.75
R2161.L536-08	Left	36	Aluminium	8	25.46	26.46
R2161.L540-08	Left	40	Aluminium	8	28.28	29.28
R2161.L545-08	Left	45	Aluminium	8	31.82	32.82
R2161.L548-08	Left	48	Aluminium	8	33.94	34.94
R2161.L550-08	Left	50	Aluminium	8	35.36	36.36
R2161.L560-08	Left	60	Aluminium	8	42.43	43.43
R2161.L570-08	Left	70	Aluminium	8	49.50	50.50
R2161.L572-08	Left	72	Aluminium	8	50.91	51.91
R2161.L580-08	Left	80	Aluminium	8	56.57	57.57



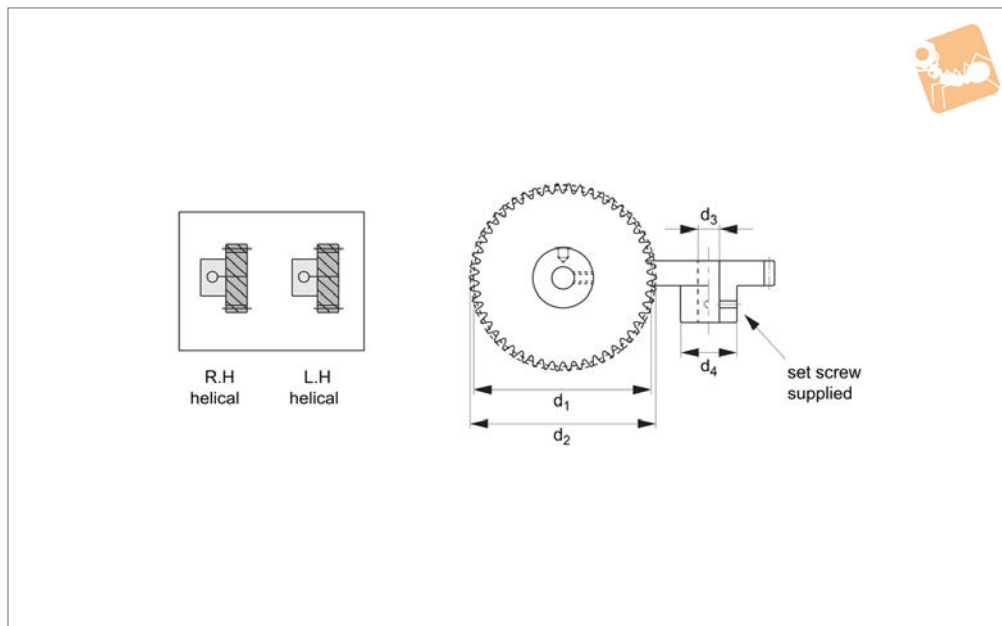
Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
<b>R2161.L590-08</b>	Left	90	Aluminium	8	63.64	64.64
<b>R2161.L596-08</b>	Left	96	Aluminium	8	67.88	68.88
<b>R2161.L600-08</b>	Left	100	Aluminium	8	70.71	71.71
<b>R2161.L620-08</b>	Left	120	Aluminium	8	84.85	85.85
<b>R2161.L644-08</b>	Left	144	Aluminium	8	101.82	102.82



# 0,4 Module Right Hand Helical Gears

stainless steel, pin hub

Other Precision Gears



**R2162**

OTHER PRECISION GEARS

**Material**

Stainless steel (DIN 1,4305).

Quality class DIN 7, AGMA 10.

helix.

**Technical Notes**

45° helix angle.  
20° pressure angle.

**Tips**

For right angle transmission use two gears with same helical direction.  
For parallel transmission use right and left

**Important Notes**

For 0,4 module left hand helical gears see R2163.

Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
R2162.R020-03	Right	20	Stainless	3	11.31	12.11
R2162.R025-03	Right	25	Stainless	3	14.14	14.94
R2162.R030-03	Right	30	Stainless	3	16.97	17.77
R2162.R032-03	Right	32	Stainless	3	18.10	18.90
R2162.R035-03	Right	35	Stainless	3	19.80	20.60
R2162.R040-03	Right	40	Stainless	3	22.63	23.43
R2162.R045-03	Right	45	Stainless	3	24.46	26.26
R2162.R048-03	Right	48	Stainless	3	27.15	27.95
R2162.R050-03	Right	50	Stainless	3	28.28	29.08
R2162.R060-03	Right	60	Stainless	3	33.94	34.74
R2162.R064-03	Right	64	Stainless	3	36.20	37.00
R2162.R070-03	Right	70	Stainless	3	39.60	40.40
R2162.R080-03	Right	80	Stainless	3	45.25	46.05
R2162.R090-03	Right	90	Stainless	3	50.91	51.71
R2162.R096-03	Right	96	Stainless	3	54.31	55.11
R2162.R100-03	Right	100	Stainless	3	56.57	57.37
R2162.R128-03	Right	128	Stainless	3	72.41	73.21
R2162.R160-03	Right	160	Stainless	3	90.51	91.31
R2162.R020-05	Right	20	Stainless	5	11.31	12.11
R2162.R025-05	Right	25	Stainless	5	14.14	14.94
R2162.R030-05	Right	30	Stainless	5	16.97	17.77
R2162.R032-05	Right	32	Stainless	5	18.10	18.90
R2162.R035-05	Right	35	Stainless	5	19.80	20.60
R2162.R040-05	Right	40	Stainless	5	22.63	23.43
R2162.R045-05	Right	45	Stainless	5	24.46	26.26
R2162.R048-05	Right	48	Stainless	5	27.15	27.95
R2162.R050-05	Right	50	Stainless	5	28.28	29.08
R2162.R060-05	Right	60	Stainless	5	33.94	34.74
R2162.R064-05	Right	64	Stainless	5	36.20	37.00
R2162.R070-05	Right	70	Stainless	5	39.60	40.40
R2162.R080-05	Right	80	Stainless	5	42.25	46.05
R2162.R090-05	Right	90	Stainless	5	50.91	51.71
R2162.R096-05	Right	96	Stainless	5	54.31	55.11



Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
<b>R2162.R100-05</b>	Right	100	Stainless	5	56.57	57.37
<b>R2162.R128-05</b>	Right	128	Stainless	5	72.41	73.21
<b>R2162.R160-05</b>	Right	160	Stainless	5	90.51	91.31

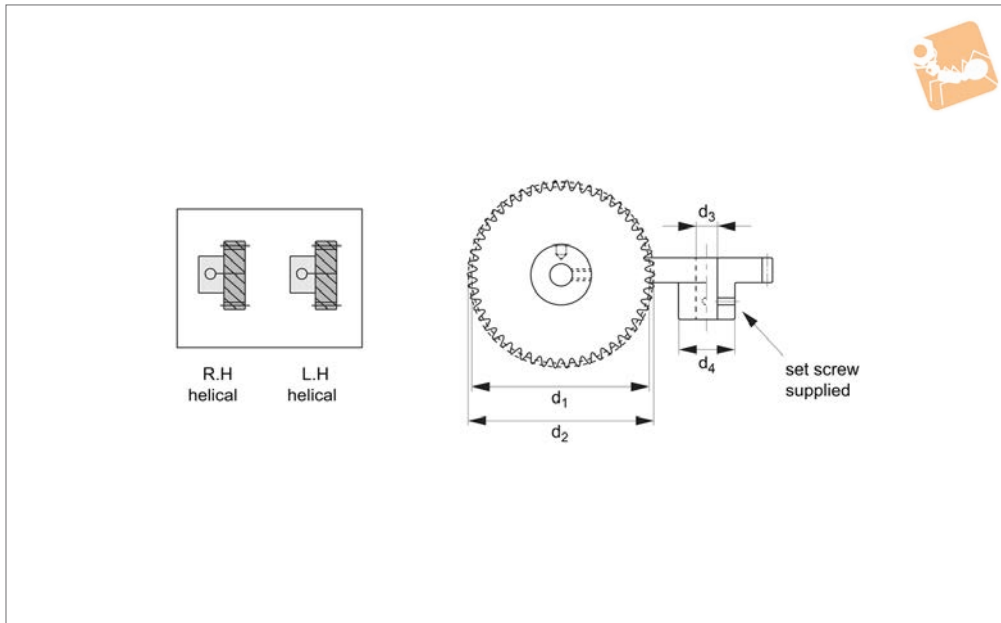




# 0,4 Module Right Hand Helical Gears

aluminium, pin hub

Other Precision Gears



**R2162.1**

OTHER PRECISION GEARS

**Material**

Aluminium (DIN 3,1355).

Quality class DIN 7, AGMA 10.

helix.

**Technical Notes**

45° helix angle.  
20° pressure angle.

**Tips**

For right angle transmission use two gears with same helical direction.  
For parallel transmission use right and left

**Important Notes**

For 0,4 module left hand helical gears see R2163.

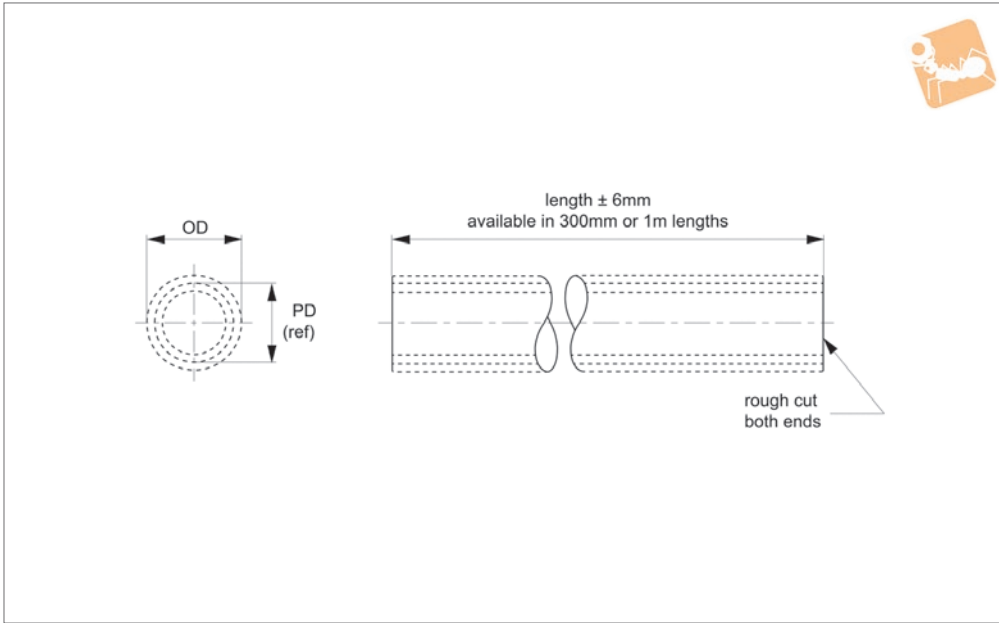
Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
R2162.R520-03	Right	20	Aluminium	3	11.31	12.11
R2162.R525-03	Right	25	Aluminium	3	14.14	14.94
R2162.R530-03	Right	30	Aluminium	3	16.97	17.77
R2162.R532-03	Right	32	Aluminium	3	18.10	18.90
R2162.R535-03	Right	35	Aluminium	3	19.80	20.60
R2162.R540-03	Right	40	Aluminium	3	22.63	23.43
R2162.R545-03	Right	45	Aluminium	3	24.56	25.26
R2162.R548-03	Right	48	Aluminium	3	27.15	27.95
R2162.R550-03	Right	50	Aluminium	3	28.28	29.08
R2162.R560-03	Right	60	Aluminium	3	33.94	34.74
R2162.R564-03	Right	64	Aluminium	3	36.20	37.00
R2162.R570-03	Right	70	Aluminium	3	39.60	40.40
R2162.R580-03	Right	80	Aluminium	3	45.25	46.05
R2162.R590-03	Right	90	Aluminium	3	50.91	51.71
R2162.R596-03	Right	96	Aluminium	3	54.31	55.11
R2162.R600-03	Right	100	Aluminium	3	56.57	57.37
R2162.R628-03	Right	128	Aluminium	3	72.41	73.21
R2162.R660-03	Right	160	Aluminium	3	90.51	91.31
R2162.R520-05	Right	20	Aluminium	5	11.31	12.11
R2162.R525-05	Right	25	Aluminium	5	14.14	14.94
R2162.R530-05	Right	30	Aluminium	5	16.97	17.77
R2162.R532-05	Right	32	Aluminium	5	18.10	18.90
R2162.R535-05	Right	35	Aluminium	5	19.80	20.60
R2162.R540-05	Right	40	Aluminium	5	22.63	23.43
R2162.R545-05	Right	45	Aluminium	5	24.46	25.26
R2162.R548-05	Right	48	Aluminium	5	27.15	27.95
R2162.R550-05	Right	50	Aluminium	5	28.28	29.08
R2162.R560-05	Right	60	Aluminium	5	33.94	34.74
R2162.R564-05	Right	64	Aluminium	5	36.20	37.00
R2162.R570-05	Right	70	Aluminium	5	39.60	40.40
R2162.R580-05	Right	80	Aluminium	5	45.25	46.05
R2162.R590-05	Right	90	Aluminium	5	50.91	51.71
R2162.R596-05	Right	96	Aluminium	5	54.31	55.11



Order No.	Hand	No. of teeth	Material	Bore dia.	Pitch dia. P.D.	Outside dia.
<b>R2162.R600-05</b>	Right	100	Aluminium	5	56.57	57.37
<b>R2162.R5128-05</b>	Right	128	Aluminium	5	72.41	73.21
<b>R2162.R660-05</b>	Right	160	Aluminium	5	90.51	91.31



# 0,8/0,4 Module Precision Gear Racks stainless



## R2170

OTHER PRECISION GEARS

**Material**  
Stainless steel (DIN 1,4005).

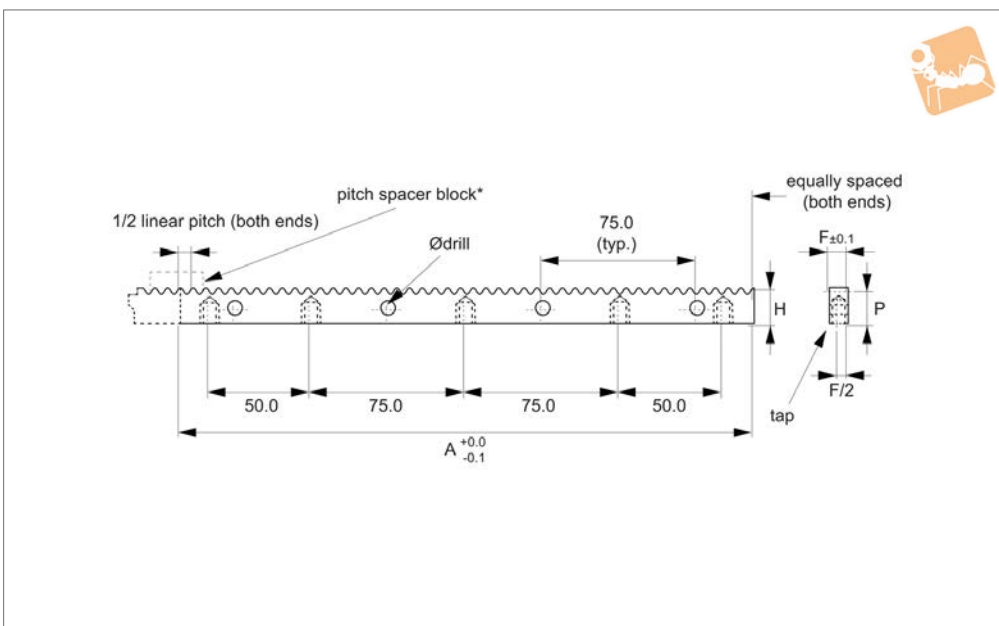
Quality class Din 7/AGMA 10.  
Adjacent hole centre  $\pm 0,06$ , Accumulative  
hole centre  $\pm 0,14$ .

**Technical Notes**  
20° pressure angle.

Order No.	Module	Linear pitch	c
R8M-1-G1	0.8	2.51	11.39
R8M-2-G1	0.4	1.26	11.79



R2172



**Material**

Stainless steel (DIN 1,4005).

**Technical Notes**

20° pressure angle.  
Quality class Din 7/AGMA 10.

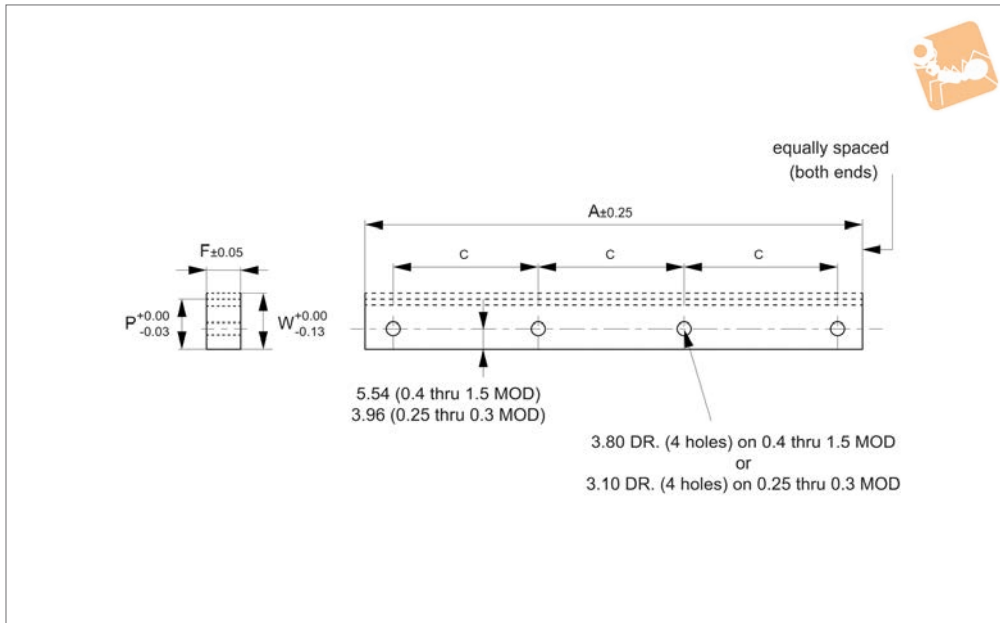
Order No.	Module	Linear pitch	a	f	b	h +0.00 -0.13	P ref.	Ø Drill	Tap
R1M-1	1.5	4.71	282.7	9.0	7.9	18.42	16.91	7.0	M 5 X 0,8
R1M-2	1.25	3.93	282.8	9.0	7.9	18.42	17.17	7.0	M 5 X 0,8
R1M-3	1.0	3.14	279.6	5.8	5.5	12.07	11.07	3.8	M 4 X 0,7
R1M-4	0.8	2.51	281.5	5.8	5.5	12.07	11.26	3.8	M 4 X 0,7
R1M-5	0.6	1.88	280.9	5.8	5.5	12.07	11.47	3.8	M 4 X 0,7
R1M-6	0.5	1.57	279.6	5.8	5.5	12.07	11.56	3.8	M 4 X 0,7
R1M-7	0.4	1.26	280.2	5.8	5.5	12.07	11.66	3.8	M 4 X 0,7
R1M-8	0.3	0.94	280.9	4.2	4.0	8.89	8.59	3.1	M 3 X 0,5
R1M-9	0.25	0.78	279.6	4.2	4.0	8.89	8.64	3.1	M 3 X 0,5



# 1,5/0,25 Module Precision Racks

stainless

Other Precision  
Gears



R2174

OTHER PRECISION GEARS

## Material

Stainless Steel (DIN 1,4005).

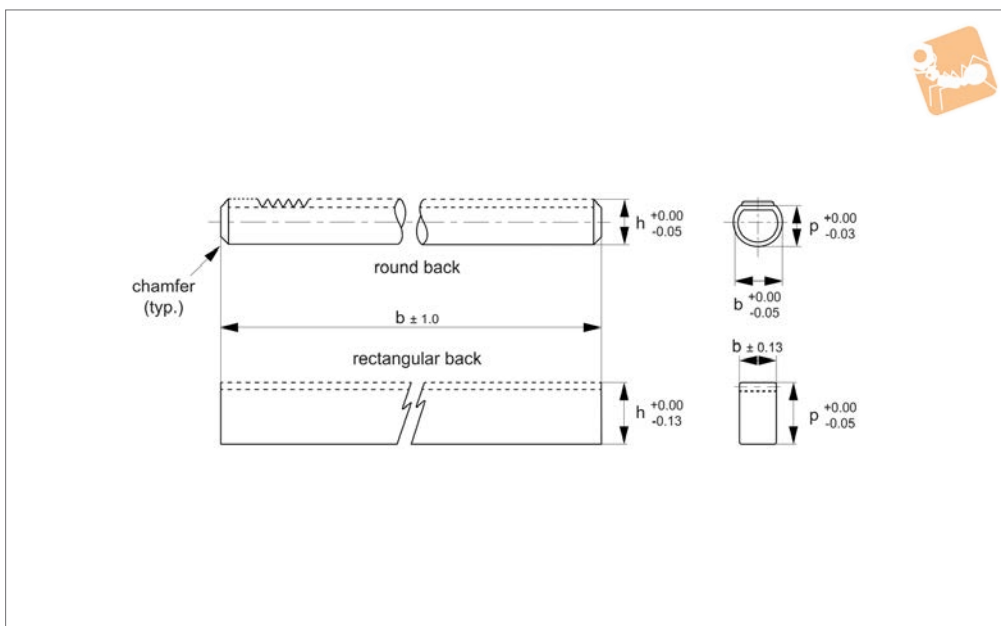
## Technical Notes

20° pressure angle.  
Quality class Din 7/AGMA 10.

Order No.	Module	a	f	c	P ref.	w
R4M-5	1.5	249.8	5.8	80.0	10.7	12.2
R4M-9	1.25	247.4	5.8	80.0	10.9	12.2
R4M-11	1.0	248.2	5.8	80.0	11.2	12.2
R4M-15	0.8	248.8	5.8	80.0	11.4	12.2
R4M-17	0.6	224.3	5.8	70.0	11.6	12.2
R4M-19	0.5	224.7	5.8	70.0	11.7	12.2
R4M-21	0.4	174.7	5.8	55.0	11.8	12.2
R4M-23	0.3	124.4	4.2	35.0	8.7	9.0
R4M-25	0.25	74.6	4.2	20.0	8.8	9.0



R2176



**Material**

Stainless Steel (DIN 1,4005).

**Technical Notes**

20° pressure angle.  
Quality class Din 7/AGMA 10.

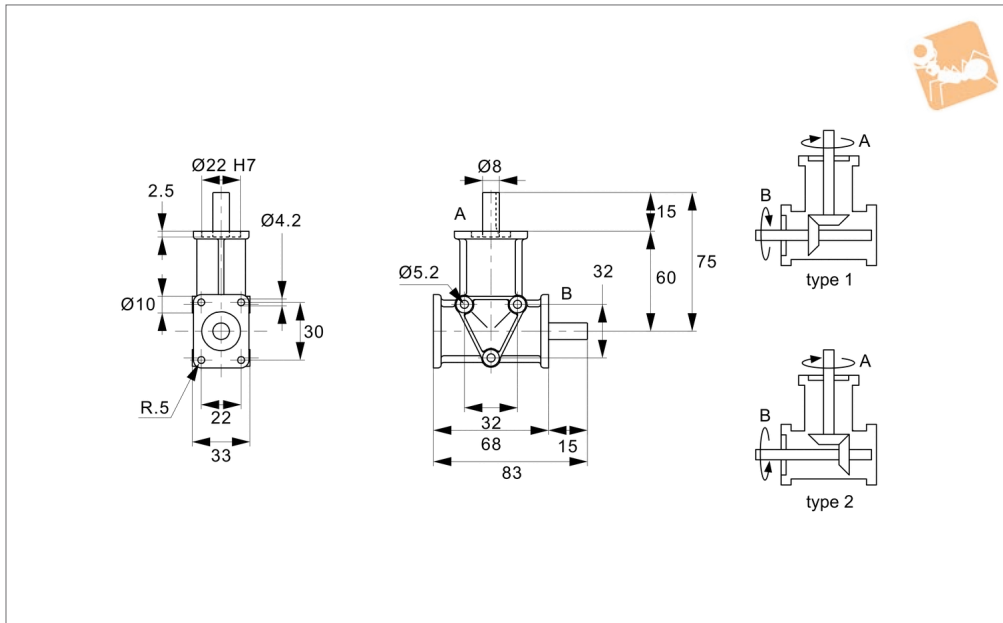
Order No.	Module	Rack style	a	h	Ø B	P ref.
R2M-1	1.5	Round	600	17.27	19.974	15.77
R2M-2	1.25	Round	600	13.46	19.974	12.21
R2M-3	1.00	Round	450	12.19	12.974	11.79
R2M-4	0.8	Round	450	8.64	9.974	7.84
R2M-5	0.6	Round	450	5.59	5.974	4.99
R2M-6	0.5	Round	450	5.59	5.974	5.09
R2M-7	0.4	Round	275	5.59	5.974	5.19
R2M-8	0.3	Round	275	3.96	4.755	3.66
R2M-9	0.25	Round	275	3.96	4.755	3.71
R3M-1	1.5	Rectangular	600	18.54	9.02	17.04
R3M-2	1.25	Rectangular	600	18.54	9.02	17.29
R3M-3	1.00	Rectangular	450	12.19	5.84	11.19
R3M-4	0.8	Rectangular	450	12.19	5.84	11.39
R3M-5	0.6	Rectangular	450	12.19	5.84	11.59
R3M-6	0.5	Rectangular	450	12.19	5.84	11.69
R3M-7	0.4	Rectangular	275	12.19	5.84	11.79
R3M-8	0.3	Rectangular	275	9.02	4.24	8.72
R3M-9	0.25	Rectangular	275	9.02	4.24	8.77



# Right Angle Drives - 2 shafts

Ø8 shafts

## Right Angle Gear Boxes



**R2300**

RIGHT ANGLE GEAR BOXES

### Material

Lightweight aluminium alloy housing. Case-hardened steel bevel gears and shafts.

### Technical Notes

Normally used as speed reducers. Shaft A is the input shaft. Optimum perfor-

mance is based on max. 1400 rpm input. Provides on average 10,000 hours trouble-free life. Very low operating noise levels. May also be used as speed increasers (here the max. shaft input speed for a 1:2 ratio unit is 750 rpm). Temperature range is -20°C to +80°C.

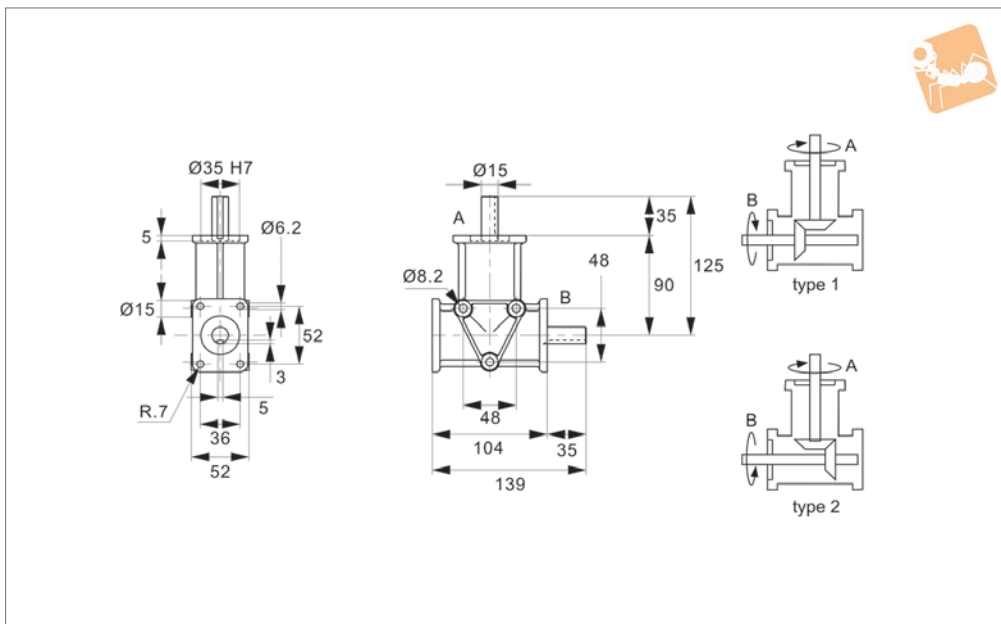
### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2300.1-1	8	1	1:1	0.35	2.4	0.3
R2300.2-1	8	2	1:1	0.35	2.4	0.3
R2300.1-2	8	1	2:1	0.18	1.2	0.3
R2300.2-2	8	2	2:1	0.18	1.2	0.3



### R2306



#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :41 Kg.  
Max. axial loading: 20 Kg.

Angular alignment: 15' to 30' of arc.

#### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2306.1-1	15	1	1:1	1.29	8.8	1.2
R2306.2-1	15	2	1:1	1.29	8.8	1.2
R2306.1-2	15	1	2:1	0.66	4.5	1.2
R2306.2-2	15	2	2:1	0.66	4.5	1.2

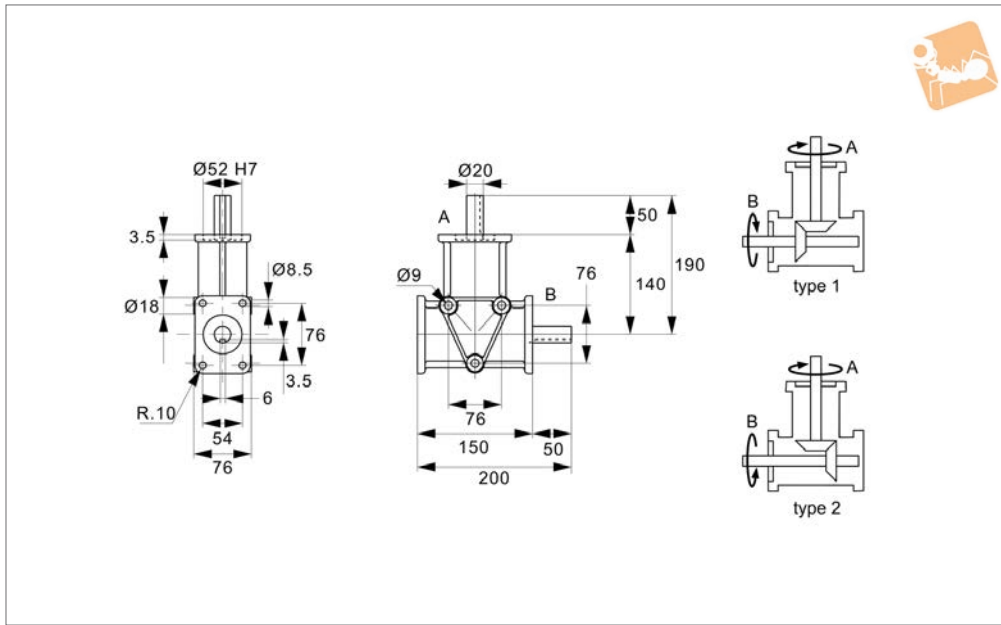




# Right Angle Drives - 2 Shafts

Ø20 shafts

## Right Angle Gear Boxes



**R2308**

RIGHT ANGLE GEAR BOXES

**Material**

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

**Technical Notes**

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :76 Kg.  
Max. axial loading: 43 Kg.

Angular alignment: 15' to 30' of arc.

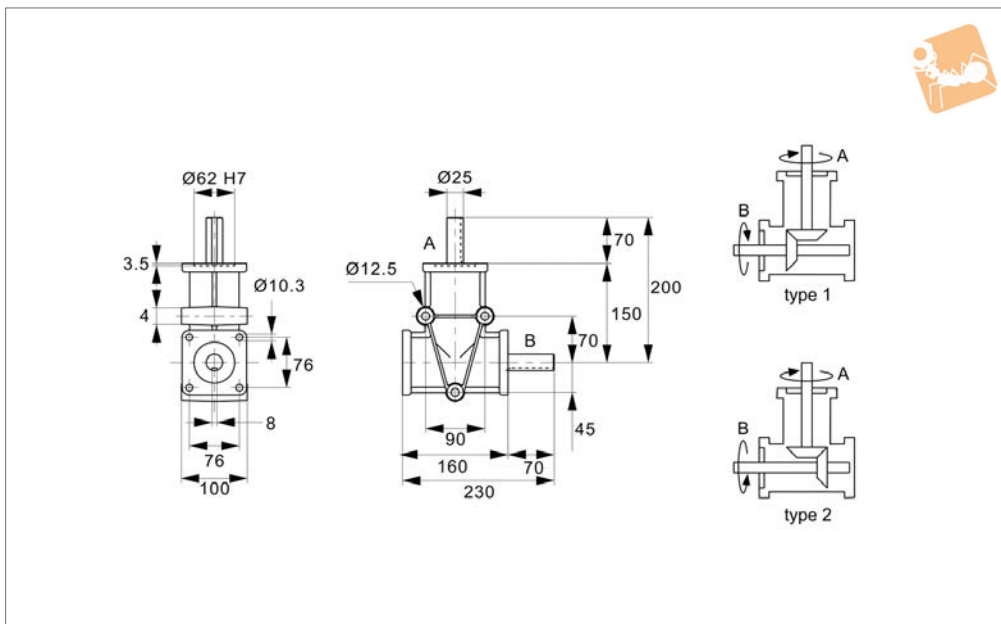
**Tips**

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours..

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2308.1-1	20	1	1:1	3.99	27.2	3.5
R2308.2-1	20	2	1:1	3.99	27.2	3.5
R2308.1-2	20	1	2:1	2.35	16.0	3.5
R2308.2-2	20	2	2:1	1.50	16.0	3.5



### R2312



#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :88 Kg.  
Max. axial loading: 49 Kg.

Angular alignment: 15' to 30' of arc.

#### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

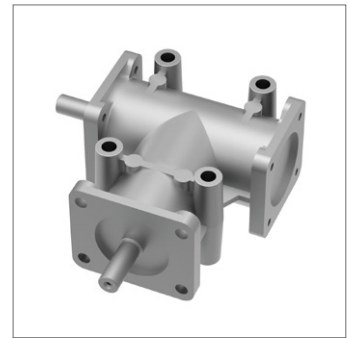
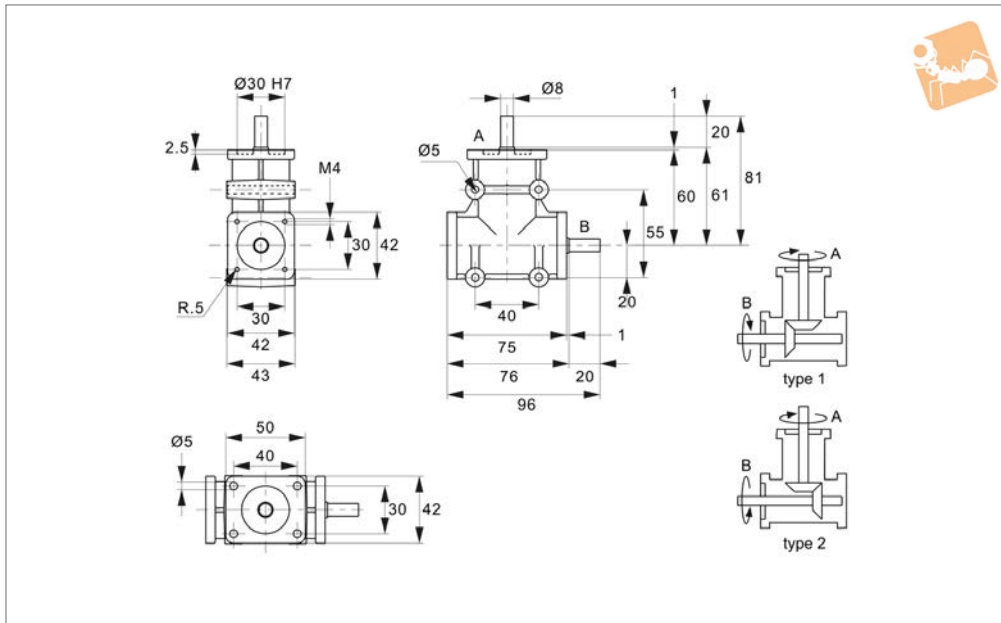
Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2312.1-1	25	1	1:1	6.50	44.0	5.8
R2312.2-1	25	2	1:1	6.50	44.0	5.8
R2312.1-2	25	1	2:1	3.67	25.0	5.8
R2312.2-2	25	2	2:1	3.67	25.0	5.8



# Right Angle Drives - 2 Shafts

Ø8 shafts

## Right Angle Gear Boxes



**R2320**

RIGHT ANGLE GEAR BOXES

**Material**

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

**Technical Notes**

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :10 Kg.  
Max. axial loading: 2 Kg.

Angular alignment: 15' to 30' of arc.

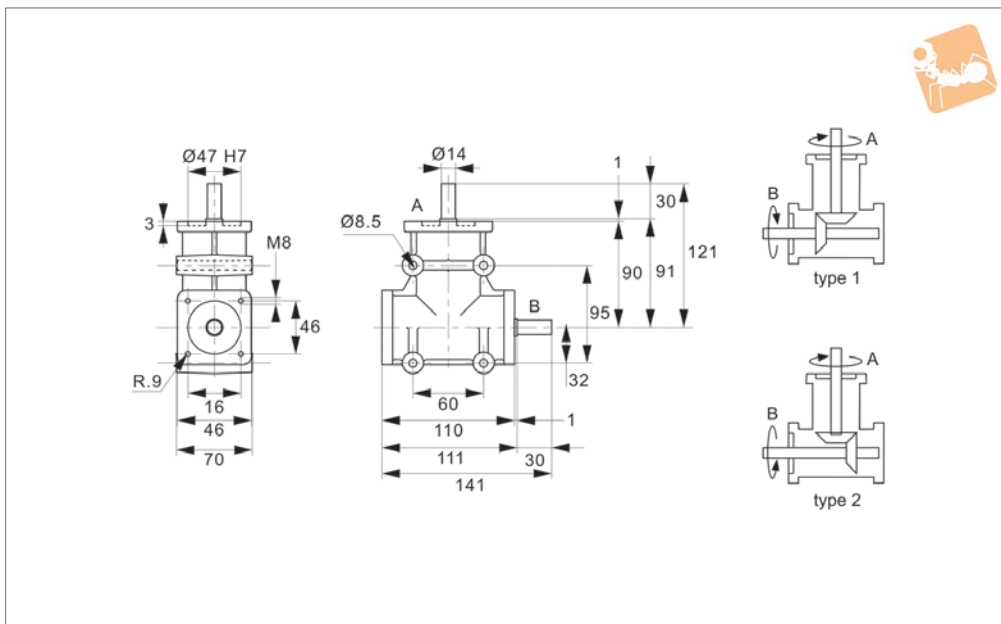
**Tips**

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2320.1-1	8	1	1:1	0.44	3.00	0.5
R2320.2-1	8	2	1:1	0.44	3.0	0.5
R2320.1-2	8	1	2:1	0.32	2.2	0.5
R2320.2-2	8	2	2:1	0.32	2.2	0.5



## R2322



### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :25 Kg.  
Max. axial loading: 5 Kg.

Angular alignment: 15' to 30' of arc.

### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

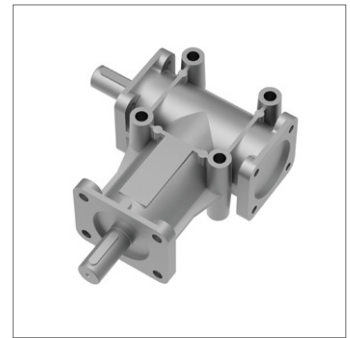
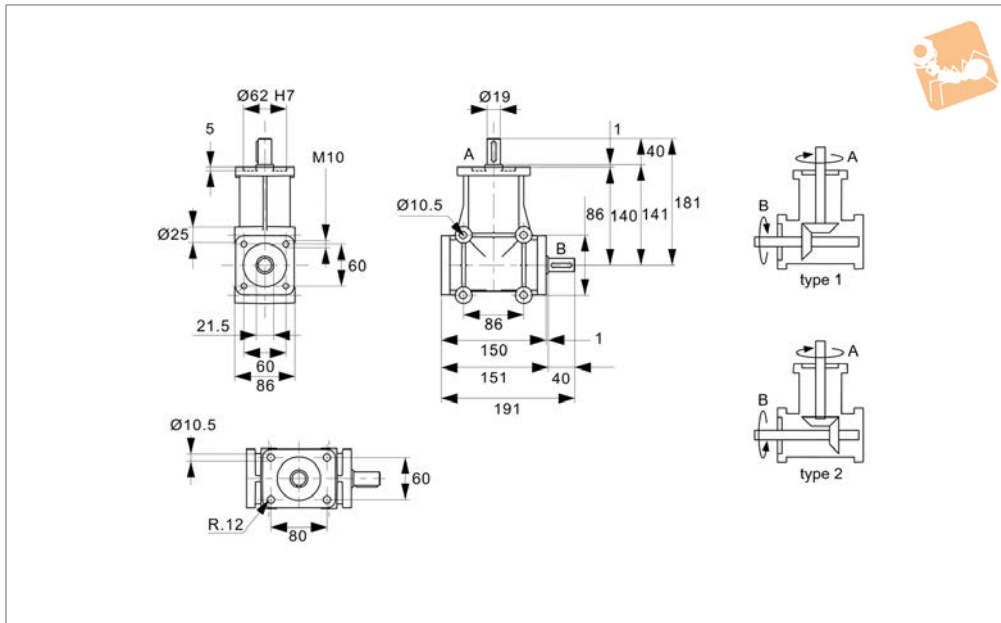
Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2322.1-1	14	1	1:1	1.91	13.0	2.0
R2322.2-1	14	2	1:1	1.91	13.0	2.0
R2322.1-2	14	1	2:1	1.47	10.0	2.0
R2322.2-2	14	2	2:1	1.47	10.0	2.0
R2322.1-3	14	1	3:1	0.99	9.5	2.0
R2322.2-3	14	2	3:1	0.99	9.5	2.0



# Right Angle Drives - 2 Shafts

Ø19 shafts

## Right Angle Gear Boxes



**R2330**

RIGHT ANGLE GEAR BOXES

### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.

Provides on average 10,000 hours trouble-free life.

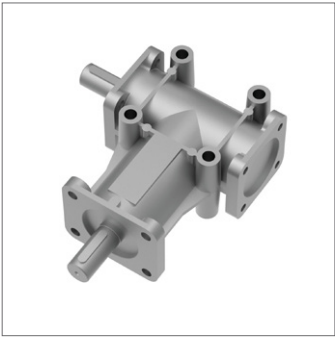
Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20°C to +80°C.

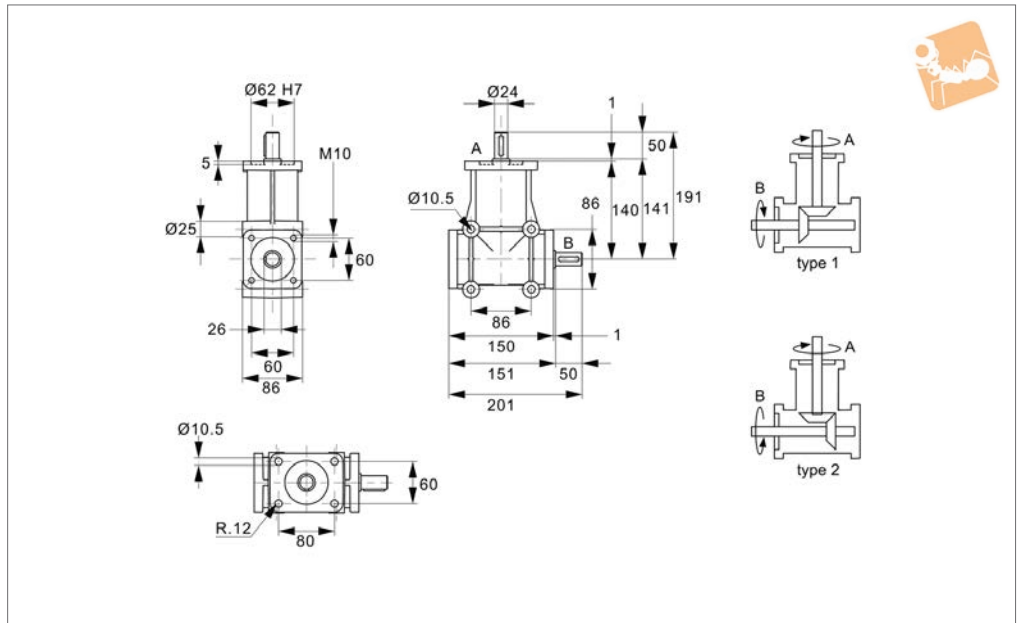
### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2330.1-1	19	1	1:1	5.57	38.0	4.40
R2330.2-1	19	2	1:1	5.57	38.0	4.40
R2330.1-2	19	1	2:1	3.23	22.0	4.40
R2330.2-2	19	2	2:1	3.23	22.0	4.40
R2330.1-3	19	1	3:1	1.57	16.0	4.40
R2330.2-3	19	2	3:1	1.57	16.0	4.40



## R2333



### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :80 Kg.  
Max. axial loading: 16 Kg.

Angular alignment: 15' to 30' of arc.

### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

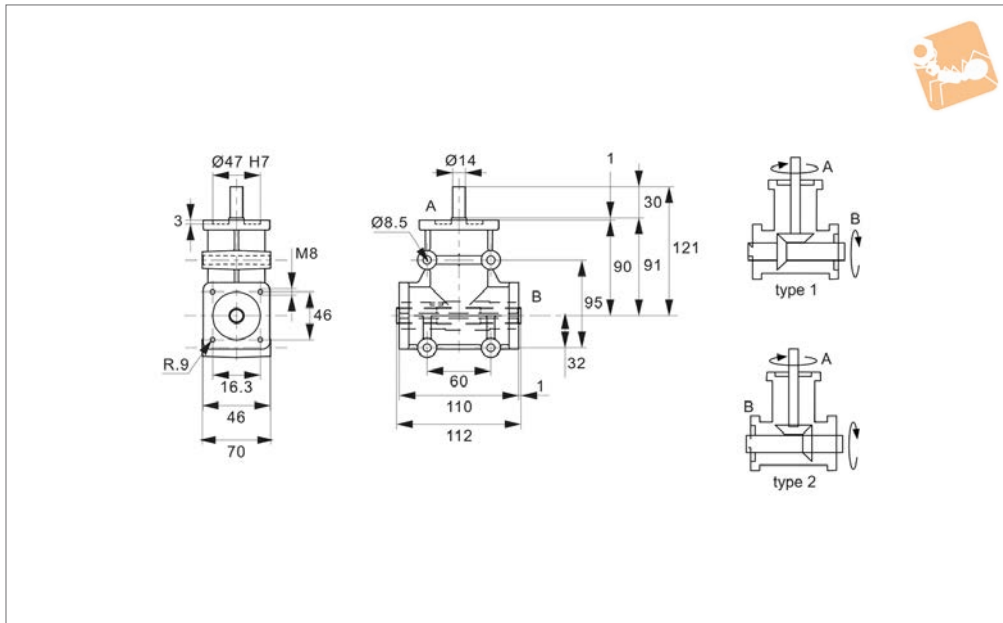
Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2333.1-1	24	1	1:1	6.7	50.0	4.40
R2333.2-1	24	2	1:1	6.7	50.0	4.40
R2333.1-2	24	1	2:1	4.1	28.0	4.40
R2333.2-2	24	2	2:1	4.1	28.0	4.40
R2333.1-3	24	1	3:1	2.2	21.0	4.40
R2333.2-3	24	2	3:1	2.2	21.0	4.40



# Right Angle Drives - Hollow 2 Shafts

Ø14 shafts

## Right Angle Gear Boxes



**R2336**

RIGHT ANGLE GEAR BOXES

**Material**

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

**Technical Notes**

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :25 Kg.  
Max. axial loading: 5 Kg.

Angular alignment: 15' to 30' of arc.

