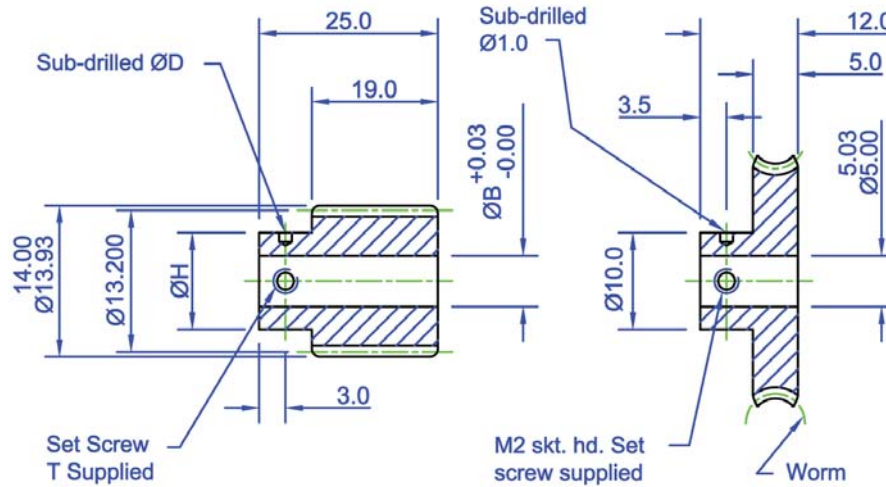


All dimensions in mm  
General tolerances  $\pm 0.13\text{mm}$

Associated Online Products  
Shafts  
Bearings



## 5

### Part number selection tables

Worm		Dimensions			
Lead Angle	1° 44'	Bore Dia $\varnothing B$	Hub Dia $\varnothing H$	Sub Drill $\varnothing D$	Set Screw T
Lead	1.257				
P.A.	14.5°				
Part Number	<b>WGS-5S</b>	5.00	10.00	0.75	M2

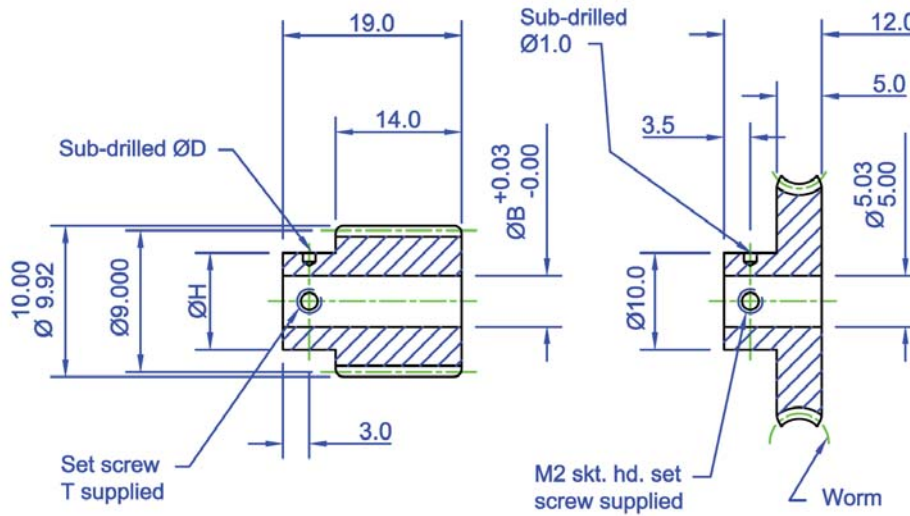
Wormwheel	Dimensions	
Part Number	Number of Teeth	Pitch Diameter
Single Start		
<b>WGB83-S40</b>	40	16.00
<b>WGB83-S50</b>	50	20.00
<b>WGB83-S60</b>	60	24.00
<b>WGB83-S70</b>	70	28.00
<b>WGB83-S80</b>	80	32.00
<b>WGB83-S90</b>	90	36.00
<b>WGB83-S100</b>	100	40.00
<b>WGB83-S110</b>	110	44.00
<b>WGB83-S120</b>	120	48.00



