

Revolving Crank Handles with Square / Round Bore, Spoked Handwheels

Similar Product Page: P.1153, 1154

Revolving Crank Handles with Square / Round Bore



Type	Lever		Handle		Bushing		Handle Thread	
	M Material	M Material	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	S Surface Treatment
C-MBCHH (Square Bore)	PA6	Polypropylene (PP)	Carbon Steel for Mechanical Structure	Black Oxide	Carbon Steel for Mechanical Structure	Zinc Plating		
C-MBCRR (Round Bore)								

Part Number		L	A	H	h	D	K	F	B	b	d	h1	Reference Mass (g)	Unit Price
Type	W (Square Bore) / P (Round Bore)													
C-MBCHH (Square Bore)	12	-	127	100	104	38	34	50	24	19	34	25	-	200
	14	-	156	125	131	46	40	63	30	23	42	30	-	320
	17	-	195	160	157	55	44	80	36	26	50	34	-	530
C-MBCRR (Round Bore)	-	12	127	100	104	38	34	50	24	19	34	25	6	200
	-	14	156	125	131	46	40	63	30	23	42	30	6	320
	-	16	195	160	157	55	44	80	36	26	50	34	8	530

Ordering Example Part Number C-MBCHH12

Spoked Handwheel



Type	Handwheel		Handle		Handle Thread		Bushing	
	M Material	M Material	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	S Surface Treatment
C-PHLK	Phenol Resin	Phenol Resin	Carbon Steel for Mechanical Structure	Zinc Plating	Carbon Steel for Mechanical Structure	Zinc Plating		

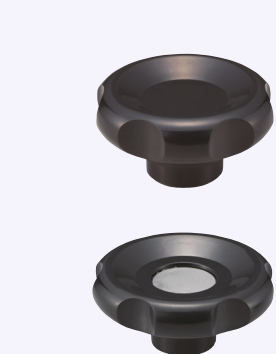
Part Number		H	A	h	D1	d	P	B	G	b	t	Reference Mass (g)	Unit Price
Type	D												
C-PHLK	100	29	17	18	34	12	40	19	50	4	1.8	200	
	125	29	20	18	34	12	48	21	63	4	1.8	330	
	160	36.5	22.5	20	40	16	68	26	80	5	2.3	485	
	200	44	25	25	51	18	83	26	80	6	2.8	780	
	250	48.5	28	28	56.5	25	98	26	100	8	3.3	980	

Ordering Example Part Number C-PHLK100

Plastic Small Handwheels / Knurled Plastic Handwheels

Similar Product Page: P.1167

Wave Form Handwheel



Type	Handwheel		Bushing	
	M Material	M Material	M Material	S Surface Treatment
C-PCHBK (Round Bore)	Phenol Resin	Carbon Steel for Mechanical Structure		
C-PCHBM (Tapped Hole)			Brass (Insert)	

The *d part is H7 Hole.
The photo image on the lower part is only for D=100.
The *S part is Dowel Pin Hole. For dowel pins, select the applicable product on P.255 or procure it separately from this catalog.

Part Number		A	H	Lr	h	D1	d	M	S	d1	Reference Mass (g)	Unit Price
Type	D											
C-PCHBK (Round Bore)	50	12	32	16	12	23	8	-	3	7	43	
	63	15	32	20	9.7	26	10	-	3	8	60	
	80	18	38	25	13	34	12	-	4	11	119	
	100	20	47	28	16	36	16	-	4	11	193	
C-PCHBM (Tapped Hole)	50	12	31	20	12	22	-	8	-	9	34	
	63	15	32	20	9.7	26	-	10	-	9	61	
	80	18	38	25	13	34	-	12	-	12	130	
	100	20	46	28	16	36	-	16	-	11	196	

Ordering Example Part Number C-PCHBK50

Knurled Plastic Handwheel



Type	Body		Bushing		Handle (Plastic Part)		Handle (Thread)	
	M Material	M Material	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	S Surface Treatment
C-CHBK	Nylon 6	Brass	Phenolic molding compounds PF2A2	Carbon Steel for Mechanical Structure				

The *d part is H7 Hole.

Part Number		H	A	S	d	d1	Lr	P	B	G	Mass (g)	Unit Price
Type	D											
C-CHBK	50	25	17	8	20.5	6	18	18	15	25	35	
	60	29.5	19.5	10	23.2	8	20	22	15	25	55	

Ordering Example Part Number C-CHBK50

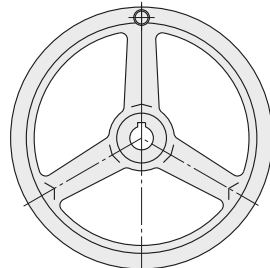
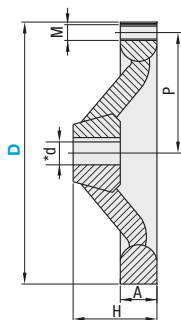
Five Spoked Handwheels, Spoked Handwheels - No Handle

Similar Product Page: P.1156, 1157

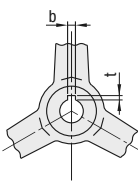
Five Spoked Handwheel



Type	Handwheel	
	Material	Surface Treatment
C-AHLNKC	Cast Iron (HT150 Equiv.)	Chrome Plating



Shaft Bore / Keyway Details



Handles are sold separately. The *d part is H8 Hole.

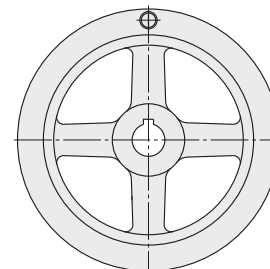
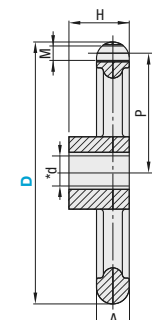
Part Number		A	H	d	M	P	Shaft Bore Details		Reference Mass (g)	Unit Price
Type	D						b	t		
C-AHLNKC	100	14	32	12	6	40	4	1.8	410	
	125	16	36	12	8	52	4	1.8	660	
	160	18	40	16	10	68	5	2.3	1150	
	200	20	45	18	10	88	6	2.8	1800	
	250	22	50	22	12	110	6	2.8	2830	

Ordering Example Part Number C-AHLNKC100

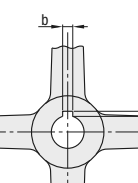
Spoked Handwheel - No Handle



Type	Handwheel	
	Material	Surface Treatment
C-AHNF	Cast Iron (HT150 Equiv.)	Chrome Plating



Shaft Bore / Keyway Details



Handles are sold separately. The *d part is H8 Hole.

