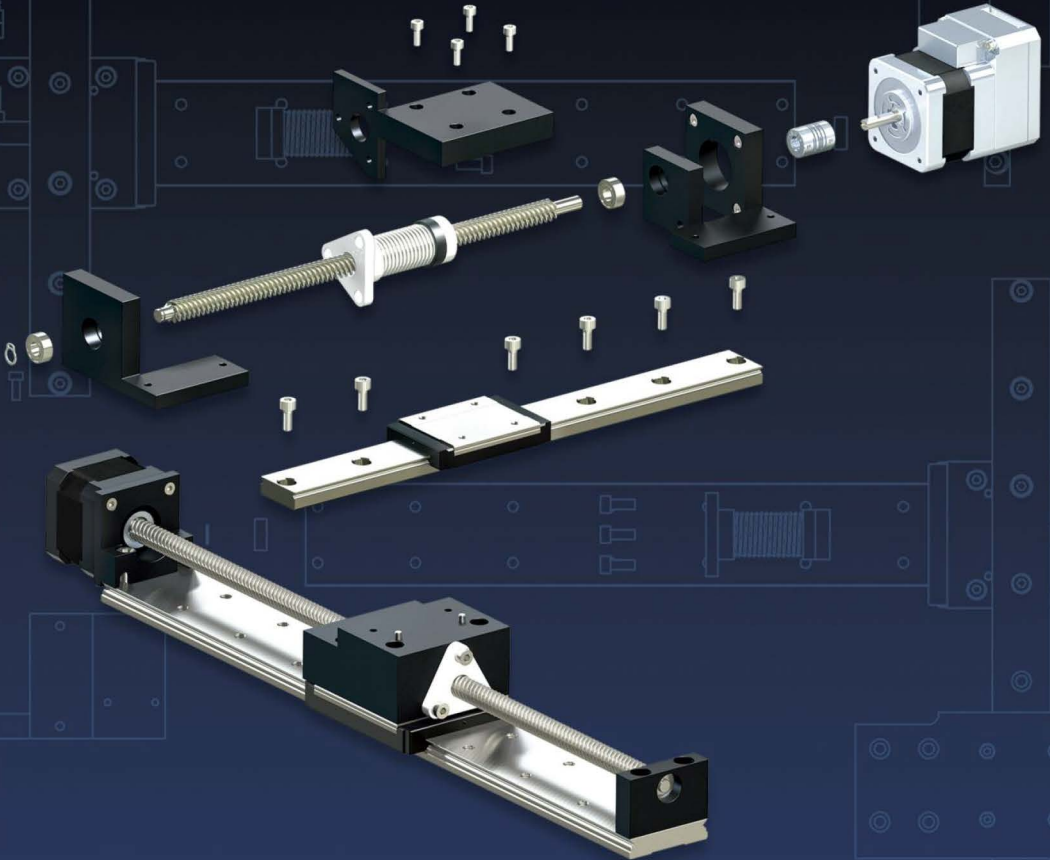




# Reliance<sup>®</sup> Precision Limited



**Precise Motion Control Solutions**  
**Gear Clamps and Accessories**



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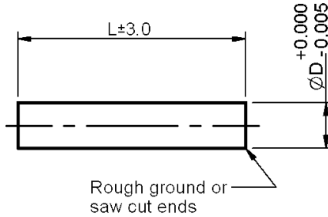


# Shafts - Ground Stock

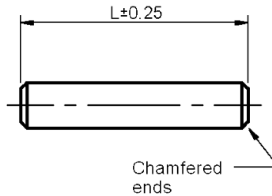
All dimensions in mm  
 General tolerances  $\pm 0.13$  mm  
 Material: Stainless steel 303 series  
 Straightness: 0.0003 mm/mm  
 Surface finish: 0.25  $\mu$ m

**Associated Products**  
 Shaft collars: page 11-3  
 Bearings: page 12-2  
 Couplings: page 8-1

## Cut to Length



## Machined to Length



### Part number selection table - Cut to length

Basic Part Number	Diameter $\varnothing$ D	Length L	Basic Part Number	Diameter $\varnothing$ D	Length L
SM1-3-	2.993	600	SM1-6A-	6.000	600
SM1-3A-	3.000		SM1-8-	7.993	
SM1-4-	3.993		SM1-8A-	8.000	
SM1-4A-	4.000		SM1-10-	9.993	1,000
SM1-5A-	5.000		SM1-10A-	10.000	
SM1-6-	5.993		SM1-12-	11.993	
			SM1-12A-	12.000	