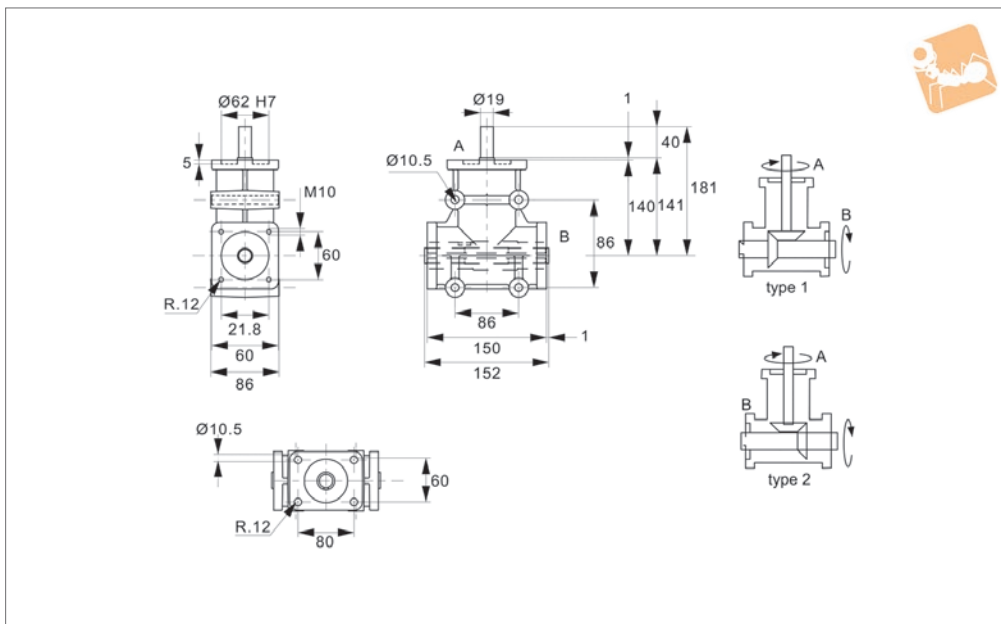
**Tips**

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2336.1-1	14	1	1:1	2.49	17.0	2.0
R2336.2-1	14	2	1:1	2.49	17.0	2.0
R2336.1-2	14	1	2:1	2.05	14.0	2.0
R2336.2-2	14	2	2:1	2.05	14.0	2.0
R2336.1-3	14	1	3:1	0.63	6.0	2.0
R2336.2-3	14	2	3:1	0.63	6.0	2.0



## R2338



### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.

Max. radial loading :40 Kg.

Max. axial loading: 8 Kg.

Angular alignment: 15' to 30' of arc.

### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2338.1-1	19	1	1:1	5.57	38.0	4.8
R2338.2-1	19	2	1:1	5.57	38.0	4.8
R2338.1-2	19	1	2:1	3.23	22.0	4.8
R2338.2-2	19	2	2:1	3.23	22.0	4.8
R2338.1-3	19	1	3:1	1.68	16.0	4.8
R2338.2-3	19	2	3:1	1.68	16.0	4.8

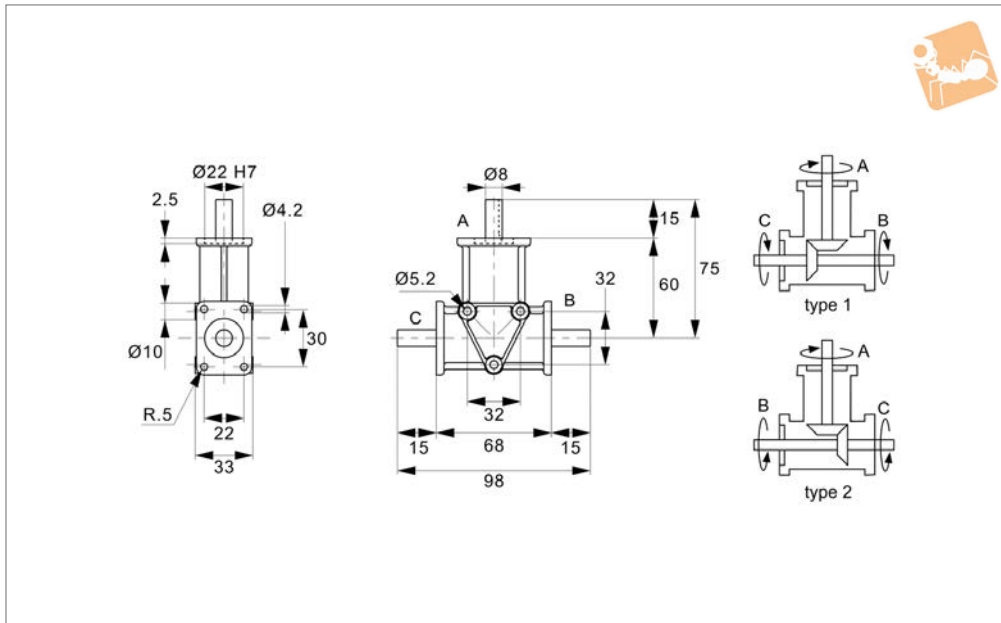




# Right Angle Drives - 3 Shafts

Ø8 shafts

## Right Angle Gear Boxes



**R2302**

RIGHT ANGLE GEAR BOXES

### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum perfor-

mance is based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-free life. Very low operating noise levels.  
May also be used as speed increasers (here the max. shaft input speed for a 1:2 ratio unit is 750 rpm).

Temperature range is -20°C to +80°C.

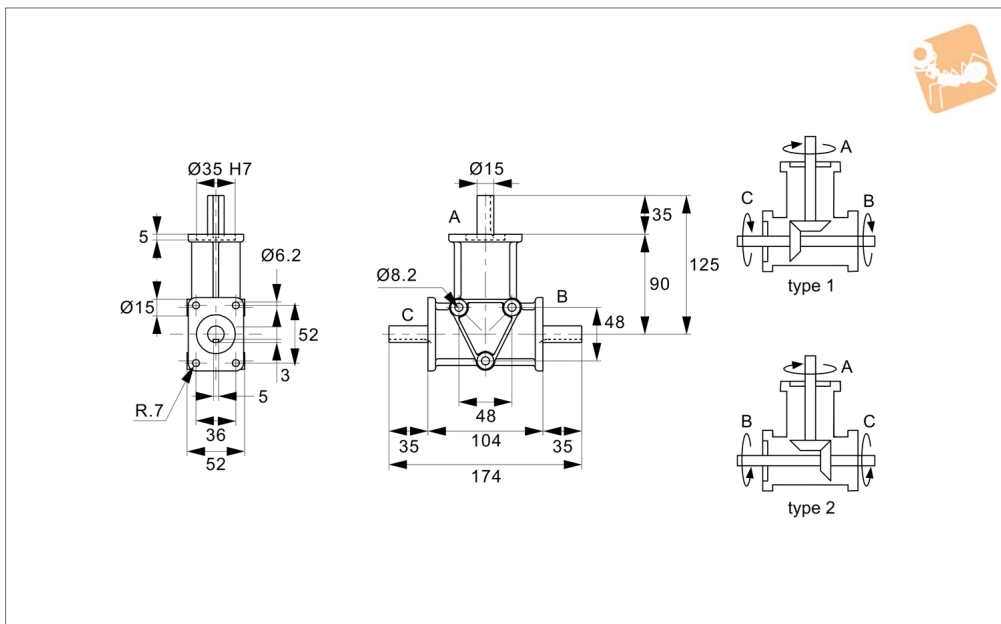
### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2302.1	8	1:1	0.35	1.2	1.2	0.3
R2302.2	8	2:1	0.18	0.6	0.6	0.3



### R2307



#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :41 Kg.  
Max. axial loading: 20 Kg.

Angular alignment: 15' to 30' of arc.

#### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

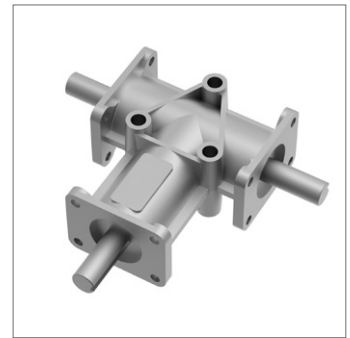
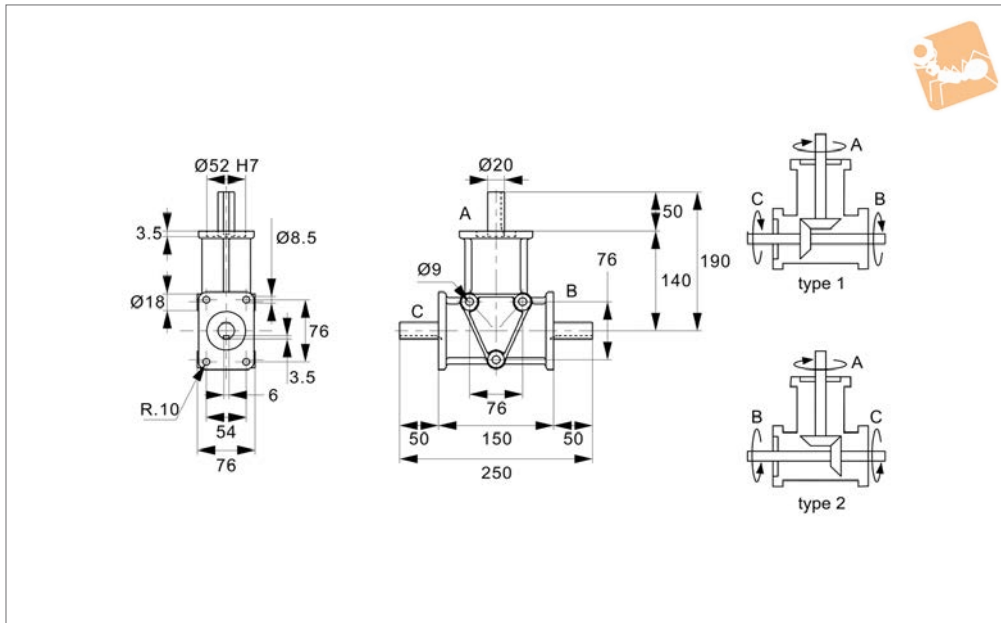
Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2307.1	15	1:1	1.29	4.4	4.4	1.2
R2307.2	15	2:1	0.66	2.25	2.25	1.2



# Right Angle Drives - 3 Shafts

Ø20 shafts

## Right Angle Gear Boxes



**R2310**

RIGHT ANGLE GEAR BOXES

**Material**

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

**Technical Notes**

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :76 Kg.  
Max. axial loading: 43 Kg.

Angular alignment: 15' to 30' of arc.

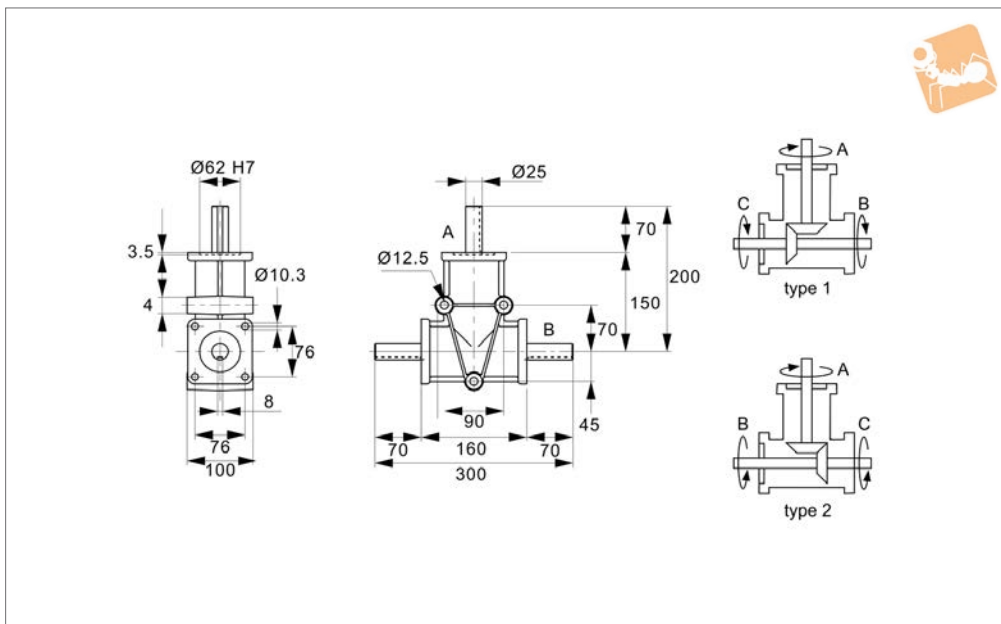
**Tips**

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2310.1	20	1:1	4.00	13.6	13.6	3.5
R2310.2	20	2:1	2.35	8.0	8.0	3.5



### R2314



#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :88 Kg.  
Max. axial loading: 49 Kg.

Angular alignment: 15' to 30' of arc.

#### Tips

See technical pages for gear box selection guide,  
based on motor rating, gearing ratio, load type and expected hourly usage hours.

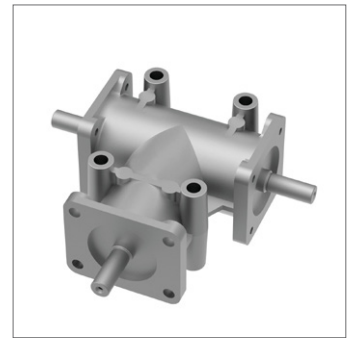
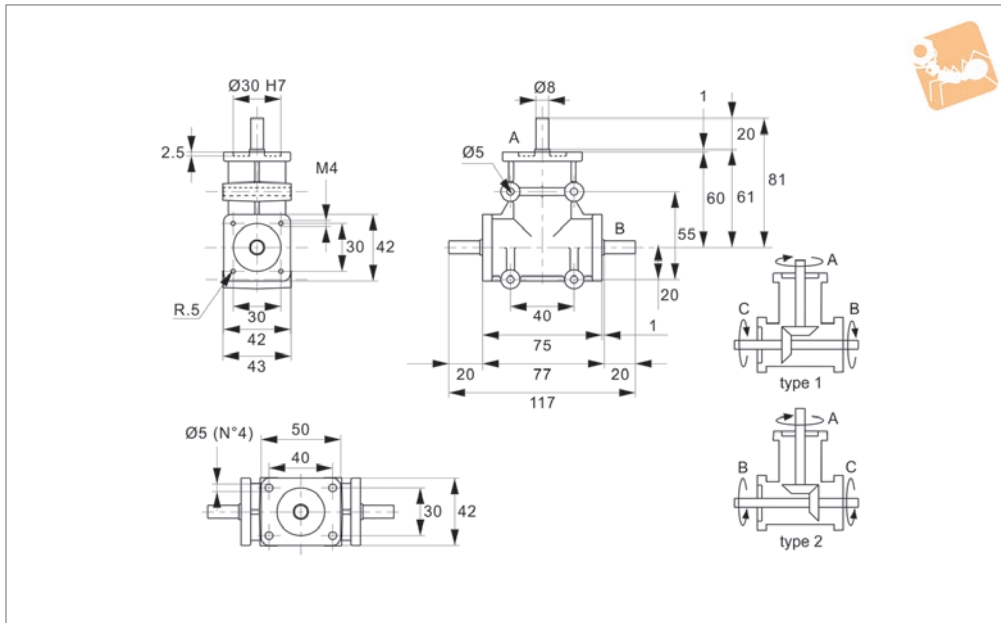
Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2314.1	25	1:1	6.50	22.0	22.0	5.8
R2314.2	25	2:1	3.67	12.5	12.5	5.8



# Right Angle Drives - 3 Shafts

Ø8 shafts

## Right Angle Gear Boxes



### R2321

RIGHT ANGLE GEAR BOXES

#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :10 Kg.  
Max. axial loading: 2 Kg.

Angular alignment: 15' to 30' of arc.

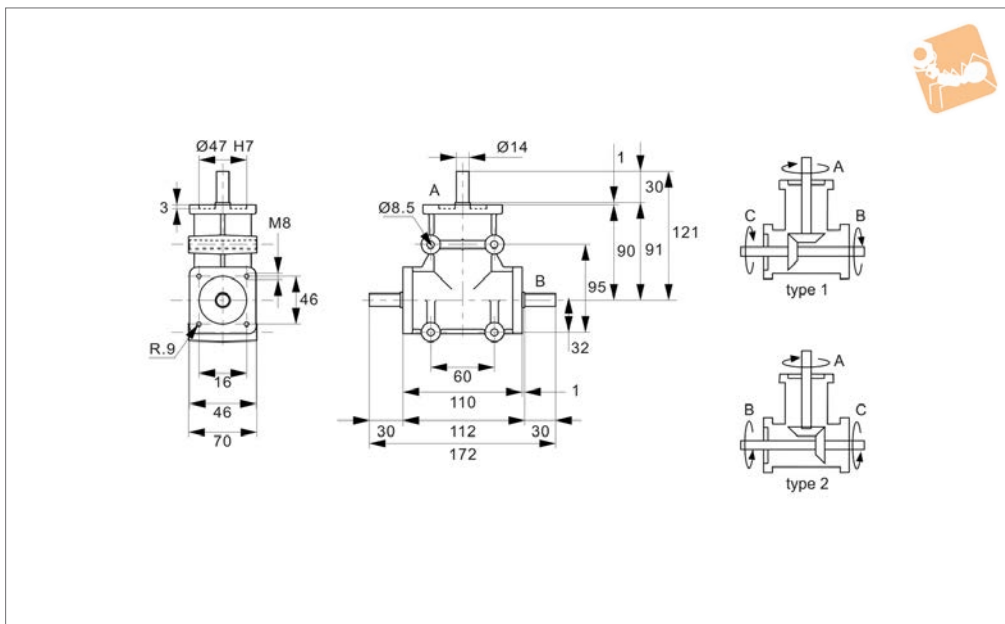
#### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2321.1	8	1:1	0.44	1.5	1.5	0.50
R2321.2	8	2:1	0.32	1.1	1.1	0.50



## R2325



### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :25 Kg.  
Max. axial loading: 5 Kg.

Angular alignment: 15' to 30' of arc.

### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

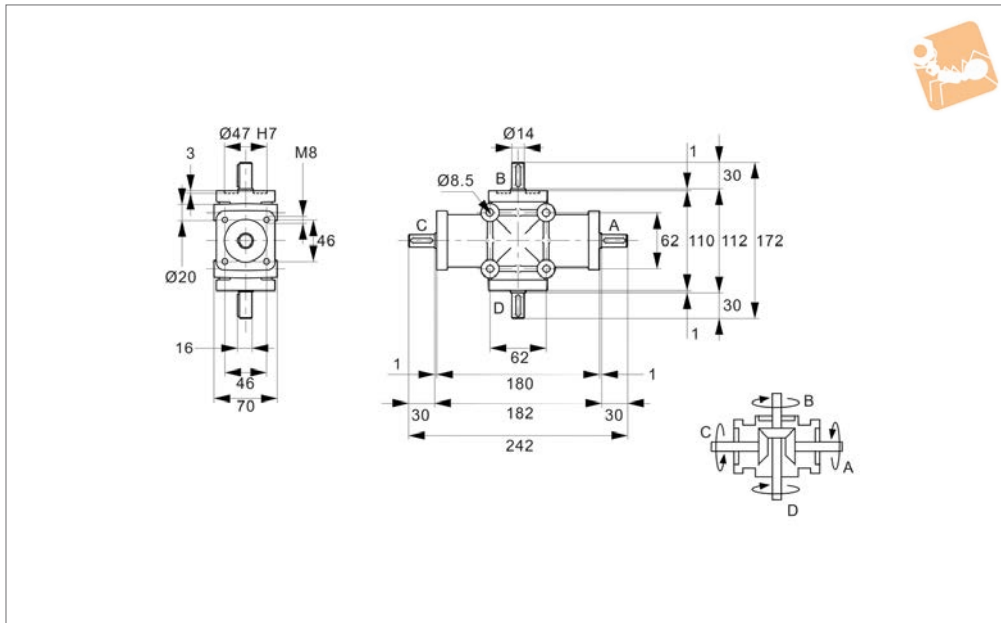
Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2325.1	14	1:1	1.91	6.50	6.50	2.0
R2325.2	14	2:1	1.47	5.00	5.00	2.0
R2325.3	14	3:1	0.99	4.75	4.75	2.0



# Right Angle Drives - 4 Shafts

Ø14 shafts

## Right Angle Gear Boxes



**R2328**

RIGHT ANGLE GEAR BOXES

### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :25 Kg.  
Max. axial loading: 5 Kg.

Angular alignment: 15' to 30' of arc.

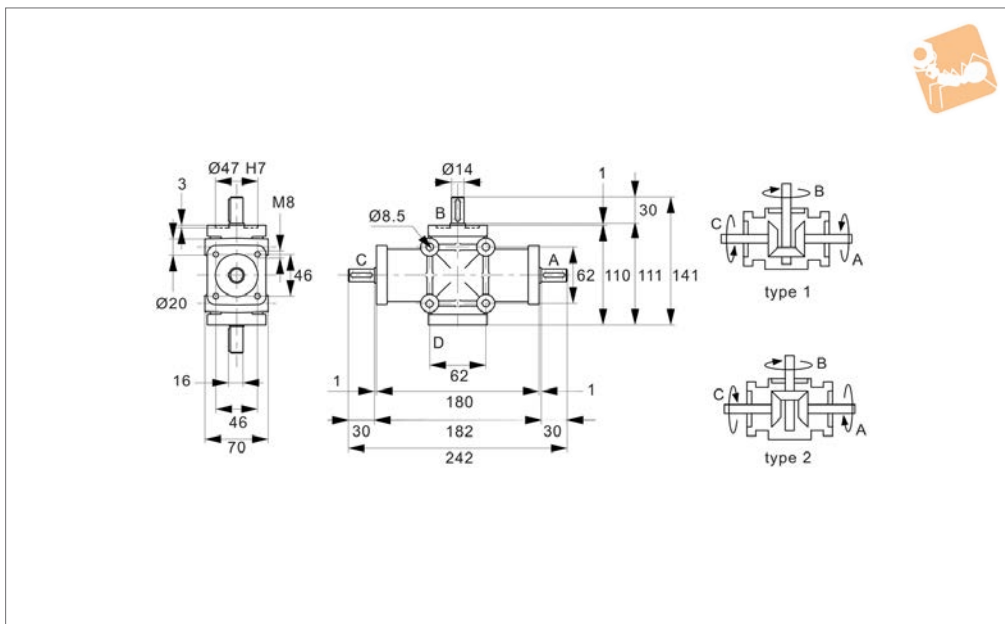
### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia.	Gear ratio	Drive type	Input power at 1400 rpm (Shaft A) kW max.	Torque output (Shaft B) Nm max.	Torque output (Shaft C) Nm max.	Torque output (Shaft D) Nm max.	Weight kg
R2328.101	14	1:1	1 and 2	1,91	4,5	4,5	4,5	3,25
R2328.102	14	2:1	1 and 2	1,47	3,3	3,3	3,3	3,25
R2328.103	14	3:1	1 and 2	0,73	2,3	2,3	2,3	3,25



### R2329



#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.

Provides on average 10,000 hours trouble-free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20°C to +80°C.

#### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2329.1-1	14	1:1	1.91	6.5	6.5	3.25
R2329.2-2	14	2:1	1.47	5.0	5.0	3.25
R2329.1-3	14	3:1	0.73	3.5	3.5	3.25
R2329.2-1	14	1:1	1.91	6.5	6.5	3.25
R2329.1-2	14	2:1	1.47	5.0	5.0	3.25
R2329.2-3	14	3:1	0.73	3.5	3.5	3.25

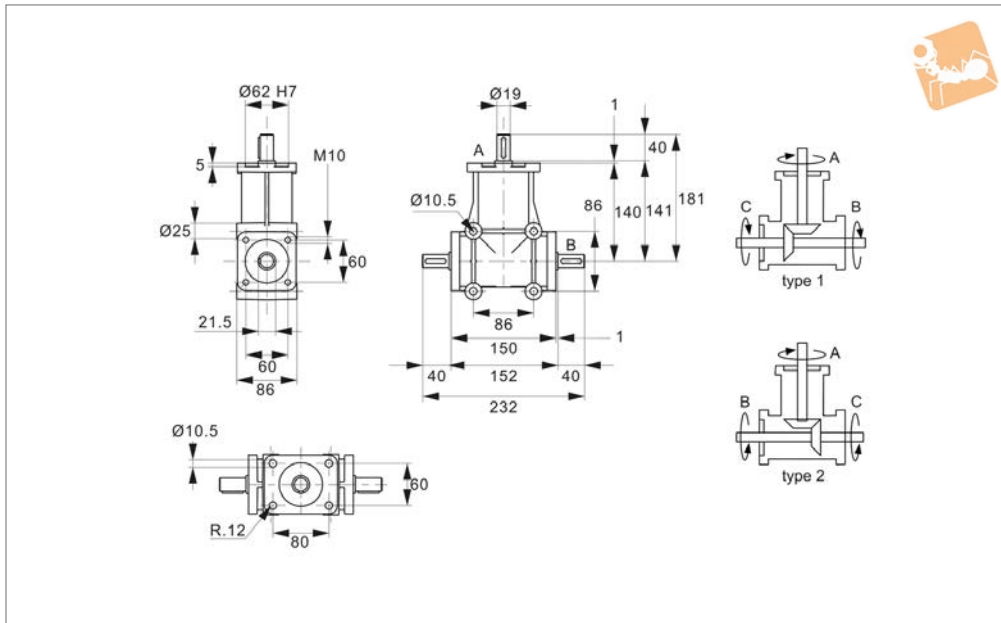




# Right Angle Drives - 3 Shafts

Ø19 shafts

## Right Angle Gear Boxes



**R2332**

RIGHT ANGLE GEAR BOXES

### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.

Max. radial loading :40 Kg.

Max. axial loading: 8 Kg.

Angular alignment: 15' to 30' of arc.

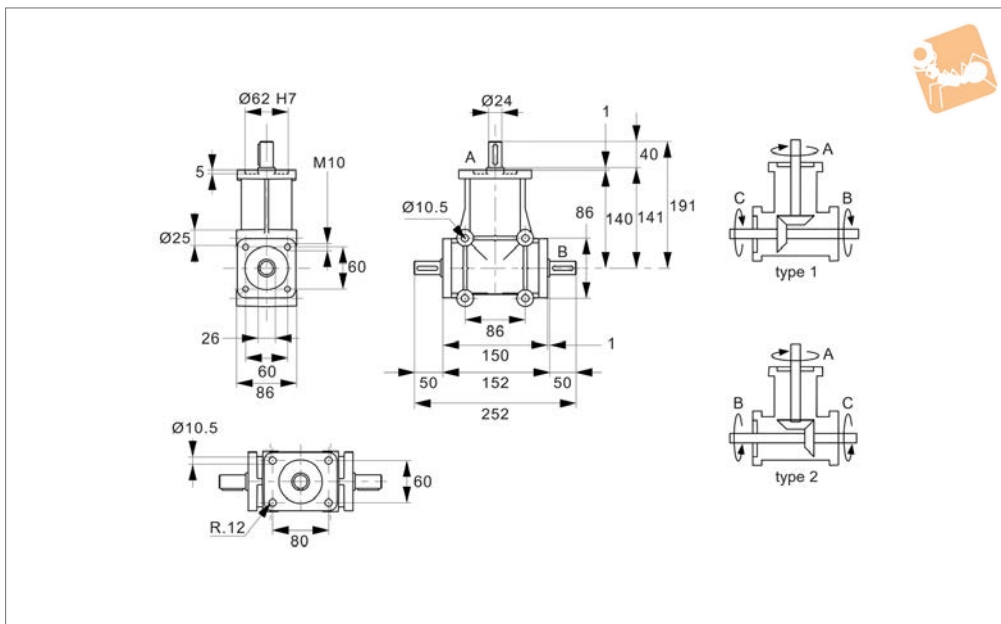
### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2332.1	19	1:1	5.57	19.0	19.0	4.40
R2332.2	19	2:1	3.23	11.0	11.0	4.40
R2332.3	19	3:1	1.57	7.5	7.5	4.40



### R2334



#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :80 Kg.  
Max. axial loading: 16 Kg.

Angular alignment: 15' to 30' of arc.

#### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

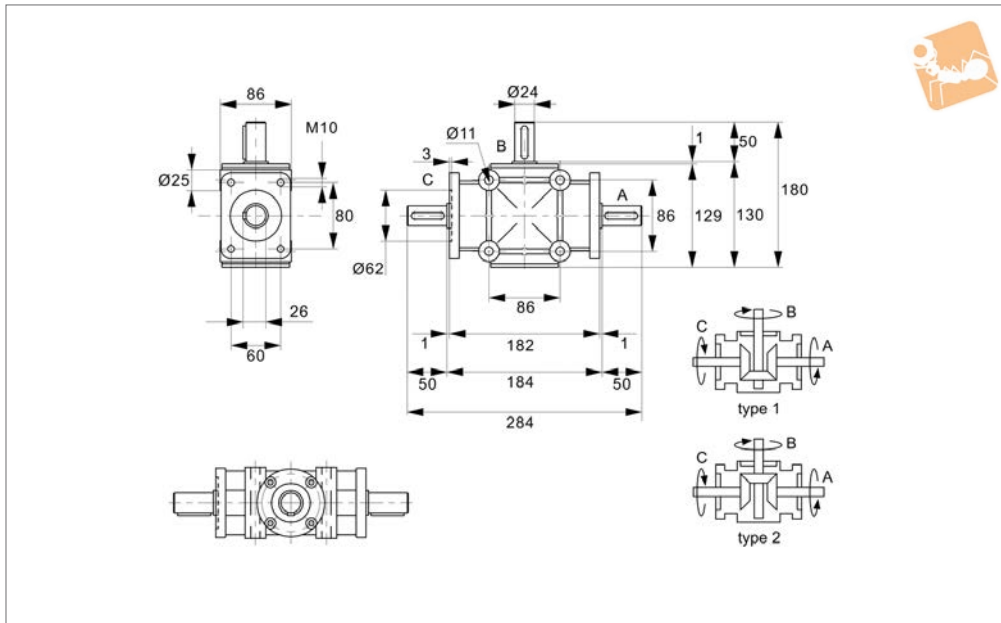
Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2334.1	24	1:1	6.7	25.0	25.0	4.40
R2334.2	24	2:1	4.1	14.0	14.0	4.40
R2334.3	24	3:1	2.2	10.5	10.5	4.40



# Right Angle Drives - 3 Shafts

Ø24 shafts

## Right Angle Gear Boxes



**R2340**

RIGHT ANGLE GEAR BOXES

### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.  
Shafts are key-wayed.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.

Provides on average 10,000 hours trouble-free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.

Max. radial loading :50 Kg.

Max. axial loading: 10 Kg.

Angular alignment: 15' to 30' of arc.

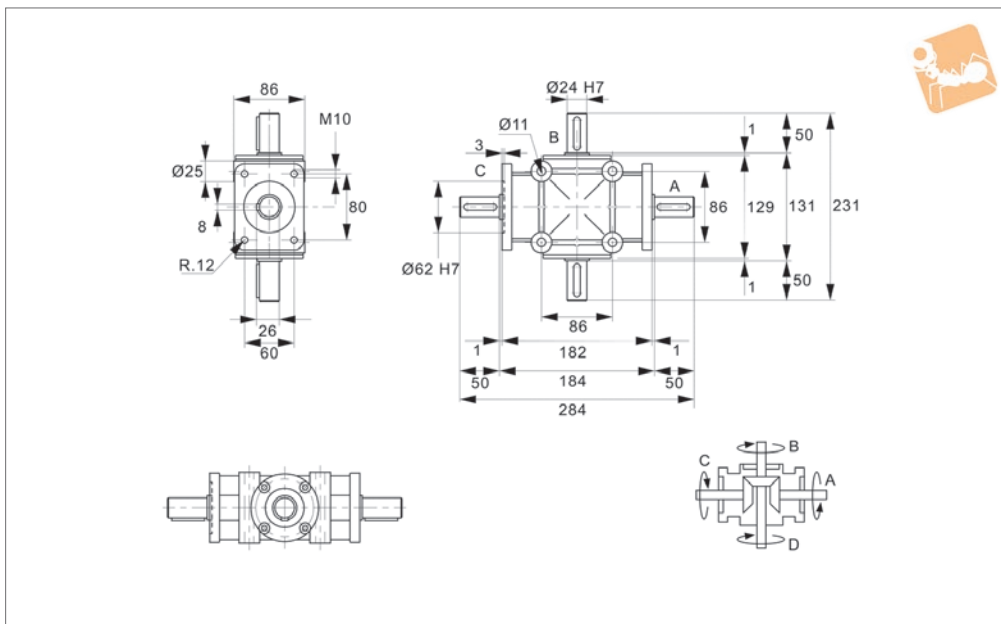
### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2340.1	24	1:1	4.4	15.0	15.0	5.25
R2340.2	24	2:1	2.05	14.0	14.0	5.25
R2340.3	24	3:1	0.92	11.0	11.0	5.25



### R2342



#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :50 Kg.  
Max. axial loading: 10 Kg.

Angular alignment: 15' to 30' of arc.

#### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

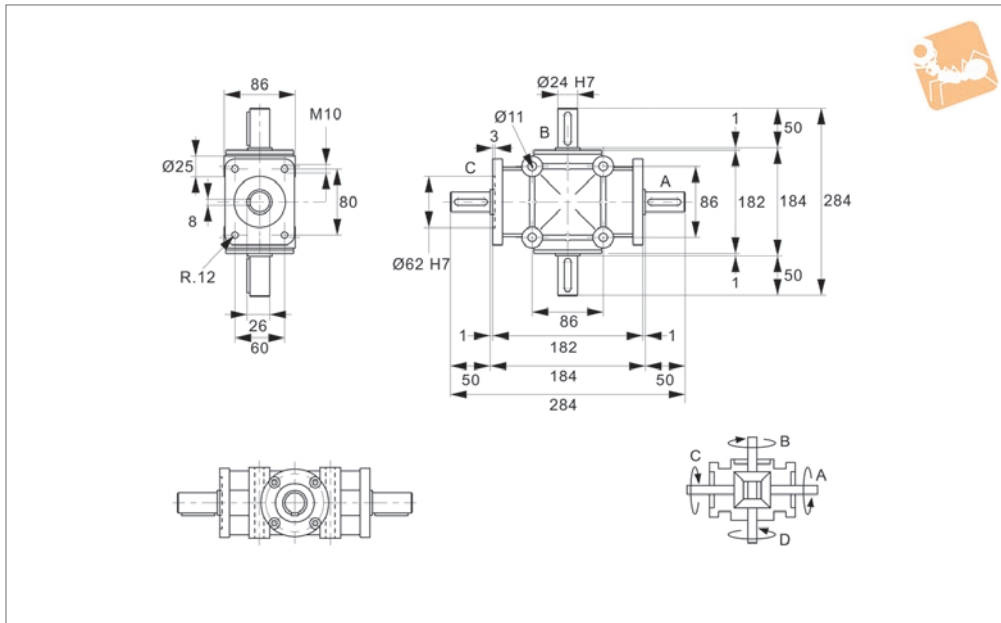
Order No.	Gear ratio	Drive type	Shaft dia.	Input power at 1400 rpm (Shaft A) kW max.	Torque output (Shaft B) Nm max.	Torque output (Shaft C) Nm max.	Torque output (Shaft D) Nm max.	Weight kg
R2342.1	1:1	1 and 2	24	4,4	10,0	10,0	10,0	5,35
R2342.2	2:1	1 and 2	24	2,05	9,3	9,3	9,3	5,35
R2342.3	3:1	1 and 2	24	0,92	7,3	7,3	7,3	5,35



# Right Angle Drives - 4 Shafts

Ø24 shafts

## Right Angle Gear Boxes



**R2345**

RIGHT ANGLE GEAR BOXES

### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.

Max. radial loading :50 Kg.

Max. axial loading: 10 Kg.

Angular alignment: 15' to 30' of arc.

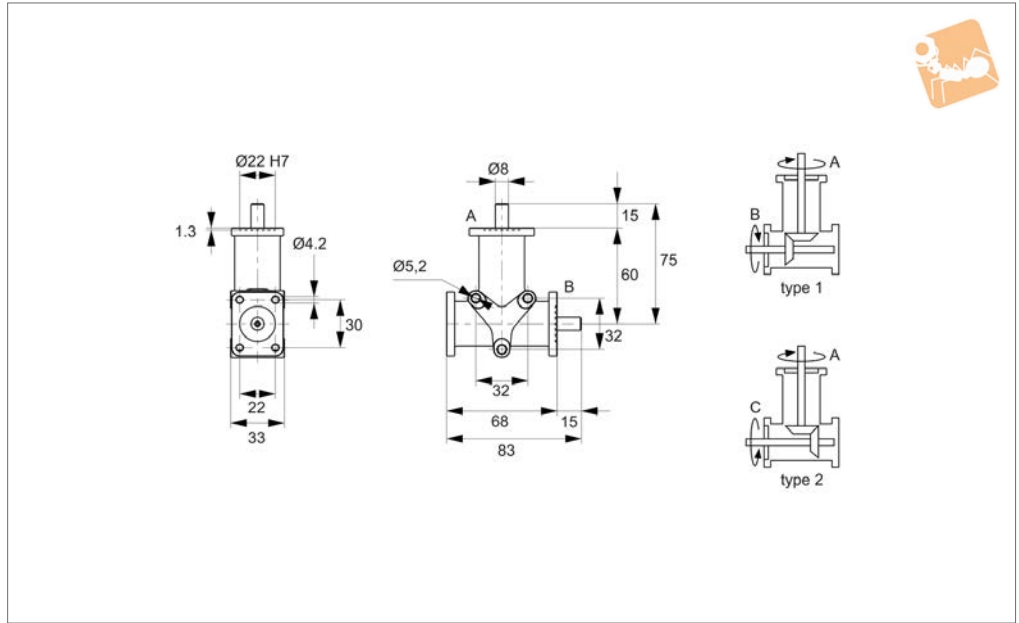
### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Gear ratio	Drive type	Shaft dia.	Input power at 1400 rpm (Shaft A) kW max.	Torque output (Shaft B) Nm max.	Torque output (Shaft C) Nm max.	Torque output (Shaft D) Nm max.	Weight kg
<b>R2345.1</b>	1:1	1 and 2	24	4,4	10	10	10	6,10



## R2350



### Material

Stainless steel (AISI 316) housing and shafts. Seals - NBR. Spiral bevel gears from hardened steel.

### Technical Notes

Normally used as speed reducers.

Shaft A is the input shaft, maximum input (as speed reducer) is 1400 rpm.

Provides on average 10,000 hours trouble free life.

Usually used as speed reducers but can also be used as speed increasers (max

input 750 rpm).

Temperature range -20C to +80C

Max. radial loading 60N. Max. axial loading 20N.

Angular alignment: 15' to 30' of arc.

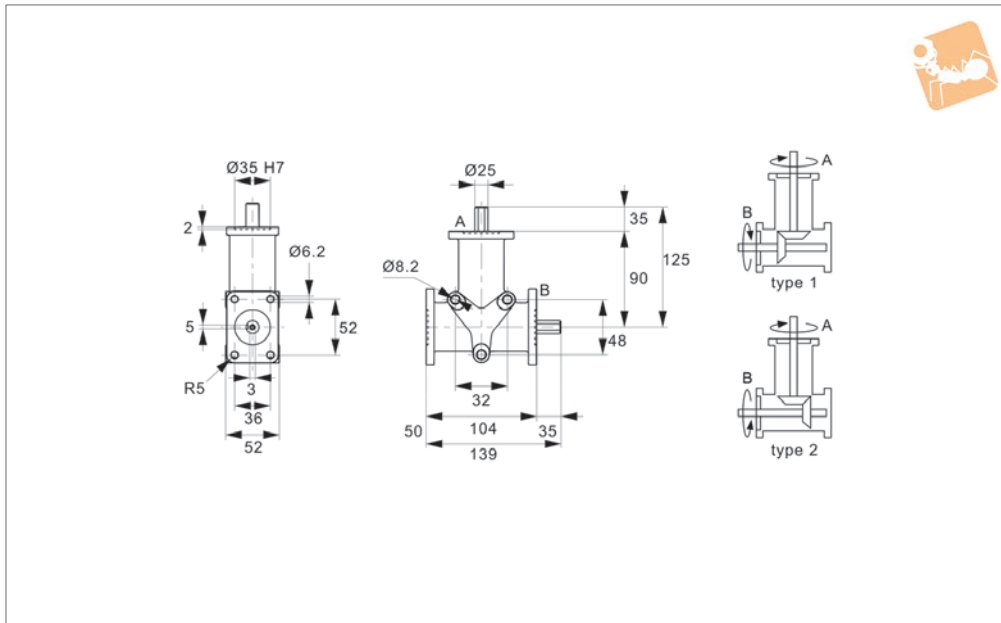
Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2350.1-1	8	1	1:1	0.24	1.60	0.48
R2350.2-1	8	2	1:1	0.24	1.60	0.483
R2350.1-2	8	1	2:1	0.16	1.10	0.483
R2350.2-2	8	2	2:1	0.16	1.10	0.483



# Stainless Right Angle Drives - 2 Shafts

Ø15 shafts

## Right Angle Gear Boxes



**R2352**

RIGHT ANGLE GEAR BOXES

### Material

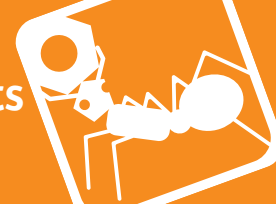
Stainless steel (AISI 316) housing and shafts, seals - NBR. Spiral bevel gears from hardened steel.

### Technical Notes

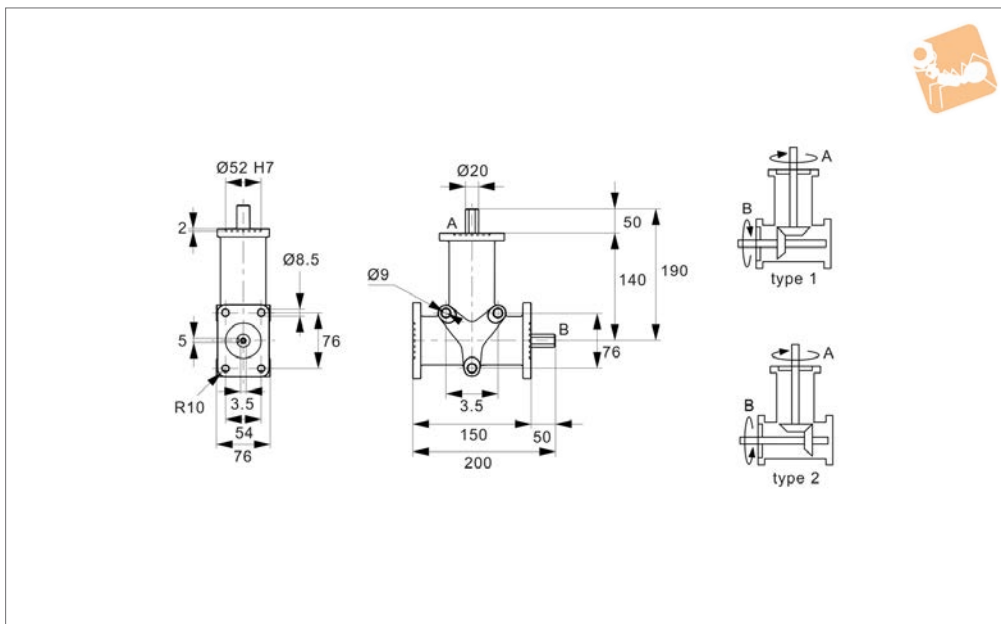
Normally used as speed reducers.  
Max. radial loading 140N. Max. axial loading 50N.

Angular alignment: 15' to 30' of arc.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2352.1-1	15	1	1:1	0.88	6	1.8
R2352.2-1	15	2	1:1	0.880	6	1.8
R2352.1-2	15	1	2:1	0.59	4	1.8
R2352.2-2	15	2	2:1	0.59	4	1.8



## R2354



### Material

Stainless steel (AISI 316) housing and shafts, seals - NBR. Spiral bevel gears from hardened steel.

### Technical Notes

Normally used as speed reducers.  
Max. radial loading 300N. Max. axial loading 80N.

Angular alignment: 15' to 30' of arc.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2354.1-1	20	1	1:1	2.79	19	5.39
R2354.2-1	20	2	1:1	2.79	19	5.39
R2354.1-2	20	1	2:1	1.76	12	5.39
R2354.2-2	20	2	2:1	1.76	12	5.39

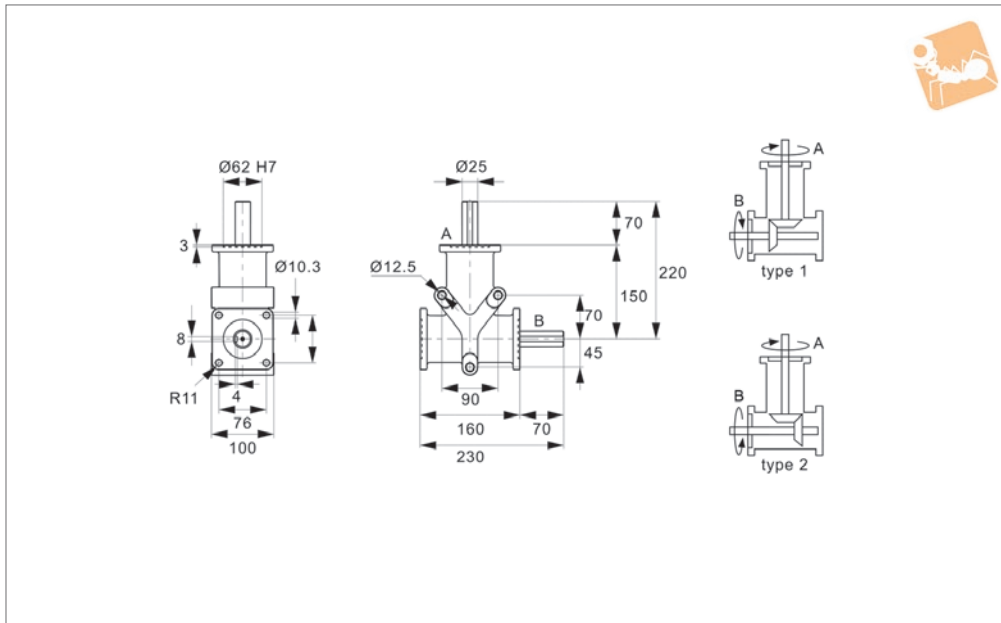




# Stainless Right Angle Drives - 2 Shafts

Ø25 shafts

## Right Angle Gear Boxes



**R2358**

RIGHT ANGLE GEAR BOXES

### Material

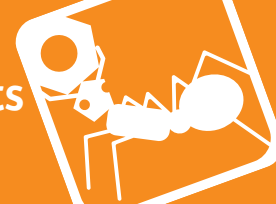
Stainless steel (AISI 316) housing and shafts, seals - NBR. Spiral bevel gears from hardened steel.

### Technical Notes

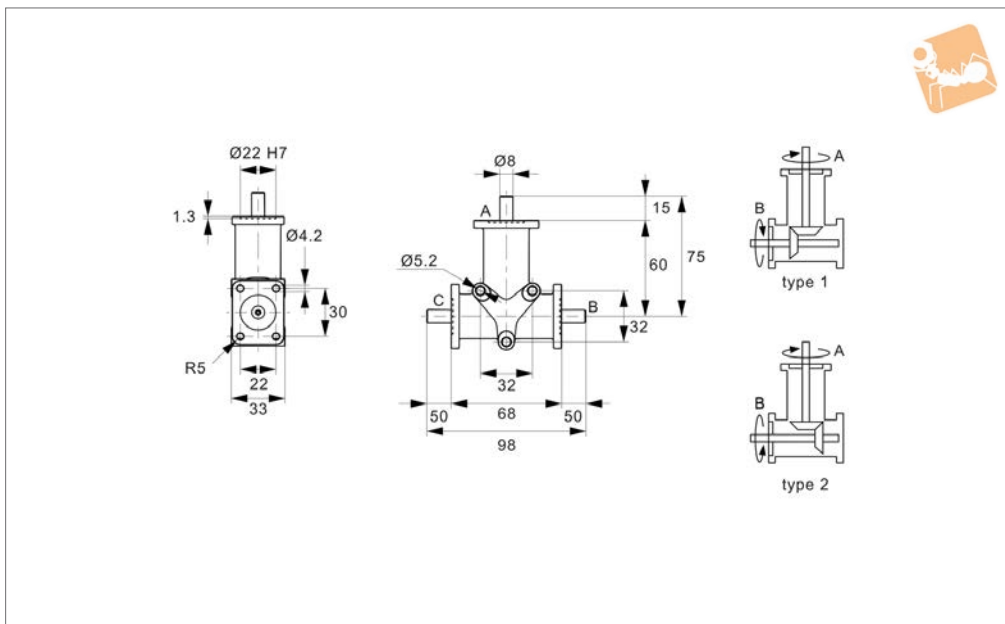
Normally used as speed reducers.  
Max. radial loading 400N. Max. axial loading 160N.

