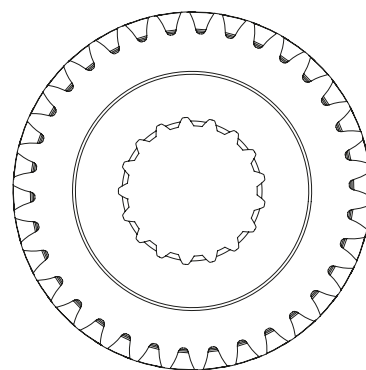
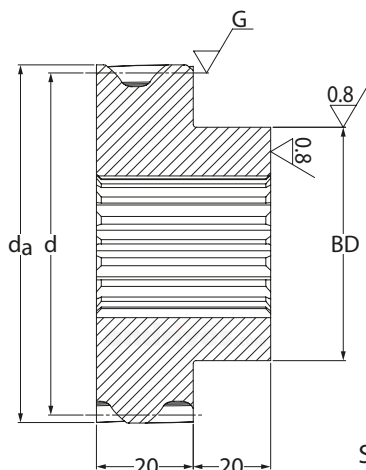


# UPHGS-H 2.0m<sub>n</sub>

# PRECISION GROUND GEARS

## 2.0 Module Splined Ground Parallel Helical Gear α 20° PA

Hardened Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967



DIN 3967 Tooth Thickness tol.

Slide-Fit when used with W external 8f

Part Number Case Hardened 805M20		No. of Teeth <i>z</i>	Ref. Dia. <i>d</i>	Tip Dia. <i>d<sub>a</sub></i>	DIN 5480 Splined Bore	Hub Dia. <i>BD</i>
RH	LH					
UPHGS2.0-28RH	UPHGS2.0-28LH	28	57.98	61.98	N20 x 1.25 x 30 x 14 x 9H	35
UPHGS2.0-29RH	UPHGS2.0-29LH	29	60.05	64.05	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-30RH	UPHGS2.0-30LH	30	62.12	66.12	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-32RH	UPHGS2.0-32LH	32	66.26	70.26	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-35RH	UPHGS2.0-35LH	35	72.47	76.47	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-38RH	UPHGS2.0-38LH	38	78.68	82.68	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-40RH	UPHGS2.0-40LH	40	82.82	86.82	N30 x 1.25 x 30 x 22 x 9H	55
UPHGS2.0-42RH	UPHGS2.0-42LH	42	86.96	90.96	N30 x 1.25 x 30 x 22 x 9H	55
UPHGS2.0-45RH	UPHGS2.0-45LH	45	93.18	97.18	N30 x 1.25 x 30 x 22 x 9H	55
UPHGS2.0-48RH	UPHGS2.0-48LH	48	99.39	103.39	N30 x 1.25 x 30 x 22 x 9H	55
UPHGS2.0-50RH	UPHGS2.0-50LH	50	103.53	107.53	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-52RH	UPHGS2.0-52LH	52	107.67	111.67	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-55RH	UPHGS2.0-55LH	55	113.88	117.88	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-58RH	UPHGS2.0-58LH	58	120.09	124.09	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-60RH	UPHGS2.0-60LH	60	124.23	128.23	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-62RH	UPHGS2.0-62LH	62	128.37	132.37	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-65RH	UPHGS2.0-65LH	65	134.59	138.59	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-68RH	UPHGS2.0-68LH	68	140.80	144.80	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-70RH	UPHGS2.0-70LH	70	144.94	148.94	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-72RH	UPHGS2.0-72LH	72	149.08	153.08	N40 x 2.00 x 30 x 18 x 9H	65

Other spline bore sizes available on request.

# UPHGS-H 2.0m<sub>n</sub>

# PRECISION GROUND GEARS

## 2.0 Module Splined Ground Parallel Helical Gear α 20° PA

Hardened Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967

Standard Part **UPHGS 2.0 50 R H**

Modified Part **UPHGS 2.0 50 L PH T**

UPHGS - Precision Form Splined Ground Helical Gear  
Quality Grade 4f24 DIN 3961/3967  
Other Quality Grades available  
See Technical

m<sub>n</sub> Module - Cut with DIN 867 1.25/0.20/1.0  
Ref. Tooth Profile Topping WD = 2.25 x m<sub>n</sub>  
Ground flanks and root (spline not ground)

Number of Teeth **z**

**T** = 1 x Tapped hole    **2T** = 2 x Tapped holes  
**P** = 1 x Pin Hole      **PT** = 1 x Pin Hole through  
All threads metric as standard  
See Technical

**Material H**  
805M20 Case Hardened 58-62HRc  
**Material PH**  
17-4PH Condition H1025, 38-40HRc

Right Hand Helix (**R**) runs with  
Left Hand Helix (**L**)

DIN 5480 Splined Bores. Other splined bore sizes available on request.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