To complete the part number add length details to part number eg **SM1-8-600**

### Part number selection table - Machined to length

Basic Part Number	Diameter $\varnothing$ D	Available Lengths					
		Length L	Length Code	Length L	Length Code	Length L	Length Code
SM2-3 SM2-4 SM2-6 SM2-8 SM2-10 SM2-12	2.993 3.993 5.993 7.993 9.993 11.993	25	-25	70	-70	115	-115
		30	-30	75	-75	120	-120
		35	-35	80	-80	125	-125
		40	-40	85	-85	150	-150
		45	-45	90	-90	175	-175
		50	-50	95	-95	200	-200
		55	-55	100	-100	225	-225
		60	-60	105	-105	250	-250
		65	-65	110	-110	275	-275

To complete the part number add length details to part number eg **SM2-8-250**

### **i** Product options

- Standard shaft end modifications, similar to those on leadscrews, are available - see [page 7-27](#)
- Imperial sizes available

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# Shaft Retaining Collars

## Associated Products

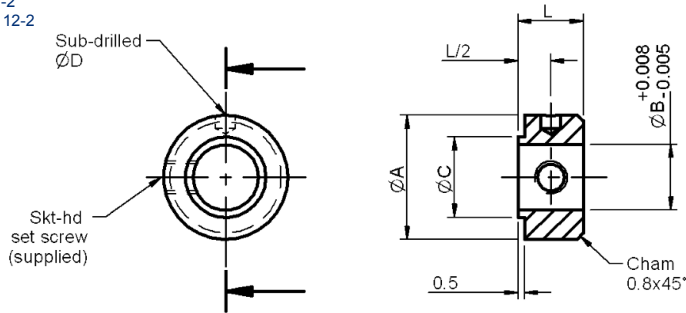
Hubless gears: page 4-52

Hubless brass gears: page 4-78

Shafts: page 11-2

Bearings: page 12-2

All dimensions in mm  
 General tolerances  $\pm 0.13$  mm  
 Material: Stainless steel  
 303S31 or 303S21



## Part number selection table

Part Number	Bore ØB	Length L	Outer Dia ØA	Shoulder Dia ØC	Sub-drill ØD	Set Screw Supplied
<b>CSM-2</b>	2.0	5.0	7.0	3.0	0.75	SS-M1.6-2
<b>CSM-3</b>	3.0	5.0	8.0	4.1	0.75	SS-M2-2
<b>CSM-4</b>	4.0	5.0	8.0	5.3	1.00	SS-M2-2
<b>CSM-5</b>	5.0	6.0	10.0	6.7	1.20	SS-M3-3
<b>CSM-6</b>	6.0	6.0	10.0	7.9	1.50	SS-M3-3
<b>CSM-8</b>	8.0	6.0	12.0	10.2	1.80	SS-M4-4
<b>CSM-10</b>	10.0	10.0	19.0	12.3	3.00	SS-M5-4
<b>CSM-12</b>	12.0	11.0	25.0	15.2	3.00	SS-M6-6

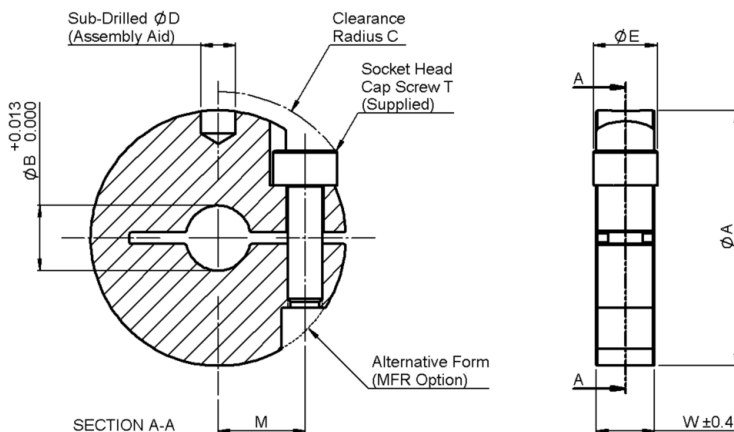
## **i** Product options

- Imperial sizes available



All dimensions in mm  
 General tolerances  $\pm 0.13$  mm  
 Material: Stainless steel, 303S21

**Associated Products**  
 Clamp hub gears: from page 4-36  
 Anti-backlash gears: from page 4-22



## Part number selection table

Part Number	To Suit Gear of Bore Dia	Bore $\varnothing B$	Outer Dia $\varnothing A$	Width $W$	Head Dia $\varnothing E$ (max)	Clearance Radius $C$	Screw Supplied $T$	Screw Offset $M$	Sub-drill $\varnothing D$
<b>CGM1-2</b>	2	3.6	16.0	4.0	3.8*	8.7	M2	5.3	1.5
<b>CGM1-3</b>	3	4.6							
<b>CGM1-4</b>	4	5.6	22.0	5.0	5.5	12.8	M3	7.5	3.0
<b>CGM1-5</b>	5	6.6							
<b>CGM1-6</b>	6	7.6							
<b>CGM1-8</b>	8	9.6	29.0	6.0	7.0	17.1	M4	9.5	4.0
<b>CGM1-10</b>	10	11.6							
<b>CGM1-12</b>	12	13.6	32.0	7.0	18.0		11.0		

