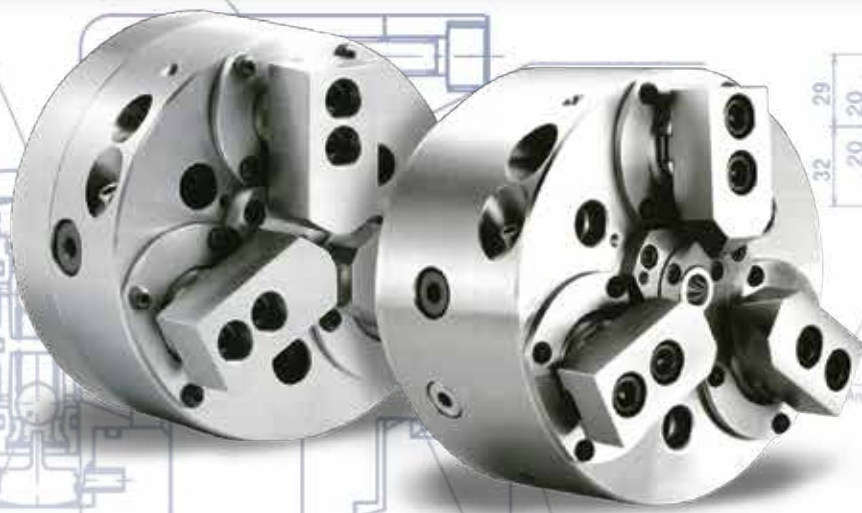


Howa

POWER CHUCKS



Please read this Type Selection and Use page carefully before choosing a type of power chuck.

Please read the supplied operating instructions before use.

TYPE SELECTION

In order to get the most effective and lasting use from a power chuck, it is extremely important that you select the correct power chuck for your purpose. When selecting a HOWA power chuck, refer to the HOWA Power Chuck Selection Flow Chart on page 7.

MAX. ROTATING SPEED

The maximum RPM value does not guarantee safety under all conditions. This value is significantly affected by the shape, weight, size of the top jaw and cutting force, clamping force, and maintenance condition. The clamping force performance diagrams in this catalog were drawn referring to measurement values with a top jaw fitted in the above-mentioned way.

MAX. INPUT FORCE

The maximum input force given in this catalog is the maximum cylinder force, when using a standard soft jaw or standard hard jaw, at which the chuck is not damaged as a result of such use. Although it is acceptable to apply the maximum input force when required, hardly any machines can remain in top condition in the long term if constantly used at maximum capacity. The most effective way to maintain favorable high precision clamping over a long period of time is to adjust to the sufficient clamping force required for holding the workpiece against the applied cutting force.

For internal clamping, the cylinder force should not exceed 1/2 of the maximum input force (except C-DID-CP-DID).

COOLANT TO BE USED

If you use a coolant with no rust preventing effect, rust produced within the chuck will increase friction and reduce the clamping force. As a result, the workpiece could fly off during cutting and fatally injure the operator or someone else nearby and damage the machine.

LUBRICATION

The most common cause of chuck malfunction is insufficient or incorrect lubrication. If there is not enough lubricant or the recommended type of lubricant is not used, not only will wear be accelerated but the clamping force will be insufficient, creating a risk of the workpiece coming loose during cutting. Lubricate thoroughly according to the following guidance.

Lubrication Point	Chucks Covered	Recommended Lubricant	Lubrication Interval
GREASE NIPPLE	TYPES OTHER THAN THOSE BELOW	Molykote EP grease (Dow Corning Corporation)	Lubricate once for every 8 hours of use. If constantly splashed with water-soluble coolant, lubricate once for every 4 hours of use.
	SL-SERIES, LS-SERIES	Mobilux EP2 (Exxon Mobil)	Lubricate once a month. If a lot of water-soluble coolant is used, shorten the lubrication interval according to the conditions of use.
OIL FILLER/ DRAINAGE HOLES ON CIRCUMFERENCE OF CHUCK BODY	DOD-S-SERIES, DP-SERIES, COLSJ-S-SERIES	Lubrication oil that meets ISO VG68	Replace lubrication oil every 6 months

HYDRAULIC AND PNEUMATIC CIRCUITS OF ROTATING CYLINDERS

Maintain the hydraulic or pneumatic circuit of a rotating cylinder so that clamping is sustained even if a power failure occurs. Also, keep the hydraulic or pneumatic pressure constant during clamping. There is a risk of the clamped workpiece flying out.

SHAPE OF STANDARD SOFT JAW

For the soft jaws attached to chuck or the standard soft jaws shown in the catalog to meet the attachment conditions of the jaws of the respective chucks shown in the catalog, the tips of those soft jaws need to be suitably removed. Do not use a top jaw that is heavier than the one supplied with the chuck. If using a top jaw that is higher than the standard soft jaw, decrease the cylinder force in reverse proportion to the top jaw height. Do not clamp near the end of the jaw stroke. Be sure to keep residual jaw stroke more than 1/4 of the total stroke.

ORDER ALL PARTS INCLUDING CONSUMABLES FROM LYNDEX-NIKKEN

Lyndex-Nikken will not accept responsibility for an accident that occurs as a result of using parts made by other companies. Furthermore, all warranties will only remain valid if genuine HOWA Machinery parts are used.

MODEL CODING DIAGRAM

MODEL CODING DIAGRAM

HW-	06	C-	2J-	LS			
	SIZE	THROUGH HOLE	JAWS	MAIN	SUB-FEATURE	DIRECT MOUNT	SERRATION
	04 in	C: Closed No Hole	Blank: 3 Jaw	HS: Howa Standard Wedge	CP: Coolant Port	A5	Blank: 1.5 mm
	05 in	Blank: Thru Hole	2J: 2 Jaw	KS: Kitagawa® Standard Wedge	S: Seal	A6	3S: 3 mm
	06 in	BB: Big Bore	2J3J: 2 or 3 Jaw	CMBL: Combination+Live Center		A8	
	08 in			COL: Compensating+Live Center		A11	
	10 in			COLSJ: Compensating+Live Center Swing Jaw			
	12 in			DID: Draw Down ID			
	15 in			DOD: Draw Down OD			
	18 in			DODHS: Draw Down OD High Speed			
	21 in			DP: Dual Pressure			
	24 in			LS: Long Stroke			
				QC: Quick Change			
				SC: Stationary Chuck			
				SCLW: Stationary Chuck Light Weight			
				SL: Swing Lock			
				XLS: Extra Long Stroke			

MODEL CODING EXAMPLES

MODEL #: HW-08C-HS-A6-3S (Pg. 8)

HW-	08	C-		HS-		A6	3S
	SIZE	THROUGH HOLE	JAWS	MAIN	SUB-FEATURE	DIRECT MOUNT	SERRATION
	08 in	C: Closed No Hole	Blank: 3 Jaw	HS: Howa Standard Wedge	-	A6	3S: 3 mm

MODEL #: HW-08-2J-DOD (Pg. 32)

HW-	08-		2J-	DOD			
	SIZE	THROUGH HOLE	JAWS	MAIN	SUB-FEATURE	DIRECT MOUNT	SERRATION
	08 in	Blank: Thru Hole	2J: 2 Jaw	DOD: Draw Down OD	-	-	Blank: 1.5 mm






















MODEL #: HW-10-DODHS-CP (Pg. 19)

HW-	10-			DODHS-	CP		
	SIZE	THROUGH HOLE	JAWS	MAIN	SUB-FEATURE	DIRECT MOUNT	SERRATION
	10 in	Blank: Thru Hole	Blank: 3 Jaw	DODHS: Draw Down OD High Speed	CP: Coolant Port	-	Blank: 1.5 mm



See specialty chucks on pg. 58-63 to help you beat the competition















TYPES OF HOWA POWER OPERATED CHUCK

TYPE		SERIES		MODEL	PAGE	
		LN#	HOWA#			
3-Jaw	WEDGE STYLE		HS-SERIES	H01MA	Wedge Style Closed Center Chuck	7
			HS-SERIES	H01MA	Wedge Style Closed Center Chuck	8
			KS-SERIES	H3KS	Wedge Style Closed Center Chuck	10
			LS-SERIES	H022M	Wedge Style Long Stroke Chuck	11
			HS-SERIES	H037M	Wedge Style Thru Hole Chuck	12
			KS-SERIES	H3KT	Wedge Style Thru Hole Chuck	13
			KS-SERIES	H3KB	Extra Large Thru Hole Chuck	14
	CRANK TYPE		XLS-SERIES	H032M	Crank Style Xtra Long Stroke Chuck	15
	QUICK CHANGE		QC-SERIES	H018M	Quick Change Thru Hole Chuck	16
	DRAW DOWN		DOD-SERIES	H011MC	Draw Down OD Chuck (OD Chucking Only)	17
			DOD-S-SERIES	H3DS	Sealed Draw Down OD Chuck (OD Chucking Only)	18
			DODHS-SERIES	H3EF	Draw Down OD Hi-Speed (OD Chucking Only)	19
			DID-SERIES	H3IF	Draw Down ID (ID Chucking Only)	20
			DID-SERIES	H013M	Draw Down ID (ID Chucking Only)	21
DUAL PRESSURE		DP-SERIES	H021MB	Dual Pressure Chuck	22	
		DP-SERIES	H3PS	Dual Pressure Sealed Chuck	23	
SWING LOCK		SL-SERIES	H063M	Swing Lock Sealed Chuck	24	
		SL-SERIES	H3US	Sealed Swing Lock Chuck	25	
COMPENSATING		COL-SERIES	H05M	Compensating Chuck	26	
		COLSJ-S-SERIES	H3YS	Swing Jaw Compensating Chuck	27	
		COLSJ-SERIES	H055M	Combination Chuck With Center	28	
		CMBL-SERIES	H056M	Combination Chuck	29	
WEDGE STYLE		LS-SERIES	H024M	Wedge Style Long Jaw Stroke Chuck	30	
2-Jaw	WEDGE STYLE		HS-SERIES	H034M	Wedge Style Thru Hole Chuck	31
	DRAW DOWN		DOD-SERIES	H014M	Draw Down Closed Hole Chuck (OD Chucking Only)	32
	SWING LOCK		SL-SERIES	H064M	Swing Lock Chuck	33
2&3-Jaw	2&3-JAW		2J3J-SERIES	H023M	Wedge Style 2&3- Jaw Thru Hole Chuck	34
3-JAW	STATIONARY		SCLW-SERIES	H012D	Light Weight Stationary Chuck	35
			C-SC-3S	H010D	Stationary Chuck	36
			C-2J-SC SC	H024D H037D		

TYPES OF HOWA STANDARD JAW, T-NUT, GRIPPER

TYPE	PAGE
Soft Jaw (Serration Type)	37
Soft Jaw (Tongue and Groove Type)	38
Soft Jaw (Type C-SL/C-2J-SL-DODHS-CP/C-DID-CP)	38
Extra High Standard Soft Jaw (S1 Type)	39
Hard Jaw	39
T-Nut	40
Gripper (Insert Jaw)	41

TYPES OF HOWA ROTATING CYLINDER

TYPE	SERIES	MODEL	PAGE		
HYDRAULIC	THRU HOLE	 C1TA	Thru Hole Rotating Hydraulic Cylinder with Safety Device	42	
		 HH31C	Thru Hole Rotating Hydraulic Cylinder	44	
	CLOSED CENTER	 HH4C	Rotating Hydraulic Cylinder	46	
		 HH4CB	Rotating Hydraulic Cylinder with Safety Device	47	
		 HH61C	Rotating Hydraulic Cylinder with Coolant Connection	48	
			 HH62C		Rotating Hydraulic Cylinder with Safety Device and Coolant Connection
		 C1FB	Rotating Hydraulic Cylinder with Safety Device	50	
		 C1SA	Short Type Rotating Hydraulic Cylinder with Safety Device	52	
			 C1SB		Short Type Rotating Hydraulic Cylinder with Safety Device and Coolant Connection
		 HH11C	Rotating Hydraulic Cylinder with Stroke Control	53	
		 HH56C	Rotating Hydraulic Cylinder	54	
		AIR	CLOSED CENTER	 H06C	Rotating Air Cylinder with Coolant Connection
	 H05CH			Rotating Air Cylinder	56
	 H05CHB			Rotating Air Cylinder with Safety Device	57
MODEL			PAGE		
Specialty chucks			58		

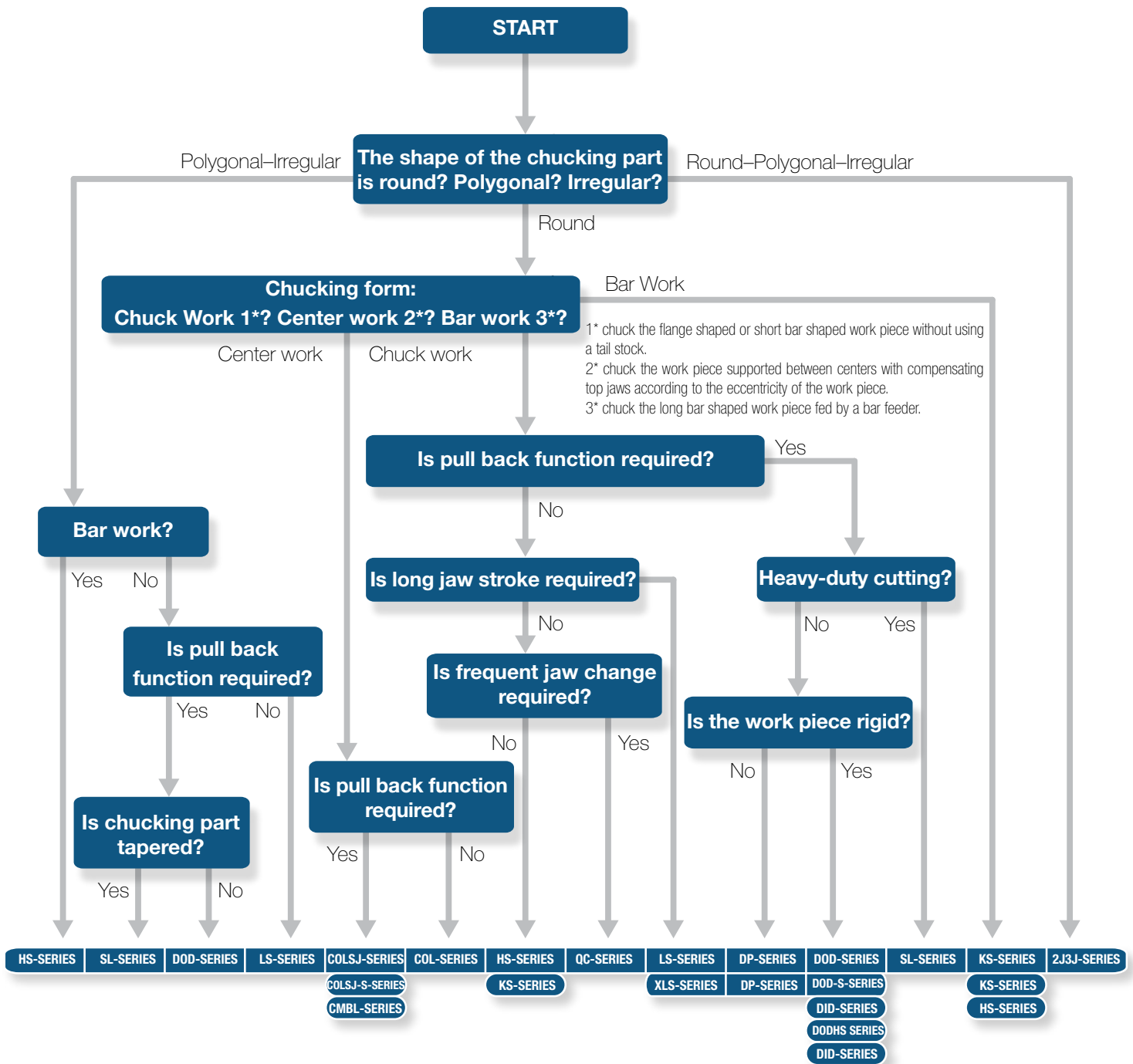


FLOWCHART FOR SELECTION OF HOWA POWER OPERATED CHUCKS

Please use this flowchart to help you select the HOWA chuck that best fits your needs.

To use your Howa power operated chuck efficiently and keep it in good working order for extended periods, selecting the correct chuck for your intended purpose is very important.

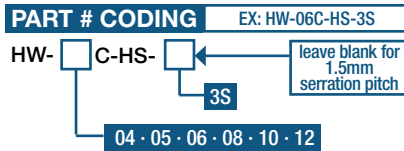
HOWA offers a wide range of power operated chucks. HOWA also designs and manufactures custom order chucks according to your specifications.



3-JAW WEDGE STYLE



HS-SERIES (H01MA) WEDGE STYLE TYPE 3-JAW CHUCK



TECHNICAL FEATURES

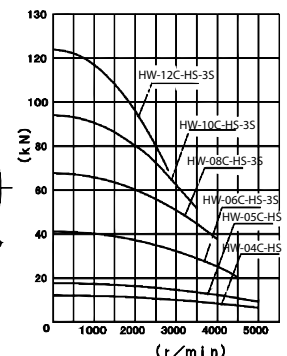
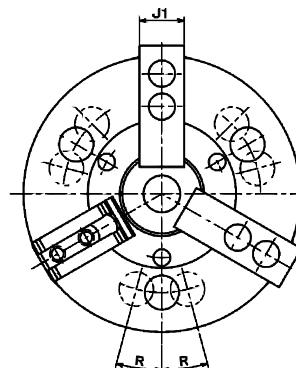
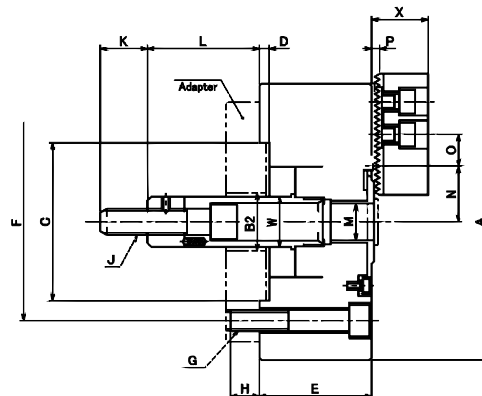
- Standard chuck with proven performance
- Long life and optimal price-performance ratio

SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	HS-SERIES					
		04	05	06	08	(10)	(12)
Serration pitch	mm	1.5	1.5	1.5	1.5	1.5	1.5
Jaw movement (Dia)	mm	5	5	7	7	8.8	8.8
Plunger stroke (Cylinder stroke)	mm	15	15	15	20	25	25
Recommended outside chucking diameter for soft jaws	Max. mm	110	135	165	210	254	304
	Min. mm	6	15	20	18	24	10
Max. speed	rpm	5000	5000	4500	4000	3500	2800
Max. input force	kN	4.4	6.4	14.7	24.5	30.4	39.2
Clamping force at Max. input force (Total jaw force)	kN	12.1	17.7	41.2	67.7	94.1	124
Moment of inertia J <i>Note1</i>	kg·m ²	0.005	0.015	0.04	0.11	0.26	0.66
Weight with standard Soft blank jaws	kg	4	6	12.5	23.3	33.5	57.2
MATCHING CYLINDER							
HH4C (pg.46)	Series number	80	80	*100	*125	125	*140
	Max. Pressure to Operate chuck	MPa	1	1.5	2.1	2.2	2.7
H05CH (pg.56)	Series number	100	150	175	*250	*300	*300
	Max. Pressure to Operate chuck	MPa	0.6	0.4	0.6	0.5	0.4

SYMBOL	SERIESNUMBER (CHUCK Ø)	HS-SERIES						
		04	05	06	08	(10)	(12)	
A		110	135	165	210	254	304	
B2	Min.	27	30	40	44	50	58	
C	H7	60	80	90	120	120	140	
D		6	7	7.5	7.5	7.5	7.5	
E		52	52	72	85	95	115	
F		80	100	130	150	150	170	
G		3-M8	3-M8	3-M16	3-M16	3-M16	3-M16	
H		16.5	16.5	20	22	22	22	
J		M10	M12	M16	M20	M20	M24	
J1		X1.5	X1.75	X2	X2.5	X2.5	X3	
K		25	25	31	34	40	50	
L		25	36	36	36	36	46	
M	Max.	5	9	89.5	105	114	127	
	Min.	-10	-6	74.5	85	89	102	
N		-	-	23	28	34	39	
O	Serr. Pitch 1.5	Max.	26	32	41.1	40.1	46.3	49.75
		Min.	23.5	29.5	37.6	36.6	41.9	45.35
	Serr. Pitch 3	Max.	-	-	41.8	42.3	48.5	52
		Min.	-	-	38.3	38.8	44.1	47.6
P	Serr. Pitch 1.5	Max.	9	10.5	14	29	39.75	54
		Min.	6	6	7	14	15.75	18
	Serr. Pitch 3	Max.	-	-	13	27	37.5	55
		Min.	-	-	7	12	13.5	16
R		3	3	5	5	5	5	
W		25	28	32	38	44	52	
X	Serr. Pitch 1.5	27	27	44	44	44	54	
	Serr. Pitch 3	-	-	43	43	43	53	

Note: Models in parenthesis are made to order.

- Note:**
1. Four times this value is equivalent to GD².
 2. If the plunger stroke of a chuck is shorter than that of a cylinder, the latter must be adjusted to the former. The cylinders of models marked * require limiting of stroke (see stroke control pg. 64).
 3. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
 4. For additional or replacement parts, please refer to pg. 64-66.



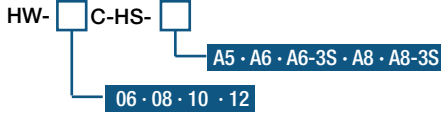
TOP SECRET

See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks

HS-SERIES (H01MA)
WEDGE STYLE CLOSED CENTER CHUCK

PART # CODING EX: HW-08C-HS-A6-3S

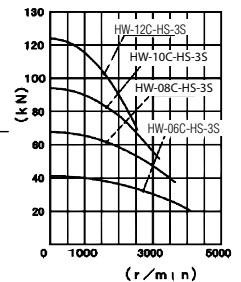
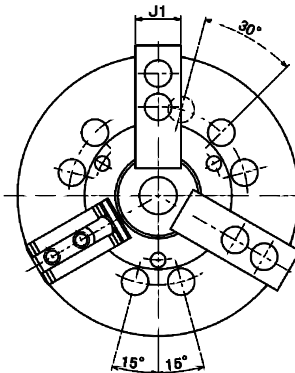
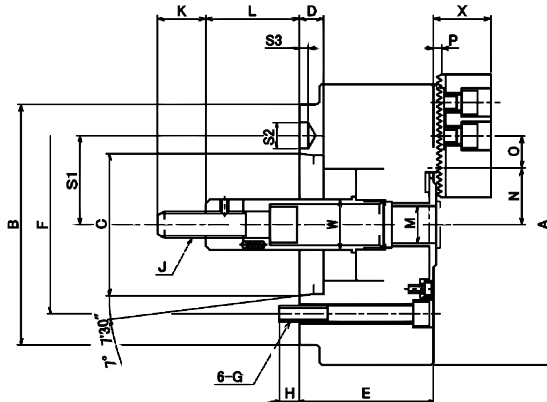


SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	HS-SERIES				
		06	(08)	(10)		(12)
		--	08(-3S)	10(-3S)		12(-3S)
		A5	A6	A6	A8	A8
Serration pitch	mm	1.5	1.5	1.5		1.5
		--	3	3		3
JIS A Spindle No.		5	6	6	8	8
Jaw movement (Dia)	mm	7	7	8.8		8.8
Plunger stroke (Cylinder stroke)	mm	15	20	25		25
Recommended outside chucking diameter for soft jaws	Max. mm	165	210	254		304
	Min. mm	20	18	24		10
Max. speed	rpm	4500	4000	3500		2800
Max. input force	kN	14.7	24.5	30.4		39.2
Clamping force at Max. input force (Total jaw force)	kN	41.2	67.7	94.1		124
Moment of inertia J <i>Note1</i>	kg·m ²	0.045	0.14	0.26	0.33	0.68
Weight with soft jaws	kg	13	25	34.5	41	59

MATCHING CYLINDER						
HH4C (pg.46)	Series number		*100	*125	125	*140
	Max. pressure to operate chuck	MPa	2.1	2.2	2.7	2.8
H05CH (pg.56)	Series number		175	*250	250	*300
	Max. pressure to operate chuck	MPa	0.6	0.5	0.6	0.6

Note:

- Four times this value is equivalent to GD².
- If the plunger stroke of a chuck is shorter than that of a cylinder, the latter must be adjusted to the former. The cylinders of models marked * require limiting of stroke (see stroke control pg. 69).
- When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
- For additional or replacement parts, please refer to pg. 64-66.



TECHNICAL FEATURES

- Can be directly mounted to a lathe with type-A spindle without use of an adapter- minimizing chuck overhang, improving cutting performance, and extending machine life

SYMBOL	SERIES NUMBER (CHUCK Ø)	HS-SERIES					
		06	(08)	(10)		(12)	
		--	08(-3S)	10(-3S)		12(-3S)	
		A5	A6	A6	A8	A8	
JIS A Spindle No.		5	6	6	8	8	
A		165	210	254		304	
B		140	180	180	225	210	
C		82.563	106.375	106.375	139.719	139.719	
D		16	18	18	20	20	
E		80	100	110		125	
F		104.8	133.4	133.4	171.4	171.4	
G		M10	M12	M12	M16	M16	
H		13	15	18	22	22	
J		M16x2	M20x2.5	M20x2.5		M24x3	
J1		31	34	40		50	
K		36	36	36		46	
L	Max.	11.5	90	99		117	
	Min.	-3.5	70	74		92	
M		-	28	34		39	
M	Max.	-	28	36		40	
N	Serr. Pitch 1.5	Max.	41.1	40.1	46.3		49.75
		Min.	37.6	36.6	41.9		45.35
	Serr. Pitch 3	Max.	-	42.3	48.5		52
		Min.	-	38.8	44.1		47.6
O	Serr. Pitch 1.5	Max.	14	29	39.75		54
		Min.	7	14	15.75		18
	Serr. Pitch 3	Max.	-	27	37.5		55
		Min.	-	12	13.5		16
P		5	5	5		5	
S1		52.4	66.7	66.7	85.7	85.7	
S2		16.3	19.45	19.45	24.2	24.2	
S3		6.5	6.5	6.5	8	8	
W		32	38	44		52	
X	Serr. Pitch 1.5	44	44	44		54	
	Serr. Pitch 3	-	43	43		53	

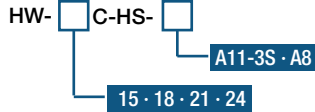
Note: Models in parenthesis are made to order.

3-JAW WEDGE STYLE



HS-SERIES (H01MA) WEDGE STYLE CLOSED CENTER CHUCK

PART # CODING EX: HW-15C-HS-A11-3S

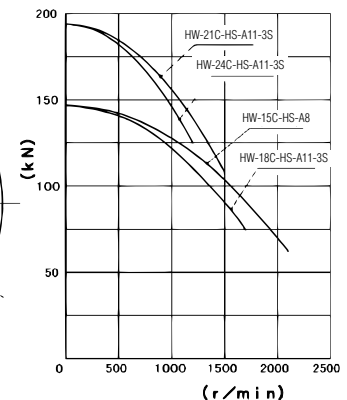
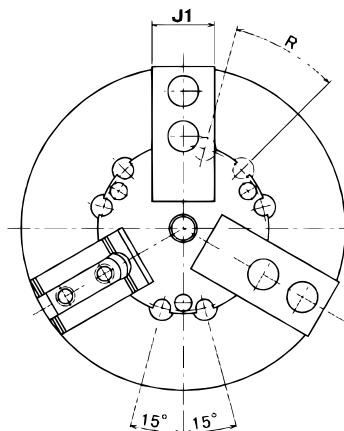
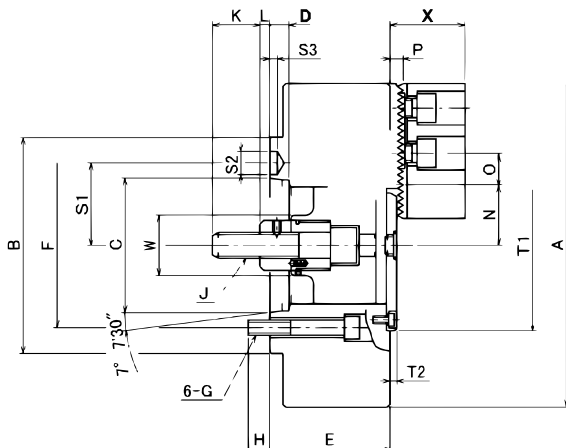


SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	HS-SERIES					
		15		18		21	24
		A8	(A11-3S)	(A11-3S)	(A11-3S)	(A11-3S)	
JIS A Spindle No.		8	11	11	11	11	
Serration pitch	mm	3	3	3	3	3	
Jaw movement (Dia)	mm	18.6	18.6	18.6	18.6	18.6	
Plunger stroke (Cylinder stroke)	mm	35	35	35	35	35	
Recommended chucking diameter for soft jaws	Max.	mm	381	457	530	610	
	Min.	mm	60	60	110	110	
Max. speed	rpm	2100	1700	1500	1200		
Max. input force	kN	73.5	73.5	98.1	98.1		
Clamping force at Max. input force (Total jaw force)	kN	147	147	194	194		
Moment of inertia J <i>Note1</i>	kg·m ²	1.78	3.45	6.85	11.63		
Weight with soft jaws	kg	98	132	195	250		
MATCHING CYLINDER							
HH4C (pg.46)	Series number		200	200	200	200	
	Max. pressure to operate chuck	MPa	2.5	2.5	3.3	3.3	

SYMBOL	SERIES NUMBER (CHUCK Ø)	HS-SERIES					
		15		18		21	24
		A8	(A11-3S)	(A11-3S)	(A11-3S)	(A11-3S)	
JIS A Spindle No.		8	11	11	11	11	
A		381		457	530	610	
B		225	280	280	280	280	
C		139.719	196.869	196.869	196.869	196.869	
D		20		20	20	20	
E		125		125	140	140	
F		171.4	235	235	235	235	
G		M16	M20	M20	M20	M20	
H		22.5	26	26	31	31	
J		M27×3		M27×3	M30×3.5	M30×3.5	
J1		65	65	65	65	65	
K		50	50	55	55	55	
L	Max.	35	35	35	35	35	
	Min.	0	0	0	0	0	
N	Max.	74.5	74.5	101.5	101.5	101.5	
	Min.	65.2	65.2	92.2	92.2	92.2	
O	Max.	54.5	90.5	100.5	136.5	136.5	
	Min.	18	18	18	18	18	
P		10	10	10	10	10	
R		30°		30°	30°	30°	
S1		85.7	117.5	117.5	117.5	117.5	
S2		24.2	29.4	29.4	29.4	29.4	
S3		8	10	10	10	10	
T1		175		175	220	220	
T2		7	7	7	7	7	
W		63	63	75	75	75	
X		78	78	78	78	78	

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.



See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks





KS-SERIES (H3KS)
WEDGE STYLE CLOSED CENTER CHUCK

PART # CODING EX: HW-06C-KS

HW- C-KS
06 · 08 · 10 · 12 · 15

TECHNICAL FEATURES

- New value-added, durable standard chuck
- Larger clamping force and greater maximum rotating speed than the HS SERIES

Comparable to the Kitagawa® N-Series

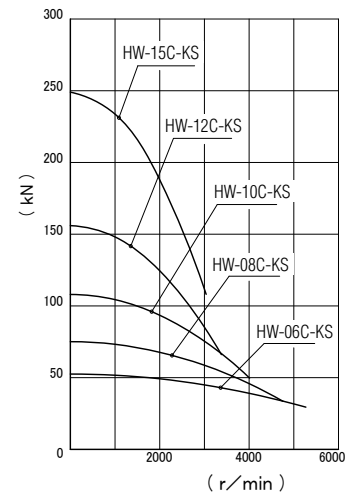
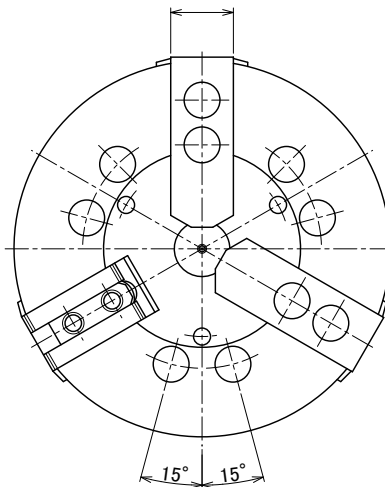
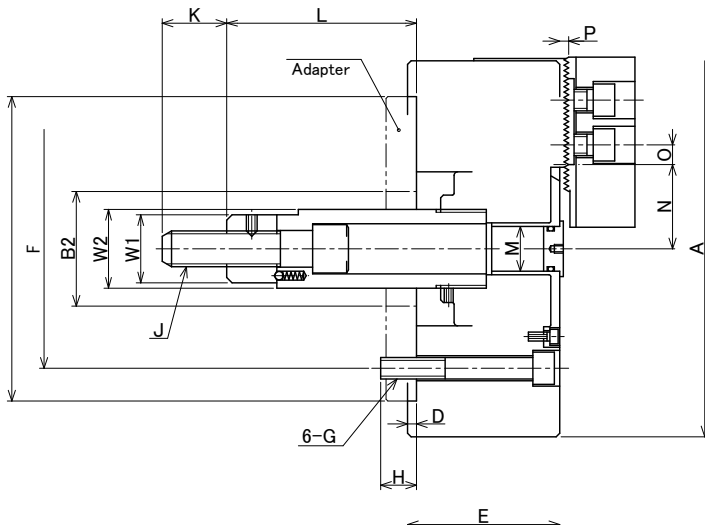
SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	KS-SERIES				
		06	08	10	12	(15)
Serration pitch	mm	1.5	1.5	1.5	1.5	1.5
Jaw movement (Dia)	mm	8.5	8.8	8.8	10.5	16
Plunger stroke (Cylinder stroke)	mm	20	21	25	30	35
Recommended outside chucking diameter for soft jaws	Max. mm	165	210	254	304	381
	Min. mm	19	23	24	26	72
Max. speed	rpm	5270	4760	4010	3380	3040
Max. input force	kN	18	25	29	41	82
Clamping force at Max. input force (Total jaw force)	kN	52.5	75	108	156	249
Moment of inertia J <i>Note1</i>	kg·m ²	0.043	0.13	0.29	0.74	1.89
Weight with standard soft blank jaws	kg	12	24	36	62	100
MATCHING CYLINDER						
HH4C (pg.46)	Series number	100	*125	125	*140	200
	Max. pressure to operate chuck MPa	2.6	2.2	2.6	2.9	2.8
H05CH (pg.56)	Series number	200	*250	250	*300	~
	Max. pressure to operate chuck MPa	0.6	0.5	0.6	0.6	~

Note:

1. Four times this value is equivalent to GD².
2. If the plunger stroke of a chuck is shorter than that of a cylinder, the latter must be adjusted to the former. The cylinders of models marked * require limiting of stroke (see stroke control pg. 69).
3. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
4. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL	SERIES NUMBER (CHUCK Ø)	KS-SERIES				
		06	08	10	12	(15)
A		165	210	254	304	381
B2	Min.	58	64	71	80	100
C	H7	140	170	220	220	300
D		5	5	5	6	6
E		74	85	89	106	114
F		104.8	133.4	171.4	171.4	235
G		M10	M12	M16	M16	M20
H		14	20	18	18	30
J		M16 X 2	M20 X 2.5	M20 X 2.5	M20 X 2.5	M30 X 3.5
J1		31	35	40	50	50
K		36	36	36	36	55
L	Max.	101.5	127	158	163	104
	Min.	81.5	106	133	133	69
M		21	25	34	34	-
	Max.	38.55	47.05	51.85	61.75	78.25
N	Min.	34.3	42.65	47.45	56.5	70.25
	Max.	13	21.5	30	48	48
O	Min.	7	11	10.5	12	22.5
		4	5	5	5	2
W1		32	38	38	38	52
W2		34	38	45	50	60
X		35	42	46	54	61

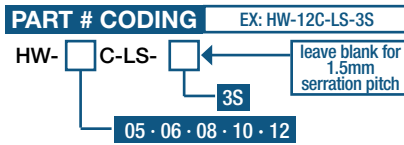
Note: Models in parenthesis are made to order.