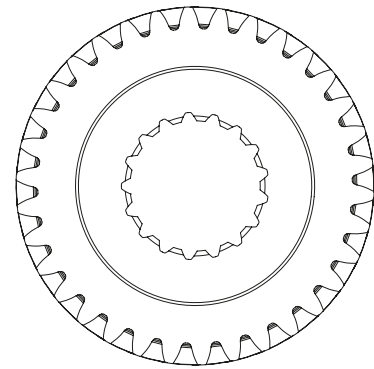
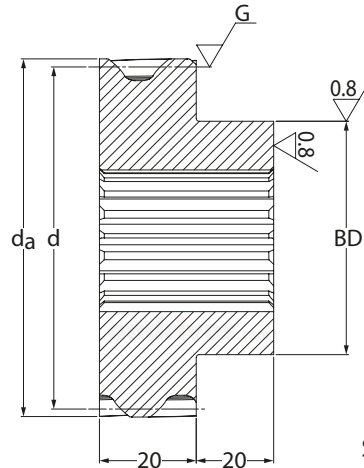
Part Number Case Hardened 805M20		Backlash (mm) <i>j<sub>t,e</sub> (max) j<sub>t,i</sub> (min)</i>	Inertia <i>kgm<sup>2</sup></i>	Mass <i>kg</i>	Torque <i>T<sub>2</sub> Nm</i> <i>n<sub>2</sub> 100 Rpm</i>
RH	LH				
UPHGS2.0-28RH	UPHGS2.0-28LH	0.102 - 0.028	1.93 x 10 <sup>-4</sup>	0.462	169.55
UPHGS2.0-29RH	UPHGS2.0-29LH	0.102 - 0.028	2.52 x 10 <sup>-4</sup>	0.535	183.30
UPHGS2.0-30RH	UPHGS2.0-30LH	0.102 - 0.028	2.80 x 10 <sup>-4</sup>	0.566	197.52
UPHGS2.0-32RH	UPHGS2.0-32LH	0.102 - 0.028	3.47 x 10 <sup>-4</sup>	0.631	227.65
UPHGS2.0-35RH	UPHGS2.0-35LH	0.102 - 0.028	4.74 x 10 <sup>-4</sup>	0.737	277.05
UPHGS2.0-38RH	UPHGS2.0-38LH	0.102 - 0.028	6.38 x 10 <sup>-4</sup>	0.852	331.60
UPHGS2.0-40RH	UPHGS2.0-40LH	0.104 - 0.027	8.37 x 10 <sup>-4</sup>	0.989	367.56
UPHGS2.0-42RH	UPHGS2.0-42LH	0.104 - 0.027	9.92 x 10 <sup>-4</sup>	1.075	387.27
UPHGS2.0-45RH	UPHGS2.0-45LH	0.104 - 0.027	1.27 x 10 <sup>-3</sup>	1.213	416.60
UPHGS2.0-48RH	UPHGS2.0-48LH	0.104 - 0.027	1.61 x 10 <sup>-3</sup>	1.359	445.60
UPHGS2.0-50RH	UPHGS2.0-50LH	0.104 - 0.027	1.95 x 10 <sup>-3</sup>	1.438	464.74
UPHGS2.0-52RH	UPHGS2.0-52LH	0.104 - 0.027	2.25 x 10 <sup>-3</sup>	1.545	483.77
UPHGS2.0-55RH	UPHGS2.0-55LH	0.104 - 0.027	2.77 x 10 <sup>-3</sup>	1.714	512.07
UPHGS2.0-58RH	UPHGS2.0-58LH	0.106 - 0.025	3.38 x 10 <sup>-3</sup>	1.892	540.05
UPHGS2.0-60RH	UPHGS2.0-60LH	0.106 - 0.025	3.84 x 10 <sup>-3</sup>	2.017	558.55
UPHGS2.0-62RH	UPHGS2.0-62LH	0.131 - 0.039	4.35 x 10 <sup>-3</sup>	2.145	576.60
UPHGS2.0-65RH	UPHGS2.0-65LH	0.131 - 0.039	5.21 x 10 <sup>-3</sup>	2.346	603.90
UPHGS2.0-68RH	UPHGS2.0-68LH	0.131 - 0.039	6.20 x 10 <sup>-3</sup>	2.556	630.85
UPHGS2.0-70RH	UPHGS2.0-70LH	0.131 - 0.039	6.94 x 10 <sup>-3</sup>	2.701	648.70
UPHGS2.0-72RH	UPHGS2.0-72LH	0.131 - 0.039	7.75 x 10 <sup>-3</sup>	2.851	666.40

# UPHGS-PH 2.0m<sub>n</sub>

# PRECISION GROUND GEARS

## 2.0 Module Splined Ground Parallel Helical Gear α 20° PA

Stainless Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967



DIN 3967 Tooth Thickness tol.

Slide-Fit when used with W external 8f

Part Number Stainless Steel 17-4PH		No. of Teeth <i>z</i>	Ref. Dia. <i>d</i>	Tip Dia. <i>d<sub>a</sub></i>	DIN 5480 Splined Bore	Hub Dia. <i>BD</i>
RH	LH					
UPHGS2.0-28RPH	UPHGS2.0-28LPH	28	57.98	61.98	N20 x 1.25 x 30 x 14 x 9H	35
UPHGS2.0-29RPH	UPHGS2.0-29LPH	29	60.05	64.05	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-30RPH	UPHGS2.0-30LPH	30	62.12	66.12	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-32RPH	UPHGS2.0-32LPH	32	66.26	70.26	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-35RPH	UPHGS2.0-35LPH	35	72.47	76.47	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-38RPH	UPHGS2.0-38LPH	38	78.68	82.68	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.0-40RPH	UPHGS2.0-40LPH	40	82.82	86.82	N30 x 1.25 x 30 x 22 x 9H	55
UPHGS2.0-42RPH	UPHGS2.0-42LPH	42	86.96	90.96	N30 x 1.25 x 30 x 22 x 9H	55
UPHGS2.0-45RPH	UPHGS2.0-45LPH	45	93.18	97.18	N30 x 1.25 x 30 x 22 x 9H	55
UPHGS2.0-48RPH	UPHGS2.0-48LPH	48	99.39	103.39	N30 x 1.25 x 30 x 22 x 9H	55
UPHGS2.0-50RPH	UPHGS2.0-50LPH	50	103.53	107.53	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-52RPH	UPHGS2.0-52LPH	52	107.67	111.67	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-55RPH	UPHGS2.0-55LPH	55	113.88	117.88	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-58RPH	UPHGS2.0-58LPH	58	120.09	124.09	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-60RPH	UPHGS2.0-60LPH	60	124.23	128.23	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-62RPH	UPHGS2.0-62LPH	62	128.37	132.37	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-65RPH	UPHGS2.0-65LPH	65	134.59	138.59	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-68RPH	UPHGS2.0-68LPH	68	140.80	144.80	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-70RPH	UPHGS2.0-70LPH	70	144.94	148.94	N40 x 2.00 x 30 x 18 x 9H	65
UPHGS2.0-72RPH	UPHGS2.0-72LPH	72	149.08	153.08	N40 x 2.00 x 30 x 18 x 9H	65

Other spline bore sizes available on request.