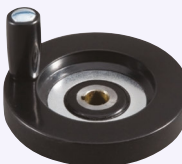
Part Number		A	H	d	M	P	Shaft Bore Details		Reference Mass (g)	Unit Price
Type	D						b	t		
C-AHNF	152	19	35	16	10	65	5	2.3	1460	
	203	22	36	18	10	88	6	2.8	2540	

Ordering Example Part Number C-AHNF200

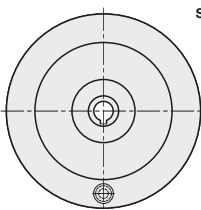
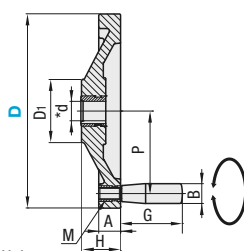
Solid Disk Handwheels, Solid Disk Handwheels - Retractable

Similar Product Page: P.1155

Solid Disk Handwheel



Type	Handwheel	Bushing		Handle Mounting Hole	Handle	Handle Thread	
	Material	Material	Surface Treatment	Material	Material	Material	Surface Treatment
C-PHSN	Phenol Resin	EN 1.1191 Equiv.	Zinc Plating	Brass	Phenol Resin	Carbon Steel for Mechanical Structure	Zinc Plating



Shaft Bore / Keyway Details



The *d part is H7 Hole.

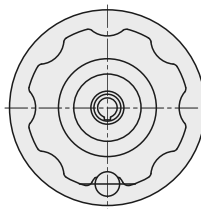
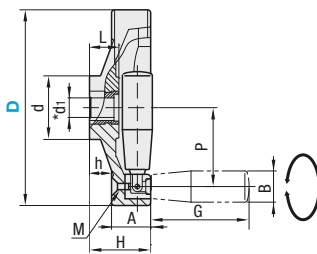
Part Number		D	H	A	D1	d	M	P	B	G	Shaft Bore Details		Mass (g)	Unit Price
Type											b	t		
C-PHSN	63	20.5	13	28	8	6	25	15	32	3	1.5	90		
	80	21	13	30	10	6	32.5	15	32	3	1.5	110		
	100	26	15	40	12	6	40	20	50	4	1.8	205		
	125	30	15.5	46	12	8	52	21	60	4	1.8	315		
	160	38	18	53	16	10	68	26	80	5	2.3	556		
	200	40	20	61	18	10	88	26	80	6	2.8	795		
	250	50.5	25	70	22	12	112	28	100	6	2.8	1335		

Ordering Example Part Number C-PHSN100

Solid Disk Handwheel - Retractable Handle



Type	Handwheel	Bushing		Handle	Handle Mounting Hole	Handle Thread		Accessory: Flat Head Cap Screw	
	Material	Material	Surface Treatment	Material	Material	Material	Surface Treatment	Material	Surface Treatment
C-PHSFM	Phenol Resin	EN 1.1191 Equiv.	Black Oxide	Phenol Resin	Brass	EN 1.1191 Equiv.	Zinc Plating	Plain Carbon Steel	Zinc Plating



Shaft Bore / Keyway Details



The *d part is H7 Hole.

Features: The handle can be folded for retraction.

Part Number		D	H	A	d	d1	L	h	P	B	G	M	Shaft Bore Details		Mass (g)	Unit Price
Type													b	t		
C-PHSFM	100	39	25	40	12	22	14	38	22	53	4	4	1.8	340		
	125	44	30	45	12	22	14	48	25	63	6	4	1.8	500		
	160	54	32	52	16	24	22	68	26	80	6	5	2.3	720		
	200	56	34	60	18	29	22	83	28	100	6	6	2.8	1100		

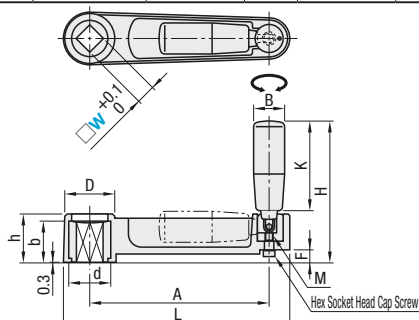
Ordering Example Part Number C-PHSFM100

Retractable Revolving Crank Handles with Square Bore



RoHS

Type	Body		Hub		Handle		Handle Thread		Included Screw	
	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment



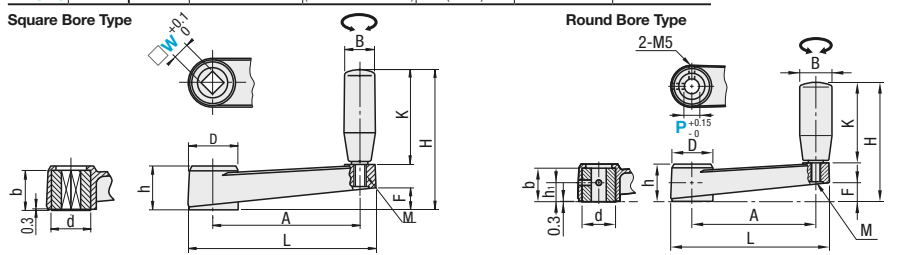
Part Number Type	W	L	A	H	h	D	K	F	M	B	d	b	Reference Mass (g)	Unit Price
SSCH	10	108	80	68	26	27.5	40	6	5	18	22	22	145	
	12	130	100	72	30	31	40	10	5	18	27	27	210	
	14	164.5	130.5	102.5	35	36.2	65.3	9	6	23	30	30	310	
	17	198.5	161	122.5	40	40.5	80.3	12	8	26	34	34	420	