3-JAW WEDGE STYLE



LS-SERIES (H022M) WEDGE STYLE LONG STROKE CHUCK



TECHNICAL FEATURES

- 2x the jaw stroke of the HS-SERIES
- Capable of clamping over workpieces with uneven surfaces and workpieces with a large range of diameters

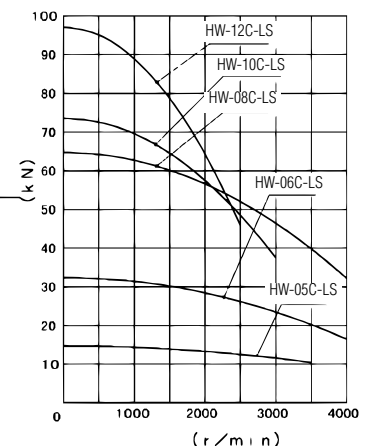
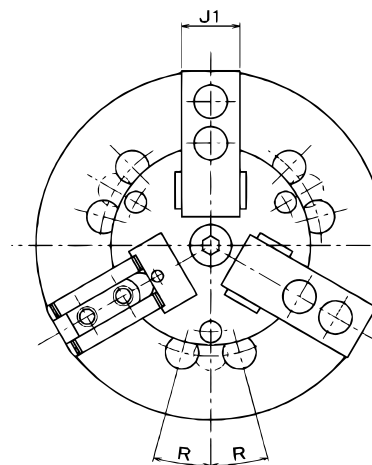
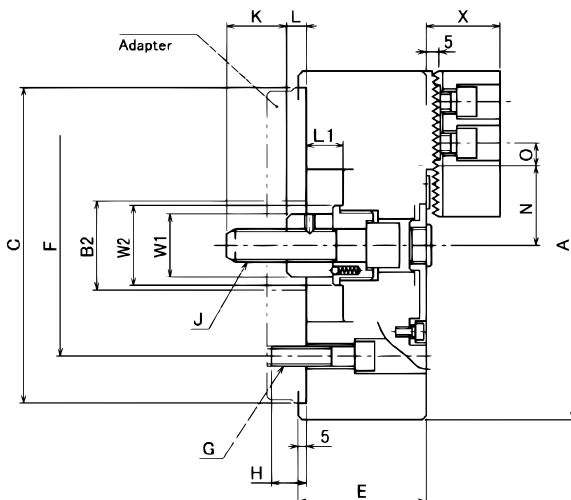
SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	LS-SERIES				
		05	06	08	10	12(3S)
Serration pitch	mm	1.5	1.5	1.5	1.5	---
		---	---	---	---	3
Jaw movement (Dia)	mm	9.4	13	16	18	20
Plunger stroke (Cylinder stroke)	mm	13	18	22	25	28
Recommended outside chucking diameter for soft jaws	Max. mm	130	165	210	254	304
	Min. mm	8	20	22	25	28
Max. speed	rpm	3500	4000	4000	3000	2500
Max. input force	kN	8.8	14.7	29.4	34.3	44.1
Clamping force at Max. input force (Total jaw force)	kN	14.7	32.4	64.7	73.5	97.1
Moment of inertia J Note 1	kg·m ²	0.01	0.035	0.12	0.27	0.64
Weight with standard soft blank jaws	kg	4.6	11	21	33	55

SYMBOL	SERIES NUMBER (CHUCK Ø)	LS-SERIES				
		05	06	08	10	12(3S)
A		130	165	210	254	304
B2	Min.	30	42	52	70	85
C	H7	115	140	190	230	280
E		50	63	77	85	97
F		82.6	104.8	133.4	133.4	171.4
G		3-M10	6-M10	6-M12	6-M12	6-M16
H		16	17	21	23	25
J		M12 ×1.75	M16 ×2	M20 ×2.5	M24 ×3	M27 ×3
J1		25	30	35	40	50
K		36	36	36	46	50
L	Max.	14	29	34	44	50
	Min.	1	11	12	19	22
L1	Max.	13	18	22	25	28
	Min.	0	0	0	0	0
N	Max.	32.8	38.8	42.8	48.8	57.5
	Min.	28.1	32.3	34.8	39.8	47.5
O	Max.	13.5	18	30	40.5	45
	Min.	4.5	7.5	13.5	15	15
R		---	15°	15°	15°	15°
W1		28	32	38	50	52
W2		---	38	48	58	65
X		29	34	44	54	63

MATCHING CYLINDER						
HH4C (pg.46)	Series number	80	100	125	140	160
	Max. pressure to operate chuck MPa	2.1	2.1	2.6	2.4	2.3
H05CH (pg.56)	Series number	175	200	250	300	300
	Max. pressure to operate chuck MPa	0.4	0.5	0.6	0.5	0.6

Note:

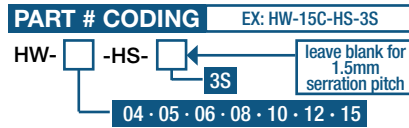
1. Four times this value is equivalent to GD2
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.



See specialty chucks on pg. 58-63 to help you beat the competition



**HS-SERIES (H037M)
WEDGE STYLE THRU HOLE CHUCK**



TECHNICAL FEATURES

- Supports large clamping forces and high speeds
- Large thru hole
- Suitable for clamping part of a workpiece inserted into the thru hole, checking the seating, or modifying spindle coolant specifications
- Capable of bar-feeding

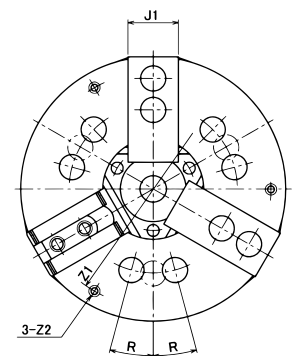
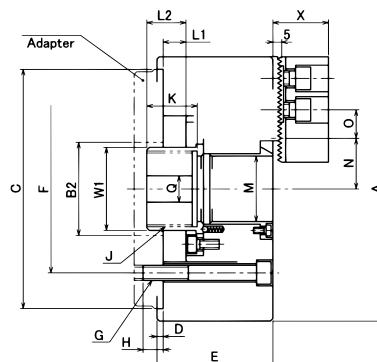
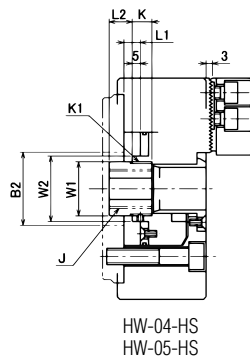
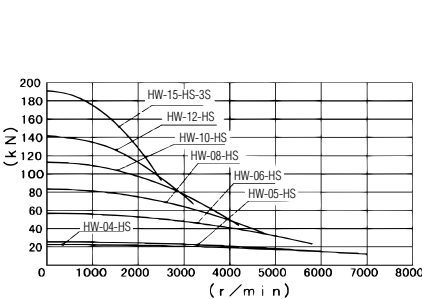
SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	HS-SERIES						
		04	05	06	08	10	12	(15)
Serration pitch	mm	1.5	1.5	1.5	1.5	1.5	1.5	---
Jaw movement (Dia)	mm	5.4	5.4	6.3	7.6	9.3	10.6	11.9
Plunger stroke (Cylinder stroke)	mm	10	10	15	18	22	25	28
Recommended outside chucking diameter for standard soft blank jaws	Max. mm	110	135	165	210	254	304	381
	Min. mm	5	10	18	12	16	38	60
Max. speed	rpm	7000	6000	5800	4800	4200	3200	2500
Max. input force	kN	11.8	13.7	19.6	29.4	39.2	49	68.6
Clamping force at Max. input force (Total jaw force)	kN	22.6	25.5	56.9	83.4	113	142	191
Moment of inertia J <i>Note1</i>	kg·m ²	0.006	0.014	0.048	0.16	0.34	0.75	2.3
Weight with standard soft blank jaws	kg	3.7	6.3	13.3	22	39	62	116
MATCHING CYLINDER								
HH31C (pg.44)	Series number	4	5	---	---	---	---	---
	Max. pressure to operate chuck MPa	3.5	3.5	---	---	---	---	---
C1TA (pg.42)	Series number	---	---	115	140	165	190	215
	Max. pressure to operate chuck MPa	---	---	2.8	2.6	2.8	2.6	3.3
HH4C (pg.46)	Series number	80	80	100	125	140	160	180
	Max. pressure to operate chuck MPa	2.8	3.2	2.8	2.6	2.8	2.6	2.9
H05CH (pg.56)	Series number	200	200	200	250	300	300	---
	Max. pressure to operate chuck MPa	0.4	0.5	0.7	0.6	0.6	0.7	---

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL	SERIES NUMBER (CHUCK Ø)	HS-SERIES						
		4	5	6	8	10	12	(15)
A		110	135	168	210	254	304	381
B2	Min.	36	41	61	68	92	110	140
C	H7	100	115	140	190	230	280	350
D		4	4	5	5	5	5	7
E		54	54	82	92	105	115	137
F		82.6	82.6	104.8	133.4	171.4	200	250
G		3-M10	3-M10	6-M10	6-M12	6-M16	6-M20	6-M20
H		10.5	10.5	14	16	22	26	26
J	Max.	M18 ×1.5	M24 ×1.5	M55 ×2	M60 ×2	M85 ×2	M100 ×2	M130 ×2
J1		25	25	35	40	45	50	60
K		12	12	30	32	37	42	48
K1		M28 ×1.5	M33 ×1.5	---	---	---	---	---
L1	Max.	10	10	15	18	22	25	28
	Min.	0	0	0	0	0	0	0
L2		14	14	20	23	27	30	35
M		21	26	45	52	75	91	118
N	Max.	20	22.5	36.25	38.8	53.3	63.8	81.5
	Min.	17.3	19.8	33.1	35	48.65	58.5	75.55
O	Max.	13.5	22.5	18	31.5	33	40.5	51
	Min.	6	6	6	9	12	10.5	12
Q		13	13	17	21	21	28	30
R		---	---	15°	15°	15°	15°	15°
W1		28	33	59	66	90	108	139
W2		35	40	---	---	---	---	---
X		27	27	39	44	49	64	69
Z1		95	120	---	---	---	---	---
Z2	Size	M6	M6	---	---	---	---	---
	Depth	-10	-10	---	---	---	---	---

Note: Models in parenthesis are made to order.



3-JAW WEDGE STYLE



KS-SERIES (H3KT) WEDGE STYLE THRU HOLE CHUCK

PART # CODING EX: HW-06-KS

HW- -KS
 06 · 08 · 10 · 12

TECHNICAL FEATURES

- Supports large clamping forces and high speeds
- Large thru hole
- Suitable for clamping part of a workpiece inserted into the thru hole, checking the seating, or modifying spindle coolant specifications
- Capable of bar-feeding

Comparable to Kitagawa® B200-Series

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	KS-SERIES			
			06	08	10	12
Serration pitch	mm		1.5	1.5	1.5	1.5
Jaw movement (Dia)	mm		5.5	7.4	8.8	10.6
Plunger stroke (Cylinder stroke)	mm		12	16	19	23
Recommended outside chucking diameter for soft jaws	Max.	mm	169	210	254	304
	Min.	mm	15	13	31	34
Max. speed	rpm.		6000	5000	4200	3300
Max. input force	kN		22	34.8	43	55
Clamping force at Max. input force (Total jaw force)	kN		57	86	111	144
Moment of inertia J <i>Note1</i>	kg·m ²		0.058	0.17	0.32	0.74
Weight with soft jaws	kg		12.1	23.5	34.3	55.9
MATCHING CYLINDER						
C1TA (pg.42)	Series number		115	140	165	190
	Max. pressure to operate chuck	MPa	3.1	3	3	2.9

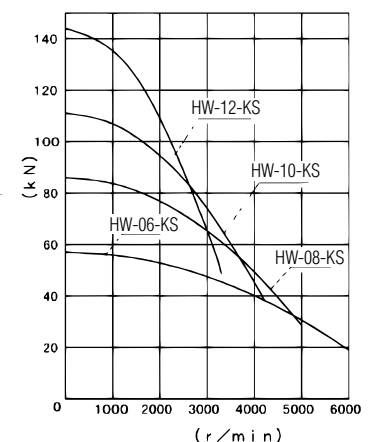
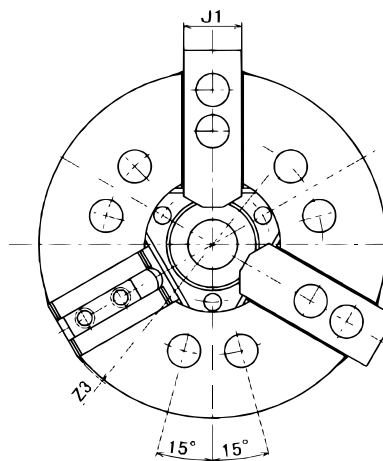
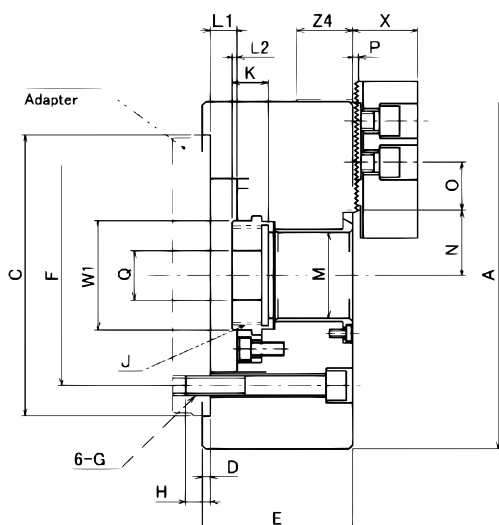
SYMBOL		SERIES NUMBER (CHUCK Ø)	KS-SERIES			
			06	08	10	12
A			169	210	254	304
C	H7		140	170	220	220
D			5	5	5	6
E			81	91	100	110
F			104.8	133.4	171.4	171.4
G			M10	M12	M16	M16
H			15	15	22	23
J	Max.		M55×2	M60×2	M85×2	M100×2
J1			26	35	40	50
K			19	20.5	25	28
L1	Max.		12	16	19	23
	Min.		0	0	0	0
L2			1	1.5	10.5	15
M			45	52	75	91
N	Max.		32.75	39.45	51.75	62.05
	Min.		29.98	35.76	47.36	56.75
O	Max.		22	29	33	45
	Min.		8.5	14	13.5	15
P			2	2	2	2
Q			20	30	45	50
W1			60	66	94	108
X			29	39	43	51
Z3	Max.		171.7	212.5	257.3	307.2
Z4			32	36	38	42

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.

Note:

HW-06-KS-A5, HW-08-KS-A6, HW-10-KS-A6, HW-10-KS-A8, HW-12-KS-A6, HW-12-KS-A8 models are also available.



See specialty chucks on pg. 58-63 to help you beat the competition



KS-SERIES (H3KB)
EXTRA LARGE THRU HOLE CHUCK

PART # CODING EX: HW-06BB-KS
HW- BB-KS
 06 · 08 · 10 · 12

TECHNICAL FEATURES

- Supports large clamping forces and high speeds
- Larger thru hole than the KS-SERIES
- Thru hole diameters are 6 inches: 52mm, 8 inches: 66mm, 10 inches: 78mm, 12 inches: 103mm
- Capable of bar-feeding

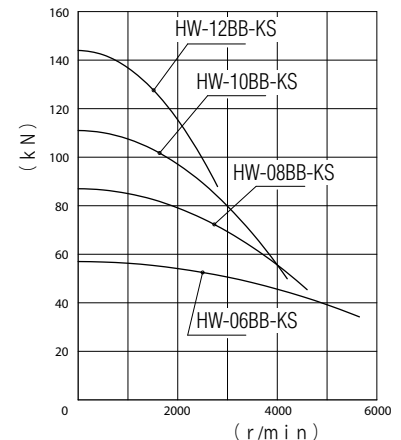
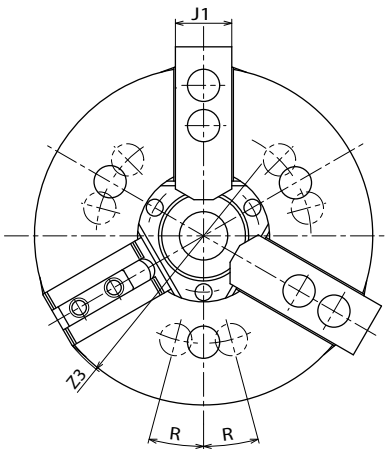
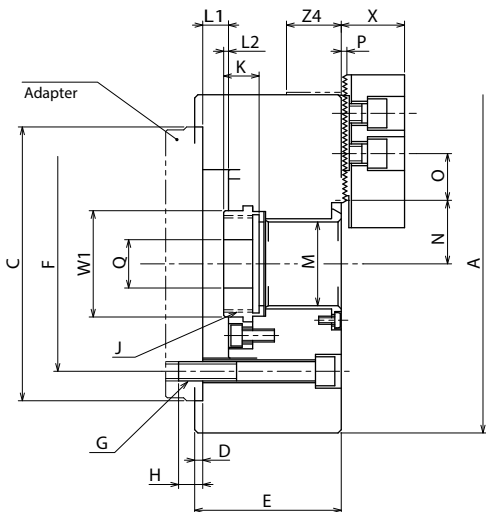
Comparable to Kitagawa® BB200-Series

SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	KS-SERIES				
		06	08	10	12	
Serration pitch	mm	1.5	1.5	1.5	1.5	
Jaw movement (Dia)	mm	5.5	7.4	8.8	10.6	
Plunger stroke (Cylinder stroke)	mm	12	16	19	23	
Recommended outside chucking diameter for soft jaws	Max.	mm	170	210	254	315
	Min.	mm	19	23	34	47
Max. speed	rpm	5650	4600	4200	2800	
Max. input force	kN	19	30	43	55	
Clamping force at Max. input force (Total jaw force)	kN	57	87	111	144	
Moment of inertia J <i>Note 1</i>	kg·m ²	0.050	0.14	0.32	0.82	
Weight with soft jaws	kg	12	22	36	59	
MATCHING CYLINDER						
C1TA (pg.42)	Series number	140	165	190	(215)	
	Max. pressure to operate chuck	MPa	1.6	2.4	2.2	2.6

SYMBOL	SERIES NUMBER (CHUCK Ø)	KS-SERIES			
		06	08	10	12
A		170	210	254	315
C	H7	140	170	220	300
D		5	5	5	6
E		81	91	100	110
F		104.8	133.4	171.4	235
G		3-M10	3-M12	6-M16	6-M20
H		15	17	22	30
J	Max.	M60x2	M74x2	M88x2	M112x2
J1		26	35	40	50
K		17.5	20	25	28
L1	Max.	12	16	19	23
	Min.	0	0	0	0
L2		1	1.5	10.5	15
M		52	66	78	103
N	Max.	36.25	46.45	53.25	68.05
	Min.	33.5	42.75	48.85	62.75
O	Max.	20.5	23	33	45
	Min.	10	11	13.5	15
P		2	2	2	2
Q		20	30	45	50
R		~	~	15°	15°
W1		66	80	95	120
X		29	39	43	51
Z3	Max.	173	214.5	256.3	319.1
Z4		28.2	34	37	42

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.



3-JAW CRANK TYPE



XLS-SERIES (H032M) CRANK STYLE XTRA LONG STROKE CHUCK

PART # CODING EX: HW-06-XLS

HW- -XLS
06 · 08 · 10 · 12

TECHNICAL FEATURES

- Ultra-long jaw stroke
- Can clamp over workpieces with extremely uneven surfaces that even the LS-SERIES chuck cannot

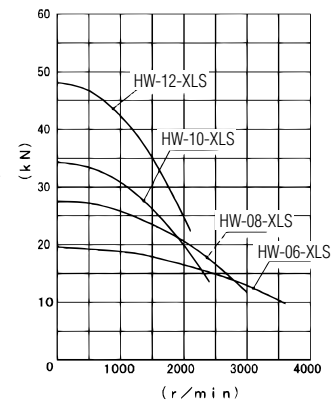
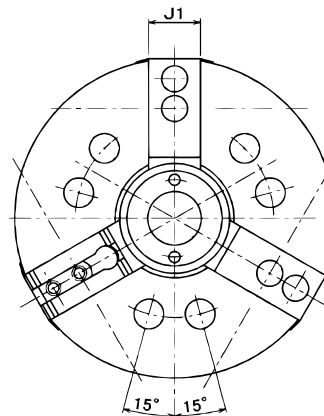
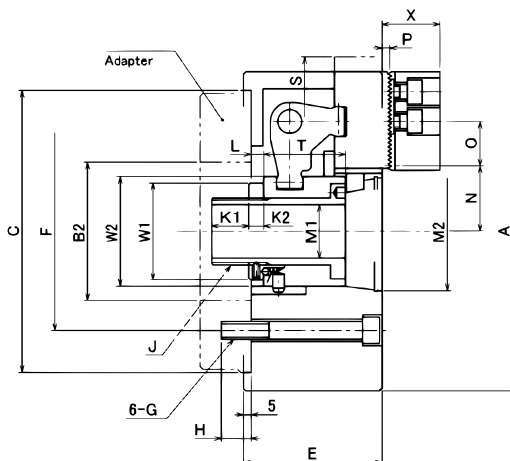
SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	XLS-SERIES			
			06	08	(10)	12
Serration pitch	mm		1.5	1.5	1.5	1.5
Jaw movement (Dia)	mm		32	40	42	50
Plunger stroke (Cylinder stroke)	mm		20	25	28	35
Recommended outside chucking diameter for soft jaws	Max.	mm	165	215	245	304
	Min.	mm	10	28	42	20
Max. speed	rpm		3600	3000	2400	2100
Max. input force	kN		22.6	31.4	37.3	49
Clamping force at Max. input force (Total jaw force)	kN		19.6	27.5	34.3	48.1
Moment of inertia J <i>Note1</i>	kg·m ²		0.038	0.13	0.28	0.73
Weight with soft jaws	kg		11	23	34	62
MATCHING CYLINDER						
C1TA (pg.42)	Series number		140	165	190	*190
	Max. pressure to operate chuck	MPa	2	2.2	2	2.6
HH4C (pg.46)	Series number		100	125	**140	160
	Max. pressure to operate chuck	MPa	3.2	2.8	2.6	2.6

Note:

1. Four times this value is equivalent to GD².
2. * When the chuck is coupled with C1TA190 the jaw stroke is limited to 43mm caused by insufficient cylinder stroke. If the plunger stroke of a chuck is shorter than that of a cylinder, the latter must be adjusted to the former. The cylinders of model marked ** are required limiting of stroke.
3. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
4. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL		SERIES NUMBER (CHUCK Ø)	XLS-SERIES			
			06	08	(10)	12
A			165	215	254	304
B2	Min.		56	76	98	104
C	H7		140	190	230	230
E			80	93	111	130
F			104.8	133.4	133.4	171.4
G			M10	M12	M12	M16
H			16	20	17	22
J			M30×2	M45×2	M65×2	M72×2
J1			28	35	40	45
K1			20	25	25	30
K2			10	10	12	14
L	Max.		18	21	26	31.5
	Min.		-2	-4	-2	-3.5
M1			21	36	55	62
M2	H9		60	80	105	110
N	Max.		39.8	53.8	67.3	73.3
	Min.		23.8	33.8	46.3	48.3
O	Max.		30	35	37.5	52
	Min.		9	10	13.5	14
P			3	5	5	5
S	Max.		185	238	280	334
T			43	55	62	77
W1			45	65	82	92
W2			54	74	96	102
X			32	39	44	49

Note: Models in parenthesis are made to order.



TOP SECRET

See specialty chucks on pg. 58-63
to help you beat the competition

HOWA Power Chucks

Howa



**QC-SERIES (H018M)
QUICK CHANGE THRU HOLE CHUCK**

PART # CODING EX: HW-06-QC

HW- -QC

08 · 10 · 12 · 15

TECHNICAL FEATURES

- Jaws can be easily replaced or moved by simply inserting and half-turning a special wrench
- Ideal for clamping a wide variety of workpieces

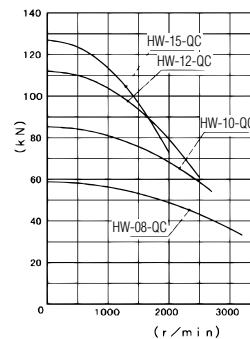
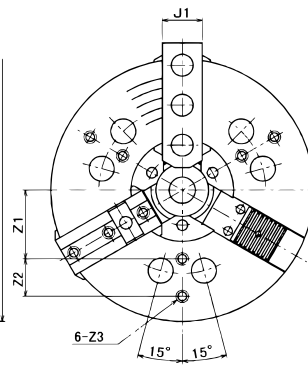
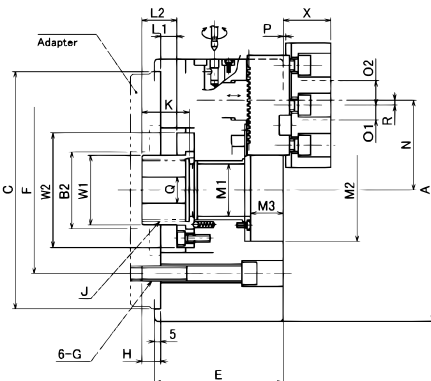
SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	QC-SERIES			
		08	10	12	(15)	
Jaw movement (Dia)	mm	10.7	13.4	13.4	16.08	
Plunger stroke (Cylinder stroke)	mm	20	25	25	30	
Recommended outside chucking diameter for soft jaws	Max.	mm	210	254	304	360
	Min.	mm	20	20	30	40
Max. speed	rpm.	3200	2700	2500	2000	
Max. input force	kN	29.4	44.1	53.9	63.7	
Clamping force at Max. input force (Total jaw force)	kN	58.8	85.3	112	127	
Moment of inertia J <i>Note 1</i>	kg·m ²	0.16	0.37	0.81	2.12	
Weight with soft jaws	kg	28	46	70	117	
MATCHING CYLINDER						
C1TA (pg.42)	Series number		140	165	*190	190
	Max. pressure to operate chuck	MPa	2.6	3.1	2.9	3.4
HH4C (pg.46)	Series number		*125	*140	*160	*180
	Max. pressure to operate chuck	MPa	2.6	3.1	2.9	2.7
H05CH (pg.56)	Series number		*300	*300	---	---
	Max. pressure to operate chuck	MPa	0.4	0.6	---	---

Note:

1. Four times this value is equivalent to GD².
2. If the plunger stroke of a chuck is shorter than that of a cylinder, the latter must be adjusted to the former. The cylinders of models marked * require limiting of stroke (see stroke control pg. 69).
3. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
4. Never use the chuck with a vertical lathe.
5. For additional or replacement parts, please refer to pg. 64-66.

Note: Models in parenthesis are made to order.

SYMBOL		SERIES NUMBER (CHUCK Ø)	QC-SERIES			
		08	10	12	(15)	
A		210	254	304	381	
B2	Min.	58	69	92	135	
C	H7	190	230	280	300	
E		103	115	125	140	
F		133.4	133.4	171.4	235	
G		M12	M12	M16	M20	
H		15	15	22	27	
J	Max.	M50×1.5	M60×2	M82×2	M125×2	
J1		32	35	40	40	
K		28	32	32	38	
L1	Max.	13	15	13	18	
	Min.	-7	-10	-12	-12	
L2		18	20	18	23	
M1		42	52	72	112	
M2		82	92	112	162	
M3		26	28	34	34	
N	Max.	72	85	108	137	
	Min.	66.64	78.3	101.3	128.96	
O1		11.78	14.14	23.56	28.27	
O2		19.64	23.56	32.98	37.7	
P		2	2	2	2	
Q		21	21	28	40	
R		3.927	4.712	4.712	4.712	
W1		56	67	90	133	
W2		92	108	142	195	
X		38	45	52	52	
Z1		55	55	70	95	
Z2		30	35	40	60	
Z3	Size	M10	M10	M12	M12	
	Depth	-15	-15	-18	-18	



3-JAW DRAW DOWN



DOD-SERIES (H011MC) DRAW DOWN OD CHUCK (OD CHUCKING ONLY)

PART # CODING EX: HW-04-DOD

HW- C-DOD
04 · 05 · 06 · 08 · 10 · 12

TECHNICAL FEATURES

- Allows the use of an adapter or top tooling
- Pulls the workpiece toward the end face to prevent it from lifting
- Carburized chuck body and sliding surfaces enhance durability and wear resistance

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	DOD-SERIES					
			04	05	06	08	10	12
Jaw movement (Dia)	mm		5	5	7.2	7.2	10.8	10.8
Plunger stroke (Cylinder stroke)	mm		7	7	10	10	15	15
Recommended outside chucking diameter for soft jaws	Max. mm		110	130	165	210	254	304
	Min. mm		18	25	35	40	50	50
Max. speed	rpm		3500	3500	3500	3000	2500	2000
Max. input force	kN		6	10	15	25	35	45
Clamping force at Max. input force (Total jaw force)	kN		10.5	17	25	45	60	75
Moment of inertia J <i>Note1</i>	kg·m ²		0.007	0.016	0.051	0.15	0.37	0.79
Weight with soft jaws	kg		4.5	7.5	15	26	45	70
MATCHING CYLINDER								
HH4C (pg.46)	Series number		63	80	100	125	140	160
	Max. pressure to operate chuck	MPa	2.2	2.3	2.1	2.2	2.4	2.3
H05CH (pg.56)	Series number		150	175	200	250	300	300
	Max. pressure to operate chuck	MPa	0.4	0.4	0.5	0.5	0.5	0.6

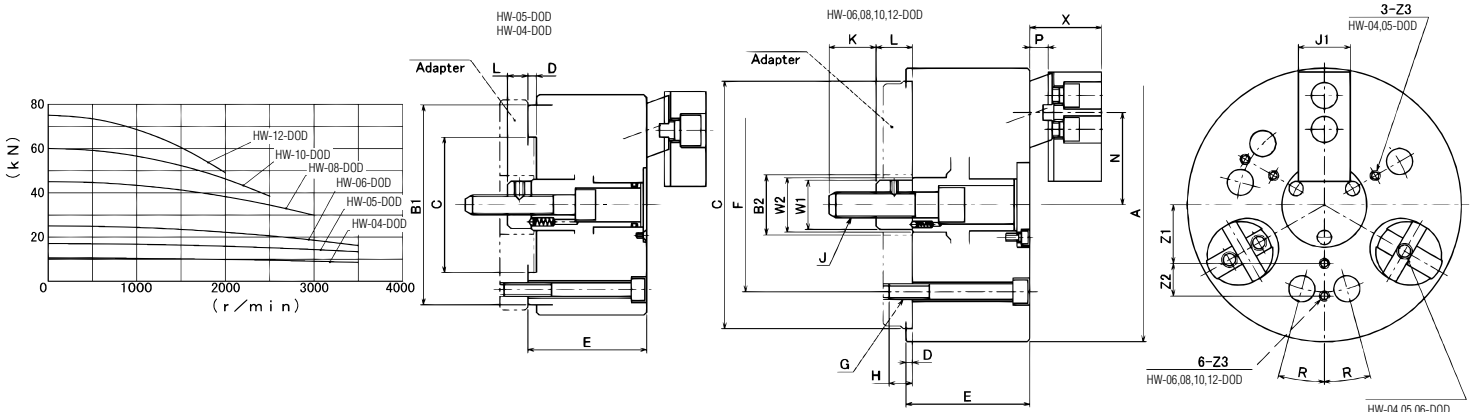
SYMBOL		SERIES NUMBER (CHUCK Ø)	DOD-SERIES					
			04	05	06	08	10	12
A			110	130	165	210	254	304
B1			98	118	---	---	---	---
B2	Min.		30	32	37	44	54	57
C	H7		60	80	140	190	230	230
D			5	5	5	5	5	5
E			60	70	85	95	110	125
F			80	100	104.8	133.4	171.4	171.4
G			3-M8	3-M8	6-M10	6-M12	6-M16	6-M16
H			14	14	16	18	22	22
J			M10 ×1.5	M12 ×1.75	M16 ×2	M20 ×2.5	M24 ×3	M27 ×3
J1			25	30	35	40	50	60
K			20	25	36	36	46	50
L	Max.		19	19	33	38	47	47
	Min.		12	12	23	28	32	32
N	Max.		37	44	58	71	85	102
	Min.		34.5	41.5	54.4	67.4	79.6	96.6
P	Max.		10.5	10.5	14	14	19	19
	Min.		3.5	3.5	4	4	4	4
R			---	---	15°	15°	15°	15°
W1			25	28	32	38	50	52
W2			28	30	35	42	52	55
X	Max.		30	35	45	55	65	70
	Min.		23	28	35	45	50	55
Z1			25	30	35	45	55	70
Z2			---	---	20	25	30	35
Z3	Size		M6	M6	M6	M8	M8	M10
	Depth		-11	-12	-12	-16	-16	-20

Notes:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. The DOD-SERIES chuck is for EXTERNAL clamping ONLY. It cannot be used for internal clamping.
4. For additional or replacement parts, please refer to pg. 64-66.

Note:

HW-06C-DOD-CP, HW-08C-DOD-CP, HW-10C-DOD-CP, HW-12C-DOD-CP models are also available.



