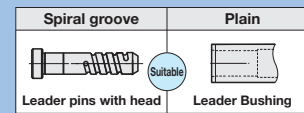


PRECISION LEADER PINS WITH SPIRAL VENT

— HEAD • SPIRAL GROOVE | PRESS-FIT LENGTH DESIGNATION TYPE • PRESS-FIT DIAMETER • LENGTH DESIGNATION TYPE —

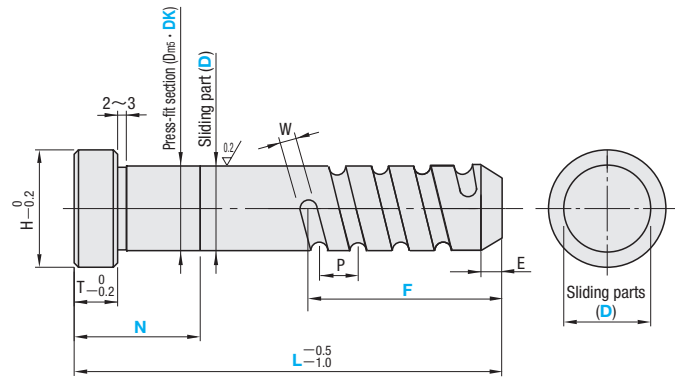


Ⓜ Non JIS material definition is listed on P.1351 - 1352

RoHS



GPHLOC (Press-fit diameter Dm5 • length designation • spiral groove fixed length)
GPHLOF (Press-fit diameter Dm5 • length designation • spiral groove length designation)
GPH-XLOC (Press-fit diameter Dm5 • length designation • spiral groove fixed length)
GPH-XLOF (Press-fit diameter DK designation • length designation • spiral groove length designation)



Sliding parts D	Press-fit section Dm5 GPHLOC GPHLOF	T	H	E	W
8	8	11	11	3	2
10	10	13	13	4	2
12	12	17	17		
13	13	18	18		
16	16	21	21		
20	20	25	25		
25	25	30	30	5	
28	28	33	33		3
30	30	35	35		
32	32	37	37		
35	35	40	40		
40	40	45	45		
50	50	55	55	8	
60	60	65	65	15	

L	P	F dimension GPHLOC • GPH-XLOC
30~70	10	
75~120	15	When, $L-N > \frac{L}{2}$ $F = \frac{L}{2}$
125~180	20	When, $L-N \leq \frac{L}{2}$ $F = L - (N+10)$
185~300	25	
305~550	30	

Ⓜ D=8~32 → P=23

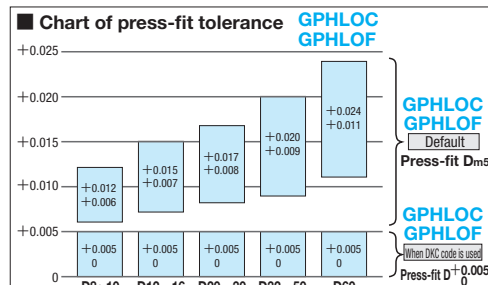
- Ⓜ Recommended mold temperature for the usage of a precision leader pin and bushing is 80°C or less because of a little clearance between them. (Ⓜ P.878)
- Ⓜ A center hole may be left on one or both ends.
- Ⓜ Oil groove part might not be colored by heat treatment. Despite appearance differences, it can be used without any problem.

Ⓜ SUJ2
 Ⓜ 58HRC~
 (Induction hardening)

Order
 Part Number — L — N — F — DK
 GPHLOC 25 — 250 — N100
 GPH-XLOF25 — 250 — N100 — F140 — DK25.009

Days to Ship
 Quotation

Alterations
 Part Number — L(LC) — N — F — DK — (MC...etc.)
 GPH-XLOF 25 — LC 249 — N100 — F140 — DK25.009 — MC



Ⓜ Press-fit (DK) can be designated at 0.001mm increments for GPH-XLOC • GPH-XLOF

Alteration details Ⓜ P.879 • 880

Alterations	Code	Spec.	1Code
	LC	Total length alteration LC=1mm increments Shortens the full length (L) as shown in the drawing. (Tip dimension E remains unchanged.) Ⓜ Lmin. < LC < Lmax.	Quotation
	MC	Tip tapping Ⓜ Not available for D=8 or 10. D M×Pitch ℓ 12 • 13 M 6×1.0 12 16 M10×1.5 20 20 M12×1.75 24 25~60 M16×2.0 32	Quotation

Alterations	Code	Spec.	1Code
	MMC	Tapping on the head Ⓜ Not available for D=8 or 10. D M×Pitch ℓ 12~20 M5×0.8 10 25~60 M8×1.25 16	Quotation
	DKC	Press-fit section tolerance alteration Dms → D+0.005 Ⓜ Available for GPHLOC, GPHLOF	Quotation
	GA	Adds a tap to attach a leader assist pin. Ⓜ Available for D40 • 50 • 60.	Quotation

Price Quotation

■ GPHLOC • GPHLOF (Press-fit length designation type)