# UPHGS-PH 2.0m<sub>n</sub>

# PRECISION GROUND GEARS

## 2.0 Module Splined Ground Parallel Helical Gear α 20° PA

Stainless Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967

Standard Part **UPHGS** **2.0** **50** **R** **H** **□**

Modified Part **UPHGS** **2.0** **50** **L** **PH** **T**

UPHGS - Precision Form Splined Ground Helical Gear  
Quality Grade 4f24 DIN 3961/3967  
Other Quality Grades available  
See Technical

m<sub>n</sub> Module - Cut with DIN 867 1.25/0.20/1.0  
Ref. Tooth Profile Topping WD = 2.25 x m<sub>n</sub>  
Ground flanks and root (spline not ground)

Number of Teeth **z**

**T** = 1 x Tapped hole    **2T** = 2 x Tapped holes  
**P** = 1 x Pin Hole      **PT** = 1 x Pin Hole through  
All threads metric as standard  
See Technical

### Material H

805M20 Case Hardened 58-62HRc

### Material PH

17-4PH Condition H1025, 38-40HRc

Right Hand Helix (**R**) runs with  
Left Hand Helix (**L**)

DIN 5480 Splined Bores. Other splined bore sizes available on request.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

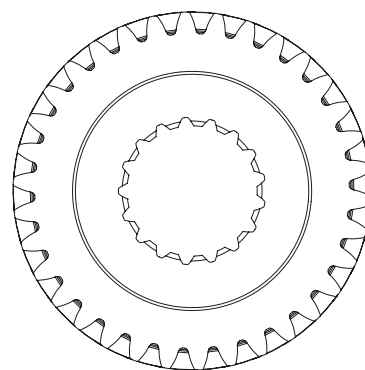
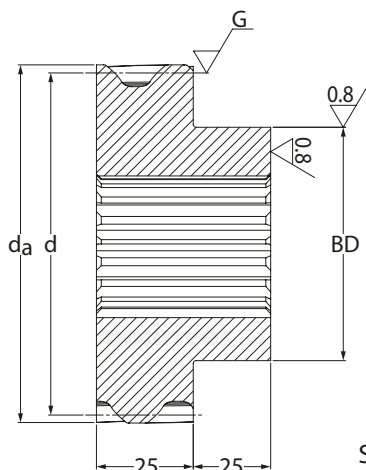
Part Number Stainless Steel 17-4PH		Backlash (mm) <i>j<sub>t,e</sub> (max) j<sub>t,i</sub> (min)</i>	Inertia <i>kgm<sup>2</sup></i>	Mass <i>kg</i>	Torque <i>T<sub>2</sub> Nm n<sub>2</sub> 100 Rpm</i>
RH	LH				
UPHGS2.0-28RPH	UPHGS2.0-28LPH	0.102 - 0.028	1.91 x 10 <sup>-4</sup>	0.459	135.64
UPHGS2.0-29RPH	UPHGS2.0-29LPH	0.102 - 0.028	2.49 x 10 <sup>-4</sup>	0.531	146.64
UPHGS2.0-30RPH	UPHGS2.0-30LPH	0.102 - 0.028	2.78 x 10 <sup>-4</sup>	0.562	158.02
UPHGS2.0-32RPH	UPHGS2.0-32LPH	0.102 - 0.028	3.44 x 10 <sup>-4</sup>	0.626	182.12
UPHGS2.0-35RPH	UPHGS2.0-35LPH	0.102 - 0.028	4.70 x 10 <sup>-4</sup>	0.731	221.64
UPHGS2.0-38RPH	UPHGS2.0-38LPH	0.102 - 0.028	6.33 x 10 <sup>-4</sup>	0.845	265.28
UPHGS2.0-40RPH	UPHGS2.0-40LPH	0.104 - 0.027	8.29 x 10 <sup>-4</sup>	0.981	294.05
UPHGS2.0-42RPH	UPHGS2.0-42LPH	0.104 - 0.027	9.83 x 10 <sup>-4</sup>	1.067	309.82
UPHGS2.0-45RPH	UPHGS2.0-45LPH	0.104 - 0.027	1.26 x 10 <sup>-3</sup>	1.203	333.28
UPHGS2.0-48RPH	UPHGS2.0-48LPH	0.104 - 0.027	1.59 x 10 <sup>-3</sup>	1.348	356.48
UPHGS2.0-50RPH	UPHGS2.0-50LPH	0.104 - 0.027	1.94 x 10 <sup>-3</sup>	1.426	371.79
UPHGS2.0-52RPH	UPHGS2.0-52LPH	0.104 - 0.027	2.23 x 10 <sup>-3</sup>	1.532	387.02
UPHGS2.0-55RPH	UPHGS2.0-55LPH	0.104 - 0.027	2.74 x 10 <sup>-3</sup>	1.700	409.66
UPHGS2.0-58RPH	UPHGS2.0-58LPH	0.106 - 0.025	3.35 x 10 <sup>-3</sup>	1.877	432.04
UPHGS2.0-60RPH	UPHGS2.0-60LPH	0.106 - 0.025	3.80 x 10 <sup>-3</sup>	2.000	446.84
UPHGS2.0-62RPH	UPHGS2.0-62LPH	0.131 - 0.039	4.31 x 10 <sup>-3</sup>	2.127	461.28
UPHGS2.0-65RPH	UPHGS2.0-65LPH	0.131 - 0.039	5.17 x 10 <sup>-3</sup>	2.326	483.12
UPHGS2.0-68RPH	UPHGS2.0-68LPH	0.131 - 0.039	6.15 x 10 <sup>-3</sup>	2.535	504.68
UPHGS2.0-70RPH	UPHGS2.0-70LPH	0.131 - 0.039	6.88 x 10 <sup>-3</sup>	2.679	518.96
UPHGS2.0-72RPH	UPHGS2.0-72LPH	0.131 - 0.039	7.68 x 10 <sup>-3</sup>	2.827	533.12

# UPHGS-H 2.5m<sub>n</sub>

# PRECISION GROUND GEARS

## 2.5 Module Splined Ground Parallel Helical Gear α 20° PA

Hardened Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967



DIN 3967 Tooth Thickness tol.

