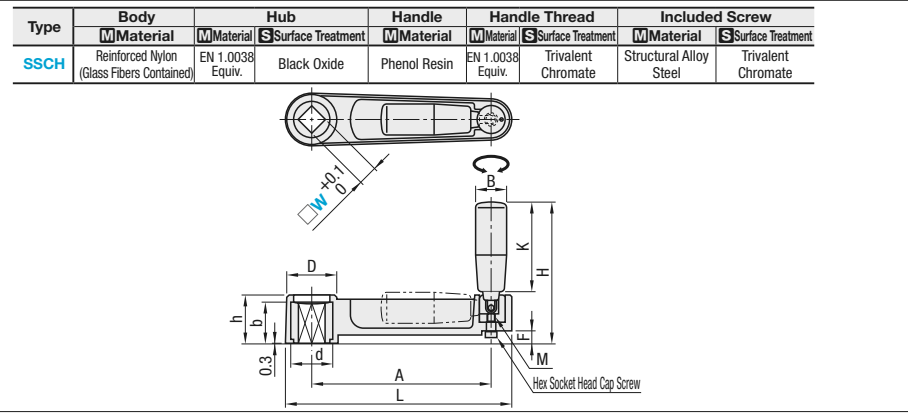
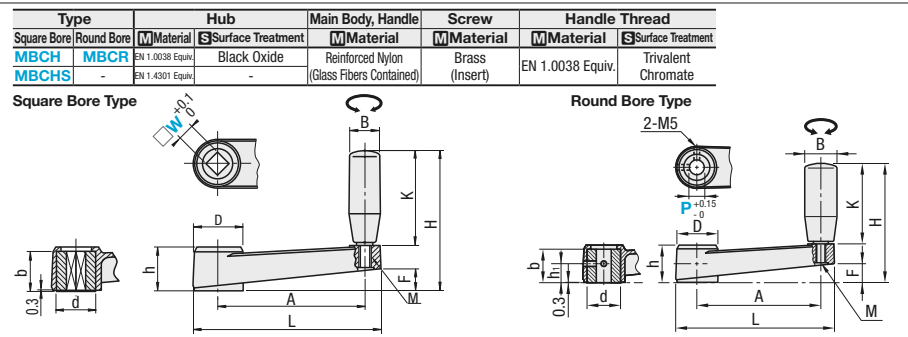


Retractable Revolving Crank Handles with Square Bore



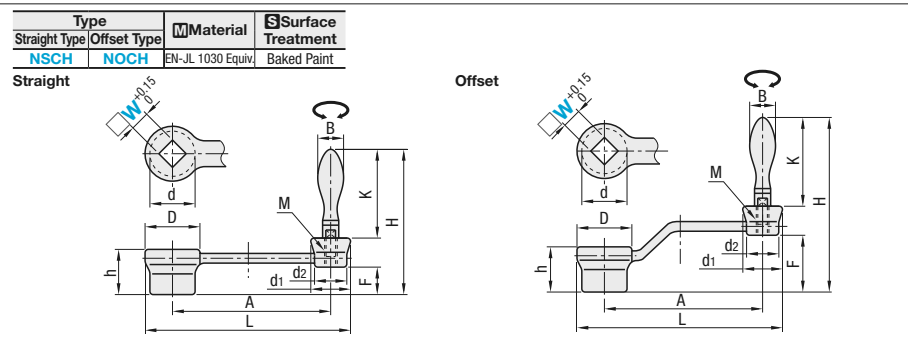
Part Number Type	W	L	A	H	h	D	K	F	M	B	d	b	Reference Mass (g)	Unit Price
10	108	80	68	26	27.5	40	6	5	18	22	22	145		
12	130	100	72	30	31	40	10	5	18	27	27	210		
14	164.5	130.5	102.5	35	36.2	65.3	9	6	23	30	30	310		
17	198.5	161	122.5	40	40.5	80.3	12	8	26	34	34	420		

Revolving Crank Handles with Square / Round Bore



Part Number Type	W	P	L	A	H	h	D	K	F	M	B	d	b	h1	Reference Mass (g)	Unit Price		
																MBCH	MBCHS	MBCR
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