See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks





DOD-S-SERIES (H3DS)
SEALED DRAW DOWN OD CHUCK
(OD CHUCKING ONLY)

PART # CODING EX: HW-06C-DOD-S

HW- C-DOD-S
06 · 08 · 10 · 12

TECHNICAL FEATURES

- Fully sealed structure reduces frequent greasing and prevents coolant leaks
- Pulls the workpiece toward the end face to prevent it from lifting

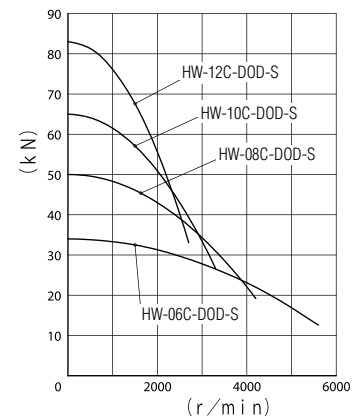
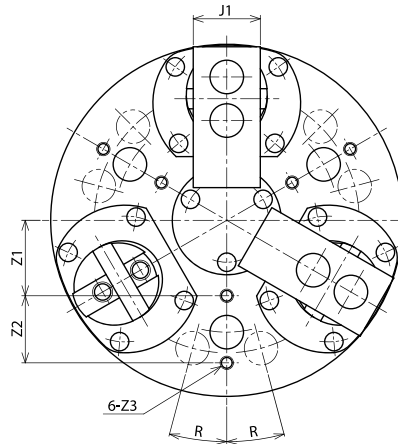
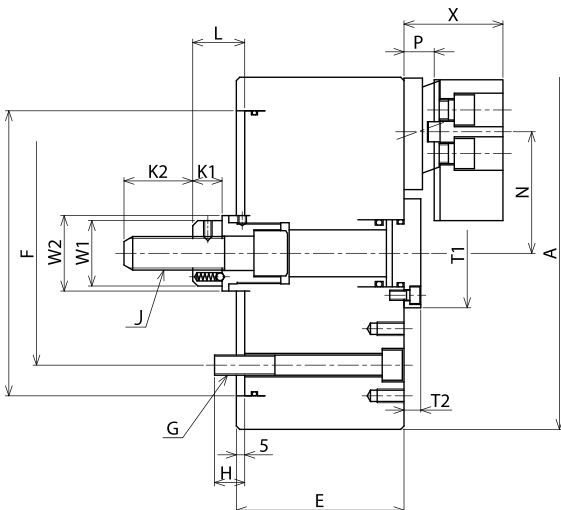
SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	DOD-S-SERIES			
			06	08	10	(12)
Jaw movement (Dia)	mm		2.8	3.6	4.2	5.8
Plunger stroke (Cylinder stroke)	mm		4	5	6	8
Recommended outside chucking diameter for soft jaws	Max. mm		165	210	254	304
	Min. mm		21	40	50	55
Max. speed	rpm		5600	4200	3300	2700
Max. input force	kN		20	30	40	52
Clamping force at Max. input force (Total jaw force)	kN		34	50	65	83
Moment of inertia J <i>Note 1</i>	kg·m ²		0.051	0.16	0.39	0.82
Weight with soft jaws	kg		15	29	48	75
MATCHING CYLINDER						
HH4C (pg.46)	Series number		100	125	140	160
	Max. pressure to operate chuck MPa		2.8	2.6	2.8	2.7
H05CH (pg.56)	Series number		200	250	300	~
	Max. pressure to operate chuck MPa		0.6	0.6	0.5	~

Note:

- Four times this value is equivalent to GD².
- When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
- The DOD-S SERIES chuck is for EXTERNAL clamping ONLY. It cannot be used for internal clamping.
- For additional or replacement parts, please refer to pg. 64-66.

SYMBOL		SERIES NUMBER (CHUCK Ø)	DOD-S-SERIES			
			6	8	10	(12)
A			165	210	254	304
C	H7		140	170	220	220
E			85	100	113	132
F			104.8	133.4	171.4	171.4
G			3-M10	3-M12	3-M16	6-M16
H			16	18	24	20
J			M16 ×2	M20 ×2.5	M24 ×3	M27 ×3
J1			35	40	50	60
K1			17.5	17.5	18	19
K2			36	41	49	56
L	Max.		33.5	33.5	34	38
	Min.		29.5	28.5	28	30
N	Max.		57.7	73.4	87.05	105.45
	Min.		56.3	71.6	84.95	102.55
P	Max.		18.5	20.5	24.5	28.5
	Min.		14.5	15.5	18.5	20.5
R			~	~	~	15°
W1			33	39	45	52
W2			40	45	50	60
X	Max.		48.5	61.5	70.5	79.5
	Min.		44.5	56.5	64.5	71.5
Z1			35	45	55	70
Z2			35	40	55	35
Z3	Size		M6	M8	M8	M10
	Depth		-12	-16	-16	-20

Note: Models in parenthesis are made to order.



3-JAW DRAW DOWN



DODHS-SERIES (H3EF) DRAW DOWN OD HI SPEED (OD CHUCKING ONLY)

PART # CODING EX: HW-06-DODHS-CP

HW- C-DODHS-CP
06 · 08 · 10

TECHNICAL FEATURES

- High-speed
- High clamping precision makes it suitable for finishing
- Pulls the workpiece toward the end face to prevent it from lifting
- Thru hole is provided as standard for compressed air or coolant

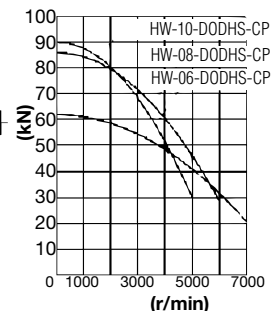
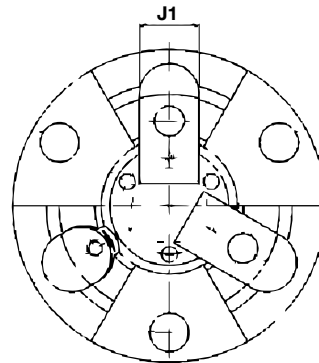
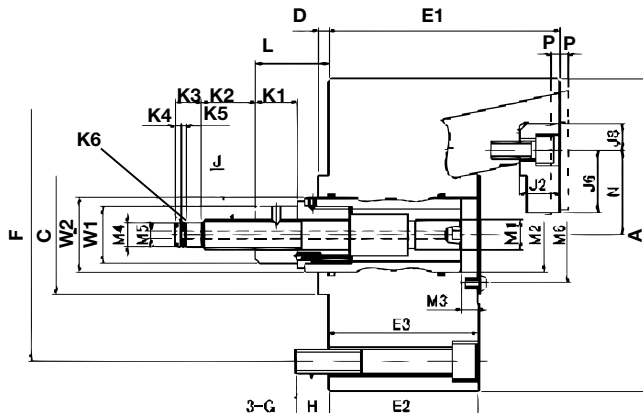
SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	DODHS-SERIES		
			6	8	(10)
Jaw movement (Dia)	mm		5.2	5.2	5.2
Plunger stroke (Cylinder stroke)	mm		12	12	12
Recommended outside chucking diameter for soft jaws	Max. mm		100	130	160
	Min. mm		25	25	35
Max. speed	rpm		7000	6000	5000
Max. input force	kN		18	25	34
Clamping force at Max. input force (Total jaw force)	kN		62	86	90
Moment of inertia J <i>Note1</i>	kg·m ²		0.054	0.15	0.4
Weight with soft jaws	kg		16	30	48
MATCHING CYLINDER					
C1SB (pg.52)	Series number		115	115	125
	Max. pressure to operate chuck	MPa	2	2.8	3.4

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. The DODHS-SERIES chuck is for EXTERNAL clamping ONLY. It cannot be used for internal clamping.
4. For additional or replacement parts, please refer to pg. 64-66.

Note: Models in parenthesis are made to order.

SYMBOL	SERIES NUMBER (CHUCK Ø)	DODHS-SERIES		
		6	8	(10)
A		165	210	254
C	h7	80	80	80
D		7	7	7
E1		130	155	165
E2		90.5	100.5	110.5
E3		90	100	110
F		130	170	210
G		M12	M16	M16
H		18	22	20
J		M16×2	M20×2.5	M24×3
J1		32	40	48
J2		22	27	33
J6		32	42	49.5
J8		15	18	23
K1		23	28	32
K2		30	36	46
K3		16	18	20
K4		4	4	4
K5		2.5	3.2	3.2
K6		P9	P12	P15
L	Max.	47.5	55	60
	Min.	35.5	43	48
M1	h9	14.8	19.8	24.8
M2	H7	35	50	65
	Max.	17	17	17
M3	Min.	5	5	5
	e9	12	16	19
M4		4	5	6
M5		50	65	85
M6	Max.	45.3	58.3	70.8
	Min.	42.7	55.7	68.2
N	Max.	5.7	5.7	5.7
	Min.	-5.7	-5.7	-5.7
W1		32	38	50
W2		40	50	65



See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks





DID-SERIES (H3IF)
DRAW DOWN ID (ID CHUCKING ONLY)

PART # CODING EX: HW-06C-DID-CP
HW- C-DID-CP
05 · 06

TECHNICAL FEATURES

- Heavy-duty and high gripping force allow aggressive machining
- Pulls the workpiece toward the end face to prevent it from lifting
- Draw bar can be clamped directly if the clamping diameter is small
- Compressed air route for checking the seating is provided as standard

Jaws depicted are not included

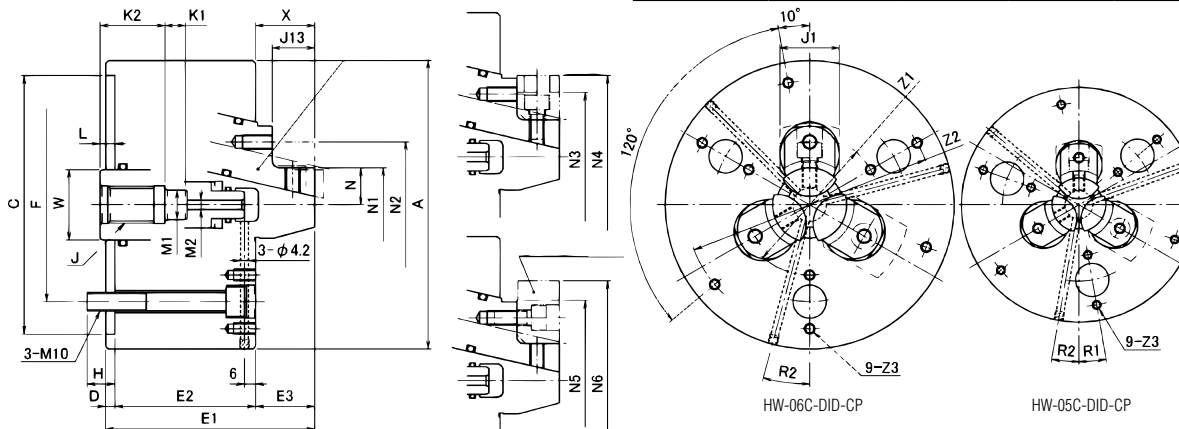
SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	DID-SERIES		
		(5)	(6)	
Jaw movement (Dia)	mm	2.6	4.4	
Plunger stroke (Cylinder stroke)	mm	6	10	
Recommended inside chucking diameter	Clamping with standard soft jaw	Max. mm	83	108
		Min. mm	50	70
	Clamping with draw bar	Max. mm	50	70
		Min. mm	29	40
Max. speed	rpm	7000	6000	
Max. input force	kN	15	21	
Clamping force at Max. input force (Total jaw force)	kN	40	55	
Moment of inertia J <i>Note 1</i>	kg·m ²	0.012	0.034	
Weight	kg	6	11	
MATCHING CYLINDER				
C1SB (pg.52)	Series number	95	115	
	Max. pressure to operate chuck MPa	2.6	2.3	

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. The DID-SERIES chuck is for INTERNAL clamping ONLY. It cannot be used for external clamping.
4. For additional or replacement parts, please refer to pg. 64-66.

Note: Models in parenthesis are made to order.

SYMBOL	SERIES NUMBER (CHUCK Ø)	DID-SERIES			
		(5)		(6)	
A		127		156	
C	H7	115		140	
D		4		5	
E1		90		113	
E2		60		76	
E3		26		32	
F		82.6		104.8	
H		16		15	
J		M16x2		M20x2.5	
J1		25		32	
J13		20		23	
K1		11		11	
K2		30		35	
L	Max.	9		13	
	Min.	3		3	
M1	H9	12		16	
M2		5		5	
N	Max.	14.5	15.16	20	21.1
	Min.		13.84		18.9
N1		29		40	
N2		50		70	
N3		50		70	
N4		68		88	
N5		67		87	
N6		83		108	
R1		10°		--	
R2		10°		15°	
W		28		38	
X	Max.	26	28.85	32	36.75
	Min.		23.15		27.25
Z1		55		76	
Z2		110		134	
Z3	Size	M5		M6	
	Depth	-10		-12	



3-JAW DRAW DOWN



DID-Series (H013M) DRAW DOWN ID (ID CHUCKING ONLY)

PART # CODING EX: HW-06C-DID

HW- C-DID
06 · 08 · 10 · 12

TECHNICAL FEATURES

- Dedicated draw down chuck for internal clamping
- Pulls the workpiece toward the end face to prevent it from lifting

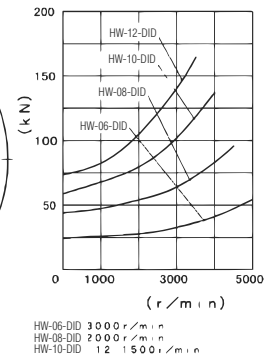
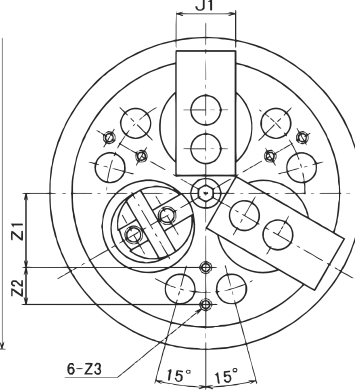
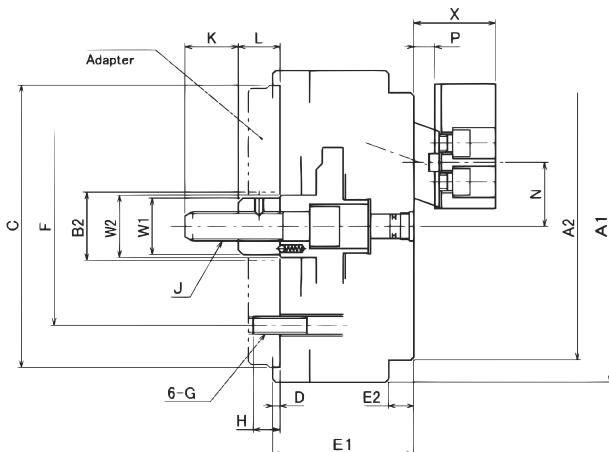
SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	DID-SERIES			
			6	8	10	(12)
Jaw movement (Dia)	mm		5.8	7.2	10.8	10.8
Plunger stroke (Cylinder stroke)	mm		8	10	15	15
Recommended inside chucking diameter for soft jaws	Max.	mm	140	180	220	270
	Min.	mm	40	48	65	80
Max. speed	rpm		5000	4500	4000	3500
Max. input force	kN		14.7	24.5	34.3	44.1
Clamping force at Max. input force (Total jaw force)	kN		24.5	44.1	58.8	73.5
Moment of inertia J <i>Note1</i>	kg·m ²		0.045	0.17	0.38	0.73
Weight with soft jaws	kg		13	26	43.5	68
MATCHING CYLINDER						
HH4C (pg.46)	Series number		80	100	125	140
	Max. pressure to operate chuck	MPa	3.4	3.5	3.1	3.1
H05CH (pg.56)	Series number		200	250	300	300
	Max. pressure to operate chuck	MPa	0.5	0.5	0.5	0.6

SYMBOL		SERIES NUMBER (CHUCK Ø)	DID-SERIES			
			6	8	10	(12)
A1			165	210	254	304
A2	Dia. Tolerance +0.00 (mm) -0.05 (mm)		140	180	220	250
B2	Min.		37	44	54	82
C	H7		140	190	230	230
D			5	5	5	5
E1			80	95	110	125
E2			15	17	20	25
F			104.8	133.4	171.4	171.4
G			M10	M12	M16	M16
H			16	18	22	22
J			M16x2	M20x2.5	M24x3	M27x3
J1			35	40	50	60
K			36	36	46	50
L	Max.		31	38	47	47
	Min.		23	28	32	32
N	Max.		37.9	46.6	57.9	65.4
	Min.		35	43	52.5	60
P	Max.		12	14	19	19
	Min.		4	4	4	4
W1			32	38	50	52
W2			35	42	52	80
X	Max.		42	55	65	70
	Min.		34	45	50	55
Z1			40	50	60	70
Z2			20	25	30	40
Z3	Size		M6	M8	M8	M10
	Depth		-11	-15	-15	-17

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.

Note: Models in parenthesis are made to order.



See specialty chucks on pg. 58-63 to help you beat the competition



DP-SERIES (H021MB)
DUAL PRESSURE CHUCK

PART # CODING EX: HW-06-DP
HW- C-DP
06 · 08 · 10 · 12

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	DP-SERIES			
			6	8	10	(12)
Jaw movement (Dia) at "X2"- dim	mm		10	11	13.2	14.6
Plunger stroke (Cylinder stroke)	mm		4	5	6	8
Recommended chucking diameter for soft jaws	outside	mm	25-110	40-132	50-160	60-200
	inside	mm	130-175	150-210	190-254	230-304
Max. speed	rpm		3800	3000	2600	2200
Max. input force	kN		22.6	39.2	58.8	78.5
Clamping force at Max. input force (Total jaw force)	kN		14.7	29.4	44.1	67.7
Moment of inertia J <i>Note1</i>	kg·m ²		0.053	0.13	0.28	0.67
Weight with soft jaws	kg		14.5	23	35	58
MATCHING CYLINDER						
HH4C (pg.46)	Series number		125	140	160	180
	Max. pressure to operate chuck	MPa	2	2.8	3.1	3.3
H05CH (pg.56)	Series number		250	300	---	---
	Max. pressure to operate chuck	MPa	0.5	0.6	---	---

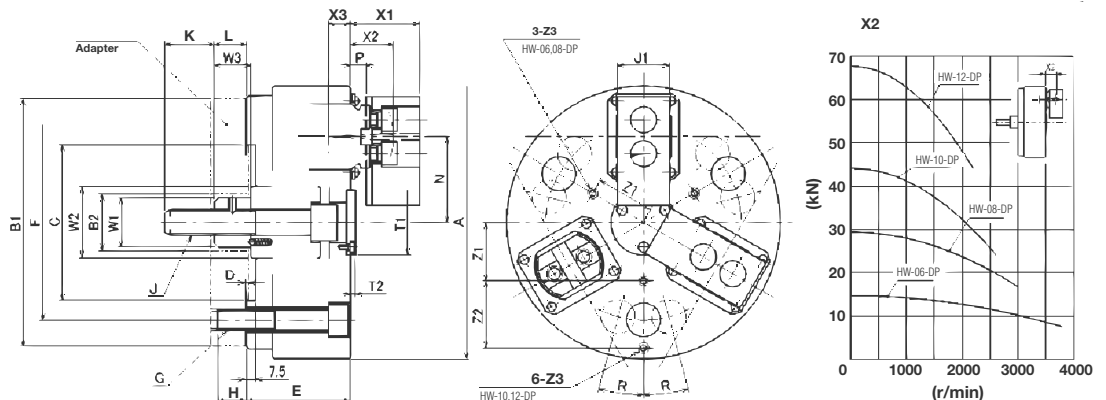
Note:

- Four times this value is equivalent to GD².
- When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
- For additional or replacement parts, please refer to pg. 64-66.

CAUTION

1. If the rotating cylinder stroke is longer than the plunger of the stroke of the chuck, the former must be adjusted to the later, or latter must be adjusted by the chuck adapter. When the plunger stroke is adjusted by the chuck adapter, the inside diameter of the chuck adapter should be B2 in the above table.

2. In case that this chuck is used combined with a rotating cylinder having check valves, gripping force does not follow the cylinder force when the hydraulic pressure is decreased. This phenomenon occurs because hydraulic pressure is kept by the function of check valves furnished in the cylinder, even though the hydraulic pressure is decreased by the outside controller



TECHNICAL FEATURES

- Dual pressure switching enables the clamping force to be reduced without re-clamping
- Can clamp a low rigidity workpiece precisely with small clamping force
- Pulls the workpiece toward the end face to prevent it from lifting

SYMBOL	SERIES NUMBER (CHUCK Ø)	DP-SERIES							
		6	8	10	(12)				
A		175	210	254	304				
B1		165	184	235	260				
B2		35	41	53	55				
C	H7	90	120	120	140				
D		5	5	4.5	3.5				
E		75	80	90	105				
F		130	150	150	170				
G		3-M16	3-M16	3-M16	6-M16				
H		22	22	22	22				
J		M16x2	M20x2.5	M24x3	M27x3				
J1		35	40	50	60				
K		36	38	46	50				
L	Max.	18	23	27.5	28.5				
	Min.	14	18	21.5	20.5				
N	Max.	55	57.5	66	68.7	80	83.7	100	103.6
	Min.		52.5		63.2		76.6		96.3
P		11	12	13	14				
R		---	---	---	15°				
T1		50	50	65	90				
T2		4	4	5	5				
W1		32	38	50	52				
W2		50	55	70	80				
W3		23	28	32	32				
X1		41	53	59	65				
X2		29	33	39	42				
X3		17	17	21	23				
Z1		35	45	55	70				
Z2		---	---	40	35				
Z3	Size	M6	M8	M8	M10				
	Depth	-11	-13	-13	-11				

Note: Models in parenthesis are made to order.

3-JAW DUAL PRESSURE



DP-SERIES (H3PS) DUAL PRESSURE SEALED CHUCK

PART # CODING EX: HW-06C-DP-S

HW- C-DP-S
06 · 08 · 10 · 12

TECHNICAL FEATURES

- Fully sealed structure reduces frequent greasing and prevents coolant leaks
- Dual pressure switching enables the clamping force to be reduced without re-clamping
- Can clamp a low rigidity workpiece precisely with a small clamping force
- Pulls the workpiece toward the end face to prevent it from lifting

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	DP-SERIES			
			06	08	10	(12)
Jaw movement (Dia) at "X2"- dim	mm		10.8	12.2	13.7	15.6
Plunger stroke (Cylinder stroke)	mm		4	5	6	8
Recommended chucking diameter for soft jaws	outside	mm	25~110	40~132	50~160	60~200
	inside	mm	130~175	150~210	190~254	230~304
Max. speed	rpm		5700	3900	3400	3000
Max. input force	kN		24	40	58	76
Clamping force at Max. input force (Total jaw force)	kN		15	27	41	62
Moment of inertia J <i>Note1</i>	kg·m ²		0.058	0.14	0.36	0.76
Weight with soft jaws	kg		16	27	46	70
MATCHING CYLINDER						
HH4C (pg.46)	Series number		100	140	160	180
	Max. pressure to operate chuck	MPa	3.4	2.8	3	3.2
H05CH (pg.56)	Series number		250	300	---	---
	Max. pressure to operate chuck	MPa	0.5	0.5	---	---

Note:

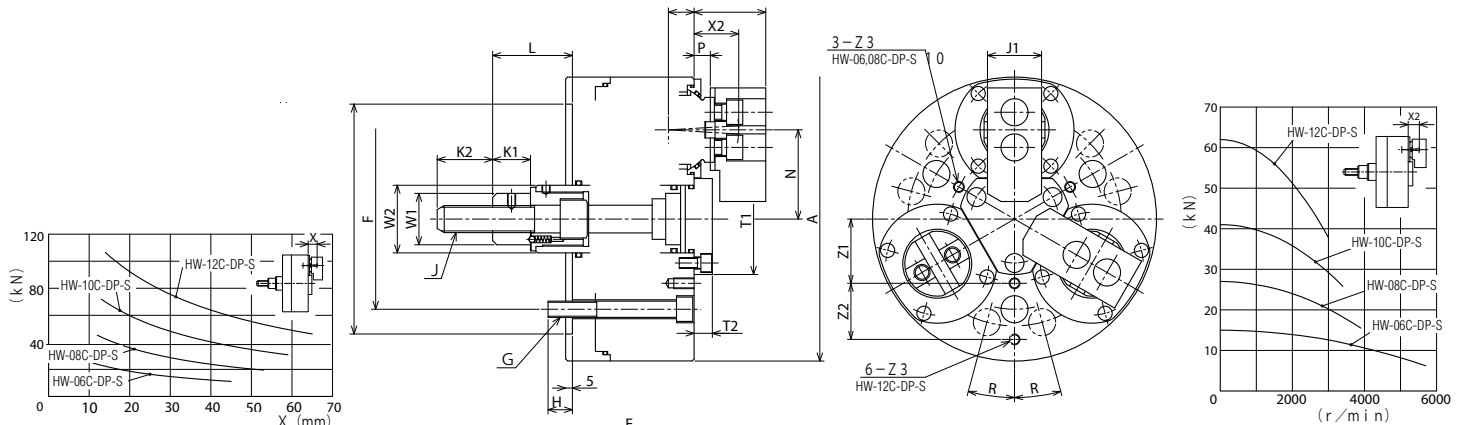
- Four times this value is equivalent to GD².
- When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
- For additional or replacement parts, please refer to pg. 64-66.

CAUTION

If this chuck is used in combination with a rotating cylinder that has check valves, gripping force does not follow the cylinder force when the hydraulic pressure is decreased. This phenomenon occurs because hydraulic pressure is kept by the function of check valves furnished in the cylinder, even though the hydraulic pressure is decreased by the outside controller.

SYMBOL		SERIES NUMBER (CHUCK Ø)	DP-SERIES						
			06	08	10	(12)			
A			175	210	254	304			
C	H7		140	170	220	220			
E			83	95	115	132			
F			104.8	133.4	171.4	171.4			
G			3-M10	3-M12	3-M16	6-M16			
H			13	18	22	20			
J			M16×2	M20×2.5	M24×3	M27×3			
J1			35	40	50	60			
K1			23	28	32	32			
K2			36	41	49	56			
L	Max.		49	61.5	69	76			
	Min.		45	56.5	63	68			
N	Max.	55	57.6	66	69	80	83.35	100	103.8
	Min.								
P			11	12	13	14			
R			---	---	---	15°			
T1			69	82	92	108			
T2			9.5	13.5	13.5	17			
W1			32	38	45	52			
W2			42	50	56	65			
X1			41	53	59	65			
X2			29	33	39	42			
X3			17	19	21.5	25			
Z1			37.5	47.5	60	70			
Z2			---	---	---	35			
Z3	Size		M6	M8	M8	M10			
	Depth		-12	-15	-16	-20			

Note: Models in parenthesis are made to order.



See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks





**SL-SERIES (H063M)
SWING LOCK CHUCK**

PART # CODING EX: HW-06C-SL
HW- C-SL
06 · 08 · 10 · 12

TECHNICAL FEATURES

- Pulls the workpiece toward the end face to prevent it from lifting
- Can clamp a tapered workpiece of up to 20°, so processes such as cutting a draft angle from a casting can be omitted
- Jaw equalizing mechanism enables clamping of irregular surfaces on cast or forged workpieces
- Can be altered to handle both external and internal clamping

Jaws depicted are not included

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	SL-SERIES			
			06	08	10	12
Jaw movement (Dia) at "X2"- dim	mm		7.4	9.2	11.8	11.8
Plunger stroke (Cylinder stroke)	mm		11.4	14.4	17.5	17.5
Recommended chucking diameter for soft jaws	outside	mm	12-120	16-150	50-205	63-240
	inside	mm	70-152	76-203	85-235	127-305
Max. speed	rpm		3800	3000	2500	2000
Max. input force	kN		21.6	28.4	35.3	35.3
Max. input force	kN		64.7	85.3	105.9	105.9
Moment of inertia J <i>Note 1</i>	kg·m ²		0.05	0.11	0.27	0.6
Weight (without standard top jaws)	kg		14	23	40	59
MATCHING CYLINDER						
HH4C (pg.46)	Series number		100	125	140	140
	Max. pressure to operate chuck	MPa	3.1	2.5	2.5	2.5
H05CH (pg.56)	Series number		250	300	300	300
	Max. pressure to operate chuck	MPa	0.5	0.4	0.5	0.5

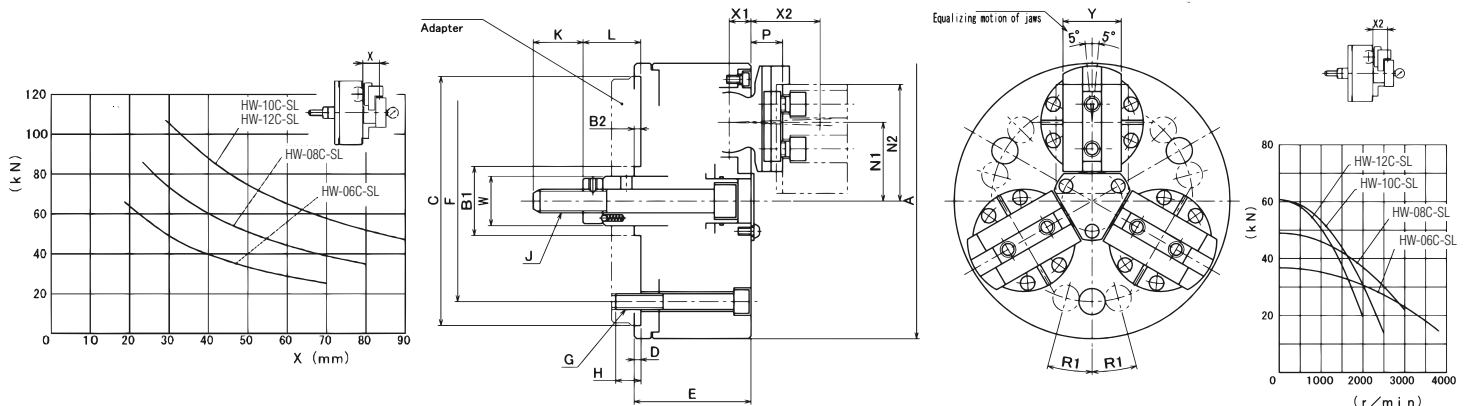
Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL		SERIES NUMBER (CHUCK Ø)	SL-SERIES						
			06	08	10	12			
A			175	210	254	304			
B1			42	50	58	66			
B2			5	5	5	5			
C	H7		140	190	230	280			
D			5	5	5	5			
E			77	89	106	108			
F			104.8	133.4	171.4	171.4			
G			3-M10	3-M12	3-M16	6-M16			
H			14	19	20	20			
J			M16×2	M18×2.5	M24×3	M27×3			
K			38	38	46	50			
L	Max.		43.9	51.9	67.5	74.5			
	Min.		32.5	37.5	50	57			
N1	Max.	51	53.3	60	62.4	72	75.7	92.5	96.2
	Min.		49.6		57.8		69.8		90.3
N2			73.1	88.9	112.7	133.2			
P			19.3	23.3	29.1	29.1			
R1			---	---	---	15°			
W			32	35	45	53			
X1			13.5	16.5	19.5	19.5			
X2			44.2	52.7	65.6	65.6			
Y	h7		38.1	44.4	57.1	57.1			

Note:

HW-06C-SL-A5, HW-06-SL-CP, HW-08C-SL-A6, HW-08-SL-CP, HW-10C-SL-A6, HW-10C-SL-A8, HW-10-SL-CP, HW-12C-SL-A6, HW-12C-SL-A8, HW-12-SL-CP models are also available.



3-JAW SWING LOCK



SL-SERIES (H3US) SEALED SWING LOCK CHUCK

PART # CODING EX: HW-06C-SL-S
 HW- C-SL-S
06 · 08 · 10 · 12

Jaws depicted are not included

SL-SERIES high-performance chucks not only grip on the outer diameter of the part, but also pulls the work piece toward the face of the chuck. This chuck has the capability to chuck onto castings, forgings, and bar stock with rough surfaces; eliminating the necessity to establish a round and smooth chucking surface, further improving process efficiency.

TECHNICAL FEATURES

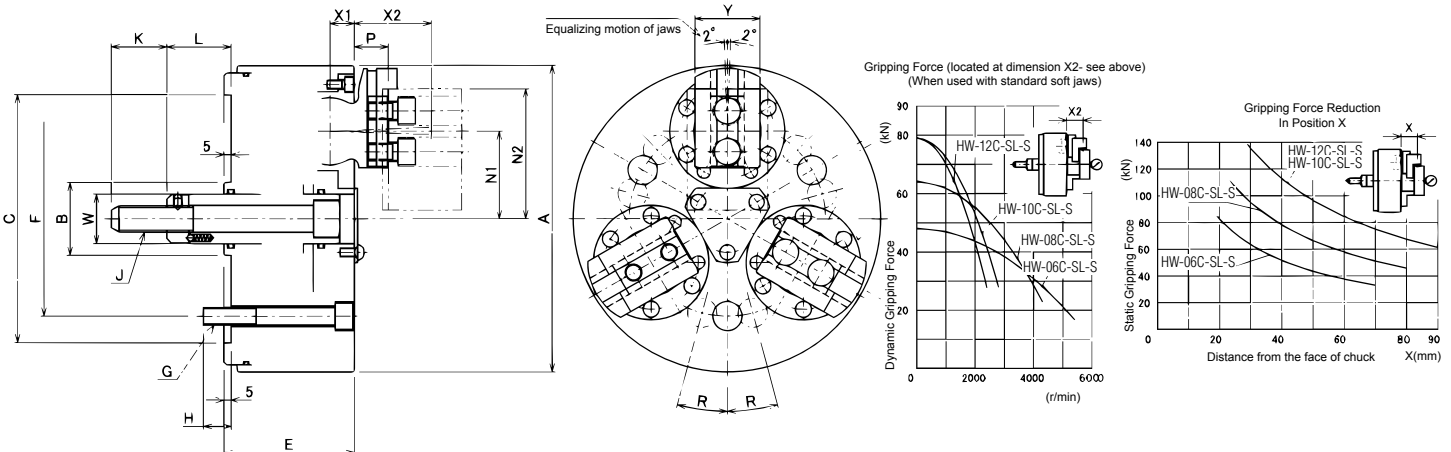
- Compared to other standard chucks, the SL-SERIES provides 30 percent higher clamping force. With this chuck having the same gripping strength as a standard chuck one size larger, this chuck is ideal when a small chuck diameter with a strong gripping force is required.
- With the increased gripping strength of the chuck, higher maximum spindle RPM can be achieved, making this chuck very versatile for not only larger work pieces, but also for small diameter bar stock as well
- ID and OD gripping can be achieved by reorientation of jaws

SERIES NUMBER (CHUCK Ø)	SL-SERIES			
	06	08	10	(12)
A	175	210	254	304
B	42	50	58	66
C	H7	140	170	220
E	77	89	106	108
F	104.8	133.4	171.4	171.4
G	3-M10	3-M12	3-M16	6-M16
H	14	19	20	20
J	M16X2	M18X2.5	M24X3	M27X3
K	38	38	46	50
L	Max.	43.9	51.9	67.5
	Min.	32.5	37.5	50
N1	Max.	51	53.3	76
	Min.	49.6	57.8	69.8
N2	73.1	88.9	112.7	133.2
P	19.3	23.3	29.1	29.1
R	---	---	---	15°
W	30	34	42	53
X1	13.5	16.5	19.5	19.5
X2	44.2	52.7	65.6	65.6
Y	h7	38.1	44.4	57.1

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.
4. Models in parenthesis are made to order.

SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	SL-SERIES			
		06	08	10	(12)
Jaw movement (Dia) at "X2"- dim	mm	7.8	9.6	12.4	12.4
Plunger stroke (Cylinder stroke)	mm	11.4	14.4	17.5	17.5
Recommended chucking diameter for soft jaws	outside	mm	12~120	16~150	50~205
	inside	mm	70~152	76~203	85~235
Max. speed	rpm	5400	4300	2800	2400
Max. input force	kN	20	25	31	31
Max. clamping force (total jaw force)	kN	84	111	138	138
Moment of inertia J <i>Note1</i>	kg·m ²	0.05	0.12	0.31	0.66
Weight (without standard top jaws)	kg	13	22	39	57
MATCHING CYLINDER					
HH4C (pg.46)	Series number	100	125	125	125
	Max. pressure to operate chuck	MPa	2.8	2.2	2.7
H05CH (pg.56)	Series number	250	250	300	300
	Max. pressure to operate chuck	MPa	0.4	0.5	0.4



See specialty chucks on pg. 58-63 to help you beat the competition



**COL-SERIES (H05M)
COMPENSATING CHUCK WITH CENTER**

PART # CODING EX: HW-06C-COL

HW- C-COL
06 · 08 · 10 · 12

TECHNICAL FEATURES

- Can clamp and pull the workpiece referring to its center hole even if the outer diameter is eccentric
- Capable of a wide range of diameters with its serrated jaws

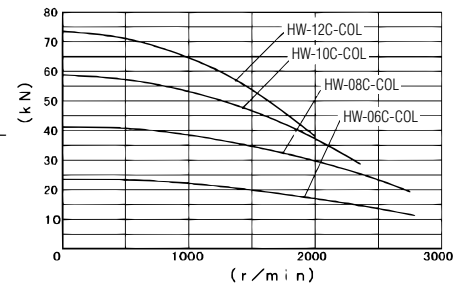
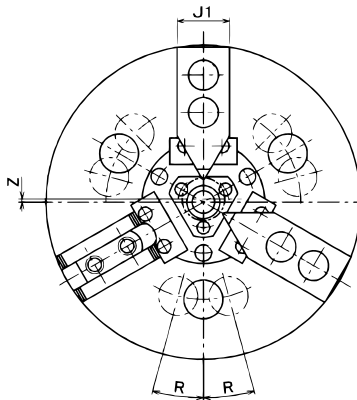
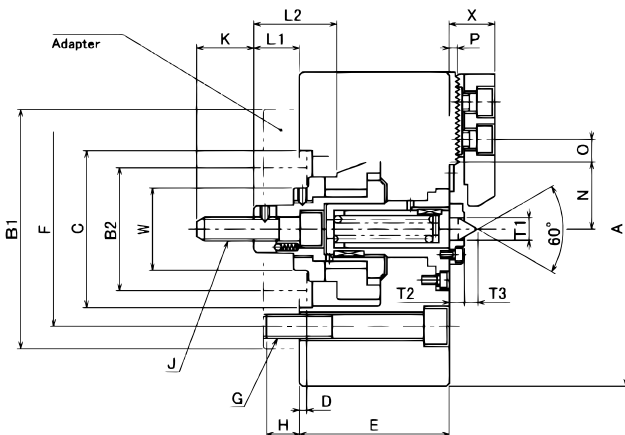
SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	COL-SERIES			
			06	08	10	(12)
Serration pitch	mm		1.5	1.5	1.5	1.5
Jaw movement (Dia)	mm		7	8	10	10
Plunger stroke (Cylinder stroke)	mm		15	20	25	25
Recommended outside chucking diameter for standard top jaws	Max. mm		33	38	52	73
	Min. mm		15	18	22	22
Compensation	mm		2	2	2	2
Max. speed	rpm		2800	2800	2400	2000
Max. input force	kN		11.8	17.7	23.5	29.4
Clamping force at Max. input force (Total jaw force)	kN		23.5	41.2	58.8	73.5
Moment of inertia J <i>Note1</i>	kg·m ²		0.058	0.13	0.3	0.7
Weight with standard jaws	kg		16	25	37.5	59.7
MATCHING CYLINDER						
HH4C (pg.46)	Series number		80	100	125	125
	Max. pressure to operate chuck	MPa	2.8	2.5	2.1	2.6
H05CH (pg.56)	Series number		175	200	250	250
	Max. pressure to operate chuck	MPa	0.5	0.6	0.5	0.6

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. The COL-SERIES chuck is for EXTERNAL clamping ONLY. It cannot be used for internal clamping.
4. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL		SERIES NUMBER (CHUCK Ø)	COL-SERIES			
			06	08	10	(12)
A			175	210	254	304
B1			160	160	180	216
B2	Min.		70	82	92	98
C	H7		90	105	120	140
D			5	5	5	5
E			90	100	110	125
F			130	130	150	170
G			3-M16	3-M16	3-M16	6-M16
H			22	22	22	22
J			M16×2	M16×2	M20×2.5	M24×3
J1			31	35	40	45
K			38	38	38	46
L1	Max.		47	50.5	57	61
	Min.		32	30.5	32	36
L2			52	55.5	62	66
N	Max.		38.8	43.8	48.8	50.8
	Min.		35.3	39.8	43.8	45.8
O	Max.		16.5	21	27.5	39.5
	Min.		6	7.5	8	9.5
P			5	5	5	5
R			---	---	---	15°
T1			10.4	10.4	12.7	12.7
T2			10	10	12	12
T3			9	9	11	11
W			60	70	80	85
X			27.5	30	33	36

Note: Models in parenthesis are made to order.



3-JAW COMPENSATING



COLSJ-S-SERIES (H3YS) SEALED COMPENSATING SWING JAW CHUCK WITH CENTER

PART # CODING EX: HW-06C-COLSJ-S

HW- C-COLSJ-S
06 · 08 · 10 · 12

Jaws depicted are not included

TECHNICAL FEATURES

- Fully sealed structure reduces frequent greasing and prevents coolant leaks
- Can clamp and pull the workpiece referring to its center hole even if the outer diameter is eccentric

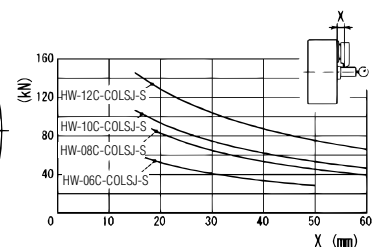
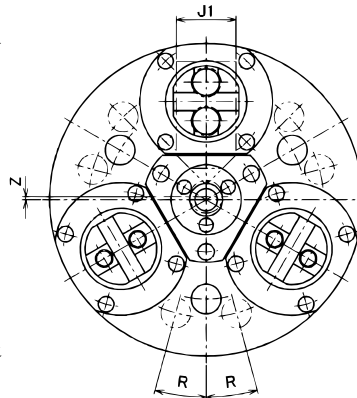
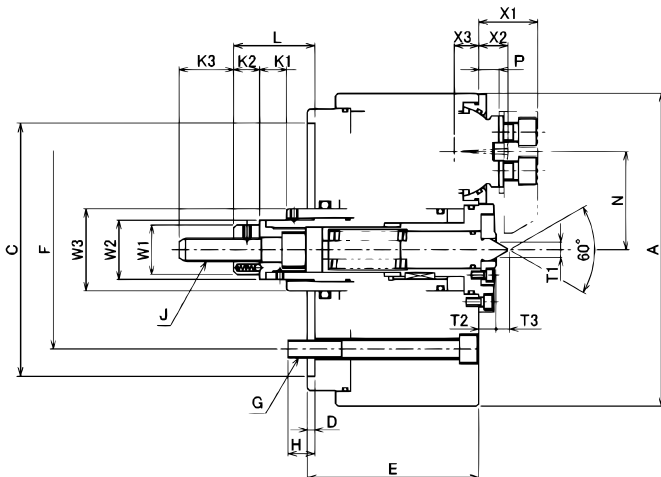
SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)		COLSJ-S-SERIES			
			06	08	10	(12)
Jaw movement (Dia) at "X2"- dim	mm		8	8	10	10
Plunger stroke (Cylinder stroke)	mm		15	20	25	25
Recommended outside chucking diameter	Max.	mm	50	65	90	110
	Min.	mm	12	18	22	22
Compensation	mm	mm	2	2	2	2
Max. speed	rpm		5000	4000	3500	3200
Max. input force	kN		19	25	30	40
Clamping force at Max. input force (Total jaw force)	kN		51	84	90	120
Moment of inertia J <i>Note1</i>	kg·m ²		0.059	0.15	0.38	0.73
Weight (without standard top jaws)	kg		16	28	48	65
MATCHING CYLINDER						
HH4C (pg.46)	Series number		100	125	125	140
	Max. pressure to operate chuck		MPa	2.6	2.2	2.6
H05CH (pg.56)	Series number		250	250	250	300
	Max. pressure to operate chuck		MPa	0.4	0.5	0.6

Note:

- Four times this value is equivalent to GD².
- When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
- The COLSJ-S-SERIES chuck is for EXTERNAL clamping ONLY. It cannot be used for internal clamping.
- For additional or replacement parts, please refer to pg. 64-66.

SYMBOL	SERIES NUMBER (CHUCK Ø)		COLSJ-S-SERIES			
			06	08	10	(12)
A			175	210	254	304
C	H7		140	170	220	220
D			5	5	5	5
E			92	115	133	139
F			104.8	133.4	171.4	171.4
G			3-M10	3-M12	3-M16	6-M16
H			14	18	24	23
J			M16×2	M16×2	M20×2.5	M24×3
J1			31	40	40	50
K1			19	18	15.5	15.5
K2			17.5	17.5	17.5	18
K3			36.5	36.5	35.5	49
L	Max.		60.5	64.5	67	67.5
	Min.		45.5	44.5	42	42.5
N	Max.	55	57	66	80	100
	Min.		53	64	77.5	97.5
P			11	13.5	14.5	15.5
R			---	---	---	15°
T1			8	10.4	12.7	12.7
T2			16	11.5	13.5	13.5
T3			6.9	9	11	11
W1			33	33	39	45
W2			33	40	46	52
W3			44	55	62	70
X1			34	39.5	41.5	52.5
X2			21	19.5	21.5	23
X3			16	16.5	20	22.5

Note: Models in parenthesis are made to order.



See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks





**COLSJ-SERIES (H055M)
COMPENSATING CHUCK WITH CENTER**

PART # CODING EX: HW-06C-COLSJ

HW- C-COLSJ
06 · 08 · 10 · 12

Jaws depicted are not included

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)		COLSJ-SERIES			
		06	08	10	(12)		
Jaw movement (Dia) at "X2"- dim	mm	8	8	10	10		
Plunger stroke (Cylinder stroke)	mm	15	20	25	25		
Recommended outside chucking diameter	Max. mm	50	65	90	110		
	Min. mm	12	18	22	22		
Compensation	mm	2	2	2	2		
Max. speed	rpm	2800	2800	2400	2000		
Max. input force	kN	14.7	19.6	29.4	39.2		
Clamping force at Max. input force (Total jaw force)	kN	25	53	67.7	88.3		
Moment of inertia J <i>Note1</i>	kg·m ²	0.05	0.13	0.28	0.65		
Weight (without standard top jaws)	kg	15	23	37	54		
MATCHING CYLINDER							
HH4C (pg.46)	Series number	80	100	125	*140		
	Max. pressure to operate chuck	MPa	3.5	2.8	2.6	2.8	
H05CH (pg.56)	Series number	*200	*250	250	*300		
	Max. pressure to operate chuck	MPa	0.5	0.4	0.6	0.6	

Note:

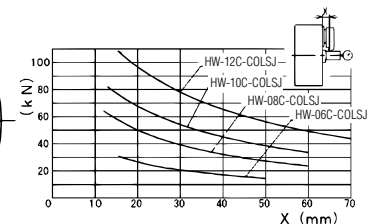
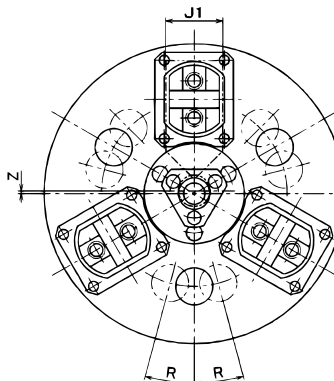
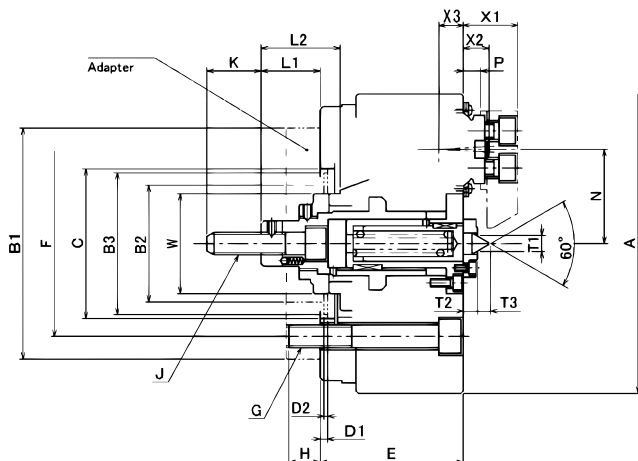
- Four times this value is equivalent to GD².
- If the plunger stroke of a chuck is shorter than that of a cylinder, the latter must be adjusted to the former. The cylinders of models marked * require limiting of stroke (see stroke control pg. 69).
- When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
- The COLSJ-SERIES chuck is for EXTERNAL clamping ONLY. It cannot be used for internal clamping.
- For additional or replacement parts, please refer to pg. 64-66.

TECHNICAL FEATURES

- Can clamp and pull the workpiece referring to its center hole even if the outer diameter is eccentric

SYMBOL	SERIES NUMBER (CHUCK Ø)		COLSJ-SERIES				
	06	08	10	(12)			
A	175	210	254	304			
B1	160	160	180	216			
B2	Min. 70	82	92	98			
B3	---	---	---	130			
C	H7 90	105	120	140			
D1	5	5	5	5			
D2	---	---	---	4			
E	80	100	110	120			
F	130	130	150	170			
G	3-M16	3-M16	3-M16	6-M16			
H	22	22	22	22			
J	M16x2	M16x2	M20x2.5	M24x3			
J1	31	40	40	50			
K	38	38	38	46			
L1	Max. 47	50.5	57	61			
	Min. 32	30.5	32	36			
L2	52	55.5	62	62			
N	Max. 55	57	66	80	82.5	100	102.5
	Min. 53	64	80	77.5	97.5		
P	10	12	13	14			
R	---	---	---	15°			
T1	8	10.4	12.7	12.7			
T2	15	10	12	12			
T3	6.9	9	11	11			
W	60	70	80	85			
X1	33	38	40	51			
X2	22	18	20	24			
X3	18	17	21	23			

Note: Models in parenthesis are made to order.



3-JAW COMBINATION



CMBL-SERIES (H056M) COMBINATION CHUCK WITH CENTER

PART # CODING EX: HW-08C-CMBL

HW- C-CMBL- 08 · 10 · 12 A5 · A6 · A8

The CMBL-SERIES combination chuck with retractable chuck body permits the full length of a shaft to be machined in one set-up.

Allowing for the limited torque-transmitting ability of the face driver, this chucking tool is additionally provided with a retractable power-operated chuck. In this manner, the gripping power of the face driver combines with that of the chuck to transmit the high torques required for roughing operations.

As the chuck jaws have a compensating function, the shaft held between centers can be gripped without pre-machining. Subsequent roughing with the jaws applied can then be carried out under normal cutting conditions.

For the finishing operation, the chuck is retracted so that the outside diameter can be finished on the full length of the shaft. This chuck is actuated by means of the hydraulic closed center cylinder with extra long stroke HH56C.

Roughing with the chuck jaws

Finishing with the face driver

For various work piece diameters application. Pre-machine the work piece on the length to be gripped to equalize the diameter using the face driver.

Note: Models in parenthesis are made to order.

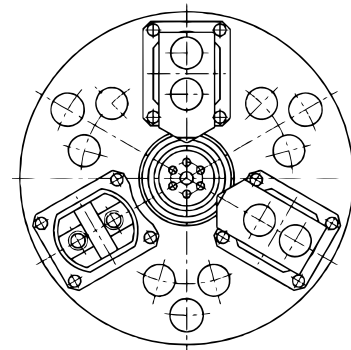
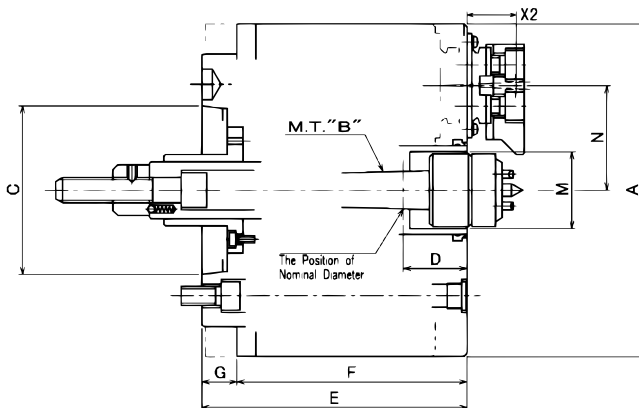
SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	CMBL-SERIES				
		(8)		(10)		(12)
		A5	A6	A6	A8	A8
JIS A Spindle No.		5	6	6	8	8
Jaw movement (Dia) at "X2"- dim	mm	8		10.4		10.4
Plunger stroke (Cylinder stroke)	mm	36		40		40
Recommended outside Max. chucking diameter	mm	70		85		110
	Min. Note 2	26(7)		26(7)		26(7)
Compensation Radius	mm	1		1		1
Max. speed	rpm	4000		3000		2000
Max. input force	kN	19.6		29.4		39.2
Clamping force at Max. input force (Total jaw force)	kN	39.2		56.9		73.5
Moment of inertia J Note1	kg·m ²	0.23	0.23	0.5	0.5	1.05
Weight	kg	40	40	64	64	90

MATCHING CYLINDER					
HH56C (pg.54)	Series number	100		140	
	Max. pressure to operate chuck	2.7		2.1	

SYMBOL	SERIES NUMBER (CHUCK Ø)	CMBL-SERIES				
		(8)		(10)		(12)
		A5	A6	A6	A8	A8
JIS A Spindle No.		5	6	6	8	8
A		210		254		304
B		3		4		5
C		82.563	106.375	106.375	139.719	139.719
D		36		36		33
E		167		185		215
F		145		163		193
G	Max.	22		22		22
	Min.	2		2		2
M		47		59		73
N		66		80		100

Note:

1. Four times this value is equivalent to GD².
2. The number in the parenthesis means minimum clamping diameter using only a face driver.
3. For additional or replacement parts, please refer to pg. 64-66.



See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks





**LS-SERIES (H024M)
WEDGE STYLE LONG STROKE CHUCK**

PART # CODING EX: HW-06C-2J-LS

HW- C-2J-LS
05 · 06 · 08 · 10 · 12

TECHNICAL FEATURES

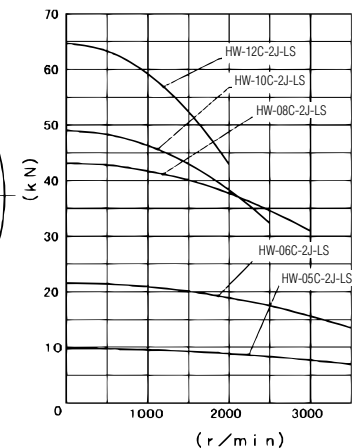
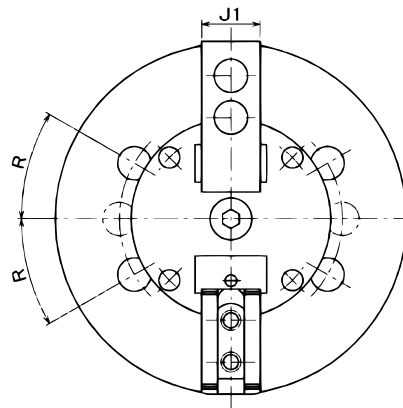
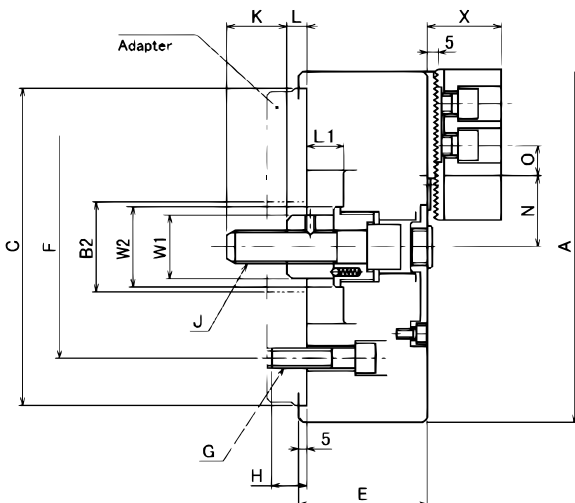
- 2-jaw long jaw stroke chuck suitable for clamping irregular shaped workpieces
- Can clamp over workpieces with uneven surfaces and clamp workpieces with a large range of diameters

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	LS-SERIES				
			05	06	08	10	12
Serration pitch	mm		1.5	1.5	1.5	1.5	---
			---	---	---	---	3
Jaw movement (Dia)	mm		9.4	13	16	18	20
Plunger stroke (Cylinder stroke)	mm		13	18	22	25	28
Recommended outside chucking diameter for soft jaws	Max. mm		130	165	210	254	304
	Min. mm		15	20	22	25	28
Max. speed	rpm		3500	3500	3000	2500	2000
Max. input force	kN		5.9	9.8	19.6	22.6	29.4
Clamping force at Max. input force (Total jaw force)	kN		9.8	21.6	43.1	49	64.7
Moment of inertia J <i>Note1</i>	kg·m ²		0.01	0.033	0.11	0.26	0.63
Weight with soft jaws	kg		4.5	10	20	32	54
MATCHING CYLINDER							
HH4C (pg.46)	Series number		63	100	125	125	140
	Max. pressure to operate chuck	MPa	2.2	1.4	1.7	2	2.1
H05CH (pg.56)	Series number		150	200	250	250	300
	Max. pressure to operate chuck	MPa	0.4	0.3	0.4	0.5	0.4

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.

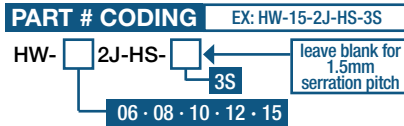
SYMBOL		SERIES NUMBER (CHUCK Ø)	LS-SERIES				
			05	06	08	10	12
A			130	165	210	254	304
B2	Min.		30	42	52	70	85
C	H7		115	140	190	230	280
E			50	63	77	85	97
F			82.6	104.8	133.4	133.4	171.4
G			4-M10	4-M10	4-M12	6-M12	6-M16
H			16	17	21	23	25
J			M12	M16	M20	M24	M27
			×1.75	×2	×2.5	×3	×3
J1			25	30	35	40	50
K			36	36	36	46	50
L	Max.		14	29	34	44	50
	Min.		1	11	12	19	22
L1	Max.		13	18	22	25	28
	Min.		0	0	0	0	0
N	Max.		32.8	38.8	42.8	48.8	57.5
	Min.		28.1	32.3	34.8	39.8	47.5
O	Max.		13.5	18	30	40.5	45
	Min.		4.5	7.5	13.5	15	15
R			30°	30°	30°	30°	30°
W1			28	32	38	50	52
W2			---	38	48	58	65
X			29	34	44	54	63



2-JAW WEDGE STYLE



HS-SERIES (H034M) WEDGE STYLE THRU HOLE CHUCK



TECHNICAL FEATURES

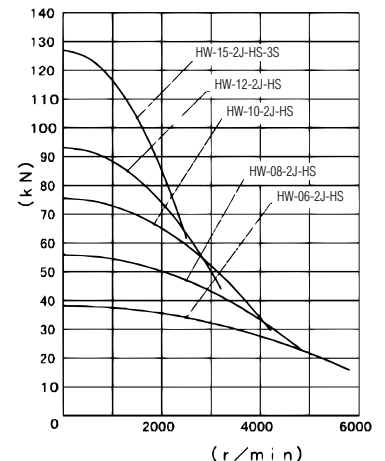
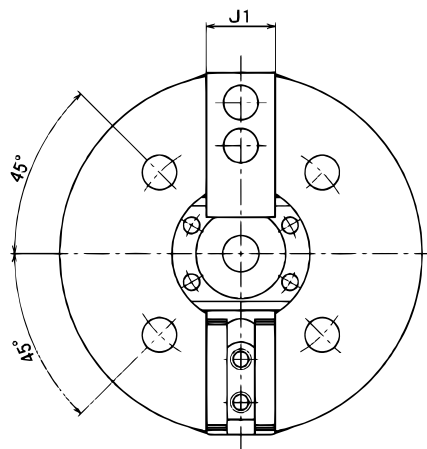
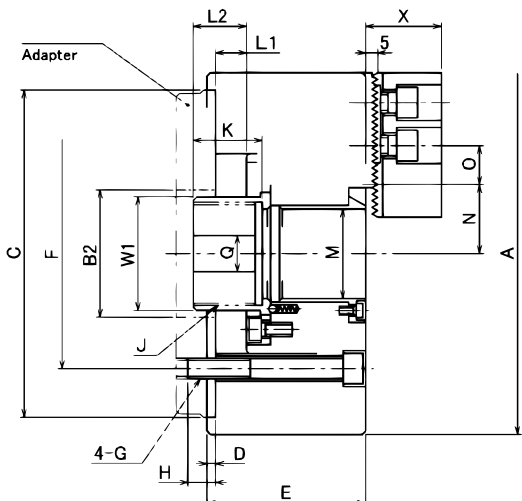
- 2-jaw hollow chuck suitable for clamping irregular shaped workpieces
- Supports large clamping forces and high speeds
- Large thru hole allows a wide range of bar feeding capacity
- High clamping force and high RPM balance gives versatility to users when handling a variety of bar sizes

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	HS-SERIES				
			06	08	10	(12)	(15)
Serration pitch	mm		1.5	1.5	1.5	1.5	---
			---	---	---	---	3
Jaw movement (Dia)	mm		6.3	7.6	9.3	10.6	11.9
Plunger stroke (Cylinder stroke)	mm		15	18	22	25	28
Recommended outside chucking diameter for soft jaws	Max. mm		165	210	254	304	381
	Min. mm		18	12	16	38	60
Max. speed	rpm		5800	4800	4200	3200	2500
Max. input force	kN		12.7	19.6	26.5	32.4	46.1
Clamping force at Max. input force (Total jaw force)	kN		38.2	55.9	75.5	93.2	127
Moment of inertia J <i>Note1</i>	kg·m ²		0.05	0.16	0.34	0.83	2.3
Weight with soft jaws	kg		13.7	25	39	68.6	112.1
MATCHING CYLINDER							
C1TA (pg.42)	Series number		115	140	165	165	215
	Max. pressure to operate chuck MPa		1.8	1.7	1.9	2.3	2.2
HH4C (pg.46)	Series number		80	100	125	140	160
	Max. pressure to operate chuck MPa		3	2.8	2.4	2.3	2.5
H05CH (pg.56)	Series number		200	250	300	300	300
	Max. pressure to operate chuck MPa		0.4	0.4	0.4	0.5	0.7

SYMBOL		SERIES NUMBER (CHUCK Ø)	HS-SERIES				
			06	08	10	(12)	(15)
A			168	210	254	304	381
B2	Min.		61	68	92	110	140
C	H7		140	190	230	280	350
D			5	5	5	5	7
E			82	92	105	115	137
F			104.8	133.4	171.4	200	250
G			M10	M12	M16	M20	M20
H			14	16	22	26	26
J	Max.		M55×2	M60×2	M85×2	M100×2	M130×2
J1			35	40	45	50	60
K			30	32	37	42	48
L1	Max.		15	18	22	25	28
	Min.		0	0	0	0	0
L2			20	23	27	30	35
M			45	52	75	91	118
N	Max.		36.25	38.8	53.3	63.8	81.5
	Min.		33.1	35	48.65	58.5	75.55
O	Max.		18	31.5	33	40.5	51
	Min.		6	9	12	10.5	12
Q			17	21	21	28	30
W1			59	66	90	108	139
X			39	44	49	64	69

Note: Models in parenthesis are made to order.

- Note:**
1. Four times this value is equivalent to GD².
 2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
 3. For additional or replacement parts, please refer to pg. 64-66.



See specialty chucks on pg. 58-63 to help you beat the competition



**DOD-SERIES (H014M)
DRAW DOWN CLOSED HOLE CHUCK
(OD CHUCKING ONLY)**

PART # CODING EX: HW-06-2J-DOD
HW- C-2J-DOD
06 · 08 · 10

TECHNICAL FEATURES

- Ideal for irregular shaped work pieces
- Pulls the workpiece toward the end face to prevent it from lifting

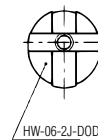
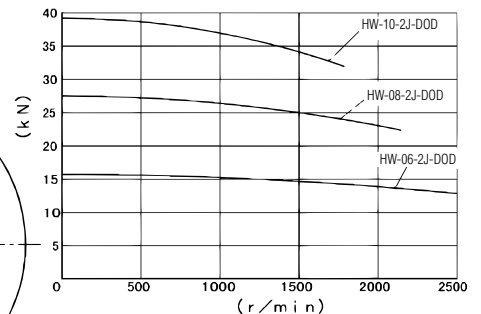
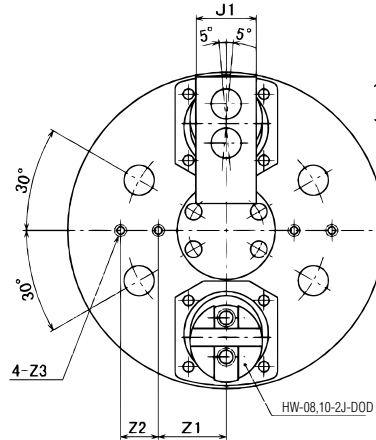
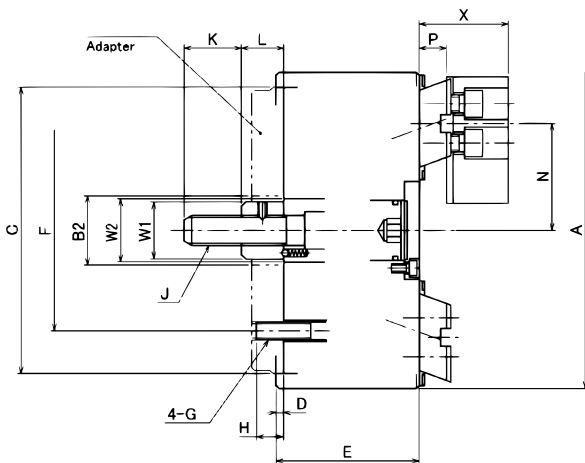
SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	DOD-SERIES		
		06	08	(10)
Jaw movement (Dia)	mm	7	7	10.2
Plunger stroke (Cylinder stroke)	mm	11	11	16
Recommended outside chocking diameter for soft jaws	Max. mm	165	210	254
	Min. mm	35	40	50
Max. speed	rpm	2500	2200	1800
Max. input force	kN	9.8	16.7	24.5
Clamping force at Max. input force (Total jaw force)	kN	15.7	27.5	39.2
Moment of inertia J <i>Note 1</i>	kg·m ²	0.048	0.14	0.38
Weight with soft jaws	kg	14	26	42
MATCHING CYLINDER				
HH4C (pg.46)	Series number	80	100	125
	Max. pressure to operate chuck	MPa	2.3	2.4
H05CH (pg.56)	Series number	175	200	250
	Max. pressure to operate chuck	MPa	0.4	0.6

Note:

1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. The DOD-SERIES chuck is for EXTERNAL clamping ONLY. It cannot be used for internal clamping.
4. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL	SERIES NUMBER (CHUCK Ø)	DOD-SERIES		
		06	08	(10)
A		165	210	254
B2	Min.	37	44	54
C	H7	140	190	230
D		5	5	5
E		85	95	110
F		104.8	133.4	171.4
G		M10	M12	M16
H		16	18	22
J		M16×2	M20×2.5	M24×3
J1		35	40	50
K		36	38	46
L	Max.	34	39	48
	Min.	23	28	32
N	Max.	58	71	85
	Min.	54.5	67.5	79.9
P	Max.	18	18	23
	Min.	8	8	9
W1		32	38	50
W2		35	42	52
X	Max.	49	59	69
	Min.	39	49	55
Z1		35	45	55
Z2		20	25	30
Z3	Size	M6	M8	M8
	Depth	-11	-13	-13

Note: Models in parenthesis are made to order . .



2-JAW SWING LOCK



SL-SERIES (H064M) SWING LOCK CHUCK

PART # CODING EX: HW-06C-2J-SL

HW- C-2J-SL
06 · 08 · 10 · 12

TECHNICAL FEATURES

- Ideal for irregular shaped work pieces
- Pulls the workpiece toward the end face to prevent it from lifting
- Works with tapered work pieces up to 20 degrees
- Jaw stabilizing mechanism enables clamping of irregular surfaces such as casting or forgings
- Capable of external and internal clamping

Jaws depicted are not included

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)		SL-SERIES			
		06	08	10	(12)		
Jaw movement (Dia) at "X2"- dim	mm	7.4	9.2	11.8	11.8		
Plunger stroke (Cylinder stroke)	mm	11.4	14.4	17.5	17.5		
Recommended chucking diameter	outside	mm	12-120	16-150	50-205	63-240	
	inside	mm	70-152	76-203	85-235	127-305	
Max. speed	rpm	3800	3000	2500	2000		
Max. input force	kN	14.3	18.9	23.5	23.5		
Max. clamping force (Total jaw force)	kN	43.1	56.9	70.6	70.6		
Moment of inertia <i>Note1</i>	kg·m ²	0.05	0.11	0.27	0.6		
Weight (without soft jaws)	kg	14	23	40	59		
MATCHING CYLINDER							
HH4C (pg.46)	Series number		80	100	100	100	
	Max. pressure to operate chuck	MPa	3.4	2.7	3.4	3.4	
H05CH (pg.56)	Series number		200	250	250	250	
	Max. pressure to operate chuck	MPa	0.5	0.4	0.5	0.5	

Note:

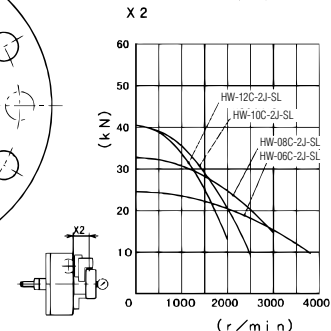
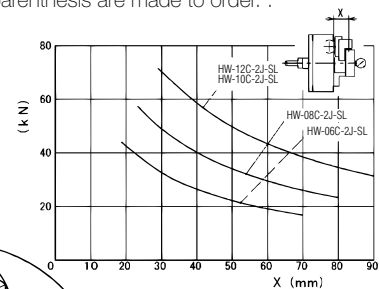
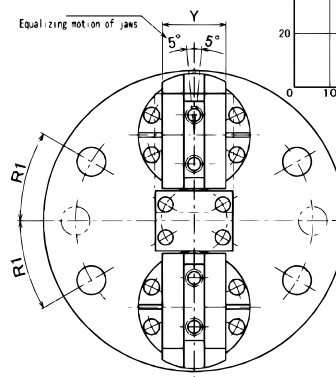
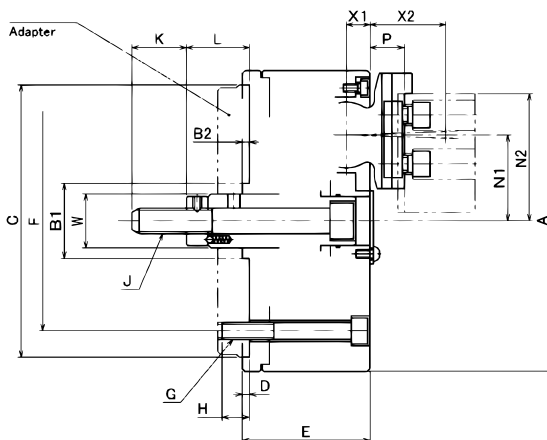
1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.

Note:

HW-06C-2J-SL-A5, HW-06-2J-SL-CP, HW-08C-2J-SL-A6, HW-08-2J-SL-CP, HW-10C-2J-SL-A6, HW-10C-2J-SL-A8, HW-10-2J-SL-CP, HW-12C-2J-SL-A6, HW-12C-2J-SL-A8, HW-12-2J-SL-CP models are also available.

SYMBOL		SERIES NUMBER (CHUCK Ø)		SL-SERIES						
		06	08	10	(12)					
A		175	210	254	304					
B1		42	50	58	66					
B2		5	5	5	5					
C H7		140	190	230	280					
D		5	5	5	5					
E		77	89	106	108					
F		104.8	133.4	171.4	171.4					
G		4-M10	4-M12	4-M16	6-M16					
H		14	19	20	20					
J		M16×2	M18×2.5	M24×3	M27×3					
K		38	38	46	50					
L		Max.	43.9	51.9	67.5	74.5				
		Min.	32.5	37.5	50	57				
N1		51	Max.	53.3	60	62.4	72	75.7	92.5	96.2
			Min.	49.6		57.8		69.8		90.3
N2		73.1	88.9	112.7	133.2					
P		19.3	23.3	29.1	29.1					
R1		30°	30°	30°	30°					
W		32	35	45	53					
X1		13.5	16.5	19.5	19.5					
X2		44.2	52.7	65.6	65.6					
Y h7		38.1	44.4	57.1	57.1					

Note: Models in parenthesis are made to order.