Angular alignment: 15' to 30' of arc.

Order No.	Shaft dia. tol. f7	Type	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Weight kg
R2358.1-1	25	1	1:1	4.55	31	9.14
R2358.2-1	25	2	1:1	4.55	31	9.14
R2358.1-2	25	1	2:1	3.37	23	9.14
R2358.2-2	25	2	2:1	3.37	23	9.14



### R2351



#### Material

Lightweight aluminium alloy housing.  
Stainless steel (AISI 316) housing and shafts, seals - NBR. Spiral bevel gears from

hardened steel.

#### Technical Notes

Normally used as speed reducers.

Max. radial loading 60N. Max. axial loading 20N.

Angular alignment: 15' to 30' of arc.

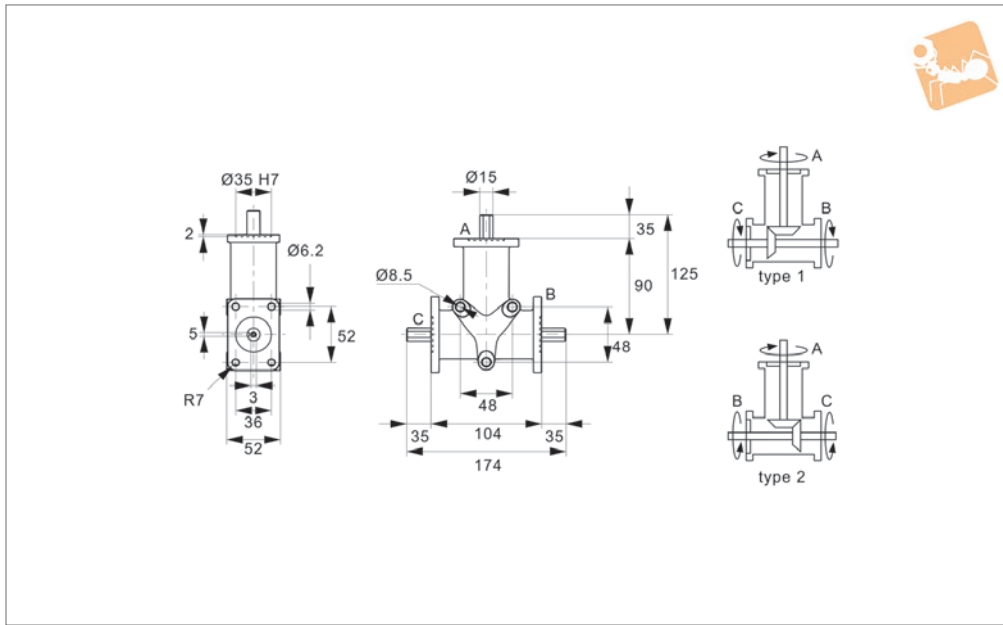
Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2351.1	8	1	0.24	0.80	0.80	0.48
R2351.2	8	2	0.16	0.55	0.55	0.48



# Stainless Right Angle Drives - 3 Shafts

Ø15 shafts

## Right Angle Gear Boxes



**R2353**

RIGHT ANGLE GEAR BOXES

**Material**

Stainless steel (AISI 316) housing and shafts, seals - NBR. Spiral bevel gears from hardened steel.

**Technical Notes**

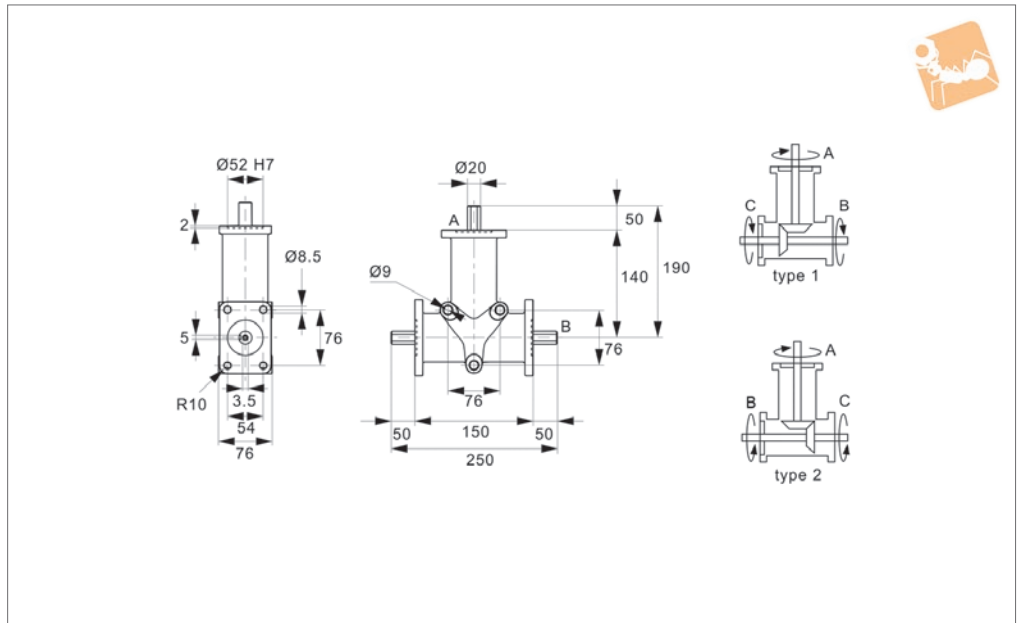
Normally used as speed reducers.  
Max. radial loading 140N. Max. axial loading 50N.

Angular alignment: 15' to 30' of arc.

Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2353.1	15	1:1	0.88	3	3	1.86
R2353.2	15	2:1	0.59	2	2	1.86



### R2355



#### Material

Stainless steel (AISI 316) housing and shafts, seals - NBR. Spiral bevel gears from hardened steel.

#### Technical Notes

Normally used as speed reducers.  
Max. radial loading 300N. Max. axial loading 80N.

Angular alignment: 15' to 30' of arc.

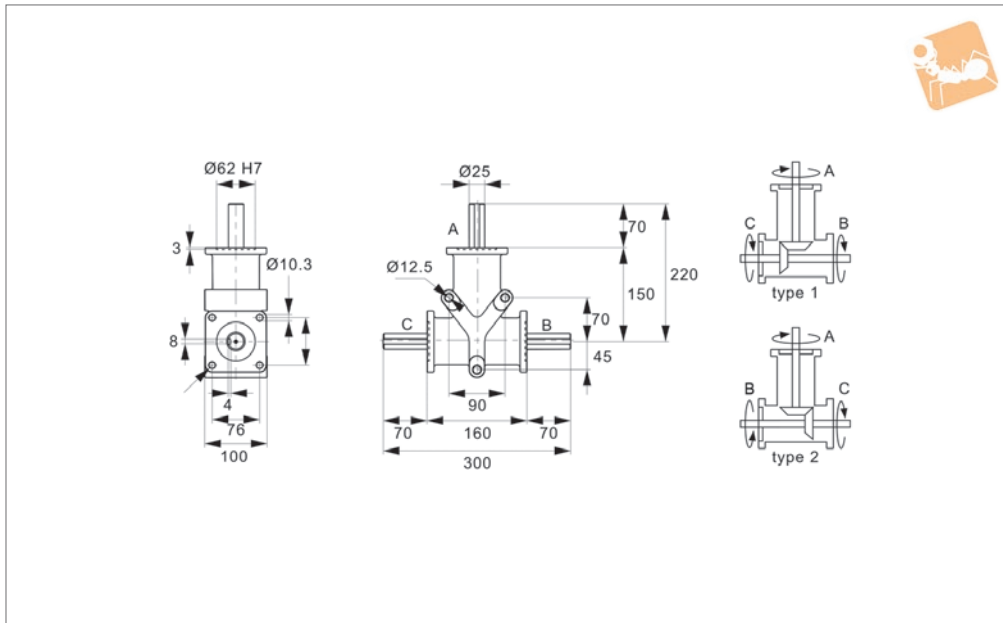
Order No.	Shaft dia. tol. f7	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2355.1	20	1:1	2.79	9.5	9.5	5.54
R2355.2	20	2:1	1.76	6.0	6.0	5.54



# Stainless Right Angle Drives - 3 Shafts

Ø25 shafts

## Right Angle Gear Boxes



**R2359**

RIGHT ANGLE GEAR BOXES

### Material

Stainless steel (AISI 316) housing and shafts, seals - NBR. Spiral bevel gears from hardened steel.

### Technical Notes

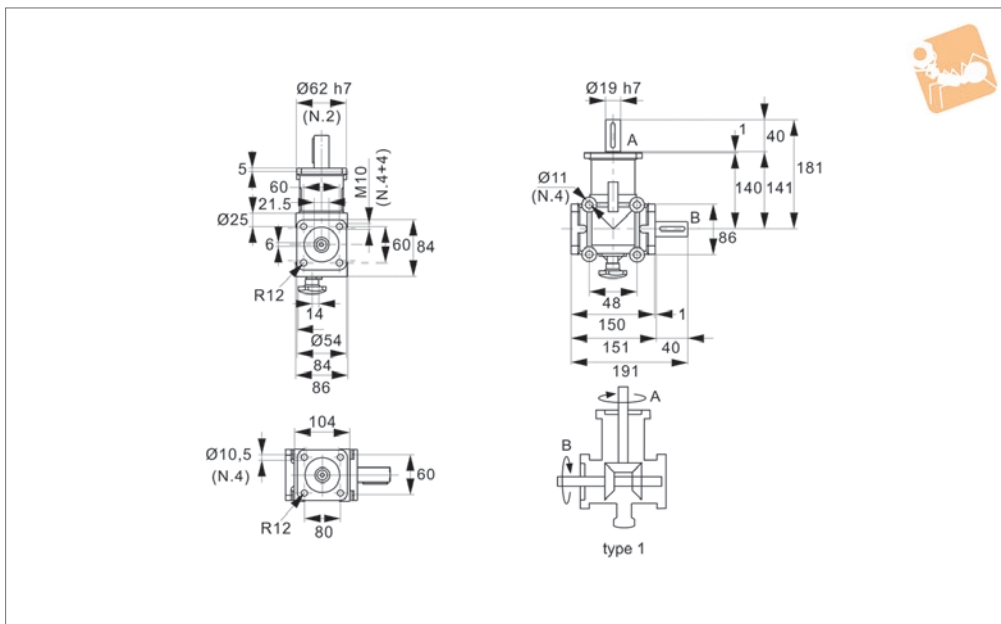
Normally used as speed reducers.  
Max. radial loading 400N. Max. axial loading 160N.

Angular alignment: 15' to 30' of arc.

Order No.	Shaft dia.	Ratio	Input shaft A kW max.	Output shaft B Nm max.	Output shaft C Nm max.	Weight kg
R2359.1	25	1	4.55	15.50	15.50	9.45
R2359.2	25	2	3.37	11.50	11.50	9.45



### R2347



#### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

#### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers, the optimum input speed is 750 rpm for 1:2 ratios.

Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :50 Kg.  
Max. axial loading: 10 Kg.

Angular alignment: 15' to 30' of arc.

#### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

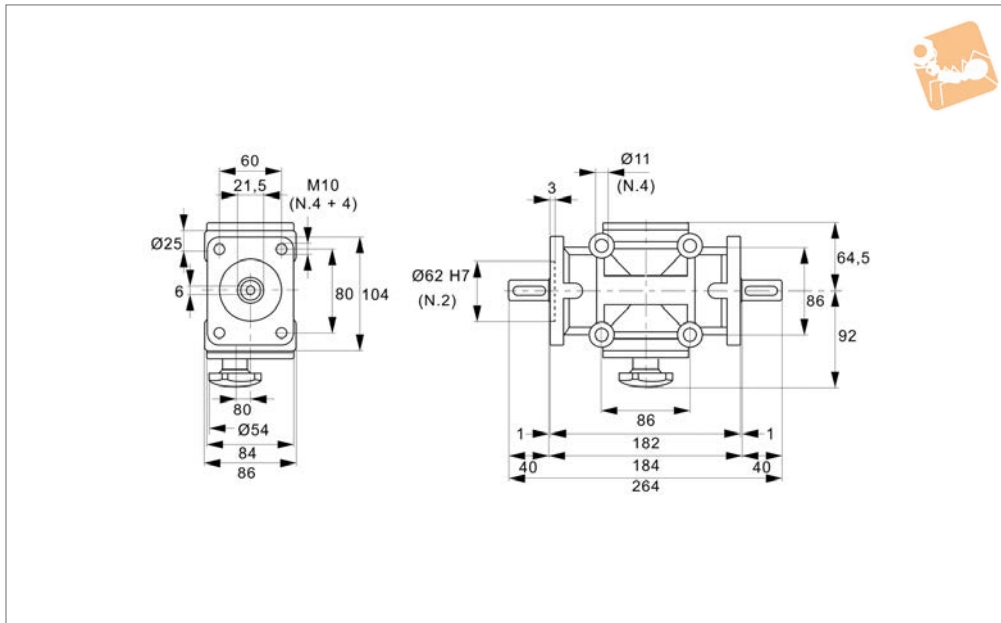
Order No.	Shaft dia. tol. h7	Gear ratio	Input power at 1400 rpm max.	Torque output (Shaft B) Nm (Shaft A) kW max.	Weight kg
R2347.1	19	1:1	5.13	35.0	5.40



# 2 Way Reversing Gear Box

Ø19 shafts,

## Right Angle Gear Boxes



**R2348**

RIGHT ANGLE GEAR BOXES

### Material

Lightweight aluminium alloy housing.  
Case-hardened steel gears and shafts.

### Technical Notes

Normally used as speed reducers.  
Shaft A is the input shaft. Optimum performance based on max. 1400 rpm input.  
Provides on average 10,000 hours trouble-

free life.

Where ratio geared units are used as speed increasers, the optimum input speed is 750 rpm for 1:2 ratios.

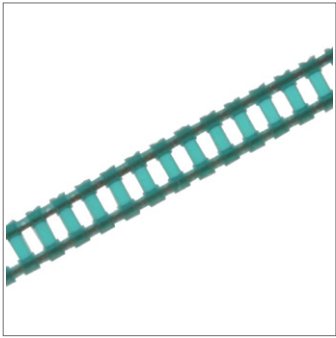
Very low operating noise levels. Temperature range is -20° to +80°.  
Max. radial loading :50 Kg.  
Max. axial loading: 10 Kg.

Angular alignment: 15' to 30' of arc.

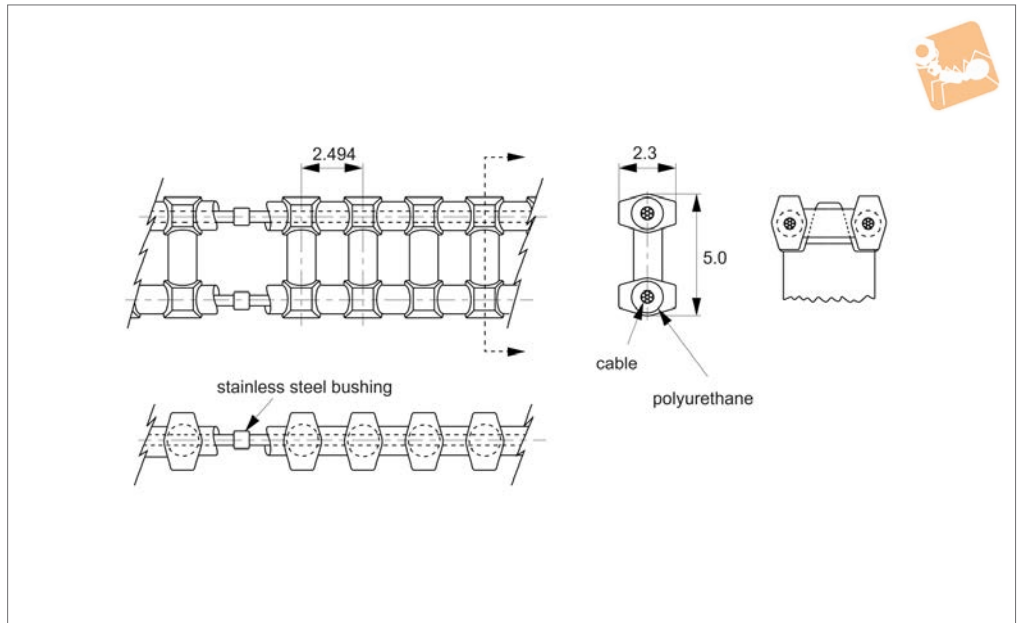
### Tips

See technical pages for gear box selection guide, based on motor rating, gearing ratio, load type and expected hourly usage hours.

Order No.	Shaft dia. tol. h7	Gear ratio	Input power at 1400 rpm max.	Torque output (Shaft B) Nm (Shaft A) kW max.	Weight kg
R2348.1	19	1:1	5.13	35.0	5.10



### R1000



#### Material

0.5mm Ø, stainless steel cable, encased in polyurethane (blue).

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).

When ordering aramid core type add suffix -EF to order no.

#### Technical Notes

Infinite lengths, silent drive, positive

drive, mass 23 grams/metre, zero backlash, no lubrication, 90A Durometer Ultimate tensile strength 130N,(17N/pin) when belt is used in open loop configuration (without splice, no crimp bushing), Temperature range: +80°C to -25°C Recommended operating load 36N, Recommended max. operating speed 1,19m/s. Other numbers of pitches available on

request.

#### Tips

Reduce operating load rating by 50% for self splices.

For self splice kit order R1000.SSK.

#### Important Notes

Operates with R1001 and R1002 series sprockets.

Order No.	No. of pitches	Length ref.
R1000.049	49	122.2
R1000.052	52	129.7
R1000.053	53	132.2
R1000.064	64	159.6
R1000.067	67	167.1
R1000.075	75	187.0
R1000.080	80	199.5
R1000.095	95	236.9
R1000.112	112	279.3
R1000.126	126	314.2
R1000.128	128	319.2
R1000.144	144	359.1
R1000.158	158	394.1
R1000.176	176	438.9
R1000.189	189	471.4
R1000.208	208	518.8
R1000.220	220	548.7
R1000.240	240	598.6
R1000.252	252	628.5
R1000.272	272	678.4
R1000.283	283	705.8
R1000.304	304	758.2
R1000.315	315	785.6
R1000.336	336	838.0
R1000.346	346	862.9
R1000.377	377	940.2
R1000.400	400	997.6



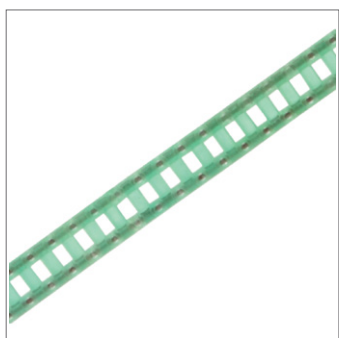


## Gear Drive Chains

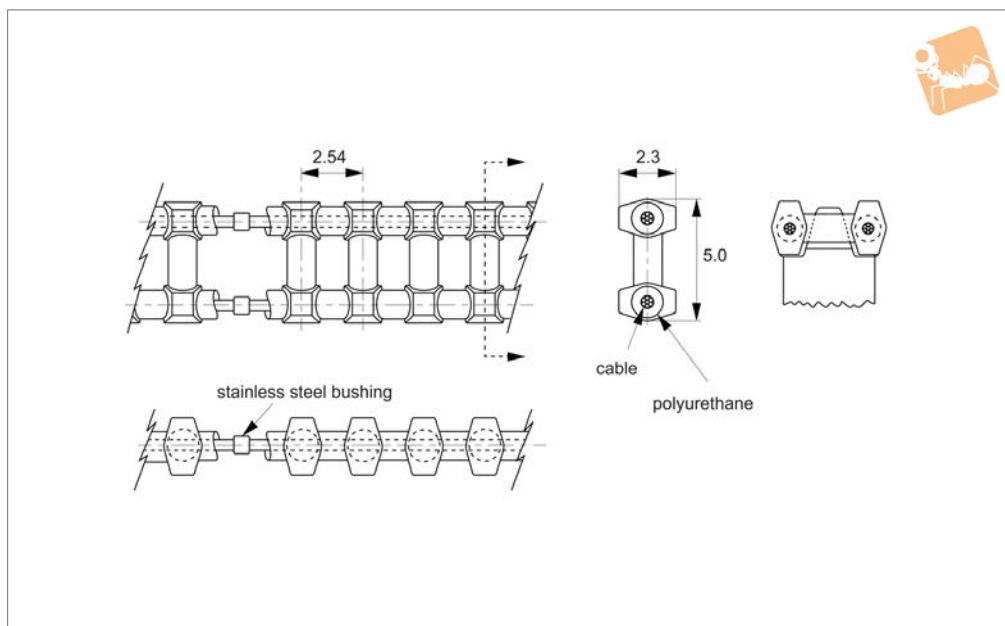
2,5mm nominal circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1000.408	408	1017.6
R1000.432	432	1077.4
R1000.440	440	1097.4
R1000.464	464	1157.2
R1000.471	471	1174.7
R1000.480	480	1197.1
R1000.512	512	1276.9
R1000.544	544	1356.7
R1000.592	592	1476.4
R1000.608	608	1516.4
R1000-1.5M	-	1,5 metres not spliced
R1000-3.0M	-	3,0 metres not spliced
R1000-7.5M	-	7,5 metres not spliced
R1000-15M	-	15,0 metres not spliced
R1000-30M	-	30,0 metres not spliced



### R1005



#### Material

0.5mm  $\emptyset$ , stainless steel cable, encased in polyurethane (green).

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).

When ordering aramid core type add suffix -EF to order no.

#### Technical Notes

Infinite lengths, Silent drive, positive

drive, mass 12 grams/metre, zero backlash, no lubrication, 90A Durometer, ultimate tensile strength 130N (15N/pin) when belt is used in open loop configuration (without splice, no crimp bushing) Temperature range +80°C to -25°C, Recommended operating load 36N. Recommended max. operating speed 1,91 m/s.

Other no's of pitches available on request.

#### Tips

Self splice kit available (R1005.SSK). Reduce operating load rating by 50% for self splices.

#### Important Notes

Operates with R1006 and R1007 series sprockets.

Order No.	No. of pitches	Length ref.
R1005.045	45	114.3
R1005.050	50	127.0
R1005.055	55	139.7
R1005.060	60	152.4
R1005.065	65	165.1
R1005.070	70	177.8
R1005.075	75	190.5
R1005.080	80	203.2
R1005.085	85	215.9
R1005.090	90	228.6
R1005.095	95	241.3
R1005.100	100	254.0
R1005.105	105	266.7
R1005.110	110	279.4
R1005.115	115	292.1
R1005.120	120	304.8
R1005.125	125	317.5
R1005.130	130	330.2
R1005.135	135	342.9
R1005.140	140	355.6
R1005.150	150	381.0
R1005.160	160	406.4
R1005.170	170	431.8
R1005.180	180	457.2
R1005.190	190	482.6
R1005.200	200	508.0
R1005.210	210	533.4

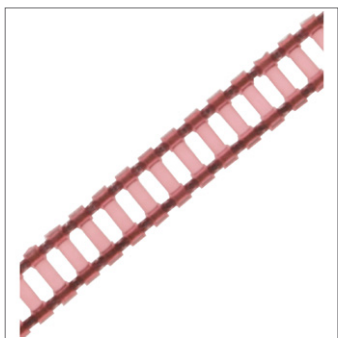


## Gear Drive chains

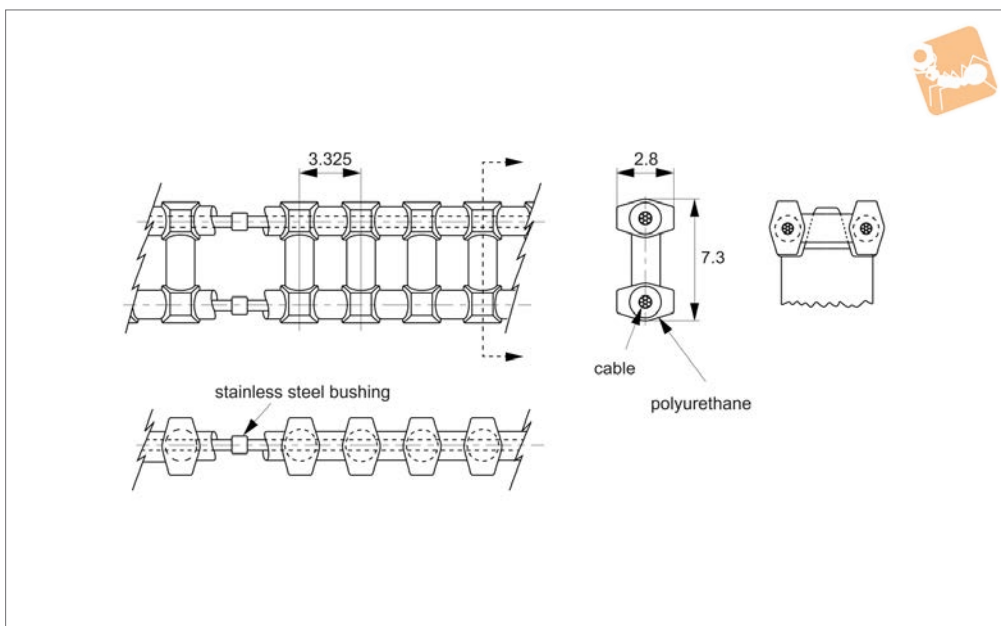
2,54mm nominal circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1005.220	220	558.8
R1005.230	230	584.2
R1005.240	240	609.6
R1005.250	250	635.0
R1005.300	300	762.0
R1005.360	360	914.4
R1005.420	420	1066.8
R1005.480	480	1219.2
R1005.540	540	1371.6
R1005.600	600	1524.0
R1005-1.5M	-	1,5 metres not spliced
R1005-3.0M	-	3,0 metres not spliced
R1005-7.5M	-	7,5 metres not spliced
R1005-15M	-	15,0 metres not spliced
R1005-30M	-	30,0 metres not spliced



### R1010



#### Material

0,8mm Ø, stainless steel cable, encased in polyurethane (red).

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).

When ordering aramide core type add suffix -EF to order no.

#### Technical Notes

Infinite lengths, zero backlash, no lubrication,

mass 13 grams/metre, positive drive, silent drive, extra strong 90A Durometer, Ultimate tensile strength 440N (40N/pin) when belt is used in open loop configuration (without splice, no crimp bushing). Temperature range +80°C to -25°C, Recommended operating load 108N, Recommended max. operating speed 1,91m/s.

Other no's of pitches available on request.

#### Tips

Self splice kit available (order no. R1010.SSK).

Reduce operating load rating by 50% for self splices.

#### Important Notes

Operates with R1011, R1012 series sprockets.

Order No.	No. of pitches	Length ref.
R1010.050	50	166.3
R1010.052	52	172.9
R1010.054	54	179.6
R1010.056	56	186.2
R1010.058	58	192.9
R1010.060	60	199.5
R1010.062	62	206.2
R1010.064	64	212.8
R1010.066	66	219.5
R1010.068	68	226.1
R1010.070	70	232.8
R1010.075	75	249.4
R1010.080	80	266.0
R1010.085	85	282.6
R1010.090	90	299.3
R1010.095	95	315.9
R1010.100	100	332.5
R1010.105	105	349.1
R1010.110	110	365.8
R1010.115	115	382.4
R1010.120	120	399.0
R1010.130	130	432.3
R1010.140	140	465.5
R1010.150	150	498.8
R1010.160	160	532.0
R1010.170	170	565.3
R1010.180	180	598.5

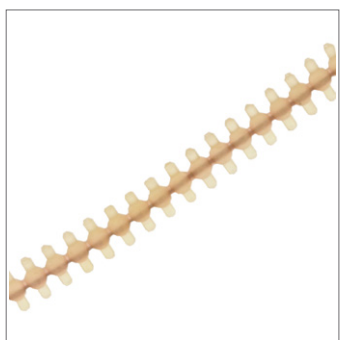


## Gear Drive Chains

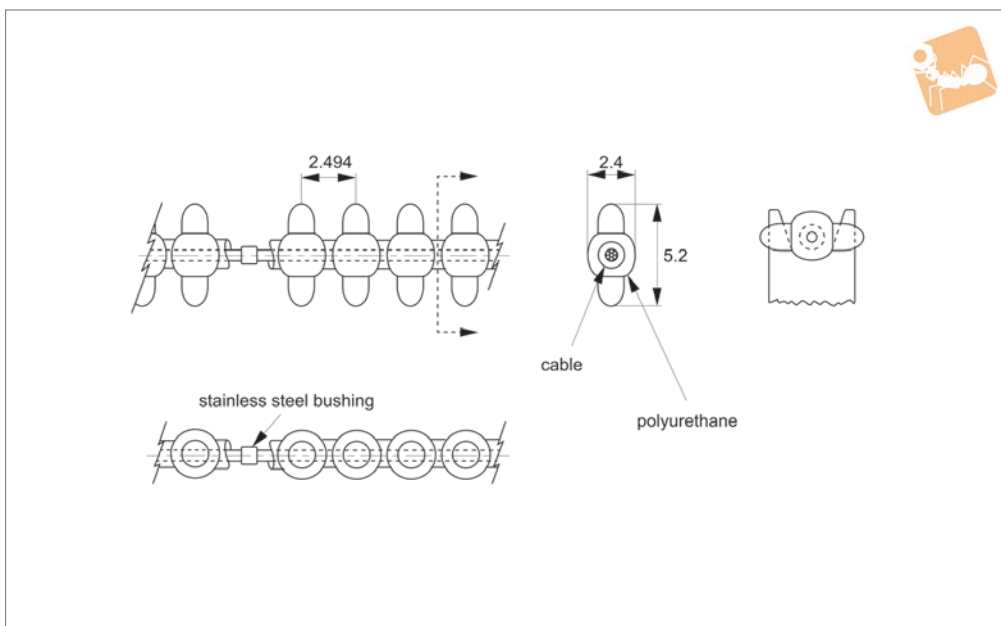
3,325 circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1010.190	190	631.8
R1010.200	200	335.0
R1010.220	220	731.5
R1010.240	240	798.0
R1010.260	260	864.5
R1010.280	280	931.0
R1010.300	300	997.5
R1010.320	320	1064.0
R1010.380	380	1263.5
R1010.420	420	1396.5
R1010-1.5M	-	1,5 metres not spliced
R1010-3.0M	-	3,0 metres not spliced
R1010-7.5M	-	7,5 metres not spliced
R1010-15M	-	15,0 metres not spliced
R1010-30M	-	30,0 metres not spliced



### R1020



#### Material

0,5mm Ø stainless steel cable encased in polyurethane (light brown).

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).

When ordering aramid core type add suffix -EF to order No.

#### Technical Notes

Acommodates twists and turns, odd angles, infinite lengths, silent drive, mass

10 grams/metre, positive drive,  
Zero backlash, no lubrication, 90A Duro-  
meter.  
Ultimate tensile strength 89N, 31N/pin  
when belt is used in open loop configura-  
tion (without splice, no crimp bushing).  
Temperature range +80°C to -25°C, recom-  
mended operating load 53N.  
Recommended max. operating speed  
1,91m/s.  
Other no's of pitches available on request.  
For smaller sizes, please see previous

pages

#### Tips

Self splice kit available (order no. R1020.SSK)

Reduce operating load rating by 50% for self splices.

#### Important Notes

Operates with R1022 and R1023 series sprockets.

Order No.	No. of pitches	Length ref.
R1020.049	49	122.2
R1020.052	52	129.7
R1020.053	53	132.2
R1020.064	64	159.6
R1020.067	67	167.1
R1020.075	75	187.1
R1020.080	80	199.5
R1020.095	95	236.9
R1020.112	112	279.3
R1020.126	126	314.2
R1020.128	128	319.2
R1020.144	144	359.1
R1020.158	158	394.1
R1020.176	176	438.9
R1020.189	189	471.4
R1020.208	208	518.8
R1020.220	220	548.7
R1020.240	240	598.6
R1020.252	252	628.5
R1020.272	272	678.4
R1020.283	283	705.8
R1020.304	304	758.2
R1020.315	315	785.6
R1020.336	336	838.0
R1020.346	346	862.9



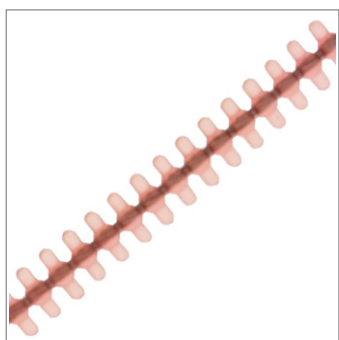
## Gear Drive Belt

Ø0,5mm cable, 2,5mm nominal circular pitch

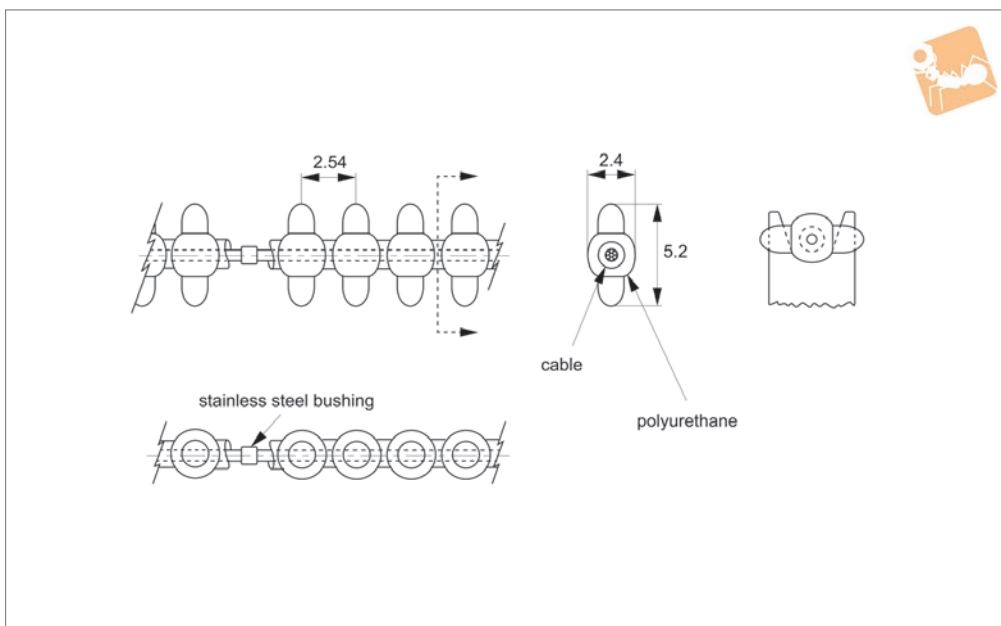
Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1020.377	377	940.2
R1020.400	400	997.6
R1020.408	408	1017.6
R1020.432	432	1077.4
R1020.440	440	1097.4
R1020.464	464	1157.2
R1020.471	471	1174.7
R1020.480	480	1197.1
R1020.496	496	1237.0
R1020.512	512	1276.9
R1020.544	544	1356.7
R1020.560	560	1396.6
R1020.576	576	1436.5
R1020.640	640	1596.2
R1020-1.5M	-	1,5 metres not spliced
R1020-3.0M	-	3,0 metres not spliced
R1020-7.5M	-	7,5 metres not spliced
R1020-15M	-	15,0 metres not spliced
R1020-30M	-	30,0 metres not spliced

CHAINS, BELTS & PULLEYS



### R1025



#### Material

0,8mm Ø stainless steel cable encased in polyurethane (red).

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).

When ordering aramid core type add suffix -EF to order no.

#### Technical Notes

Acommodates twists and turns, odd

angles, infinite lengths, silent drive, mass 10 grams/metre, positive drive, zero backlash, no lubrication, 90A Duro-meter.

Ultimate tensile strength 222N, 40N/pin when belt is used in open loop configuration (without splice, no crimp bushing). Temperature range +80°C to -25°C, recommended operating load 53N. Recommended max. operating speed

1,91m/s.

#### Tips

Self splice kits available R1025.SSK. Reduce operating load rating by 50% for field splices.

#### Important Notes

Operates with R1026 and R1027 series sprockets.

Order No.	No. of pitches	Length ref.
R1025.050	50	127.0
R1025.052	52	132.1
R1025.054	54	137.2
R1025.056	56	142.2
R1025.058	58	147.3
R1025.060	60	152.4
R1025.065	65	165.1
R1025.070	70	177.8
R1025.075	75	190.5
R1025.080	80	203.2
R1025.085	85	215.9
R1025.090	90	228.6
R1025.100	100	254.0
R1025.110	110	279.4
R1025.120	120	304.8
R1025.130	130	330.2
R1025.140	140	355.6
R1025.150	150	381.0
R1025.160	160	406.4
R1025.170	170	431.8
R1025.180	180	457.2
R1025.190	190	482.6
R1025.200	200	508.0
R1025.210	210	533.4
R1025.220	220	558.8
R1025.230	230	584.2
R1025.240	240	609.6



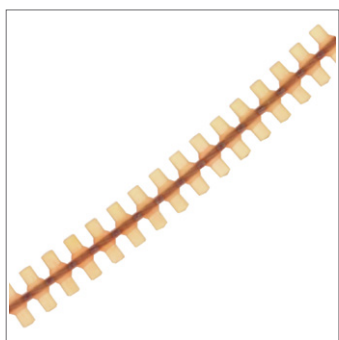


## Gear Drive Belts

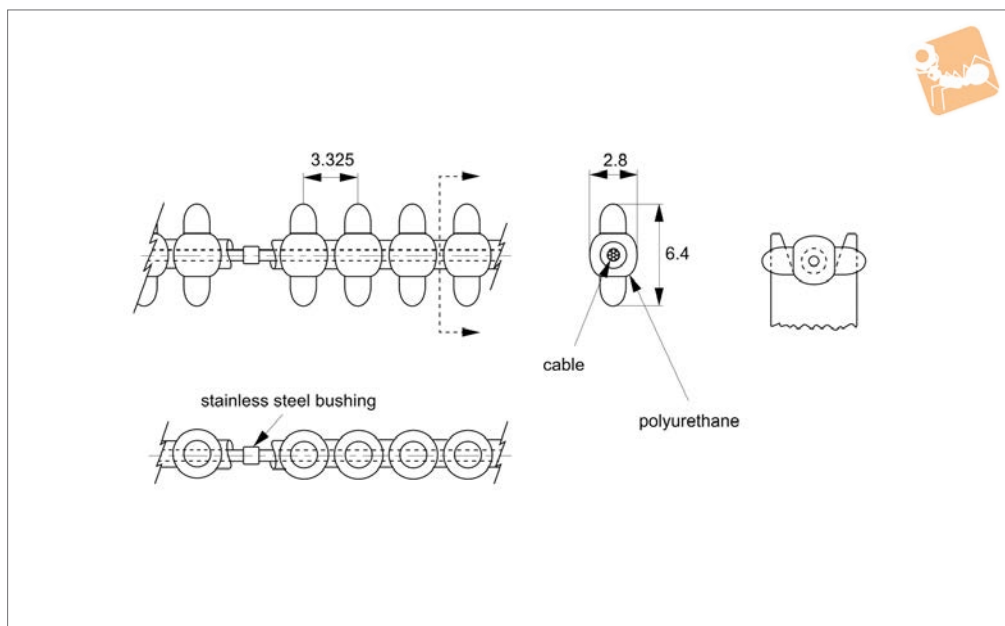
2,54 nominal circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1025.250	250	635.0
R1025.260	260	660.4
R1025.270	270	685.8
R1025.280	280	711.2
R1025.300	300	762.0
R1025.350	350	889.0
R1025.400	400	1016.0
R1025.480	480	1143.0
R1025.500	500	1270.0
R1025.800	800	2032.0
R1025-1.5M	-	1,5 metres not spliced
R1025-3.0M	-	3,0 metres not spliced
R1025-7.5M	-	7,5 metres not spliced
R1025-15M	-	15,0 metres not spliced
R1025-30M	-	30,0 metres not spliced



### R1030



#### Material

0,8mm Ø stainless steel cable encased in polyurethane (red).

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).

When ordering aramid core type add suffix -EF to order no.

#### Technical Notes

Acommodates twists and turns, odd

angles, infinite lengths, silent drive, mass 12 grams/metre, positive drive, zero backlash, no lubrication, 90A Duro-meter.

Ultimate tensile strength 222N, 40N/pin when belt is used in open loop configuration (without splice, no crimp bushing). Temperature range +80°C to -25°C, recommended operating load 53N.

Recommended max. operating speed

1,91m/s.

#### Tips

Self splice kits available (R1030.SSK). Reduce operating load rating by 50% for self splices.

#### Important Notes

Operates with R1031 and R1032 series sprockets.

Order No.	No. of pitches	Length ref.
R1030.050	50	166.3
R1030.052	52	172.9
R1030.054	54	179.6
R1030.056	56	186.2
R1030.058	58	192.9
R1030.060	60	199.5
R1030.062	62	206.2
R1030.064	64	212.8
R1030.066	66	219.5
R1030.068	68	226.1
R1030.070	70	232.8
R1030.075	75	249.4
R1030.080	80	266.0
R1030.085	85	282.6
R1030.090	90	299.3
R1030.095	95	315.9
R1030.100	100	332.5
R1030.105	105	349.1
R1030.110	110	365.8
R1030.115	115	382.4
R1030.120	120	399.0
R1030.130	130	432.3
R1030.140	140	465.5
R1030.150	150	498.8
R1030.160	160	532.0
R1030.170	170	565.3
R1030.180	180	598.5

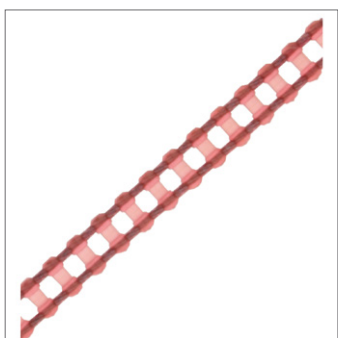


## Gear Drive Belts

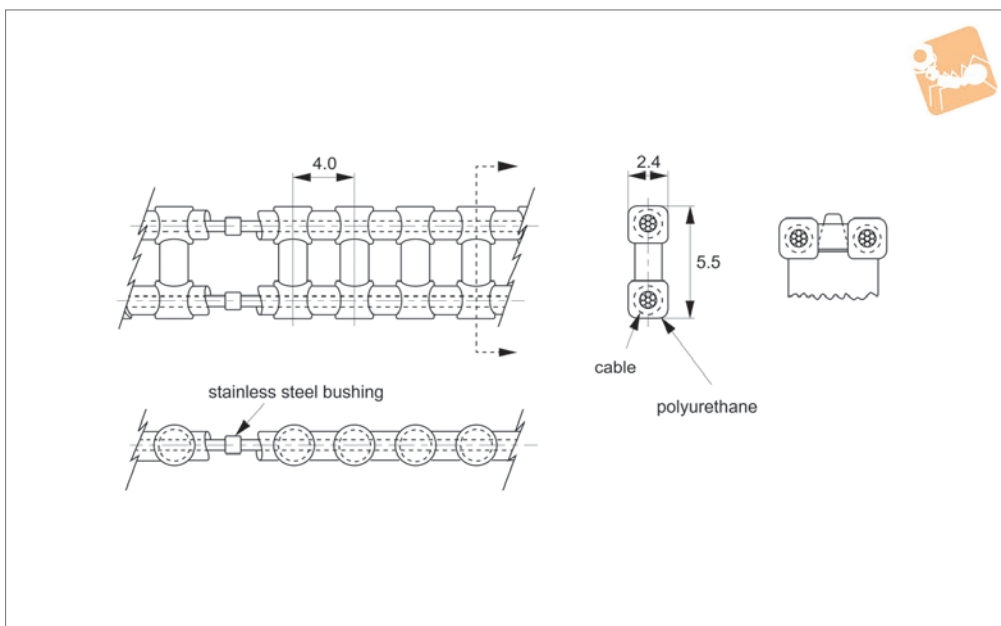
3,325 circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1030.190	190	631.8
R1030.200	200	665.0
R1030.220	220	731.5
R1030.240	240	798.0
R1030.260	260	864.5
R1030.280	280	931.0
R1030.300	300	997.5
R1030.320	320	1064.0
R1030.360	360	1197.0
R1030.420	420	1396.0
R1030-1.5M	-	1,5 metres not spliced
R1030-3.0M	-	3,0 metres not spliced
R1030-7.5M	-	7,5 metres not spliced
R1030-15M	-	15,0 metres not spliced
R1030-30M	-	30,0 metres not spliced



## R1035



### Material

0,8mm Ø stainless steel cable encased in polyurethane (red).

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications)

When ordering add suffix -EF to order no.

### Technical Notes

Infinite lengths, silent drive, mass 12 grams/metre, non-magnetic, positive

drive, zero backlash, no lubrication, 90A Durometer.

Ultimate tensile strength 445N-89N/PIN when belt is used in open loop configuration (without splice, no crimp bushings). Temperature range +82°C to -26°C, recommended operating load 111N. Recommended max. operating speed 1,91m/s.

Other no's of pitches available on request.

### Tips

Self splice kits available (order no. R1035.SSK).

Reduce operating load rating by 50% for self splices

### Important Notes

Operates with R1036, R1037 and R1038 series sprockets.

Order No.	No. of pitches	Length ref.
R1035.030	30	120.0
R1035.035	35	140.0
R1035.040	40	160.0
R1035.045	45	180.0
R1035.050	50	200.0
R1035.055	55	220.0
R1035.060	60	240.0
R1035.070	70	280.0
R1035.080	80	320.0
R1035.090	90	360.0
R1035.100	100	400.0
R1035.110	110	440.0
R1035.120	120	480.0
R1035.130	130	520.0
R1035.140	140	560.0
R1035.150	150	600.0
R1035.160	160	640.0
R1035.170	170	680.0
R1035.180	180	720.0
R1035.190	190	760.0
R1035.200	200	800.0
R1035.210	210	840.0
R1035.220	220	880.0
R1035.230	230	920.0
R1035.240	240	960.0
R1035.250	250	1000.0
R1035.260	260	1040.0

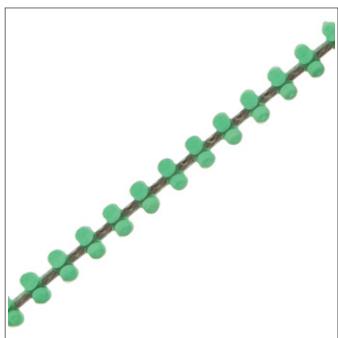


## Cable Chains

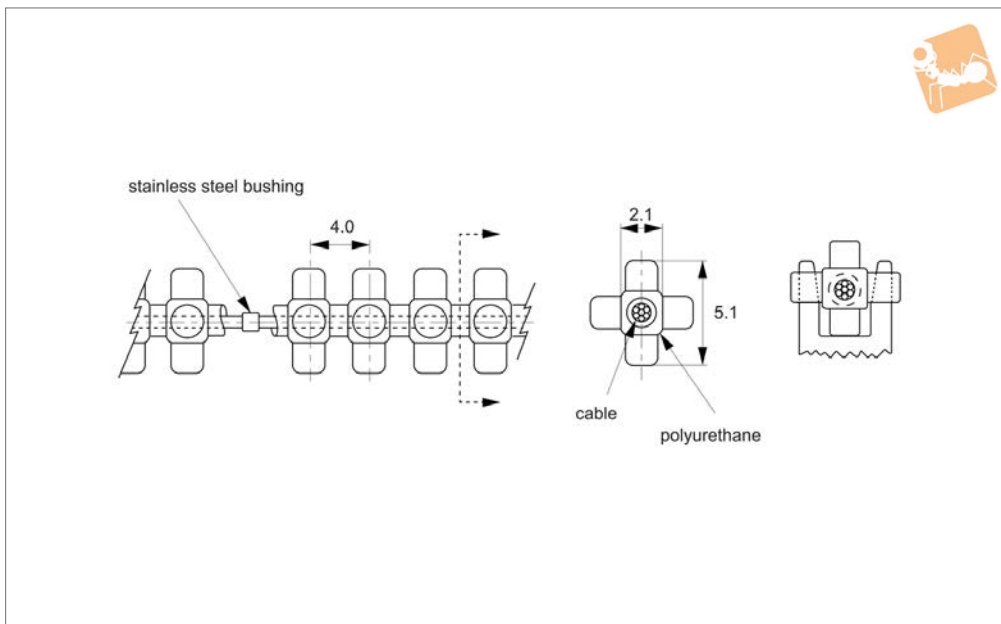
4mm nominal circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1035.270	270	1080.0
R1035.280	280	1120.0
R1035.290	290	1160.0
R1035.300	300	1200.0
R1035.310	310	1240.0
R1035.320	320	1280.0
R1035.330	330	1320.0
R1035.340	340	1360.0
R1035.350	350	1520.0
R1035.370	370	1600.0
R1035.400	400	1680.0
R1035.440	440	1760.0
R1035-1.5M	-	1,5 metres not spliced
R1035-3.0M	-	3,0 metres not spliced
R1035-7.5M	-	7,5 metres not spliced
R1035-15M	-	15,0 metres not spliced
R1035-30M	-	30,0 metres not spliced



## R1050



#### Material

0,8mm Ø stainless steel cable encased in polyurethane (green).

