

THE
BEST.

NORTH AMERICA

VOLUME 1

WORKHOLDING PRODUCTS & SERVICES

Company Overview

Chucks

Cylinders

Work Grippers

Automation Products

Steady Rests

Accessories

Custom Engineering

Repair & Rebuild Services



kitagawa[®]
NORTHTECH
The Best Workholding.

THE
BEST.

MISSION STATEMENT

Individually & Collectively, We Promise To:

Lead the workholding industry, by delighting our customers through world-class service, product design and innovative applications by:

- *Maintaining a thorough understanding of the dynamic, global marketplace and competitive environment, in order to be responsive to our customers' ever-changing needs, and*
- *Mutually cultivating a learning organization which fosters respect and continuous improvement, in all we do.*



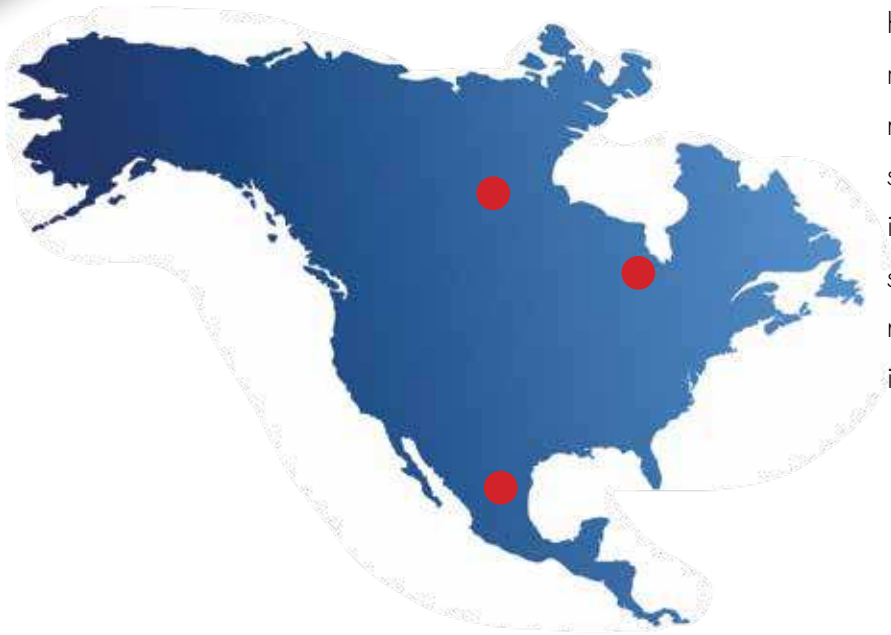
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COMPANY OVERVIEW

COMMITTED TO NORTH AMERICA

Servicing the USA, Canada and Mexico, Kitagawa NorthTech's Schaumburg, Illinois, represents North American headquarters and manufacturing. The facility houses corporate staff, customer service, engineering, manufacturing, testing, inspection and repair and rebuild services. Kitagawa Mexico represents their newest facility established to support customers in Mexico and South America.



PROVEN TECHNOLOGY

For over 50 years, Kitagawa workholding products have inspired trust and confidence in machine tool OEMs, end-users and machine shops. Dating back to 1967 when we introduced the first Power Chuck, Kitagawa workholding technologies have stood the test of time.



TECHNOLOGICAL LEADERSHIP

With multiple components machined within tolerances of 1/000 mm, Kitagawa workholding is quite possibly “the best” in precision, repeatability, and reliability. We’re paving the way for the future with advanced chucks solutions, automation for robotic production environments and custom engineered workholding for turning and prismatic applications.

LONGEVITY & DURABILITY

Kitagawa Chucks are known for their remarkable longevity – performing day in and day out in the most punishing environments. Our average chuck rebuild returns to our facility after 20 - 25 years of service life – often from 24/7 automotive operations.