- Accuracy AQ10 - see [page 102](#)
- Worm material - Stainless steel (DIN 1.4305)
- Wormwheel material - Naval Brass QQ-B-637
- Material and treatment specifications - see [page 105](#)
- Worm gear formulae - see [page 87](#)
- Anti-backlash available
- Alternative number of starts available

Associated Online Products  
Shafts  
Bearings

All dimensions in mm  
General tolerances  $\pm 0.13\text{mm}$



5

### Part number selection tables

Worm		Dimensions			
Lead Angle	3° 10'	Bore Dia ØB	Hub Dia ØH	Sub Drill ØD	Set Screw T
Lead	1.571				
P.A.	14.5°				
Part Number	<b>WFS-5S</b>	5.000	8.00	1.00	M2

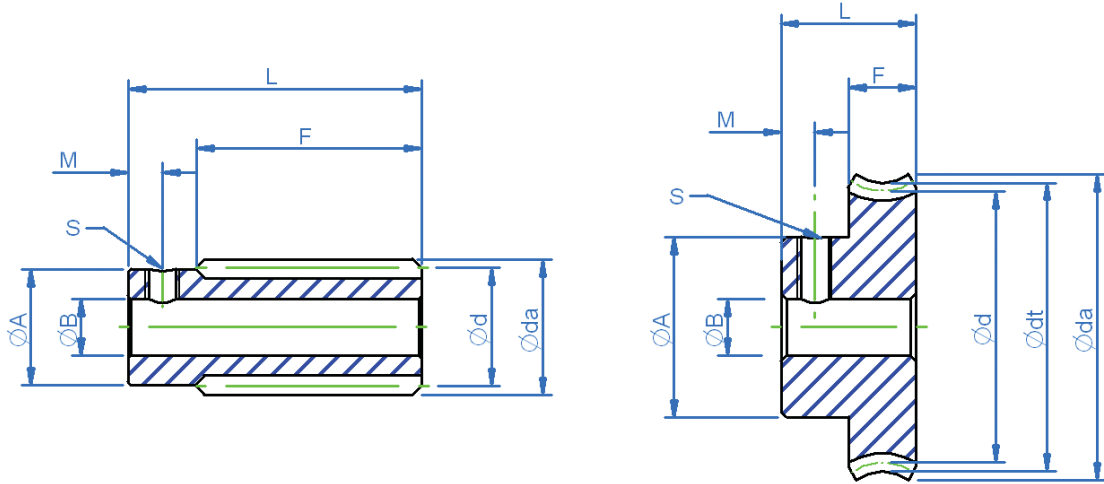
Wormwheel	Dimensions	
Part Number	Number of Teeth	Pitch Diameter
Single Start		
<b>WFB83-S30</b>	30	15.00
<b>WFB83-S40</b>	40	20.00
<b>WFB83-S50</b>	50	25.00
<b>WFB83-S60</b>	60	30.00
<b>WFB83-S70</b>	70	35.00
<b>WFB83-S80</b>	80	40.00
<b>WFB83-S90</b>	90	45.00
<b>WFB83-S100</b>	100	50.00
<b>WFB83-S120</b>	120	60.00



- Accuracy AQ10 - see [page 102](#)
- Worm material - Stainless steel (DIN 1.4305)
- Wormwheel material - Naval Brass QQ-B-637
- Material and treatment specifications - see [page 105](#)
- Worm gear formulae - see [page 87](#)
- Anti-backlash available
- Alternative number of starts available

All dimensions in mm  
Pressure angle 20°

Associated Online Products  
Shafts  
Bearings



## 5

### Part number selection tables

#### Worm

set screw supplied

Part Number	Number of Starts	Thread Direction	PCD Ød	OD Øda	Bore Dia (H8) ØB	Hub Dia ØA	Face Width F	Overall Length L	Lead Angle	Set Screw	
										S	M
<b>W50SUR1+B</b>	1	Right	9	10	3	7.6	13	18	3°11'	M2.5	2.5