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications)

when ordering add suffix -EF to order no.

#### Technical Notes

Three dimensional drive, zero backlash, mass 11 grams/metre, silent drive, no

lubrication.

Infinite lengths, 90A Durometer, positive drive.

Ultimate tensile strength 222N-40N/PIN when belt is used in open loop configuration (without splice, no crimp bushing).

Temperature range +82°C to -26°C, recommended operating load 53N.

Recommended max. operating speed 1,91 m/s.

#### Tips

Reduce operating load rating by 50% for self splices

Self splice kit available R1050.SSK.

#### Important Notes

Operates with R1051, R1052 and R1053 series sprockets.

Order No.	No. of pitches	Length ref.
R1050.030	30	120.0
R1050.035	35	144.0
R1050.040	40	160.0
R1050.045	45	184.0
R1050.050	50	200.0
R1050.055	55	224.0
R1050.060	60	240.0
R1050.070	70	280.0
R1050.080	80	320.0
R1050.090	90	360.0
R1050.100	100	400.0
R1050.110	110	440.0
R1050.120	120	480.0
R1050.130	130	520.0
R1050.140	140	560.0
R1050.150	150	600.0
R1050.160	160	640.0
R1050.170	170	680.0
R1050.180	180	720.0
R1050.190	190	760.0
R1050.200	200	800.0
R1050.210	210	840.0
R1050.220	220	880.0
R1050.230	230	920.0
R1050.240	240	960.0
R1050.250	250	1000.0
R1050.260	260	1040.0

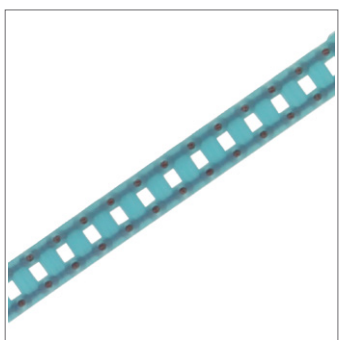


## 3-D Belts

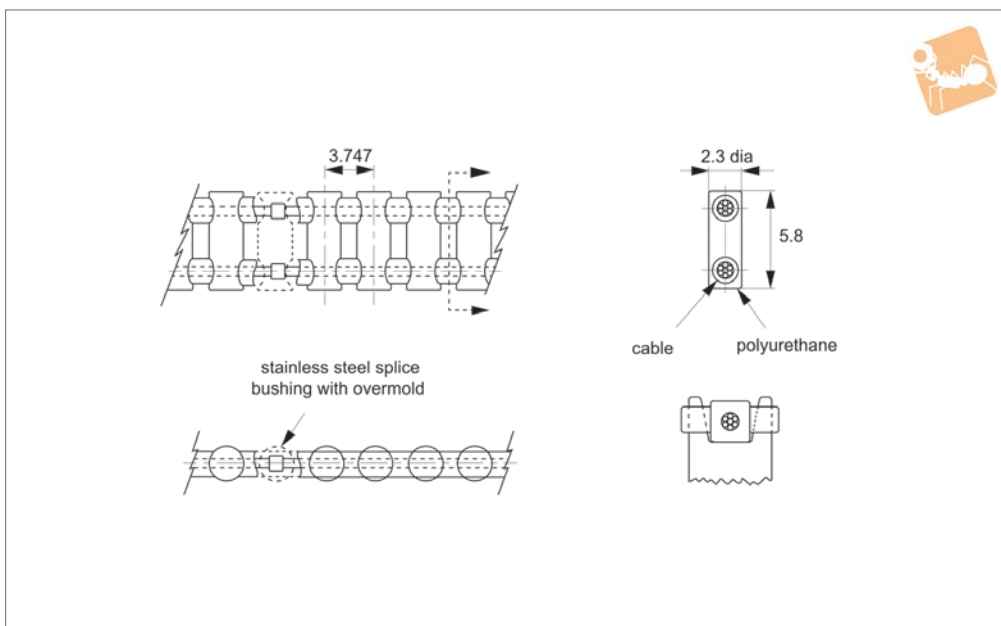
4mm nominal circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1050.270	270	1080.0
R1050.280	280	1120.0
R1050.290	290	1160.0
R1050.300	300	1200.0
R1050.310	310	1240.0
R1050.320	320	1280.0
R1050.330	330	1320.0
R1050.340	340	1360.0
R1050.350	350	1400.0
R1050.360	360	1440.0
R1050.400	400	1600.0
R1050.440	440	1760.0
R1050-1.5M	-	1,5 metres not spliced
R1050-3.0M	-	3,0 metres not spliced
R1050-7.5M	-	7,5 metres not spliced
R1050-15M	-	15,0 metres not spliced
R1050-30M	-	30,0 metres not spliced



### R1055



#### Material

Polyurethane (blue) 0,8mm stainless steel cable.

#### Technical Notes

Designed to replace standard metal roller chain systems, no multiple link joints to bind.

Lubrication is never required, easily modified to any length, large selection of mating sprockets.

Infinite lengths, silent drive, rust proof, 90A Durometer, non-magnetic, positive drive.

Zero backlash, mass 14 grams/metre. Ultimate tensile strength 445N/53PIN when belt is used in open configuration (without splice, no crimp bushing). Temperature range +80°C to -25°C, recommended operating load 111N. Recommended max. operating speed

1,91m/s.

#### Tips

Self splice kit available R1055.SSK. Reduce operating load rating by 50% for self splices.

#### Important Notes

Operates with R1056, R1057 and R1058 series sprockets.

Order No.	No. of pitches	Length
R1055.040	40	149.9
R1055.050	50	187.4
R1055.060	60	224.8
R1055.070	70	262.3
R1055.080	80	299.8
R1055.090	90	337.2
R1055.100	100	374.7
R1055.110	110	412.2
R1055.120	120	449.6
R1055.130	130	487.1
R1055.140	140	524.6
R1055.150	150	562.1
R1055.160	160	599.5
R1055.170	170	637.0
R1055.180	180	674.5
R1055.190	190	711.9
R1055.200	200	749.4
R1055.210	210	786.9
R1055.220	220	824.3
R1055.230	230	861.8
R1055.240	240	899.3
R1055.250	250	936.8
R1055.260	260	974.2
R1055.270	270	1011.7
R1055.280	280	1049.2
R1055.290	290	1086.5
R1055.300	300	1124.1





## Cable Chains

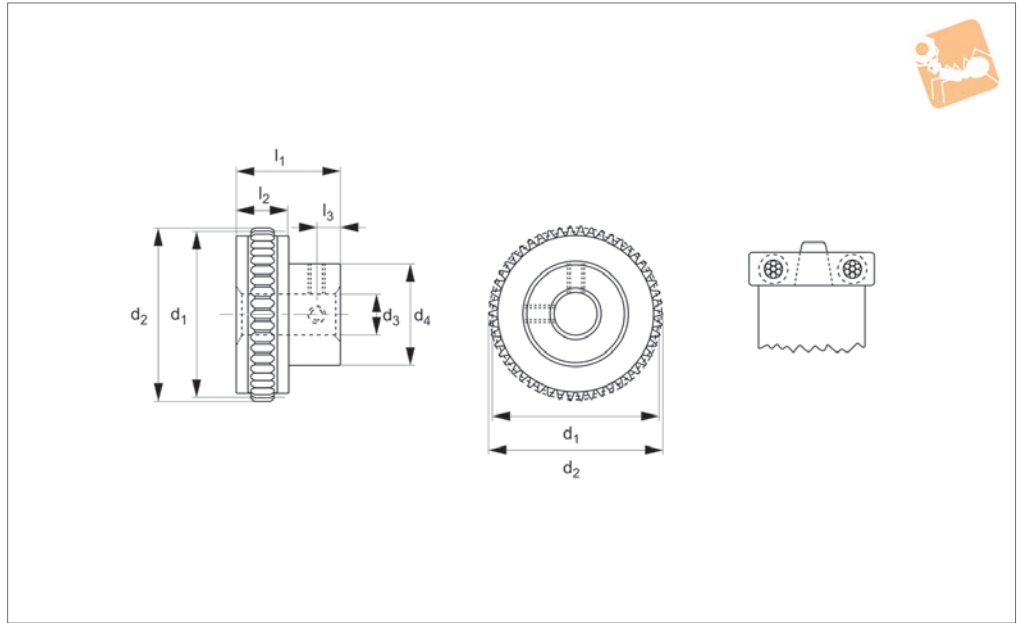
3,747mm circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length
R1055.310	310	1161.6
R1055.320	320	1199.0
R1055.330	330	1236.5
R1055.340	340	1274.0
R1055.370	370	1386.4
R1055.390	390	1461.3
R1055-1.5M	-	1,5 metres not spliced
R1055-3.0M	-	3,0 metres not spliced
R1055-7.5M	-	7,5 metres not spliced
R1055-15M	-	15,0 metres not spliced
R1055-30M	-	30,0 metres not spliced



### R1056



#### Material

Aluminium per DIN 3.1355 anodized.

#### Technical Notes

<sup>1</sup> For 13-15 teeth, hub diameter equals

13,3.

<sup>2</sup> Sprockets with Ø19,0 PD and smaller are recommended for idler use only. Other no's of teeth available on request.

#### Important Notes

Operate with R1055 series chain.

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1056.013-04-AL	Ø4	13 <sup>1 2</sup>	15.60	17.63
R1056.014-04-AL	Ø4	14 <sup>1 2</sup>	16.80	18.82
R1056.015-04-AL	Ø4	15 <sup>1 2</sup>	18.00	20.03
R1056.016-04-AL	Ø4	16	19.20	21.23
R1056.018-04-AL	Ø4	18	21.60	23.63
R1056.020-04-AL	Ø4	20	24.00	26.03
R1056.024-04-AL	Ø4	24	28.80	30.83
R1056.025-04-AL	Ø4	25	30.00	32.03
R1056.027-04-AL	Ø4	27	32.40	34.43
R1056.028-04-AL	Ø4	28	33.60	35.63
R1056.029-04-AL	Ø4	29	34.80	36.83
R1056.030-04-AL	Ø4	30	35.99	38.03
R1056.032-04-AL	Ø4	32	38.39	40.43
R1056.034-04-AL	Ø4	34	40.79	42.83
R1056.036-04-AL	Ø4	36	43.19	45.23
R1056.038-04-AL	Ø4	38	45.59	47.63
R1056.040-04-AL	Ø4	40	47.99	50.03
R1056.042-04-AL	Ø4	42	50.39	52.42
R1056.044-04-AL	Ø4	44	52.79	54.82
R1056.048-04-AL	Ø4	48	57.59	59.62
R1056.050-04-AL	Ø4	50	59.99	62.02
R1056.052-04-AL	Ø4	52	62.39	64.42
R1056.054-04-AL	Ø4	54	64.79	66.82
R1056.056-04-AL	Ø4	56	67.19	69.22
R1056.060-04-AL	Ø4	60	71.99	74.02
R1056.065-04-AL	Ø4	65	77.99	80.02
R1056.070-04-AL	Ø4	70	83.99	86.02
R1056.080-04-AL	Ø4	80	95.99	98.02
R1056.013-06-AL	Ø6	13 <sup>1 2</sup>	15.60	17.63
R1056.014-06-AL	Ø6	14 <sup>1 2</sup>	16.80	18.82
R1056.015-06-AL	Ø6	15 <sup>1 2</sup>	18.00	20.03
R1056.016-06-AL	Ø6	16	19.20	21.23
R1056.018-06-AL	Ø6	18	21.60	23.63
R1056.020-06-AL	Ø6	20	24.00	26.03

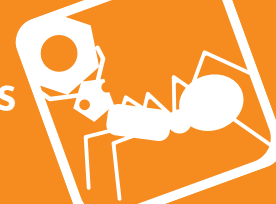


# Pin Hub Chain Sprockets, pin hub aluminium, 3,747 circular pitch

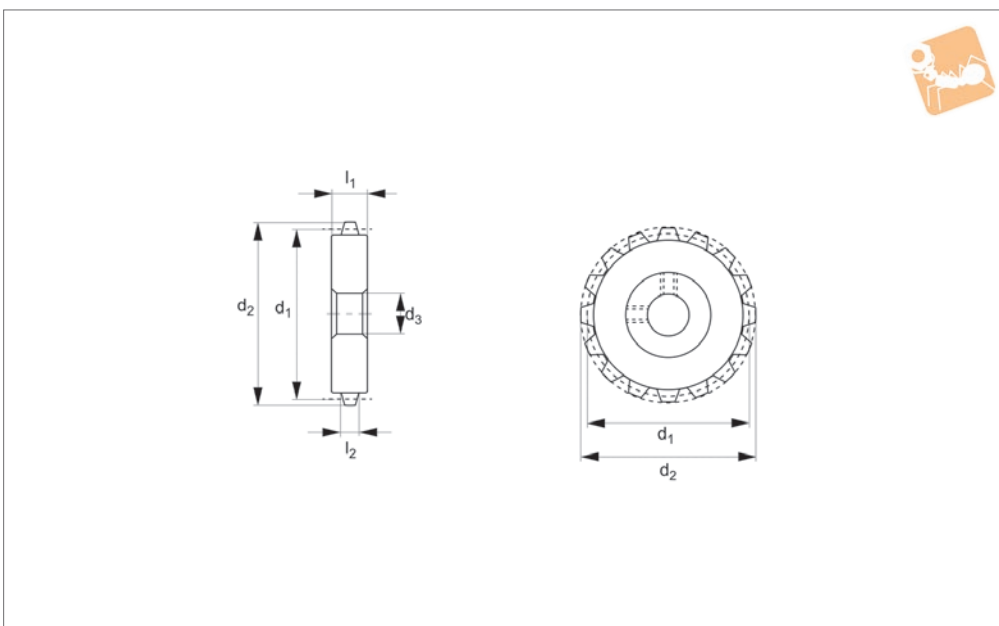
## Chains, Belts & Pulleys

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1056.024-06-AL	Ø6	24	28.80	30.83
R1056.025-06-AL	Ø6	25	30.00	32.03
R1056.027-06-AL	Ø6	27	32.40	34.43
R1056.028-06-AL	Ø6	28	33.60	35.63
R1056.029-06-AL	Ø6	29	34.80	36.83
R1056.030-06-AL	Ø6	30	35.99	38.03
R1056.032-06-AL	Ø6	32	38.39	40.43
R1055.034-06-AL	Ø6	34	40.79	42.83
R1056.036-06-AL	Ø6	36	43.19	45.23
R1056.038-06-AL	Ø6	38	45.59	47.63
R1056.040-06-AL	Ø6	40	47.99	50.03
R1056.042-06-AL	Ø6	42	50.39	52.42
R1056.044-06-AL	Ø6	44	52.79	54.82
R1056.013-08-AL	Ø8	13 <sup>1 2</sup>	15.60	17.63
R1056.014-08-AL	Ø8	14 <sup>1 2</sup>	16.80	18.82
R1056.015-08-AL	Ø8	15 <sup>1 2</sup>	18.00	20.03
R1056.016-08-AL	Ø8	16	19.20	21.23
R1056.018-08-AL	Ø8	18	21.60	23.63
R1056.020-08-AL	Ø8	20	24.00	26.03
R1056.024-08-AL	Ø8	24	28.80	30.83
R1056.023-08-AL	Ø8	25	30.00	32.03
R1056.027-08-AL	Ø8	27	32.40	34.43
R1056.028-08-AL	Ø8	28	33.60	35.63
R1056.029-08-AL	Ø8	29	34.80	36.83
R1056.030-08-AL	Ø8	30	35.99	38.03
R1056.032-08-AL	Ø8	32	38.39	40.43
R1056.034-08-AL	Ø8	34	40.79	42.83
R1056.036-08-AL	Ø8	36	43.19	45.23
R1056.038-08-AL	Ø8	38	45.59	47.63
R1056.040-08-AL	Ø8	40	47.99	50.03
R1056.042-08-AL	Ø8	42	50.39	52.42
R1056.044-08-AL	Ø8	44	52.79	54.82
R1056.048-08-AL	Ø8	48	57.59	59.62
R1056.050-08-AL	Ø8	50	59.99	62.02
R1056.052-08-AL	Ø8	52	62.39	64.42
R1056.054-08-AL	Ø8	54	64.79	66.82
R1056.056-08-AL	Ø8	56	67.19	69.22
R1056.060-08-AL	Ø8	60	71.99	74.02
R1056.065-08-AL	Ø8	65	77.99	80.02
R1056.070-08-AL	Ø8	70	83.99	86.02
R1056.080-08-AL	Ø8	80	95.99	98.02
R1056.048-06-AL	Ø6	48	57.59	59.62
R1056.050-06-AL	Ø6	50	59.99	62.02
R1056.052-06-AL	Ø6	52	62.39	64.42
R1056.054-06-AL	Ø6	54	64.79	66.82
R1056.056-06-AL	Ø6	56	67.19	69.22
R1056.060-06-AL	Ø6	60	71.99	74.02
R1056.065-06-AL	Ø6	65	77.99	80.02
R1056.070-06-AL	Ø6	70	83.99	86.02
R1056.080-06-AL	Ø6	80	95.99	98.02

CHAINS, BELTS & PULLEYS



### R1057



#### Material

Aluminium DIN 3,1355 anodized.

recommended for idler use only.

Other no's of teeth available on request.

#### Technical Notes

<sup>1</sup>Sprockets with Ø19,0 PD and smaller are

#### Important Notes

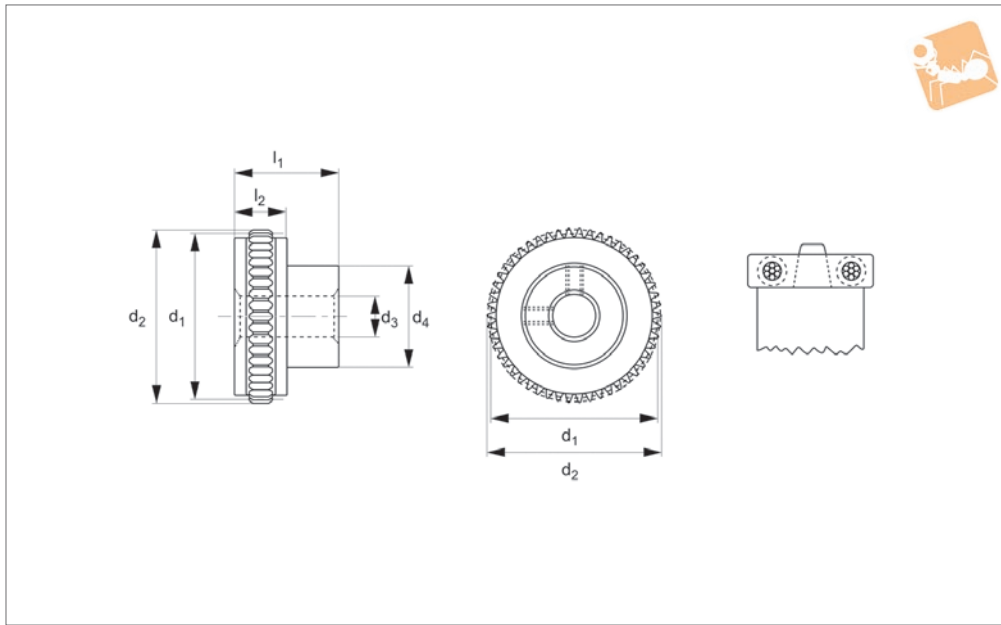
Operate with R1055 series chain.

Order No.	No. of teeth	Pitch dia.	Outside dia.
R1057.014-HL	14*	16.80	18.82
R1057.015-HL	15*	18.00	20.03
R1057.016-HL	16	19.20	21.23
R1057.018-HL	18	21.60	23.63
R1057.020-HL	20	24.00	26.03
R1057.024-HL	24	28.80	30.83
R1057.025-HL	25	30.00	32.03
R1057.027-HL	27	32.40	34.43
R1057.028-HL	28	33.60	35.63
R1057.029-HL	29	34.80	36.83
R1057.030-HL	30	35.99	38.03
R1057.032-HL	32	38.39	40.43
R1057.034-HL	34	40.79	42.83
R1057.036-HL	36	43.19	45.23
R1057.038-HL	38	45.59	47.63
R1057.040-HL	40	47.99	50.03
R1057.042-HL	42	50.39	52.42
R1057.044-HL	44	52.79	54.82
R1057.048-HL	48	57.59	59.62
R1057.050-HL	50	59.99	62.02
R1057.052-HL	52	62.39	64.42
R1057.054-HL	54	64.79	66.82
R1057.056-HL	56	67.19	69.22
R1057.060-HL	60	71.99	74.02
R1057.065-HL	65	77.99	80.02
R1057.070-HL	70	83.99	86.02
R1057.080-HL	80	95.99	98.02



# Chain Sprockets - acetal, pin hub

3,747 circular pitch



**R1058**

**Material**  
Acetal.

**Technical Notes**  
<sup>1</sup>Teeth runout on hub

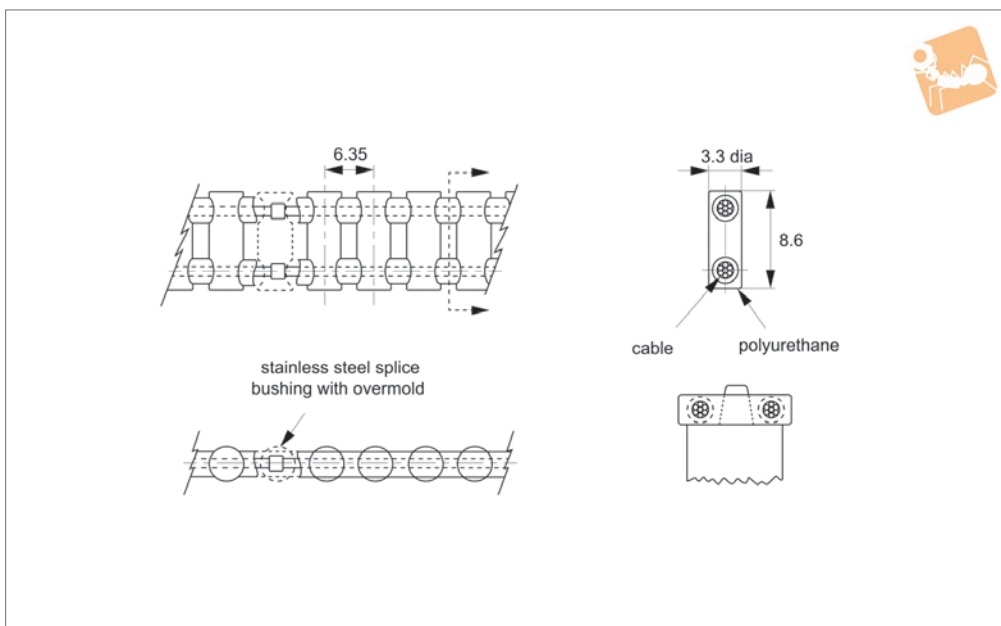
<sup>2</sup>Sprockets with Ø19PD and smaller are recommended for idler use only  
Other no's of teeth are available on request.

**Important Notes**  
Operate with R1055 series chain.

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1058.014-07-AC	Ø7	14 <sup>1 2</sup>	16.80	18.83
R1058.015-07-AC	Ø7	15 <sup>1 2</sup>	18.00	20.03
R1058.016-07-AC	Ø7	16	19.20	21.23
R1058.018-07-AC	Ø7	18	21.60	23.63
R1058.020-07-AC	Ø7	20	24.00	26.03
R1058.022-07-AC	Ø7	22	26.40	28.43
R1058.024-07-AC	Ø7	24	28.80	30.83
R1058.026-07-AC	Ø7	26	31.20	33.23
R1058.030-07-AC	Ø7	30	35.99	38.03
R1058.032-07-AC	Ø7	32	38.39	40.42
R1058.036-07-AC	Ø7	36	43.19	45.23
R1058.040-07-AC	Ø7	40	47.99	50.03
R1058.042-07-AC	Ø7	42	50.39	52.42
R1058.044-07-AC	Ø7	44	52.79	54.83
R1058.045-07-AC	Ø7	45	53.99	56.02
R1058.050-07-AC	Ø7	50	59.99	62.02
R1058.060-07-AC	Ø7	60	71.99	74.02
R1058.014-08-AC	Ø8	14	16.80	18.83
R1058.015-08-AC	Ø8	15	18.00	20.03
R1058.016-08-AC	Ø8	16	19.20	21.23
R1058.018-08-AC	Ø8	18	21.60	23.63
R1058.020-08-AC	Ø8	20	24.00	26.03
R1058.022-08-AC	Ø8	22	26.40	28.43
R1058.024-08-AC	Ø8	24	28.80	30.83
R1058.026-08-AC	Ø8	26	31.20	33.23
R1058.030-08-AC	Ø8	30	35.99	38.03
R1058.032-08-AC	Ø8	32	38.39	40.42
R1058.036-08-AC	Ø8	36	43.19	45.23
R1058.040-08-AC	Ø8	40	47.99	50.03
R1058.042-08-AC	Ø8	42	50.39	52.42
R1058.044-08-AC	Ø8	44	52.79	54.83
R1058.045-08-AC	Ø8	45	53.99	56.02
R1058.050-08-AC	Ø8	50	59.99	62.02
R1058.060-08-AC	Ø8	60	71.99	74.02



### R1065



#### Material

Polyurethane (yellow) 0,8mm stainless steel cable.

Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).

When ordering aramid core type add suffix -EF to order no.

#### Technical Notes

Designed to replace standard metal rolling chain system, no multiple link joints to bind

Easily modified to any length, large selection of mating sprockets, no lubrication  
Infinite lengths, silent drive, rust proof, 90A Durometer, non-magnetic, positive drive

Zero backlash, mass 28 grams/metre  
Ultimate tensile strength 445N - (22lbs/PIN) when belt is used in open loop configuration (without splice, no crimp bushing)

Temperature range +82°C to -26°C, recommended operating load 111N

Recommended max. operating speed 1,91m/s

Alternate belt construction and reverse belt bending applications available.

#### Tips

Self splice kit available R1065.SSK.  
Reduce operating load by 50% for self splices.

#### Important Notes

Operates R1066, R1067 and R1068 series sprockets.

Order No.	No. of pitches	Length ref.
R1065.040	40	254.0
R1065.050	50	317.5
R1065.060	60	381.0
R1065.070	70	444.5
R1065.080	80	508.0
R1065.090	90	571.5
R1065.100	100	635.0
R1065.110	110	698.5
R1065.120	120	762.0
R1065.130	130	825.5
R1065.140	140	889.0
R1065.150	150	952.5
R1065.160	160	1016.0
R1065.170	170	1079.5
R1065.180	180	1143.0
R1065.190	190	1206.5
R1065.200	200	1270.0
R1065.210	210	1333.5
R1065.220	220	1397.0
R1065.230	230	1460.5
R1065.240	240	1524.0
R1065.250	250	1587.5
R1065.260	260	1651.0
R1065.270	270	1714.5
R1065.280	280	1778.0

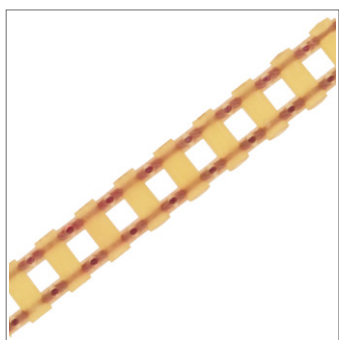


## Cable Chains

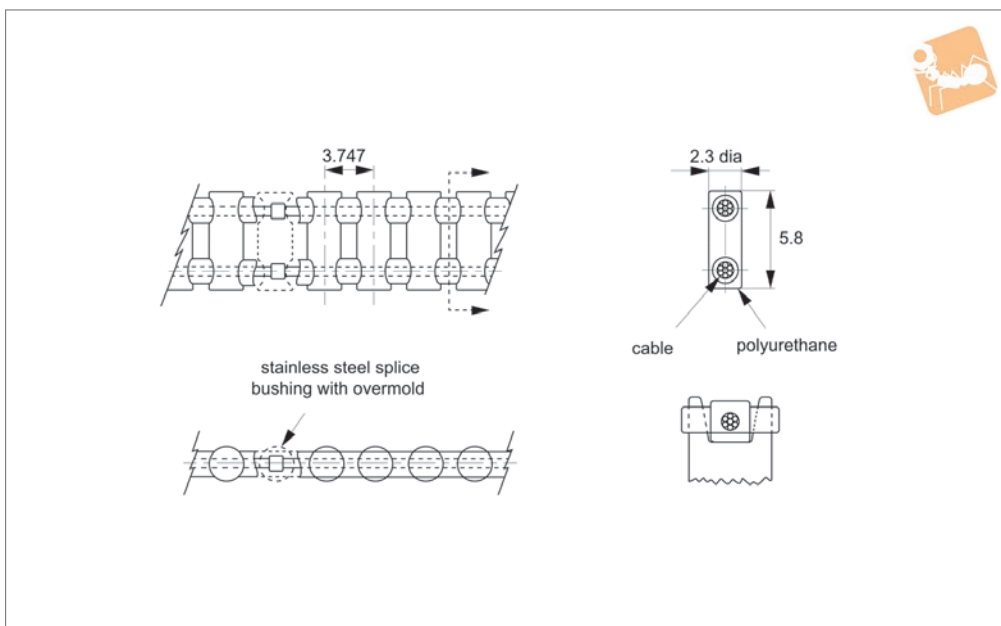
6,35mm circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1065.290	290	1841.5
R1065.300	300	1905.0
R1065.310	310	1968.5
R1065.320	320	2032.0
R1065.330	330	2095.5
R1065.370	370	2349.5
R1065.380	380	2413.0
R1065.390	390	2476.5
R1065-1.5M	-	1,5 metres not spliced
R1065-3.0M	-	3,0 metres not spliced
R1065-7.5M	-	7,5 metres not spliced
R1065-15M	-	15,0 metres not spliced
R1065-30M	-	30,0 metres not spliced



### R1070



#### Material

Polyurethane (brown) 1,2mm stainless steel cable.  
Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).  
When ordering aramid core type add suffix -EF to order no.

#### Technical Notes

Designed to replace standard metal rolling chain system, no multiple link joints to bind.

Lubrication is never required, easily modified to any length, large selection of mating sprockets.

Infinite lengths, silent drive, rust proof, 90A Durometer, non-magnetic, positive drive, zero backlash, mass 46.5 grams/metre Ultimate tensile strength 890N - (222N/PIN) when belt is used in open loop configuration (without splice, no crimp bushing).

Temperature range +80°C to -25°C, recom-

mended operating load 245N.  
Recommended max. operating speed 1,91m/s.

#### Tips

Self splice kit available R1070.SSK.  
Reduce operating load by 50% for self splices.

#### Important Notes

Operates R1070 series chain.

Order No.	No. of pitches	Length ref.
R1070.040	40	381.0
R1070.050	50	476.2
R1070.060	60	571.5
R1070.070	70	666.7
R1070.080	80	762.0
R1070.090	90	857.2
R1070.100	100	952.5
R1070.110	110	1047.7
R1070.120	120	1143.0
R1070.130	130	1238.2
R1070.140	140	1333.5
R1070.150	150	1428.7
R1070.160	160	1524.0
R1070.170	170	1617.2
R1070.180	180	1714.5
R1070.190	190	1809.7
R1070.200	200	1905.0
R1070.210	210	2000.2
R1070.220	220	2095.5
R1070.230	230	2190.7
R1070.240	240	2286.0
R1070.250	250	2381.2
R1070.260	260	2476.5
R1070.270	270	2571.7
R1070.280	280	2667.0



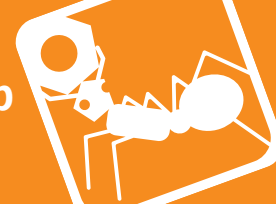


## Cable Chains

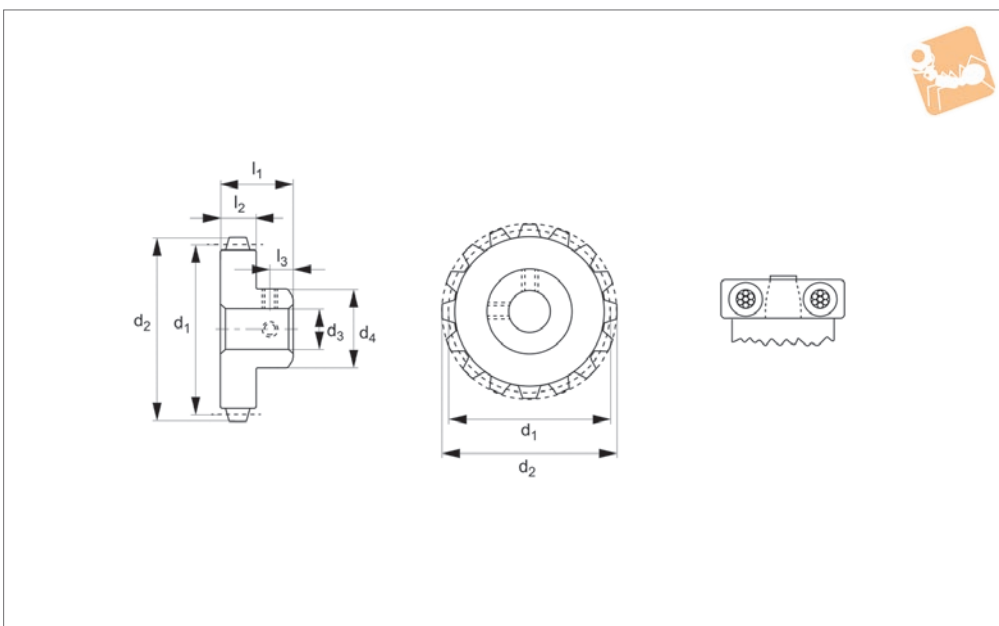
9,525mm circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1070.290	290	2762.2
R1070.300	300	2857.5
R1070.310	310	2952.7
R1070.320	320	3048.0
R1070.330	330	3143.2
R1070.370	370	3429.0
R1070.380	380	3524.2
R1070.390	390	3714.7
R1070-1.5M	-	1,5 metres not spliced
R1070-3.0M	-	3,0 metres not spliced
R1070-7.5M	-	7,5 metres not spliced
R1070-15M	-	15,0 metres not spliced
R1070-30M	-	30,0 metres not spliced



### R1066



#### Material

Aluminum DIN 3,1355 anodized.

diameter equals 14,5.

<sup>1</sup> For 10 teeth on **10mmØ bore and 12mmØ bore**, hub diameter equals 16,9.

recommended for idler use only.

Other no's of teeth available on request.

#### Technical Notes

<sup>1</sup> For 9-10 teeth on **8mmØ bore**, hub

<sup>2</sup> Sprockets with Ø19PD and smaller are

#### Important Notes

Operates with R1065 series chain.

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1066.009-08-AL	Ø8	9 <sup>1 2</sup>	18.19	21.24
R1066.010-08-AL	Ø8	10 <sup>1</sup>	20.21	23.26
R1066.012-08-AL	Ø8	12	24.26	27.30
R1066.013-08-AL	Ø8	13	28.28	29.32
R1066.014-08-AL	Ø8	14	28.30	31.35
R1066.015-08-AL	Ø8	15	30.32	33.37
R1066.016-08-AL	Ø8	16	32.34	35.39
R1066.018-08-AL	Ø8	18	36.38	39.43
R1066.020-08-AL	Ø8	20	40.43	43.47
R1066.024-08-AL	Ø8	24	48.51	51.56
R1066.025-08-AL	Ø8	25	50.53	53.58
R1066.028-08-AL	Ø8	28	56.60	59.64
R1066.030-08-AL	Ø8	30	60.64	63.69
R1066.036-08-AL	Ø8	36	72.77	75.81
R1066.040-08-AL	Ø8	40	80.85	83.90
R1066.048-08-AL	Ø8	48	97.02	100.07
R1066.060-08-AL	Ø8	60	121.28	124.32
R1066.072-08-AL	Ø8	72	145.53	148.58
R1066.009-10-AL	Ø10	9 <sup>1 2</sup>	18.19	21.24
R1066.010-10-AL	Ø10	10 <sup>1</sup>	20.21	23.26
R1066.012-10-AL	Ø10	12	24.26	27.30
R1066.013-10-AL	Ø10	13	28.28	29.32
R1066.014-10-AL	Ø10	14	28.30	31.35
R1066.015-10-AL	Ø10	15	30.32	33.37
R1066.016-10-AL	Ø10	16	32.34	35.39
R1066.018-10-AL	Ø10	18	36.38	39.43
R1066.020-10-AL	Ø10	20	40.43	43.47
R1066.024-10-AL	Ø10	24	48.51	51.56
R1066.025-10-AL	Ø10	25	50.53	53.58
R1066.028-10-AL	Ø10	28	56.60	59.64
R1066.030-10-AL	Ø10	30	60.64	63.69
R1066.036-10-AL	Ø10	36	72.77	75.81
R1066.040-10-AL	Ø10	40	80.85	83.90
R1066.048-10-AL	Ø10	48	97.02	100.07



## Chain Sprockets - aluminium, pin hub 6,35mm circular pitch

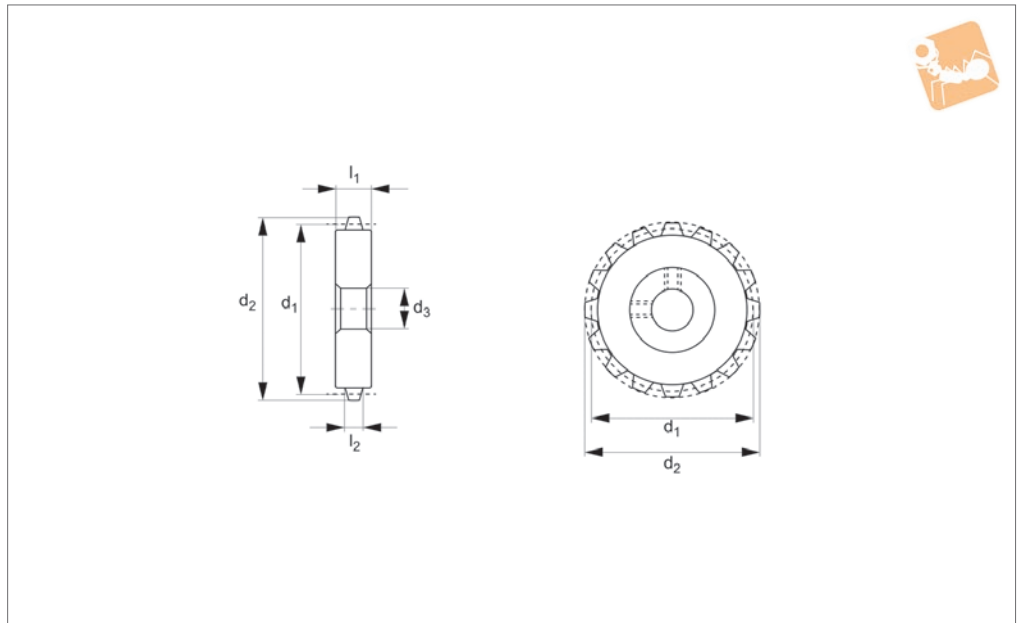
Chains, Belts &  
Pulleys

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1066.060-10-AL	Ø10	60	121.28	124.32
R1066.072-10-AL	Ø10	72	145.53	148.58
R1066.009-12-AL	Ø12	9 <sup>1 2</sup>	18.19	21.24
R1066.010-12-AL	Ø12	10 <sup>1</sup>	20.21	23.26
R1066.012-12-AL	Ø12	12	24.26	27.30
R1066.013-12-AL	Ø12	13	28.28	29.32
R1066.014-12-AL	Ø12	14	28.30	31.35
R1066.015-12-AL	Ø12	15	30.32	33.37
R1066.016-12-AL	Ø12	16	32.34	35.39
R1066.018-12-AL	Ø12	18	36.38	39.43
R1066.020-12-AL	Ø12	20	40.43	43.47
R1066.024-12-AL	Ø12	24	48.51	51.56
R1066.025-12-AL	Ø12	25	50.53	53.58
R1066.028-12-AL	Ø12	28	56.60	59.64
R1066.030-12-AL	Ø12	30	60.64	63.69
R1066.036-12-AL	Ø12	36	72.77	75.81
R1066.040-12-AL	Ø12	40	80.85	83.90
R1066.048-12-AL	Ø12	48	97.02	100.07
R1066.060-12-AL	Ø12	60	121.28	124.32
R1066.072-12-AL	Ø12	72	145.53	148.58

CHAINS, BELTS & PULLEYS



### R1067



#### Material

Aluminium DIN 3,1355 anodized

recommended for idler use only.

Other no's of teeth available on request.

#### Technical Notes

<sup>1</sup> Sprockets with Ø19PD and smaller are

#### Important Notes

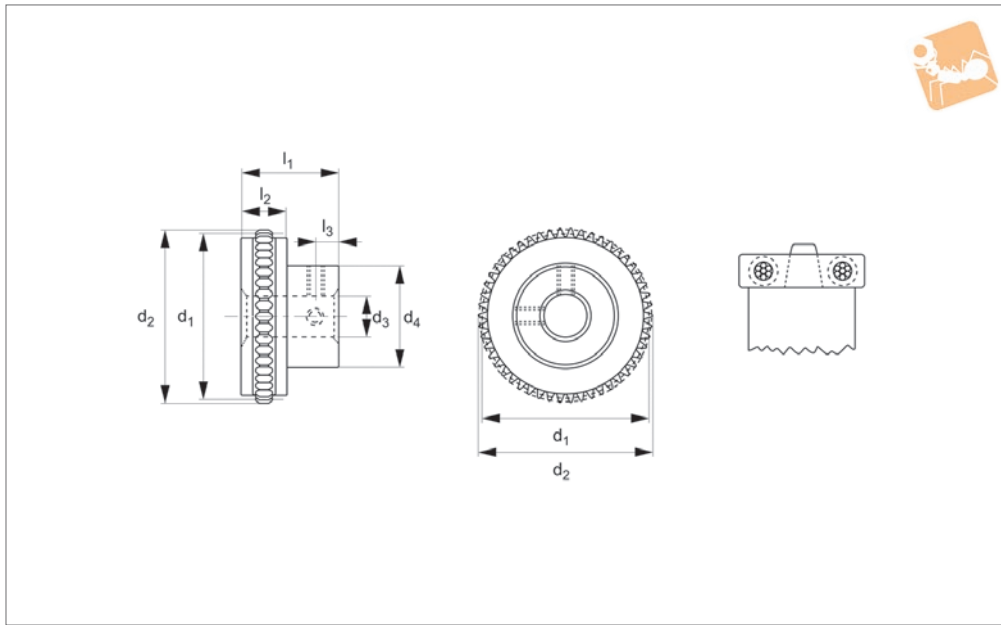
Operates R1065 series chain.

Order No.	No. of teeth	Pitch dia.	Outside dia.
R1067.009-10	9 <sup>1</sup>	18.19	21.24
R1067.010-10	10	20.21	23.26
R1067.012-10	12	24.26	27.30
R1067.013-10	13	28.28	29.32
R1067.014-10	14	28.30	31.35
R1067.015-10	15	30.32	33.37
R1067.016-10	16	32.34	35.39
R1067.018-10	18	36.38	39.43
R1067.020-10	20	40.43	43.47
R1067.024-10	24	48.51	51.56
R1067.025-10	25	50.53	53.58
R1067.028-10	28	56.60	59.64
R1067.030-10	30	60.64	63.69
R1067.036-10	36	72.77	75.81
R1067.040-10	40	80.85	83.90
R1067.048-10	48	97.02	100.07
R1067.060-10	60	121.28	124.32
R1067.072-10	72	145.53	148.58



# Chain Sprockets - acetal, pin hub

6,35mm circular pitch



**R1068**

**Material**  
Acetal.

**Technical Notes**

<sup>1</sup> Teeth runout on hub.

<sup>2</sup> Sprockets with Ø19mm PD and smaller are recommended for idler use only. Other no's of teeth are available.

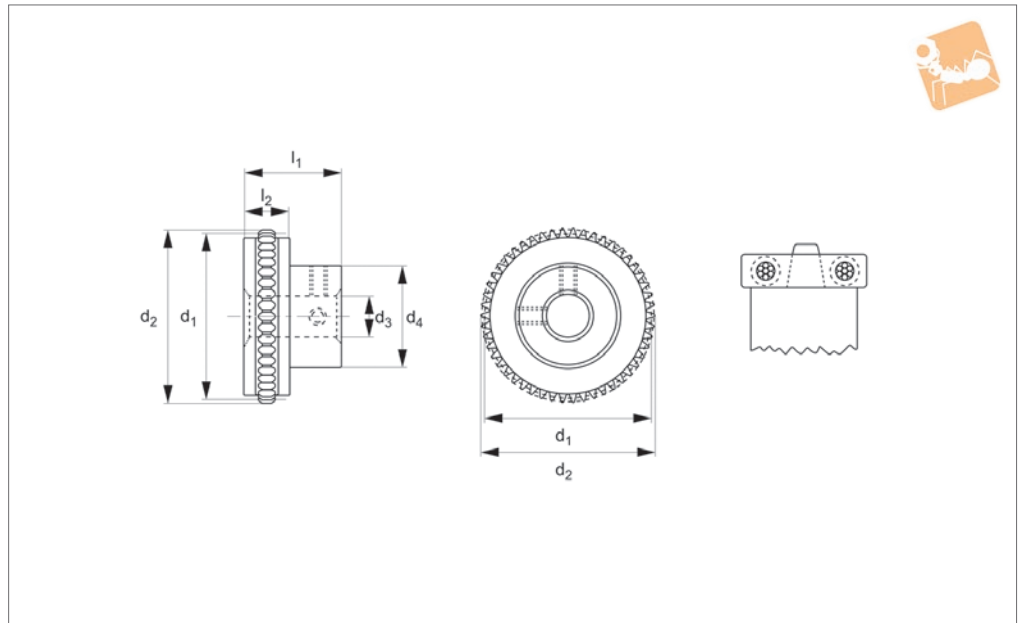
**Important Notes**

Operates R1065 series chain.