Slide-Fit when used with W external 8f

Part Number Case Hardened 805M20		No. of Teeth <i>z</i>	Ref. Dia. <i>d</i>	Tip Dia. <i>d<sub>a</sub></i>	DIN 5480 Splined Bore	Hub Dia. <i>BD</i>
RH	LH					
UPHGS2.5-24RH	UPHGS2.5-24LH	24	62.12	67.12	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-25RH	UPHGS2.5-25LH	25	64.71	69.71	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-26RH	UPHGS2.5-26LH	26	67.29	72.29	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-27RH	UPHGS2.5-27LH	27	69.88	74.88	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-28RH	UPHGS2.5-28LH	28	72.47	77.47	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-29RH	UPHGS2.5-29LH	29	75.06	80.06	N35 x 2.00 x 30 x 16 x 9H	55
UPHGS2.5-30RH	UPHGS2.5-30LH	30	77.65	82.65	N35 x 2.00 x 30 x 16 x 9H	55
UPHGS2.5-32RH	UPHGS2.5-32LH	32	82.82	87.82	N35 x 2.00 x 30 x 16 x 9H	55
UPHGS2.5-35RH	UPHGS2.5-35LH	35	90.59	95.59	N35 x 2.00 x 30 x 16 x 9H	55
UPHGS2.5-38RH	UPHGS2.5-38LH	38	98.35	103.35	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-40RH	UPHGS2.5-40LH	40	103.53	108.53	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-42RH	UPHGS2.5-42LH	42	108.70	113.70	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-45RH	UPHGS2.5-45LH	45	116.47	121.47	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-48RH	UPHGS2.5-48LH	48	124.23	129.23	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-50RH	UPHGS2.5-50LH	50	129.41	134.41	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-52RH	UPHGS2.5-52LH	52	134.59	139.59	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-55RH	UPHGS2.5-55LH	55	142.35	147.35	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-58RH	UPHGS2.5-58LH	58	150.12	155.12	N40 x 2.00 x 30 x 18 x 9H	70

Other spline bore sizes available on request.

# UPHGS-H 2.5m<sub>n</sub>

# PRECISION GROUND GEARS

## 2.5 Module Splined Ground Parallel Helical Gear α 20° PA

Hardened Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967

Standard Part **UPHGS** **2.5** **50** **R** **H**

Modified Part **UPHGS** **2.5** **50** **L** **PH** **T**

UPHGS - Precision Form Splined Ground Helical Gear  
Quality Grade 4f24 DIN 3961/3967  
Other Quality Grades available  
See Technical

m<sub>n</sub> Module - Cut with DIN 867 1.25/0.20/1.0  
Ref. Tooth Profile Topping WD = 2.25 x m<sub>n</sub>  
Ground flanks and root (spline not ground)

Number of Teeth **z**

**T** = 1 x Tapped hole    **2T** = 2 x Tapped holes  
**P** = 1 x Pin Hole      **PT** = 1 x Pin Hole through  
All threads metric as standard  
See Technical

**Material H**  
805M20 Case Hardened 58-62HRc  
**Material PH**  
17-4PH Condition H1025, 38-40HRc

Right Hand Helix (**R**) runs with  
Left Hand Helix (**L**)

DIN 5480 Splined Bores. Other splined bore sizes available on request.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

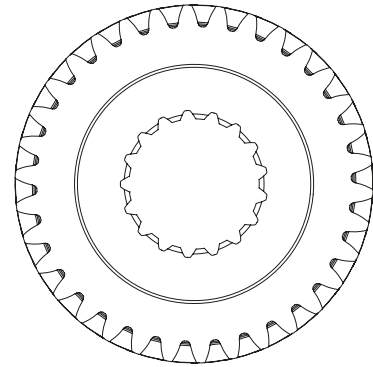
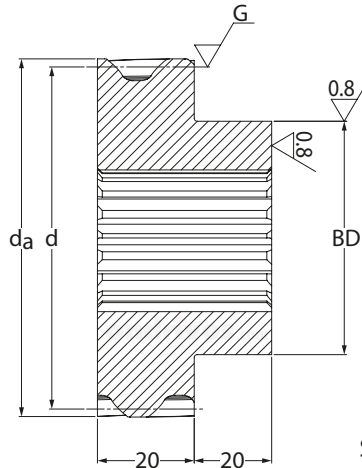
Part Number Case Hardened 805M20		Backlash (mm) <i>j<sub>t,e</sub> (max) j<sub>t,i</sub> (min)</i>	Inertia <i>kgm<sup>2</sup></i>	Mass <i>kg</i>	Torque <i>T<sub>2</sub> Nm</i> <i>n<sub>2</sub> 100 Rpm</i>
RH	LH				
UPHGS2.5-24RH	UPHGS2.5-24LH	0.102 - 0.028	3.53 x 10 <sup>-4</sup>	0.707	238.47
UPHGS2.5-25RH	UPHGS2.5-25LH	0.102 - 0.028	4.04 x 10 <sup>-4</sup>	0.757	262.50
UPHGS2.5-26RH	UPHGS2.5-26LH	0.102 - 0.028	4.61 x 10 <sup>-4</sup>	0.809	286.30
UPHGS2.5-27RH	UPHGS2.5-27LH	0.102 - 0.028	5.25 x 10 <sup>-4</sup>	0.864	311.25
UPHGS2.5-28RH	UPHGS2.5-28LH	0.102 - 0.028	5.96 x 10 <sup>-4</sup>	0.920	337.30
UPHGS2.5-29RH	UPHGS2.5-29LH	0.102 - 0.028	7.73 x 10 <sup>-4</sup>	1.132	364.45
UPHGS2.5-30RH	UPHGS2.5-30LH	0.102 - 0.028	8.61 x 10 <sup>-4</sup>	1.193	392.75
UPHGS2.5-32RH	UPHGS2.5-32LH	0.104 - 0.027	1.07 x 10 <sup>-3</sup>	1.320	452.60
UPHGS2.5-35RH	UPHGS2.5-35LH	0.104 - 0.027	1.45 x 10 <sup>-3</sup>	1.526	551.00
UPHGS2.5-38RH	UPHGS2.5-38LH	0.104 - 0.027	2.16 x 10 <sup>-3</sup>	1.739	659.50
UPHGS2.5-40RH	UPHGS2.5-40LH	0.104 - 0.027	2.56 x 10 <sup>-3</sup>	1.899	716.50
UPHGS2.5-42RH	UPHGS2.5-42LH	0.104 - 0.027	3.04 x 10 <sup>-3</sup>	2.067	754.75
UPHGS2.5-45RH	UPHGS2.5-45LH	0.104 - 0.027	3.88 x 10 <sup>-3</sup>	2.335	811.70
UPHGS2.5-48RH	UPHGS2.5-48LH	0.106 - 0.025	4.92 x 10 <sup>-3</sup>	2.622	867.90
UPHGS2.5-50RH	UPHGS2.5-50LH	0.131 - 0.039	5.72 x 10 <sup>-3</sup>	2.823	905.05
UPHGS2.5-52RH	UPHGS2.5-52LH	0.131 - 0.039	6.63 x 10 <sup>-3</sup>	3.033	941.90
UPHGS2.5-55RH	UPHGS2.5-55LH	0.131 - 0.039	8.21 x 10 <sup>-3</sup>	3.363	996.65
UPHGS2.5-58RH	UPHGS2.5-58LH	0.131 - 0.039	1.02 x 10 <sup>-2</sup>	4.081	1,050.75

