

# Worms & Wheels

## Materials

### 20 DP, 0.1571" Pitch

STD : Phosphor Bronze PB2  
and Steel 214M15 / 655M13



**LEAD ANGLE  
RIGHT HAND  
STANDARD**

### DISCOUNTS

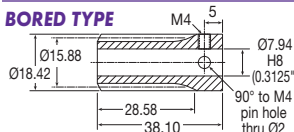
	1 - 5	List Price
	6 - 19	- 12%
	20 - 39	- 25%
	40 - 59	- 33%
	60 - 99	- 37%
	100 - 200	- 42%

**20° Pressure Angle**

## Worm

## STEEL 214 M15 - En202

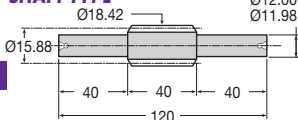
### BORED TYPE



### 214M15 - EN202 UNHARDENED

PART NUMBER	PRICE EACH 1-5	No. of STARTS	LEAD ANGLE	214M15 - EN202 HARDENED	PRICE EACH 1-5
W20-1	£19.33	1	4°34'	WH20-1	£27.53
W20-2	£20.42	2	9°05'	WH20-2	£29.05
W20-3	£22.43	3	13°29'	WH20-3	£31.86
W20-4	£23.43	4	17°44'	WH20-4	£33.28

### SHAFT TYPE



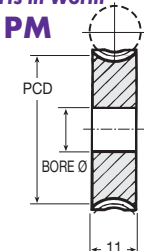
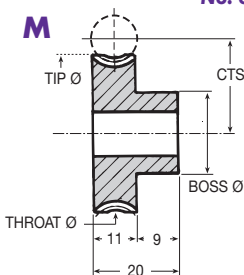
### 214M15 - EN202 UNHARDENED

PART NUMBER	PRICE EACH 1-5	No. of STARTS	LEAD ANGLE	655M13 - EN36 HARDENED	PRICE EACH 1-5
SW20-1	£35.70	1	4°34'	SWH20-1	£50.66
SW20-2	£36.67	2	9°05'	SWH20-2	£52.09
SW20-3	£39.15	3	13°29'	SWH20-3	£55.55
SW20-4	£39.69	4	17°44'	SWH20-4	£56.43

## Wheel

## PHOSPHOR BRONZE - PB2

**REDUCTION RATIO = No. of Teeth in Wheel  
= No. of Starts in Worm**



**Double  
Bossed  
Wheels  
Available @  
Price x 1.4**

Worms & Wheels Bronze & Steel DP 20

**15.58**



Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN  
Telephone +44(0)1246 268080 Fax +44(0)1246 260003

## LEAD ANGLE RIGHT HAND STANDARD

TORQUE CHECK variations at back	50 TEETH x 1000 R.P.M. INPUT	
	WITH STD WORM	WITH HARD WORM
<b>TORQUE Nm</b>	11.41	20.25
<b>K.W.</b>	0.024	0.042

Number of Teeth **12 - 144***See Technical Section**Note: When ordering Wheel, the number of starts on the mating Worm must be specified.*