\* Socket head on these components is narrower than the clamp

### **i** Product options

- Imperial sizes available

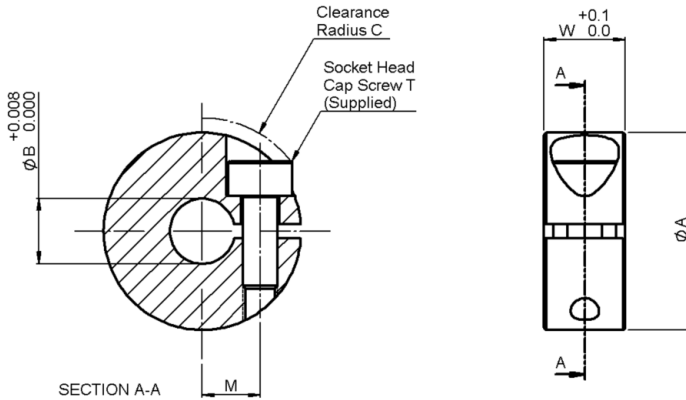


# Gear Clamps - Low Inertia

## Associated Products

Clamp hub gears: from page 4-36  
 Anti-backlash gears: from page 4-22  
 Anti-backlash pinions: page 4-7

All dimensions in mm  
 General tolerances  $\pm 0.13$  mm  
 Material: Aluminium alloy, EN AW-2014-T6511 or L168  
 Finish: Chromic acid anodise to DEF STAN 03-24



## Part number selection table

Part Number	To Suit Gear of Bore Dia	Bore $\phi B$	Outer Dia $\phi A$	Width $W$	Clearance Radius $C$	Screw Supplied $T$	Screw Offset $M$
<b>CGAM-2A</b>	2	3.6	12.0	5.0	7.2	M2	3.5
<b>CGAM-3A</b>	3	4.6	13.0		7.8		4.0
<b>CGAM-4A</b>	4	5.6	17.0	7.0	10.0	M3	5.0
<b>CGAM-5A</b>	5	6.6	18.0		10.6		5.5
<b>CGAM-6A</b>	6	7.6	19.0		11.3		6.2
<b>CGAM-8A</b>	8	9.6	24.0	9.0	13.8	M4	7.5
<b>CGAM-10A</b>	10	11.6	26.0		14.8		8.5
<b>CGAM-12A</b>	12	13.6	28.0		16.2		9.8

## **i** Product options

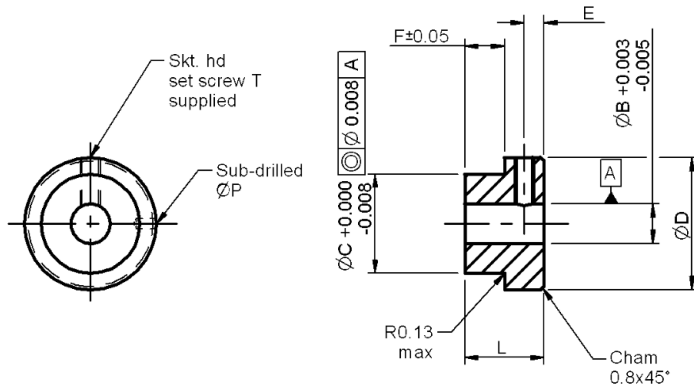
- Imperial sizes available



# Gear and Dial Hubs Pin Type

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Stainless steel

**Associated Products**  
Hubless gears: page 4-52  
Hubless brass gears: page 4-78



## Part number selection table - Dial hubs

Part Number	Bore $\varnothing B$	Face F	Length L	Outer Diameter $\varnothing D$	Mount Diameter $\varnothing C$	Sub-drill $\varnothing P$	Distance E	Set Screw Supplied T
PHMD-1	3.0		7.2			0.75		SS-M2-2
PHMD-3	4.0	1.57	7.2	11.0	9.52	1.00	2.8	SS-M2-2
PHMD-5	6.0		8.0			1.50		SS-M3-3