Revolving Crank Handles with Square / Round Bore



RoHS

Type	Hub		Main Body, Handle		Screw		Handle Thread	
	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment



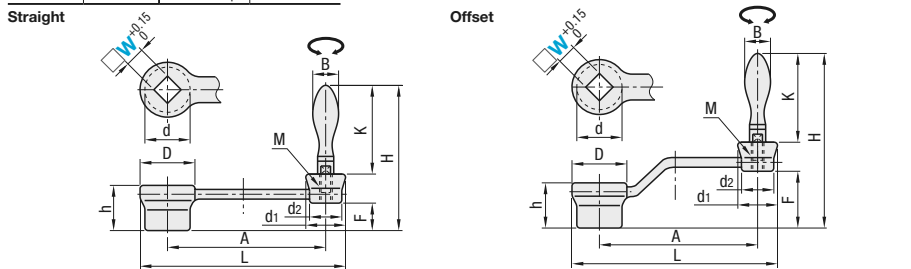
Part Number Type	W	P	L	A	H	h	D	K	F	M	B	d	b	h1	Reference Mass (g)	Unit Price		
																Square Bore	Round Bore	
Square Bore	8	8	85.5	64.5	63	23	24.5	40	10	6	22	18	19	10	76			
MBCH (Insert: Steel)	10	10	105	80	76	26	27.5	50	13.5			22	22	11.5	102			
MBCHS (Insert: Stainless Steel)	12	12	128	100	94.5	30	31	64.5	14.5			27	27	14.5	184			
Round Bore	14	-	161.5	130.5	114.5	35	36.2	79.5	19	8	26	30	30	-	259			
MBCR (Insert: Steel)	17	-	196	161	128.5	40	40.5	88.5	22	10		34	34	-	369			

Revolving Crank Handles



RoHS

Type	Material		Surface Treatment	
	Material	Surface Treatment	Material	Surface Treatment



Part Number Type	W	L	A	H		h	D	d	d1	d2	K	F		M	B	Reference Mass (g)	Unit Price	
				NSCH	NOCH							NSCH	NOCH				NSCH	NOCH
Straight	8	86	63.5	75	94	22	27	22	18	14	49	13	32	5	13	105		
NSCH	10	105	79	85	103	24	30	25	22	17	55	15	33	6	16	150		
Offset	12	128	98	105.7	126.7	28	34	28	26	20	70.7	17	38	8	20	230		
NOCH	14	162	128	123.3	147.3	30	40	33	28	22	87.3	17	41			360		
	17	198	159.5	128.3	157.3	34	45	37	32	25	87.3	21	50	10	25	510		
	19															500		
	22	212	170	129.3	160.3	36	50	40	34	27		22	53	10		680		

Ordering Example
Part Number
SSCH10
MBCH10
NSCH8

Spoked Handwheels



RoHS

I.D. Shaft Bore Shape	Type			Hub		Handwheel	Handle Mounting Hole Insert		Handle		Handle Thread	
	Stationary Handles	Folding Handles	Without Handle	Material	Surface Treatment		Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment

D80~D200

H9 Hole + Tap

H9 Hole + Keyway + Tap

Square Bore

Slit

D250

PHLP

Stationary Handles are GRW on P.1151.

Folding Handles are GRMBM on P.1151.

Both Stationary Handles and Folding Handles make rotation.

*1 is a "No Hole" Type, but there is a pilot hole for manufacturing.

D80 through 125: Ø6, with depth of around 10mm

D140~250: Ø6 through Ø8, with depth of around 10mm

Part Number		H9 Hole + Tap		H9 Hole + Keyway + Tap		Square Bore	Slit																	B		G		Mass (g)					
Type	D	d Selection	M (Coarse)	d1	b	t	d2	H	A	D1	D2	D3	L	L1	d1	h1	X	Y	R (Dia.)	d3	M (Coarse)	M2 (Coarse)	P (Holes) (Tighten/ Torque)	PHL	PHLF	PHL	PHLF	PHL	PHLF	PHL	PHLF		
No Hole	H9 Hole + Keyway + Tap	80	*10, *12, 14	5	10	3	1.4	10	10	32	13	20	28.5	30.2	25	25	23.3	9	7	8.5	4.5	4	26	3							135	177	
PHLN	PHLK	100	10, *12, *15		12	4	1.8		12	12	36	13	25	35	37.1	28	28	9	10	9	10	5.5	8	57	5	20						200	242
PHLFN	PHLFK, PHLSK	125	*12, *16, 18		12	14			12	12	40	17	40	40	37.1	30	28.45															330	410
H9 Hole + Tap	Square Bore	140	*15, 18, *20	6	15	5	2.3			41	18	30	44.9	-	30	-						55									410	565	
PHLM	PHLW, PHLFW	160	16, 18, 20								47	20	45.3	-	35	-	31.1	11	-	-	-	10	-	65	-	23	22.6	67	104		485	640	
PHLFM	Slit	180	16, 18, 20								50	23	49.9	-									73	-								640	795
PHLSM	PHLP	200	16, 18, 20								54	23	35	50	-	40	-						80	-			24			75		780	935
No Hole, Without Handle	PHLN-R	250	-	-	-	-	-	-	66	26	-	44	-	42	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	980	-	

Only * marked d dimensions are available for Stainless Steel Type.

Only D80, 100 and 125 are Slit Type.