LOCAL SUPPORT & SERVICE



INFRASTRUCTURE

Kitagawa NorthTech has the infrastructure, capabilities, and turnkey services to support North American customers' application requirements. Our in-house engineering and manufacturing teams are highly experienced, committed to delivering standard and customized solutions backed by superior local service and support.



INDUSTRIES SERVED



Military



Medical



Automotive



Automation



Machine Tools



Oil & Gas



Aerospace



Commercial

EXPERIENCED

Serving a wide array of industries, Kitagawa NorthTech has the depth of experience to solve just about any workholding requirement. From simple to complex turning and milling applications, we can apply a broad range of solutions including: standard chucks, advanced chucks, industry application chucks or complete custom engineered workholding. We can also provide complete training, applications assistance and turnkey integration.

PRODUCT FAMILY OVERVIEW

Standard and Advanced Chucks

Over 60 models available in our extensive line-up.



Quick jaw-change chucks



Air chuck with mega through hole



Power wing - pull back chuck



1 Jaw mega long stroke chuck

Custom Engineered Solutions

Stabilize your chuck's grip force and precision with these tools!



Hydraulic Cylinders

Exclusive for Kitagawa chucks, these cylinders deliver performance and quality.



Large through hole, open center



Double piston



Open center, standard through hole



Closed center, built-in proximity switch

COMPREHENSIVE OFFERING

HUNDREDS OF STANDARD & ADVANCED-PRODUCTS TO CHOOSE FROM

Hydraulic Steady Rests

Wide range of the most reliable steady rests in the market.



FRU-Series



FRUAB-Series



FRC-Series



AS-Series Grinding Steady Rests

Automation Products

AJPS is designed for low to moderate volume parts machining in automated robotic work cells.



Automated Jaw Pallet System



3-Jaw Gripper



Robot Hand Changers

Custom Tombstone Fixtures

Our in-house Productivity team engineers design custom fixtures for advanced applications.