# UPHGS-PH 2.5m<sub>n</sub>

# PRECISION GROUND GEARS

## 2.5 Module Splined Ground Parallel Helical Gear α 20° PA

Stainless Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967



DIN 3967 Tooth Thickness tol.

Slide-Fit when used with W external 8f

Part Number Stainless Steel 17-4PH		No. of Teeth <i>z</i>	Ref. Dia. <i>d</i>	Tip Dia. <i>d<sub>a</sub></i>	DIN 5480 Splined Bore	Hub Dia. <i>BD</i>
RH	LH					
UPHGS2.5-24RPH	UPHGS2.5-24LPH	24	62.12	67.12	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-25RPH	UPHGS2.5-25LPH	25	64.71	69.71	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-26RPH	UPHGS2.5-26LPH	26	67.29	72.29	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-27RPH	UPHGS2.5-27LPH	27	69.88	74.88	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-28RPH	UPHGS2.5-28LPH	28	72.47	77.47	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS2.5-29RPH	UPHGS2.5-29LPH	29	75.06	80.06	N35 x 2.00 x 30 x 16 x 9H	55
UPHGS2.5-30RPH	UPHGS2.5-30LPH	30	77.65	82.65	N35 x 2.00 x 30 x 16 x 9H	55
UPHGS2.5-32RPH	UPHGS2.5-32LPH	32	82.82	87.82	N35 x 2.00 x 30 x 16 x 9H	55
UPHGS2.5-35RPH	UPHGS2.5-35LPH	35	90.59	95.59	N35 x 2.00 x 30 x 16 x 9H	55
UPHGS2.5-38RPH	UPHGS2.5-38LPH	38	98.35	103.35	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-40RPH	UPHGS2.5-40LPH	40	103.53	108.53	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-42RPH	UPHGS2.5-42LPH	42	108.70	113.70	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-45RPH	UPHGS2.5-45LPH	45	116.47	121.47	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-48RPH	UPHGS2.5-48LPH	48	124.23	129.23	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-50RPH	UPHGS2.5-50LPH	50	129.41	134.41	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-52RPH	UPHGS2.5-52LPH	52	134.59	139.59	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-55RPH	UPHGS2.5-55LPH	55	142.35	147.35	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS2.5-58RPH	UPHGS2.5-58LPH	58	150.12	155.12	N40 x 2.00 x 30 x 18 x 9H	70

Other spline bore sizes available on request.



# UPHGS-PH 2.5m<sub>n</sub>

# PRECISION GROUND GEARS

## 2.5 Module Splined Ground Parallel Helical Gear α 20° PA

Stainless Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967

Standard Part **UPHGS** **2.5** **50** **R** **H** **□**

Modified Part **UPHGS** **2.5** **50** **L** **PH** **T**

UPHGS - Precision Form Splined Ground Helical Gear  
Quality Grade 4f24 DIN 3961/3967  
Other Quality Grades available  
See Technical

m<sub>n</sub> Module - Cut with DIN 867 1.25/0.20/1.0  
Ref. Tooth Profile Topping WD = 2.25 x m<sub>n</sub>  
Ground flanks and root (spline not ground)

Number of Teeth **z**

**T** = 1 x Tapped hole    **2T** = 2 x Tapped holes  
**P** = 1 x Pin Hole      **PT** = 1 x Pin Hole through  
All threads metric as standard  
See Technical

### Material H

805M20 Case Hardened 58-62HRc

### Material PH

17-4PH Condition H1025, 38-40HRc

Right Hand Helix (**R**) runs with  
Left Hand Helix (**L**)

DIN 5480 Splined Bores. Other splined bore sizes available on request.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