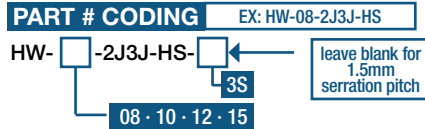
See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks





2J3J-SERIES (H023M)
**WEDGE STYLE 2&3-JAW
THRU HOLE CHUCK**



TECHNICAL FEATURES

- Can be interchanged between a 2 or a 3 jaw chuck to hold cylindrical or irregular shaped work pieces

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)	2J3J-SERIES				
			08	10	12	(15)	
Serration pitch	mm		1.5	1.5	1.5	---	
Jaw movement (Dia)	mm		9.6	18.2	20.4	20.4	
Plunger stroke (Cylinder stroke)	mm		18	25	28	28	
Recommended outside chucking diameter for soft jaws	Max. mm		210	254	304	381	
	Min. mm		30	30	50	70	
Max. speed	rpm	2 Jaw	3500	2800	2000	1600	
		3 Jaw	3500	3500	2500	2000	
Max. input force	kN	2 Jaw	14.7	22.6	29.4	39.2	
		3 Jaw	19.6	34.3	44.1	58.8	
Clamping force at Max. input force (Total jaw force)	kN	2 Jaw	32.4	40.2	52	68.6	
		3 Jaw	43.1	60.8	78.5	103	
Moment of inertia J <i>Note 1</i>	kg·m ²		0.11	0.26	0.64	1.88	
Weight with soft jaws	kg		20	32	55	99	
MATCHING CYLINDER							
C1TA (pg.42)	Series number		140	165	190	190	
	Max. pressure to operate chuck	MPa	2 Jaw	1.3	1.6	1.6	2.1
			3 Jaw	1.7	2.4	2.3	3.1
HH4C (pg.46)	Series number		100	125	140	160	
	Max. pressure to operate chuck	MPa	2 Jaw	2.1	2	2.1	2.1
			3 Jaw	2.8	3	3.1	3.1
H05CH (pg.56)	Series number		200	250	300	300	
	Max. pressure to operate chuck	MPa	2 Jaw	0.5	0.5	0.4	0.6
			3 Jaw	0.7	0.7	0.6	---

Note:

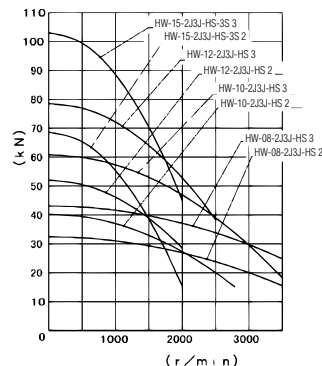
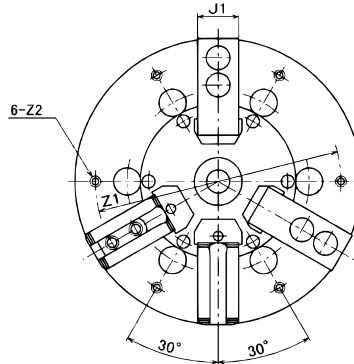
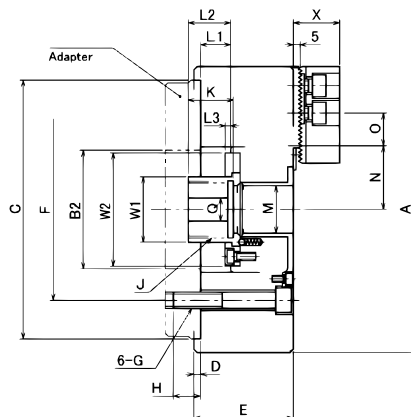
1. Four times this value is equivalent to GD².
2. When the Max. RPM of a rotating cylinder is lower than that of a chuck, do not exceed the maximum RPM.
3. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL	SERIES NUMBER (CHUCK Ø)	2J3J-SERIES			
		08	10	12	(15)
A		210	254	304	381
B2	Min.	50	102	127	167
C	H7	190	230	280	350
D		5	5	5	7
E		73	85	97	122
F		133.4	171.4	200	250
G		M12	M16	M20	M20
H		20	22	25	27
J	Max.	M42x1.5	M50x2	M65x2	M85x2
J1		30	35	40	50
K		27	28	30	40
L1	Max.	23	25	28	28
	Min.	5	0	0	0
L2		26	25	28	28
L3		5	8	11	5
M		35	40	55	75
N	Max.	45.8	51.3	65.8	85.4
	Min.	41	42.2	55.6	75.2
O	Max.	30	42	46.5	51
	Min.	7.5	9.5	10.5	15
Q		17	21	28	31
W1		48	58	75	95
W2		83	100	125	165
X		34	44	54	63
Z1		180	220	250	305
Z2	Size	M8	M10	M12	M12
	Depth	-13	-15	-17	-17

Note: Models in parenthesis are made to order.

WARNING

This chuck has been pre-balanced to function optimally as the chuck jaws are in the middle of its capable stroke. When the chuck is beyond its central stroke position, the balance of the overall assembly may change resulting in vibration during rotation. For these types of applications, please make proper balance adjustments prior to operation.



3-JAW STATIONARY



SCLW-SERIES (H012D) LIGHT WEIGHT STATIONARY CHUCK

PART # CODING EX: HW-04-SCLW

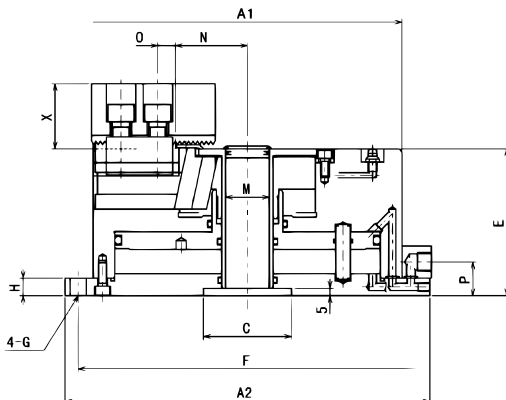
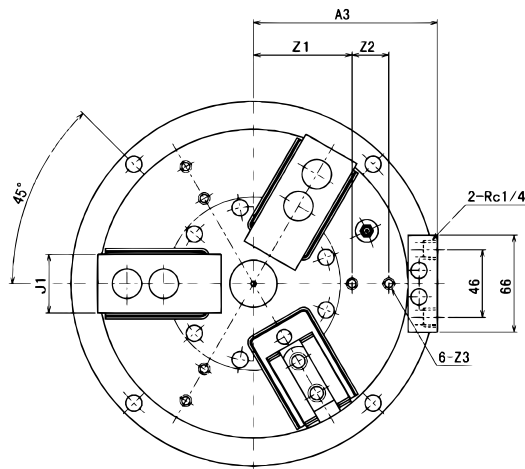
HW- -SCLW
04 · 06 · 08 · 10

TECHNICAL FEATURES

- Rigid and short construction makes the stationary 3 jaw chucks ideal for operating in machining centers
- Dust proof shield prevents chips and other types of debris from entering into the chuck assembly

SPECIFICATIONS	SERIES NUMBER (CHUCK Ø)	SCLW-SERIES			
		04	06	08	(10)
Serration pitch	mm	1.5	1.5	1.5	1.5
Jaw movement (Dia)	mm	5.5	5.5	7	7
Recommended outside chucking diameter for soft jaws	Max. mm	110	165	210	254
	Min. mm	8	36	38	38
Max. pressure	MPa	0.7	0.7	0.7	0.7
Clamping force at Max. input force (Total jaw force)	kN	7.8	20.6	33.3	51
Effective piston area	Extend cm ²	60.1	146.9	245.2	375.8
	Retract cm ²	57.7	140.5	236.7	360.6
Piston stroke	mm	13	13	16.5	16.5
Weight with soft jaws	kg	6	15	26	40

SYMBOL	SERIES NUMBER (CHUCK Ø)	SCLW-SERIES			
		04	06	08	(10)
A1		110	165	210	254
A2		147	203	248	300
A3		75	102.5	125	147
C	H8	35	50	60	80
E		75	85	100	105
F		130	185	230	280
G		9	11	11	13
H		10	12	12	14
J1		25	35	40	45
M		4	20	30	44
N	Max.	27	39	49	59
	Min.	24.25	36.25	45.5	55.5
O	Max.	7.5	13.5	21	27
	Min.	6	7.5	10.5	12
P		21	23	23	25
X		29	39	44	49
Z1		---	55	67	80
Z2		---	20	25	30
Z3	Size	---	M6	M8	M8
	Depth	---	-10	-13	-13



Note:

1. Models in parenthesis are made to order.
2. For additional or replacement parts, please refer to pg. 64-66.

TOP SECRET

See specialty chucks on pg. 58-63 to help you beat the competition



SC-SERIES (H010D/H024D/H037D)
STATIONARY CHUCK

PART # CODING EX: HW-06C-SC-3S

HW- C-SC-3S
 06 · 08

PART # CODING EX: HW-06C-2J-SC

HW- C-2J-SC
 06 · 08

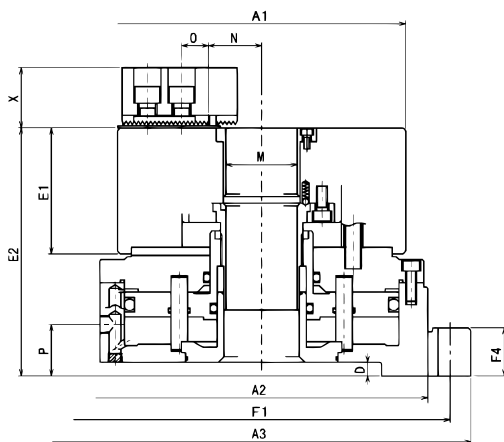
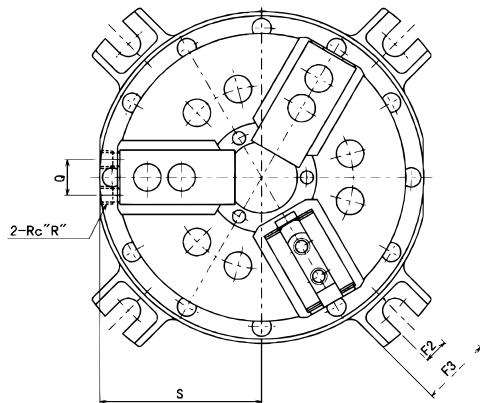
PART # CODING EX: HW-06-SC

HW- -SC- 3S
 06 · 08

leave blank for 1.5mm serration pitch

SPECIFICATIONS		SERIES NUMBER (CHUCK Ø)		SC-3S		2J-SC		SC	
		(6)	(8)	(6)	(8)	(6)	(8)		
Serration pitch	mm	---	---	1.5	1.5	1.5	1.5	---	---
		3	3	---	---	---	---		
Jaw movement (Dia)	mm	7	7	13	16	6.3	7.6		
Recommended outside chucking diameter for soft jaws	Max. mm	165	210	165	210	165	210		
	Min. mm	20	18	20	22	24	15		
Max. pressure	MPa	0.54	0.7	0.36	0.7	0.7	0.7		
Clamping force at Max. input force (Total jaw force)	kN	41.2	51.7	21.6	43.1	56.9	53.1		
Effective piston area	Extend cm ²	278.7	278.7	278.7	278.7	278.7	278.7		
	Retract cm ²	267.7	267.7	267.7	267.7	267.7	267.7		
Piston stroke	mm	15	20	18	22	15	18		
Weight with soft jaws	kg	38	48	36	47	38	49		

SYMBOL		SERIES NUMBER (CHUCK Ø)		SC-3S		2J-SC		SC	
		(6)	(8)	(6)	(8)	(6)	(8)		
A1		165	210	165	210	168	210		
A2		242	242	242	242	242	242		
A3		305	305	305	305	305	305		
D		3	3	3	3	10	10		
E1		72	85	63	77	82	92		
E2		152	165	145	159	171	181		
F1		275	275	275	275	275	275		
F2		18	18	18	18	18	18		
F3		50	50	50	50	50	50		
F4		28	28	28	28	35	35		
M		---	---	---	---	45	52		
N	Max.	41.8	42.3	38.8	42.8	36.25	38.8		
	Min.	38.3	38.8	32.3	34.8	33.1	35		
O	Max.	13	27	18	30	18	31.5		
	Min.	7	12	7.3	13.5	9	10.5		
P		30.5	30.5	30.5	30.5	37.5	37.5		
Q		26	26	26	26	26	26		
R		4-Jan	4-Jan	4-Jan	4-Jan	4-Jan	4-Jan		
S		117.8	117.8	117.8	117.8	117.8	117.8		
X		43	43	34	44	39	44		



Note:

1. Models in parenthesis are made to order.
2. For additional or replacement parts, please refer to pg. 64-66.

TECHNICAL FEATURES

- Rigid and short construction makes stationary chucks ideal for operations in machining centers

C-SC-3S

- Low chuck height optimizes machining work space

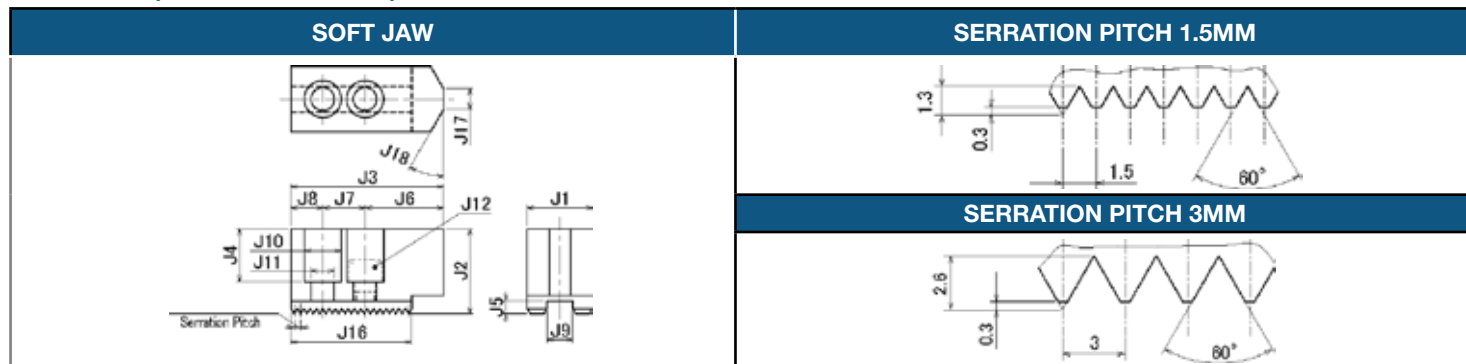
C-2J-SC

- Full 360 degree positioning is irrespective of clamping mechanism allowing for convenience during operation. 2 jaw chucks are suitable for clamping complex and irregular shaped work pieces

SC

- Large central thru hole enables long work pieces to be clamped

SOFT JAW (SERRATION TYPE)



CHUCK SERIES #	SERRATION PITCH	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J16	J17	J18	kg Weight	PT#	
C-HS	4	1.5	25	25	54	14	5	30	14	10	10	13.5	9	M8	51	8	30°	0.2	HW-SJ-04-CHS-1.5S-25
	5	1.5	25	25	58.5	14	5	31.5	19	8	10	14	9	M8	---	---	---	0.2	HW-SJ-05-CHS-1.5S-25
	6	3	31	40	72	25	6	37	20	15	12	17.5	11	M10	---	---	---	0.6	HW-SJ-06-CHS-3S-40
	6S	1.5	31	40	70.5	26	5	35.5	20	15	12	17.5	11	M10	---	---	---	0.6	HW-SJ-06S-CHS-1.5S-40
	8	3	34	40	90	22	6	45	25	20	14	20	13.5	M12	---	---	---	0.8	HW-SJ-08-CHS-3S-40
	8S	1.5	34	40	90	23	5	45	25	20	14	20	13.5	M12	---	---	---	0.8	HW-SJ-08S-CHS-1.5S-40
	10	3	40	40	111	22	6	51	30	30	16	20	13.5	M12	---	---	---	1.2	HW-SJ-10-CHS-3S-40
	10S	1.5	40	40	111	23	5	51	30	30	16	20	13.5	M12	---	---	---	1.2	HW-SJ-10S-CHS-1.5S-40
	12	3	50	50	129	32	6	60	30	39	18	23	15.5	M14	---	---	---	2.2	HW-SJ-12-CHS-3S-50
	12S	1.5	50	50	129	33	5	60	30	39	18	23	15.5	M14	---	---	---	2.2	HW-SJ-12S-CHS-1.5S-50
	15	3	65	70	156	50	8	72	50	34	26	32	22	M20	---	---	---	4.7	HW-SJ-15-CHS-3S-70
	C-LS	6	1.5	30	30	70.5	20	5	36	20	14.5	12	17.5	11	M10	---	---	---	0.4
8		1.5	35	40	90	26	5	45	25	20	16	20	13.5	M12	---	---	---	0.7	HW-SJ-08-LS-1.5S-40
10		1.5	40	50	105	35	5	51	30	24	18	23	15.5	M14	---	---	---	1.3	HW-SJ-10-LS-1.5S-50
12		3	50	60	126	42	6	60	40	26	21	26	17.5	M16	---	---	---	2.4	HW-SJ-12-LS-3S-60
HS	4	1.5	25	25	47.5	16	4	22	16	9.5	11	14	9	M8	42	4	30°	0.2	HW-SJ-04-HS-1.5S-25
	6	1.5	35	35	66	22	5	31.5	20	14.5	12	17.5	11	M10	---	---	---	0.6	HW-SJ-06-HS-1.5S-35
	8	1.5	40	40	85.5	26	5	40.5	25	20	16	20	13.5	M12	---	---	---	1	HW-SJ-08-HS-1.5S-40
	10	1.5	45	45	108	30	5	54	30	24	18	23	15.5	M14	---	---	---	1.5	HW-SJ-10-HS-1.5S-45
	12	1.5	50	60	111	42	5	51	35	25	21	26	17.5	M16	---	---	---	2.2	HW-SJ-12-HS-1.5S-60
15	3	60	66	138	47	8	66	42	30	26	32	22	M20	---	---	---	3.9	HW-SJ-15-HS-3S-66	
XLS	6	1.5	28	30	60	21	4	30	16	14	11	14	9	M8	---	---	---	0.4	HW-SJ-06-XLS-1.5S-30
KS BB-KS	6	1.5	26	28	66	16	5	34	20	12	12	17.5	11	M10	54	5	30°	0.3	HW-SJ-06-KS-1.5S-28
	8	1.5	35	38	95	23	5	46	25	24	14	20	13.5	M12	75	12	30°	0.8	HW-SJ-08-KS-1.5S-38
	10	1.5	40	42	110	27	5	50	30	30	16	20	13.5	M12	90	15	15°	1.2	HW-SJ-10-KS-1.5S-42
	12	1.5	50	50	111	33	5	60	30	21	21	26	17.5	M16	---	---	---	1.8	HW-SJ-12-KS-1.5S-50
C-KS	6	1.5	31	32	72	20	5	37	20	15	12	17.5	11	M10	57	12	30	0.4	HW-SJ-06-CKS-1.5S-32
	12	1.5	50	50	129	30	5	60	30	39	18	23	15.5	M14	---	---	---	2.2	HW-SJ-12-CKS-1.5S-50
	15	1.5	50	60	135	39	5	66	43	26	25.5	32	22	M20	---	---	---	2.5	HW-SJ-15-CKS-1.5S-60

Note:

- When ordering jaws, to assure compatibility, please specify chuck model number. Please also specify jaw nuts if needed.
- Specify the following information if special jaws are necessary: Shape and size of work piece, machining condition, and gripping position.

COMPATIBILITY OF SOFT JAW

CHUCK SERIES NUMBER		COMPATIBLE CHUCK SERIES NUMBER				
C-HS	4	HW-05C-LS	HW-05C-2J-LS	HW-04-SCLW		
	6				HW-06C-SC-3S	
	8				HW-08C-SC-3S	
	15	HW-18C-HS-3S	HW-18C-HS-3S	HW-24C-HS-3S		
C-LS	6	HW-08-2J3J-HS	HW-06C-2J-LS		HW-06C-2J-SC	HW-06C-COL
	8	HW-10-2J3J-HS	HW-08C-2J-LS		HW-08C-2J-SC	HW-08C-COL
	10	HW-12-2J3J-HS	HW-10C-2J-LS			HW-10C-COL
	12	HW-15-2J3J-HS-3S	HW-12C-2J-LS			
HS	4	HW-05-HS				
	6	HW-08-XLS		HW-06-SCLW	HW-06-SC	HW-06-2J-HS
	8	HW-10-XLS		HW-08-SCLW	HW-08-SC	HW-08-2J-HS
	10	HW-12-XLS		HW-10-SCLW		HW-10-2J-HS
	12					HW-12-2J-HS
15					HW-15-2J-HS-3S	
KS	6	HW-06BB-KS				
	8	HW-08BB-KS	HW-08C-KS			
	10	HW-10BB-KS	HW-10C-KS			
	12	HW-12BB-KS				

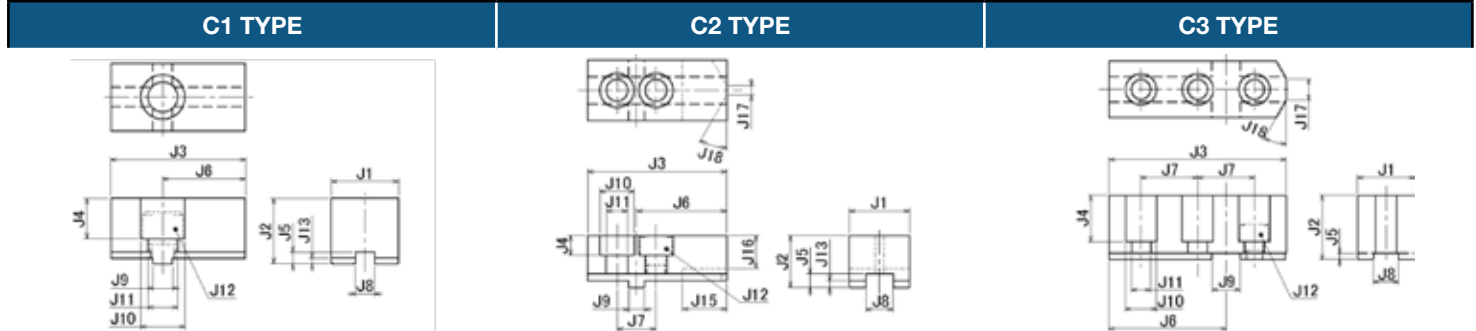


See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks



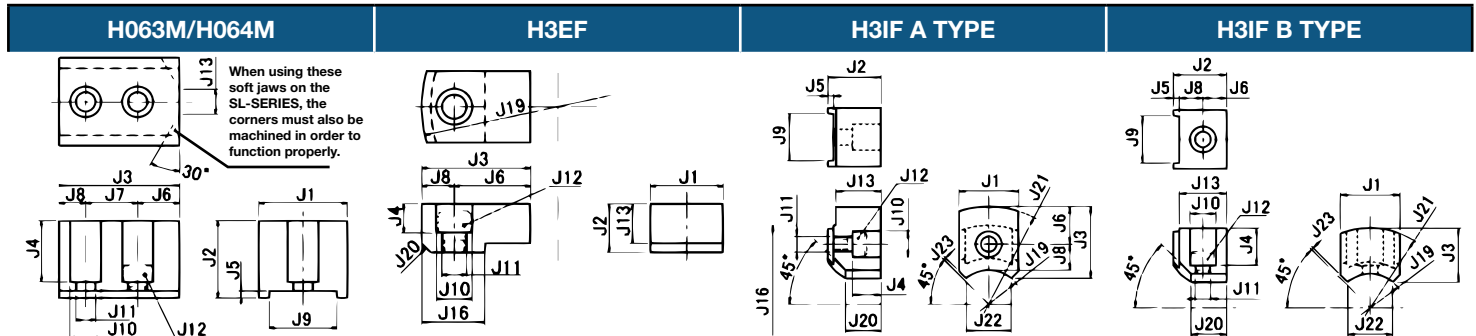
SOFT JAW (TONGUE AND GROOVE TYPE)



CHUCK SERIES NUMBER					J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J15	J16	J17	J18	kg -1 Weight	PT#			
DOD					4	25	22	50	13	5.5	28	---	8	8	17.5	11	M10	2.5		---	---	0.2	HW-SJ1-04-DOD			
DOD					5	30	27	56	15	5.5	33	---	8	8	20	13.5	M12	2.5		---	---	0.3	HW-SJ1-05-DOD			
DOD			2J-DOD		6	35	34	70	21	6	43	---	10	10	23	15.5	M14	3		---	---	0.5	HW-SJ1-06-DOD			
			C-DOD-S	DP	6	35	33.5	70	18	7	47	20	14	8	17.5	11	M10	3.5		8	30°	0.5	HW-SJ2-06-C-DOD-S			
				C-DP-S	6	35	33.5	70	18	7	47	20	14	8	17.5	11	M10	3.5	25	26.5	8	30°	0.5	HW-SJ2-06-C-DP-S		
		DID		(C-COLSJ) (C-COLSJ-S)	6	35	33.5	70	18	7	47	20	14	8	17.5	11	M10	3.5			-2	(45°)	0.5	HW-SJ2-06-DID		
DOD	C-DOD-S	DID	2J-DOD	DP	(C-COLSJ) (C-COLSJ-S)	8	40	44.5	84	29	7	53	26	16	12	20	13.5	M12	3.5			-2	(45°)	1	HS-SJ2-08-DOD	
				C-DP-S	8	40	44.5	84	29	7	53	26	16	12	20	13.5	M12	3.5	26	34	20	30°	0.9	HW-SJ2-08-C-DP-S		
DOD	C-DOD-S	DID	2J-DOD	DP	(C-COLSJ) (C-COLSJ-S)	10	50	49.5	100	32	7	62	32	18	15	23	15.5	M14	3.5			-2	(45°)	1.6	HW-SJ2-10-DOD	
				C-DP-S	10	50	49.5	100	32	7	62	32	18	15	23	15.5	M14	3.5	25	39	44	45°	1.5	HW-SJ2-10-C-DP-S		
DOD	C-DOD-S	DID		DP	(C-COLSJ) (C-COLSJ-S)	12	60	54.5	120	36	7	78	36	20	17	26	17.5	M16	3.5			-2	(60°)	2.4	HW-SJ2-12-DOD	
				C-DP-S	12	60	54.5	120	36	7	78	36	20	17	26	17.5	M16	3.5	38	41	54	45°	2.4	HW-SJ2-12-C-DP-S		
QC					8	32	36	100	26	3.5	66	32	14	16	17.5	11	M10	---				12	30°	0.8	HW-SJ3-08-QC	
					10	35	43	110	33	3.5	72	34	16	16	20	13.5	M12	---					12	30°	1.1	HW-SJ3-10-QC
					12	40	50	130	40	3.5	85	40	16	20	20	13.5	M12	---					12	30°	1.9	HW-SJ3-12-QC
					15	40	50	160	40	3.5	107.5	55	16	25	20	13.5	M12	---					12	30°	2.3	HW-SJ3-15-QC

Note: Although soft jaws are not attached to model COLSJ-SERIES (H055M)•COLSJ-S-SERIES (H3YS) described in "()", ones that are contained in this table can be mounted. In that case additional machining of dimension J17 and J18 is necessary.

SOFT JAW (TYPE C-SL/C-2J-SL-DODHS-CP/C-DID-CP)

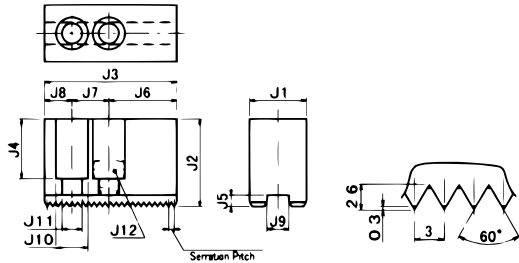


CHUCK SERIES NUMBER	JAW TYPE	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J16	J19	J20	J21	J22	J23	kg -1 Weight	PT #	
C-SL	6	50	44	68	35	4	23.64	29.36	15	38.1	17.5	11	M10	14	--	--	--	--	--	--	1	HW-SJ4-06-C-SL	
	8	55	54	83	43.5	4	33.87	34.13	15	44.4	20	13.5	M12	18	--	--	--	--	--	--	1.6	HW-SJ4-08-C-SL	
	C-2J-SL	10	70	64	100	52.5	4	36.55	44.45	19	57.1	26	17.5	M16	40	--	--	--	--	--	--	2.9	HW-SJ4-10-C-SL
		12	70	64	110	52.5	4	46.55	44.45	19	57.1	26	17.5	M16	70	--	--	--	--	--	--	3.2	HW-SJ4-12-C-SL
DODHS-CP	6	32	22	47	12	--	32	--	15	--	17.5	11	M10	17	30	118	C5	--	--	--	0.2	HW-SJ5-06-DODHS-CP	
	8	40	27	60	16	--	42	--	18	--	20	13.5	M12	22	35	150	C5	--	--	--	0.4	HW-SJ5-08-DODHS-CP	
	10	48	33	72.5	20	--	49.5	--	23	--	23	15.5	M14	27	44.5	185	C5	--	--	--	0.7	HW-SJ5-10-DODHS-CP	
C-DID-CP	5	A	25	22.5	21.55	16	2.5	10	--	10	20	11	6.6	M6	20	--	29	15	68	19	1	0.1	HW-SJ6-05-C-DID-CP
		B	25	22.5	30.55	12	2.5	16	--	11	20	11	6.6	M6	19.5	67	29	15	83	19	1	0.1	HW-SJ7-05-C-DID-CP
	6	A	32	25.5	28.8	18.5	2.5	12	--	11	27	14	9	M8	23	--	40	18	88	26	1.6	0.1	HW-SJ6-06-C-DID-CP
		B	32	25.5	38.8	15	2.5	20	--	14	27	14	9	M8	22.5	87	40	18	108	26	1.6	0.2	HW-SJ7-06-C-DID-CP

EXTRA HIGH STANDARD SOFT/HARD JAW



EXTRA HIGH STANDARD SOFT JAW (S1 TYPE)

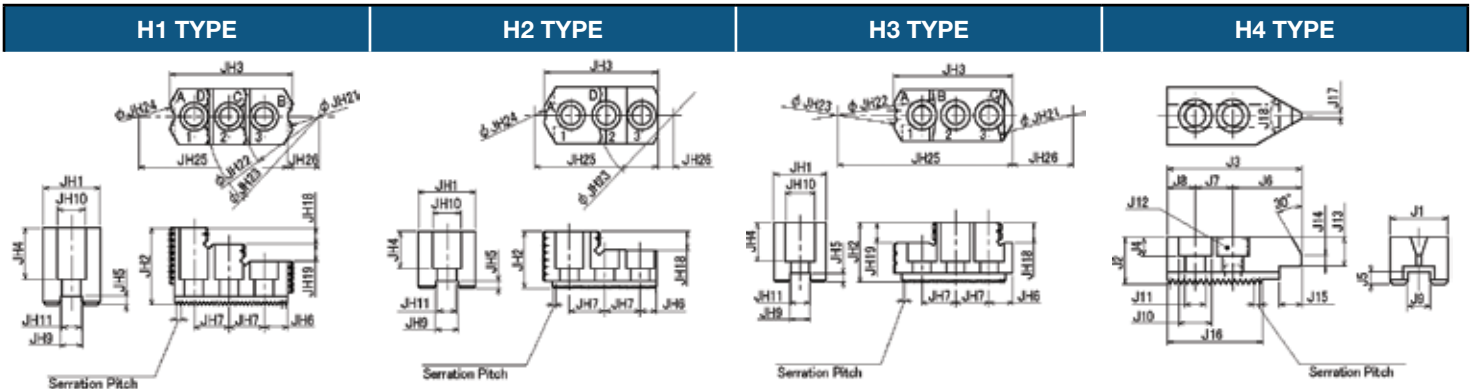


Extra high standard soft jaws are made of carbon steel JIS S48C (SAE 1045 or ISO C50 is equivalent to S48C). When ordering jaws, specify jaw number. Also specify T-nuts if needed (T-nuts are same as standard nuts).

Note: The dimensions marked with a * differ from those of the standard jaw.

CHUCK SERIES NUMBER	JAW NUMBER	SERRATION PITCH	J1*	J2*	J3*	J4*	J5	J6*	J7	J8*	J9	J10	J11	J12	kg (1) Weight	
C-HS	6	401-062-0-000	3	40	55	87	40	6	51	20	16	12	17.5	11	M10	1.4
	8	401-062-1-000	3	40	60	102	42	6	57	25	20	14	20	13.5	M12	1.6
	10	401-062-2-000	3	50	70	123	52	6	63	30	30	16	20	13.5	M12	3
	12	401-062-3-000	3	62	80	144	63	6	75	30	39	18	23	15.5	M14	5

HARD JAW



CHUCK SERIES NUMBER	SERRATION PITCH	JH1	JH2	JH3	JH4	JH5	JH6	JH7	JH9	JH10	JH11	JH18	JH19	JH21	JH22	JH23	JH24	JH25	JH26	kg -1 Weight	PART #	
C-HS	6	3	35	46	85.2	31	6	13.5	20	12	17.5	11	10	10	44	104	128	56	106	25	0.6	HW-HJ1-06-C-HS-3S
	8	3	40	55	87.8	37	6	17	25	14	20	13.5	12	12	42	108	160	48	106.5	22.5	0.7	HW-HJ1-08-C-HS-3S
	10	3	40	56	98.7	39	6	15	30	16	20	13.5	13	13	86	145	208	53	120	45	1	HW-HJ1-10-C-HS-3S
	12	3	50	62	104.4	45	6	16	30	18	23	16	15	15	140	200	260	70	134.5	71.5	1.5	HW-HJ1-12-C-HS-3S
	15	3	65	75	153.3	55	8	20	50	26	32	22	30	--	--	300	150	225	68	3.3	HW-HJ2-15-C-HS-3S	
HS	4 Note4	1.5	28	30	54.3	20	5	12	14	11	14	9	8	--	--	75	20	63	12	0.3	HW-HJ2-04-HS-1.5S	
	6	1.5	35	35	64.3	22	5	10	20	12	17.5	11	11	--	--	86	12	69.5	9.5	0.4	HW-HJ2-06-HS-1.5S	
	8	1.5	40	40	80.1	26	5	11.5	25	16	20	13.5	13	--	--	106	16	87	11	0.8	HW-HJ2-08-HS-1.5S	
	10	1.5	45	45	95.3	30	5	15	30	18	23	16	15	--	--	138	24	106	16	1.2	HW-HJ2-10-HS-1.5S	
	12	1.5	50	50	109.7	37	5	15.5	35	21	26	18	20	--	--	166	32	124.5	17.5	1.8	HW-HJ2-12-HS-1.5S	
KS	6	1.5	31	35	70.8	23	5	14	20	12	17.5	11	12	12	90	116	68	--	104	36	0.3	HW-HJ3-06-KS-1.5S
	8	1.5	35	51	87	36	5	19	25	14	20	13.5	12	12	71	136	169	87	127	38	0.6	HW-HJ1-08-KS-1.5S
	10	1.5	40	54	101.3	39	5	10.5	30	16	20	13.5	13	13	100	186	220	82	136.5	54.5	1	HW-HJ1-10-KS-1.5S
	12	1.5	50	52	106.64	35	5	20.25	30	21	26	17.5	17	--	--	210	84	145.25	47.75	1.3	HW-HJ2-15-KS-1.5S	
CHUCK SERIES NUMBER	SERRATION PITCH	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	kg -1 Weight	Jaw type	
C-COL	6	1.5	31	23.5	73	10	5	38	20	15	12	17.5	11	M10	15.5	6	13	46.5	1.5	60°	0.4	HW-HJ4-06-C-COL-1.5S
	8	1.5	35	26	89.5	12	5	44.5	25	20	16	20	13.5	M12	18	7	14.5	57	1.5	60°	0.5	HW-HJ4-08-C-COL-1.5S
	10	1.5	40	29	103.5	14	5	48.5	30	25	18	23	15.5	M14	21	7	16	67.5	1.5	60°	0.7	HW-HJ4-10-C-COL-1.5S
	12	1.5	45	32	122	16	5	52	40	30	21	26	17.5	M16	22	7	16.5	85.5	1.5	60°	0.9	HW-HJ4-12-C-COL-1.5S

Note:

1. Hard jaws are made of hardened carburizing steel.
2. When ordering, specify the chuck number.
3. No T-nuts are included with standard hard jaws. Specify if they are needed.
4. Hard jaws for HW-04-HS or HW-05-HS require special jaw nuts and bolts. Specify if they are needed.



