

# Precision Pivot Pins

## Set Screw Flat, Configurable / Flanged with Set Screw Flat

**Precision Pivot Pins – Set Screw Flat, Configurable**

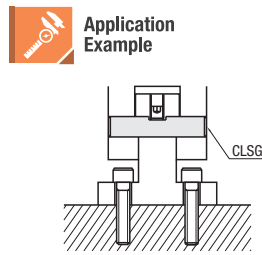
Type	Material	Hardness	Surface Treatment
CLSG	1045 Carbon Steel or Equivalent	—	Black Oxide
CLSGH		40~45 HRC min.	
PCLSG		—	Electroless Nickel Plating
PCLSGH		40~45 HRC min.	
SCLSG	304 Stainless Steel	—	—
SCLSGH	440C Stainless Steel Equivalent	45~50 HRC min.	—

① CLSG, PCLSG may have identification grooves on the side in order to distinguish them from Hardened Type.  
 ② This type may have centering holes depending on dimensions.  
 ③ For L Dimension, Standard Machining Tolerances (Class: Medium) are used.

**D Tolerance (g6)**

3	-0.002 -0.008
4-6	-0.004 -0.012
8, 10	-0.005 -0.014
12-18	-0.006 -0.017
20-25	-0.007 -0.020

Part Number Type	D	L 0.1 mm Increment	1 mm Increment		N	
			F	E		
CLSG CLSGH PCLSG PCLSGH SCLSG SCLSGH	3	5.0-50.0	F=0 0≤F≤L/2	1≤E≤50	0.5	
	4	10.0-60.0				
	5	10.0-100.0				
	6	15.0-100.0				
	8	15.0-200.0				
	10	25.0-200.0			30.0-200.0	2
	12	30.0-200.0				
	13	30.0-200.0				
	14	30.0-200.0				
	15	30.0-200.0				
16	30.0-200.0					
17	30.0-200.0					
18	30.0-200.0					
20	30.0-200.0					
22	30.0-200.0					
25	30.0-200.0					



④ SCLSGH may be discolored by hardening.

**Precision Pivot Pins – Flanged with Set Screw Flat**

Type	D Tolerance	Material	Hardness	Surface Treatment
HCLSG	g6	1045 Carbon Steel or Equivalent	—	Black Oxide
HCLSGH			40~45 HRC min.	
PHCLSG			—	Electroless Nickel Plating
PHCLSGH			40~45 HRC min.	
SHCLSG	304 Stainless Steel	—	—	
SHCLSGH	440C Stainless Steel Equivalent	45~50 HRC min.	—	

① HCLSG, PHCLSG may have identification grooves on the side in order to distinguish them from Hardened Type.  
 ② Relief dimension under the shoulder is for reference.  
 ③ This type may have centering holes depending on dimensions.  
 ④ For L Dimension, Standard Machining Tolerances (Class: Medium) are used.

**D Tolerance (g6)**

3	-0.002 -0.008
4-6	-0.004 -0.012
8, 10	-0.005 -0.014
12-18	-0.006 -0.017
20-25	-0.007 -0.020

Part Number Type	D	L 0.1 mm Increment	0.1 mm Increment		A	u	T	(n)	(N)	
			E	F						
HCLSG HCLSGH PHCLSG PHCLSGH SHCLSG SHCLSGH	3	5.0-50.0	1≤E≤50	0≤F≤L/2	5.5	2.9	1.5	1.0	0.5	
	4	10.0-60.0								
	5	10.0-100.0								
	6	15.0-100.0								
	8	15.0-200.0								
	10	20.0-200.0							30.0-200.0	2
	12	20.0-200.0								
	13	20.0-200.0								
	14	20.0-200.0								
	15	20.0-200.0								
16	20.0-200.0									
17	20.0-200.0									
18	20.0-200.0									
20	20.0-200.0									
22	20.0-200.0									
25	20.0-200.0									

④ SHCLSGH may be discolored by hardening.

**Part Number Example**

Part Number - L - E/F - E/F

CLSGH15 - 100.0 - F20 - E10  
HCLSG20 - 120.3 - E10 - F10

④ For Set Screw Flat and Set Screw Flat with Flange Types, specifying order of E and F is reversed.

**Part Number Alterations**

Part Number - L - E/F - EF - (MMC/TC/LKC)

CLSGH15 - 100.0 - F20 - E10 - MMC

Alterations	Tapping	Shoulder Thickness	L Dimension Tolerance
	Code	MMC	TC
Spec.	Ordering Code: MMC D M (Coarse) ℓ 6 M3 6 8-14 M4 8 15-22 M6 12 25 M8 16 Not applicable to Shouldered with Set Screw Type. Not applicable to D3-5. When $\frac{D-M}{2} - N \leq 1$ , $F > M \times 2$ $L \geq M \times 3$ When $L \leq M \times 3$ , the pilot hole for tapping might go through.	Ordering Code: TC3 TC = 0.5 mm Increment T < TC ≤ 5 Not applicable to Shouldered with Set Screw Flat Type.	Ordering Code: LKC Changes L dimension tolerance to ±0.05. Not applicable to Set Screw Flat Type.

# Precision Pivot Pins

## D-Cut

Feature: Two flats will effectively stop pins from rotating.

**Precision Pivot Pins – D-Cut**

Type	Material	Hardness	Surface Treatment
CLSW	1045 Carbon Steel or Equivalent	—	Black Oxide
CLSWH		40~45 HRC min.	
SCLSW	304 Stainless Steel	—	—

① CLSW may have identification grooves on the side in order to distinguish it from Hardened Type.  
 ② This type may have centering holes depending on dimensions.  
 ③ For L Dimension, Standard Machining Tolerances (Class: Medium) are used.

**D Tolerance (g6)**

4-6	-0.004 -0.012
8, 10	-0.005 -0.014
12-16	-0.006 -0.017
20, 25	-0.007 -0.020

Part Number Type	D	L 0.1 mm Increment	1 mm Increment		N		
			F	T			
CLSW CLSWH SCLSW	4	10.0-50.0	2≤F≤20	2≤T≤20	0.5		
	5	10.0-60.0					
	6	10.0-100.0					
	8	10.0-100.0					
	10	15.0-100.0					
	12	15.0-200.0			5≤F≤30	5≤T≤30	1
	13	25.0-200.0					
	14	25.0-200.0					
	15	25.0-200.0					
	16	25.0-200.0					
20	30.0-200.0	30.0-200.0	30.0-200.0	2			
25	30.0-200.0						

④ F+T≤L

**Part Number Example**

Part Number - L - F - T

CLSWH15 - 120.5 - F30 - T30