Ordering Example
Part Number
PHLN80
PHLM100
PHLP125

D	Unit Price				
	No Shaft Bore	H9 Hole + Tap	H9 Hole + Keyway + Tap	Square Bore	Slit
80	PHLN	PHLN-R	PHLFN	PHLM	PHLSM
100	PHLN	PHLN-R	PHLFN	PHLM	PHLSM
125	PHLN	PHLN-R	PHLFN	PHLM	PHLSM
140	PHLN	PHLN-R	PHLFN	PHLM	PHLSM
160	PHLN	PHLN-R	PHLFN	PHLM	PHLSM
180	PHLN	PHLN-R	PHLFN	PHLM	PHLSM
200	PHLN	PHLN-R	PHLFN	PHLM	PHLSM
250	PHLN	PHLN-R	PHLFN	PHLM	PHLSM

New JIS (B1301) Keyway Dimensions

dH9

W

bJS9

t^{±0.1}

b

dH9

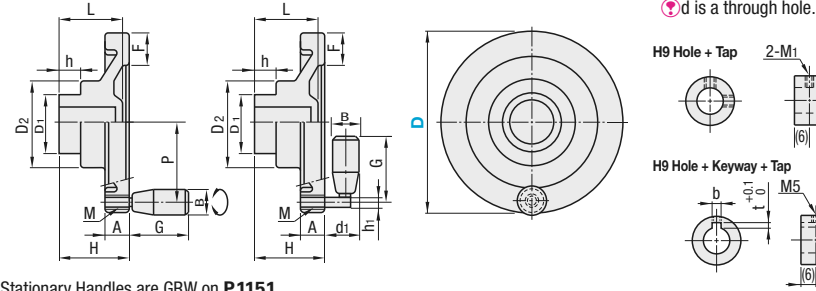
Solid Disk Handwheels / Adjusting Collars

Spoked Handwheels - Retractable Handle / No Handle

■ Solid Disk Handwheels



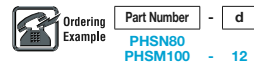
Shaft Bore Config.	Type		Hub		Handwheel	Handle Mounting Hole	Handle	Handle Thread	
	Stationary Handles	Folding Handle	M Material	S Surface Treatment	M Material	M Material	M Material	M Material	S Surface Treatment
No Hole	PHSN	PHSFN	EN-JL 1030 Equiv.	Black Oxide	Phenol	Brass	Phenol	EN 1.0711 Equiv.	Trivalent Chromate
	AHSN	AHSFN	EN AC-51300 Equiv.	-	EN AC-51300 Equiv.	EN AC-51300 Equiv.			
H9 Hole + Tap	PHSM	PHSFM	EN-JL 1030 Equiv.	Black Oxide	Phenol	Brass			
	AHSM	AHSFM	EN AC-51300 Equiv.	-	EN AC-51300 Equiv.	EN AC-51300 Equiv.			
H9 Hole + Keyway + Tap	PHSK	PHSFK	EN-JL 1030 Equiv.	Black Oxide	Phenol	Brass			
	AHSK	AHSFK	EN AC-51300 Equiv.	-	EN AC-51300 Equiv.	EN AC-51300 Equiv.			



 Stationary Handles are GRW on **P1151**.
 Folding Handles are GRMBM on **P1151**.

Part Number		PHSM, PHSM AHSM, AHSFM		PHSK, PHSFK AHSK, AHSFK			H	A	F	D ₁	D ₂	h	L	d ₁	h ₁	M (Coarse)	P	B		G		Reference Mass (g)									
Type	D	d Selection	Mt (Coarse)	d	b	t												PHS AHS	PHSF AHSF	PHS AHS	PHSF AHSF	PHS	AHS	PHSF	AHSF						
(Phenol) PHSN PHSM PHSK	PHSFN PFSFM PHSFK	80 100 125	10 12 12, 16	5	10	3	1.4	35	13	15	28	36	14	30	22	8	8	34	20	19	40	55	181	201	200	220					
(Aluminum) AHSN AHSM AHSK	AHSFN AHSFM AHSFK	150 *175 *200	15 16 16		15	5	2.3	44	18	21	39	46	15	38	28.5	12		52			64	74	86	23	22	67	104	570	729	618	777
								57	21	27	48	61		30	14	10															

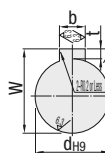
⊗ * D175 and D200 are not available for Aluminum Type.



D	Unit Price											
	PHSN	PHSFN	PHSM	PHSFM	PHSK	PHSFK	AHSN	AHSFN	AHSM	AHSFM	AHSK	AHSFK
80												
100												
125												
150												
175	-						-	-	-	-	-	-
200							-	-	-	-	-	-

New JIS (B1301) Keyway Dimensions

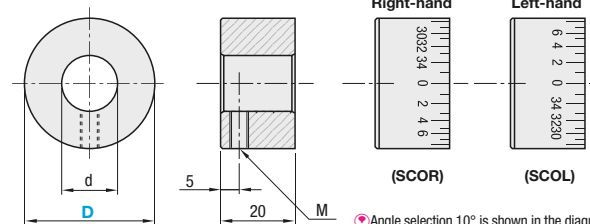
dH9		W	bJS9		t ₀ ^{+0.1}
10	+0.036 0	11.4	3	±0.0125	1.4
12	+0.043 0	13.8	4	±0.0150	1.8
15		17.3	5		2.3
16		18.3			



■ Adjusting Collars **RoHS**

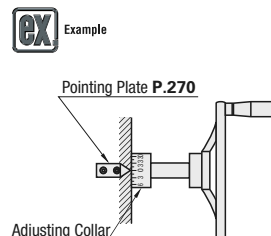


Type		Material	Surface Treatment
Right-hand	Left-hand		
SCOR	SCOL	EN AW-5056 Equiv.	Black Anodize



Angle selection 10° is shown in the diagram.