## Part number selection table - Gear hubs

Part Number	Bore $\varnothing B$	Face F	Length L	Outer Diameter $\varnothing D$	Mount Diameter $\varnothing C$	Sub-drill $\varnothing P$	Distance E	Set Screw Supplied T
PHM1-1	3.0	3.0	9.0	12.0	10.0	0.75	3.0	SS-M2-2
PHM1-2		6.0	12.0					
PHM1-3	4.0	3.0	9.0	12.0	10.0	1.00	3.0	SS-M2-2
PHM1-4		6.0	12.0					
PHM1-5	6.0	3.0	9.0	20.0	15.0	1.50	3.0	SS-M3-3
PHM1-6		6.0	12.0					
PHM1-7	8.0	3.0	12.0	20.0	15.0	1.80	4.5	SS-M4-4
PHM1-8		6.0	15.0					
PHM1-9	10.0	6.0	18.0	30.0	25.0	3.00	6.0	SS-M5-5
PHM1-10		8.0	20.0					
PHM1-11		10.0	22.0					

### **i** Features and options

- Gears, sprockets or dials assembled on request
- Imperial bores available
- Special hubs for Delrin gears

### **?** Technical support

- Recommended assembly procedure: Notch and stake in 4 equi-spaced positions and/or use adhesive (Loctite grade 326)

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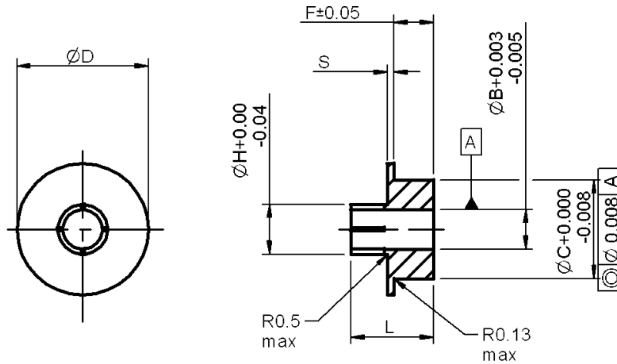


# Gear and Dial Hubs Clamp Type



**Associated Products**  
Hubless gears: page 4-52  
Hubless brass gears: page 4-78

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Stainless steel



## Part number selection table - Dial hubs

Part Number	Bore $\varnothing B$	Face F	Length L	Outer Diameter $\varnothing D$	Mount Diameter $\varnothing C$	Hub Diameter $\varnothing H$	Shoulder S	To Suit Clamp
CHMD-1	3.0			12.0		4.6		CGM1-3
CHMD-3	4.0	1.57	8.7	12.0	9.52	5.6	1.0	CGM1-4
CHMD-5	6.0			20.0		7.6		CGM1-6

## Part number selection table - Gear hubs

Part Number	Bore $\varnothing B$	Face F	Length L	Outer Diameter $\varnothing D$	Mount Diameter $\varnothing C$	Hub Diameter $\varnothing H$	Shoulder S	To Suit Clamp
CHM1-1	3.0	3.0	8.5	12.0	10.0	4.6	1.0	CGM1-3
CHM1-2		6.0	11.5					
CHM1-3	4.0	3.0	9.5	12.0	10.0	5.6	1.0	CGM1-4
CHM1-4		6.0	12.5					
CHM1-5	6.0	3.0	9.5	20.0	15.0	7.6	1.0	CGM1-6
CHM1-6		6.0	12.5					
CHM1-7	8.0	3.0	11.0	20.0	15.0	9.6	1.5	CGM1-8
CHM1-8		6.0	14.0					
CHM1-9	10.0	6.0	14.0	30.0	25.0	11.6	1.5	CGM1-10
CHM1-10		8.0	16.0					
CHM1-11		10.0	18.0					













### **i** Features and options

- Gears, sprockets or dials assembled on request
- Imperial bores available
- Special hubs for Delrin gears

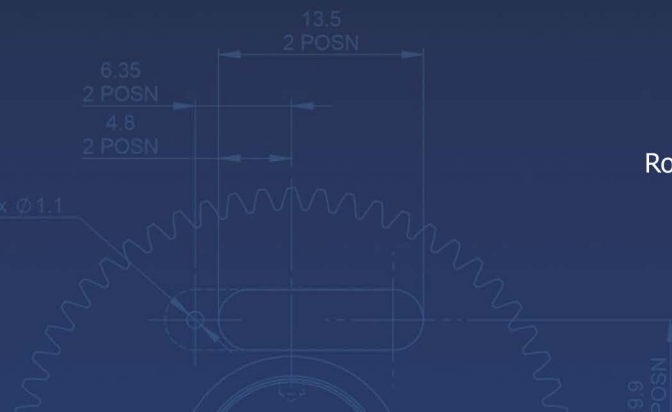
### **?** Technical support

- Recommended assembly procedure: Notch and stake in 4 equi-spaced positions and/or use adhesive (Loctite grade 326)

Gear Clamps & Accessories

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