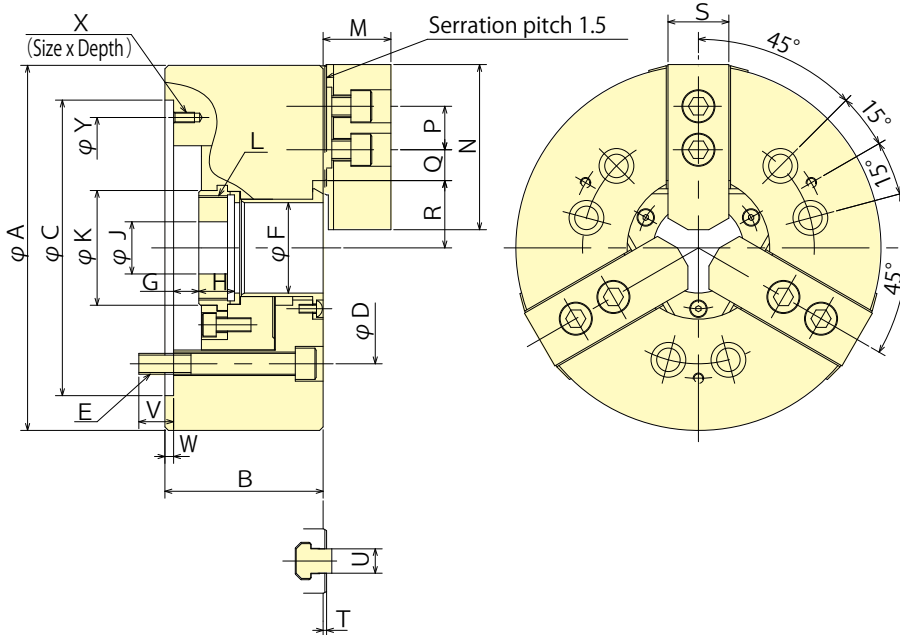
STANDARD CHUCKS

B-200 SERIES Large Thru-Hole Power Chucks



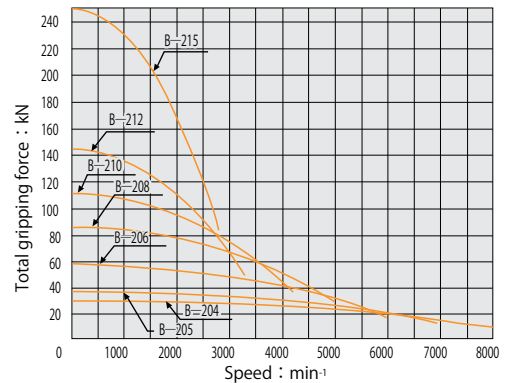
THE ORIGINAL POWER CHUCK

- Two jaw configurations available



Gripping Characteristic Graphs

※With standard blank soft top jaw.



B
2
0
0

Dimensions Model	A	B	C (H6)	D	E	F	G max.	G min.	H	J	K	L max.	M	N	P	Q max.	Q min.	R max.	R min.	S	T	U	V	W	X (3-)	Y
B-204	110	59	85	70.6	3-M10	26	3.5	- 6.5	17.5	12	38	M32×1.5	24	49.5	14	11.25	6.75	23	20.3	23	2	10	15.5	4	-	-
B-205	135	60	110	82.6	3-M10	33	1	- 9	20	12	45	M40×1.5	26	54	14	19.75	7.75	26.5	23.8	23	2	10	15	4	-	-
B-206	169	81	140	104.8	6-M10	45	11	- 1	19	20	60	M55×2.0	29	66	20	22.75	9.25	32	29.25	26	2	12	16	5	M6×10	116
B-208	210	91	170	133.4	6-M12	52	14.5	- 1.5	20.5	30	66	M60×2.0	39	95	25	29.75	14.75	38.7	35	35	2	14	20	5	M6×12	150
B-210	254	100	220	171.4	6-M16	75	8.5	-10.5	25	45	94	M85×2.0	43	110	30	33.75	14.25	51	46.6	40	2	16	22	5	M8×15	190
B-212	304	110	220	171.4	6-M16	91	8	-15	28	50	108	M100×2.0	51	111	30	45.75	15.75	61.3	56	50	2	21	23	6	M8×15	190
B-215	381	147	300	235.0	6-M20	100	23	0	35	50	120	M110×2.0	61	135	43	54.75	20.25	70	64.7	50	2	25.5	31	6	M10×16	260

Specifications Model	Thru-Hole mm	Gripping range mm Max. Min.	Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN (kgf)	Max. Gripping Force kN (kgf)	Max. Speed min⁻¹	Net Weight with Soft top jaws kg	Moment of inertia kg·m²	Matching Cylinder	Max. pressure MPa (kgf/cm²)	Matching Hard top jaw	Matching Soft top jaw
B-204	26	110 7	5.4	10	140 (1428)	285 (2906)	8000	4.0	0.007	F0933H	2.80 (28.6)	HB04N1	SB04N1
B-205	33	135 12	5.4	10	175 (1784)	360 (3671)	7000	6.7	0.018	F0933H	3.43 (35.0)	HB04N1	SB05N1
B-206	45	169 16	5.5	12	220 (2243)	570 (5812)	6000	11.9	0.058	S1246	2.80 (28.6)	HB06B1	SB06L1A
B-208	52	210 13	7.4	16	348 (3549)	860 (8769)	5000	22.3	0.170	S1552	2.65 (27.0)	HB08A1	SB08B1
B-210	75	254 31	8.8	19	430 (4385)	1110 (11319)	4200	34.5	0.315	S1875	2.70 (27.5)	HB10A1	SB10B1
B-212	91	304 34	10.6	23	550 (5608)	1440 (14686)	3300	55.3	0.738	S2091	2.70 (27.5)	HB12N1	SB12N1
B-215	100	381 50	10.6	23	980 (9993)	2490 (25391)	2800	116.0	2.200	F2511H	3.30 (33.7)	HB15N1	SB15N1