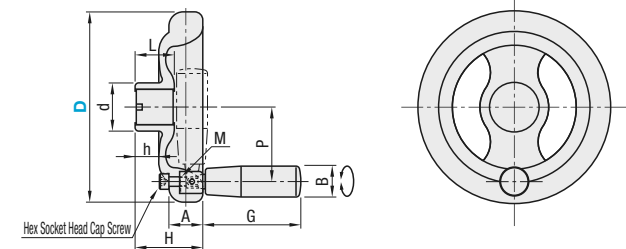
Part Number		Angle Selection	d	M	Mass (g)	Unit Price
Type	D					
SCOL (Left) SCOR (Right)	22	10 15	8	M4	20	
	27		12	M4	25	
	35		15	M5	40	
	45		16	M5	72	



■ **Spoked Handwheels - Retractable Handle**



Type	Handwheel		Hub		Handle	Handle Thread		Included Screw	
	M/Material	S/Surface Treatment	M/Material	S/Surface Treatment	M/Material	M/Material	S/Surface Treatment	M/Material	S/Surface Treatment
PHSLN	Phenol	-	EN 1.0038 Equiv.	Black Oxide	Phenol	EN 1.0038 Equiv.	Trivalent Chromate	Structural Alloy Steel	Trivalent Chromate
AHSLN	EN-JS 1050 Equiv.	Chrome Plating	EN-JS 1050 Equiv.	Chrome Plating					



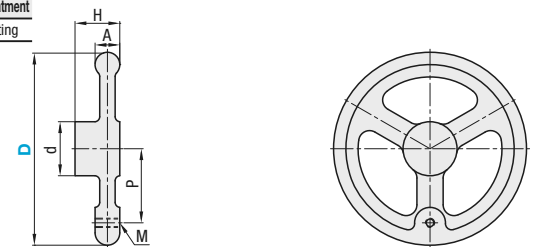
⚠ Handles are GRMLM on P.1152.

Part Number		H	A	d	L		h	M (Coarse)	P		B	G	Mass (g)		Unit Price	
Type	D				PHSLN	AHSLN			PHSLN	AHSLN			PHSLN	AHSLN		
PHSLN (Phenol Resin) AHSLN (EN-JS 1050 Equiv.)	80	34.2	20	20.5	16.5	16.5	10	5	30	29	18	42	161	410		
	100	37.5	20	25.2	18.5	18.5	12.2	5	39	38	18	42	214	640		
	125	48	25.5	32	26	26	15.7	6	50.5	48.5	23	67.5	473	1250		
	140	50.5	25.5	36	29	28.5	17.5	6	54		23	67.5	524	1670		
	160	56.9	28.5	40.5	33	33	19.9	8	62.7		26	82.5	757	2500		

■ Spoked Handwheels - No Handle



Type	Handwheel	
	M Material	S Surface Treatment
AHNF	EN-JL 1030 Equiv.	Chrome Plating



⚠ Handles are sold separately.

Part Number Type		D	H	A	d	M	P	Reference Mass (g)	Unit Price	Applicable Handle
AHNF	80	24	14	25	5	26.5	386		GRMK13	
	100	25	15	30		37	618			
	125	29	16	35	48	985		GRMK16		
	140	30	17		55	1287				
	160	33	18	38	62.5	1735		GRMK20		
	180	35	20		71.5	2313				
	200	37	22	40	10	78.5	3511		GRMK25	



⚠ No alternations are available to handles with D=180 or 200 in AHNF.
⚠ No KC alternation is available to the handle with D=80 in PHSLN.

PS/NO NO brass/brass is available at a nominal price of \$0.01 in. H/Cut.													
Alterations	H8 Hole + Tapped Hole Machining				H8 Hole + Keyway + Tapped Hole Machining				Square Bore Machining				
Code	HC				KC				SC				
Spec.	Adds an H8 hole at hub center, and two tapped screws holes. HC=1mm Increment				Adds an H8 hole at hub center, a key groove and its tapped hole. KC=1mm Increment				Adds a square bore at hub center. SC=1mm Increment				
	Ordering Code				Ordering Code				Ordering Code				
	HC16				KC15				SC12				
	D	HC(HB)	h	HC(HB) M (Coarse)	D	KC(HB)	M	h	b	t			
	80	6-10	6	6-9	4	80	10	5	6	8-10	3	±0.0125	1.4
	100	6-13	7	10-16	5	100	10	5	7	10-12	4	±0.015	2.3
125	6-14	7	17-19	6	125	10-12	5	7	11, 12	4	±0.015	2.3	
140	6-22	8	20-23	8	140	10-17	5	8	13-17	5	±0.015	1.8	
160	6-23	8			160	10-20	6	8	18-20	6	±0.015	2.8	
PS/NO NO brass/brass is available at a nominal price of \$0.01 in. H/Cut.													

⚠ No satin nickel chrome plating alternation is available to PHSLN80.

Five Spoked Handwheels



RoHS

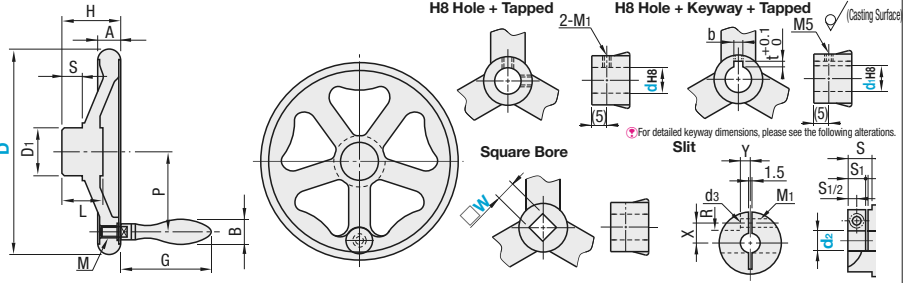
I.D. Shaft Bore Shape	Type			Handwheel		Handle		Handle Thread		Included Screw	
	Stationary Handles	Revolving Handles	Without Handle	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment
No Hole	AHLN	AHLNK	AHLN-R	EN-JL 1030 Equiv.	Chrome Plating	EN 1.0038 Equiv.	Chrome Plating				
H8 Hole + Tapped	AHLNA	AHLNAK	-	EN AC-46200 Equiv.	Shot Blasted	EN AW-2024 Equiv.	Shot Blasted				
H8 Hole + Keyway + Tapped	AHLNKC	AHLNCK	-	EN-JL 1030 Equiv.	Chrome Plating	EN 1.0038 Equiv.	Chrome Plating	EN 1.0038 Equiv.	Chrome Plating		
Square Bore	AHLNW	AHLNKW	-	EN AC-46200 Equiv.	Shot Blasted	EN AW-2024 Equiv.	Shot Blasted			Structural Alloy Steel	Trivalent Chromate
Slit	-	AHLNF	-	EN-JS 1050 Equiv.	Chrome Plating	EN 1.0038 Equiv.	Chrome Plating				