PART NUMBER	TEETH	PCD (ins)	CTS (ins)	Throat Ø (ins)	Tip Ø (ins)	Boss Ø (ins)	Bore Ø (ins)	PRICE EACH 1 - 5	
								M	PM
M20-12	12	0.600	0.613	0.700	0.750	0.562	0.3125	£21.10	£15.82
M20-15	15	0.750	0.688	0.850	0.900	0.562	0.3125	£22.21	£16.49
M20-16	16	0.800	0.713	0.900	0.950	0.562	0.3125	£22.99	£16.99
M20-18	18	0.900	0.763	1.000	1.050	0.750	0.3750	£23.89	£17.62
M20-20	20	1.000	0.813	1.100	1.150	0.750	0.3750	£25.52	£18.23
M20-22	22	1.100	0.863	1.200	1.250	0.750	0.3750	£26.54	£19.29
M20-24	24	1.200	0.913	1.300	1.350	0.750	0.3750	£27.39	£19.85
M20-25	25	1.250	0.938	1.350	1.400	1.000	0.3750	£28.15	£20.42
M20-28	28	1.400	1.013	1.500	1.550	1.000	0.3750	£29.16	£21.06
M20-30	30	1.500	1.063	1.600	1.650	1.000	0.3750	£30.44	£21.91
M20-32	32	1.600	1.113	1.700	1.750	1.000	0.3750	£27.39	£19.85
M20-34	34	1.700	1.163	1.800	1.850	1.000	0.3750	£34.56	£23.30
M20-35	35	1.750	1.188	1.850	1.900	1.000	0.3750	£36.97	£23.93
M20-38	38	1.900	1.263	2.000	2.050	1.000	0.3750	£39.38	£25.59
M20-40	40	2.000	1.313	2.100	2.150	1.000	0.3750	£40.17	£27.68
M20-42	42	2.100	1.363	2.200	2.250	1.000	0.3750	£44.27	£29.85
M20-44	44	2.200	1.413	2.300	2.350	1.000	0.3750	£47.09	£32.70
M20-45	45	2.250	1.438	2.350	2.400	1.000	0.3750	£50.45	£33.90
M20-48	48	2.400	1.513	2.500	2.550	1.000	0.3750	£56.25	£37.68
M20-50	50	2.500	1.563	2.600	2.650	1.000	0.3750	£60.45	£41.45
M20-52	52	2.600	1.613	2.700	2.750	1.250	0.5000	£64.84	£43.97
M20-54	54	2.700	1.663	2.800	2.850	1.250	0.5000	£70.28	£47.29
M20-55	55	2.750	1.688	2.850	2.900	1.250	0.5000	£71.49	£48.61
M20-58	58	2.900	1.763	3.000	3.050	1.250	0.5000	£79.43	£53.19
M20-60	60	3.000	1.813	3.100	3.150	1.250	0.5000	£83.86	£56.88
M20-62	62	3.100	1.863	3.200	3.250	1.250	0.5000	£88.73	£60.36
M20-64	64	3.200	1.913	3.300	3.350	1.250	0.5000	£94.23	£63.76
M20-65	65	3.250	1.938	3.350	3.400	1.250	0.5000	£96.98	£65.74
M20-68	68	3.400	2.013	3.500	3.550	1.250	0.5000	£105.31	£71.44
M20-70	70	3.500	2.063	3.600	3.650	1.250	0.5000	£111.02	£75.34
M20-72	72	3.600	2.113	3.700	3.750	1.250	0.5000	£116.95	£78.73
M20-74	74	3.700	2.163	3.800	3.850	1.250	0.5000	£123.00	£83.62
M20-75	75	3.750	2.188	3.850	3.900	1.250	0.5000	£126.26	£86.09
M20-78	78	3.900	2.263	4.000	4.050	1.250	0.5000	£135.53	£91.92
M20-80	80	4.000	2.313	4.100	4.150	1.250	0.5000	£142.04	£97.14
M20-82	82	4.100	2.363	4.200	4.250	1.250	0.5000	£149.08	£101.07
M20-85	85	4.250	2.438	4.350	4.400	1.250	0.5000	£158.28	£107.82
M20-88	88	4.400	2.513	4.500	4.550	1.250	0.5000	£169.56	£115.04
M20-90	90	4.500	2.563	4.600	4.650	1.250	0.5000	£176.81	£120.28
M20-95	95	4.750	2.688	4.850	4.900	2.000	0.5000	£195.64	£132.69
M20-98	98	4.900	2.763	5.000	5.050	2.000	0.5000	£207.42	£140.60
M20-100	100	5.000	2.813	5.100	5.150	2.000	0.5000	£215.45	£146.18
M20-110	110	5.500	3.063	5.600	5.650	2.000	0.5000	£259.15	£174.74
M20-120	120	6.000	3.313	6.100	6.150	2.000	0.5000	£304.03	£206.33
M20-144	144	7.200	3.912	7.300	7.350	2.000	0.7500	£404.43	£343.73