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1068.009-07-AC	Ø7	9 <sup>1 2</sup>	18.19	21.24
R1068.010-07-AC	Ø7	10 <sup>1 2</sup>	20.21	23.26
R1068.012-07-AC	Ø7	12	24.26	27.30
R1068.013-07-AC	Ø7	13	28.28	29.32
R1068.014-07-AC	Ø7	14	28.30	31.35
R1068.015-07-AC	Ø7	15	30.32	33.37
R1068.016-07-AC	Ø7	16	32.34	35.39
R1068.018-07-AC	Ø7	18	36.38	39.43
R1068.020-07-AC	Ø7	20	40.43	43.47
R1068.024-07-AC	Ø7	24	48.51	51.56
R1068.025-07-AC	Ø7	25	50.53	53.58
R1068.028-07-AC	Ø7	28	56.60	59.64
R1068.030-07-AC	Ø7	30	60.64	63.69
R1068.036-07-AC	Ø7	36	72.77	75.81
R1068.009-08-AC	Ø8	9	18.19	21.24
R1068.010-08-AC	Ø8	10	20.21	23.26
R1068.012-08-AC	Ø8	12	24.26	27.30
R1068.013-08-AC	Ø8	13	28.28	29.32
R1068.014-08-AC	Ø8	14	28.30	31.35
R1068.015-08-AC	Ø8	15	30.32	33.37
R1068.016-08-AC	Ø8	16	32.34	35.39
R1068.018-08-AC	Ø8	18	36.38	39.43
R1068.020-08-AC	Ø8	20	40.43	43.47
R1068.024-08-AC	Ø8	24	48.51	51.56
R1068.025-08-AC	Ø8	25	50.53	53.58
R1068.028-08-AC	Ø8	28	56.60	59.64
R1068.030-08-AC	Ø8	30	60.64	63.69
R1068.036-08-AC	Ø8	36	72.77	75.81



### R1071



#### Material

Aluminium DIN 3,1355 anodized.

recommended for idler use only.

Other no's of teeth are available on request.

#### Important Notes

Operate with R1070 series chain.

#### Technical Notes

<sup>1</sup>Sprockets with Ø35mm PD and smaller are

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1071.008-08-AL	Ø8	8 <sup>1</sup>	24.19	29.27
R1071.015-08-AL	Ø8	15	45.36	50.44
R1071.016-08-AL	Ø8	16	48.39	53.47
R1071.009-08-AL	Ø8	9 <sup>1</sup>	27.22	32.30
R1071.010-08-AL	Ø8	10 <sup>1</sup>	30.24	35.32
R1071.011-08-AL	Ø8	11 <sup>1</sup>	33.27	38.35
R1071.012-08-AL	Ø8	12	36.29	41.37
R1071.018-08-AL	Ø8	18	54.43	59.51
R1071.020-08-AL	Ø8	20	60.48	65.56
R1071.014-08-AL	Ø8	14	42.34	47.42
R1071.024-08-AL	Ø8	24	72.58	77.66
R1071.025-08-AL	Ø8	25	75.60	80.68
R1071.030-08-AL	Ø8	30	90.72	95.80
R1071.032-08-AL	Ø8	32	96.77	101.85
R1071.036-08-AL	Ø8	36	108.87	113.95
R1071.040-08-AL	Ø8	40	120.96	126.04
R1071.048-08-AL	Ø8	48	145.16	150.24
R1071.008-10-AL	Ø10	8 <sup>1</sup>	24.19	29.27
R1071.009-10-AL	Ø10	9 <sup>1</sup>	27.22	32.30
R1071.010-10-AL	Ø10	10 <sup>1</sup>	30.24	35.32
R1071.011-10-AL	Ø10	11 <sup>1</sup>	33.27	38.35
R1071.012-10-AL	Ø10	12	36.29	41.37
R1071.014-10-AL	Ø10	14	42.34	47.42
R1071.015-10-AL	Ø10	15	45.36	50.44
R1071.016-10-AL	Ø10	16	48.39	53.47
R1071.018-10-AL	Ø10	18	54.43	59.51
R1071.020-10-AL	Ø10	20	60.48	65.56
R1071.024-10-AL	Ø10	24	72.58	77.66
R1071.025-10-AL	Ø10	25	75.60	80.68
R1071.030-10-AL	Ø10	30	90.72	95.80
R1071.032-10-AL	Ø10	32	96.77	101.85
R1071.036-10-AL	Ø10	36	108.87	113.95
R1071.040-10-AL	Ø10	40	120.96	126.04
R1071.048-10-AL	Ø10	48	145.16	150.24



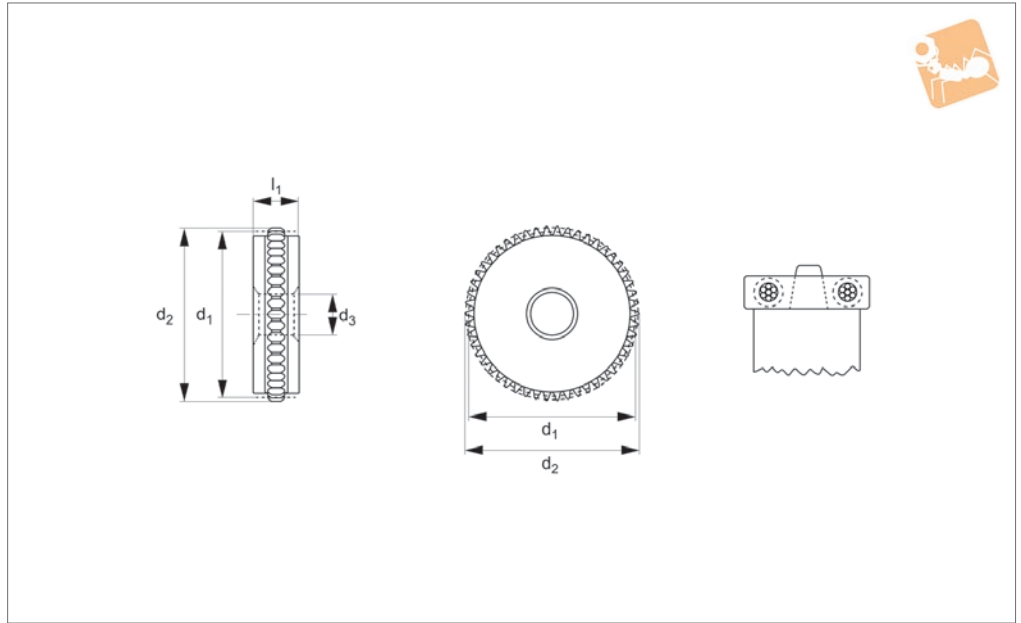
## Chain Sprockets - aluminium, pin hub 9,525mm circular pitch

## Chains, Belts & Pulleys

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1071.008-12-AL	Ø12	8 <sup>1</sup>	24.19	29.27
R1071.009-12-AL	Ø12	9 <sup>1</sup>	27.22	32.30
R1071.010-12-AL	Ø12	10 <sup>1</sup>	30.24	35.32
R1071.011-12-AL	Ø12	11 <sup>1</sup>	33.27	38.35
R1071.012-12-AL	Ø12	12	36.29	41.37
R1071.014-12-AL	Ø12	14	42.34	47.42
R1071.015-12-AL	Ø12	15	45.36	50.44
R1071.016-12-AL	Ø12	16	48.39	53.47
R1071.018-12-AL	Ø12	18	54.43	59.51
R1071.020-12-AL	Ø12	20	60.48	65.56
R1071.024-12-AL	Ø12	24	72.58	77.66
R1071.025-12-AL	Ø12	25	75.60	80.68
R1071.030-12-AL	Ø12	30	90.72	95.80
R1071.032-12-AL	Ø12	32	96.77	101.85
R1071.036-12-AL	Ø12	36	108.87	113.95
R1071.040-12-AL	Ø12	40	120.96	126.04
R1071.048-12-AL	Ø12	48	145.16	150.24



### R1072



#### Material

Aluminium DIN 3,1355 anodized.

recommended for idler use only.

Other no's of teeth are available on request.

#### Important Notes

Operate with R1070 series chain.

#### Technical Notes

<sup>1</sup>Sprockets with Ø35mm PD and smaller are

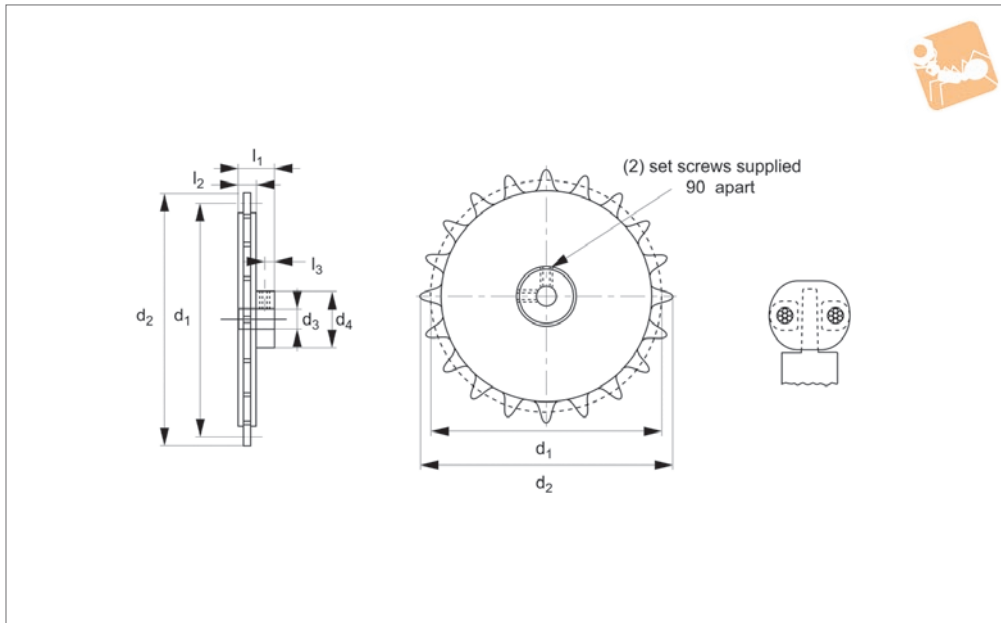
Order No.	No. of teeth	Pitch dia.	Outside dia.
R1072.008-10-HL	8 <sup>1</sup>	24.19	29.27
R1072.009-10-HL	9 <sup>1</sup>	27.22	32.30
R1072.010-10-HL	10 <sup>1</sup>	30.24	35.32
R1072.011-10-HL	11 <sup>1</sup>	33.27	38.35
R1072.012-10-HL	12	36.29	41.37
R1072.014-10-HL	14	42.34	47.42
R1072.015-10-HL	15	45.36	50.44
R1072.016-10-HL	16	48.39	53.47
R1072.018-10-HL	18	54.43	59.51
R1072.020-10-HL	20	60.48	65.56
R1072.024-10-HL	24	72.58	77.66
R1072.025-10-HL	25	75.60	80.68
R1072.030-10-HL	30	90.72	95.80
R1072.032-10-HL	32	96.77	101.85
R1072.036-10-HL	36	108.87	113.95
R1072.040-10-HL	40	120.96	126.04
R1072.048-10-HL	48	145.16	150.24





# Chain Sprockets - aluminium, pin hub

12,7mm nominal circular pitch



**R1081**

**Material**

Aluminium DIN 3,1355 anodized.

recommended for idler use only.  
Other no's of teeth are available on request.

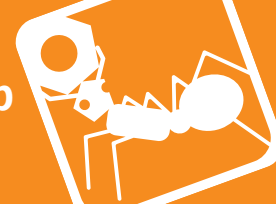
**Important Notes**

Operate with R1080 series chain.

**Technical Notes**

<sup>1</sup>Sprockets with Ø45mm PD and smaller are

Order No.	Bore dia.	No. of teeth	Pitch diameter	Outside dia.
R1081.008-08-AL	Ø8	8 <sup>1</sup>	32.51	38.86
R1081.009-08-AL	Ø8	9 <sup>1</sup>	36.58	42.93
R1081.010-08-AL	Ø8	10 <sup>1</sup>	40.64	46.99
R1081.011-08-AL	Ø8	11 <sup>1</sup>	44.70	51.05
R1081.012-08-AL	Ø8	12	48.77	55.12
R1081.013-08-AL	Ø8	13	52.83	59.18
R1081.014-08-AL	Ø8	14	56.90	63.25
R1081.015-08-AL	Ø8	15	60.96	67.31
R1081.016-08-AL	Ø8	16	65.02	71.37
R1081.018-08-AL	Ø8	18	73.15	79.50
R1081.020-08-AL	Ø8	20	81.28	87.63
R1081.022-08-AL	Ø8	22	89.41	95.76
R1081.024-08-AL	Ø8	24	97.54	103.89
R1081.025-08-AL	Ø8	25	101.60	107.95
R1081.028-08-AL	Ø8	28	113.79	120.14
R1081.030-08-AL	Ø8	30	121.92	128.27
R1081.032-08-AL	Ø8	32	130.05	136.40
R1081.034-08-AL	Ø8	34	138.18	144.53
R1081.036-08-AL	Ø8	36	146.30	152.65
R1081.038-08-AL	Ø8	38	154.43	160.78
R1081.008-10-AL	Ø10	8 <sup>1</sup>	32.51	38.86
R1081.009-10-AL	Ø10	9 <sup>1</sup>	36.58	42.93
R1081.010-10-AL	Ø10	10 <sup>1</sup>	40.64	46.99
R1081.011-10-AL	Ø10	11 <sup>1</sup>	44.70	51.05
R1081.012-10-AL	Ø10	12	48.77	55.12
R1081.013-10-AL	Ø10	13	52.83	59.18
R1081.014-10-AL	Ø10	14	56.90	63.25
R1081.015-10-AL	Ø10	15	60.96	67.31
R1081.016-10-AL	Ø10	16	65.02	71.37
R1081.018-10-AL	Ø10	18	73.15	79.50
R1081.020-10-AL	Ø10	20	81.28	87.63
R1081.022-10-AL	Ø10	22	89.41	95.76
R1081.024-10-AL	Ø10	24	97.54	103.89
R1081.025-10-AL	Ø10	25	101.60	107.95



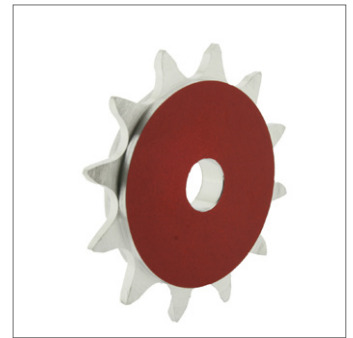
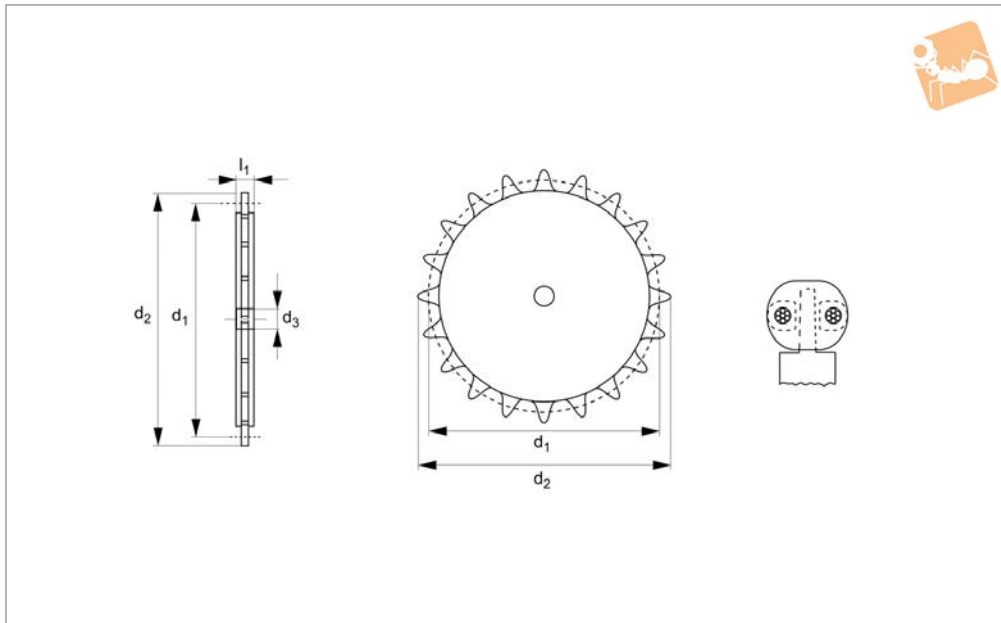
Order No.	Bore dia.	No. of teeth	Pitch diameter	Outside dia.
R1081.028-10-AL	Ø10	28	113.79	120.14
R1081.030-10-AL	Ø10	30	121.92	128.27
R1081.032-10-AL	Ø10	32	130.05	136.40
R1081.034-10-AL	Ø10	34	138.18	144.53
R1081.036-10-AL	Ø10	36	146.30	152.65
R1081.038-10-AL	Ø10	38	154.43	160.78
R1081.008-12-AL	Ø12	8 <sup>1</sup>	32.51	38.86
R1081.009-12-AL	Ø12	9 <sup>1</sup>	36.58	42.93
R1081.010-12-AL	Ø12	10 <sup>1</sup>	40.64	46.99
R1081.011-12-AL	Ø12	11 <sup>1</sup>	44.70	51.05
R1081.012-12-AL	Ø12	12	48.77	55.12
R1081.013-12-AL	Ø12	13	52.83	59.18
R1081.014-12-AL	Ø12	14	56.90	63.25
R1081.015-12-AL	Ø12	15	60.96	67.31
R1081.016-12-AL	Ø12	16	65.02	71.37
R1081.018-12-AL	Ø12	18	73.15	79.50
R1081.020-12-AL	Ø12	20	81.28	87.63
R1081.022-12-AL	Ø12	22	89.41	95.76
R1081.024-12-AL	Ø12	24	97.54	103.89
R1081.025-12-AL	Ø12	25	101.60	107.95
R1081.028-12-AL	Ø12	28	113.79	120.14
R1081.030-12-AL	Ø12	30	121.92	128.27
R1081.032-12-AL	Ø12	32	130.05	136.40
R1081.034-12-AL	Ø12	34	138.18	144.53
R1081.036-12-AL	Ø12	36	146.30	152.65
R1081.038-12-AL	Ø12	38	154.43	160.78



# Chain Sprockets - aluminium, hubless

12,7mm nominal circular pitch

## Chains, Belts & Pulleys



**R1082**

CHAINS, BELTS & PULLEYS

### Material

Aluminium DIN 3,1355 anodized.

recommended for idler use only.

Other no's of teeth are available on request.

### Important Notes

Operate with R1080 series chain.

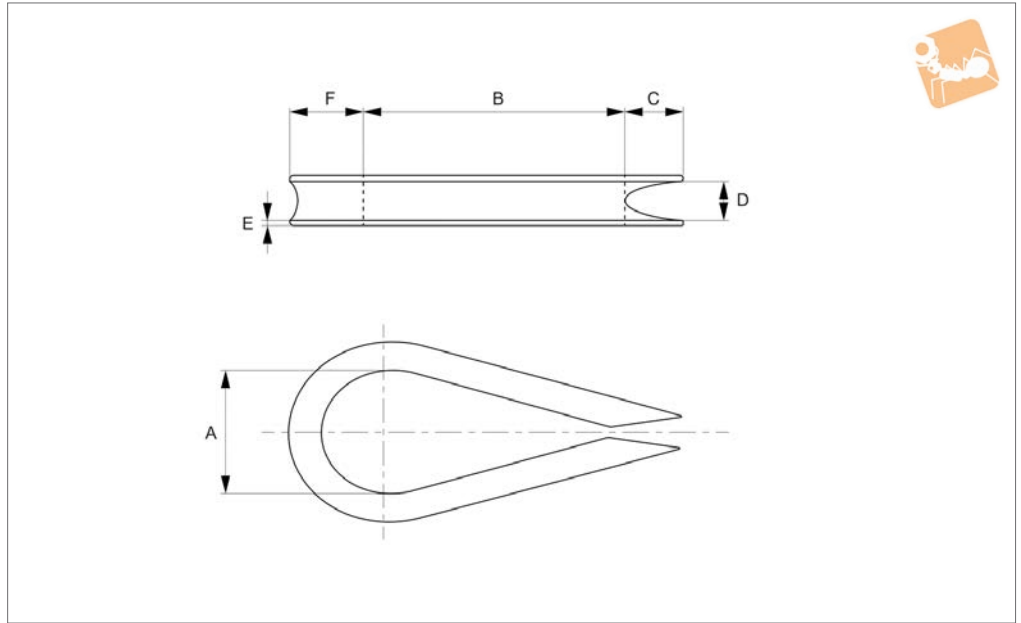
### Technical Notes

<sup>1</sup> Sprockets with Ø45mm PD and smaller are

Order No.	No. of teeth	Pitch diameter	Outside dia.
R1082.008-HL	8 <sup>1</sup>	32.51	38.86
R1082.009-HL	9 <sup>1</sup>	36.58	42.93
R1082.010-HL	10 <sup>1</sup>	40.64	46.99
R1082.011-HL	11 <sup>1</sup>	44.70	51.05
R1082.012-HL	12	48.77	55.12
R1082.013-HL	13	52.83	59.18
R1082.014-HL	14	56.90	63.25
R1082.015-HL	15	60.96	67.31
R1082.016-HL	16	65.02	71.37
R1082.018-HL	18	73.15	79.50
R1082.020-HL	20	81.28	87.63
R1082.022-HL	22	89.41	95.76
R1082.024-HL	24	97.54	103.89
R1082.025-HL	25	101.60	107.95
R1082.028-HL	28	113.79	120.14
R1082.030-HL	30	121.92	128.27
R1082.032-HL	32	130.05	136.40
R1082.034-HL	34	138.18	144.53
R1082.036-HL	36	146.30	152.65
R1082.038-HL	38	154.43	160.78

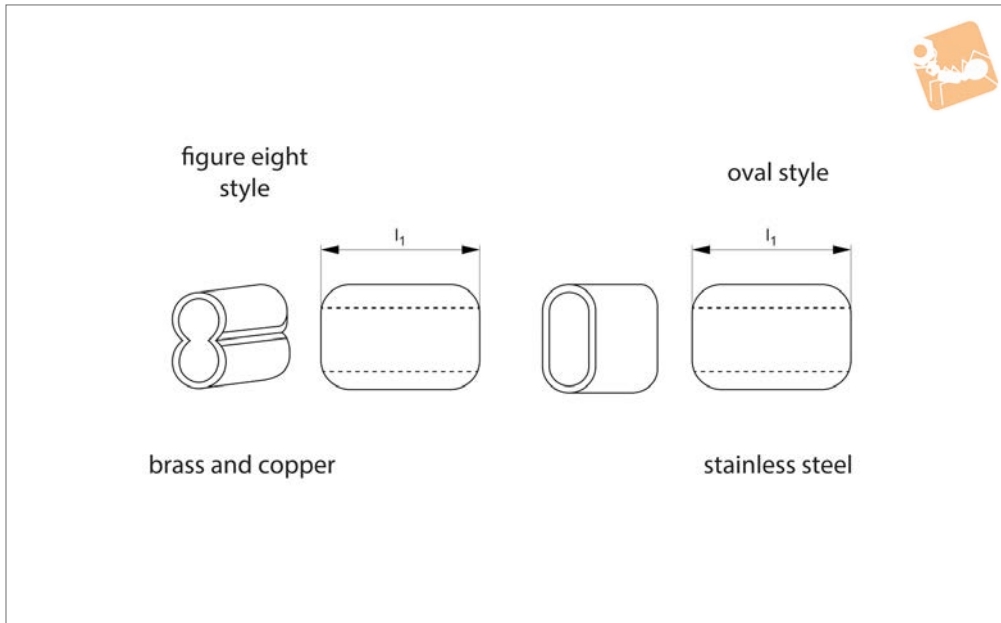


**R1098**



**Material**  
Stainless steel.

Order No.	Cable dia.	$\varnothing A$	b	c	d	e	f
R1098.010	0,4-1,0	4.8	6	3	3	0.4	1
R1098.020	1,0-2,0	9.0	17	5	2	0.8	2
R1098.030	2,4-3,0	9.0	18	6	4	0.8	2
R1098.040	4.0	10.2	20	6	4	0.8	3
R1098.050	5.0	12.7	25	8	5	0.8	4



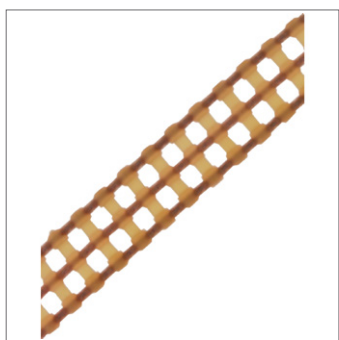
**R1099**

CHAINS, BELTS & PULLEYS

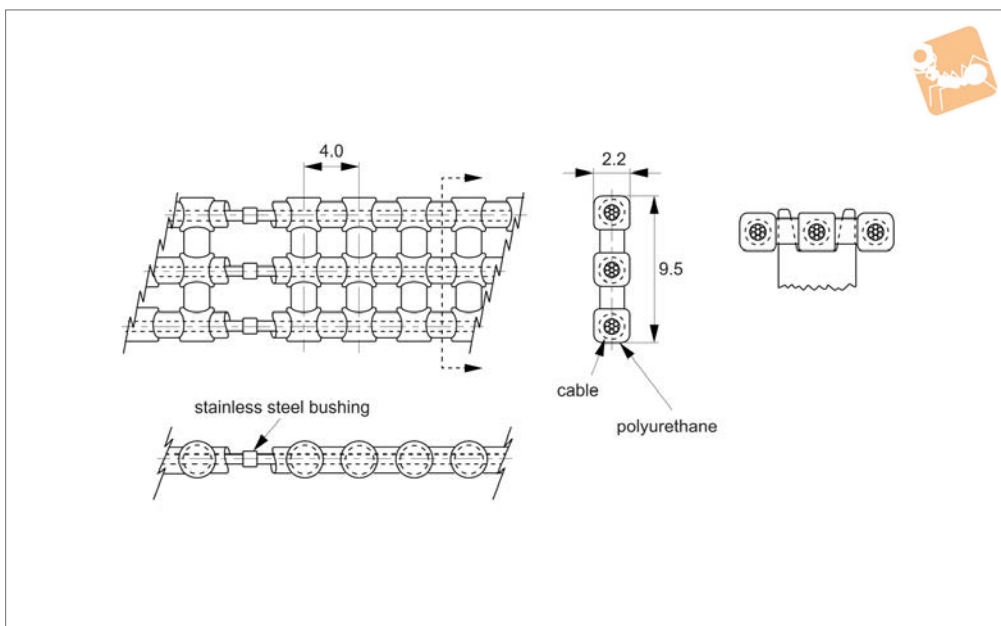
### Material

Copper (zinc plated), brass or stainless steel.

Order No.	Material	$l_1$	Cable dia.	Crimp tool no.
R1099.B04	Brass	6.4	0.4	TL-10
R1099.C08	Copper	7.0	0.8	TL-10
R1099.C10	Copper	11.0	1.0	TL-10
R1099.C16	Copper	6.4	1.6	TL-10
R1099.C20	Copper	12.7	2,0 & 2,4	TL-11
R1099.C30	Copper	19.0	3.0	TL-11
R1099.C40	Copper	22.2	4.0	TL-11
R1099.C50	Copper	31.8	5.0	TL-11
R1099.S04	Stainless	0.8	0.4	TL-4
R1099.S08	Stainless	1.2	0.8	TL-3
R1099.S10	Stainless	3.2	1.0	TL-3
R1099.S16	Stainless	4.8	1.6	TL-7
R1099.S20	Stainless	6.4	2.0	TL-6



### R1040



#### Material

Triple 0,8mm Ø stainless steel cable encased in polyurethane (brown). This series is not available with aramid core configuration.

#### Technical Notes

Infinite lengths, silent drive, mass 20 grams/metre, non-magnetic, positive drive, zero backlash, no lubrication, 90A

#### Durometer.

Ultimate tensile strength 533N-133N/PIN when belt is used in open loop configuration (without splice, no crimp bushings). Temperature range +80°C to -25°C, recommended operating load 133N. Recommended max. operating speed 1,91m/s.

#### Tips

Reduce operating load rating by 50% for self splices  
Self splice kit available (order no. R1010. SSK).

#### Important Notes

Operates with R1042 and R1043 series sprockets.

Order No.	No. of pitches	Length ref.
R1040.D030	30	120.0
R1040.D035	35	140.0
R1040.D040	40	160.0
R1040.D045	45	180.0
R1040.D050	50	200.0
R1040.D055	55	220.0
R1040.D060	60	240.0
R1040.D070	70	280.0
R1040.D080	80	320.0
R1040.D090	90	360.0
R1040.D100	100	400.0
R1040.D110	110	440.0
R1040.D120	120	480.0
R1040.D130	130	520.0
R1040.D140	140	560.0
R1040.D150	150	600.0
R1040.D160	160	640.0
R1040.D170	170	680.0
R1040.D180	180	720.0
R1040.D190	190	760.0
R1040.D200	200	800.0
R1040.D210	210	840.0
R1040.D220	220	880.0
R1040.D230	230	920.0
R1040.D240	240	960.0
R1040.D250	250	1000.0
R1040.D260	260	1040.0
R1040.D270	270	1080.0

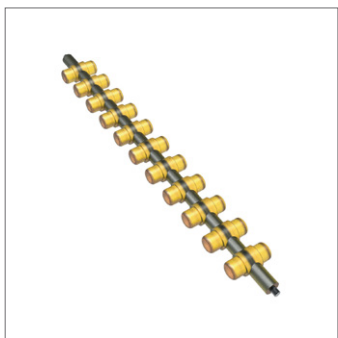


## Dual Chains

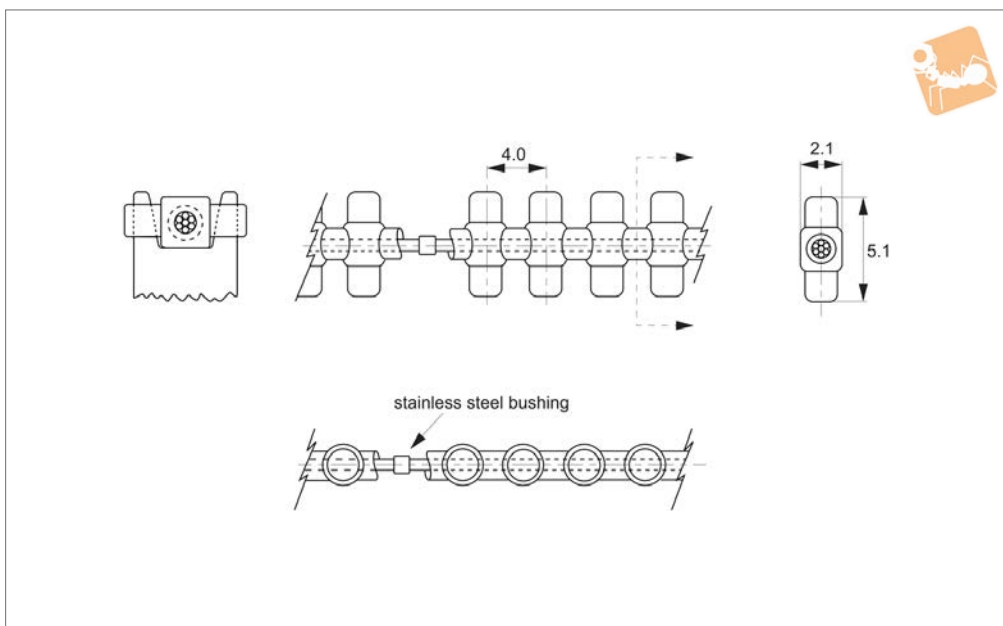
4mm nominal circular pitch

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1040.D280	280	1120.0
R1040.D290	290	1160.0
R1040.D300	300	1200.0
R1040.D310	310	1240.0
R1040.D320	320	1280.0
R1040.D330	330	1320.0
R1040.D340	340	1360.0
R1040.D350	350	1520.0
R1040.D370	370	1600.0
R1040.D400	400	1680.0
R1040.D440	440	1760.0
R1040-1.5M	-	1,5 metres not spliced
R1040-3.0M	-	3,0 metres not spliced
R1040-7.5M	-	7,5 metres not spliced
R1040-15M	-	15,0 metres not spliced
R1040-30M	-	30,0 metres not spliced



### R1040.1



#### Material

Single 0,8mm Ø stainless steel cable encased in polyurethane (yellow).

This series is not available with aramid core configuration.

#### Technical Notes

Zero backlash.  
Odd angles.  
Mass 11 grams/metre.

Silent drive.  
No lubrication.  
Infinite lengths.  
90A Durometer.

Positive drive.  
Ultimate tensile strength 222N-40N/PIN when belt is used in open loop configuration (without splice, no crimp bushing).  
Temperature range +82°C to -26°C.  
Recommended operating load 53N.

Recommended max operating speed 1,91 m/s.

#### Tips

Reduce operating load rating by 50% for field splices.  
Self splice kit available R1040.SSK.

#### Important Notes

Operate with R1040 series chain.

Order No.	No. of pitches	Length ref.
R1040.S030	30	120.0
R1040.S035	35	140.0
R1040.S040	40	160.0
R1040.S045	45	180.0
R1040.S050	50	200.0
R1040.S055	55	220.0
R1040.S060	60	240.0
R1040.S070	70	280.0
R1040.S080	80	320.0
R1040.S090	90	360.0
R1040.S100	100	400.0
R1040.S110	110	440.0
R1040.S120	120	480.0
R1040.S130	130	520.0
R1040.S140	140	560.0
R1040.S150	150	600.0
R1040.S160	160	640.0
R1040.S170	170	680.0
R1040.S180	180	720.0
R1040.S190	190	760.0
R1040.S200	200	800.0
R1040.S210	210	840.0
R1040.S220	220	880.0
R1040.S230	230	920.0
R1040.S240	240	960.0
R1040.S250	250	1000.0
R1040.S260	260	1040.0





## Min-E-Pitch Belts, 4mm nominal

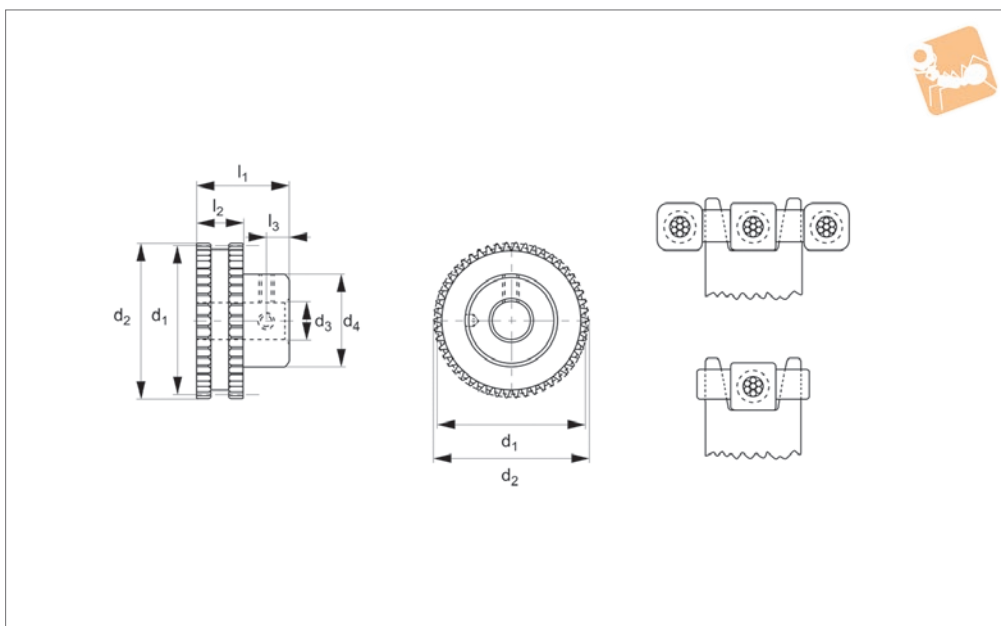
Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1040.S270	270	1080.0
R1040.S280	280	1120.0
R1040.S290	290	1160.0
R1040.S300	300	1200.0
R1040.S310	310	1240.0
R1040.S320	320	1280.0
R1040.S330	330	1320.0
R1040.S340	340	1360.0
R1040.S350	350	1520.0
R1040.S370	370	1600.0
R1040.S400	400	1680.0
R1040.S440	440	1760.0
R1040.1.5M	-	1,5 metres not spliced
R1040.3.0M	-	3,0 metres not spliced
R1040.7.5M	-	7,5 metres not spliced
R1040.15M	-	15,0 metres not spliced
R1040.30M	-	30,0 metres not spliced

CHAINS, BELTS & PULLEYS



### R1042



#### Material

Aluminium DIN 3,1355 anodized.

#### Technical Notes

<sup>1</sup> Sprockets with Ø19.0 PD and smaller are

recommended for idler use only.

<sup>2</sup> For 12-14 teeth, hub diameter equals 12,9.

Other no.'s of teeth available on request.

Stainless steel equivalent available.

#### Important Notes

Operate with R1040 and R1041 series chain.

Order No.	Bore dia.	No. of teeth	Pitch diameter	Outside dia.
R1042.012-04-AL	Ø4	12 <sup>12</sup>	15.33	16.79
R1042.013-04-AL	Ø4	13 <sup>12</sup>	16.49	18.06
R1042.014-04-AL	Ø4	14 <sup>12</sup>	17.76	19.33
R1042.015-04-AL	Ø4	15 <sup>1</sup>	19.02	20.57
R1042.016-04-AL	Ø4	16	20.29	21.87
R1042.017-04-AL	Ø4	17	21.56	23.11
R1042.018-04-AL	Ø4	18	22.83	24.38
R1042.019-04-AL	Ø4	19	24.10	25.65
R1042.020-04-AL	Ø4	20	25.37	26.92
R1042.022-04-AL	Ø4	22	27.90	29.46
R1042.024-04-AL	Ø4	24	30.44	32.00
R1042.025-04-AL	Ø4	25	31.71	33.27
R1042.026-04-AL	Ø4	26	32.98	34.54
R1042.028-04-AL	Ø4	28	35.51	37.08
R1042.030-04-AL	Ø4	30	38.05	39.62
R1042.032-04-AL	Ø4	32	40.59	42.16
R1042.035-04-AL	Ø4	35	44.39	45.95
R1042.036-04-AL	Ø4	36	45.66	47.22
R1042.040-04-AL	Ø4	40	50.73	52.30
R1042.045-04-AL	Ø4	45	57.08	58.65
R1042.050-04-AL	Ø4	50	63.42	64.97
R1042.055-04-AL	Ø4	55	69.76	71.32
R1042.060-04-AL	Ø4	60	76.10	77.67
R1042.065-04-AL	Ø4	65	82.44	84.00
R1042.070-04-AL	Ø4	70	88.79	90.35
R1042.075-04-AL	Ø4	75	95.13	96.70
R1042.080-04-AL	Ø4	80	101.47	103.20
R1042.012-06-AL	Ø6	12 <sup>12</sup>	15.33	16.79
R1042.013-06-AL	Ø6	13 <sup>12</sup>	16.49	18.06
R1042.014-06-AL	Ø6	14 <sup>12</sup>	17.76	19.33
R1042.015-06-AL	Ø6	15 <sup>1</sup>	19.02	20.57
R1042.016-06-AL	Ø6	16	20.29	21.87
R1042.017-06-AL	Ø6	17	21.56	23.11
R1042.018-06-AL	Ø6	18	22.83	24.38



## Double Sprockets

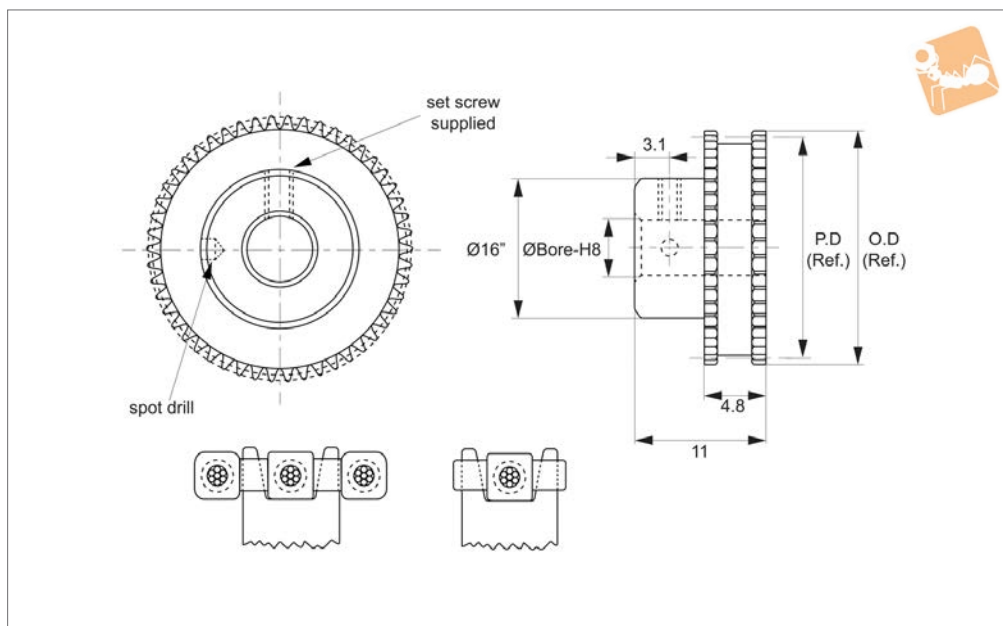
4mm nominal circular pitch

## Chains, Belts & Pulleys

Order No.	Bore dia.	No. of teeth	Pitch diameter	Outside dia.
R1042.019-06-AL	Ø6	19	24.10	25.65
R1042.020-06-AL	Ø6	20	25.37	26.92
R1042.022-06-AL	Ø6	22	27.90	29.46
R1042.024-06-AL	Ø6	24	30.44	32.00
R1042.025-06-AL	Ø6	25	31.71	33.27
R1042.026-06-AL	Ø6	26	32.98	34.54
R1042.028-06-AL	Ø6	28	35.51	37.08
R1042.030-06-AL	Ø6	30	38.05	39.62
R1042.032-06-AL	Ø6	32	40.59	42.16
R1042.035-06-AL	Ø6	35	44.39	45.95
R1042.036-06-AL	Ø6	36	45.66	47.22
R1042.040-06-AL	Ø6	40	50.73	52.30
R1042.012-08-AL	Ø8	12 <sup>12</sup>	15.33	16.79
R1042.013-08-AL	Ø8	13 <sup>12</sup>	16.49	18.06
R1042.014-08-AL	Ø8	14 <sup>12</sup>	17.76	19.33
R1042.015-08-AL	Ø8	15 <sup>1</sup>	19.02	20.57
R1042.016-08-AL	Ø8	16	20.29	21.87
R1042.017-08-AL	Ø8	17	21.56	23.11
R1042.018-08-AL	Ø8	18	22.83	24.38
R1042.019-08-AL	Ø8	19	24.10	25.65
R1042.020-08-AL	Ø8	20	25.37	26.92
R1042.022-08-AL	Ø8	22	27.90	29.46
R1042.024-08-AL	Ø8	24	30.44	32.00
R1042.025-08-AL	Ø8	25	31.71	33.27
R1042.026-08-AL	Ø8	26	32.98	34.54
R1042.028-08-AL	Ø8	28	35.51	37.08
R1042.030-08-AL	Ø8	30	38.05	39.62
R1042.032-08-AL	Ø8	32	40.59	42.16
R1042.035-08-AL	Ø8	35	44.39	45.95
R1042.036-08-AL	Ø8	36	45.66	47.22
R1042.040-08-AL	Ø8	40	50.73	52.30
R1042.045-08-AL	Ø8	45	57.08	58.65
R1042.050-08-AL	Ø8	50	63.42	64.97
R1042.055-08-AL	Ø8	55	69.76	71.32
R1042.060-08-AL	Ø8	60	76.10	77.67
R1042.065-08-AL	Ø8	65	82.44	84.00
R1042.070-08-AL	Ø8	70	88.79	90.35
R1042.075-08-AL	Ø8	75	95.13	96.70
R1042.080-08-AL	Ø8	80	101.47	103.20
R1042.045-06-AL	Ø6	45	57.08	58.65
R1042.050-06-AL	Ø6	50	63.42	64.97
R1042.055-06-AL	Ø6	55	69.76	71.32
R1042.060-06-AL	Ø6	60	76.10	77.67
R1042.065-06-AL	Ø6	65	82.44	84.00
R1042.070-06-AL	Ø6	70	88.79	90.35
R1042.075-06-AL	Ø6	75	95.13	96.70
R1042.080-06-AL	Ø6	80	101.47	103.20



### R1040.3



#### Material

Aluminium DIN 3,1355 anodized.

recommended for idler use only.

<sup>2</sup> for 12-14 teeth, hub diameter equals 12,9.

Other no.'s of teeth available on request.

Stainless steel equivalent available.

#### Important Notes

Operate with R1040 series chain.

#### Technical Notes

<sup>1</sup> sprockets with Ø19.0 PD and smaller are

Order No.	Bore dia.	No. of teeth	Pitch diameter	Outside dia.
R1040.012-08-AL	Ø8	12 <sup>12</sup>	15.33	16.79
R1040.013-08-AL	Ø8	13 <sup>12</sup>	16.49	18.06
R1040.014-08-AL	Ø8	14 <sup>12</sup>	17.76	19.33
R1040.015-08-AL	Ø8	15 <sup>1</sup>	19.02	20.57
R1040.016-08-AL	Ø8	16	20.29	21.87
R1040.017-08-AL	Ø8	17	21.56	23.11
R1040.018-08-AL	Ø8	18	22.83	24.38
R1040.019-08-AL	Ø8	19	24.10	25.65
R1040.020-08-AL	Ø8	20	25.37	26.92
R1040.022-08-AL	Ø8	22	27.90	29.46
R1040.024-08-AL	Ø8	24	30.44	32.00
R1040.025-08-AL	Ø8	25	31.71	33.27
R1040.026-08-AL	Ø8	26	32.98	34.54
R1040.028-08-AL	Ø8	28	35.51	37.08
R1040.030-08-AL	Ø8	30	38.05	39.62
R1040.032-08-AL	Ø8	32	40.59	42.16
R1040.035-08-AL	Ø8	35	44.39	45.95
R1040.036-08-AL	Ø8	36	45.66	47.22
R1040.040-08-AL	Ø8	40	50.73	52.30
R1040.045-08-AL	Ø8	45	57.08	58.65
R1040.050-08-AL	Ø8	50	63.42	64.97
R1040.055-08-AL	Ø8	55	69.76	71.32
R1040.060-08-AL	Ø8	60	76.10	77.67
R1040.065-08-AL	Ø8	65	82.44	84.00
R1040.070-08-AL	Ø8	70	88.79	90.35
R1040.075-08-AL	Ø8	75	95.13	96.70
R1040.080-08-AL	Ø8	80	101.47	103.20
R1040.045-06-AL	Ø6	45	57.08	58.65
R1040.050-06-AL	Ø6	50	63.42	64.97
R1040.055-06-AL	Ø6	55	69.76	71.32
R1040.060-06-AL	Ø6	60	76.10	77.67
R1040.065-06-AL	Ø6	65	82.44	84.00
R1040.070-06-AL	Ø6	70	88.79	90.35
R1040.075-06-AL	Ø6	75	95.13	96.70



## Double Sprockets

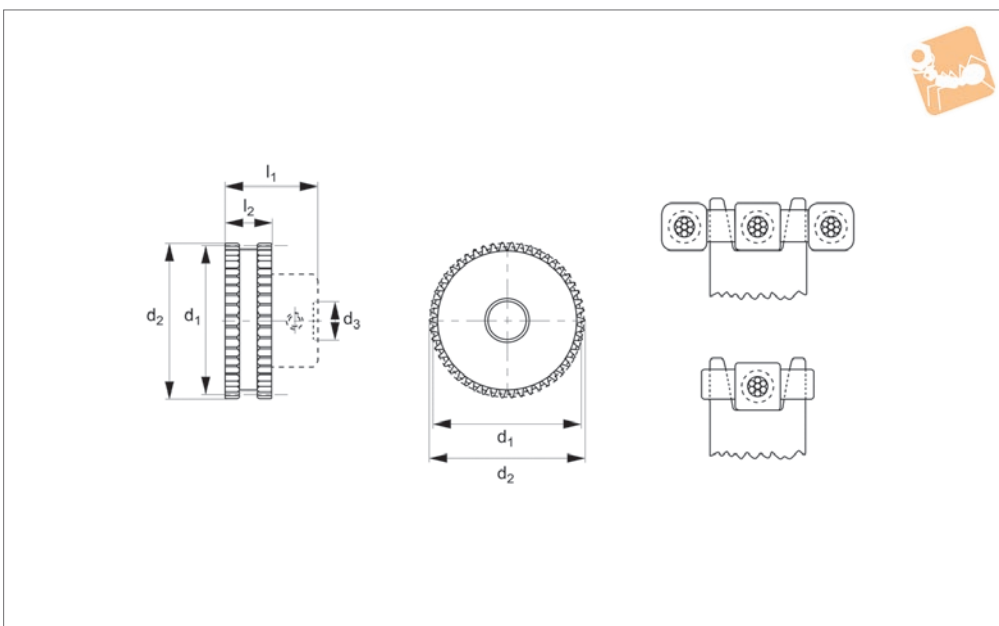
4mm nominal circular pitch

## Chains, Belts & Pulleys

Order No.	Bore dia.	No. of teeth	Pitch diameter	Outside dia.
R1040.080-06-AL	Ø6	80	101.47	103.20



### R1043



#### Material

Aluminium DIN 3,1355 anodized.

recommended for idler use only.