H8 Hole + Tapped

H8 Hole + Keyway + Tapped

Square Bore

Slit



Part Number		D	H	A	D1	L	S	M		B	G		P	H8 Hole + Tapped		H8 Hole + Keyway + Tapped		Square Bore		Slit					Hex Socket Head Cap Screw		Reference Mass			
Type								Steel	Aluminum		Stationary	Revolving		d	M1 (Coarse)	d1	b	t	W Selection	d2	S1	X	Y	R (Radius)	d3	M1 (Coarse)	AHLND Reference Tightening Torque (N · m)	AHLNF Reference Tightening Torque (N · m)	Steel	Aluminum
No Hole	No Hole, Without Handle	80	36	14	24	24	15	5	13	38.5	49	28	10	5	10	3	1.4	10	*10 12	12	9	8	8.5	4.5	4	3	3	380	160	
AHLN	AHLN-R	100	39	16	30	28		8	16	48.5	55	37	12		12	4	1.8	12	*12 12		10	9	9	9.5	5.5	5	5	5	600	250
AHLNA	AHLNM		40	17	33	6																								
AHLNK	AHLNKM	125	40	17	33		6	16	48.5	55	46.5	12	12	4	1.8	12	*15	14	16 20	14	15	10.5	12.5	6.5	6	10	-	2800	1140	
AHLNKC	AHLNCK	140	44	18	35	30	16	8	20	62.5	70.7	62.5	16	6	16	5	2.3	14	16 20	14	16.5	11	-	-	-	-	-	-	4900	-
H8 Hole + Keyway + Tapped		160	46	18.5	37	32	16	8	20	62.5	70.7	62.5	16	6	16	5	2.3	14	16 20	14	16.5	11	-	-	-	-	-	-	4900	-
Slit	Square Bore	200	59.5	24	43	41	19	10	10	25	77.5	87.3	81	16	6	16	5	2.3	17	16 20	14	16.5	11	-	-	-	-	-	4900	-
AHLNF	AHLNW	250	65.5	27	48	44	19	10	-	25	77.5	87.3	100	20	20	5	2.3	17	20	14	16.5	11	-	-	-	-	-	-	4900	-
AHLND	AHLNKW		65.5	27	48	44			-																					

* marked items are applicable to Slit Type AHLNF only.
For "H8 Hole + Keyway + Tapped" Type, the size of d1 dim. 20 is not JIS Standard-compliant. If any JIS Standard-compliant size is preferred, specify "No Hole Type + Alteration KC18."

Ordering Example

Part Number

d2

AHLN160

AHLNF80

- 10

D	Unit Price												
	No Hole				H8 Hole + Tapped		H8 Hole + Keyway + Tapped		Square Bore		Slit		No Hole, Without Handle
	AHLN	AHLNK	AHLNA	AHLNAK	AHLNM	AHLNKM	AHLNKC	AHLNKCK	AHLNW	AHLNKW	AHLND	AHLNF	
80													
100													
125													
140													
160											-	-	
200												-	
250			-	-							-	-	-

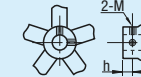
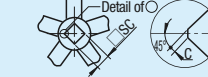
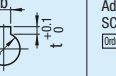
Alteration:

Part Number

(HC, KC, SC)

AHLNAK200

SC20

Alterations	H8 Hole (Dimension Configurable) + Tapped Hole Machining	H8 Hole (Dimension Configurable) + Keyway + Tapped Hole Machining	Square Bore Machining (Dimensions Configurable)																																																																																																						
																																																																																																									
Code	HC	KC	SC																																																																																																						
Spec.	Adds an H8 hole at hub center, and two tapped setscrew holes. HC=1mm Increment <u>Ordering Code</u> HC16 <table><tr><th>D</th><th>HC (H8)</th><th>h</th><th>HC (H8)</th><th>M (Coarse)</th></tr><tr><td>80</td><td>10-15</td><td></td><td>10-16</td><td>5</td></tr><tr><td>100</td><td>10-16</td><td>6</td><td>17-19</td><td></td></tr><tr><td>125</td><td>12-18</td><td></td><td>20-23</td><td>8</td></tr><tr><td>140</td><td>14-19</td><td></td><td></td><td></td></tr><tr><td>160</td><td>14-20</td><td>8</td><td></td><td></td></tr><tr><td>200, 250</td><td>16-23</td><td>10</td><td></td><td></td></tr></table>	D	HC (H8)	h	HC (H8)	M (Coarse)	80	10-15		10-16	5	100	10-16	6	17-19		125	12-18		20-23	8	140	14-19				160	14-20	8			200, 250	16-23	10			Adds an H8 hole at hub center, a key groove and its tapped hole. KC = Selectable <u>Ordering Code</u> KC15  <table><tr><th>D</th><th>KC (H8)</th><th>M</th><th>h</th><th>KC (H8)</th><th>b</th><th>t</th></tr><tr><td>80</td><td>10, 11, 12</td><td></td><td></td><td>10</td><td>3</td><td>±0.0125</td></tr><tr><td>100</td><td>12, 14</td><td>5</td><td>6</td><td>11, 12</td><td>4</td><td>1.8</td></tr><tr><td>125</td><td>14, 15, 16</td><td>8</td><td></td><td>14-17</td><td>5</td><td>±0.0150</td></tr><tr><td>160</td><td></td><td></td><td></td><td>18</td><td>6</td><td>2.8</td></tr><tr><td>200, 250</td><td>16, 17, 18</td><td>6</td><td>10</td><td></td><td></td><td></td></tr></table>	D	KC (H8)	M	h	KC (H8)	b	t	80	10, 11, 12			10	3	±0.0125	100	12, 14	5	6	11, 12	4	1.8	125	14, 15, 16	8		14-17	5	±0.0150	160				18	6	2.8	200, 250	16, 17, 18	6	10				Adds a square bore at hub center. SC=1mm Increment <u>Ordering Code</u> SC12 <table><tr><th>D</th><th>SC</th><th>SC</th><th>Tolerance</th><th>C</th></tr><tr><td>80, 100</td><td>10-12</td><td></td><td>+0.1</td><td>0.5</td></tr><tr><td>125</td><td>10-14</td><td></td><td>0</td><td></td></tr><tr><td>140, 160</td><td>10-17</td><td></td><td>+0.15</td><td>1</td></tr><tr><td>200, 250</td><td>10-20</td><td>15-20</td><td></td><td></td></tr></table>	D	SC	SC	Tolerance	C	80, 100	10-12		+0.1	0.5	125	10-14		0		140, 160	10-17		+0.15	1	200, 250	10-20	15-20		
D	HC (H8)	h	HC (H8)	M (Coarse)																																																																																																					
80	10-15		10-16	5																																																																																																					
100	10-16	6	17-19																																																																																																						
125	12-18		20-23	8																																																																																																					
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200, 250	16-23	10																																																																																																							
D	KC (H8)	M	h	KC (H8)	b	t																																																																																																			
80	10, 11, 12			10	3	±0.0125																																																																																																			
100	12, 14	5	6	11, 12	4	1.8																																																																																																			
125	14, 15, 16	8		14-17	5	±0.0150																																																																																																			
160				18	6	2.8																																																																																																			
200, 250	16, 17, 18	6	10																																																																																																						
D	SC	SC	Tolerance	C																																																																																																					
80, 100	10-12		+0.1	0.5																																																																																																					
125	10-14		0																																																																																																						
140, 160	10-17		+0.15	1																																																																																																					
200, 250	10-20	15-20																																																																																																							