Part Number Stainless Steel 17-4PH		Backlash (mm) <i>j<sub>t,e</sub> (max) j<sub>t,i</sub> (min)</i>	Inertia <i>kgm<sup>2</sup></i>	Mass <i>kg</i>	Torque <i>T<sub>2</sub> Nm</i> <i>n<sub>2</sub> 100 Rpm</i>
RH	LH				
UPHGS2.5-24RPH	UPHGS2.5-24LPH	0.102 - 0.028	3.50 x 10 <sup>-4</sup>	0.702	190.78
UPHGS2.5-25RPH	UPHGS2.5-25LPH	0.102 - 0.028	4.00 x 10 <sup>-4</sup>	0.751	210.00
UPHGS2.5-26RPH	UPHGS2.5-26LPH	0.102 - 0.028	4.57 x 10 <sup>-4</sup>	0.803	229.04
UPHGS2.5-27RPH	UPHGS2.5-27LPH	0.102 - 0.028	5.20 x 10 <sup>-4</sup>	0.857	249.00
UPHGS2.5-28RPH	UPHGS2.5-28LPH	0.102 - 0.028	5.91 x 10 <sup>-4</sup>	0.913	269.84
UPHGS2.5-29RPH	UPHGS2.5-29LPH	0.102 - 0.028	7.66 x 10 <sup>-4</sup>	1.123	291.56
UPHGS2.5-30RPH	UPHGS2.5-30LPH	0.102 - 0.028	8.53 x 10 <sup>-4</sup>	1.183	314.20
UPHGS2.5-32RPH	UPHGS2.5-32LPH	0.104 - 0.027	1.06 x 10 <sup>-3</sup>	1.309	362.08
UPHGS2.5-35RPH	UPHGS2.5-35LPH	0.104 - 0.027	1.44 x 10 <sup>-3</sup>	1.514	440.80
UPHGS2.5-38RPH	UPHGS2.5-38LPH	0.104 - 0.027	2.14 x 10 <sup>-3</sup>	1.725	527.60
UPHGS2.5-40RPH	UPHGS2.5-40LPH	0.104 - 0.027	2.54 x 10 <sup>-3</sup>	1.884	573.20
UPHGS2.5-42RPH	UPHGS2.5-42LPH	0.104 - 0.027	3.01 x 10 <sup>-3</sup>	2.051	603.80
UPHGS2.5-45RPH	UPHGS2.5-45LPH	0.104 - 0.027	3.85 x 10 <sup>-3</sup>	2.316	649.36
UPHGS2.5-48RPH	UPHGS2.5-48LPH	0.106 - 0.025	4.87 x 10 <sup>-3</sup>	2.600	694.32
UPHGS2.5-50RPH	UPHGS2.5-50LPH	0.131 - 0.039	5.67 x 10 <sup>-3</sup>	2.800	724.04
UPHGS2.5-52RPH	UPHGS2.5-52LPH	0.131 - 0.039	6.58 x 10 <sup>-3</sup>	3.008	753.52
UPHGS2.5-55RPH	UPHGS2.5-55LPH	0.131 - 0.039	8.14 x 10 <sup>-3</sup>	3.335	797.32
UPHGS2.5-58RPH	UPHGS2.5-58LPH	0.131 - 0.039	1.01 x 10 <sup>-2</sup>	4.047	840.60

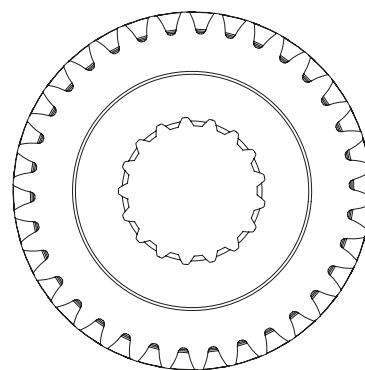
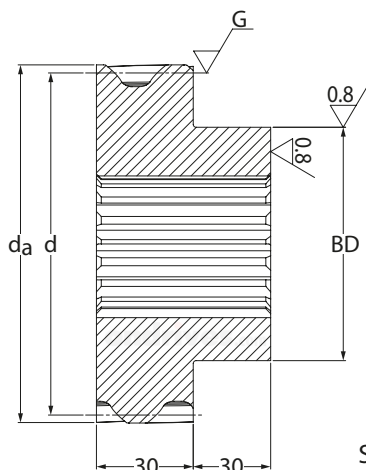


# UPHGS-H 3.0m<sub>n</sub>

# PRECISION GROUND GEARS

## 3.0 Module Splined Ground Parallel Helical Gear α 20° PA

Hardened Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967



DIN 3967 Tooth Thickness tol.

Slide-Fit when used with W external 8f

Part Number Case Hardened 805M20		No. of Teeth <i>z</i>	Ref. Dia. <i>d</i>	Tip Dia. <i>d<sub>a</sub></i>	DIN 5480 Splined Bore	Hub Dia. <i>BD</i>
RH	LH					
UPHGS3.0-20RH	UPHGS3.0-20LH	20	62.12	68.12	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS3.0-22RH	UPHGS3.0-22LH	22	68.33	74.33	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-23RH	UPHGS3.0-23LH	23	71.43	77.43	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-24RH	UPHGS3.0-24LH	24	74.54	80.54	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-25RH	UPHGS3.0-25LH	25	77.65	83.65	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-26RH	UPHGS3.0-26LH	26	80.75	86.75	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-27RH	UPHGS3.0-27LH	27	83.86	89.86	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-28RH	UPHGS3.0-28LH	28	86.96	92.96	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-29RH	UPHGS3.0-29LH	29	90.07	96.07	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-30RH	UPHGS3.0-30LH	30	93.18	99.18	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-32RH	UPHGS3.0-32LH	32	99.39	105.39	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-35RH	UPHGS3.0-35LH	35	108.70	114.70	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-38RH	UPHGS3.0-38LH	38	118.02	124.02	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-40RH	UPHGS3.0-40LH	40	124.23	130.23	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-42RH	UPHGS3.0-42LH	42	130.45	136.45	N40 x 2.00 x 30 x 18 x 9H	80
UPHGS3.0-45RH	UPHGS3.0-45LH	45	139.76	145.76	N40 x 2.00 x 30 x 18 x 9H	80
UPHGS3.0-48RH	UPHGS3.0-48LH	48	149.08	155.08	N40 x 2.00 x 30 x 18 x 9H	80

Other spline bore sizes available on request.