# Worms & Wheels

## 20 DP, 0.1571" Pitch

### Materials

STD : Delrin  
Machined Parts



20° Pressure Angle

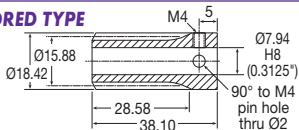
LEAD ANGLE  
RIGHT HAND  
STANDARD

### DISCOUNTS

1 - 5	List Price
6 - 29	- 22%
30 - 99	- 44%
100 - 399	- 47%
400 - 999	- 50%
1000 - 5000	- 53%

## Worm DELRIN - Machined Parts

### BORED TYPE

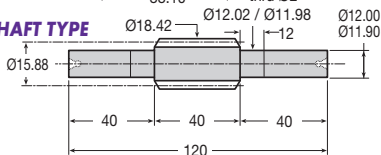


### PLASTIC

PART NUMBER	No. of STARTS	LEAD ANGLE	PRICE EACH 1-5
ZW20-1	1	4°34'	£13.61
ZW20-2	2	9°05'	£14.35
ZW20-3	3	13°29'	£15.77
ZW20-4	4	17°44'	£16.46

DP 20

### SHAFT TYPE

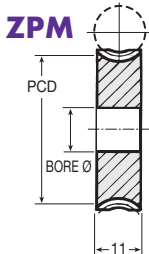
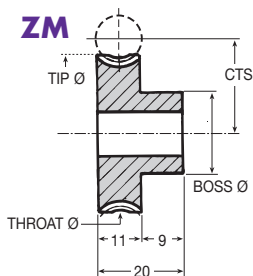


### PLASTIC

PART NUMBER	No. of STARTS	LEAD ANGLE	PRICE EACH 1-5
ZSW20-1	1	4°34'	£25.11
ZSW20-2	2	9°05'	£25.79
ZSW20-3	3	13°29'	£27.54
ZSW20-4	4	17°44'	£27.93

## Wheel DELRIN - Machined Parts

REDUCTION RATIO =  $\frac{\text{No. of Teeth in Wheel}}{\text{No. of Starts in Worm}}$



Double  
Bossed  
Wheels  
Available @  
Price x 1.4

Worms & Wheels Plastic

15.60



Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN  
Telephone +44(0)1246 268080 Fax +44(0)1246 260003

## LEAD ANGLE RIGHT HAND STANDARD

TORQUE CHECK variations at back	50 TEETH x 1000 R.P.M. INPUT	
	WITH PLASTIC WORM	WITH STEEL WORM
<b>TORQUE Nm</b>	2.75	7.02
<b>K.W.</b>	0.006	0.015

Number of Teeth **12 - 144**

*See Technical Section*

*Note: When ordering Wheel, the number of starts on the mating Worm must be specified.*