See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks

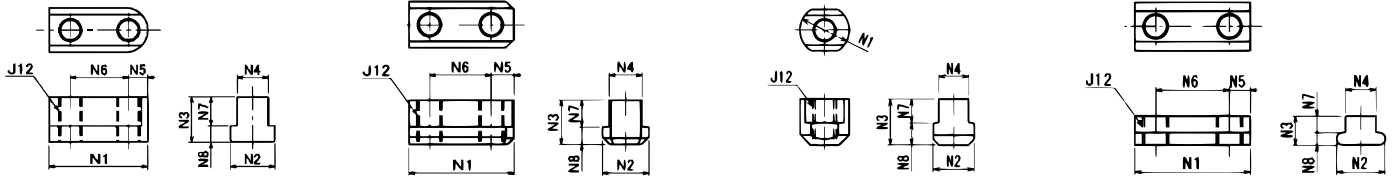


AVAILABLE RANGE OF GRIPPING DIAMETER

BOLT NUMBER		1-2				2-3			
STEP NUMBER		A	B	C	D	A	B	C	D
CHUCK SERIES									
C-HS	6	49-66	25-41	85-101	109-125	19-23	60-75	120-136	144-160
	8	75-109	18-50	83-117	135-169	23-57	69-103	136-169	188-222
	10	82-136	27-81	85-140	148-203	24-76	86-139	145-199	208-262
	12	83-166	34-119	94-179	154-239	24107	94-178	154-238	214-298
HS	15	116-200	---	---	198-284	32-100	---	---	300-384
	4	23-40	---	---	61-67	11-15	---	---	75-93
	5	28-63	---	---	63-89	10-36	---	---	80-116
	6	54-82	---	---	87-114	13-40	---	---	128-155
	8	54-103	---	---	102-151	10-55	---	---	152-201
	10	84-132	---	---	140-187	26-72	---	---	199-247
KS	12	94-160	---	---	173-239	26-92	---	---	241-307
	15	119-204	---	---	200-284	36-121	---	---	282-367
	6	48-78	96-126	32-60	---	12-36	60-84	71-101	---
	8	75-109	9-43	74-109	107-142	24-58	60-94	125-159	158-192
	10	74-119	34-79	121-165	155-199	14-59	94-139	180-224	214-259
	12	101-166	---	---	166-233	42-108	---	---	226-292

STANDARD T-NUT

J1 TYPE	J2 TYPE	J3 TYPE	J4 TYPE
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CHUCK SERIES NUMBER	N1	N2	N3	N4	N5	N6	N7	N8	J12	WEIGHT (KG)	PART #	
C-HS	4	25.5	15	16.5	10	5.5	14	11	5.5	M8	0.027	HW-TN1-04-C-HS
	5	30.5	15	16.5	10	5.5	19	11	5.5	M8	0.034	HW-TN1-05-C-HS
	6	37	17	21.5	12	8	20	14	7.5	M10	0.061	HW-TN1-06-C-HS
	8	46	20	23.5	14	10	25	15	8.5	M12	0.095	HW-TN1-08-C-HS
	10	51	23	23.5	16	10	30	15	8.5	M12	0.14	HW-TN1-10-C-HS
	12	53	28	33	18	11	30	19	14	M14	0.262	HW-TN1-12-C-HS
HS	15	82	34	40	26	16	50	23	17	M20	0.56	HW-TN1-15-C-HS
	4	29	16	16.5	11	6.5	16	10	6.5	M8	0.036	HW-TN1-04-C-HS
	8	45	22	26.5	16	10	25	18	8.5	M12	0.12	HW-TN1-08-C-HS
	10	52	24	27.5	18	11	30	18	9.5	M14	0.161	HW-TN1-10-C-HS
C-COL	12	60	27	29	21	12	35	18.5	10.5	M16	0.242	HW-TN1-12-C-HS
	15	74	34	40	26	16	42	23	17	M20	0.53	HW-TN1-15-C-HS
KS	12	65	27	29	21	12	40	18.5	10.5	M16	0.252	HW-TN1-12-C-COL
KS/BB-KS	6	36	17	18.5	12	8	20	11	7.5	M10	0.054	HW-TN2-06-KS
	8	36.5	17	18.5	12	8	20	11	7.5	M10	0.054	HW-TN2-06-BB-KS
C-KS	10	46.5	20	20.5	14	10.5	25	12	8.5	M12	0.092	HW-TN2-08-KS
	12	51	22.5	21.5	16	11	30	13	8.5	M12	0.126	HW-TN2-10-KS
	15	55.5	29.5	27.5	21	12	30	16	11.5	M16	0.211	HW-TN2-12-KS
C-SL/C-2J-SL	6	36.5	17	22.5	12	7.5	20	15	7.5	M10	0.064	HW-TN2-06-C-KS
	8	48	20	25.5	14	11	25	16	9.5	M12	0.114	HW-TN2-08-C-KS
	10	55	22	25.5	16	11	30	16	9.5	M12	0.155	HW-TN2-10-C-KS
C-SL/C-2J-SL	12	55.5	26.5	33.5	18	11.5	30	20	13.5	M14	0.238	HW-TN2-12-C-KS
	15	42	35	39.25	25.5	---	---	20.25	19	M20	0.251	HW-TN3-15-C-KS
	6	46.8	20	11	12.5	8.7	29.36	6.1	4.9	M10	0.05	HW-TN4-06-C-SL
C-SL/C-2J-SL	8	53.3	22.25	13.3	14.1	9.6	34.13	7.5	5.8	M12	0.075	HW-TN4-08-C-SL
	10 12	68.4	28.3	17.6	18.9	12	44.45	10.3	7.3	M16	0.16	HW-TN4-10-C-SL

COMPATIBILITY OF T-NUT

CHUCK SERIES NUMBER	COMPATIBLE CHUCK SERIES NUMBER									
C-HS	4	HW-05C-LS		HW-05C-2J-LS						HW-04-SCLW
	6	HW-06C-LS	HW-08-2J3J-HS	HW-06C-2J-LS		HW-06-2J-HS		HW-06-HS	HW-06C-COL	HW-08-XLS
	15	HW-18C-HS-3S	HW-21C-HS-3S	HW-24C-HS-3S						
HS	4							HW-05-HS		HW-06-XLS
	8	HW-08C-LS	HW-10-2J3J-HS	HW-08C-2J-LS		HW-08-2J-HS			HW-08C-COL	HW-10-XLS
	10	HW-10C-LS	HW-12-2J3J-HS	HW-10C-2J-LS		HW-10-2J-HS			HW-10C-COL	HW-12-XLS
	12					HW-12-2J-HS				HW-10-SCLW
	15					HW-15-2J-HS-3S				
C-COL	12	HW-12C-LS-3S	HW-15-2J3J-HS-3S	HW-12C-2J-LS						

GRIPPER (INSERT JAW)

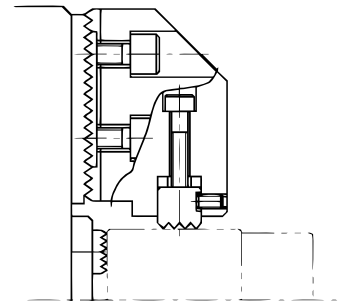
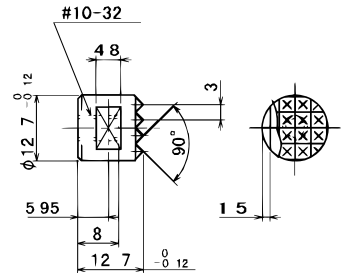
Grippers are mounted to soft blank jaws to grip a work piece firmly.

MODEL R1

Material: Solid carbide

Solid Carbide grippers provide high wear resistance and repeatability when chucking parts. Grippers can be used to not only help secure parts, but also to be used as dead length stoppers.

#10-32x25.4



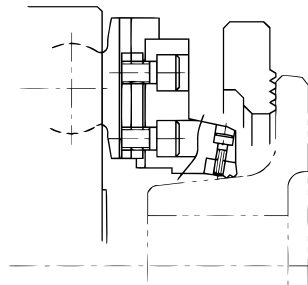
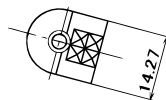
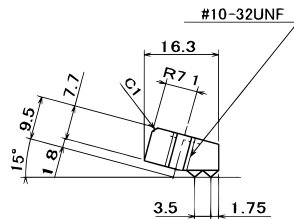
Example

MODEL HS-127-4

Material: Hardened tool steel

Hardened Tool Steel Grippers provide resistance to chipping, making them ideal under high chucking forces.

12.9mm mounting bolts are not included.



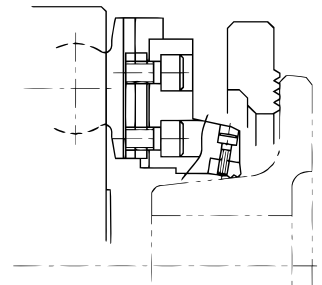
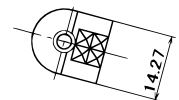
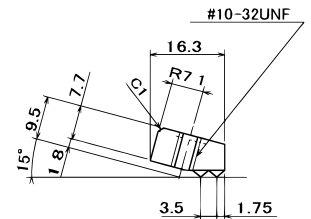
Example

MODEL CT-127-4

Material: Carbide tipped

Sintered solid carbide tipped hardened steel grippers provide both wear resistance and durability.

12.9mm mounting bolts are not included.



Example





C1TA
THRU HOLE ROTATING HYDRAULIC
CYLINDER WITH SAFETY DEVICE

SPECIFICATIONS			SERIES NUMBER				
			C1TA				
			115	140	165	190	(215)
Effective Piston Area	Extend	cm ²	81.8	125.7	157.1	205.0	219.9
	Retract	cm ²	70.7	115.5	142.9	188.5	209.1
Piston Stroke		mm	15	20	25	30	30
Max. speed		r/min	6300	5600	4700	3800	2800
Max. pressure		MPa	3.5	3.5	3.5	3.5	3.5
Moment of Inertia	Note 1	kg·m ²	0.025	0.044	0.081	0.140	0.410
Weight		kg	11.5	15.5	21	27	62
Total Leakage	Note 2	L/min	3.0	3.6	4.2	4.2	5.8

Note:

1. Four times this value is equivalent to GD².
2. ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
3. Never use the cylinder with a vertical lathe.
4. For additional or replacement parts, please refer to pg. 64-66.

Note: Models in parenthesis are made to order.

TECHNICAL FEATURES

- Lightweight chuck with short overall length and large thru hole
- Built-in check valve
- Optional coolant collector and detecting ring for checking operation

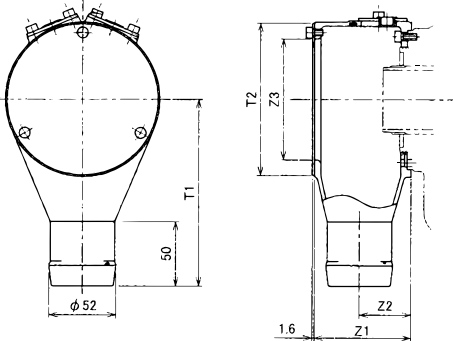
Series Number	Specifications	C1TA				
		115	140	165	190	(215)
A	I.D.	115	140	165	190	215
B		188	209	235	260	295
C		160	190	215	240	-
D		130	170	190	215	250
E	h7	100	130	160	180	280
G1	Max.	15	22	25	30	35
	Min.	0	2	0	0	5
G2	Max.	28	33	38	43	43
	Min.	13	13	13	13	13
J1		32	35	43	54	57
J2		30	30	35	35	40
K		158	163	183	204	269
L	Size	12-M10	12-M10	12-M10	12-M10	6-M16
	Depth	-20	-20	-20	-24	-30
M1		M55X2	M60X2	M85X2	M11X2	M130X2
M2		M52X1.5	M58X1.5	M84X2	M99X2	M130X2
O1		65	70	95	110	140
O2		50 H8	55 H8	80 H8	95 H8	130.5 H7
O3		46	52	75	91	118
O4	h7	50	56	81	96	127
P		97.5	101	115	130	147
Q		11	12	12	14	34
R		61	64	72	83	164
T1		77	87	98	109	137
T2		130	145	160	175	205
X1		64	71	96	111	148
X2	Size	M5	M5	M5	M5	M6
	Depth	-10	-10	-10	-10	-12
Y1	H7	74	82	107	122	162
Y2		82	91	116	131	178
Y3		98	110	135	150	215
Y4	Size	4-M5	4-M5	4-M5	4-M5	6-M6
	Depth	-10	-10	-10	-10	-12
Y5		108 h8	120 h8	145 h8	160 h8	195 H7

HYDRAULIC CYLINDER THRU HOLE

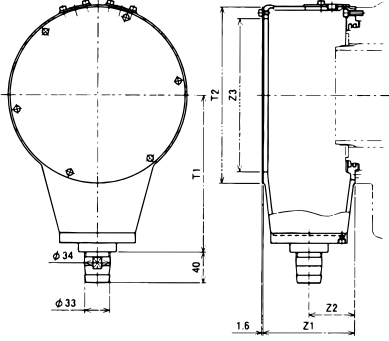


C1TA COOLANT COLLECTOR • DETECTING RING

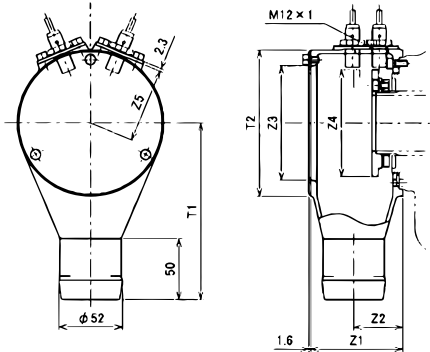
C1TA115,140,165,190
COOLANT COLLECTOR



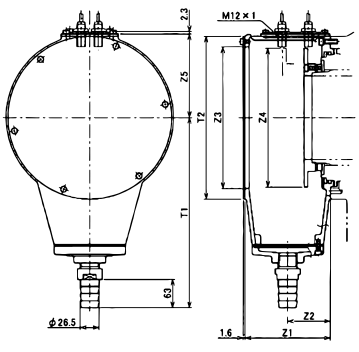
C1TA215
COOLANT COLLECTOR



C1TA115,140,165,190
COOLANT COLLECTOR AND DETECTING RING



C1TA215
COOLANT COLLECTOR AND DETECTING RING



SYMBOL / SERIES NUMBER	C1TA				
	115	140	165	190	215
T1	145	160	175	190	205
T2	120	132	157	172	230
Z1	72	77	82	87	120
Z2	37	42	47	52	60
Z3	94	106	131	146	200
Z4	88	100	125	140	196
Z5	61	67	79.5	87	116

The proximity switch is optional.
Determine the appropriate type according to the controller type and dimension drawing.

MODEL CODING

MODEL CODING

- C1TA : With Coolant collector
 - : With Coolant collector and detecting ring
- Size **115 • 140 • 165 • 190 • 215**



See specialty chucks on pg. 58-63
to help you beat the competition



HH31C
THRU HOLE ROTATING
HYDRAULIC CYLINDER

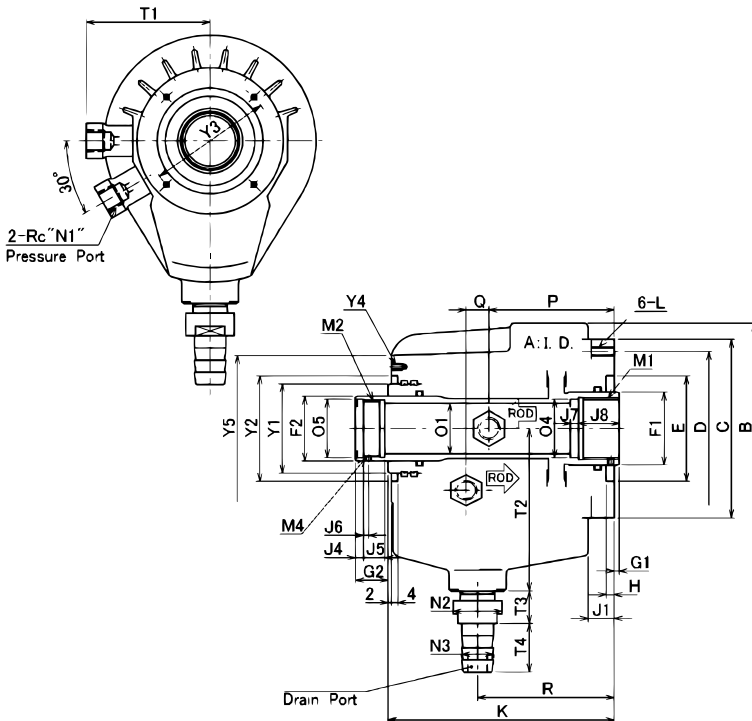
TECHNICAL FEATURES

- Compact high-speed rotating cylinder. Suitable with small diameter hollow chucks

SPECIFICATIONS		SERIES NUMBER		
		4	5	
Effective piston area	cm ²	Extend	36.5	43.2
		Retract	34	39.8
Piston stroke	mm	10	10	
Max. speed	rpm	8000	7000	
Max. pressure	MPa	3.4	3.4	
Moment of inertia J <i>Note1</i>	kg•m ²	0.004	0.006	
Weight	kg	5.7	6.7	
Total leakage <i>Note2</i>	L/min	1.1	1.4	

Note:

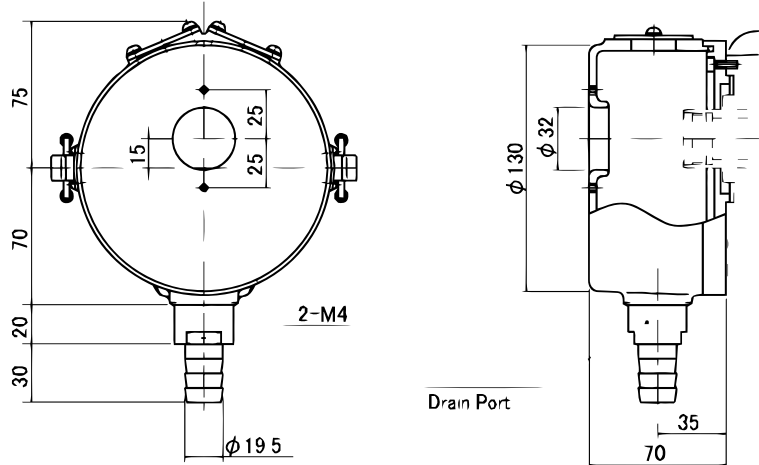
1. Four times this value is equivalent to GD².
2. ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
3. Never use the cylinder with a vertical lathe.
4. For additional or replacement parts, please refer to pg. 64-66.



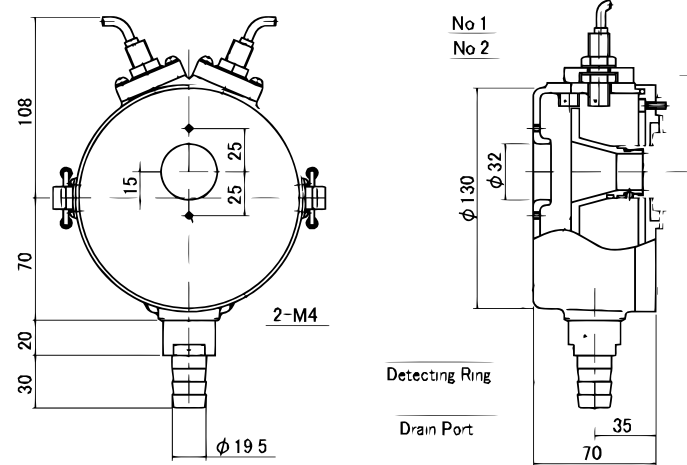
SYMBOL		SERIES NUMBER	
		4	5
A	I.D.	75	85
B		120	130
C	h6	100	110
D		85	95
E	H6	60	65
F1		35	45
F2		30	40
G1	Max.	13	13
	Min.	3	3
G2	Max.	20	20
	Min.	10	10
H		5	5
J1		16	16
J4		5	5
J5		10	13
J6		2	3
J7		9	5
J8		18	25
K		132	139
L	Size	M6	M6
	Depth	-14	-14
M1		M28x1.5	M38x1.5
M2		M26x1.5	M35x1.5
M4		2-M4	2-M4
N1		2-Rc1/4	2-Rc1/4
N2		30	30
N3		19.5	19.5
O1	Dia. Tolerance +0.20 (mm) -0.00 (mm)	21	31
O4	H8	25	36
O5	H7	27	36
P		72	77
Q		13	14
R		78	84
T1		73	76
T2		95	100
T3		20	20
T4		30	30
Y1	f6	45	55
Y2	H8	65	65
Y3		76	76
Y4	Size	4-M4	4-M4
	Depth	-7	-7
Y5		85	90

HH31C THRU HOLE ROTATING HYDRAULIC CYLINDER

HH31C4•5 COOLANT COLLECTOR



HH31C4•5 STROKE CONTROL UNIT

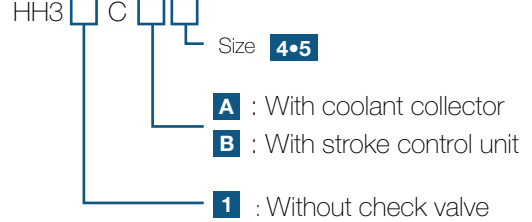


SPECIFICATION OF STROKE CONTROL UNIT

MODEL CODING

Switch type	BES M1 2MG-GSC30B-BP03
Manufacture	BALLUFF
Nominal voltage range	DC10-30V
Max. load current	100mA
Output type	N.O.
Wire Length	

MODEL CODING



TOP SECRET

See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks



**HH4C
ROTATING HYDRAULIC CYLINDER**

TECHNICAL FEATURES

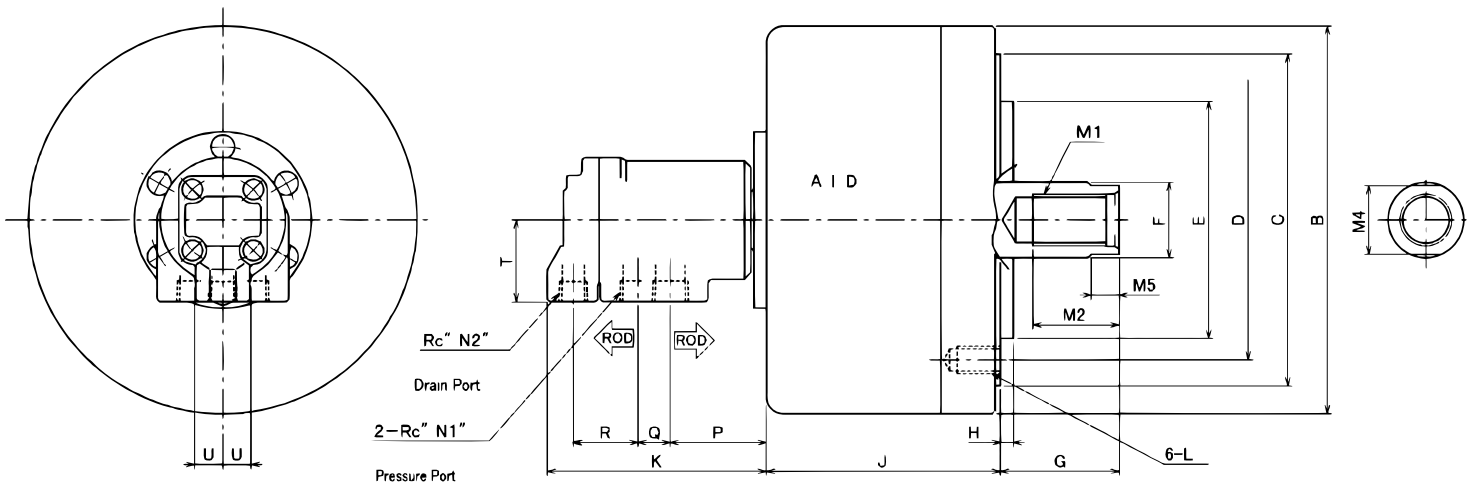
- Light weight, heavy duty high-speed rotating cylinder
- Direction of the hydraulic ports can be changed for simple piping connections

SERIES NUMBER		HH4C							
		63	80	100	125	140	160	180	200
Effective piston area	Extend	30	47.7	75.4	119.6	150.8	198	249.7	309.4
	Retract	26.9	42.8	70.5	112.5	141.2	188.3	237.1	293.4
Piston stroke	mm	15	15	20	25	35	35	35	35
Max. speed	rpm	5000	5000	5000	5000	4500	4500	4000	4000
Max. pressure	MPa	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Moment of inertia J <i>Note1</i>	kg•m ²	0.003	0.003	0.01	0.02	0.028	0.055	0.083	0.13
Weight	kg	2.9	3.4	4.9	6.8	9	11.5	16.2	19.4
Total leakage <i>Note2</i>	L/min	0.35	0.35	0.35	0.35	0.35	0.35	0.3	0.3

Note:

1. Four times this value is equivalent to GD².
2. ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
3. For additional or replacement parts, please refer to pg. 64-66.

SERIES NUMBER		HH4C							
SYMBOL		63	80	100	125	140	160	180	200
A	I.D.	63	80	100	125	140	160	180	200
B		100	115	135	160	180	200	225	245
C		--	--	--	--	--	160	180	180
D		80	90	100	130	130	130	145	145
E	h7	60	65	80	110	110	110	120	120
F		20	25	25	30	35	35	40	45
G	Max.	45	45	45	50	55	55	70	70
	Min.	30	30	25	25	20	20	35	35
H		6	6	6	6	6	6	6	6
J		70	73.5	88.5	95.5	108.5	113.5	128.5	131.5
K		105	101.5	101.5	101.5	101.5	101.5	121.5	121.5
L	Size	M8	M8	M10	M12	M12	M12	M16	M16
	Depth	-16	-16	-19	-20	-20	-20	-25	-28
M1		M12 x1.75	M16 x2	M16 x2	M20 x2.5	M24 x3	M24 x3	M27 x3	M30 x3.5
M2		30	30	30	40	40	40	45	50
M4		17	22	22	27	32	32	37	41
M5		12	15	15	15	13	15	20	20
N1		3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2
N2		1/4	1/4	1/4	1/4	1/4	1/4	3/8	3/8
P		48	44.5	44.5	44.5	44.5	44.5	51.5	51.5
Q		15	15	15	15	15	15	21	21
R		30	30	30	30	30	30	36	36
T		38	38	38	38	38	38	48	48
U		13	13	13	13	13	13	16	16



HYDRAULIC CYLINDER CLOSED CENTER



HH4CB ROTATING HYDRAULIC CYLINDER WITH SAFETY DEVICE

TECHNICAL FEATURES

- Built-in safety check valve to prevent back flow of hydraulic fluids

SPECIFICATIONS		SERIES NUMBER						
		HH4CB						
		80	100	125	140	160	(180)	200
Effective piston area cm ²	Extend	47.7	75.4	119.6	150.8	198	249.7	309.4
	Retract	42.8	70.5	112.5	141.2	188.3	237.1	293.4
Piston stroke	mm	15	20	25	35	35	35	35
Max. speed	rpm	5000	5000	5000	4500	4500	4000	4000
Max. pressure	MPa	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Moment of inertia J <i>Note1</i>	kg•m ²	0.005	0.013	0.023	0.03	0.058	0.085	0.13
Weight	kg	5.1	6.6	8.4	10.4	12.9	18.2	21.5
Total leakage <i>Note2</i>	L/min	0.35	0.35	0.35	0.35	0.35	0.3	0.3

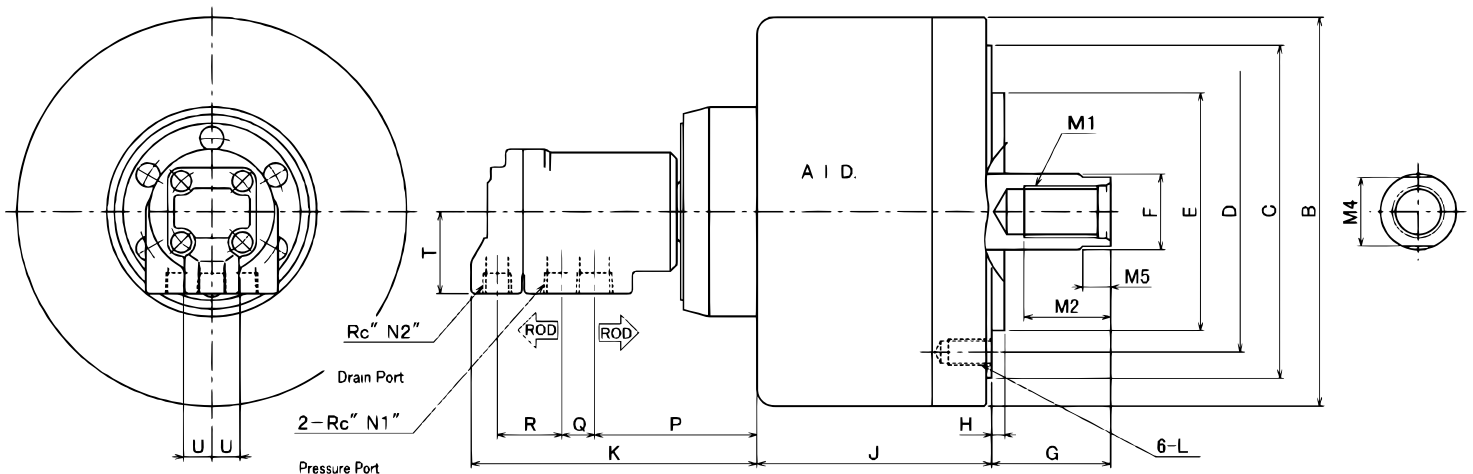
Note:

- Four times this value is equivalent to GD².
- ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
- For additional or replacement parts, please refer to pg. 64-66.

Basic features of this cylinder are the same as those of HH4C. The HH4CB is equipped with a check valve to prevent an accident caused by a sudden pressure drop as a result of pressure source trouble.

SYMBOL		SERIES NUMBER						
		HH4CB						
		80	100	125	140	160	(180)	200
A	I.D.	80	100	125	140	160	180	200
B		115	135	160	180	200	225	245
C		--	--	--	--	160	180	180
D		90	100	130	130	130	145	145
E	h7	65	80	110	110	110	120	120
F		25	25	30	35	35	40	45
G	Max.	45	45	50	55	55	70	70
	Min.	30	25	25	20	20	35	35
H		6	6	6	6	6	6	6
J		73.5	88.5	95.5	108.5	113.5	128.5	131.5
K		132	132	132	132	132	152	152
L	Size	M8	M10	M12	M12	M12	M16	M16
	Depth	-16	-19	-20	-20	-20	-25	-28
M1		M16 x2	M16 x2	M20 x2.5	M24 x3	M24 x3	M27 x3	M30 x3.5
M2		30	30	40	40	40	45	50
M4		22	22	27	32	32	37	41
M5		15	15	15	13	15	20	20
N1		3/8	3/8	3/8	3/8	3/8	1/2	1/2
N2		1/4	1/4	1/4	1/4	1/4	3/8	3/8
P		75	75	75	75	75	82	82
Q		15	15	15	15	15	21	21
R		30	30	30	30	30	36	36
T		38	38	38	38	38	48	48
U		13	13	13	13	13	16	16

Note: Models in parenthesis are made to order.



See specialty chucks on pg. 58-63 to help you beat the competition



HH61C ROTATING HYDRAULIC CYLINDER
WITH COOLANT CONNECTION

HH62C ROTATING HYDRAULIC CYLINDER
WITH SAFETY DEVICE AND
COOLANT CONNECTION

SPECIFICATIONS		SERIES NUMBER	HH61C•HH62C				
		HH61C	80	100	125	140	160
		HH62C	80	100	125	(140)	(160)
Effective piston area	Extend	HH61C	32.6	60.9	104.5	135.7	182.9
	Retract		42.2	70.5	111.5	139.8	186.9
	Extend	HH62C	32.6	60.9	104.5	135.7	182.9
	Retract		36.7	65	108.6	137.3	184.3
Piston stroke	mm		15	20	25	35	35
Max. speed	rpm		5000	5000	5000	4500	4500
Max. pressure	MPa		3.4	3.4	3.4	3.4	3.4
Moment of inertia J <i>Note1</i>	kg•m ²		0.005	0.01	0.02	0.03	0.055
Weight	kg	HH61C	5.2	6.3	8.5	10.6	13
		HH62C	5.7	7	9	11.5	14
Total leakage <i>Note2</i>	L/min		0.35	0.35	0.35	0.35	0.35
SPECIFICATIONS OF COOLANT CONNECTION							
Fluid			Compressed air or coolant				
Max. pressure	MPa	Air Coolant	0.5				

Note:

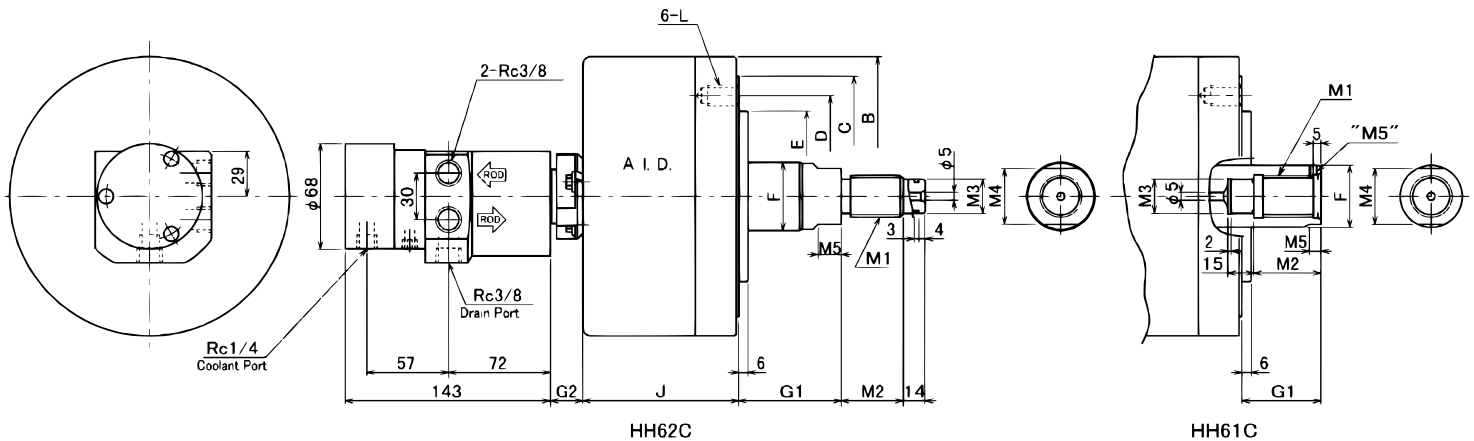
- Four times this value is equivalent to GD².
- ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
- For additional or replacement parts, please refer to pg. 64-66.