#### Wormwheel

set screw supplied

Part Number	Number of Teeth	Throat Dia Ødt	PCD Ød	Coef of Shift x	OD Øda	Bore Dia (H8) ØB	Hub Dia ØA	Face Width F	Overall Length L	Set Screw	
										S	M
<b>G50B20+R1</b>	20	11	10	-0.015	11.3	3	9	5	11	M3	3
<b>G50B30+R1</b>	30	16	15	-0.023	16.3	4	12		11	M3	3
<b>G50B40+R1</b>	40	21	20	-0.031	21.3	5	15		13	M4	4
<b>G50B50+R1</b>	50	26	25	-0.038	26.3	5	16		13	M4	4

Dimension x: Coefficient of rack shift

- Single start worm, right hand thread
- Worm material - Stainless steel SUS304, precision cold rolled
- Wormwheel material - Brass CuZn39Pb3
- Worm gear formulae - see [page 87](#)
- Backlash at nominal centres - see [page 118](#)



**Ratio (R)** =  $\frac{\text{No. of teeth on wormwheel (T)}}{\text{No. of starts on worm (t)}}$

**Centre Distance (CD)** =  $\frac{\text{PCD worm}}{2} + \frac{\text{PCD wheel}}{2}$

**Lead (L)** = The axial distance by which a thread advances in one revolution =  $\pi \times t \times m$

Where  $m$  (metric) = Axial module

$m$  (imperial) =  $\frac{1}{\text{DP}}$

5

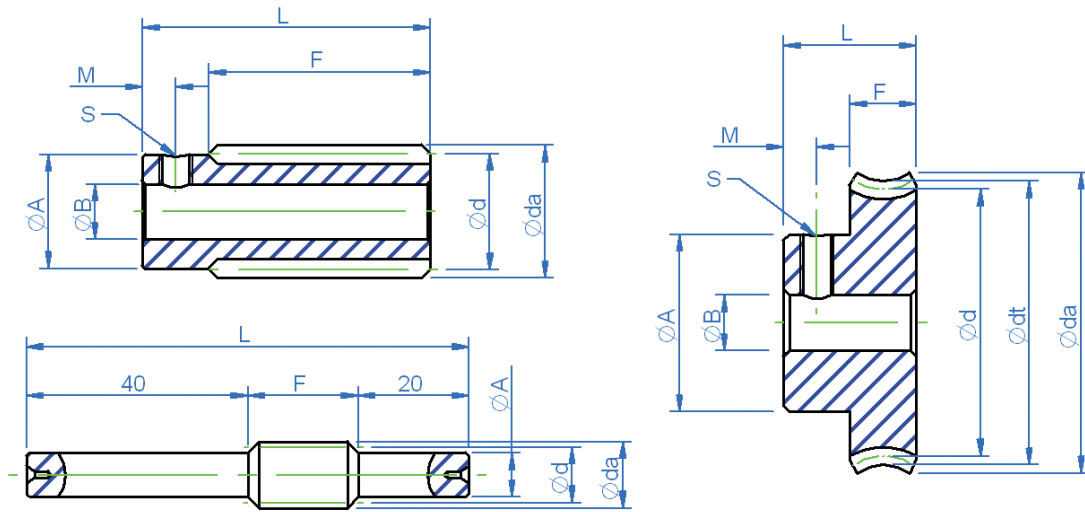
**Actual outside diameter of worm**  $\text{OD}_w = \text{PCD} + (2 \times m)$

**Typical outside diameter of wormwheel**  $\text{OD}_{ww} = \text{PCD} + (3 \times m)$



All dimensions in mm  
Pressure angle 20°

Associated Online Products  
Shafts  
Bearings



Worm shaft

5

## Part number selection tables

### Worm

set screw not supplied

Part Number	Number of Starts	Thread Direction	PCD Ød	OD Øda	Bore Dia (H8) ØB	Hub Dia ØA	Face Width F	Overall Length L	Lead Angle	Set Screw	
										S	M
<b>W80SUR1+B</b> <b>W80SUR1-L</b>	1	Right	10.4	12	5 -	10.3 8.0(h9)	14 20	26 80	4°24'	M3 -	3 -