PART NUMBER	TEETH	PCD (ins)	CTS (ins)	Throat Ø (ins)	Tip Ø (ins)	Boss Ø (ins)	Bore Ø (ins)	PRICE EACH 1 - 5	ZM	ZPM
ZM20-12	12	0.600	0.613	0.700	0.750	0.562	0.3125	£10.62		£8.12
ZM20-15	15	0.750	0.688	0.850	0.900	0.562	0.3125	£11.15		£8.53
ZM20-16	16	0.800	0.713	0.900	0.950	0.562	0.3125	£11.51		£8.84
ZM20-18	18	0.900	0.763	1.000	1.050	0.750	0.3750	£12.06		£9.20
ZM20-20	20	1.000	0.813	1.100	1.150	0.750	0.3750	£12.83		£9.82
ZM20-22	22	1.100	0.863	1.200	1.250	0.750	0.3750	£13.31		£10.19
ZM20-24	24	1.200	0.913	1.300	1.350	0.750	0.3750	£15.18		£11.59
ZM20-25	25	1.250	0.938	1.350	1.400	1.000	0.3750	£15.55		£11.91
ZM20-28	28	1.400	1.013	1.500	1.550	1.000	0.3750	£16.13		£12.39
ZM20-30	30	1.500	1.063	1.600	1.650	1.000	0.3750	£16.81		£12.89
ZM20-32	32	1.600	1.113	1.700	1.750	1.000	0.3750	£20.15		£15.47
ZM20-34	34	1.700	1.163	1.800	1.850	1.000	0.3750	£21.74		£16.68
ZM20-35	35	1.750	1.188	1.850	1.900	1.000	0.3750	£23.26		£17.87
ZM20-38	38	1.900	1.263	2.000	2.050	1.000	0.3750	£24.81		£19.00
ZM20-40	40	2.000	1.313	2.100	2.150	1.000	0.3750	£25.30		£19.36
ZM20-42	42	2.100	1.363	2.200	2.250	1.000	0.3750	£27.88		£21.36
ZM20-44	44	2.200	1.413	2.300	2.350	1.000	0.3750	£29.67		£22.74
ZM20-45	45	2.250	1.438	2.350	2.400	1.000	0.3750	£31.77		£24.38
ZM20-48	48	2.400	1.513	2.500	2.550	1.000	0.3750	£35.45		£27.21
ZM20-50	50	2.500	1.563	2.600	2.650	1.000	0.3750	£38.12		£29.26
ZM20-52	52	2.600	1.613	2.700	2.750	1.250	0.5000	£40.84		£31.34
ZM20-54	54	2.700	1.663	2.800	2.850	1.250	0.5000	£44.30		£33.97
ZM20-55	55	2.750	1.688	2.850	2.900	1.250	0.5000	£45.04		£34.53
ZM20-58	58	2.900	1.763	3.000	3.050	1.250	0.5000	£50.09		£38.36
ZM20-60	60	3.000	1.813	3.100	3.150	1.250	0.5000	£52.85		£40.56
ZM20-62	62	3.100	1.863	3.200	3.250	1.250	0.5000	£55.86		£42.92
ZM20-64	64	3.200	1.913	3.300	3.350	1.250	0.5000	£59.40		£45.52
ZM20-65	65	3.250	1.938	3.350	3.400	1.250	0.5000	£61.13		£46.86
ZM20-68	68	3.400	2.013	3.500	3.550	1.250	0.5000	£66.39		£50.90
ZM20-70	70	3.500	2.063	3.600	3.650	1.250	0.5000	£69.97		£53.67
ZM20-72	72	3.600	2.113	3.700	3.750	1.250	0.5000	£73.72		£56.58
ZM20-74	74	3.700	2.163	3.800	3.850	1.250	0.5000	£77.57		£59.46
ZM20-75	75	3.750	2.188	3.850	3.900	1.250	0.5000	£79.55		£61.09
ZM20-78	78	3.900	2.263	4.000	4.050	1.250	0.5000	£85.44		£65.55
ZM20-80	80	4.000	2.313	4.100	4.150	1.250	0.5000	£89.54		£68.71
ZM20-82	82	4.100	2.363	4.200	4.250	1.250	0.5000	£94.01		£72.10
ZM20-85	85	4.250	2.438	4.350	4.400	1.250	0.5000	£99.77		£76.52
ZM20-88	88	4.400	2.513	4.500	4.550	1.250	0.5000	£106.93		£82.00
ZM20-90	90	4.500	2.563	4.600	4.650	1.250	0.5000	£114.46		£85.53
ZM20-95	95	4.750	2.688	4.850	4.900	2.000	0.5000	£123.36		£94.64
ZM20-98	98	4.900	2.763	5.000	5.050	2.000	0.5000	£130.78		£100.35
ZM20-100	100	5.000	2.813	5.100	5.150	2.000	0.5000	£135.84		£104.24
ZM20-110	110	5.500	3.063	5.600	5.650	2.000	0.5000	£163.39		£125.38
ZM20-120	120	6.000	3.313	6.100	6.150	2.000	0.5000	£191.74		£147.12
ZM20-144	144	7.200	3.912	7.300	7.350	2.000	0.7500	£254.83		£216.58

Worms & Wheels Plastic DP 20