Other no.'s of teeth available on request.

Stainless steel equivalent available.

#### Important Notes

Operate with R1040 and R1041 series chain.

#### Technical Notes

<sup>1</sup> Sprockets with Ø19,0 PD and smaller are

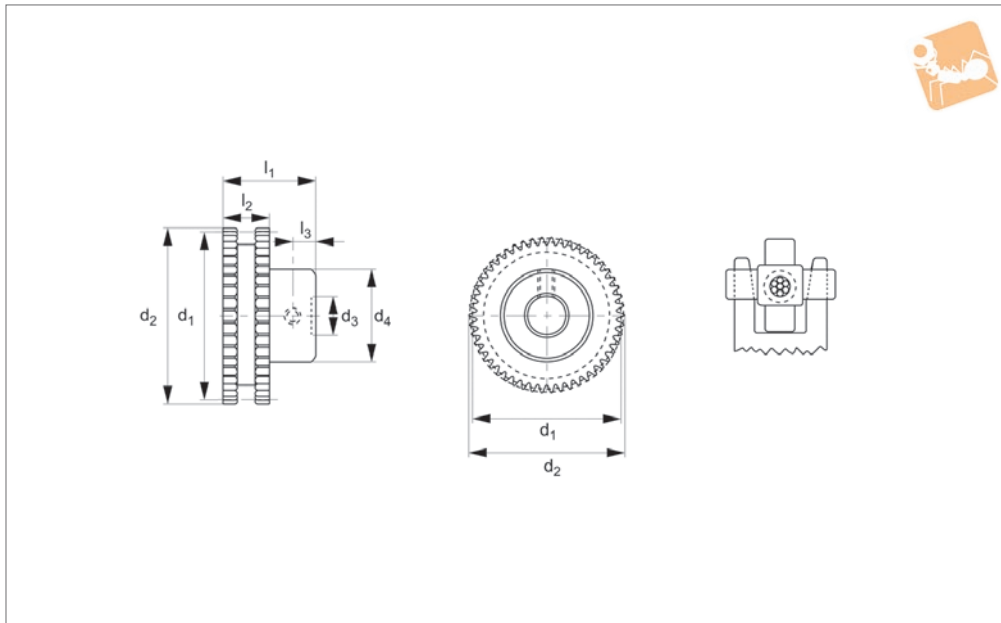
Order No.	No. of teeth	Pitch diameter	Outside dia.
R1043.014-HL	14 <sup>1</sup>	17.76	19.33
R1043.015-HL	15 <sup>1</sup>	19.02	20.57
R1043.016-HL	16	20.29	21.87
R1043.017-HL	17	21.56	23.11
R1043.018-HL	18	22.83	24.38
R1043.019-HL	19	24.10	25.65
R1043.020-HL	20	25.37	26.92
R1043.022-HL	22	27.90	29.46
R1043.024-HL	24	30.44	32.00
R1043.025-HL	25	31.71	33.27
R1043.026-HL	26	32.98	34.54
R1043.028-HL	28	35.51	37.08
R1043.030-HL	30	38.05	39.62
R1043.032-HL	32	40.59	42.16
R1043.035-HL	35	44.39	45.95
R1043.036-HL	36	45.66	47.22
R1043.040-HL	40	50.73	52.30
R1043.045-HL	45	57.08	58.65
R1043.050-HL	50	63.42	64.97
R1043.055-HL	55	69.76	71.32
R1043.060-HL	60	76.10	77.67
R1043.065-HL	65	82.44	84.00
R1043.070-HL	70	88.79	90.35
R1043.075-HL	75	95.13	96.70
R1043.080-HL	80	101.47	103.02



# 3-D Pulleys, aluminium, pin hub

4mm nominal circular pitch

## Chains, Belts & Pulleys



**R1051**

CHAINS, BELTS & PULLEYS

**Material**

Aluminium DIN 3,1355 anodized.

**Technical Notes**

<sup>1</sup> Sprockets with Ø19,0 PD and smaller are

recommended for idler use only.

<sup>2</sup> For 12-16 teeth, hub diameter equals 10,0.

Other no's of teeth available on request.

Stainless steel version also available.

**Important Notes**

Operate with R1050 series chain.

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1051.012-04-AL	Ø4	12 <sup>1 2</sup>	15.22	16.80
R1051.013-04-AL	Ø4	13 <sup>1 2</sup>	16.49	18.07
R1051.014-04-AL	Ø4	14 <sup>1 2</sup>	17.76	19.34
R1051.015-04-AL	Ø4	15 <sup>1 2</sup>	19.03	20.61
R1051.016-04-AL	Ø4	16 <sup>2</sup>	20.29	21.87
R1051.017-04-AL	Ø4	17	21.56	23.14
R1051.018-04-AL	Ø4	18	22.83	24.41
R1051.019-04-AL	Ø4	19	24.10	25.68
R1051.020-04-AL	Ø4	20	25.37	26.95
R1051.022-04-AL	Ø4	22	27.90	29.48
R1051.024-04-AL	Ø4	24	30.44	32.02
R1051.025-04-AL	Ø4	25	31.71	33.26
R1051.026-04-AL	Ø4	26	32.98	34.56
R1051.028-04-AL	Ø4	28	35.51	37.09
R1051.030-04-AL	Ø4	30	38.05	39.63
R1051.032-04-AL	Ø4	32	40.59	42.17
R1051.035-04-AL	Ø4	35	44.39	45.97
R1051.036-04-AL	Ø4	36	45.66	47.24
R1051.040-04-AL	Ø4	40	50.47	52.32
R1051.045-04-AL	Ø4	45	57.10	58.66
R1051.050-04-AL	Ø4	50	63.42	65.00
R1051.055-04-AL	Ø4	55	69.76	71.34
R1051.060-04-AL	Ø4	60	76.10	77.68
R1051.065-04-AL	Ø4	65	82.45	84.02
R1051.070-04-AL	Ø4	70	88.79	90.37
R1051.075-04-AL	Ø4	75	95.13	96.71
R1051.080-04-AL	Ø4	80	101.47	103.05
R1051.012-06-AL	Ø6	12 <sup>1 2</sup>	15.22	16.80
R1051.013-06-AL	Ø6	13 <sup>1 2</sup>	16.49	18.07
R1051.014-06-AL	Ø6	14 <sup>1 2</sup>	17.76	19.34
R1051.015-06-AL	Ø6	15 <sup>1 2</sup>	19.03	20.61
R1051.016-06-AL	Ø6	16 <sup>2</sup>	20.29	21.87
R1051.017-06-AL	Ø6	17	21.56	23.14
R1051.018-06-AL	Ø6	18	22.83	24.41



Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1051.019-06-AL	Ø6	19	24.10	25.68
R1051.020-06-AL	Ø6	20	25.37	26.95
R1051.022-06-AL	Ø6	22	27.90	29.48
R1051.024-06-AL	Ø6	24	30.44	32.02
R1051.025-06-AL	Ø6	25	31.71	33.26
R1051.026-06-AL	Ø6	26	32.98	34.56
R1051.028-06-AL	Ø6	28	35.51	37.09
R1051.030-06-AL	Ø6	30	38.05	39.63
R1051.032-06-AL	Ø6	32	40.59	42.17
R1051.035-06-AL	Ø6	35	44.39	45.97
R1051.036-06-AL	Ø6	36	45.66	47.24
R1051.040-06-AL	Ø6	40	50.47	52.32
R1051.045-06-AL	Ø6	45	57.10	58.66
R1051.050-06-AL	Ø6	50	63.42	65.00
R1051.055-06-AL	Ø6	55	69.76	71.34
R1051.060-06-AL	Ø6	60	76.10	77.68
R1051.065-06-AL	Ø6	65	82.45	84.02
R1051.070-06-AL	Ø6	70	88.79	90.37
R1051.075-06-AL	Ø6	75	95.13	96.71
R1051.080-06-AL	Ø6	80	101.47	103.05
R1051.012-08-AL	Ø8	12 <sup>1 2</sup>	15.22	16.80
R1051.013-08-AL	Ø8	13 <sup>1 2</sup>	16.49	18.07
R1051.014-08-AL	Ø8	14 <sup>1 2</sup>	17.76	19.34
R1051.015-08-AL	Ø8	15 <sup>1 2</sup>	19.03	20.61
R1051.016-08-AL	Ø8	16 <sup>2</sup>	20.29	21.87
R1051.017-08-AL	Ø8	17	21.56	23.14
R1051.018-08-AL	Ø8	18	22.83	24.41
R1051.019-08-AL	Ø8	19	24.10	25.68
R1051.020-08-AL	Ø8	20	25.37	26.95
R1051.022-08-AL	Ø8	22	27.90	29.48
R1051.024-08-AL	Ø8	24	30.44	32.02
R1051.025-08-AL	Ø8	25	31.71	33.26
R1051.026-08-AL	Ø8	26	32.98	34.56
R1051.028-08-AL	Ø8	28	35.51	37.09
R1051.030-08-AL	Ø8	30	38.05	39.63
R1051.032-08-AL	Ø8	32	40.59	42.17
R1051.035-08-AL	Ø8	35	44.39	45.97
R1051.036-08-AL	Ø8	36	45.66	47.24
R1051.040-08-AL	Ø8	40	50.47	52.32
R1051.045-08-AL	Ø8	45	57.10	58.66
R1051.050-08-AL	Ø8	50	63.42	65.00
R1051.055-08-AL	Ø8	55	69.76	71.34
R1051.060-08-AL	Ø8	60	76.10	77.68
R1051.065-08-AL	Ø8	65	82.45	84.02
R1051.070-08-AL	Ø8	70	88.79	90.37
R1051.075-08-AL	Ø8	75	95.13	96.71
R1051.080-08-AL	Ø8	80	101.47	103.05

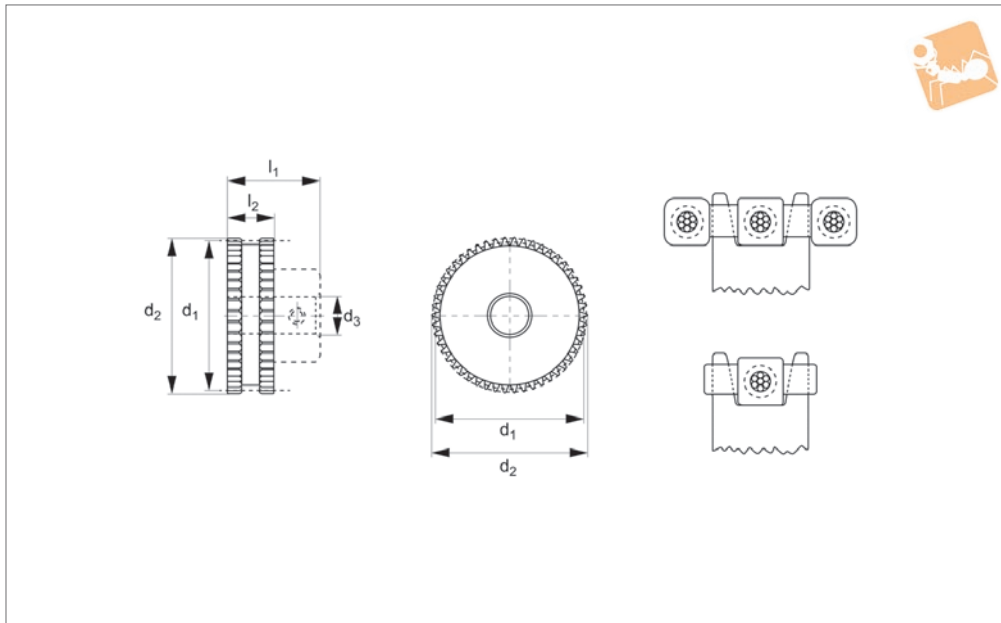




# 3-D Pulleys - aluminium, hubless

4mm nominal circular pitch

## Chains, Belts & Pulleys



**R1052**

CHAINS, BELTS & PULLEYS

**Material**

Aluminium DIN 3,1355 anodized.

Stainless steel equivalent available.

**Technical Notes**

Other no's of teeth available on request.

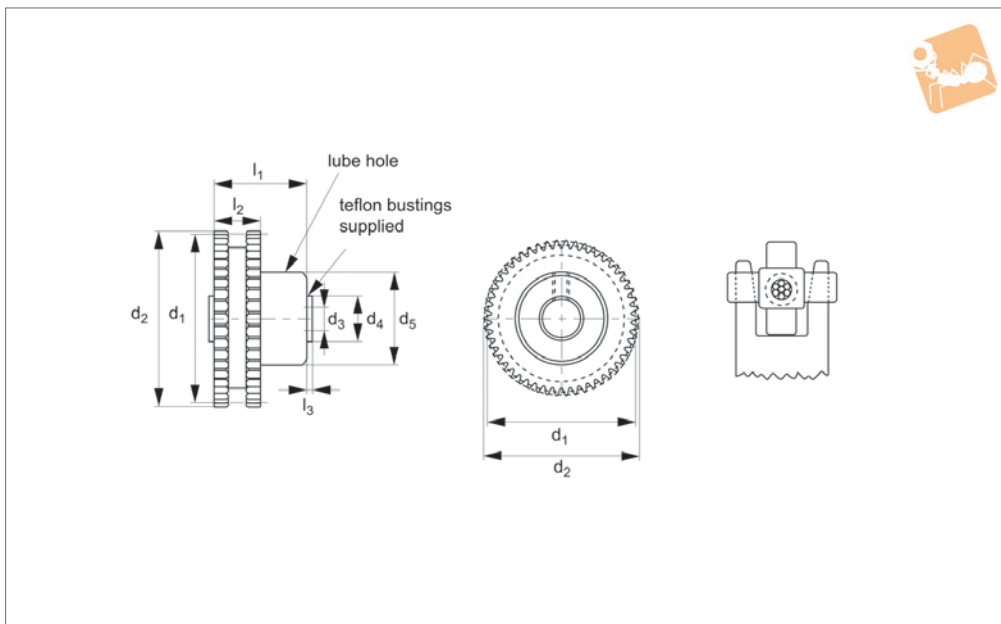
**Important Notes**

Operate with R1050 series chain.

Order No.	No. of teeth	Pitch dia.	Outside dia.
R1052.A014-H	14	17.76	19.34
R1052.A015-H	15	19.03	20.61
R1052.A016-H	16	20.29	21.87
R1052.A017-H	17	21.56	23.14
R1052.A018-H	18	22.83	24.41
R1052.A019-H	19	24.10	25.68
R1052.A020-H	20	25.37	26.95
R1052.A022-H	22	27.90	29.48
R1052.A024-H	24	30.44	32.02
R1052.A025-H	25	31.71	33.26
R1052.A026-H	26	32.98	34.56
R1052.A028-H	28	35.51	37.09
R1052.A030-H	30	38.05	39.63
R1052.A032-H	32	40.59	42.17
R1052.A035-H	35	44.39	45.97
R1052.A036-H	36	45.66	47.24
R1052.A040-H	40	50.47	52.32
R1052.A045-H	45	57.10	58.66
R1052.A050-H	50	63.41	65.00
R1052.A055-H	55	69.76	71.34
R1052.A060-H	60	76.10	77.68
R1052.A065-H	65	82.45	84.02
R1052.A070-H	70	88.79	90.37
R1052.A075-H	75	95.13	96.71
R1052.A080-H	80	101.47	103.05



### R1053



**Material**

Aluminium pulley with teflon bushings.

d2 for Ø4 = 8mm

d2 for Ø6 = 12mm

d2 for Ø8 = 16mm

Other no's of teeth are available on

request.

**Important Notes**

Operate with R1050 series chain.

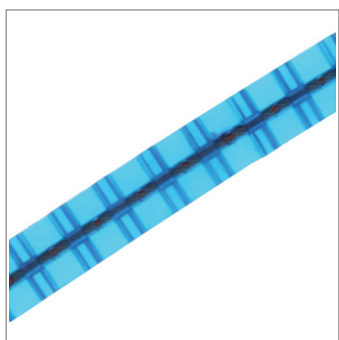
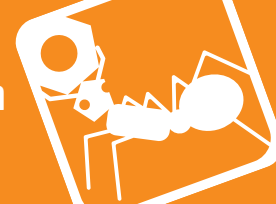
Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1053.030-04-PH	Ø4	30	38.05	39.62
R1053.025-04-PH	Ø4	25	31.71	33.27
R1053.026-04-PH	Ø4	26	32.98	34.54
R1053.028-04-PH	Ø4	28	35.51	37.08
R1053.032-04-PH	Ø4	32	40.59	40.64
R1053.034-04-PH	Ø4	34	43.13	44.70
R1053.035-04-PH	Ø4	35	44.39	45.95
R1053.036-04-PH	Ø4	36	45.66	47.22
R1053.038-04-PH	Ø4	38	48.20	49.78
R1053.040-04-PH	Ø4	40	50.74	52.30
R1053.045-04-PH	Ø4	45	57.08	58.65
R1053.050-04-PH	Ø4	50	63.42	64.97
R1053.055-04-PH	Ø4	55	69.76	71.12
R1053.060-04-PH	Ø4	60	76.10	77.67
R1053.065-04-PH	Ø4	65	82.45	84.02
R1053.070-04-PH	Ø4	70	88.79	90.37
R1053.075-04-PH	Ø4	75	95.13	96.70
R1053.080-04-PH	Ø4	80	101.47	103.05
R1053.025-06-PH	Ø6	25	31.71	33.27
R1053.026-06-PH	Ø6	26	32.98	34.54
R1053.028-06-PH	Ø6	28	35.51	37.08
R1053.030-06-PH	Ø6	30	38.05	39.62
R1053.032-06-PH	Ø6	32	40.59	40.64
R1053.034-06-PH	Ø6	34	43.13	44.70
R1053.035-06-PH	Ø6	35	44.39	45.95
R1053.036-06-PH	Ø6	36	45.66	47.22
R1053.038-06-PH	Ø6	38	48.20	49.78
R1053.040-06-PH	Ø6	40	50.74	52.30
R1053.045-06-PH	Ø6	45	57.08	58.65
R1053.050-06-PH	Ø6	50	63.42	64.97
R1053.055-06-PH	Ø6	55	69.76	71.12
R1053.060-06-PH	Ø6	60	76.10	77.67
R1053.065-06-PH	Ø6	65	82.45	84.02
R1053.070-06-PH	Ø6	70	88.79	90.37



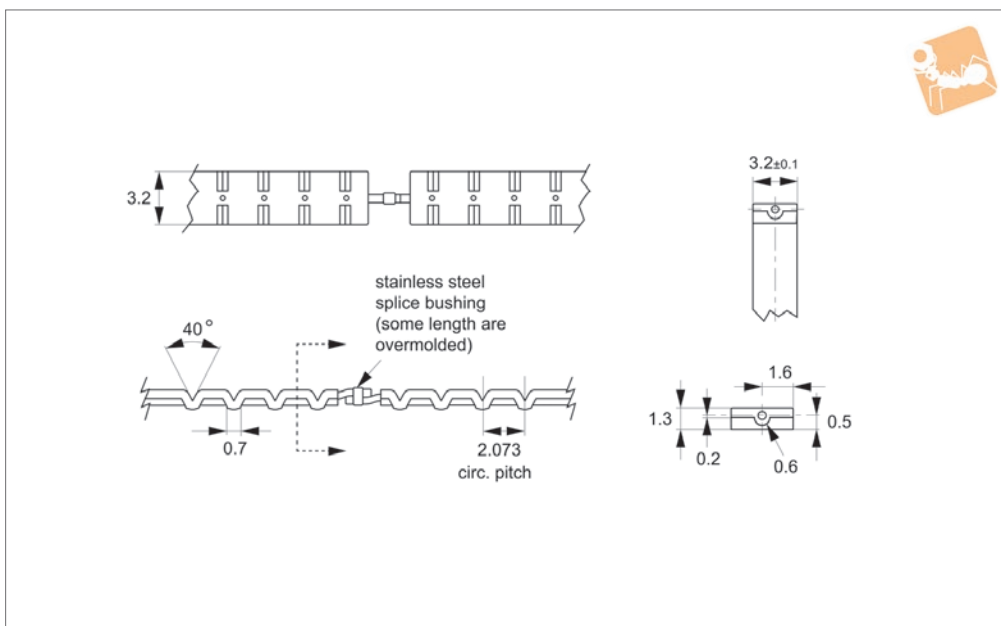
## Idler 3-D Pulleys - aluminium, pin 4mm nominal circular pitch

Chains, Belts &  
Pulleys

Order No.	Bore dia.	No. of teeth	Pitch dia.	Outside dia.
R1053.075-06-PH	Ø6	75	95.13	96.70
R1053.080-06-PH	Ø6	80	101.47	103.05
R1053.025-08-PH	Ø8	25	31.71	33.27
R1053.026-08-PH	Ø8	26	32.98	34.54
R1053.028-08-PH	Ø8	28	35.51	37.08
R1053.030-08-PH	Ø8	30	38.05	39.62
R1053.032-08-PH	Ø8	32	40.59	40.64
R1053.034-08-PH	Ø8	34	43.13	44.70
R1053.035-08-PH	Ø8	35	44.39	45.95
R1053.036-08-PH	Ø8	36	45.66	47.22
R1053.038-08-PH	Ø8	38	48.20	49.78
R1053.040-08-PH	Ø8	40	50.74	52.30
R1053.045-08-PH	Ø8	45	57.08	58.65
R1053.050-08-PH	Ø8	50	63.42	64.97
R1053.055-08-PH	Ø8	55	69.76	71.12
R1053.060-08-PH	Ø8	60	76.10	77.67
R1053.065-08-PH	Ø8	65	82.45	84.02
R1053.070-08-PH	Ø8	70	88.79	90.37
R1053.075-08-PH	Ø8	75	95.13	96.70
R1053.080-08-PH	Ø8	80	101.47	103.05



### R1410



#### Material

Polyurethane (blue) 90A durometer, Ø1,2mm stainless steel cable. Fibre cable core (aramid) also available (particularly suitable for reverse bend applications).

#### Technical Notes

No flanges required, infinite lengths, silent

drive, no-walk feature. No lubrication, compact design, positive drive, light weight, extra strong. Weight: 38 grams/metre. Ultimate tensile strength 556N. Temperature range +82°C to -26°C, recommended operating load 53N. Recommended max. operating speed

1,91m/s.  
\* Splices are factory overmolded.

#### Tips

Field splice kit available (37TB-7).

#### Important Notes

Operates with R1411 belts.

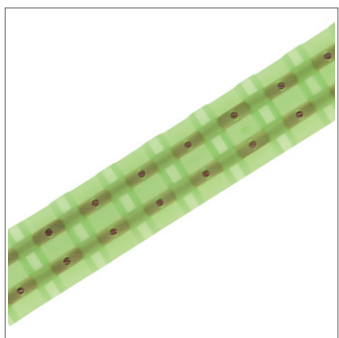
Order No.	No. of pitches	Length ref.
R1410.020	20	190.5
R1410.022	22	209.5
R1410.024	24	228.6
R1410.026	26	247.6
R1410.028	28	266.7
R1410.030	30	285.7
R1410.033	33	314.3
R1410.036	36	342.9
R1410.040	40	381.0
R1410.045	45	428.6
R1410.050	50	476.2
R1410.056	56	533.4
R1410.060	60	571.5
R1410.064	64	609.6
R1410.068	68	647.7
R1410.072	72	685.8
R1410.080	80	765.0
R1410.086	86	819.1
R1410.092	92	876.3
R1410.098	98	933.4
R1410.100	100	952.5
R1410.104	104	990.6
R1410.108	108	1028.7
R1410.112	112	1066.8
R1410.116	116	1104.9
R1410.120	120	1143.0
R1410.124	124	1181.1
R1410.128	128	1219.2
R1410.132	132	1257.3



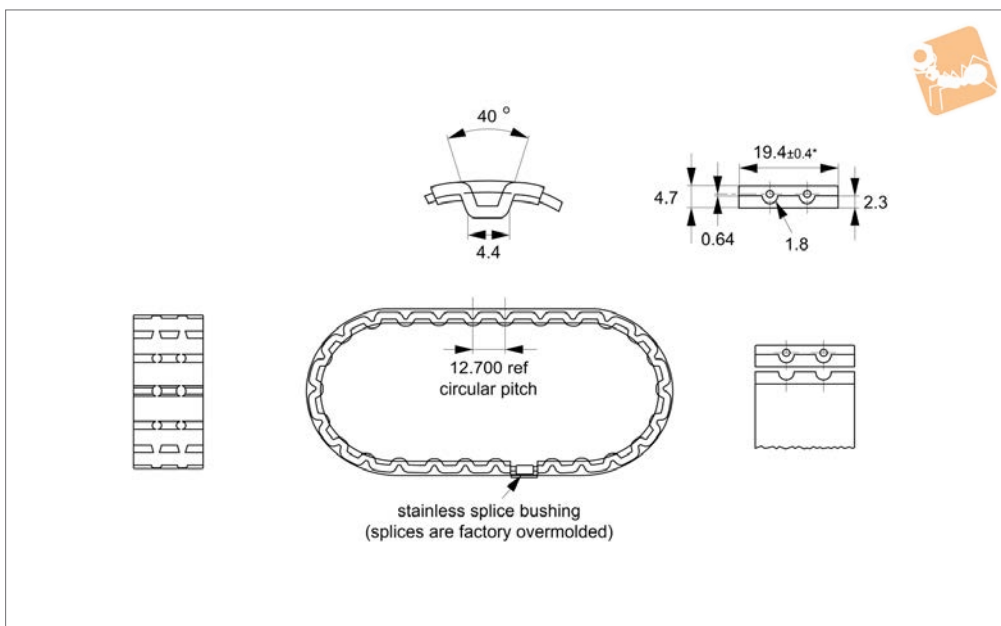
## Timing Belts- 9,525mm circular pitch 12,7mm wide

## Chains, Belts & Pulleys

Order No.	No. of pitches	Length ref.
R1410.136	136	1295.4
R1410.140	140	1333.5
R1410.144	144	1371.6
R1410.148	148	1409.7
R1410.152	152	1447.8
R1410.156	156	1485.9
R1410.160	160	1524.0
R1410.176	176	1676.4
R1410-1.5M	-	1,5 metres not spliced
R1410-3.0M	-	3,0 metres not spliced
R1410-7.5M	-	7,5 metres not spliced
R1410-15M	-	15,0 metres not spliced
R1410-30M	-	30,0 metres not spliced



### R1420



#### Material

Polyurethane (green) 90A durometer,  
Ø1,6mm stainless steel cable.  
Fibre cable core (aramid) also available  
(particularly suitable for reverse bend  
applications).

#### Technical Notes

No flanges required, infinite lengths, silent

drive, no-walk feature,  
Compact design, positive drive, light  
weight, extra strong, no lubrication  
Weight: 84 grams/metre.  
Ultimate tensile strength 1335N.  
Temperature range +83°C to -54°C.  
Recommended max. operating speed  
1,91m/s.

\* Splices are factory overmoulded.

#### Tips

Field splice kit available (50TB-7).

#### Important Notes

Operates with R1421 pulleys.

Order No.	No. of pitches	Length ref.
R1420.032	32	406.4
R1420.036	36	457.2
R1420.040	40	508.0
R1420.044	44	558.8
R1420.048	48	609.6
R1420.050	50	635.0
R1420.054	54	685.8
R1420.056	56	711.0
R1420.060	60	762.0
R1420.064	64	812.8
R1420.066	66	838.2
R1420.070	70	889.0
R1420.072	72	914.4
R1420.075	75	952.5
R1420.078	78	990.6
R1420.080	80	1016.0
R1420.084	84	1066.8
R1420.088	88	1117.6
R1420.090	90	1143.0
R1420.096	96	1219.6
R1420.102	102	1295.4
R1420.108	108	1371.6
R1420.114	114	1447.8
R1420.120	120	1524.0
R1420.126	126	1600.2
R1420.132	132	1676.4
R1420.140	140	1778.0
R1420.150	150	1905.0
R1420.160	160	2032.0



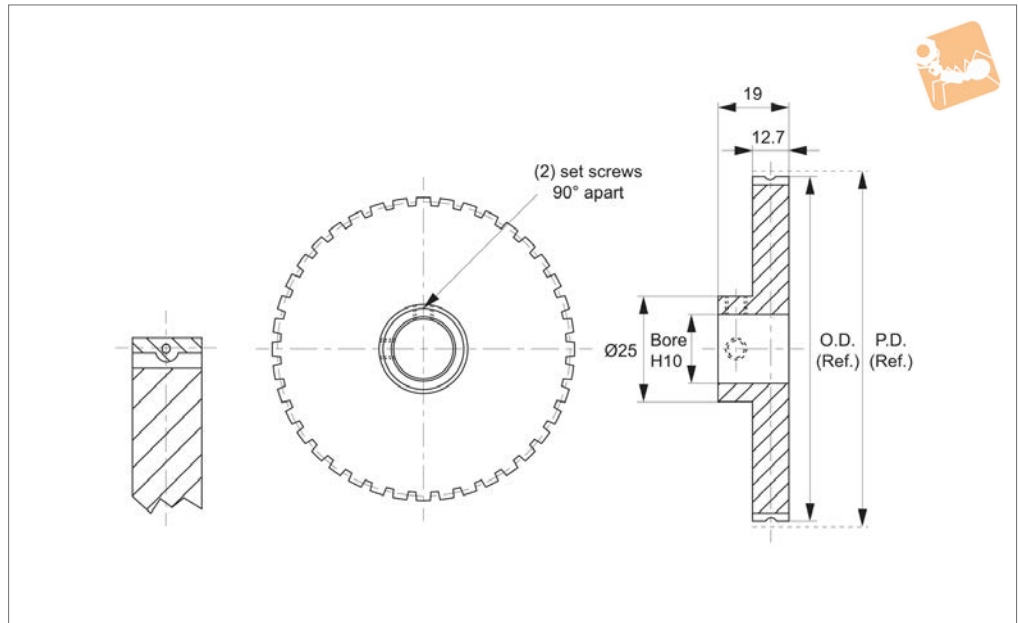
## Timing Belts-12,7mm circular pitch 19,4mm wide

Chains, Belts &  
Pulleys

Order No.	No. of pitches	Length ref.
R1420.170	170	2159.0
R1420.180	180	2286.0
R1420.190	190	2413.0
R1420.200	200	2540.0
R1420.225	225	2857.5
R1420.250	250	3175.0
R1420.275	275	3492.5
R1420.400	400	5080.0
R1420-1.5M	-	1,5 metres not spliced
R1420-3.0M	-	3,0 metres not spliced
R1420-7.5M	-	7,5 metres not spliced
R1420-15.0M	-	15,0 metres not spliced
R1420-30.0M	-	30,0 metres not spliced



### R1410.1



#### Material

Aluminium DIN 3,1355 anodized.

use only.

pages.

#### Technical Notes

<sup>1</sup> Pulleys Ø35,0mm PD and smaller for idler

Other no's of teeth available on request.  
For larger sizes, please see following

**Important Notes**  
**Operates with R1405 belts.**

Order No.	No. of teeth	Bore dia.	Outside dia.	Pitch diameter
R1410.010-08	10	Ø8	29.57	30,32 <sup>1</sup>
R1410.011-08	11	Ø8	32.59	33,35 <sup>1</sup>
R1410.012-08	12	Ø8	35.64	36.38
R1410.013-08	13	Ø8	38.66	39.42
R1410.014-08	14	Ø8	41.71	42.45
R1410.015-08	15	Ø8	44.73	45.48
R1410.016-08	16	Ø8	47.75	48.51
R1410.017-08	17	Ø8	50.80	51.54
R1410.018-08	18	Ø8	53.82	54.57
R1410.019-08	19	Ø8	56.87	57.61
R1410.020-08	20	Ø8	59.89	60.64
R1410.021-08	21	Ø8	62.92	63.67
R1410.022-08	22	Ø8	65.96	66.70
R1410.024-08	24	Ø8	72.01	72.77
R1410.026-08	26	Ø8	78.08	78.83
R1410.028-08	28	Ø8	84.15	84.89
R1410.030-08	30	Ø8	90.22	90.96
R1410.032-08	32	Ø8	96.27	97.02
R1410.036-08	36	Ø8	108.41	109.15
R1410.010-10	10	Ø10	29.57	30,32 <sup>1</sup>
R1410.011-10	11	Ø10	32.59	33,35 <sup>1</sup>
R1410.012-10	12	Ø10	35.64	36.38
R1410.013-10	13	Ø10	38.66	39.42
R1410.014-10	14	Ø10	41.71	42.45
R1410.015-10	15	Ø10	44.73	45.48
R1410.016-10	16	Ø10	47.75	48.51
R1410.017-10	17	Ø10	50.80	51.54
R1410.018-10	18	Ø10	53.82	54.57
R1410.019-10	19	Ø10	56.87	57.61
R1410.020-10	20	Ø10	59.89	60.64
R1410.021-10	21	Ø10	62.92	63.67
R1410.022-10	22	Ø10	65.96	66.70
R1410.024-10	24	Ø10	72.01	72.77
R1410.026-10	26	Ø10	78.08	78.83





## Timing Pulleys - aluminium

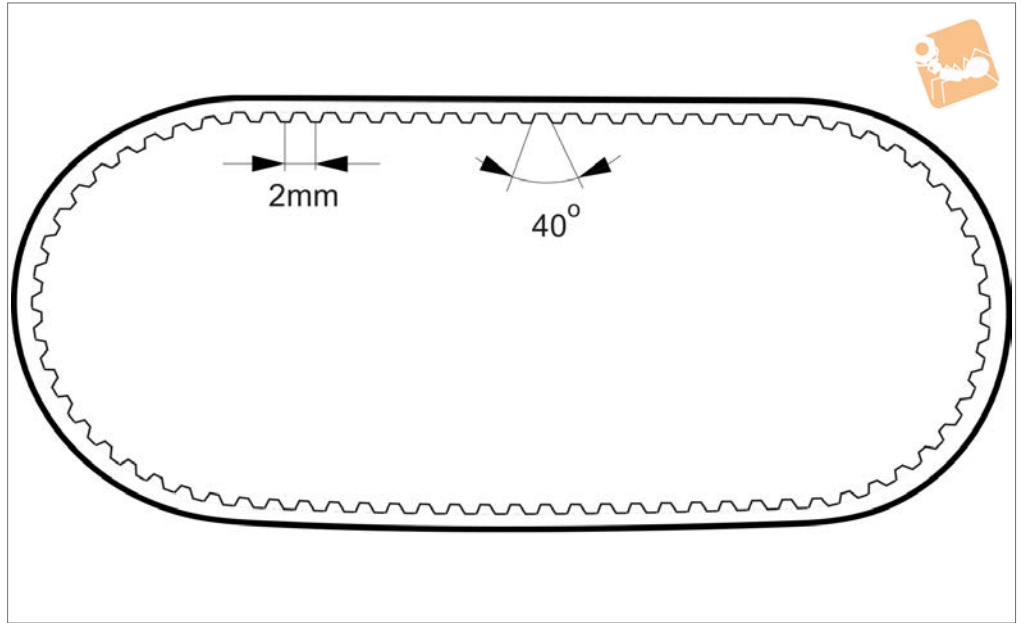
9,525mm nominal circular pitch

## Chains, Belts & Pulleys

Order No.	No. of teeth	Bore dia.	Outside dia.	Pitch diameter
R1410.028-10	28	Ø10	84.15	84.89
R1410.030-10	30	Ø10	90.22	90.96
R1410.032-10	32	Ø10	96.27	97.02
R1410.036-10	36	Ø10	108.41	109.15
R1410.010-12	10	Ø12	29.57	30,32 <sup>1</sup>
R1410.011-12	11	Ø12	32.59	33,35 <sup>1</sup>
R1410.012-12	12	Ø12	35.64	36.38
R1410.013-12	13	Ø12	38.66	39.42
R1410.014-12	14	Ø12	41.71	42.45
R1410.015-12	15	Ø12	44.73	45.48
R1410.016-12	16	Ø12	47.75	48.51
R1410.017-12	17	Ø12	50.80	51.54
R1410.018-12	18	Ø12	53.82	54.57
R1410.019-12	19	Ø12	56.87	57.61
R1410.020-12	20	Ø12	59.89	60.64
R1410.021-12	21	Ø12	62.92	63.67
R1410.022-12	22	Ø12	65.96	66.70
R1410.024-12	24	Ø12	72.01	72.77
R1410.026-12	26	Ø12	78.08	78.83
R1410.028-12	28	Ø12	84.15	84.89
R1410.030-12	30	Ø12	90.22	90.96
R1410.032-12	32	Ø12	96.27	97.02
R1410.036-12	36	Ø12	108.41	109.15



### R1430.1



#### Material

Neoprene (black). Fibreglass reinforced.

#### Technical Notes

High Ratios.  
Allows use of small diameter pulleys.  
High speeds.

High power transmission.

Long life.

Wear resistant nylon facing.

Low profile.

Quiet operation.

Max speed up to 20,000 rpm.

Minimum pulley diameter 6,4 (10 grooves).

Temperature range +85°C to -34°C.

#### Important Notes

Operates with TP3 (R1430) pulleys.

Order No.	No. of grooves	Length ref.
TB7EF2-40	40	81.3
TB7EF2-42	42	85.3
TB7EF2-45	45	91.4
TB7EF2-50	50	101.6
TB7EF2-54	54	109.7
TB7EF2-55	55	111.8
TB7EF2-57	57	115.8
TB7EF2-60	60	121.9
TB7EF2-64	64	130.0
TB7EF2-67	67	136.1
TB7EF2-70	70	142.2
TB7E2-73	73	148.3
TB7EF2-80	80	162.6
TB7EF2-90	90	182.9
TB7EF2-100	100	203.2
TB7EF2-105	105	213.4
TB7EF2-110	110	223.5
TB7EF2-120	120	243.8
TB7EF2-130	130	264.2
TB7EF2-150	150	304.8
TB7EF2-160	160	325.1
TB7EF2-170	170	345.4
TB7EF2-175	175	355.6
TB7EF2-190	190	386.1
TB7EF2-200	200	406.4
TB7EF2-225	225	457.2
TB7EF2-250	250	508.0
TB7EF2-300	300	609.6
TB7EF2-400	400	812.8



Flexural pivot bearings are limited rotation bearings for applications that do not allow lubrication but also require precision, repeatability and infinite life.

Angle of rotations are graded into three series:

- Series 10 -  $\pm 15^\circ$  (mainly for light loads)
- Series 20 -  $\pm 7.5^\circ$  (mainly for medium-heavy loads)
- Series 30 -  $\pm 3.7^\circ$  (mainly for heavy loads)

They have a range of torsional stiffness depending on the bearing diameter. The bearing consists of two stainless steel sleeves held in position by three leaf springs on two planes. There is no contact between the sleeves (eliminating friction) and the springs provide the pivotal action which is inherently self centring and requires no lubrication.

#### Material

The sleeves in a Flexure Pivot bearing are made from 416 Stainless Steel. The spring and core are made from Stainless Steel (410 and 420) with a braze alloy (AMS4765).

Special pivot bearings can be manufactured with angle of rotation up to  $\pm 50^\circ$  and for heavy loads.

#### Single Ended Pivot Bearings

Here one end is fixed and the other end is free to rotate - this type is used most widely as they support overhung loads.

Single Ended Pivot Bearings are frictionless with infinite life (see our technical graphs for life cycle curves).



#### Double Ended Pivot Bearings

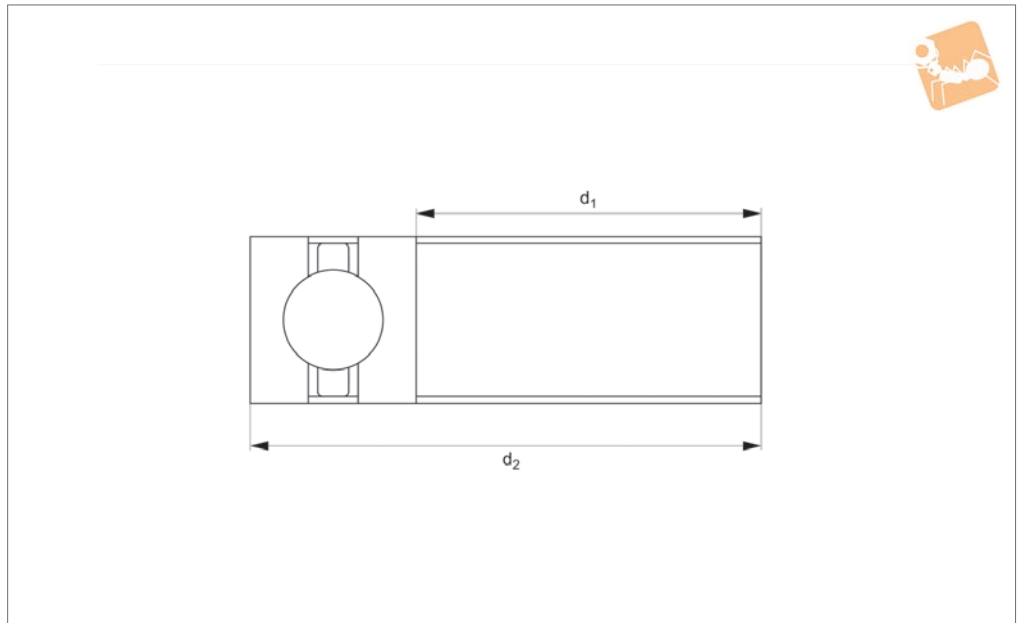
In these applications both ends are fixed and the centre of the bearing is free to rotate - this supports suspended loads.

Double Ended Pivot Bearings are frictionless with infinite life (see our technical graphs for life cycle curves).





### R4200



RING BEARINGS

#### Material

Corrosion resistant split bearing rings.  
Ball bearings retained in plastic cage.

#### Tips

Our split bearings are compatible with most other manufacturers and are very cost

competitive. Please ask us to 'cross reference' if required.

Order No.	d <sub>1</sub> inch	d <sub>1</sub> mm	d <sub>2</sub> mm	Dyn. load C <sub>ax</sub> kN max.	Dyn. load C <sub>rad</sub> kN max.	Static load C <sub>0 ax</sub> kN max.	Static load C <sub>0 rad</sub> kN max.	Speed rpm max.	Weight kg
R4200.040	4	101.60	120.65	9.3	8.5	37.0	14.7	1500	0.18
R4200.042	4¼	107.95	127.00	9.6	8.7	39.5	15.8	1410	0.19
R4200.045	4½	114.30	133.35	9.7	8.8	41.0	16.5	1340	0.20
R4200.047	4¾	120.65	139.70	10.0	9.0	44.0	17.5	1270	0.21
R4200.050	5	127.00	146.05	10.10	9.1	45.5	18.2	1200	0.22
R4200.055	5½	139.70	158.75	10.60	9.6	51.0	20.3	1090	0.24
R4200.060	6	152.40	171.45	10.90	9.8	55.0	22.1	1000	0.26
R4200.065	6½	165.10	184.15	11.20	10.1	60.0	23.9	920	0.28
R4200.070	7	177.80	196.85	11.50	10.4	64.0	25.5	860	0.30
R4200.075	7½	190.50	209.55	11.70	10.6	68.0	27.5	800	0.32
R4200.080	8	203.20	222.25	12.00	10.9	73.0	29.0	750	0.34
R4200.085	8½	215.90	234.95	12.20	11.1	77.0	31.0	710	0.36
R4200.090	9	228.60	247.65	12.50	11.3	82.0	32.5	670	0.38
R4200.095	9½	241.30	260.35	12.80	11.6	87.0	35.0	630	0.39
R4200.100	10	254.00	273.05	13.00	11.8	91.0	36.5	600	0.41
R4200.105	10½	266.70	285.75	13.30	12.0	96.0	38.5	570	0.43
R4200.110	11	279.40	298.45	13.50	12.2	100.0	40.0	550	0.45
R4200.115	11½	292.10	311.15	13.70	12.4	105.0	42.0	520	0.47
R4200.120	12	304.80	323.85	13.90	12.6	109.0	43.5	500	0.49
R4200.130	13	330.20	349.25	14.30	12.9	118.0	47.0	460	0.53
R4200.140	14	355.60	374.65	14.70	13.3	127.0	51.0	430	0.56
R4200.150	15	381.00	400.05	15.10	13.6	136.0	54.0	400	0.60
R4200.160	16	406.40	425.45	15.40	13.9	145.0	58.0	380	0.64
R4200.170	17	431.80	450.85	15.70	14.2	154.0	62.0	350	0.68
R4200.180	18	457.20	476.25	16.10	14.5	163.0	65.0	330	0.72
R4200.190	19	482.60	501.65	16.40	14.8	172.0	69.0	320	0.76
R4200.200	20	508.00	527.05	16.70	15.1	181.0	72.0	300	0.79
R4200.210	21	533.40	552.45	17.00	15.4	190.0	76.0	290	0.83
R4200.220	22	558.80	577.85	17.30	15.6	199.0	79.0	270	0.87
R4200.230	23	584.20	603.25	17.60	15.9	208.0	83.0	260	0.91
R4200.240	24	609.60	628.65	17.90	16.1	217.0	87.0	250	0.95
R4200.250	25	635.00	654.05	18.10	16.4	226.0	90.0	240	0.98
R4200.260	26	660.40	679.45	18.40	16.6	235.0	94.0	230	1.02
R4200.270	27	685.80	704.85	18.70	16.9	245.0	98.0	220	1.06



# Split Bearing - Slim

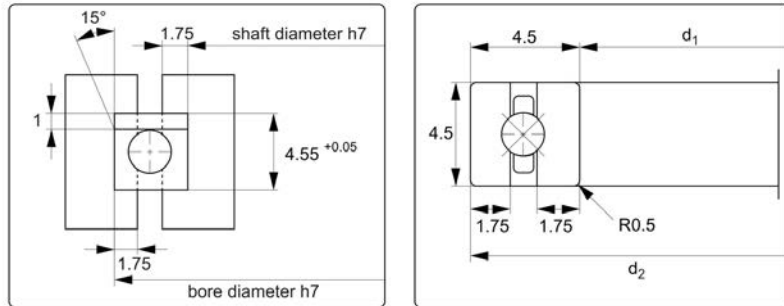
slim bearing type

## Ring Bearings

Order No.	d <sub>1</sub> inch	d <sub>1</sub> mm	d <sub>2</sub> mm	Dyn. load C <sub>ax</sub> kN max.	Dyn. load C <sub>rad</sub> kN max.	Static load C <sub>0 ax</sub> kN max.	Static load C <sub>0 rad</sub> kN max.	Speed rpm max.	Weight kg
<b>R4200.280</b>	28	711.20	730.25	18.90	17.1	255.0	101.0	210	1.10
<b>R4200.290</b>	29	736.60	755.65	19.10	17.3	260.0	105.0	210	1.14
<b>R4200.300</b>	30	762.00	781.05	19.30	17.5	270.0	108.0	200	1.18
<b>R4200.310</b>	31	787.40	806.45	19.60	17.7	280.0	112.0	190	1.22
<b>R4200.320</b>	32	812.80	831.85	19.80	17.9	290.0	116.0	190	1.26
<b>R4200.330</b>	33	838.20	857.25	20.00	18.1	300.0	119.0	180	1.30
<b>R4200.340</b>	34	863.60	882.65	31.0	18.5	305.0	123.0	180	1.34



### R4204.1



fitted dimensions

#### Material

Corrosion resistant split bearing rings.  
Ball bearings retained in plastic cage.

#### Technical Notes

Please specify:

- bearing ring material required

- ball bearing material required

- ball cage material required.

See previous page for options.

#### Tips

Our split bearings are compatible with most other manufacturers and are very cost

competitive. Please ask us to 'cross reference' if required.

Smaller sizes on previous page.