Two Spoked Handwheels

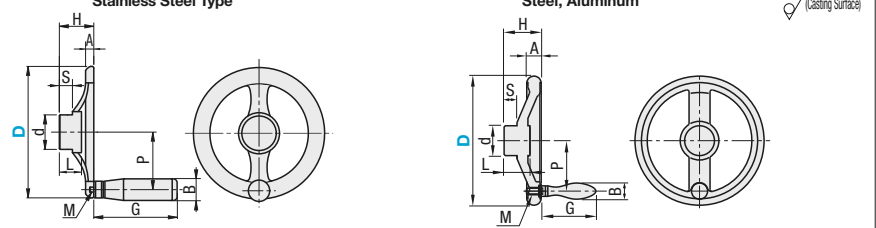


RoHS

Type			Handwheel		Handle		Handle Thread	
Without Handle	Stationary Handles	Revolving Handles	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment
SHLNN	-	SHLN	EN 1.4581 Equiv. (EN 1.4401 Equiv.)	Shot Blasted	EN 1.4301 Equiv.	Electrolytic Polishing	EN 1.4301 Equiv.	Electrolytic Polishing
-	AHTN	AHTNK	EN-JL 1030 Equiv.	Chrome Plating	EN 1.0038 Equiv.	Chrome Plating	EN 1.0038 Equiv.	Chrome Plating
-	-	AHTNAK	EN AC-46200 Equiv.	Shot Blasted + Buffing	EN AW-2024 Equiv.	Shot Blasted	EN 1.0038 Equiv.	Chrome Plating
-	AHTNA	-						

Stainless Steel Type

Steel, Aluminum



Stainless Steel Handles are GRMS on P.1150, Steel Handles are GRMK on P.1150, and Aluminum Handles are GRMAK on P.1150.

Part Number		D	H	A	S	d	L	M	B	G	P	Reference Mass (g)	
Type												With Handle	Without Handle
Without Handle		80	22	6.5	7	20	11.7	5	10	45	35.6	425	400
SHLNN		100	27	7.5	8.7	25	14.6	6	13	57	43.5	605	550
SHLN		125	32	8	10.9	31	18.3				54.7	755	700
Revolving Handles		140	36	9	12.2	35	20.5	8	16	68	62.5	935	880
SHLN		160	40	9	14	40	23.4				71.5	1300	1200
		200	50	11.3	17.4	50	32	10	20	80	90	2180	2000

Part Number		D	H	A	S	d	L	M		B	G		P	Reference Mass (g)	
Type								Steel	Aluminum		Stationary	Revolving		Steel	Aluminum
Steel Stationary Handles	AHTN	80	36	14		24	24	5		13	38.5	49	28	370	138
AHTN		100	39	15	15	30							37	575	215
Steel Revolving Handles	AHTNK	125	40	16		33	28	6	8	16	48.5	55	46.5	895	310
AHTNK		140	44	17	16	35	30						52.5	1095	380
Aluminum Stationary Handles	AHTNA	160	46	18		37	32	8	10	20	62.5	70.7	62.5	1460	485
AHTNA		200	59.5	24	19	43	41						81	2890	890
Aluminum Revolving Handles	AHTNAK														

Ordering Example

Part Number

AHTN80

SHLN100

AHTNAK200

D	SHLN	SHLNN	AHTN	AHTNK	AHTNA	AHTNAK
80						
100						
125						
140						
160						
200						

Alterations

Part Number

(HC, KC, SC)

AHTN80

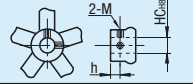
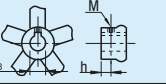
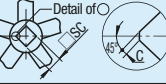
SHLN100

AHTNAK200

HC10

KC11

SC20

Alterations	H8 Hole + Tapped Hole Machining	H8 Hole + Keyway + Tapped Hole Machining	Square Bore Machining																																																																																														
																																																																																																	