STANDARD CHUCKS

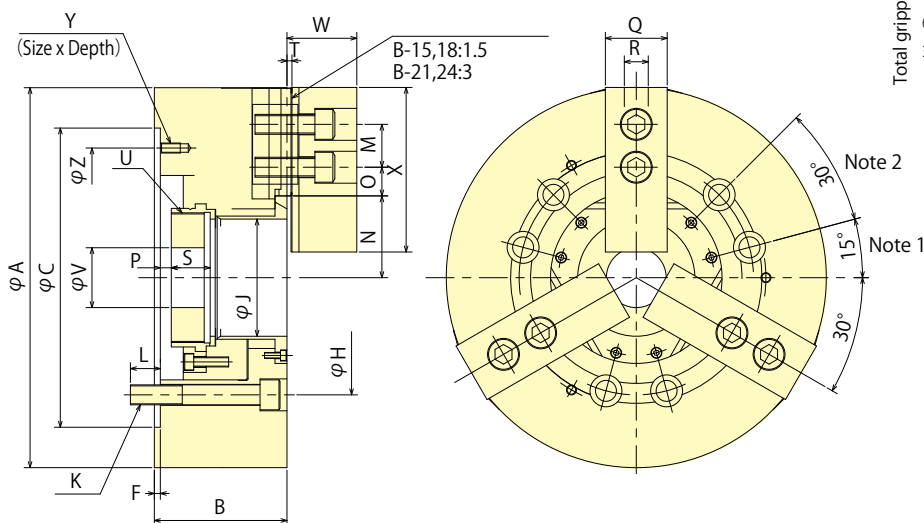
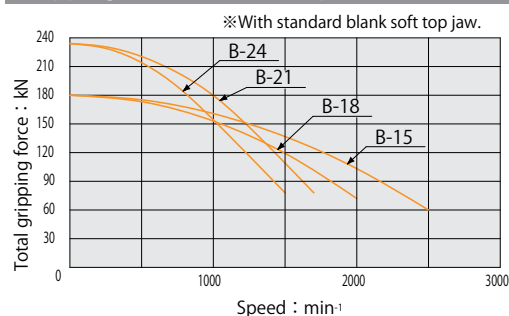
B-SERIES Large Thru-Hole Power Chucks



STABLE MACHINING & OPERATION FOR LARGE WORK PIECES

- Two jaw configurations available

Gripping Characteristic Graphs



B S E R I E S

Dimensions Model	A	B	C (H6)	F	H	J	K	L	M	N max.	N min.	O max.	O min.	P max.	P min.	Q	R	S	T	U max.	V	W	X	Y	Z
B-15	381	133	300	6	235.0	117.5	6-M20	30	43	82	76.7	43.75	18.25	11	-12	62	22	39	5	M130×2.0	60	70	165	M10×20	260
B-18	450	133	380	6	235.0	117.5	6-M20	30	43	82	76.7	78.25	18.25	11	-12	62	22	39	5	M130×2.0	60	70	165	M10×20	320
B-21	530	140	380	6	330.2	140	6-M22	31	60	98.5	93.2	87.5	21.5	11	-12	65	25	39	5	M155×3.0	80	73	180	M12×30	330.2
B-24	610	149	380	6	330.2	165	6-M22	32	60	108	102.7	117.5	21.5	20	-3	65	25	40.5	5	M175×3.0	80	73	180	M12×25	330.2