TECHNICAL FEATURES

- Built-in rotary joint that can be used for checking seating of parts or for spindle coolant
- Built-in safety check valve to prevent back flow of hydraulic fluids

SYMBOL		SERIES NUMBER	HH61C•HH62C				
		HH61C	80	100	125	140	160
		HH62C	80	100	125	(140)	(160)
A	I.D.		80	100	125	140	160
B			115	135	160	180	200
C			---	---	---	---	160
D			90	100	130	130	130
E	h7		65	80	110	110	110
F		HH61C	30	30	35	40	40
		HH62C	40	40	40	44	44
G1	Max.	HH61C	31	36	41	51	51
	Min.		16	16	16	16	16
	Max.	HH62C	46	51	56	66	66
	Min.		31	31	31	31	31
G2	Max.		36	41	46	56	56
	Min.		21	21	21	21	21
J			77	88	95	109	113
L	Depth		M8 -16	M10 -19	M12 -20	M12 -20	M12 -20
M1			M20 x2.5	M20 x2.5	M24 x3	M27 x3	M27 x3
M2		HH61C	35	35	40	45	45
		HH62C	30	30	35	40	40
M3	H9	HH61C	16	16	18	22	22
	f8	HH62C	16	16	18	22	22
M4			27	27	32	36	36
M5			7.4	7.4	7	7.5	7.5

Note: Models in parenthesis are made to order.



HH61C-HH62C STROKE CONTROL UNIT

TYPE A WITH DOG PLATE	MODEL CODING																
	<p>HH6 C </p> <p>A : With dog plate B : With switch and receptacle C : With switch</p> <p>Size : 80•100•125 : 140•160</p> <p>1 : Without check valve 2 : With check valve</p>																
TYPE B WITH SWITCH AND RECEPTACLE	SPECIFICATION OF STROKE CONTROL UNIT																
	<table border="1"> <tr><td>Switch type</td><td>FL7M-3J6HD</td></tr> <tr><td>Manufacture</td><td>YAMATAKE</td></tr> <tr><td>Nominal voltage range</td><td>DC 10~30V</td></tr> <tr><td>Max. load current</td><td>100mA</td></tr> <tr><td>Output type</td><td>N.O.</td></tr> </table> <table border="1"> <tr><td>Receptacle type</td><td>NCS255R</td></tr> <tr><td>Plus type</td><td>YAMATAKE</td></tr> <tr><td>Manufacture</td><td>Nanaboshi Electric Mfg co. Ltd.</td></tr> </table>	Switch type	FL7M-3J6HD	Manufacture	YAMATAKE	Nominal voltage range	DC 10~30V	Max. load current	100mA	Output type	N.O.	Receptacle type	NCS255R	Plus type	YAMATAKE	Manufacture	Nanaboshi Electric Mfg co. Ltd.
Switch type	FL7M-3J6HD																
Manufacture	YAMATAKE																
Nominal voltage range	DC 10~30V																
Max. load current	100mA																
Output type	N.O.																
Receptacle type	NCS255R																
Plus type	YAMATAKE																
Manufacture	Nanaboshi Electric Mfg co. Ltd.																
TYPE C WITH SWITCH	SPECIFICATION OF STROKE CONTROL UNIT																
	<table border="1"> <tr><td>Switch type</td><td>FL7M-3J6HD</td></tr> <tr><td>Manufacture</td><td>YAMATAKE</td></tr> <tr><td>Nominal voltage range</td><td>DC 10~30V</td></tr> <tr><td>Max. Load current</td><td>100mA</td></tr> <tr><td>Output type</td><td>N.O.</td></tr> </table> <p>+ Brown or White - Blue or Black</p>	Switch type	FL7M-3J6HD	Manufacture	YAMATAKE	Nominal voltage range	DC 10~30V	Max. Load current	100mA	Output type	N.O.						
Switch type	FL7M-3J6HD																
Manufacture	YAMATAKE																
Nominal voltage range	DC 10~30V																
Max. Load current	100mA																
Output type	N.O.																

TOP SECRET

See specialty chucks on pg. 58-63 to help you beat the competition



C1FB
ROTATING HYDRAULIC CYLINDER WITH
SAFETY DEVICE

TECHNICAL FEATURES

- Optional rotary joint can be attached. Rotary joint can have 1 or 2 paths, enabling the flow of air for checking the seating and for coolant
- Two types of rotary joint mountings are available, one that moves with the piston and one that is fixed to the cylinder body
- Optional bracket is available for proximity switch
- Built-in safety check valve to prevent back flow of hydraulic fluids

MODEL CODING

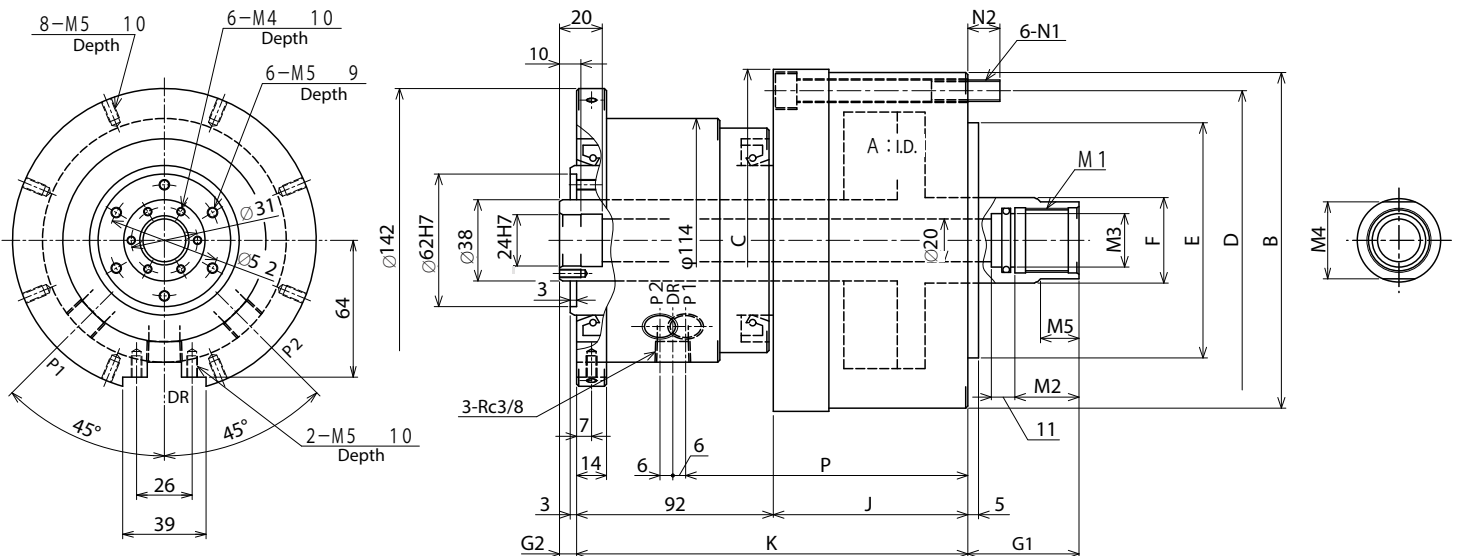


SPECIFICATIONS		SERIES NUMBER		C1FB			
		90	100	120	140		
Effective piston area	cm ²	Extend	52.3	67.2	101.8	142.6	
		Retract	51.1	66	100.5	134.3	
Piston stroke	mm		20	20	25	30	
Max. speed	rpm		5000	5000	5000	5000	
Max. pressure	MPa		3.5	3.5	3.5	3.5	
Moment of inertia J <i>Note1</i>	kg•m ²		0.017	0.016	0.024	0.044	
Weight	kg		12	12	14	17	
Total leakage <i>Note2</i>	L/min		2.4	2.4	2.4	2.4	

Note:

1. Four times this value is equivalent to GD².
2. ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
3. For additional or replacement parts, please refer to pg. 64-66.

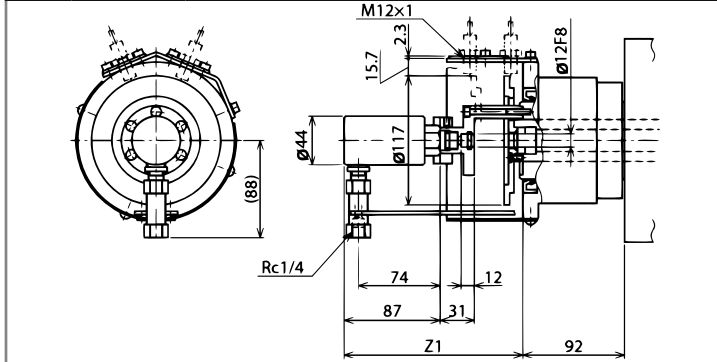
SYMBOL		SERIES NUMBER			
		90	100	120	140
A	I.D.	90	100	120	140
B		144	144	157	182
C		145	145	160	184
D		128	128	140	160
E	h7	110	110	110	110
F		40	40	40	50
G1	Max.	47	47	52	57
	Min.	27	27	27	27
G2	Max.	28	28	33	38
	Min.	8	8	8	8
J		85	85	91	99
K		177	177	183	191
M1		M30X1.5	M30X1.5	M30X1.5	M40X1.5
M2		30	30	30	35
M4		36	36	36	46
M5		18	18	18	18
N1		M8	M8	M10	M12
N2		14	14	15	19
P		126	126	132	140



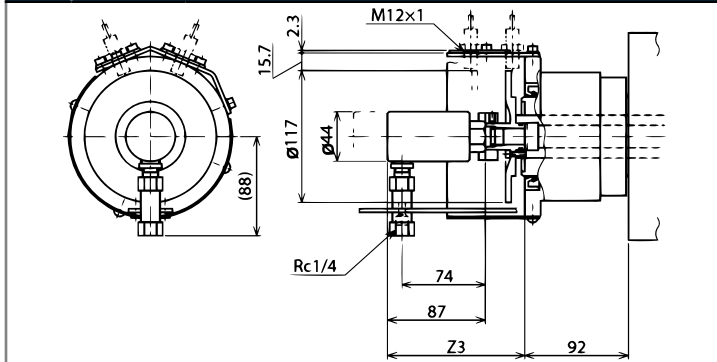
HYDRAULIC CYLINDER CLOSED CENTER

C1FB ROTATING UNION • BRACKET

F1 WITH 1 PORT ROTATING UNION (FIXED TYPE)



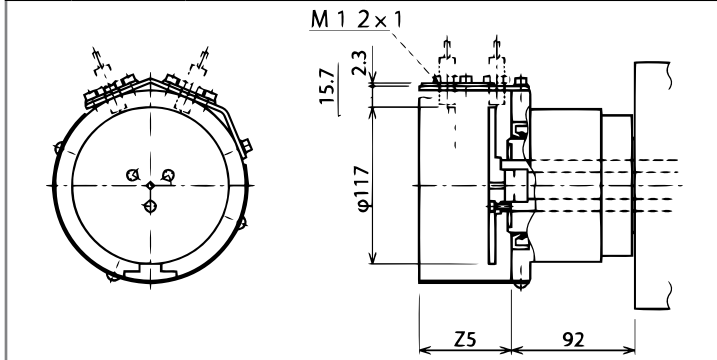
M1 WITH 1 PORT ROTATING UNION (MOVING TYPE)



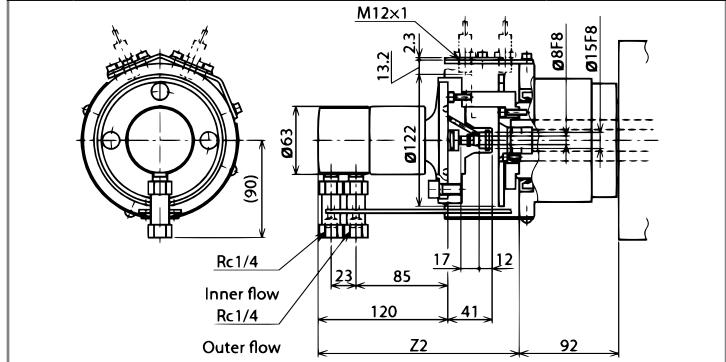
SPECIFICATION OF 1 PORT ROTATING UNION

Manufacture		DEUBLIN	
Rotating union type		1115-181-556	
Fluid		Compressed air coolant	
Max. Pressure	Air	1.0MPa	
	Coolant	3.4MPa	

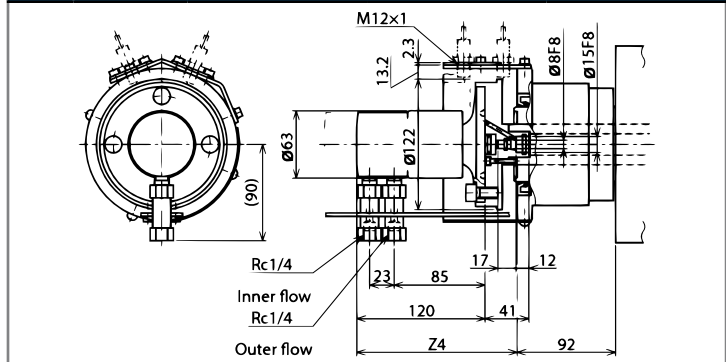
B WITH BRACKET



F2 WITH 2 PORT ROTATING UNION (FIXED TYPE)



M2 WITH 2 PORT ROTATING UNION (MOVING TYPE)



SPECIFICATION OF 2 PORT ROTATING UNION

Manufacture		DEUBLIN	
Rotating union type		2620-200-252	
Fluid		Compressed air and coolant	
Fluid and Max. Pressure	Outer Flow	Air	0.6MPa
	Inner Flow	Coolant	7.0MPa

SPECIFICATIONS	SERIES NUMBER	C1FB			
		90	100	120	140
Z1		152	152	157	162
Z2		176	176	181	186
Z3	Max.	142	142	147	152
	Min.	122	122	122	122
Z4	Max.	170	170	175	180
	Min.	150	150	150	150
Z5		59	59	69	69



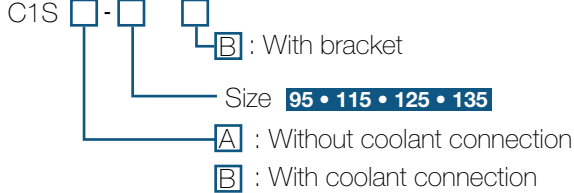
See specialty chucks on pg. 58-63 to help you beat the competition



C1SA SHORT TYPE ROTATING HYDRAULIC CYLINDER WITH SAFETY DEVICE

C1SB SHORT TYPE ROTATING HYDRAULIC CYLINDER WITH COOLANT CONNECTION

MODEL CODING



TECHNICAL FEATURES

- Compatible with the previous HH63C/HH64C-series (except for the piping port positions and angles)
- Optional bracket is available for a proximity switch to check operation
- C1SB has a built-in rotary joint that can be used for checking the seating or for spindle coolant
- Chuck comes standard with a fitted port that enables mechanical sealing/clamping to be confirmed
- Built-in safety check valve to prevent back flow of hydraulic fluids

SPECIFICATIONS		SERIES NUMBER		C1SA•C1SB			
		95	115	125	135		
Effective piston area	cm ²	Extend	51.2	84.2	100.7	121.1	
		Retract	57	90	100.7	121.1	
Piston stroke	mm	15	20	20	25		
Max. speed	rpm	6000	6000	5000	5000		
Max. pressure	MPa	3.5	3.5	3.5	3.5		
C1SA	Moment of inertia J <i>Note1</i>	kg•m ²	0.016	0.024	0.046	0.048	
	Weight	kg	9	10	14	15	
C1SB	Moment of inertia J <i>Note1</i>	kg•m ²	0.016	0.025	0.046	0.048	
	Weight	kg	9	11	15	15	
Total leakage <i>Note2</i>		L/min	0.35	0.35	0.35	0.35	

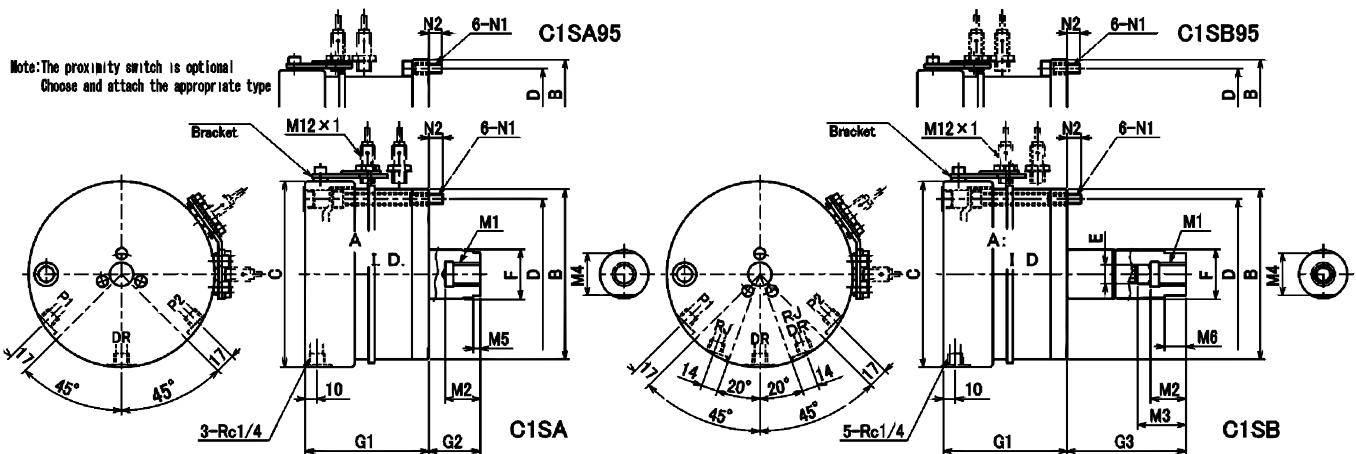
SPECIFICATIONS OF COOLANT CONNECTION			
Fluid		Compressed air or coolant	
Max. pressure	MPa	Air	0.5
		Coolant	0.8

SYMBOL		SERIESNUMBER			
		95	115	125	135
A	I.D.	95	115	125	135
B	h7	145	145	168	168
C		127	158	180	184
D		130	128	145	150
E	H8	16	16	16	16
F		42	42	53	53
G1	Max.	142	125	128	136
	Min.	127	105	108	111
G2	Max.	27	44	39	49
	Min.	12	24	19	24
G3	Max.	84	101	98	108
	Min.	69	81	78	83
M1		M20×2.5	M20×2.5	M20×2.5	M24×3
M2		30	30	30	35
M3		41	41	41	46
M4		36	36	45	45
M5		6	6	6	13
M6		18	18	18	18
N1		M8	M8	M10	M10
N2		11	12	16	16

Note:

1. Four times this value is equivalent to GD².
2. ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
3. For additional or replacement parts, please refer to pg. 64-66.

Note: C1SA125, C1SA135 are made to order.



HYDRAULIC CYLINDER CLOSED CENTER



HH11C ROTATING HYDRAULIC CYLINDER WITH STROKE CONTROL

TECHNICAL FEATURES

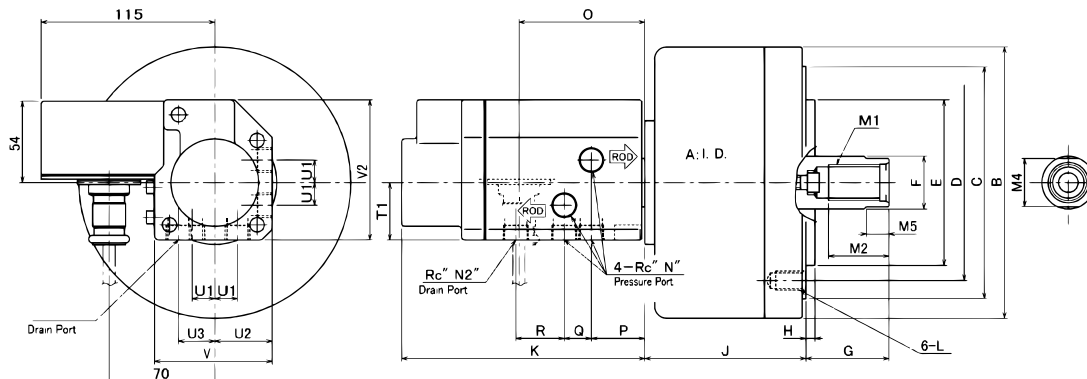
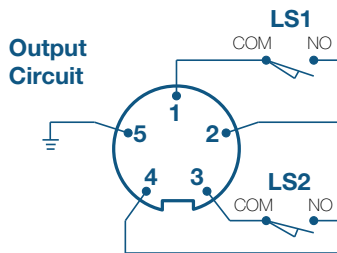
- Built-in limit switch for checking operation facilitates checking of chuck opening/closing and workpiece clamping

SERIES NUMBER		HH11C					
		80	100	125	140	160	200
Effective piston area	Extend	47.7	75.4	119.5	150.8	197.9	309.7
	Retract	44.3	72	114	142.7	189.8	295.8
Piston stroke	mm	15	20	25	35	35	35
Max. speed	rpm	5000	5000	5000	4500	4500	4000
Max. pressure	MPa	3.4	3.4	3.4	3.4	3.4	3.4
Moment of inertia J <i>Note1</i>	kg•m ²	0.008	0.013	0.02	0.035	0.055	0.13
Weight	kg	6.5	7.5	9.5	11	13.5	19.5
Total leakage <i>Note2</i>	L/min	0.35	0.35	0.35	0.35	0.35	0.3
STROKE CONTROL UNIT							
Limit switch type		ZC-Q2255					
Manufacture		OMRON Corporation					
MAX. voltage		250V					
Max. resistive load		10A					

SERIES NUMBER		HH11C					
		80	100	125	140	160	200
A	I.D.	80	100	125	140	160	200
B		115	135	160	180	200	245
C		---	---	---	---	160	180
D		90	100	130	130	130	145
E	h7	65	80	110	110	110	120
F		25	25	30	35	35	45
G	Max.	45	45	50	55	55	70
	Min.	30	25	25	20	20	35
H		6	6	6	6	6	6
J		80	95	102	115	120	138
K		146	151	156	176	176	186
L	Size	M8	M10	M12	M12	M12	M16
	Depth	-16	-19	-20	-20	-20	-28
M1		M16 x2	M16 x2	M20 x2.5	M24 x3	M24 x3	M30 x3.5
		30	30	40	40	40	50
M2		22	22	27	32	32	41
M4		15	15	15	15	15	20
N1		3/8	3/8	3/8	3/8	3/8	1/2
N2		3/8	3/8	3/8	3/8	3/8	3/8
O		90	90	90	90	90	100
P		42	42	42	42	42	46
Q		18	18	18	18	18	30
R		32	32	32	32	32	62
T1		38	38	38	38	38	45
U1		15	15	15	15	15	18
U2		38	38	38	38	38	40
U3		24	24	24	24	24	0
V1		78	78	78	78	78	80
V2		93	93	93	93	93	100

Note:

- Four times this value is equivalent to GD².
- ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
- For additional or replacement parts, please refer to pg. 64-66.



See specialty chucks on pg. 58-63 to help you beat the competition



HH56C
ROTATING HYDRAULIC CYLINDER

TECHNICAL FEATURES

- For use with the H056M combination chuck

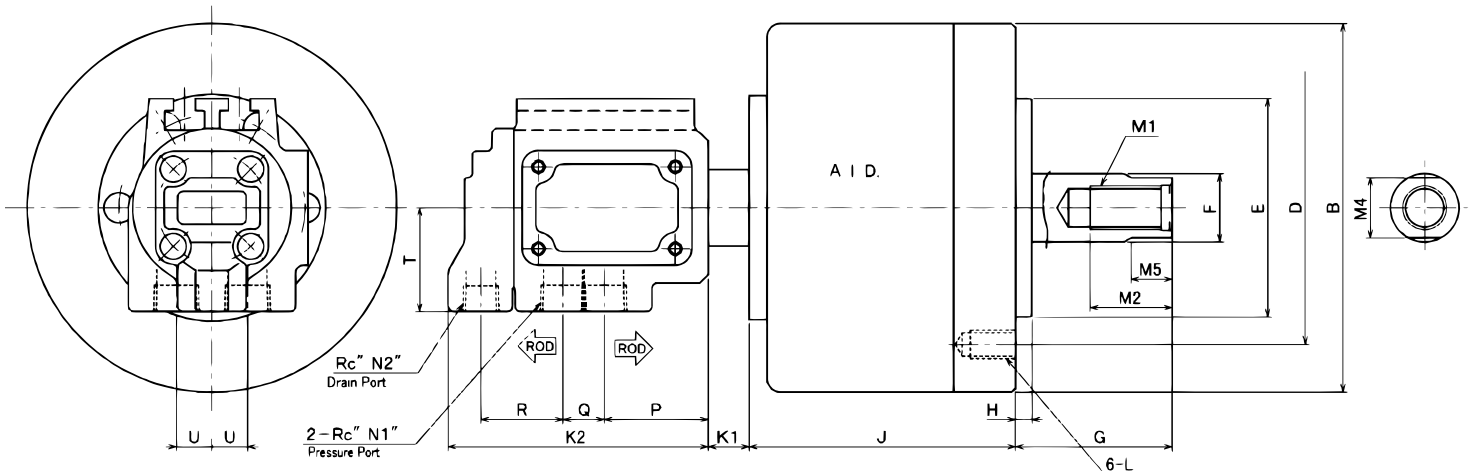
SPECIFICATIONS		SERIES NUMBER	HH56C	
			(100)	(140)
Effective piston area	cm ²	Extend	70.8	146.2
		Retract	72	142.7
Piston stroke	mm	36	40	
Max. speed	rpm	4000	3000	
Max. pressure	MPa	3.4	3.4	
Moment of inertia J <i>Note1</i>	kg•m ²	0.011	0.035	
Weight	kg	5.3	9.2	
Total leakage <i>Note2</i>	L/min	0.35	0.35	

Note:

1. Four times of this value is equivalent to GD².
2. ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
3. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL		SERIES NUMBER	HH56C	
			(100)	(140)
A	I.D.		100	140
B			135	180
D			100	130
E	h7		80	110
F			25	35
G	Max.		61	60
	Min.		25	20
H			6	6
J			111	120
K1	Max.		51	55
	Min.		15	15
K2			95	95
L	Size		M10	M12
	Depth		-19	-20
M1			M16x2	M24x3
M2			30	40
M4			22	32
M5			15	13
N1			3/8	3/8
N2			1/4	1/4
P			38	38
Q			15	15
R			30	30
T			38	38
U			13	13

Note: Models in parenthesis are made to order.



AIR CYLINDER CLOSED CENTER



H06C ROTATING AIR CYLINDER WITH COOLANT CONNECTION

TECHNICAL FEATURES

- Built-in rotary joint that can be used for checking seating or for spindle coolant
- Dog mounting groove is provided for checking operation

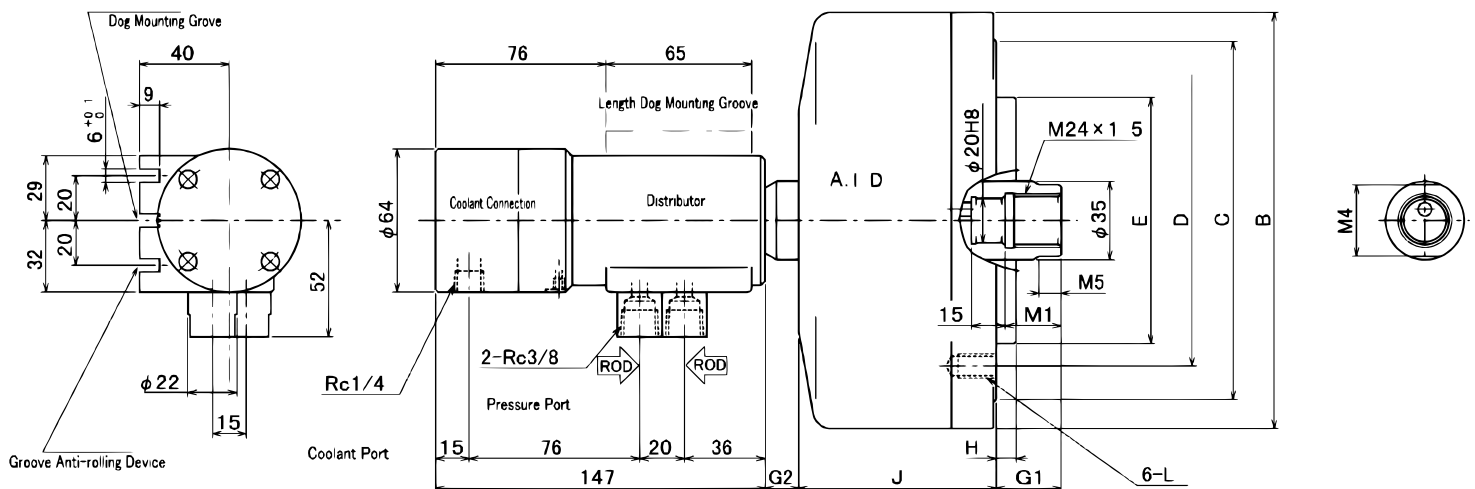
SERIES NUMBER		H06C				
		100	150	(175)	200	(250)
Effective piston area	cm ²					
	Extend	68.9	167.1	230.8	304.5	481.3
	Retract	68.9	167.1	230.8	304.5	481.3
Piston stroke	mm	15	15	15	20	25
Max. speed	rpm	3500	3500	3500	3500	3000
Max. pressure	MPa	0.8	0.8	0.8	0.8	0.8
Moment of inertia J	kg•m ²	0.013	0.04	0.063	0.12	0.21
Weight	kg	6.5	10	12	17	25
Air leakage	L/s	0.4	0.4	0.4	0.4	0.4
SPECIFICATIONS OF COOLANT CONNECTION						
Fluid		Compressed air or coolant				
Max. pressure	MPa	Air	0.5			

SERIES NUMBER		H06C				
SYMBOL		100	150	(175)	200	(250)
A	I.D.	100	150	175	200	250
B		130	186	210	234	290
C		105	160	160	160	160
D		80	130	130	130	130
E	h7	65	110	110	110	110
G1	Max.	27	29	29	54	59
	Min.	12	14	14	34	34
G2	Max.	30	30	30	35	40
	Min.	15	15	15	15	15
H		7	9	9	9	9
J		80	88	88	98	118
L	Size	M10	M10	M10	M10	M12
	Depth	-17	-17	-17	-19	-23
M1		25	25	25	27	35
M4		32	32	32	32	32
M5		10	10	10	16	16

Note: Models in parenthesis are made to order.

Note:

1. Four times this value is equivalent to GD².
2. ISO VG32, Pressure: 3.0MPa, Oil temperature at the exit port: 50°C.
3. For additional or replacement parts, please refer to pg. 64-66.