# UPHGS-H 3.0m<sub>n</sub>

# PRECISION GROUND GEARS

## 3.0 Module Splined Ground Parallel Helical Gear α 20° PA

Hardened Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967

Standard Part **UPHGS** **3.0** **40** **R** **H**

Modified Part **UPHGS** **3.0** **40** **L** **PH** **T**

UPHGS - Precision Form Splined Ground Helical Gear  
Quality Grade 4f24 DIN 3961/3967  
Other Quality Grades available  
See Technical

m<sub>n</sub> Module - Cut with DIN 867 1.25/0.20/1.0  
Ref. Tooth Profile Topping WD = 2.25 x m<sub>n</sub>  
Ground flanks and root (spline not ground)

Number of Teeth **z**

**T** = 1 x Tapped hole    **2T** = 2 x Tapped holes  
**P** = 1 x Pin Hole      **PT** = 1 x Pin Hole through  
All threads metric as standard  
See Technical

**Material H**  
805M20 Case Hardened 58-62HRc  
**Material PH**  
17-4PH Condition H1025, 38-40HRc

Right Hand Helix (**R**) runs with  
Left Hand Helix (**L**)

DIN 5480 Splined Bores. Other splined bore sizes available on request.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

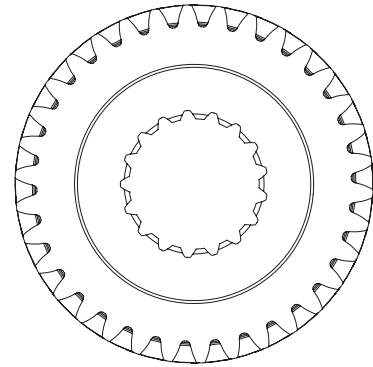
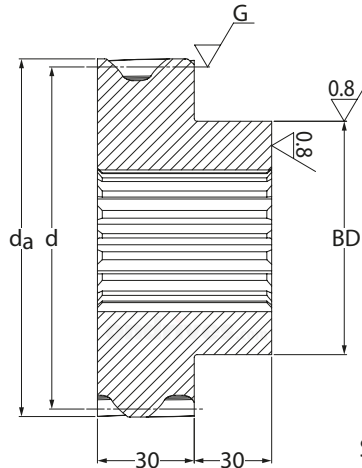
Part Number		Backlash (mm) <i>jt.e (max) jt.i (min)</i>	Inertia <i>kgm<sup>2</sup></i>	Mass <i>kg</i>	Torque <i>T<sub>2</sub> Nm</i> <i>n<sub>2</sub> 100 Rpm</i>
Case Hardened 805M20 RH	LH				
UPHGS3.0-20RH	UPHGS3.0-20LH	0.102-0.028	4.28 x 10 <sup>-4</sup>	0.848	277.10
UPHGS3.0-22RH	UPHGS3.0-22LH	0.102-0.028	6.74 x 10 <sup>-4</sup>	1.034	346.43
UPHGS3.0-23RH	UPHGS3.0-23LH	0.102-0.028	7.72 x 10 <sup>-4</sup>	1.113	382.50
UPHGS3.0-24RH	UPHGS3.0-24LH	0.102-0.028	8.83 x 10 <sup>-4</sup>	1.196	420.50
UPHGS3.0-25RH	UPHGS3.0-25LH	0.102-0.028	1.01 x 10 <sup>-3</sup>	1.283	460.45
UPHGS3.0-26RH	UPHGS3.0-26LH	0.104-0.027	1.15 x 10 <sup>-3</sup>	1.373	502.30
UPHGS3.0-27RH	UPHGS3.0-27LH	0.104-0.027	1.31 x 10 <sup>-3</sup>	1.467	546.10
UPHGS3.0-28RH	UPHGS3.0-28LH	0.104-0.027	1.49 x 10 <sup>-3</sup>	1.564	591.80
UPHGS3.0-29RH	UPHGS3.0-29LH	0.104-0.027	1.96 x 10 <sup>-3</sup>	1.798	639.50
UPHGS3.0-30RH	UPHGS3.0-30LH	0.104-0.027	2.18 x 10 <sup>-3</sup>	1.903	689.20
UPHGS3.0-32RH	UPHGS3.0-32LH	0.104-0.027	2.69 x 10 <sup>-3</sup>	2.122	794.30
UPHGS3.0-35RH	UPHGS3.0-35LH	0.104-0.027	3.65 x 10 <sup>-3</sup>	2.478	967.00
UPHGS3.0-38RH	UPHGS3.0-38LH	0.104-0.027	4.90 x 10 <sup>-3</sup>	2.867	1,157.50
UPHGS3.0-40RH	UPHGS3.0-40LH	0.106-0.025	5.91 x 10 <sup>-3</sup>	3.143	1,236.40
UPHGS3.0-42RH	UPHGS3.0-42LH	0.131-0.039	7.48 x 10 <sup>-3</sup>	3.711	1,302.30
UPHGS3.0-45RH	UPHGS3.0-45LH	0.131-0.039	9.58 x 10 <sup>-3</sup>	4.175	1,400.30
UPHGS3.0-48RH	UPHGS3.0-48LH	0.131-0.039	1.22 x 10 <sup>-2</sup>	4.670	1,497.00

# UPHGS-PH 3.0m<sub>n</sub>

# PRECISION GROUND GEARS

## 3.0 Module Splined Ground Parallel Helical Gear $\alpha$ 20° PA

Stainless Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967



DIN 3967 Tooth Thickness tol.