Part Number	L	N	F	U/Price	1~9	Part Number	L	N	F	U/Price	1~9	Part Number	L	N	F	U/Price	1~9										
Type	D	5mm increments	1mm increments	1mm increments	GPHLOC	GPHLOF	Type	D	5mm increments	1mm increments	1mm increments	Type	D	5mm increments	1mm increments	1mm increments	GPHLOC	GPHLOF									
Spiral groove fixed length GPHLOC	8	30~40	5~60	F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation	Quotation	Spiral groove fixed length GPHLOC	25	40~60	8~120	F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation	Spiral groove fixed length GPHLOC	35	80~100	8~130	F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation									
		45~50							65~110						105~160												
		55~80							115~160						165~200												
		30~40							165~200						205~260												
		45~50							205~260						265~300												
	Spiral groove length designation GPHLOF	10	30~40					8~80	F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation				Quotation	28	30~40			8~130	F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation	Spiral groove length designation GPHLOF	40	80~140	10~200	F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation
			45~80													65~110								145~190			
			125~160													115~160								195~240			
			30~40													165~200								205~260			
			45~80													205~260								265~300			
Spiral groove length designation GPHLOF		12	30~40	8~100	F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation	Quotation	30			30~40	8~130	F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F		Quotation	Spiral groove length designation GPHLOF	50	100~150	12~200				F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation			
			45~80								65~100							155~190									
			125~160								105~160							195~240									
			30~40								165~200							205~260									
			45~80								205~260							265~300									
	Spiral groove length designation GPHLOF	13	30~50	8~100				F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation	Quotation	32	30~50		8~130			F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation	Spiral groove length designation GPHLOF	60	200~250	15~200			F ≥ E+P and F ≤ L-N Ⓜ GPHLOC is no designation necessary for F	Quotation	
			55~80									65~100									255~300						
			95~150									105~160									205~260						
			155~200									165~200									265~300						
			205~260									265~300									305~350						

Ⓜ Designate Nmin. value when no press-fit section is required. ex. D=13 → N=5
 Ⓜ No press-fitting section when N=T+(2 or 3).

■ GPH-XLOC • GPH-XLOF (Press-fit diameter • length designation type)

Part Number	L	N	F	Press-fit diameter DK	U/Price	1~9	Part Number	L	N	F	Press-fit diameter DK	U/Price	1~9									
Type	D	5mm increments	1mm increments	0.001mm increments	GPH-XLOC	GPH-XLOF	Type	D	5mm increments	1mm increments	0.001mm increments	GPH-XLOC	GPH-XLOF									
Spiral groove fixed length GPH-XLOC	8	30~50	10~60	8.000~8.050	10.000~10.050	12.000~12.050	Spiral groove fixed length GPH-XLOC	32	50~60	13~130	F ≥ E+P and F ≤ L-N Ⓜ GPH-XLOC is no designation necessary for F	Quotation	Spiral groove fixed length GPH-XLOC									
		55~80							65~110					115~160								
		30~50							165~200					205~260								
		55~80							205~260					265~300								
		85~120							305~350					355~400								
	Spiral groove length designation GPH-XLOF	10						30~50	10~80	13.000~13.050				16.000~16.050	20.000~20.050	35	60	17~200	F ≥ E+P and F ≤ L-N Ⓜ GPH-XLOC is no designation necessary for F	Quotation	Spiral groove length designation GPH-XLOF	
								30~50									65~110					115~160
								165~200									165~200					195~250
								30~50									205~260					265~300
								55~80									305~360					365~400
Spiral groove length designation GPH-XLOF		12	30~50	13~100	16.000~16.050	25.000~25.050	28.000~28.050	40	80~150		20~200	F ≥ E+P and F ≤ L-N Ⓜ GPH-XLOC is no designation necessary for F	Quotation			Spiral groove length designation GPH-XLOF						
			55~80						80~150								155~190					
			165~200						155~190								195~250					
			30~50						205~260								265~300					
			55~80						305~360								365~400					
	Spiral groove length designation GPH-XLOF	13	30~50	13~120				20.000~20.050	30.000~30.050	35.000~35.050	50			100~150	20~200		F ≥ E+P and F ≤ L-N Ⓜ GPH-XLOC is no designation necessary for F	Quotation	Spiral groove length designation GPH-XLOF			
			55~80											155~190						195~250		
			165~200											155~190						195~250		
			205~260											255~300						305~360		
			265~300											365~400						405~460		
Spiral groove length designation GPH-XLOF		16	30~50	13~130	25.000~25.050	40.000~40.050	50.000~50.050				60	200~250	20~200	F ≥ E+P and F ≤ L-N Ⓜ GPH-XLOC is no designation necessary for F	Quotation	Spiral groove length designation GPH-XLOF						
			55~80									255~300								305~360		
			95~150									255~300								305~360		
			155~200									305~360								365~400		
			205~260									405~460								465~500		
	Spiral groove length designation GPH-XLOF	20	30~50	13~130				28.000~28.050	60.000~60.050	70.000~70.050	30	255~300	20~200				F ≥ E+P and F ≤ L-N Ⓜ GPH-XLOC is no designation necessary for F	Quotation	Spiral groove length designation GPH-XLOF			
			55~80									255~300								305~360		
			95~150									255~300								305~360		
			155~200									305~360								365~400		
			205~260									405~460								465~500		
Spiral groove length designation GPH-XLOF		25	30~50	13~130	30.000~30.050	75.000~75.050	85.000~85.050				30	255~300	20~200	F ≥ E+P and F ≤ L-N Ⓜ GPH-XLOC is no designation necessary for F	Quotation	Spiral groove length designation GPH-XLOF						
			55~80									255~300								305~360		
			95~150									255~300								305~360		
			155~200									305~360								365~400		
			205~260									405~460								465~500		

Ⓜ DK tolerance of press-fit diameter of D8~30: DK±0.002.

Ⓜ DK tolerance of press-fit diameter of D32~60: DK±0.003.
 Ⓜ Please designate press-fit length with N ≤ L-F.