- in part number denotes worm shaft type

### Wormwheel

set screw supplied

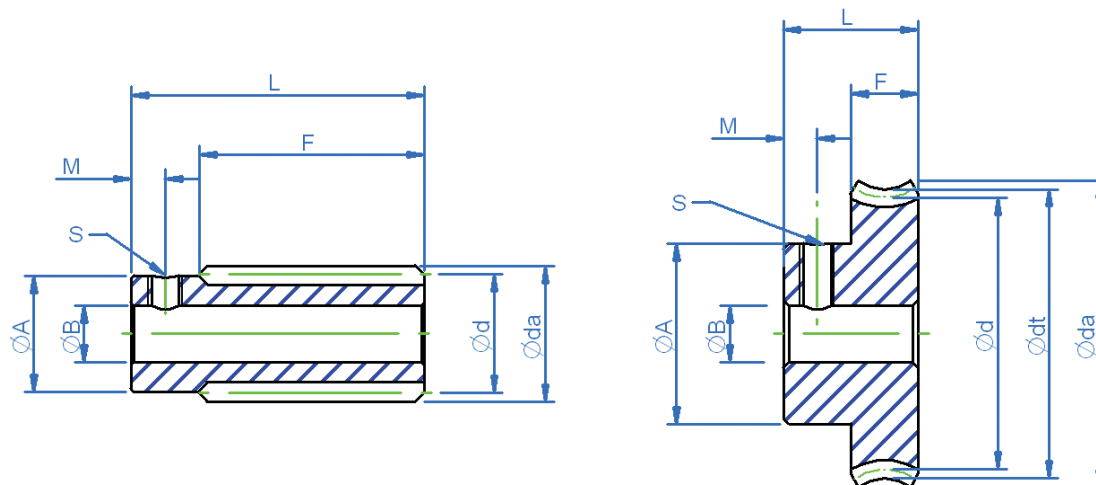
Part Number	Number of Teeth	Throat Dia Ødt	PCD Ød	Coeff of shift x	OD Øda	Bore Dia (H8) ØB	Hub Dia ØA	Face Width F	Overall Length L	Set Screw	
										S	M
<b>G80A20+R1</b>	20	17.6	16	-0.029	18.1	5	12	6	12	M3	3
<b>G80A30+R1</b>	30	25.6	24	-0.044	26.1	5	16		12	M3	3
<b>G80A40+R1</b>	40	33.6	32	-0.059	34.1	6	18		14	M4	4
<b>G80A50+R1</b>	50	41.6	40	-0.074	42.1	6	20		14	M4	4

Dimension x: Coefficient of rack shift

- Single start worm, right hand thread
- Worm material - Stainless steel SUS304, precision cold rolled process
- Wormwheel material - Aluminium bronze casting JIS CAC702
- Worm gear formulae - see [page 87](#)
- Wormwheel suited to right hand, single thread worm
- Backlash at nominal centres - see [page 118](#)

Associated Online Products  
Shafts  
Bearings

All dimensions in mm  
Pressure angle 20°



## Part number selection tables

### Worm

set screw not supplied

Part Number	Number of Starts	Thread Direction	PCD Ød	OD Øda	Bore Dia (H8) ØB	Hub Dia ØA	Face Width F	Overall Length L	Lead Angle	Set Screw	
										S	M
W1SUR1+B	1	Right	16	18	6	15.85	15.5	32	3°35'	M4	3.5
W1SUR2+B	2										

### Wormwheel

set screw supplied

Part Number	Number of Teeth	Throat Dia Ødt	PCD Ød	Coeff of shift x	OD Øda	Bore Dia (H8) ØB	Hub Dia ØA	Face Width F	Overall Length L	Set Screw	
										S	M
G1A20R1+6	20	22	20	-0.019	23.5	6	17	10	18	M5	4
G1A30R1+6	30	32	30	-0.029	33.5	6	22				
G1A50R1+8	50	52	50	-0.048	53.5	8	30				
G1A20R2+6	20	22	20	-0.079	23.5	6	17				
G1A30R2+6	30	32	30	-0.118	33.5	6	22				
G1A50R2+8	50	52	50	-0.197	53.5	8	30				

Dimension x: Coefficient of rack shift

- Single (R1) and double (R2) start worm, right hand thread
- Worm material - Stainless steel SUS303, precision cold rolled process
- Wormwheel material - Aluminium bronze casting JIS CAC702
- Worm gear formulae - see [page 87](#)
- Lefthand thread direction available, replace R with L in the part number
- Backlash at nominal centres - see [page 118](#)