Code	HC	KC	SC																																																																																														
Spec.	Adds an H8 hole at hub center, and two tapped setscrew holes. HC=1mm Increment <u>Ordering Code</u> HC16	Adds an H8 hole at hub center, a key groove and its tapped hole. KC = Selectable <u>Ordering Code</u> KC15	Adds a square bore at hub center. SC=1mm Increment <u>Ordering Code</u> SC12																																																																																														
	<table><tr><th>D</th><th>HC (H8)</th><th>h</th><th>HC (H8)</th><th>M (Coarse)</th></tr><tr><td>80</td><td>10-15</td><td></td><td>10-16</td><td>5</td></tr><tr><td>100</td><td>10-16</td><td>6</td><td>17-19</td><td>6</td></tr><tr><td>125</td><td>12-18</td><td></td><td>20-23</td><td>8</td></tr><tr><td>140</td><td>14-19</td><td></td><td></td><td></td></tr><tr><td>160</td><td>14-20</td><td>8</td><td></td><td></td></tr><tr><td>200</td><td>16-23</td><td>10</td><td></td><td></td></tr></table>	D	HC (H8)	h	HC (H8)	M (Coarse)	80	10-15		10-16	5	100	10-16	6	17-19	6	125	12-18		20-23	8	140	14-19				160	14-20	8			200	16-23	10			<table><tr><th>D</th><th>KC (H8)</th><th>M</th><th>h</th><th>KC (H8)</th><th>b</th><th>t</th></tr><tr><td>80</td><td>10, 11, 12</td><td></td><td></td><td>10</td><td>3</td><td>±0.0125</td></tr><tr><td>100</td><td>12, 14</td><td>5</td><td>6</td><td>11, 12</td><td>4</td><td>1.8</td></tr><tr><td>125</td><td>14, 15, 16</td><td>8</td><td></td><td>14-17</td><td>5</td><td>±0.0150</td></tr><tr><td>140</td><td></td><td></td><td></td><td>18</td><td>6</td><td>2.8</td></tr></table>	D	KC (H8)	M	h	KC (H8)	b	t	80	10, 11, 12			10	3	±0.0125	100	12, 14	5	6	11, 12	4	1.8	125	14, 15, 16	8		14-17	5	±0.0150	140				18	6	2.8	<table><tr><th>D</th><th>SC</th><th>SC</th><th>Tolerance</th><th>C</th></tr><tr><td>80, 100</td><td>10-12</td><td></td><td>+0.1</td><td>0.5</td></tr><tr><td>125</td><td>10-14</td><td></td><td>0</td><td></td></tr><tr><td>140, 160</td><td>10-17</td><td></td><td>+0.15</td><td>1</td></tr><tr><td>200</td><td>10-20</td><td></td><td>0</td><td></td></tr></table>	D	SC	SC	Tolerance	C	80, 100	10-12		+0.1	0.5	125	10-14		0		140, 160	10-17		+0.15	1	200	10-20		0
D	HC (H8)	h	HC (H8)	M (Coarse)																																																																																													
80	10-15		10-16	5																																																																																													
100	10-16	6	17-19	6																																																																																													
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D	KC (H8)	M	h	KC (H8)	b	t																																																																																											
80	10, 11, 12			10	3	±0.0125																																																																																											
100	12, 14	5	6	11, 12	4	1.8																																																																																											
125	14, 15, 16	8		14-17	5	±0.0150																																																																																											
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200	10-20		0																																																																																														

Knurled Knobs / Thick Knurled Knobs

■ Stainless Steel Knurled Handwheels



D	Standard Type (Selectable)	Slit Type	H	A	S	D ₁	L _r	h	Slit Type							P	B	G	M	Mass (g)				
									h ₁	W	X	Y	d ₁	d ₂	Hex Socket Head Cap Screw					Aluminum	Stainless Steel			
															M ₁							Reference Tightening Torque (N·m)		
40	*6 8	8	25	12	13	22	15	6.5	10	1.5	7	4.5	8.5	4.5	M4	1.5	14.5	13	18.8	5	50	150		
50	*8 10	10	28	13	15	27	18	7.5	11		9	5	M4	1.5	17	87	255							
63	*10 12	12	32	14	18	35	22	9	12		11	6	10	5.5	M5	3.0	23				14	20.8	161	460
80	*12 16	-	40	15	25	45	28	12.5	-							30	16				23.8	6	299	855

 Alterations Part Number - (HC, KC, SC)
HBK50 - HC10

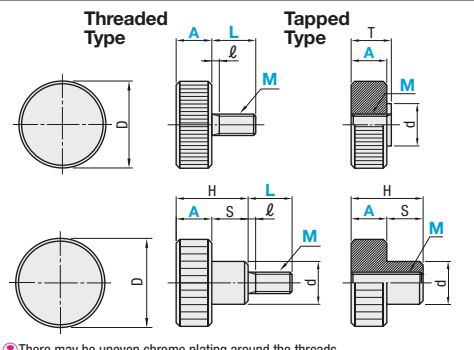
[illegible]

■ Thick Knurled Knobs



Type		Tapped	Material	Surface Treatment
Threaded	L Dimension Configurable			
NOBA	-	NOMA	EN 1.0718 Equiv.	Buff Polished, Chrome Plating
NOOSA	NOOSAF	NOMSFA	EN 1.4305 Equiv.	Brushed Finish
NOBAB	-	NOMAB	EN 1.0718 Equiv.	Black Oxide

Type		Tapped	Material	Surface Treatment
Threaded	L Dimension Configurable			
NKBA	-	NKMA	EN 1.0718 Equiv.	Buff Polished, Chrome Plating
NKOSA	NKOSAF	NKMSFA	EN 1.4305 Equiv.	Brushed Finish
NKBAB	-	NKMBAB	EN 1.0718 Equiv.	Black Oxide



There may be uneven chrome plating around the threads.

[illegible]

	Ordering	Part Number	-	L	-	A
	Example	NOB3	-	10	-	
		NOBA4	-	6	-	7

Alteration	Code	Spec.								
	MC	Adds a tap for a set screw on Tapped Type NKMS (Stainless Steel Type). <table><tr><th>M</th><th>MC</th></tr><tr><td>6</td><td>M5</td></tr><tr><td>8</td><td>M4</td></tr><tr><td>10</td><td>M5</td></tr></table> Applicable to M=6	M	MC	6	M5	8	M4	10	M5
M	MC									
6	M5									
8	M4									
10	M5									