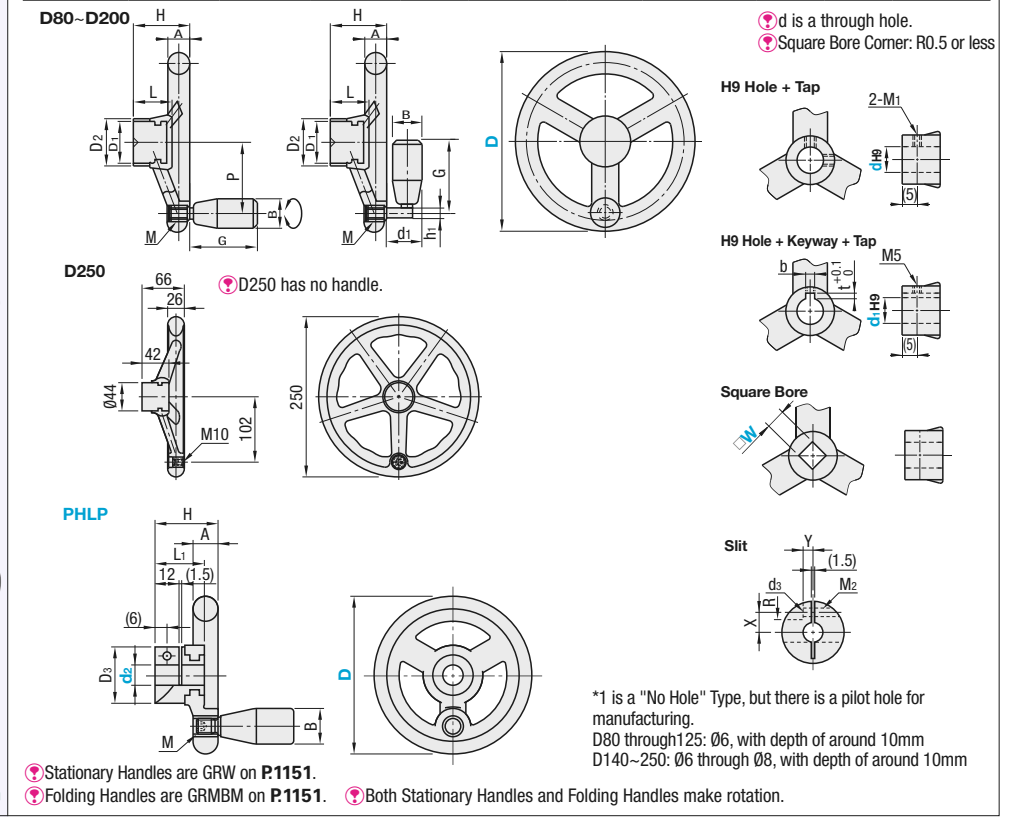
Part Number Type	W	L	A	H		h	D	d	d1	d2	K	F		M	B	Reference Mass (g)	Unit Price	
				NSCH	NOCH							NSCH	NOCH				NSCH	NOCH
8	86	63.5	75	94	22	27	22	18	14	49	13	32	5	13	105			
10	105	79	85	103	24	30	25	22	17	55	15	33	6	16	150			
12	128	98	105.7	126.7	28	34	28	26	20	70.7	17	38	8	20	230			
14	162	128	123.3	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



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	Material	
*1 No Hole	PHLN	PHLFN	PHLN-R	EN-JL 1030 Equiv.	Black Oxide	Phenol	Brass			
H9 Hole + Tap	PHLM	PHLFM	-	EN 1.4305 Equiv.	-	Phenol	EN 1.0715 Equiv., Trivalent Chromate	Phenol	EN 1.0711 Equiv.	Trivalent Chromate
H9 Hole + Keyway + Tap	PHLSM	PHLFK	-	EN 1.4305 Equiv.	Black Oxide	Phenol	Brass	Phenol	EN 1.0711 Equiv.	Trivalent Chromate
Square Bore	PHLW	PHLFW	-	EN-JL 1030 Equiv.	Black Oxide					
Slit	PHLP	-	-	EN 1.1191 Equiv.	Black Chromate	Polypropylene				



Part Number Type	D	d Selection	M (Coarse)	d1	b	t	W Selection	d2	H	A	D1	D2	D3	L	L1	d1	h1	X	Y	R (Dia.)	d3	M3 (Coarse)	M2 (Coarse)	P (Reference Tightening Torque)	B			G			Mass (g)
																									PHL	PHLF	PHLW	PHL	PHLF	PHLW	
No Hole	H9 Hole + Keyway + Tap	80	*10, *12, 14	5	10	3	1.4	10	32	13	20	28.5	30.2	25	25	23.3	9	7	8.5	4.5	4	26	3	20	19.6	40	55	135	177		
PHLN	PHLK	100	*10, *12, *15	5	12	4	1.8	12	36	13	25	35	37.1	28	28	29.45	10	9	10	5.5	8	37	5	20	19.6	40	55	200	242		
PHLFN	PHLFK, PHLK	125	*12, *16, 18	6	14	4	2.3	14	40	17	30	40	42.9	30	30	31.1	11	-	-	-	10	55	5	20	19.7	55	81.5	330	410		
H9 Hole + Tap	Square Bore	140	*15, 18, *20	6	15	5	2.3	15	41	18	30	44.9	-	-	-	-	-	-	-	-	10	65	-	23	22.6	67	104	410	565		
PHLM	PHLW, PHLFW	160	16, 18, 20	6	16	5	2.3	16	47	20	45.3	-	-	-	-	-	-	-	-	-	10	65	-	23	22.6	67	104	485	640		
PHLW	PHLW, PHLFW	180	16, 18, 20	6	16	5	2.3	16	50	23	49.9	-	-	-	-	-	-	-	-	-	10	73	-	24	22.6	67	104	640	795		
PHLSM	PHLP	200	16, 18, 20	6	16	5	2.3	16	54	23	35	50	-	-	-	-	-	-	-	-	10	80	-	24	22.6	67	104	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	-	-	-	-	-
100	-	-	-	-	-
125	-	-	-	-	-
140	-	-	-	-	-
160	-	-	-	-	-
180	-	-	-	-	-
200	-	-	-	-	-
250	-	-	-	-	-

New JIS (B1301) Keyway Dimensions				
dH9	W	bJS9	t <sup>±0.1</sup>	
10	+0.036/0	11.4	3	±0.0125
12		13.8	4	
15	+0.043/0	17.3	5	±0.0150
16		18.3		