Slide-Fit when used with W external 8f

Part Number Stainless Steel 17-4PH		No. of Teeth <i>z</i>	Ref. Dia. <i>d</i>	Tip Dia. <i>d<sub>a</sub></i>	DIN 5480 Splined Bore	Hub Dia. <i>BD</i>
RH	LH					
UPHGS3.0-20RPH	UPHGS3.0-20LPH	20	62.12	68.12	N25 x 1.25 x 30 x 18 x 9H	45
UPHGS3.0-22RPH	UPHGS3.0-22LPH	22	68.33	74.33	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-23RPH	UPHGS3.0-23LPH	23	71.43	77.43	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-24RPH	UPHGS3.0-24LPH	24	74.54	80.54	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-25RPH	UPHGS3.0-25LPH	25	77.65	83.65	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-26RPH	UPHGS3.0-26LPH	26	80.75	86.75	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-27RPH	UPHGS3.0-27LPH	27	83.86	89.86	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-28RPH	UPHGS3.0-28LPH	28	86.96	92.96	N32 x 2.00 x 30 x 14 x 9H	55
UPHGS3.0-29RPH	UPHGS3.0-29LPH	29	90.07	96.07	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-30RPH	UPHGS3.0-30LPH	30	93.18	99.18	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-32RPH	UPHGS3.0-32LPH	32	99.39	105.39	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-35RPH	UPHGS3.0-35LPH	35	108.70	114.70	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-38RPH	UPHGS3.0-38LPH	38	118.02	124.02	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-40RPH	UPHGS3.0-40LPH	40	124.23	130.23	N40 x 2.00 x 30 x 18 x 9H	70
UPHGS3.0-42RPH	UPHGS3.0-42LPH	42	130.45	136.45	N40 x 2.00 x 30 x 18 x 9H	80
UPHGS3.0-45RPH	UPHGS3.0-45LPH	45	139.76	145.76	N40 x 2.00 x 30 x 18 x 9H	80
UPHGS3.0-48RPH	UPHGS3.0-48LPH	48	149.08	155.08	N40 x 2.00 x 30 x 18 x 9H	80

Other spline bore sizes available on request.

# UPHGS-PH 3.0m<sub>n</sub>

# PRECISION GROUND GEARS

## 3.0 Module Splined Ground Parallel Helical Gear α 20° PA

Stainless Gears - 15° Helical Angle : Quality Grade 4f24 DIN 3961/3967

Standard Part **UPHGS** **3.0** **40** **R** **H** **□**

Modified Part **UPHGS** **3.0** **40** **L** **PH** **T**

UPHGS - Precision Form Splined Ground Helical Gear  
Quality Grade 4f24 DIN 3961/3967  
Other Quality Grades available  
See Technical

m<sub>n</sub> Module - Cut with DIN 867 1.25/0.20/1.0  
Ref. Tooth Profile Topping WD = 2.25 x m<sub>n</sub>  
Ground flanks and root (spline not ground)

Number of Teeth **z**

**T** = 1 x Tapped hole    **2T** = 2 x Tapped holes  
**P** = 1 x Pin Hole      **PT** = 1 x Pin Hole through  
All threads metric as standard  
See Technical

**Material H**  
805M20 Case Hardened 58-62HRc  
**Material PH**  
17-4PH Condition H1025, 38-40HRc

Right Hand Helix (**R**) runs with  
Left Hand Helix (**L**)

DIN 5480 Splined Bores. Other splined bore sizes available on request.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

Part Number Stainless Steel 17-4PH		Backlash (mm) <i>j<sub>t,e</sub> (max) j<sub>t,i</sub> (min)</i>	Inertia <i>kgm<sup>2</sup></i>	Mass <i>kg</i>	Torque <i>T<sub>2</sub> Nm</i> <i>n<sub>2</sub> 100 Rpm</i>
RH	LH				
UPHGS3.0-20RPH	UPHGS3.0-20LPH	0.102-0.028	4.25 x 10 <sup>-4</sup>	0.842	221.68
UPHGS3.0-22RPH	UPHGS3.0-22LPH	0.102-0.028	6.68 x 10 <sup>-4</sup>	1.026	277.14
UPHGS3.0-23RPH	UPHGS3.0-23LPH	0.102-0.028	7.65 x 10 <sup>-4</sup>	1.105	306.00
UPHGS3.0-24RPH	UPHGS3.0-24LPH	0.102-0.028	8.75 x 10 <sup>-4</sup>	1.187	336.40
UPHGS3.0-25RPH	UPHGS3.0-25LPH	0.102-0.028	1.00 x 10 <sup>-3</sup>	1.273	368.36
UPHGS3.0-26RPH	UPHGS3.0-26LPH	0.104-0.027	1.14 x 10 <sup>-3</sup>	1.362	401.84
UPHGS3.0-27RPH	UPHGS3.0-27LPH	0.104-0.027	1.30 x 10 <sup>-3</sup>	1.455	436.88
UPHGS3.0-28RPH	UPHGS3.0-28LPH	0.104-0.027	1.47 x 10 <sup>-3</sup>	1.552	473.44
UPHGS3.0-29RPH	UPHGS3.0-29LPH	0.104-0.027	1.94 x 10 <sup>-3</sup>	1.784	511.60
UPHGS3.0-30RPH	UPHGS3.0-30LPH	0.104-0.027	2.16 x 10 <sup>-3</sup>	1.888	551.36
UPHGS3.0-32RPH	UPHGS3.0-32LPH	0.104-0.027	2.66 x 10 <sup>-3</sup>	2.106	635.44
UPHGS3.0-35RPH	UPHGS3.0-35LPH	0.104-0.027	3.62 x 10 <sup>-3</sup>	2.459	773.60
UPHGS3.0-38RPH	UPHGS3.0-38LPH	0.104-0.027	4.85 x 10 <sup>-3</sup>	2.844	926.00
UPHGS3.0-40RPH	UPHGS3.0-40LPH	0.106-0.025	5.86 x 10 <sup>-3</sup>	3.118	989.12
UPHGS3.0-42RPH	UPHGS3.0-42LPH	0.131-0.039	7.41 x 10 <sup>-3</sup>	3.681	1,041.84
UPHGS3.0-45RPH	UPHGS3.0-45LPH	0.131-0.039	9.50 x 10 <sup>-3</sup>	4.140	1,120.24
UPHGS3.0-48RPH	UPHGS3.0-48LPH	0.131-0.039	1.21 x 10 <sup>-2</sup>	4.631	1,197.60