Specifications Model	Thru-Hole mm	Gripping range mm Max. Min.	Jaw Stroke (diameter) mm	Plunger Stroke mm	Max Draw Bar Pull Force kN (kgf)	Max. Gripping Force kN (kgf)	Max. Speed min⁻¹	Net Weight with Soft top jaws kg	Moment of Inertia kg·m²	Matching Cylinder	Max. pressure MPa (kgf/cm²)	Matching Hard top jaw	Matching Soft top jaw
B-15	117.5	381 30	10.6	23	71.0 (7240)	180.0 (18355)	2500	120.0	2.273	F2511H	2.30 (23.5)	HB15A1	SB15C1
B-18	117.5	450 30	10.6	23	71.0 (7240)	180.0 (18355)	2000	164.0	4.451	F2511H	2.30 (23.5)	HB15A1	SB15C1
B-21	140	530 87	10.6	23	90.0 (9177)	234.0 (23861)	1700	235.0	8.950	F2511H	3.00 (30.6)	HB18B2	SB18A2
B-24	165	610 109	10.6	23	90.0 (9177)	234.0 (23861)	1400	293.0	16.600	F2511H	3.00 (30.6)	HB18B2	SB18A2

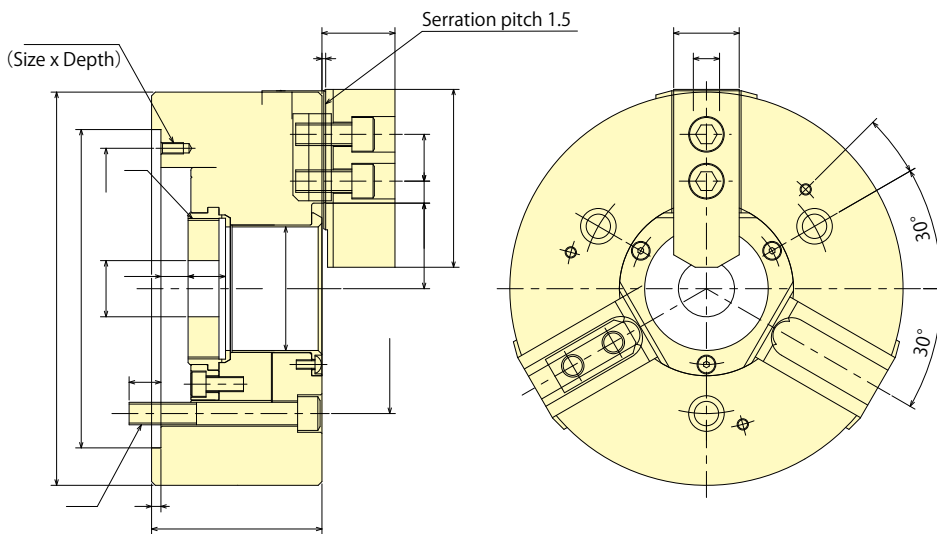
STANDARD CHUCKS

BB-200 SERIES Large Through-Hole Power Chucks



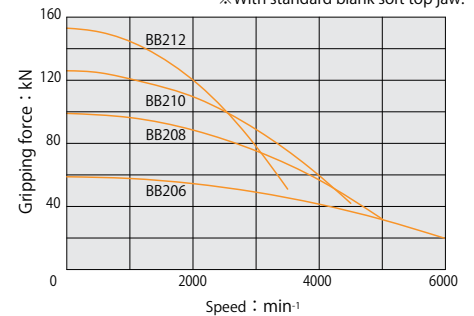
STABLE MACHINING FOR LARGE DIAMETER BAR MATERIAL

- Universally recognized standard chuck
- Large through-hole
- Standard soft jaw can be used for B200 series chucks as well
- Larger chuck models BB218 & BB221 also available



Gripping Characteristic Graphs

※With standard blank soft top jaw.