Order No.	d <sub>1</sub>	d <sub>2</sub>	Strength dyn. C N	Strength dyn. C <sub>0</sub> N	Weight kg
R4204.310	310	319	4.680	18.740	0.121
R4204.320	320	329	4.740	19.340	0.125
R4204.330	330	339	4.800	19.930	0.129
R4204.340	340	349	4.860	20.530	0.133
R4204.350	350	359	4.920	21.120	0.137
R4204.360	360	369	4.970	21.720	0.141
R4204.370	370	379	5.030	22.310	0.145
R4204.380	380	389	5.090	22.910	0.149
R4204.390	390	399	5.140	23.500	0.153
R4204.400	400	409	5.200	24.100	0.157
R4204.410	410	419	5.240	24.700	0.161
R4204.420	420	429	5.290	25.290	0.165
R4204.430	430	439	5.330	25.900	0.169
R4204.440	440	449	5.380	26.480	0.173
R4204.450	450	459	5.420	27.070	0.177
R4204.460	460	469	5.460	27.670	0.181
R4204.470	470	479	5.510	28.260	0.185
R4204.480	480	489	5.550	28.860	0.189
R4204.490	490	499	5.600	29.450	0.193
R4204.500	500	509	5.640	30.050	0.197
R4204.510	510	519	5.680	30.900	0.201
R4204.520	520	529	5.730	31.500	0.205
R4204.530	530	539	5.770	32.100	0.209
R4204.540	540	549	5.820	32.700	0.213
R4204.550	550	559	5.860	33.300	0.217
R4204.560	560	569	5.900	33.900	0.221
R4204.570	570	579	5.950	34.500	0.225
R4204.580	580	589	5.990	35.100	0.229
R4204.590	590	599	6.040	35.700	0.233
R4204.600	600	609	6.080	36.300	0.237
R4204.610	610	619	6.130	36.900	0.241



## Split Bearing - Supra Slim thin ring bearing type

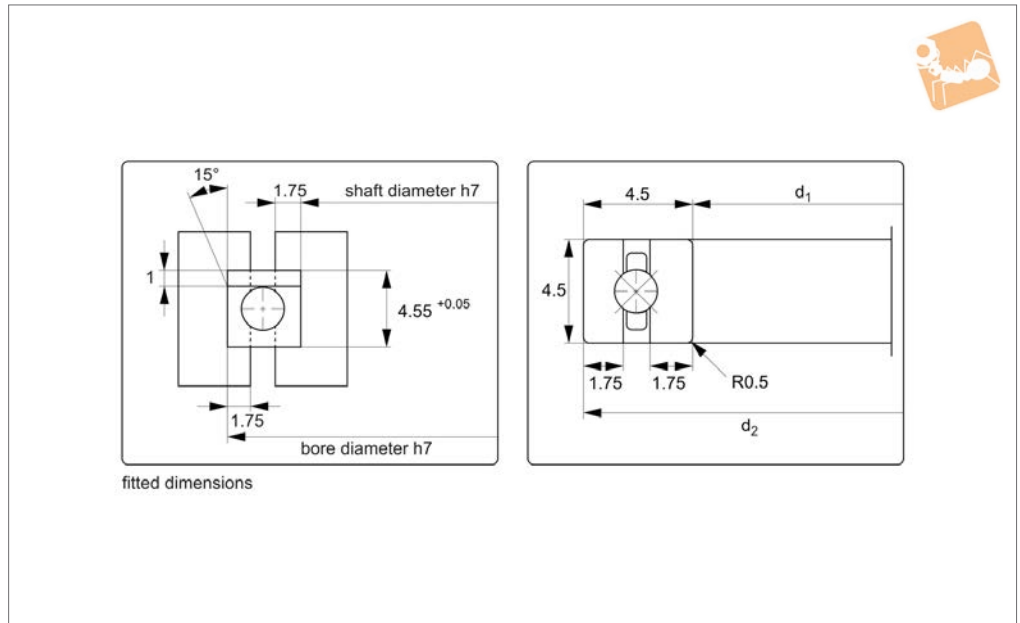
## Ring Bearings

Order No.	d <sub>1</sub>	d <sub>2</sub>	Strength dyn. C N	Strength dyn. C <sub>0</sub> N	Weight kg
R4204.620	620	629	6.180	37.500	0.245
R4204.630	630	639	6.230	38.100	0.249
R4204.640	640	649	6.280	38.700	0.253



### R4204

RING BEARINGS



#### Material

Corrosion resistant split bearing rings.  
Ball bearings retained in plastic cage.

- ball bearing material required  
- ball cage material required.  
See previous page for options.

competitive. Please ask us to 'cross reference' if required.

#### Technical Notes

Please specify:  
- bearing ring material required

#### Tips

Our split bearings are compatible with most other manufacturers and are very cost

Larger sizes on next page.

Order No.	d <sub>1</sub>	d <sub>2</sub>	Strength dyn. C N	Strength dyn. C <sub>0</sub> N	Weight kg
R4204.035	35	44	2.180	2.280	0.014
R4204.040	40	49	2.270	2.570	0.016
R4204.045	45	54	2.360	2.850	0.018
R4204.050	50	59	2.450	3.140	0.020
R4204.055	55	64	2.540	3.420	0.022
R4204.060	60	69	2.630	3.710	0.024
R4204.065	65	74	2.720	3.990	0.025
R4204.070	70	79	2.810	4.310	0.027
R4204.075	75	84	2.870	4.600	0.029
R4204.080	80	89	2.930	4.890	0.031
R4204.085	85	94	2.990	5.180	0.033
R4204.090	90	99	3.050	5.500	0.035
R4204.095	95	104	3.110	5.790	0.037
R4204.100	100	109	3.170	6.080	0.039
R4204.110	110	119	3.260	6.660	0.043
R4204.120	120	129	3.360	7.240	0.047
R4204.130	130	139	3.450	7.910	0.051
R4204.140	140	149	3.550	8.500	0.055
R4204.150	150	159	3.640	9.080	0.059
R4204.160	160	169	3.720	9.670	0.062
R4204.170	170	179	3.810	10.260	0.066
R4204.180	180	189	3.890	10.920	0.070
R4204.190	190	199	3.980	11.500	0.074
R4204.200	200	209	4.060	12.100	0.078
R4204.210	210	219	4.120	12.690	0.082
R4204.220	220	229	4.170	13.280	0.086
R4204.230	230	239	4.230	13.870	0.090
R4204.240	240	249	4.290	14.580	0.094
R4204.250	250	259	4.350	15.170	0.098
R4204.260	260	269	4.400	15.770	0.102
R4204.270	270	279	4.460	16.360	0.106





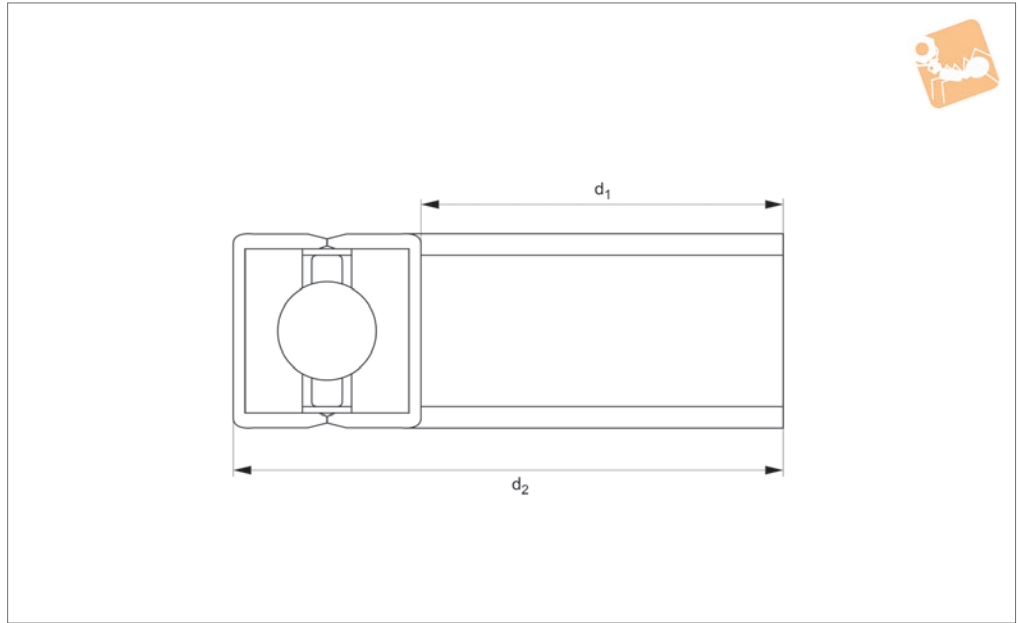
## Split Bearing - Supra Slim thin ring bearing type

## Ring Bearings

Order No.	d <sub>1</sub>	d <sub>2</sub>	Strength dyn. C N	Strength dyn. C <sub>0</sub> N	Weight kg
<b>R4204.280</b>	280	289	4.520	16.960	0.110
<b>R4204.290</b>	290	299	4.570	17.550	0.113
<b>R4204.300</b>	300	309	4.630	18.150	0.117



## R4205



RING BEARINGS

### Material

Corrosion resistant split bearing rings.  
Ball bearings retained in plastic cage.

### Tips

Our split bearings are compatible with most other manufacturers and are very cost

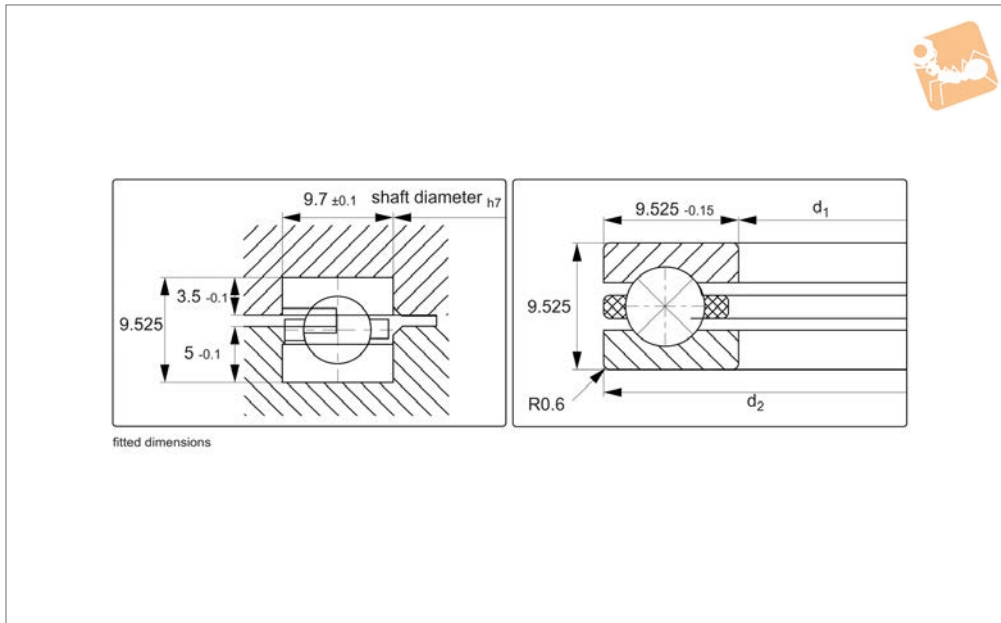
competitive. Please ask us to 'cross reference' if required.

Order No.	$d_1$ & $d_3$ mm	$d_2$ mm	$d_4$ mm	Dyn. load $C_{ax}$ kN max.	Dyn. load $C_{rad}$ kN max.	Speed $min^{-1}$ max.	Static load $C_{0ax}$ kN max.	Static load $C_{0rad}$ kN max.	Weight kg
R4205.070	175.0	199.65	199.5	10.4	9.4	870	57.6	23.0	0.32
R4205.075	187.7	212.35	212.20	10.5	9.5	810	61.2	24.8	0.34
R4205.080	200.4	225.05	224.9	10.8	9.8	760	65.7	26.1	0.36
R4205.085	213.1	237.75	237.6	11.0	10.0	720	69.3	27.9	0.38
R4205.090	225.8	250.45	250.3	11.3	10.2	680	73.8	29.3	0.41
R4205.095	238.5	263.15	263.0	11.5	10.4	640	78.3	31.5	0.43
R4205.100	251.2	275.85	275.7	11.7	10.6	610	81.9	32.9	0.45
R4205.105	263.9	288.55	288.4	12.0	10.8	580	86.4	34.7	0.47
R4205.110	276.6	301.25	301.1	12.2	11.0	550	90.0	36.0	0.50
R4205.115	289.3	313.95	313.8	12.3	11.2	530	94.5	37.8	0.52
R4205.120	302.0	326.65	326.5	12.5	11.3	510	98.1	39.2	0.54
R4205.130	327.4	352.05	351.9	12.9	11.6	470	106.2	42.3	0.59
R4205.140	352.8	377.45	377.3	13.2	12.0	430	114.3	45.9	0.63
R4205.150	378.2	402.85	402.7	13.6	12.2	400	122.4	48.6	0.68
R4205.160	403.6	428.25	428.1	13.9	12.5	380	130.5	52.2	0.72
R4205.170	429.0	453.65	453.5	14.1	12.8	360	138.6	55.8	0.77
R4205.180	454.4	479.05	478.9	14.5	13.0	340	146.7	58.5	0.81
R4205.190	479.8	504.45	504.3	14.8	13.3	320	154.8	62.1	0.86
R4205.200	505.2	529.85	529.7	15.0	13.6	300	162.9	64.8	0.90
R4205.210	530.6	555.25	555.1	15.3	13.9	290	171.0	68.4	0.95
R4205.220	556.0	580.65	580.5	15.6	14.0	270	179.1	71.1	0.99
R4205.230	581.4	606.05	605.9	15.8	14.3	260	187.2	74.7	1.04
R4205.240	606.8	631.45	631.3	16.1	14.5	250	195.3	78.3	1.08
R4205.250	632.2	656.85	656.7	16.3	14.8	240	203.4	81.0	1.13
R4205.260	657.6	682.25	682.1	16.6	14.9	230	211.5	84.6	1.17
R4205.270	683.0	707.65	707.5	16.8	15.2	220	220.5	88.2	1.22
R4205.280	708.4	733.05	732.9	17.0	15.4	220	229.50	90.9	1.26
R4205.290	733.8	758.45	758.3	17.2	15.6	210	234.0	94.5	1.31
R4205.300	759.2	783.85	783.7	17.4	15.8	200	243.0	97.2	1.35
R4205.310	784.6	809.25	809.1	17.6	15.9	190	252.0	100.8	1.40
R4205.320	810.0	834.65	834.5	17.8	16.1	190	261.0	104.4	1.44
R4205.330	835.4	860.05	859.9	18.0	16.3	180	270.0	107.1	1.49
R4205.340	863.6	885.45	885.3	18.3	18.5	180	274.5	110.7	1.53



# Split Bearing - Slim ball thrust bearing type

## Ring Bearings



**R4208**

RING BEARINGS

### Material

Corrosion resistant, hardened steel bearing ring and balls 1,4304.  
Ball cage - polyamide 12 plastic.

### Tips

Our split bearings are compatible with most other manufacturers and are very cost competitive. Please ask us to 'cross reference' if required.

### Technical Notes

Preferred sizes.

Order No.	d <sub>1</sub> inch	d <sub>1</sub> mm	d <sub>2</sub> mm	Dyn. load C <sub>ax</sub> kN max.	Speed min. <sup>-1</sup> max.	Static load C <sub>0 ax</sub> kN max.	Weight kg
R4208.070	7	177.80	196.85	18.7	860	128.0	0.30
R4208.075	7½	190.50	209.55	19.0	800	136.0	0.32
R4208.080	8	203.20	222.25	19.5	750	146.0	0.34
R4208.085	8½	215.90	234.95	19.8	710	154.0	0.36
R4208.090	9	228.60	247.65	20.3	670	164.0	0.38
R4208.095	9½	241.30	260.35	20.8	630	174.0	0.39
R4208.100	10	254.00	273.05	21.1	600	182.0	0.41
R4208.105	10½	266.70	285.75	21.6	570	192.0	0.43
R4208.110	11	279.40	298.45	21.9	550	200.0	0.45
R4208.115	11½	292.10	311.15	22.3	520	210.0	0.47
R4208.120	12	304.80	323.85	22.6	500	218.0	0.49
R4208.130	13	330.20	349.25	23.2	460	236.0	0.53
R4208.140	14	355.60	374.65	23.9	430	254.0	0.56
R4208.150	15	381.00	400.05	24.5	400	272.0	0.60
R4208.160	16	406.40	425.45	25.0	380	290.0	0.64
R4208.170	17	431.80	450.85	25.5	350	308.0	0.68
R4208.180	18	457.20	476.25	26.2	330	326.0	0.72
R4208.190	19	482.60	501.65	26.7	320	344.0	0.76
R4208.200	20	508.00	527.05	27.1	300	362.0	0.79
R4208.210	21	533.40	552.45	27.6	290	380.0	0.83
R4208.220	22	558.80	577.85	28.1	270	398.0	0.87
R4208.230	23	584.20	603.25	28.6	260	416.0	0.91
R4208.240	24	609.60	628.65	29.1	250	434.0	0.95
R4208.250	25	635.00	654.05	29.4	240	452.0	0.98
R4208.260	26	660.40	679.45	29.9	230	470.0	1.02
R4208.270	27	685.80	704.85	30.4	220	490.0	1.06
R4208.280	28	711.20	730.25	30.7	210	510.0	1.10
R4208.290	29	736.60	755.65	31.0	210	520.0	1.14
R4208.300	30	762.00	781.05	31.4	200	540.0	1.18
R4208.310	31	787.40	806.45	31.9	190	560.0	1.22

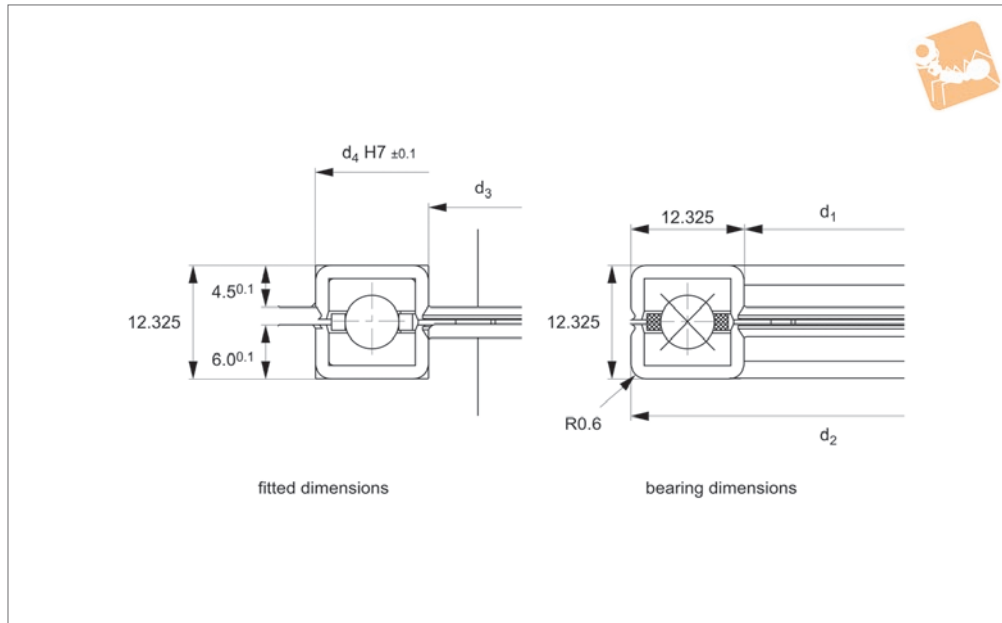


Order No.	d <sub>1</sub> inch	d <sub>1</sub> mm	d <sub>2</sub> mm	Dyn. load C <sub>ax</sub> kN max.	Speed min. <sup>-1</sup> max.	Static load C <sub>0 ax</sub> kN max.	Weight kg
<b>R4208.320</b>	32	812.80	831.85	32.2	190	580.0	1.26
<b>R4208.330</b>	33	838.20	857.25	32.5	180	600.0	1.30
<b>R4208.340</b>	34	863.60	882.65	33.0	180	610.0	1.34



# Split Bearing - Slim ball thrust bearing type

## Ring Bearings



**R4209**

RING BEARINGS

### Material

Corrosion resistant, hardened steel bearing ring and balls 1,4304.  
Ball cage - polyamide 12 plastic.

### Tips

Our split bearings are compatible with most other manufacturers and are very cost competitive. Please ask us to 'cross reference' if required.

### Technical Notes

Metric preferred sizes.

Order No.	d <sub>1</sub> & d <sub>3</sub> mm	d <sub>2</sub> mm	d <sub>4</sub> mm	Dyn. load C <sub>ax</sub> kN max.	Speed min. <sup>-1</sup> max.	Static load C <sub>0 ax</sub> kN max.	Weight kg
R4209.070	175.0	199.65	200.0	16.8	870	115.2	0.32
R4209.075	187.7	212.35	212.7	17.1	810	122.4	0.34
R4209.080	200.4	225.05	225.4	17.6	760	131.4	0.36
R4209.085	213.1	237.75	238.1	17.8	720	138.6	0.38
R4209.090	225.8	250.45	250.8	18.3	680	147.6	0.41
R4209.095	238.5	263.15	263.5	18.7	640	156.6	0.43
R4209.100	251.2	275.85	276.2	19.0	610	163.8	0.45
R4209.105	263.9	288.55	288.9	19.4	580	172.8	0.47
R4209.110	276.6	301.25	301.6	19.7	550	180.0	0.50
R4209.115	289.3	313.95	314.3	20.0	530	189.0	0.52
R4209.120	302.0	326.65	327.0	20.3	510	196.2	0.54
R4209.130	327.4	352.05	352.4	20.9	470	212.4	0.59
R4209.140	352.8	377.45	377.8	21.5	430	228.6	0.63
R4209.150	378.2	402.85	403.2	22.1	400	244.8	0.68
R4209.160	403.6	428.25	428.6	22.5	380	261.0	0.72
R4209.170	429.0	453.65	454.0	23.0	360	277.2	0.77
R4209.180	454.4	479.05	479.4	23.6	340	293.4	0.81
R4209.190	479.8	504.45	504.8	24.0	320	309.6	0.86
R4209.200	505.2	529.85	530.2	24.1	300	325.8	0.90
R4209.210	530.6	555.25	555.6	24.8	290	342.0	0.95
R4209.220	556.0	580.65	581.0	25.3	270	358.2	0.99
R4209.230	581.4	606.05	606.4	25.7	260	374.4	1.04
R4209.240	606.8	631.45	631.8	26.2	250	390.6	1.08
R4209.250	632.2	656.85	657.2	26.5	240	406.8	1.13
R4209.260	657.6	682.25	682.6	26.9	230	423.0	1.17
R4209.270	683.0	707.65	708.0	27.4	220	441.0	1.22
R4209.280	708.4	733.05	733.4	27.6	220	459.0	1.26
R4209.290	733.8	758.45	758.8	27.9	210	468.0	1.31
R4209.300	759.2	783.85	784.2	28.3	200	486.0	1.35
R4209.310	784.6	809.25	809.6	28.7	190	504.0	1.40



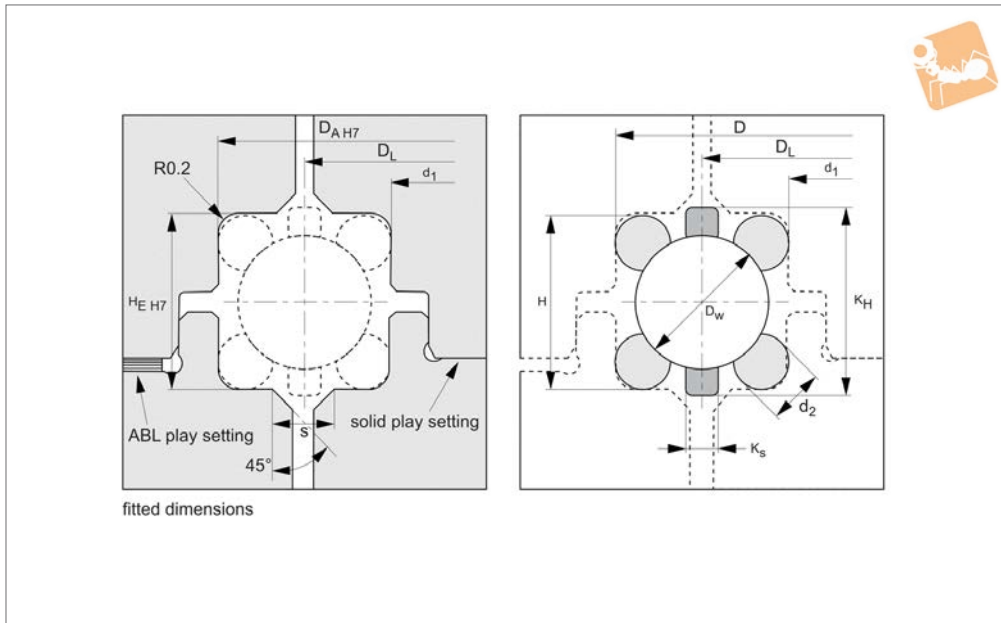
Order No.	d <sub>1</sub> & d <sub>3</sub> mm	d <sub>2</sub> mm	d <sub>4</sub> mm	Dyn. load C <sub>ax</sub> kN max.	Speed min. <sup>-1</sup> max.	Static load C <sub>0 ax</sub> kN max.	Weight kg
<b>R4209.320</b>	810.0	834.65	835.0	29.0	190	522.0	1.44
<b>R4209.330</b>	835.4	860.05	860.4	29.3	180	540.0	1.49
<b>R4209.340</b>	860.8	885.45	885.8	29.7	180	549.0	1.53



# Ball Bearing - Wire

metric, ground raceway

# Ring Bearings



**R4222.1**

RING BEARINGS

### Material

Hardened corrosion resistant steel wire and ball bearings (in plastic cage).

surface-solid settings or can be set by matching with spacers.

competitive. Please ask us to 'cross reference' if required.

### Technical Notes

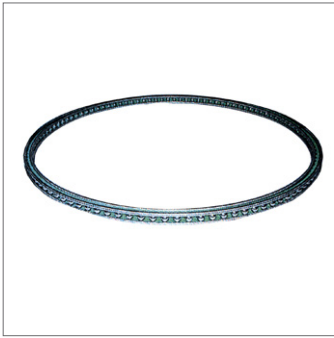
Play in the bearings can be adjusted via the

### Tips

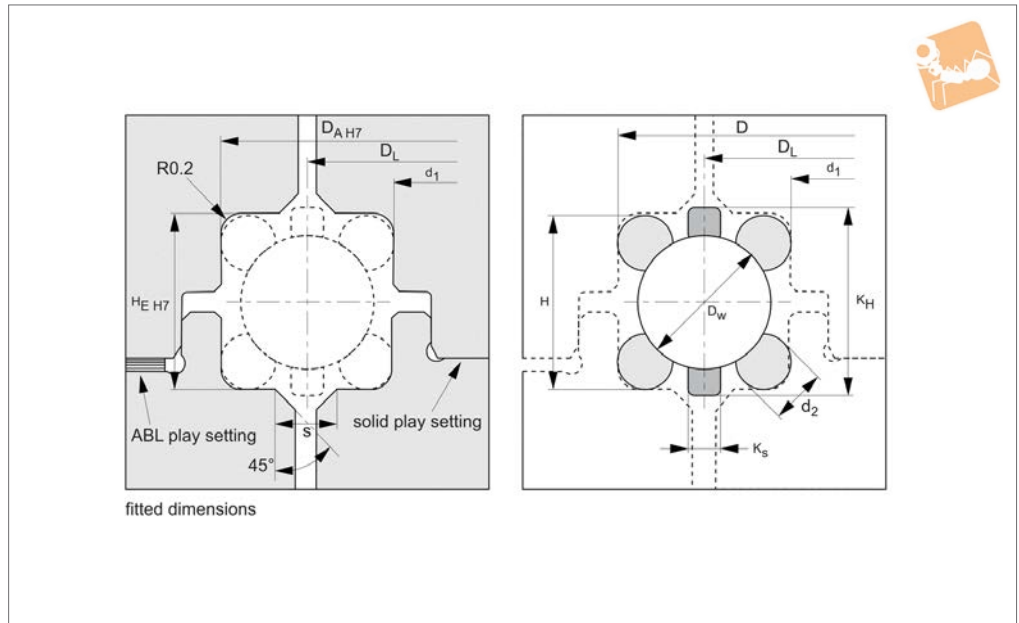
Our wire bearings are compatible with most other manufacturers and are very cost

Smaller sizes on previous page.

Order No.	d	$D_L$	h	Dyn. load C kN max.	Dyn. load $C_0$ kN max.	Weight g
R4222.1025	1013	1025	12	38.4	348.5	1.85
R4222.1050	1038	1050	12	38.9	357.0	1.89
R4222.1075	1063	1075	12	39.3	365.5	1.94
R4222.1100	1088	1100	12	39.8	374.0	1.98
R4222.1125	1113	1125	12	40.2	382.5	2.03
R4222.1150	1138	1150	12	40.7	391.0	2.07
R4222.1175	1163	1175	12	41.1	399.5	2.12
R4222.1200	1188	1200	12	41.6	408.0	2.16
R4222.1225	1213	1225	12	42.0	416.5	2.21
R4222.1250	1238	1250	12	42.4	425.0	2.25
R4222.1275	1263	1275	12	42.8	433.5	2.30
R4222.1300	1288	1300	12	43.3	442.0	2.34
R4222.1325	1313	1325	12	43.7	450.5	2.39
R4222.1350	1338	1350	12	44.1	459.0	2.43
R4222.1375	1363	1375	12	44.5	467.5	2.48
R4222.1400	1388	1400	12	44.9	476.0	2.52
R4222.1425	1413	1425	12	45.3	484.5	2.57
R4222.1450	1438	1450	12	45.7	493.0	2.61
R4222.1475	1463	1475	12	46.1	501.5	2.66
R4222.1500	1488	1500	12	46.5	510.0	2.70
R4222.1525	1513	1525	12	46.9	518.5	2.75
R4222.1550	1538	1550	12	47.2	527.0	2.79
R4222.1575	1563	1575	12	47.6	535.5	2.84
R4222.1600	1588	1600	12	48.0	544.0	2.90
R4222.1625	1613	1625	12	48.4	554.5	2.93
R4222.1650	1638	1650	12	48.7	561.0	2.97
R4222.1675	1663	1675	12	49.1	569.5	3.02



### R4222



#### Material

Hardened corrosion resistant steel wire and ball bearings (in plastic cage).

surface-solid settings or can be set by matching with spacers.

competitive. Please ask us to 'cross reference' if required.

#### Technical Notes

Play in the bearings can be adjusted via the

#### Tips

Our wire bearings are compatible with most other manufacturers and are very cost

Larger sizes on next page.

Order No.	d	D <sub>L</sub>	h	Dyn. load C kN max.	Dyn. load C <sub>0</sub> kN max.	Weight g
R4222.100	88	100	12	12.0	34.0	0.18
R4222.125	113	125	12	13.4	42.5	0.23
R4222.150	138	150	12	14.7	51.0	0.27
R4222.175	163	175	12	15.9	59.5	0.32
R4222.200	188	200	12	17.0	68.0	0.36
R4222.225	213	225	12	18.0	76.5	0.41
R4222.250	238	250	12	19.0	85.0	0.45
R4222.275	263	275	12	19.9	93.5	0.50
R4222.300	288	300	12	20.8	102.0	0.54
R4222.325	313	325	12	21.6	110.5	0.59
R4222.350	338	350	12	22.4	119.0	0.63
R4222.375	363	375	12	23.2	127.5	0.68
R4222.400	388	400	12	24.0	136.0	0.72
R4222.425	413	425	12	24.7	144.5	0.77
R4222.450	438	450	12	25.5	153.0	0.81
R4222.475	463	475	12	26.2	161.5	0.86
R4222.500	488	500	12	26.8	170.0	0.90
R4222.525	513	525	12	27.5	178.5	0.95
R4222.550	538	550	12	28.1	187.0	0.99
R4222.575	563	575	12	28.8	195.5	1.04
R4222.600	588	600	12	29.4	204.0	1.08
R4222.625	613	625	12	30.0	212.5	1.13
R4222.650	638	650	12	30.6	221.0	1.17
R4222.675	663	675	12	31.2	229.5	1.22
R4222.700	688	700	12	31.7	238.0	1.26
R4222.725	713	725	12	32.3	246.5	1.31
R4222.750	738	750	12	32.9	255.0	1.35
R4222.775	763	775	12	33.4	263.5	1.40
R4222.800	788	800	12	33.9	272.0	1.44
R4222.825	813	825	12	34.5	280.5	1.49
R4222.850	838	850	12	35.0	289.0	1.53



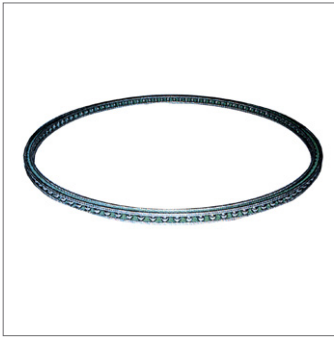


## Ball Bearing - Wire

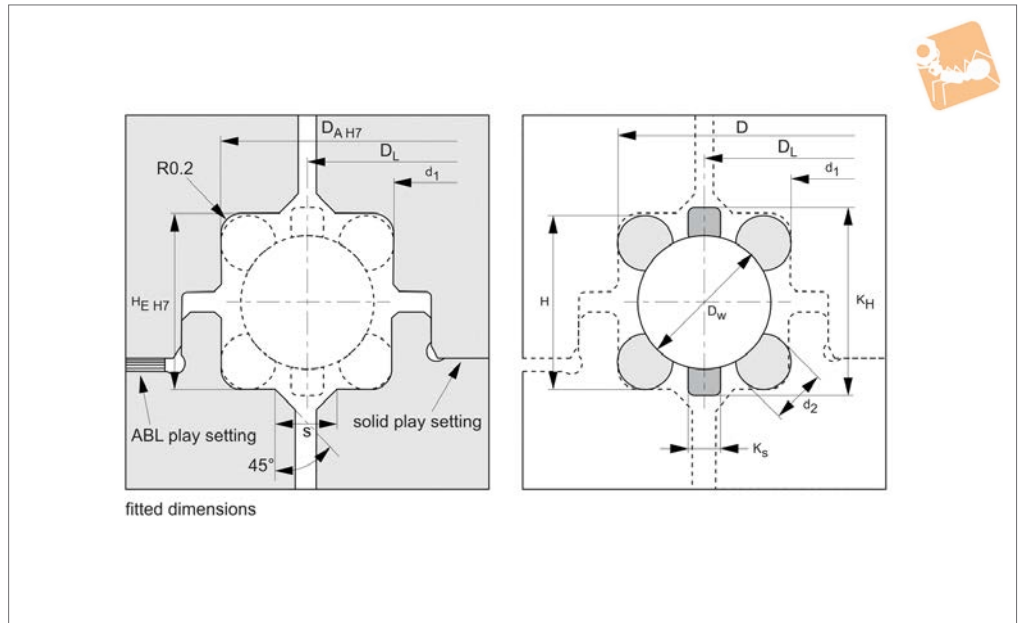
metric, groundway raceway

## Ring Bearings

Order No.	d	D <sub>L</sub>	h	Dyn. load C kN max.	Dyn. load C <sub>0</sub> kN max.	Weight g
R4222.875	863	875	12	35.5	297.5	1.58
R4222.900	888	900	12	36.0	306.0	1.62
R4222.925	913	925	12	36.5	314.5	1.67
R4222.950	938	950	12	37.0	323.0	1.71
R4222.975	963	975	12	37.5	331.5	1.76
R4222.1000	988	1000	12	37.9	340.0	1.80



## R4224.1



### Material

Hardened corrosion resistant steel wire and ball bearings (in plastic cage).

surface-solid settings or can be set by matching with spacers.

competitive. Please ask us to 'cross reference' if required.

### Technical Notes

Play in the bearings can be adjusted via the

### Tips

Our wire bearings are compatible with most other manufacturers and are very cost

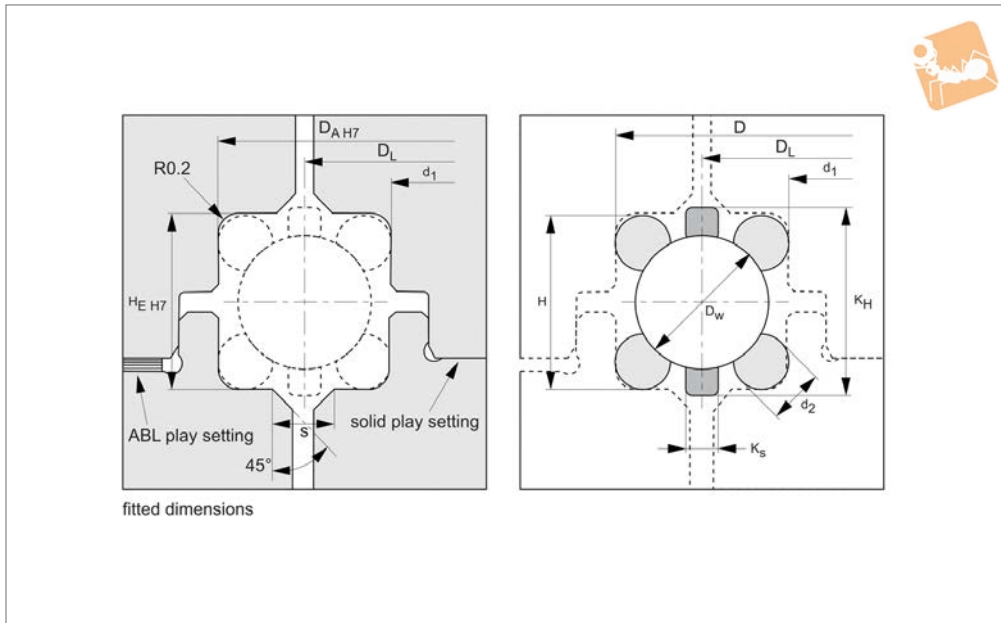
Smaller sizes on previous page.

Order No.	d	H inch	H mm	Dyn. load C kN max.	Dyn. load C <sub>0</sub> kN max.	Weight kg
R4224.1025	1012.05	0.51	12.95	46.4	317.8	2.15
R4224.1050	1037.05	0.51	12.95	47.0	325.5	2.21
R4224.1075	1062.05	0.51	12.95	47.5	333.3	2.26
R4224.1100	1087.05	0.51	12.95	48.1	341.0	2.31
R4224.1125	1112.05	0.51	12.95	48.6	348.8	2.36
R4224.1150	1137.05	0.51	12.95	49.2	356.5	2.42
R4224.1175	1162.05	0.51	12.95	49.7	364.3	2.47
R4224.1200	1187.05	0.51	12.95	50.2	372.0	2.52
R4224.1225	1212.05	0.51	12.95	50.8	379.8	2.57
R4224.1250	1237.05	0.51	12.95	51.3	387.5	2.63
R4224.1275	1262.05	0.51	12.95	51.8	395.3	2.68
R4224.1300	1287.05	0.51	12.95	52.3	403.0	2.73
R4224.1325	1312.05	0.51	12.95	52.8	410.8	2.78
R4224.1350	1337.05	0.51	12.95	53.3	418.5	2.84
R4224.1375	1362.05	0.51	12.95	53.8	426.3	2.89
R4224.1400	1387.05	0.51	12.95	54.3	434.0	2.94
R4224.1425	1412.05	0.51	12.95	54.7	441.8	2.99
R4224.1450	1437.05	0.51	12.95	55.2	449.5	3.05
R4224.1475	1462.05	0.51	12.95	55.7	457.3	3.10
R4224.1500	1487.05	0.51	12.95	56.2	465.0	3.15
R4224.1525	1512.05	0.51	12.95	56.6	472.8	3.20
R4224.1550	1537.05	0.51	12.95	57.1	480.5	3.26
R4224.1575	1562.05	0.51	12.95	57.5	488.3	3.31
R4224.1600	1587.05	0.51	12.95	58.0	496.0	3.36
R4224.1625	1612.05	0.51	12.95	58.5	503.8	3.41
R4224.1650	1637.05	0.51	12.95	58.9	511.5	3.47
R4224.1675	1662.05	0.51	12.95	59.3	519.3	3.52



# Ball Bearing - Wire imperial, ground raceway

# Ring Bearings



**R4224**

RING BEARINGS

**Material**

Hardened corrosion resistant steel wire and ball bearings (in plastic cage).

surface-solid settings or can be set by matching with spacers.

competitive. Please ask us to 'cross reference' if required.

**Technical Notes**

Play in the bearings can be adjusted via the

**Tips**

Our wire bearings are compatible with most other manufacturers and are very cost

Larger sizes on next page.

Order No.	d	H inch	H mm	Dyn. load C kN max.	Dyn. load C <sub>0</sub> kN max.	Weight kg
R4224.100	87.05	0.51	12.95	14.5	31.0	0.21
R4224.125	112.05	0.51	12.95	16.2	38.8	0.26
R4224.150	137.05	0.51	12.95	17.8	46.5	0.32
R4224.175	162.05	0.51	12.95	19.2	54.3	0.37
R4224.200	187.05	0.51	12.95	20.5	62.0	0.42
R4224.225	212.05	0.51	12.95	21.8	69.8	0.47
R4224.250	237.05	0.51	12.95	22.9	77.5	0.53
R4224.275	262.05	0.51	12.95	24.0	85.3	0.58
R4224.300	287.05	0.51	12.95	25.1	93.0	0.63
R4224.325	312.05	0.51	12.95	26.1	100.8	0.68
R4224.350	337.05	0.51	12.95	27.1	108.5	0.74
R4224.375	362.05	0.51	12.95	28.1	116.3	0.79
R4224.400	387.05	0.51	12.95	29.0	124.0	0.84
R4224.425	412.05	0.51	12.95	29.9	131.8	0.89
R4224.450	437.05	0.51	12.95	30.8	139.5	0.95
R4224.475	462.05	0.51	12.95	31.6	147.3	1.00
R4224.500	487.05	0.51	12.95	32.4	155.0	1.05
R4224.525	512.05	0.51	12.95	33.2	162.8	1.10
R4224.550	537.05	0.51	12.95	34.0	170.5	1.16
R4224.575	562.05	0.51	12.95	34.8	178.3	1.21
R4224.600	587.05	0.51	12.95	35.5	185.0	1.26
R4224.625	612.05	0.51	12.95	36.3	193.8	1.31
R4224.650	637.05	0.51	12.95	37.0	201.5	1.37
R4224.675	662.05	0.51	12.95	37.7	209.3	1.42
R4224.700	687.05	0.51	12.95	38.4	217.0	1.47
R4224.725	712.05	0.51	12.95	39.0	224.8	1.52
R4224.750	737.05	0.51	12.95	39.7	232.5	1.58
R4224.775	762.05	0.51	12.95	40.4	240.3	1.63
R4224.800	787.05	0.51	12.95	41.0	248.0	1.68
R4224.825	812.05	0.51	12.95	41.6	255.8	1.73
R4224.850	837.05	0.51	12.95	42.3	263.5	1.79



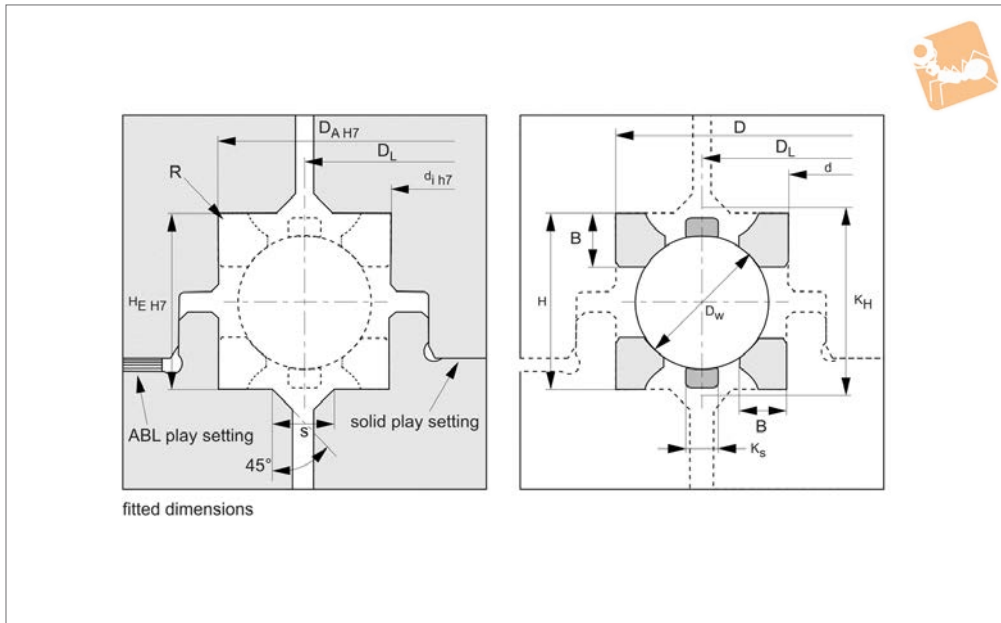
Order No.	d	H inch	H mm	Dyn. load C kN max.	Dyn. load C <sub>0</sub> kN max.	Weight kg
<b>R4224.875</b>	862.05	0.51	12.95	42.9	271.3	1.84
<b>R4224.900</b>	887.05	0.51	12.95	43.5	279.0	1.89
<b>R4224.925</b>	912.05	0.51	12.95	44.1	286.8	1.94
<b>R4224.950</b>	937.05	0.51	12.95	44.7	294.5	2.00
<b>R4224.975</b>	962.05	0.51	12.95	45.3	302.3	2.05
<b>R4224.1000</b>	987.05	0.51	12.95	45.9	310.0	2.10



# Ball Bearing - Wire, Duo Profile

duo-profile, drawn raceway

## Ring Bearings



**R4230.1**

RING BEARINGS

### Material

Hardened corrosion resistant steel wire and ball bearings (in plastic cage).

surface-solid settings or can be set by matching with spacers.

competitive. Please ask us to 'cross reference' if required.

### Technical Notes

Play in the bearings can be adjusted via the

### Tips

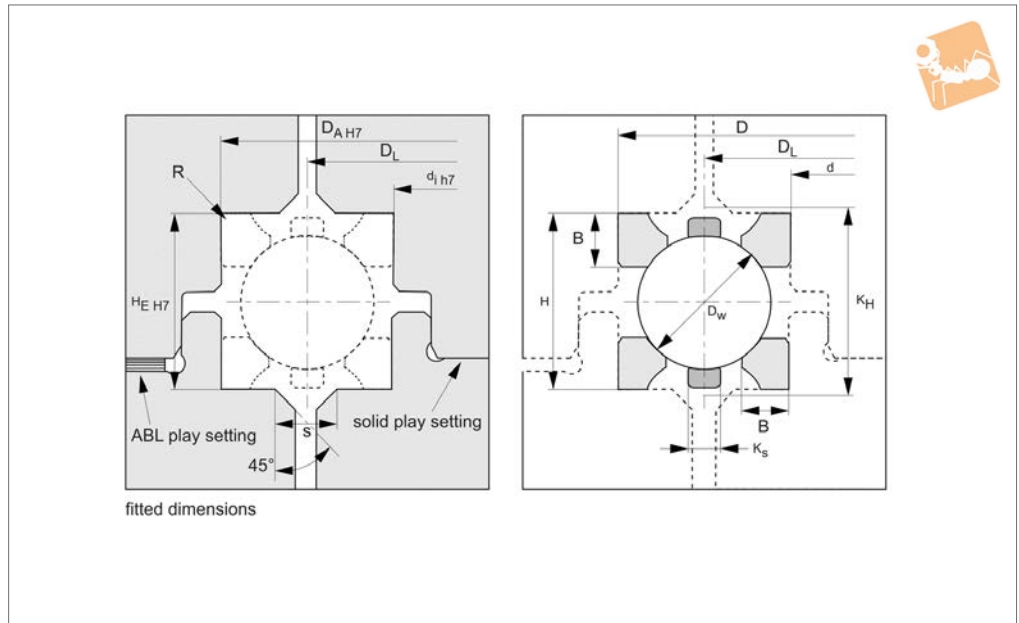
Our wire bearings are compatible with most other manufacturers and are very cost

Smaller sizes on previous page.