See specialty chucks on pg. 58-63
to help you beat the competition

HOWA Power Chucks





**H05CH
ROTATING AIR CYLINDER**

TECHNICAL FEATURES

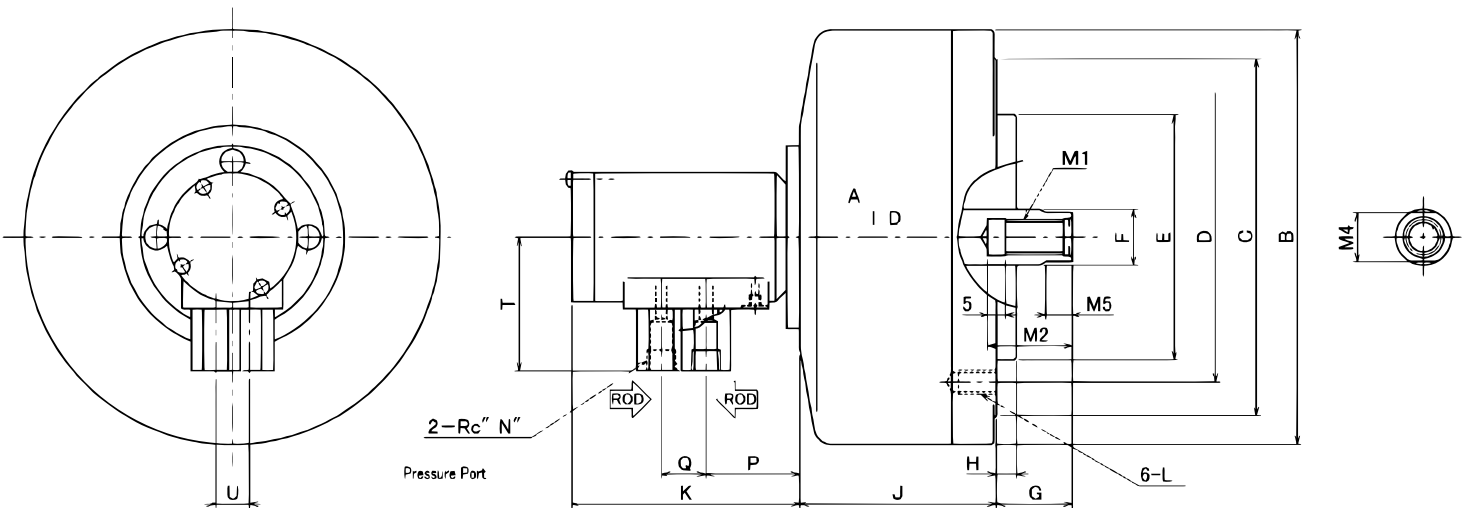
- Lightweight standard rotating air cylinder that supports high speeds

SPECIFICATIONS		SERIES NUMBER		H05CH					
		100	150	175	200	250	300		
Effective piston area	cm ²	Extend	77	174.9	238.8	311	486	701.9	
		Retract	73.1	170	231.7	301.4	473.4	689.4	
Piston stroke	mm	15	15	15	20	25	35		
Max. speed	rpm	6500	5500	4500	4500	3500	3500		
Max. pressure	MPa	0.8	0.8	0.8	0.8	0.8	0.8		
Moment of inertia J <i>Note1</i>	kg•m ²	0.01	0.04	0.055	0.09	0.22	0.53		
Weight	kg	4.4	8.9	10.4	14.5	25.5	38		
Air leakage	L/s	0.4	0.4	0.4	0.4	0.55	0.55		

Note:

1. Four times this value is equivalent to GD².
2. For additional or replacement parts, please refer to pg. 64-66.

SYMBOL		SERIES NUMBER		H05CH					
		100	150	175	200	250	300		
A	I.D.	100	150	175	200	250	300		
B		130	186	210	234	290	340		
C		105	160	160	160	160	235		
D		80	130	130	130	130	200		
E	h7	65	110	110	110	110	165		
F		22.4	25	30	35	40	40		
G	Max.	32	34	34	54	59	69		
	Min.	17	19	19	34	34	34		
H		7	9	9	9	9	9		
J		80	88	88	98	118	138		
K		102	102	102	102	125	120		
L	Size	M10	M10	M10	M10	M12	M16		
	Depth	-17	-17	-17	-19	-23	-27		
M1		M12 x1.75	M16 x2	M16 x2	M20 x2.5	M24 x3	M27 x3		
M2		25	38	38	52	55	55		
M4		19	22	26	32	36	36		
M5		9	12	15	18	18	18		
N		1/4	1/4	1/4	1/4	3/8	3/8		
P		42	42	42	42	48	43		
Q		20	20	20	20	28	28		
T		60	60	60	60	60	60		
U		15	15	15	15	20	20		



AIR CYLINDER CLOSED CENTER



H05CHB ROTATING AIR CYLINDER WITH SAFETY DEVICE

TECHNICAL FEATURES

- The H05CH with a built-in check valve for safety

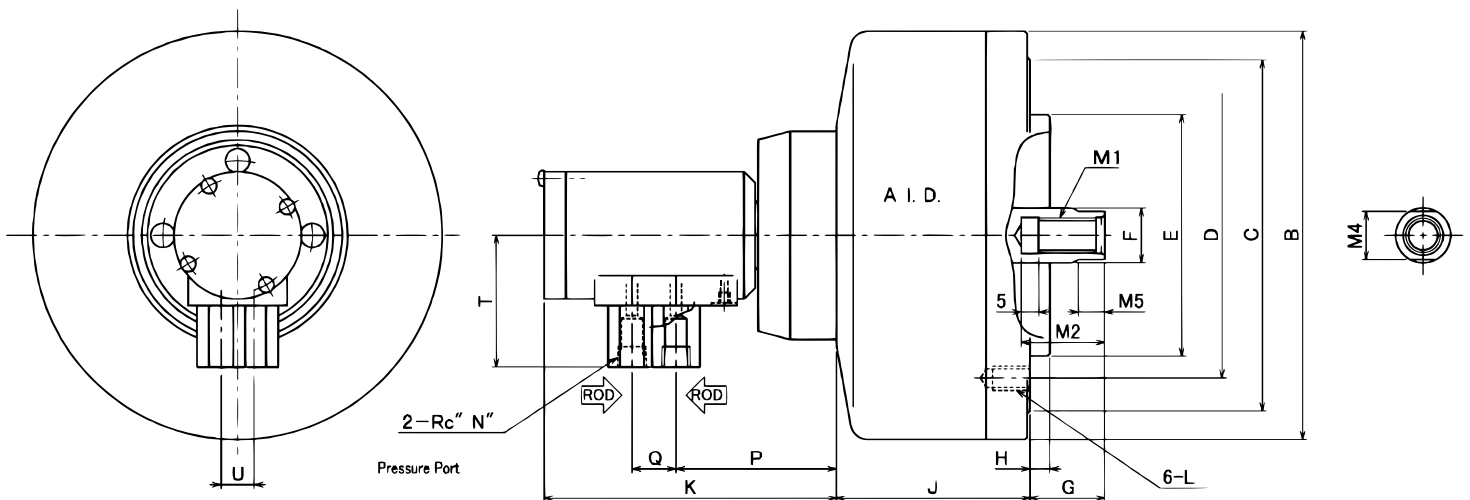
SPECIFICATIONS		SERIES NUMBER		H05CHB					
		100	(150)	(175)	200	(250)	(300)		
Effective piston area	cm ²	Extend	77	174.9	238.8	311	486	701.9	
		Retract	73.1	170	231.7	301.4	473.4	689.4	
Piston stroke	mm		15	15	15	20	25	35	
Max. speed	rpm		6500	5500	4500	4500	3500	3500	
Max. pressure	MPa		0.8	0.8	0.8	0.8	0.8	0.8	
Moment of inertia J <i>Note1</i>	kg•m ²		0.013	0.043	0.058	0.093	0.22	0.53	
Weight	kg		6.3	10.6	12.1	16.2	28.4	40.9	
Air leakage	L/s		0.4	0.4	0.4	0.4	0.55	0.55	

SYMBOL		SERIES NUMBER		H05CHB					
		100	(150)	(175)	200	(250)	(300)		
A	I.D.	100	150	175	200	250	300		
B		130	186	210	234	290	340		
C		105	160	160	160	160	235		
D		80	130	130	130	130	200		
E	h7	65	110	110	110	110	165		
F		22.4	25	30	35	40	40		
G	Max.	32	34	34	54	59	69		
	Min.	17	19	19	34	34	34		
H		7	9	9	9	9	9		
J		80	88	88	98	118	138		
K		137	133	133	133	159	154		
L	Size	M10	M10	M10	M10	M12	M16		
	Depth	-17	-17	-17	-19	-23	-27		
M1		M12 x1.75	M16 x2	M16 x2	M20 x2.5	M24 x3	M27 x3		
M2		25	38	38	52	55	55		
M4		19	22	26	32	36	36		
M5		9	12	15	18	18	18		
N		1/4	1/4	1/4	1/4	3/8	3/8		
P		77	73	73	73	82	77		
Q		20	20	20	20	28	28		
T		59.5	59.5	59.5	59.5	60	60		
U		15	15	15	15	20	20		

Note:

- Four times this value is equivalent to GD².
- For additional or replacement parts, please refer to pg. 64-66.

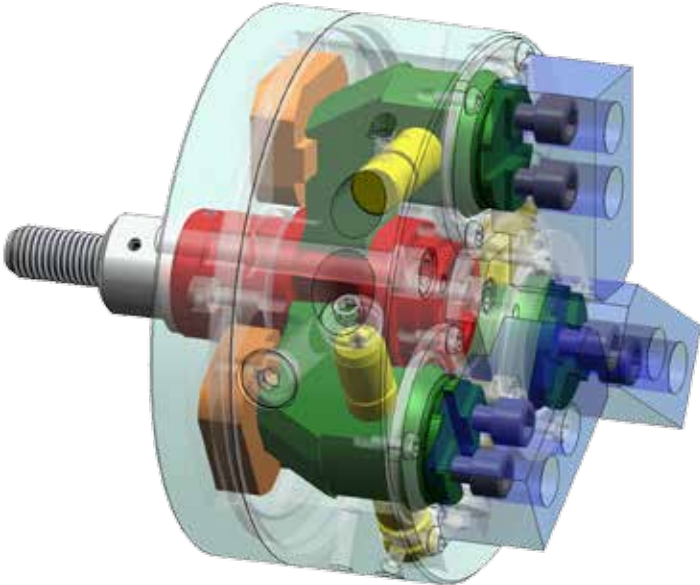
Note: Models in parenthesis are made to order.



See specialty chucks on pg. 58-63 to help you beat the competition

HOWA
SPECIALTY CHUCKS

When work holding consistency becomes a top priority, HOWA specialty chucks provide the highest work holding accuracy and rigidity since the chuck is designed around the part being held. After careful qualification of existing manufacturing methodology and determining the variables that contribute to part inconsistency, HOWA engineers design and manufacture a cost effective specialty chuck solution that helps improve productivity. Contact us on your next project and find out how much more you can accomplish with a specialty chuck!



WORKPIECE: YOKE, JOINT
HW-12-2J3J-HS R-3076



WORKPIECE: SHAFT
HW-06C-2J-LS R-3009



WORKPIECE: HSG ASSY
HW-08C-2J-LS Y-3721



WORKPIECE: LINK END
HW-10C-SL 0-2783



WORKPIECE: CORE STATOR
HW-06-XLS U-712



WORKPIECE: CRANKSHAFT
HW-10-HS 0-3250



WORKPIECE: INPUT & OUTPUT SHAFT
HW-10C-CMBL 0-3320

SPECIALTY CHUCKS



WORKPIECE: LINK END
HW-10C-SL Z-225



WORKPIECE: LEVER STRIKING
HW-08C-SL Y-3392



WORKPIECE: ATTACHMENT LOWER BALL JOINT
HW-08C-2J-SL 0-3269



WORKPIECE: BALL JOINT
HW-08C-2J-SL Y-3625



WORKPIECE: KNUCKLE
HW-12C-2J-SL 0-3135



WORKPIECE: COVER PUMP
HW-06-DODHS-CP M-4300



WORKPIECE: COLUMN LOWER
HW-12-KS M-4974



WORKPIECE: SHAFT/OUTPUT
HW-10C-COLSJ-S M-5163



WORKPIECE: HOUSING TURBINE
H09M10 0-3021



WORKPIECE: CYLINDER/SUPPLY PUMP
H09M10 0-3021





WORKPIECE: PISTON
H09M9 Y-3639



WORKPIECE: SYNCHRONIZER RING
H09F8 U-563



WORKPIECE: SYNCHRONIZER
H03F8 Y-3494



WORKPIECE: HUB BRAKE
H09F10 R-2208



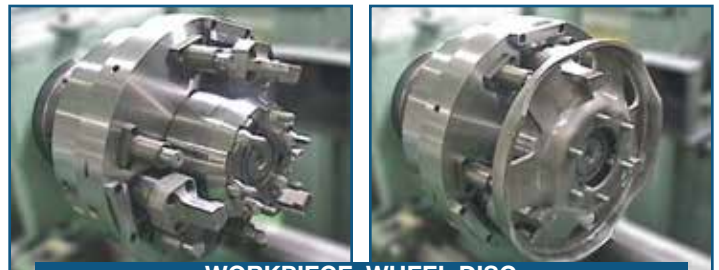
WORKPIECE: LEVER-STRIKING
H09B23 Y-3461



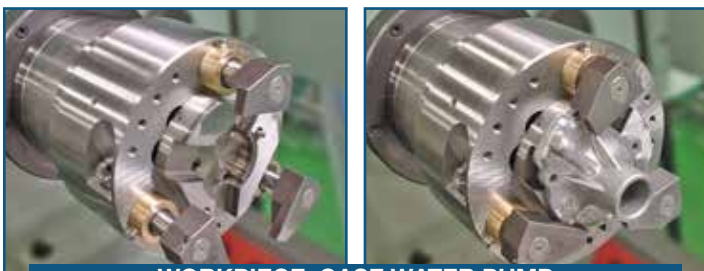
WORKPIECE: DEFCASE
H09F14 M-3805



WORKPIECE: DRIVE PINION
H09F8 Y-3412



WORKPIECE: WHEEL DISC
H01F16 Y-3548



WORKPIECE: CASE WATER PUMP
H03F8 U-123



WORKPIECE: WATER PUMP BODY
H03F12 M-4963

SPECIALTY CHUCKS



**WORKPIECE: BODY OIL PUMP
H03F11 R-2897**



**WORKPIECE: CALIPER
H09M10 U-457**



**WORKPIECE: CALIPER
H09M9 U-185**



**WORKPIECE: MASTER CYLINDER
H09M8 S-997**



**WORKPIECE: MASTER CYLINDER
H09M9 R-2555**



**WORKPIECE: ORBIT SCROLL
H0921M10 0-2641**



**WORKPIECE: TIE ROD
H09M11 0-3289**



**WORKPIECE: PITMAN ARM
H09M12 N-1149**



**WORKPIECE: BALL JOINT
H09M10 0-3321**

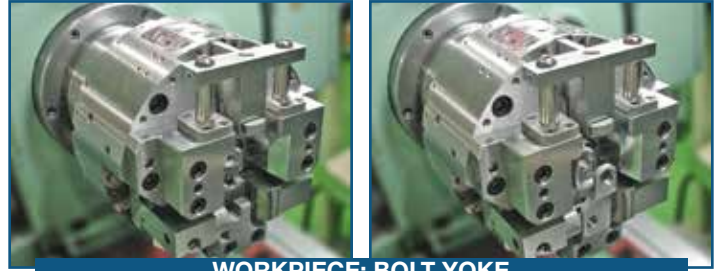


**WORKPIECE: YOKE BALL
H09M8 M-2311**





**WORKPIECE: SLEEVE YOKE
H09M11 U-332**



**WORKPIECE: BOLT YOKE
H09M9 U-495**



**WORKPIECE: TUBE YOKE
H09M11 Y-3705**



**WORKPIECE: YOKE
H09F11 Y-4073**



**WORKPIECE: WATER INLET CLAMP
H09M10 U-294**



**WORKPIECE: VALVE
H09F19 Y-3644**



**WORKPIECE: CYLINDER BOTTOM
H09M19 M-5290**



**WORKPIECE: BODY
H09M10 U-894**



**WORKPIECE: PISTON
H09M10 U-694**



**WORKPIECE: HOUSING
H09M10 U-429**

SPECIALTY CHUCKS



WORKPIECE: PISTON
H09M10 U-429



WORKPIECE: SOCKET
H09F11 0-3696



WORKPIECE: SHAFT
H09M9 S-1084



WORKPIECE: CAM SHAFT
H09M10 0-3779



WORKPIECE: RETAINER
HW-06C-HS-3S M-3156



WORKPIECE: HOUSING
HW-12C-HS-3S M-3540



WORKPIECE: SCROLL
H011MB12 R-2860



WORKPIECE: PISTON
HW-08-DP U-574



WORKPIECE: CYLINDER
HW-10-2J-DOD S-1065



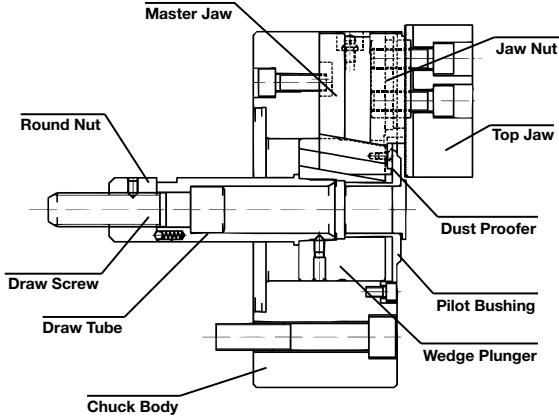
WORKPIECE: CYLINDER HEAD
HW-06-DP U-573



PARTS NAME OF CHUCK

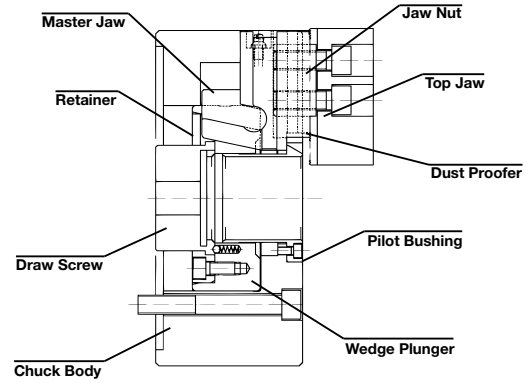
WEDGE STYLE TYPE CHUCK

(HS-SERIES-KS-SERIES-LS-SERIES)



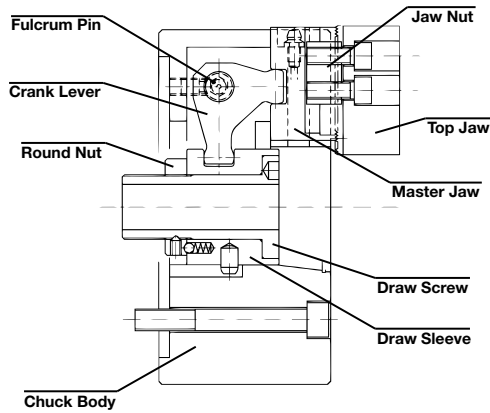
WEDGE STYLE TYPE THRU HOLE CHUCK

(HS-SERIES-KS-SERIES-2J3J-SERIES)



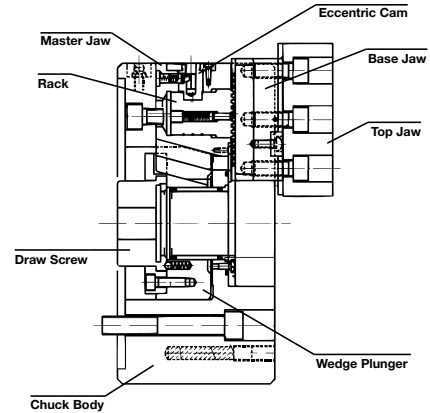
CRANK TYPE LONG JAW STROKE CHUCK

(XLS-SERIES)



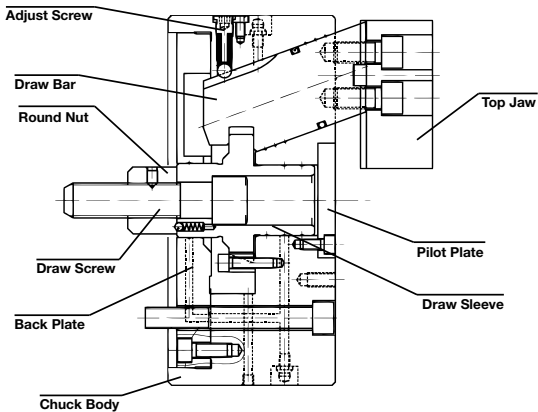
QUICK CHANGE THRU HOLE CHUCK

(QC-SERIES)



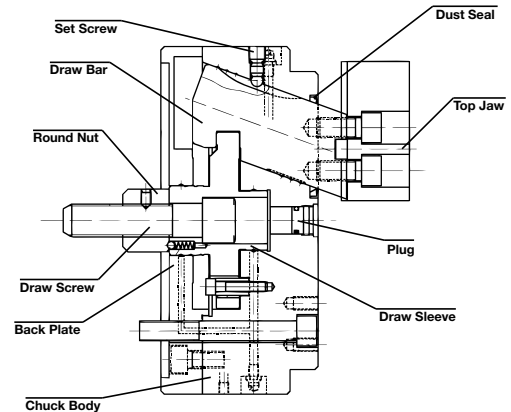
DRAW DOWN CHUCK

(DOD-DOD-S-SERIES)



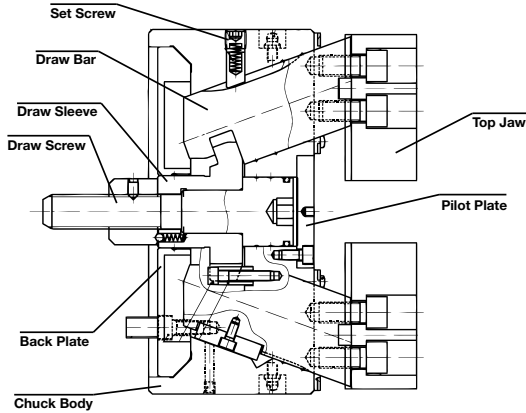
I.D. DRAW DOWN CHUCK

(DID-SERIES)



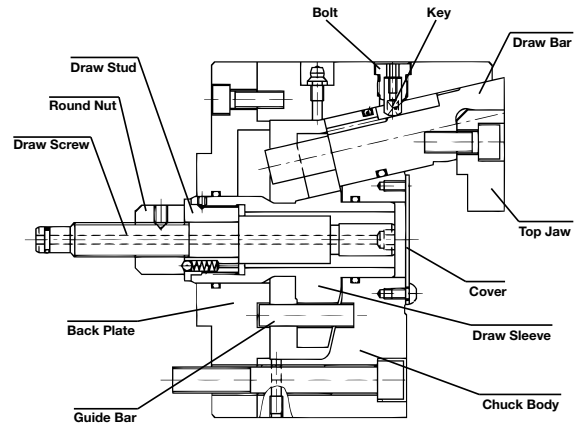
2-JAW DRAW DOWN CHUCK

(DOD-SERIES)



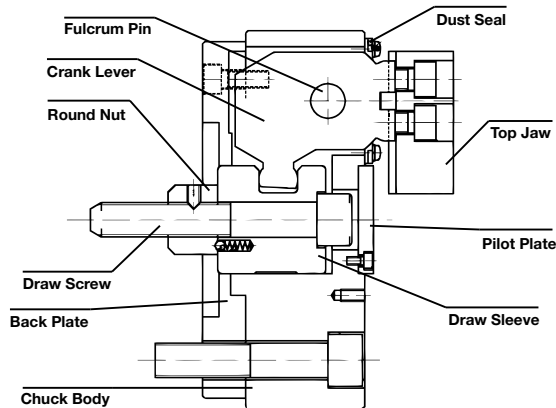
HIGH-SPEED DRAW DOWN CHUCK

(DODHS SERIES)



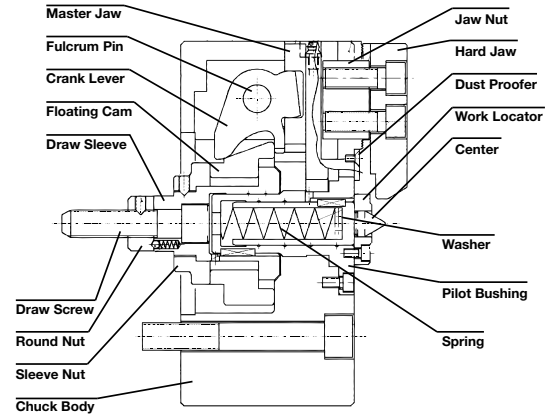
QUICK CHANGE CHUCK

(DP-SERIES)



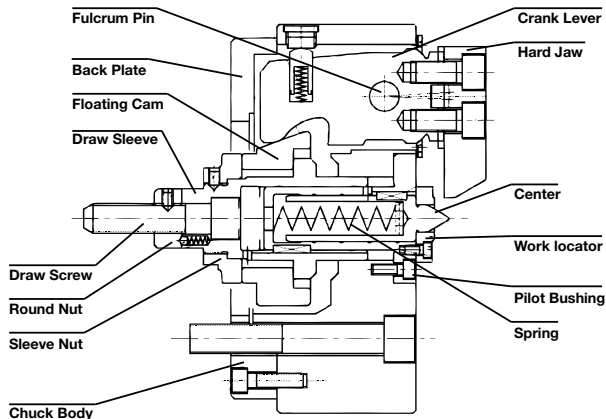
COMPENSATING CHUCK

(COL-SERIES)



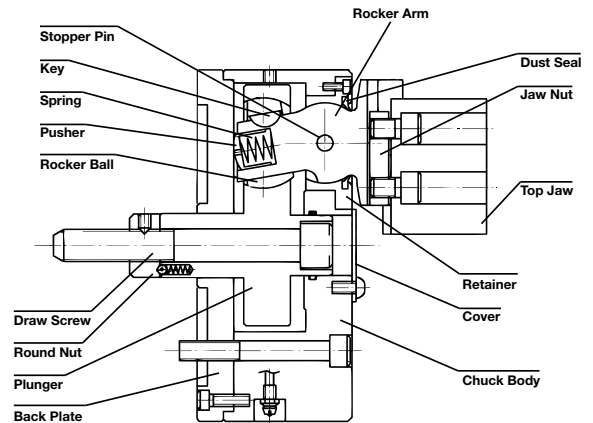
SWING JAW COMPENSATING CHUCK

(COLSJ-S-SERIES)



SWING LOCK CHUCK

(SL-SERIES)



TOP SECRET

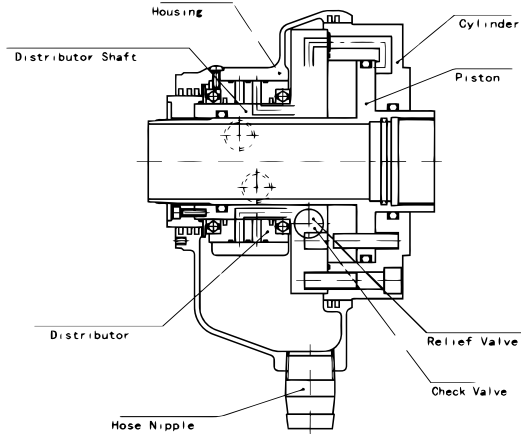
See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks

PARTS NAME OF ROTATING CYLINDER

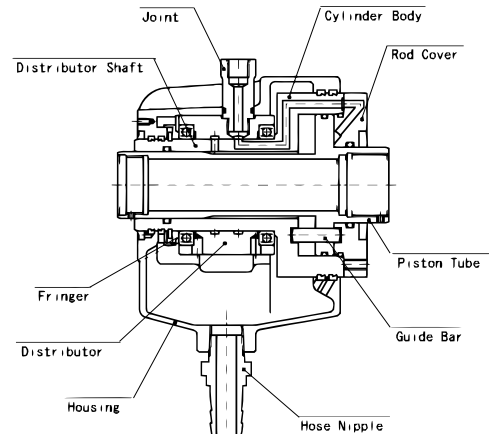
THRU HOLE ROTATING HYDRAULIC CYLINDER

(C1TA)



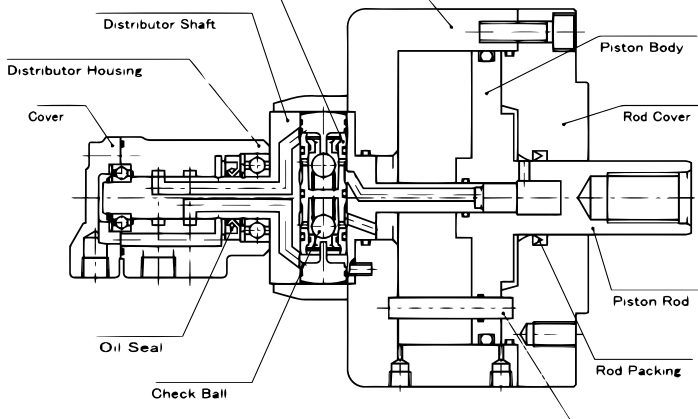
THRU HOLE ROTATING HYDRAULIC CYLINDER

(HH31C)



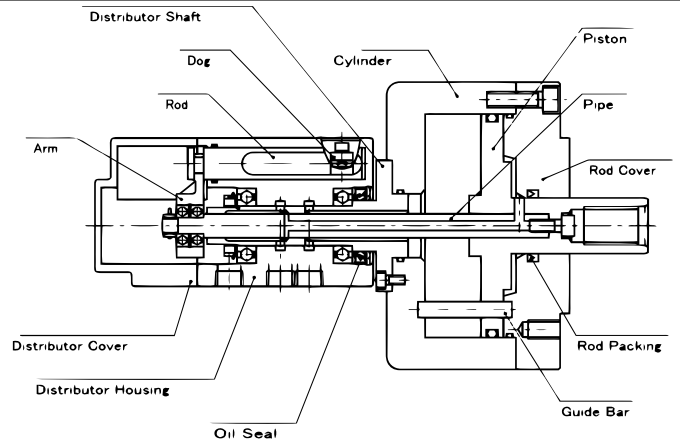
ROTATING HYDRAULIC CYLINDER WITH SAFETY DEVICE

(HH4CB)



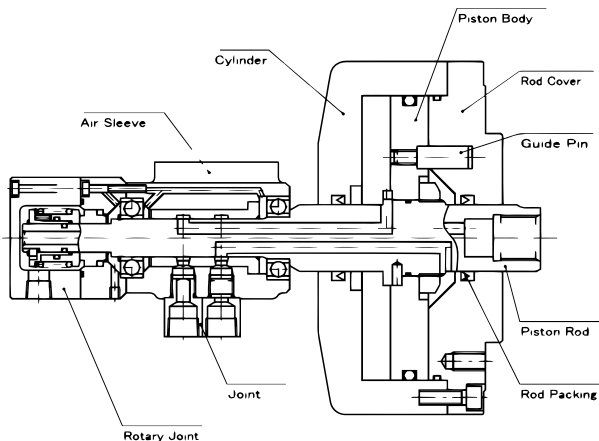
ROTATING HYDRAULIC CYLINDER WITH STROKE CONTROL

(HH11C)



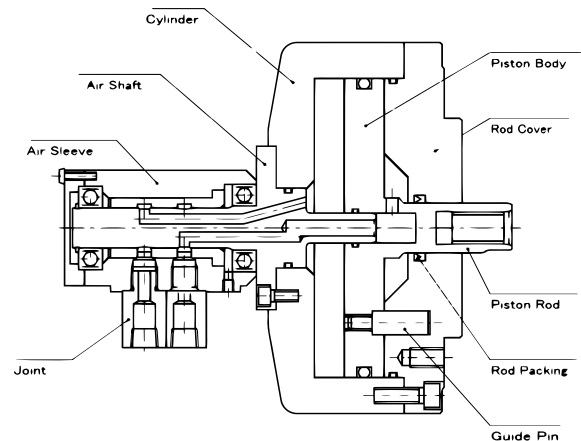
ROTATING AIR CYLINDER WITH COOLANT CONNECTION

(H06C)



ROTATING AIR CYLINDER

(H05CH)



SPECIAL CHUCK USED FOR NON-CUTTING PURPOSES

The use of chucks is not limited to cutting works. HOWA takes advantage of its technical expertise for lathe chucks to offer ones for other purposes than cutting works. Whenever you need "Work holding" techniques, feel free to contact Lyndex-Nikken.

Following examples of the chuck for a purpose other than cutting works:

<p style="text-align: center;">TWISTING</p>	<p style="text-align: center;">WINDING</p>
<p style="text-align: center;">PRESSURE WELDING</p>	<p style="text-align: center;">FUSION CUTTING</p>
<p style="text-align: center;">SPIN FORMING</p>	<p style="text-align: center;">RESIN COATING</p>
<p style="text-align: center;">FORMING</p>	<p style="text-align: center;">QUENCING</p>

TOP SECRET

See specialty chucks on pg. 58-63 to help you beat the competition

HOWA Power Chucks

Company Name

Contact Information

(Department)	
(Customer Name)	
(Telephone #)	(Fax)
(Email Address)	

Distributor Name

Contact Information

(Point of Contact Name)	
(Telephone #)	(Fax #)
(Email Address)	

1. Item(s) to Quote

Deadline for Quotation

Chuck and Rotating Cylinder
 Chuck Only
 Rotating Cylinder Only

Month/Day/Year

Month/Day/Year

2. Your Work Piece Details

Please provide as much information as possible regarding your work piece

- When requesting multiple drawings to be assessed, please send them together.
- For multi-turning process parts (parts that need to be turned on more than 1 lathe as due process), please submit a worksheet for each chuck that will be dedicated to each machine.

1. Type of machine the work piece will be machined on
2. Current processing standards (how it is held, reference datums, etc.)
3. Chucking references (pre-turned, ground, machined or by other operation, casted, forged, etc.)
4. Required accuracy for features (concentricity, parallelism, squareness, roundness, cylindricity, etc.)
5. Work material type and hardness when being chucked

3. Application background

(Cutting Conditions)

Depth of Cut _____ Inches (radial measurement, not diameter DOC)
 Feed Rate _____ Inches/Revolution
 Revolutions Per Minute (RPM) _____ Rev/Min
 Cutting Speed of Material _____ Surface footage of material (Ft/min)

***To prevent under-engineering or recommending an unsuitable chuck, please provide the following specifications under the most extreme cutting conditions currently being experienced.

(Make and Model of Lathe)

Make _____ Model _____
 Spindle Nose _____ (ISO 702/1 Type A2-6, A2-8 etc.)

***If an existing rotating cylinder will be mounted on a new chuck, please provide the make, model, and a drawing (if possible) of the existing rotating cylinder. Additional information regarding the machine's spindle layout to determine draw bar/tube length and size would be helpful.

Work Loading Method

Robot/Loader
 Manual Hand Load

Work Chucking Reference Point

Reference is on a machined feature of the part
 Reference point will be on the chuck
 Reference point is not a concern at this point

Confirmation of Proper Part Chucking

Necessary
 Unnecessary

Spindle Air/Coolant Blow

Coolant
 Air
 Unnecessary

Power Source for Rotating Cylinder

Hydraulic
 Air

Check Valve for Rotary Cylinder

Necessary
 Unnecessary

Stroke Confirmation

Necessary
 Unnecessary

4. Additional Requirements

*Please read this Type Selection page carefully before choosing a type of rotating cylinder.
Please read the supplied operating instructions before use.*

TYPE SELECTION

HOWA Machinery provides different types of rotating cylinders such as a pneumatic type, a hydraulic type, a general purpose closed center type, a hollow type with a central thru hole, and a built-in check valve type. Select the type that best suits your purposes by referring to the specifications table in the catalog.

ROTATING SPEED

The maximum rotating speeds given in the specifications chart of this catalog are the values for the rotating cylinders alone. If using in combination with a power chuck, take into account the maximum rotating speed of the chuck as well when making your selection. If the maximum rotating speed of the chuck is less than that of the rotating cylinder, do not exceed the maximum rotating speed of the chuck during use.

COMPRESSED AIR AND HYDRAULIC OIL SELECTION

• Rotating air cylinder

The compressed air supplied to a rotating air cylinder has the role not only of operating the cylinder at the required speed but also of lubricating and cooling the bearings. Not using clean air that lubricates properly results in accelerated wear of the various parts and significant shortening of the product's lifespan. Use an air filter with a (5 μ m or better) and a type of lubricating oil that meets ISO VG32.

• Rotating hydraulic cylinder

When installing a hydraulic unit specifically for a rotating hydraulic cylinder, choose the specifications of the hydraulic unit taking into account the rotating hydraulic cylinder's size, maximum working pressure, the clamping force of the required chuck, and so on. Using a motor that is bigger than necessary or a pump with an excessive discharge could cause the oil temperature to rise and lead to damage. If the minimum discharge falls below the total leakage given in the catalog, the internal pressure of the rotating hydraulic cylinder cannot be maintained.

If the mounted device itself has a hydraulic power unit, it is acceptable to take a branch from its hydraulic circuit and use that, but you must fit a exclusive reducing valve and pressure gauge to the circuit of the rotating hydraulic cylinder to prevent surge pressure.

We recommend using hydraulic oil with a viscosity of 32mm²(MAKE SQUARED CYLINDER) /sec at a temperature of 40°C (to meet ISO VG32) that is abrasion resistant and anti-foaming. To sustain the performance of the rotating hydraulic cylinder, always insert a strainer (20 μ m or better) in the pressure line and use a cooler so that the oil temperature does not exceed 60°C.

ANTI-ROLLING GUIDE AND PIPING

When the rotating cylinder is turned, a certain amount of torque is produced in the housing due to the resistance of the bearings in a pneumatic type rotating cylinder or due to the viscosity of the hydraulic oil in a hydraulic type rotating cylinder. Because of the force generated by this torque, using piping made from steel or fixing a housing to some lathes can produce an excessive force on the whole rotating cylinder and lead to a malfunction or vibration. Therefore, use hose as piping and refer to the instruction manual for a suitable method of creating a housing baffle.

CHECK VALVE FUNCTION

The check valve in a rotating cylinder is fitted in order to prevent a clamped workpiece from flying out before the spindle stops when an accident occurs in the pressure supply system and the pressure inside the cylinder drops sharply during spindle rotation. Do not use this check valve's pressure sealing function for holding a workpiece for a long time because there is a risk of the internal pressure gradually falling and the workpiece dropping or flying out. For this reason, be especially careful when using with an inverted vertical lathe.

STROKE CONTROL

Note that if the plunger stroke of the chuck is shorter than the cylinder stroke, the cylinder stroke should be limited to the plunger stroke of the chuck or damage may occur. Contact Lyndex-Nikken before conducting such limiting work.

OPERATION FREQUENCY

The rotating cylinders listed in this catalog are manufactured for use mainly with lathes in combination with the power chucks also listed in this catalog. Contact Lyndex-Nikken if you intend to use one of these rotating cylinders with a dedicated device that is operated extremely frequently.





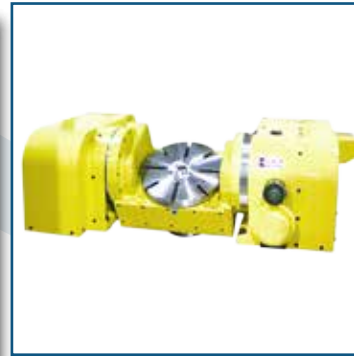
Be sure to visit our website www.lyndexnikken.com to find out more about our products, services, and all we have to offer! This customer-friendly site provides a complete overview of our product line, and features technical data, videos, CAD drawings, catalogs, and more.



Static & Live Tools



Angleheads



Rotary Tables



Shrink Fit



Toolholders



www.lyndexnikken.com

1468 Armour Boulevard
Mundelein, IL 60060

E-mail: inquiries@lyndexnikken.com

Phone: (847) 367-4800

Fax: (847) 367-4815

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