Order No.	d	D <sub>L</sub>	h	Load C <sub>0</sub> kN	Dyn. load C kN max.	Weight kg
R4230.300	289	300	13	96.0	26.0	0.56
R4230.310	299	310	13	99.2	26.4	0.58
R4230.320	309	320	13	102.4	26.8	0.60
R4230.330	319	330	13	105.6	27.2	0.61
R4230.340	329	340	13	108.8	27.7	0.63
R4230.350	339	350	13	112.0	28.1	0.65
R4230.360	349	360	13	115.2	28.5	0.67
R4230.370	359	370	13	118.4	28.9	0.69
R4230.380	369	380	13	121.6	29.2	0.71
R4230.390	379	390	13	124.8	29.6	0.73
R4230.400	389	400	13	128.0	30.0	0.74
R4230.410	399	410	13	131.2	30.4	0.76
R4230.420	409	420	13	134.4	30.8	0.78
R4230.430	419	430	13	137.6	31.1	0.80
R4230.440	429	440	13	140.8	31.5	0.82
R4230.450	439	450	13	144.0	31.8	0.84
R4230.460	449	460	13	147.2	32.2	0.86
R4230.470	459	470	13	150.4	32.5	0.87
R4230.480	469	480	13	153.6	32.9	0.89
R4230.490	479	490	13	156.8	33.2	0.91
R4230.500	489	500	13	160.0	33.5	0.93
R4230.510	499	510	13	163.2	33.9	0.95
R4230.520	509	520	13	166.4	34.2	0.97
R4230.530	519	530	13	169.6	34.5	0.99



## R4230



### Material

Hardened corrosion resistant steel wire and ball bearings (in plastic cage).

surface-solid settings or can be set by matching with spacers.

competitive. Please ask us to ,cross reference' if required.

### Technical Notes

Play in the bearings can be adjusted via the

### Tips

Our wire bearings are compatible with most other manufacturers and are very cost

Larger sizes on next page.

Order No.	d	D <sub>L</sub>	h	Load C <sub>0</sub> kN	Dyn. load C kN max.	Weight kg
R4230.100	89	100	13	32.0	15.0	0.19
R4230.105	94	105	13	33.6	15.4	0.20
R4230.110	99	110	13	35.2	15.7	0.21
R4230.115	104	115	13	36.8	16.1	0.21
R4230.120	109	120	13	38.4	16.4	0.22
R4230.125	114	125	13	40.0	16.8	0.23
R4230.130	119	130	13	41.6	17.1	0.24
R4230.135	124	135	13	43.2	17.4	0.25
R4230.140	129	140	13	44.8	17.7	0.26
R4230.145	134	145	13	46.4	18.1	0.27
R4230.150	139	150	13	48.0	18.4	0.28
R4230.155	144	155	13	49.6	18.7	0.29
R4230.160	149	160	13	51.2	19.0	0.30
R4230.165	154	165	13	52.8	19.3	0.31
R4230.170	159	170	13	54.4	19.6	0.32
R4230.175	164	175	13	56.0	19.9	0.33
R4230.180	169	180	13	57.6	20.1	0.34
R4230.185	174	185	13	59.2	20.4	0.34
R4230.190	179	190	13	60.8	20.7	0.35
R4230.195	184	195	13	62.4	21.0	0.36
R4230.200	189	200	13	64.0	21.2	0.37
R4230.205	194	205	13	65.6	21.5	0.38
R4230.210	199	210	13	67.2	21.7	0.39
R4230.215	204	215	13	68.8	22.0	0.40
R4230.220	209	220	13	70.4	22.3	0.41
R4230.225	214	225	13	72.0	22.5	0.42
R4230.230	219	230	13	73.6	22.8	0.43
R4230.235	224	235	13	75.2	23.0	0.44
R4230.240	229	240	13	76.8	23.2	0.45
R4230.245	234	245	13	78.4	23.5	0.46
R4230.250	239	250	13	80.0	23.7	0.47



## Ball Bearing - Wire, Duo Profile

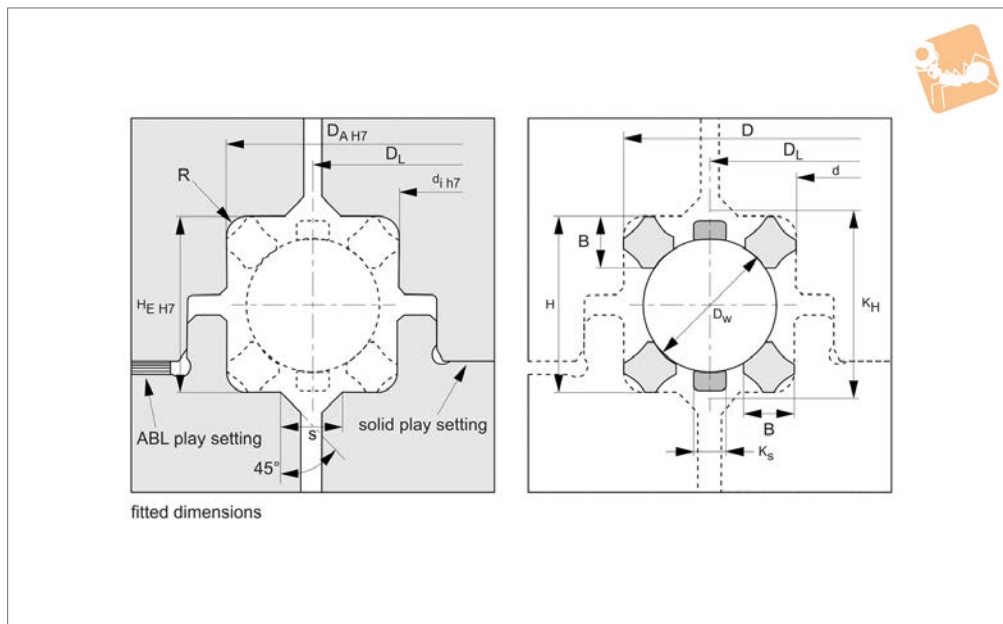
duo-profile, drawn raceway

## Ring Bearings

Order No.	d	D <sub>L</sub>	h	Load C <sub>0</sub> kN	Dyn. load C kN max.	Weight kg
R4230.255	244	255	13	81.6	24.0	0.47
R4230.260	249	260	13	83.2	24.2	0.48
R4230.265	254	265	13	84.8	24.4	0.49
R4230.270	259	270	13	86.4	24.7	0.50
R4230.275	264	275	13	88.0	24.9	0.51
R4230.280	269	280	13	89.6	25.1	0.52
R4230.285	274	285	13	91.2	25.3	0.53
R4230.290	279	290	13	92.8	25.6	0.54
R4230.295	284	295	13	94.4	25.8	0.55



## R4240.1



### Material

Hardened corrosion resistant steel wire and ball bearings (in plastic cage).

surface-solid settings or can be set by matching with spacers.

competitive. Please ask us to 'cross reference' if required.

### Technical Notes

Play in the bearings can be adjusted via the

### Tips

Our wire bearings are compatible with most other manufacturers and are very cost

Smaller sizes on previous page.

Order No.	d	DL	h	Dyn. load C kN max.	Dyn. load C <sub>0</sub> kN max.	Weight kg
R4240.0300	287.05	300	12.95	26.0	96.0	0.59
R4240.0310	297.05	310	12.95	26.4	99.2	0.61
R4240.0320	307.05	320	12.95	26.8	102.4	0.63
R4240.0330	317.05	330	12.95	27.2	105.6	0.65
R4240.0340	327.05	340	12.95	27.7	108.8	0.67
R4240.0350	337.05	350	12.95	28.1	112.0	0.69
R4240.0360	347.05	360	12.95	28.5	115.2	0.71
R4240.0370	357.05	370	12.95	28.9	118.4	0.73
R4240.0380	367.05	380	12.95	29.2	121.6	0.75
R4240.0390	377.05	390	12.95	29.6	124.8	0.76
R4240.0400	387.05	400	12.95	30.0	128.0	0.78
R4240.0410	397.05	410	12.95	30.4	131.2	0.80
R4240.0420	407.05	420	12.95	30.8	134.4	0.82
R4240.0430	417.05	430	12.95	31.1	137.6	0.84
R4240.0440	427.05	440	12.95	31.5	140.8	0.86
R4240.0450	437.05	450	12.95	31.8	144.0	0.88
R4240.0460	447.05	460	12.95	32.2	147.2	0.90
R4240.0470	457.05	470	12.95	32.5	150.4	0.92
R4240.0480	467.05	480	12.95	32.9	153.6	0.96
R4240.0490	477.05	490	12.95	33.2	156.8	0.96
R4240.0500	487.05	500	12.95	33.5	160.0	0.98
R4240.0510	497.05	510	12.95	33.9	163.2	1.00
R4240.0520	507.05	520	12.95	34.2	166.4	1.04
R4240.0530	517.05	530	12.95	34.5	169.6	1.04

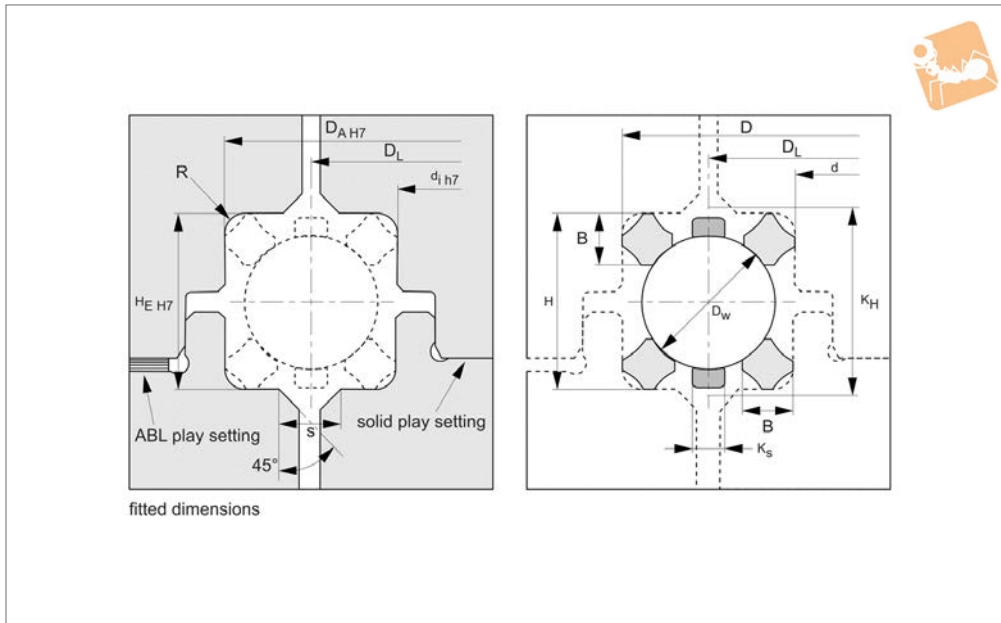




# Ball Bearing - Wire, Duplex Profile

duplex profile, drawn raceway

## Ring Bearings



**R4240**

RING BEARINGS

**Material**

Hardened corrosion resistant steel wire and ball bearings (in plastic cage).

surface-solid settings or can be set by matching with spacers.

competitive. Please ask us to 'cross reference' if required.

**Technical Notes**

Play in the bearings can be adjusted via the

**Tips**

Our wire bearings are compatible with most other manufacturers and are very cost

Larger sizes on next page.

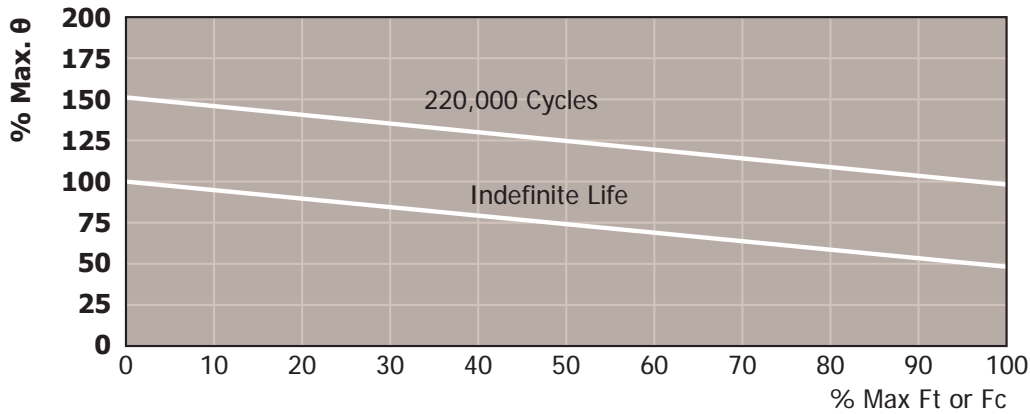
Order No.	d	D <sub>L</sub>	h	Dyn. load C kN max.	Dyn. load C <sub>0</sub> kN max.	Weight kg
R4240.0100	87.05	100	12.95	15.0	32.0	0.20
R4240.0105	92.05	105	12.95	15.4	33.6	0.21
R4240.0110	97.05	110	12.95	15.7	35.2	0.22
R4240.0115	102.05	115	12.95	16.1	36.8	0.23
R4240.0120	107.05	120	12.95	16.4	38.4	0.24
R4240.0125	112.05	125	12.95	16.8	40.0	0.25
R4240.0130	117.05	130	12.95	17.1	41.6	0.26
R4240.0135	122.05	135	12.95	17.4	43.2	0.27
R4240.0140	127.05	140	12.95	17.7	44.8	0.27
R4240.0145	132.05	145	12.95	18.1	46.4	0.28
R4240.0150	137.05	150	12.95	18.4	48.0	0.29
R4240.0155	142.05	155	12.95	18.7	49.6	0.30
R4240.0160	147.05	160	12.95	19.0	51.2	0.31
R4240.0165	152.05	165	12.95	19.3	52.8	0.32
R4240.0170	157.05	170	12.95	19.6	54.4	0.33
R4240.0175	162.05	175	12.95	19.9	56.0	0.34
R4240.0180	167.05	180	12.95	20.1	57.6	0.35
R4240.0185	172.05	185	12.95	20.4	59.2	0.36
R4240.0190	177.05	190	12.95	20.7	60.8	0.37
R4240.0195	182.05	195	12.95	21.0	62.4	0.38
R4240.0200	187.05	200	12.95	21.2	64.0	0.39
R4240.0205	192.05	205	12.95	21.5	65.6	0.40
R4240.0210	197.05	210	12.95	21.7	67.2	0.41
R4240.0215	202.05	215	12.95	22.0	68.8	0.42
R4240.0220	207.05	220	12.95	22.3	70.4	0.43
R4240.0225	212.05	225	12.95	22.5	72.0	0.44
R4240.0230	217.05	230	12.95	22.8	73.6	0.45
R4240.0235	222.05	235	12.95	23.0	75.2	0.46
R4240.0240	227.05	240	12.95	23.2	76.8	0.47
R4240.0245	232.05	245	12.95	23.5	78.4	0.48
R4240.0250	237.05	250	12.95	23.7	80.0	0.49



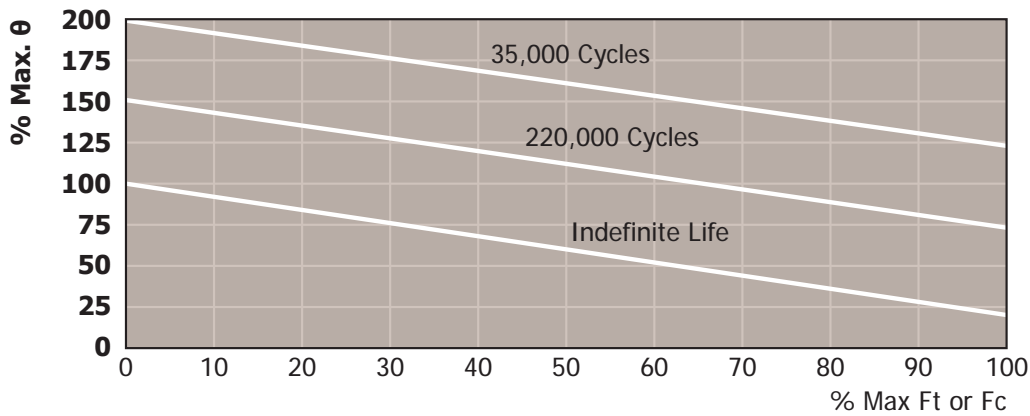
Order No.	d	D <sub>L</sub>	h	Dyn. load C kN max.	Dyn. load C <sub>0</sub> kN max.	Weight kg
R4240.0255	242.05	255	12.95	24.0	81.6	0.50
R4240.0260	247.05	260	12.95	24.2	83.2	0.51
R4240.0265	252.05	265	12.95	24.4	84.8	0.52
R4240.0270	257.05	270	12.95	24.7	86.4	0.53
R4240.0275	262.05	275	12.95	24.9	88.0	0.54
R4240.0280	267.05	280	12.95	25.1	89.6	0.55
R4240.0285	272.05	285	12.95	25.3	91.2	0.56
R4240.0290	277.05	290	12.95	25.6	92.8	0.57
R4240.0295	282.05	295	12.95	25.8	94.4	0.58

The cycle life of the bearings is based on the fatigue limit of the springs. The graphs below show the life expectancy for Torsional Spring Rates for Series 10, 20 and 30. Max  $\theta$  shows the angle of deflection. This is the deflection angle from the null position, which can be positive or negative.

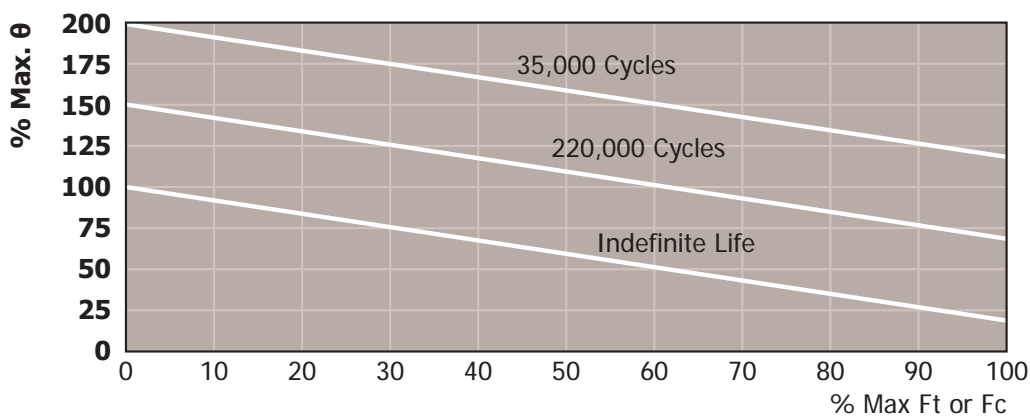
Series 10 - Max  $\theta \pm 15.0^\circ$



Series 20 - Max  $\theta \pm 7.5^\circ$

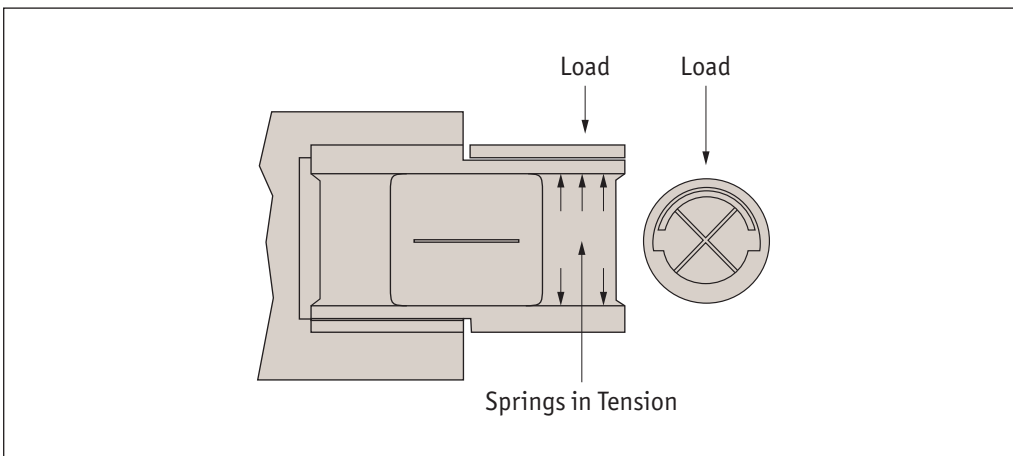


Series 30 - Max  $\theta \pm 3.7^\circ$

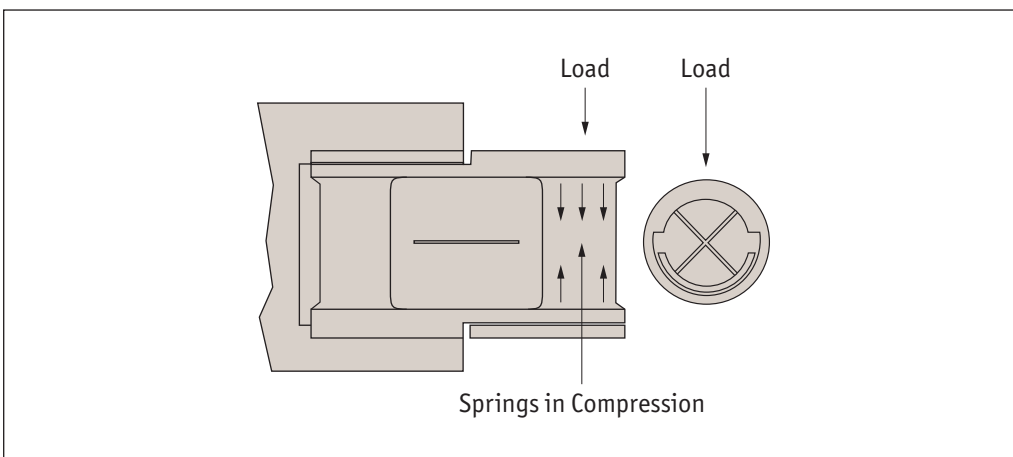




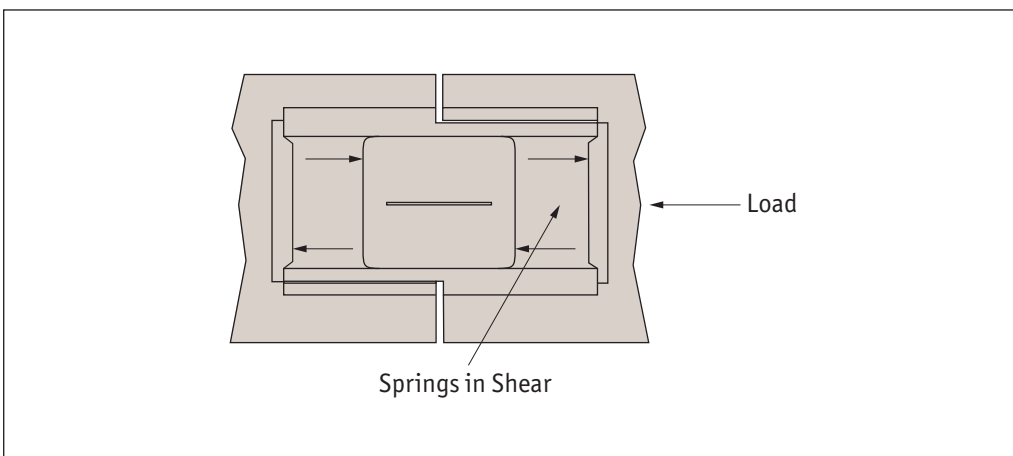
Radial loading: Spring in tension (Ft)



Radial loading: Spring in compression (Fc)



Axial loading: Springs in shear



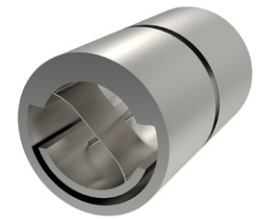
Flexure Pivot Bearings from Automation Components



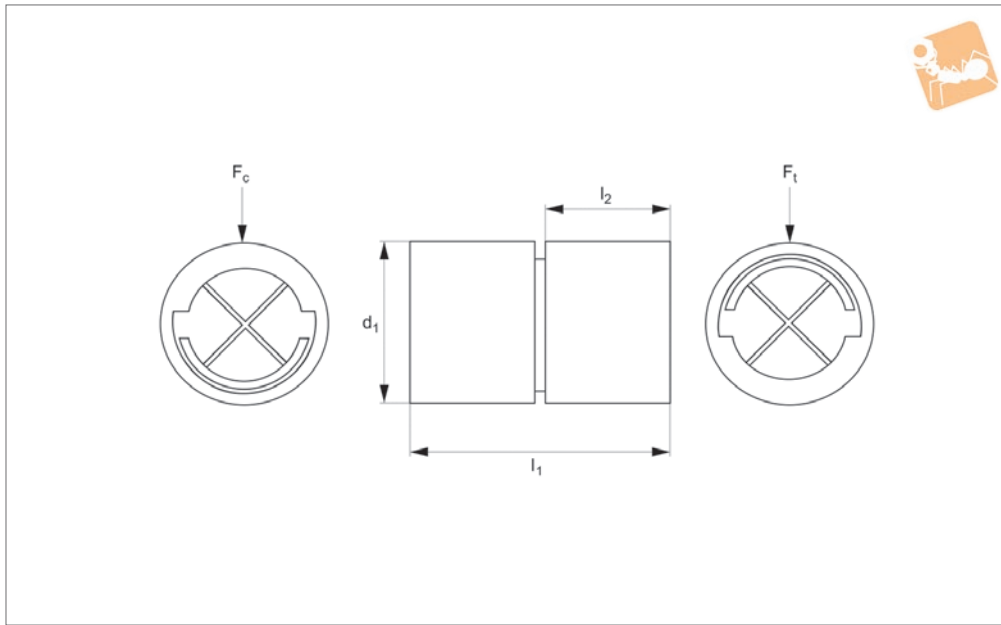
# Flexure Pivot Bearings

single-ended

# Flexure Pivot Bearings



**R4000**



FLEXURE PIVOT BEARINGS

**Material**

Body stainless steel (416), spring and core: 410 and 420 stainless steel (46-56

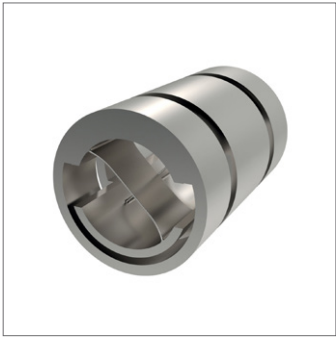
HRC), braze alloy AMS 4765.

-35°C to + 190°C.

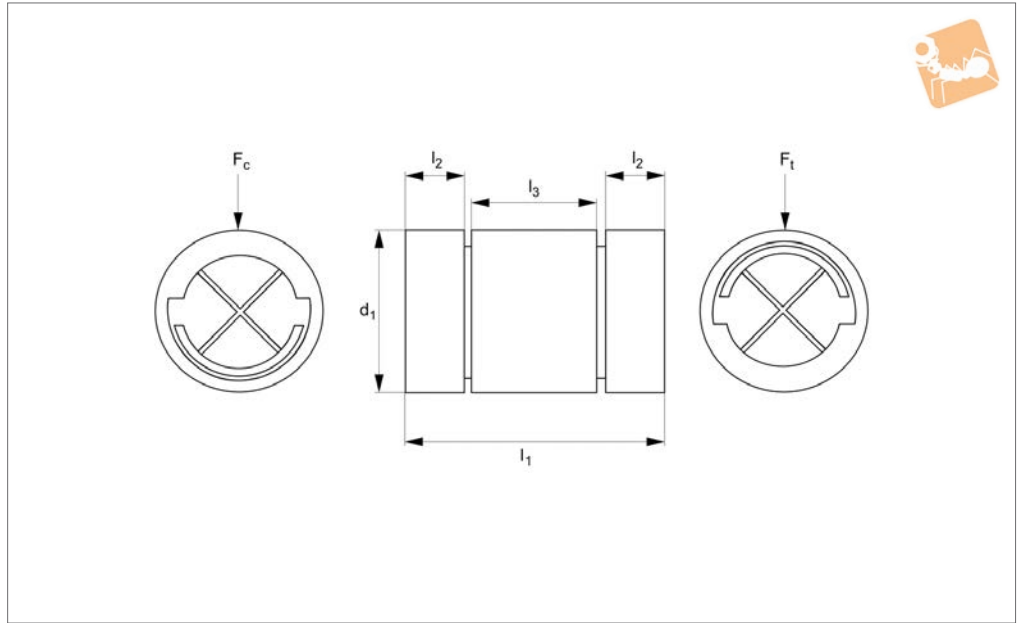
**Technical Notes**

Operating temperature

Order No.	$d_1$ +0.00 -0.13	$l_1$ ±0.08	$l_2$ min.	Torsional spring rate Nmm/°	Load $f_c$ compression kg max.	Load $f_t$ tension kg max.	Angular movement max.
R4000.A-10	3,175 (1/8")	5.08	2.24	0.034	0.43	1.72	±15°
R4000.A-20	3,175 (1/8")	5.08	2.24	0.20	4.03	5.76	±7.5°
R4000.A-30	3,175 (1/8")	5.08	2.24	1.67	11.47	11.47	±3.7°
R4000.B-10	3,969 (5/32")	6.35	2.90	0.045	0.64	2.54	±15°
R4000.B-20	3,969 (5/32")	6.35	2.90	0.42	6.21	8.89	±7.5°
R4000.B-30	3,969 (5/32")	6.35	2.90	3.35	17.82	17.82	±3.7°
R4000.C-10	4,763 (3/16")	7.62	3.45	0.08	0.90	3.53	±15°
R4000.C-20	4,763 (3/16")	7.62	3.45	0.68	8.84	12.65	±7.5°
R4000.C-30	4,763 (3/16")	7.62	3.45	5.45	25.31	25.31	±3.7°
R4000.D-10	6,350 (1/4")	10.16	4.67	0.20	1.63	6.44	±15°
R4000.D-20	6,350 (1/4")	10.16	4.67	1.67	15.87	22.68	±7.5°
R4000.D-30	6,350 (1/4")	10.16	4.67	13.39	45.36	45.36	±3.7°
R4000.E-10	7,938 (5/16")	12.70	5.89	0.42	2.58	10.34	±15°
R4000.E-20	7,938 (5/16")	12.70	5.89	3.35	24.95	35.65	±7.5°
R4000.E-30	7,938 (3/10")	12.70	5.89	26.75	71.26	71.26	±3.7°
R4000.F-10	9,525 (3/8")	15.24	7.09	0.73	3.81	15.24	±15°
R4000.F-20	9,525 (3/8")	15.24	7.09	5.45	35.88	51.25	±7.5°
R4000.F-30	9,525 (3/8")	15.24	7.09	45.22	102.51	102.51	±3.7°
R4000.G-10	12,700 (1/2")	20.32	9.50	1.67	6.53	26.03	±15°
R4000.G-20	12,700 (1/2")	20.32	9.50	13.39	63.50	90.72	±7.5°
R4000.G-30	12,700 (1/2")	20.32	9.50	107.19	181.44	181.44	±3.7°
R4000.H-10	15,875 (5/8")	25.40	11.91	3.33	10.43	41.73	±15°
R4000.H-20	15,875 (5/8")	25.40	11.91	26.75	100.29	143.25	±7.5°
R4000.H-30	15,875 (5/8")	25.40	11.91	214.02	286.45	286.45	±3.7°
R4000.I-10	19,050 (3/4")	30.48	14.32	5.45	14.69	58.69	±15°
R4000.I-20	19,050 (3/4")	30.48	14.32	45.22	143.88	205.52	±7.5°
R4000.I-30	19,050 (3/4")	30.48	14.32	368.49	411.00	411.00	±3.7°
R4000.J-10	25,400 (1")	40.64	19.40	13.39	26.85	107.32	±15°
R4000.J-20	25,400 (1")	40.64	19.40	107.19	256.87	366.92	±7.5°
R4000.J-30	25,400 (1")	40.64	19.40	881.66	733.00	733.00	±3.7°



## R4002



### Material

Body stainless steel (416), spring and core: 410 and 420 stainless steel (46-56

HRC), braze alloy AMS 4765.

-35°C to + 190°C.

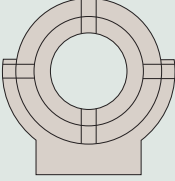
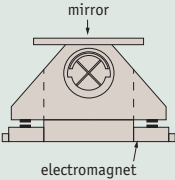
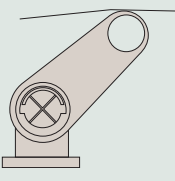
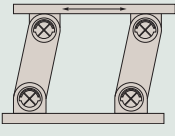
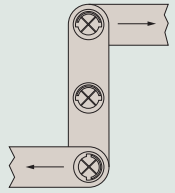
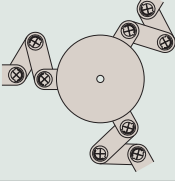
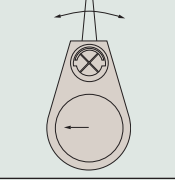
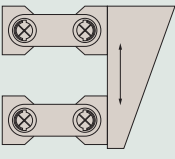
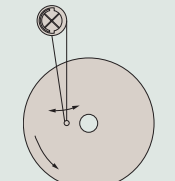
### Technical Notes

Operating temperature

Order No.	$d_1$ +0 -0.013	$l_1$ ±0.08	$l_2$ min.	$l_3$ min.	Torsional spring rate Nmm/°	Load $f_c$ compression kg max.	Load $f_t$ tension kg max.	Angular movement max.
R4002.AD-10	3,175 (1/8")	5.08	0.97	1.78	0.034	0.43	1.72	±15°
R4002.AD-20	3,175 (1/8")	5.08	0.97	1.78	0.20	4.03	5.76	±7,5°
R4002.AD-30	3,175 (1/8")	5.08	0.97	1.78	1.67	11.47	11.47	±3,7°
R4002.BD-10	3,967 (5/32")	6.35	1.27	2.54	0.045	0.64	2.54	±15°
R4002.BD-20	3,967 (5/32")	6.35	1.27	2.54	0.42	6.21	8.89	±7,5°
R4002.BD-30	3,967 (5/32")	6.35	1.27	2.54	3.35	17.82	17.82	±3,7°
R4002.CD-10	4,763 (3/16")	7.62	1.52	3.05	0.08	0.90	3.53	±15°
R4002.CD-20	4,763 (3/16")	7.62	1.52	3.05	0.67	8.84	12.65	±7,5°
R4002.CD-30	4,763 (3/16")	7.62	1.52	3.05	5.45	25.31	25.31	±3,7°
R4002.DD-10	6,350 (1/4")	10.16	2.11	4.19	0.20	1.63	6.44	±15°
R4002.DD-20	6,350 (1/4")	10.16	2.11	4.19	1.67	15.87	22.68	±7,5°
R4002.DD-30	6,350 (1/4")	10.16	2.11	4.19	13.39	45.36	45.36	±3,7°
R4002.ED-10	7,938 (5/16")	12.70	2.67	5.23	0.42	2.58	10.34	±15°
R4002.ED-20	7,938 (5/16")	12.70	2.67	5.23	3.345	24.95	35.65	±7,5°
R4002.ED-30	7,938 (5/16")	12.70	2.67	5.23	26.75	71.26	71.26	±3,7°
R4002.FD-10	9,525 (3/8")	15.24	3.25	6.48	0.73	3.81	15.24	±15°
R4002.FD-20	9,525 (3/8")	15.24	3.25	6.48	5.446	35.88	51.25	±7,5°
R4002.FD-30	9,525 (3/8")	15.24	3.25	6.48	45.22	102.51	102.51	±3,7°
R4002.GD-10	12,700 (1/2")	20.32	4.39	8.76	1.67	6.53	26.03	±15°
R4002.GD-20	12,700 (1/2")	20.32	4.39	8.76	13.39	63.50	90.72	±7,5°
R4002.GD-30	12,700 (1/2")	20.32	4.39	8.76	107.19	181.44	181.44	±3,7°
R4002.HD-10	15,875 (5/8")	25.40	5.33	10.92	3.345	10.43	41.73	±15°
R4002.HD-20	15,875 (5/8")	25.40	5.33	10.92	26.75	100.29	143.25	±7,5°
R4002.HD-30	15,875 (5/8")	25.40	5.33	10.92	214.0	286.45	286.45	±3,7°
R4002.ID-10	19,050 (3/4")	30.48	6.68	13.21	5.44	14.69	58.69	±15°
R4002.ID-20	19,050 (3/4")	30.48	6.68	13.21	45.22	143.88	205.52	±7,5°
R4002.ID-30	19,050 (3/4")	30.48	6.68	13.21	368.49	411.00	411.00	±3,7°
R4002.JD-10	25,400 (1")	40.64	9.22	18.29	13.39	26.85	107.32	±15°
R4002.JD-20	25,400 (1")	40.64	9.22	18.29	107.19	256.87	366.92	±7,5°
R4002.JD-30	25,400 (1")	40.64	9.22	18.29	881.65	733.00	733.00	±3,7°

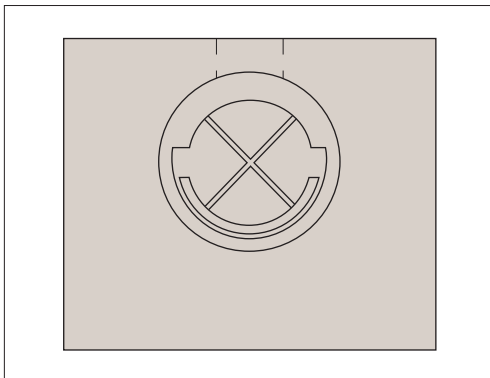
# Flexure Pivot Bearings from Automotion Components

FLEXURE PIVOT BEARINGS

	Application	Notes
	Gimbals	Free from backlash, friction and wear. Flexure bearings give the extreme accuracy needed for positioning precision optics.
	Oscillating mirrors	Optical scanners using flexure bearings provide for the ultimate in cost-effective design. They allow for easy assembly and, with indefinite life expectancies, perform with undiminished accuracy.
	Tensioners	Belt or chain tensioning can be easily achieved through the use of flexure bearings. Tolerant of hostile environments and not subject to wear, extreme long life can be expected without maintenance.
	Linear positioners	Free of errors due to backlash, friction or wear, flexure bearings mounted in suitable geometric structures can provide accurate linear movement or adjustment.
	Lever actuators	Accurate motion requirements in areas of contamination, temperature extremes, or in a vacuum, can be easily provided through linkages utilising flexure bearings. Used in dynamic conditions, the precision of load sensitive systems can be increased to a much higher level than with ball bearings.
	Restrained or dampened oscillating motion	Eccentric or circular oscillating mechanisms can utilise Flexure bearings to provide centre and dampening actions for a lifetime of maintenance free performance.
	Gauges sensors	Miniature sizes which are free of error from backlash, friction or wear, make flexure bearings ideal for applications where position must be accurately measured or outside forces sensed.
	Vibrating/sorting mechanisms	A workhorse, capable of supporting heavy loads for years of continuous service without wear or deterioration, Flexure bearings are ideal for equipment such as vibrating hoppers operating in severe environments.
	Optical or magnetic disc read/write heads	With their constant predictable spring rate, Flexure bearings are immune to the problems of starting vs. moving torque requirements of conventional bearings. Also since they operate without backlash errors or wear, a lifetime of accurate performance can be expected.

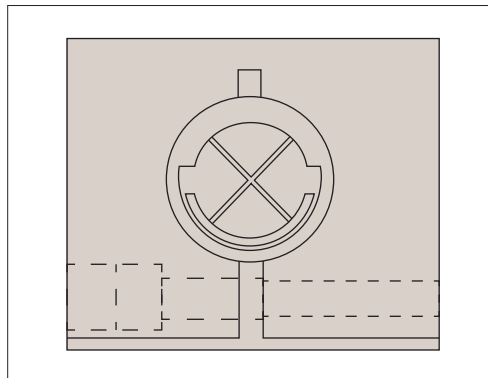


The following examples are a few of the possible methods for installing standard flexure bearings. Other techniques may provide satisfactory results. Special options, such as flanged or drilled and tapped sleeves may be provided upon request. Please contact our Technical Department with any questions or for a review of mounting requirements.



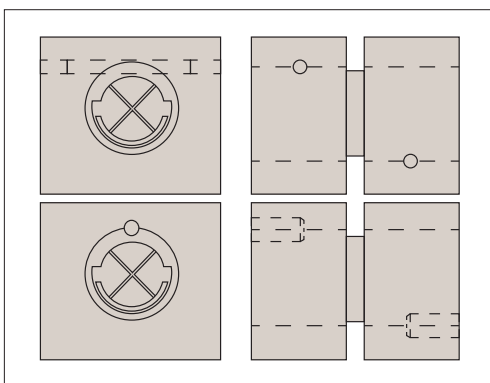
**Set screw**

One or more properly sized cup point set screws may be used to clamp the bearing in place. Hole size should be 0.0005" to 0.0010" larger than the bearing.



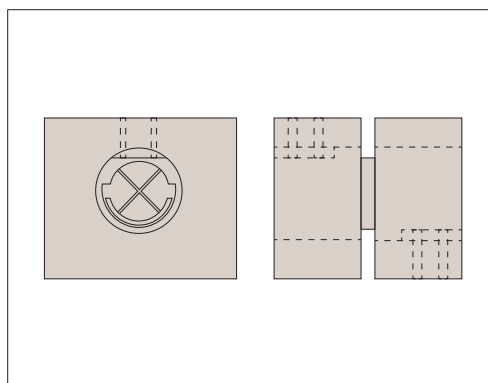
**Clamp screw**

A clamping screw applies suitable pressure to retain the bearing in place. Hole size should be 0.0005" to 0.0010" larger than the bearing.



**Radial or axial pins**

Pins may be pressed into holes drilled through the mounting bracket and the bearing sleeve. Care must be exercised to orientate the bearing properly so the springs are not damaged. Hole size should be 0.0005" to 0.0010" larger than the bearing.



**Locator flats**

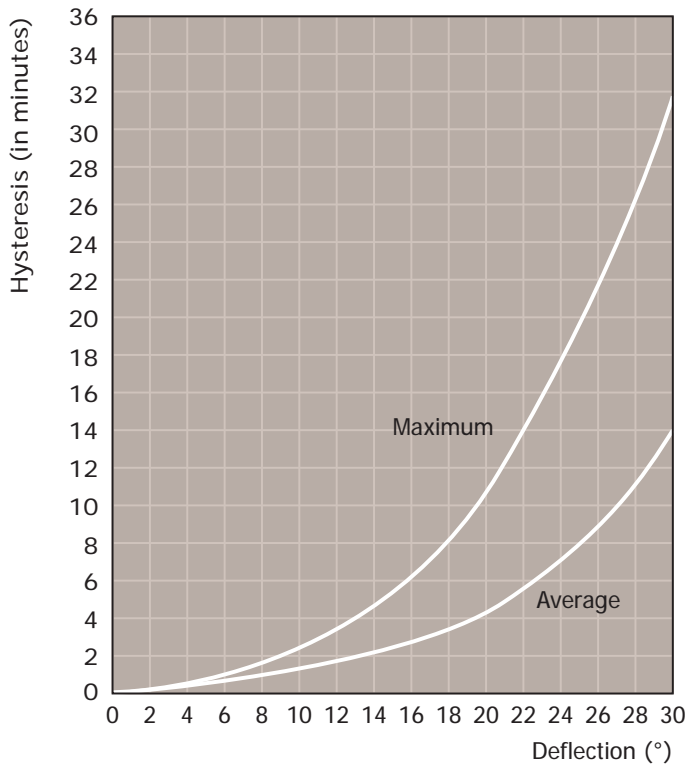
Locator flats with cup point set screws may be used to orientate and securely clamp the bearing in place. Hole size should be 0.0005" to 0.0010" larger than the bearing.

Flexure Pivot Bearings from Automation Components

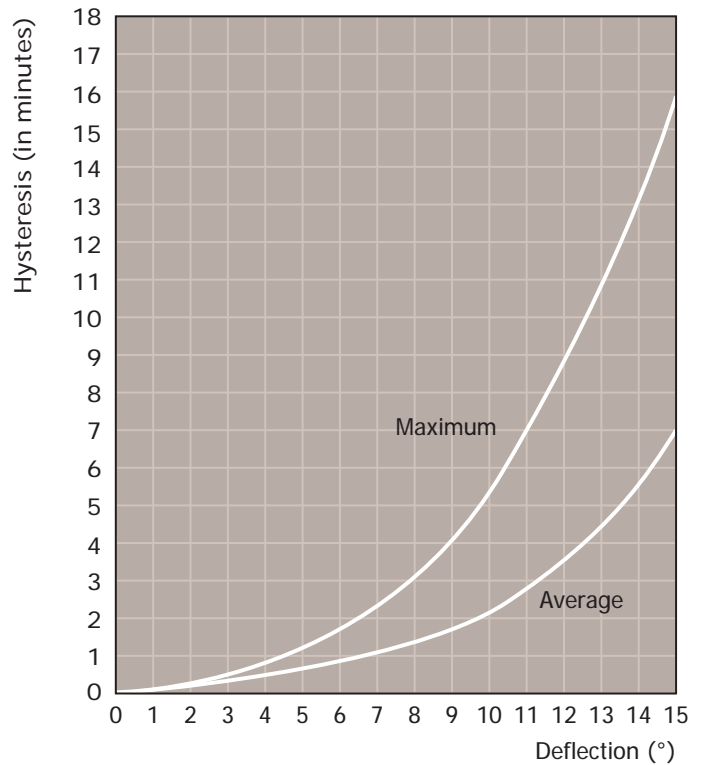


The linearity of the bearings (being the rotational deflection of the pivot v the torque required to induce the deflection) is relatively constant for angles of rotation up to 15°. We define hysteresis as the difference between the zero position when the bearing is deflected to a plus angle then relieved and then deflected to a negative angle then relieved. Comparing these two positions is the angle of hysteresis (see graphs below).

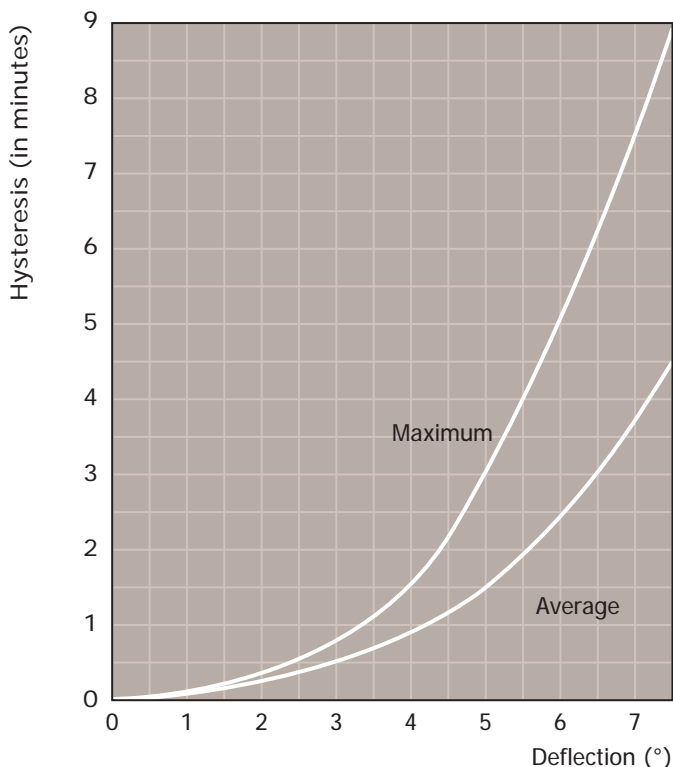
Series 10 - Max.  $\theta \pm 15.0^\circ$



Series 20 - Max.  $\theta \pm 7.5^\circ$



Series 30 - Max.  $\theta \pm 3.7^\circ$





The rotation of the bearing sleeve segments is achieved by bending flat spring beams. This causes a slight radial shift in the sleeve segment. For small angle of rotations (eg 2°) the shift is minimal (around 0.2% of the bearing diameter). However this can increase up to 1% of the bearing diameter at a rotation of 15° (see graph below).

# Flexure Pivot Bearings from Automation Components