**B
B
2
0
0**

Dimensions Model	A	B	C (H6)	D	E	F	G max.	G min.	H	J	K	L max.	M	N	P	Q max.	Q min.	R max.	R min.	S	T	U	V	W	X	Y
BB206	170	81	140	104.8	3-M10	53	11	- 1	17.5	20	5	M60×2.0	33.2	72	20	21.25	10.75	36	33.25	31	2	12	M6×10	116	16	-30°
BB208	210	91	170	133.4	3-M12	66	14.5	- 1.5	20	30	5	M75×2.0	39	95	25	23.75	11.75	45.7	42	35	2	14	M6×12	150	17	15°
BB210	254	100	220	171.4	3-M16	81	8.5	-10.5	25	45	5	M90×2.0	43.2	110	30	32.25	14.25	54	49.6	40	2	16	M8×15	190	22	-15°
BB212	315	108	300	235	3-M20	106	8	-15	28	50	6	M115×2.0	51.7	111	30	45.75	15.75	67.8	62.5	50	2.5	21	M10×16	260	29	-15°

Specifications	Thru-Hole mm	Gripping range mm	Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN(kgf)	Max. Gripping Force kN(kgf)	Max. Speed min⁻¹	Net Weight with Soft top jaws kg	Moment of inertia k·m²	Matching Cylinder	Max. pressure MPa (kgf/cm²)	Matching Soft top jaw
Model		Max. Min.										
BB206	53	170 19	5.5	12	20.0 (2039)	58.5 (5965)	6000	11.7	0.050	SS1453K	1.88 (19.2)	SB06B1
BB208	66	210 23	7.4	16	32.0 (3263)	99.0 (10095)	5000	23.0	0.143	SS1666K	2.34 (23.9)	SB08B1
BB210	81	254 41	8.8	19	48.8 (4976)	126.0 (12848)	4500	31.8	0.312	SS1881K	3.09 (31.5)	SB10B1
BB212	106	315 47	10.6	23	59.0 (6016)	153.0 (15601)	3500	52.0	0.736	SS2110K	2.94 (30.0)	SB12N1

STANDARD CHUCKS

QB300 SERIES Quick Jaw-Change Chucks

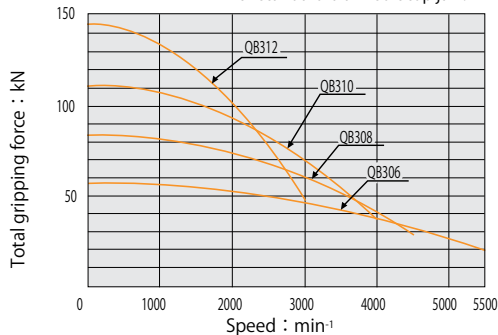


EASY SET-UP AND QUICK CHANGE OF TOP JAW

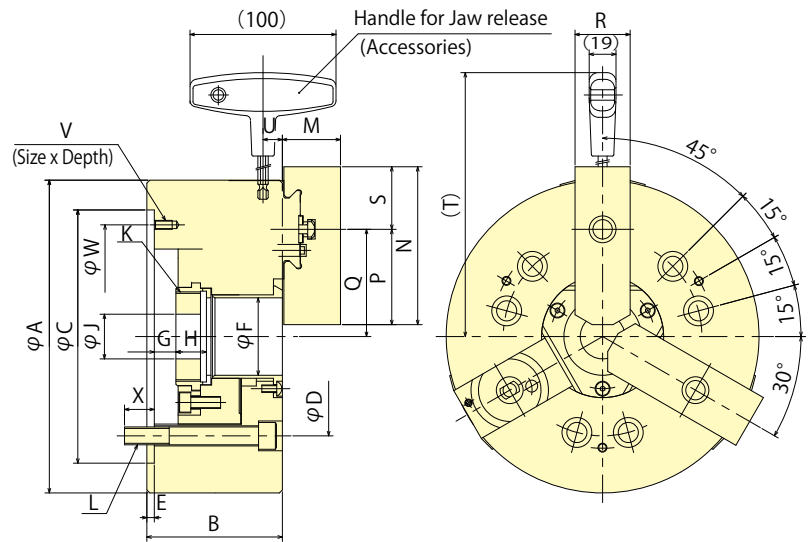
- Larger chuck model QB315 also available

Gripping Characteristic Graphs

※With standard blank soft top jaw.



Note) Please contact our engineering regarding casting and forgin material machining.

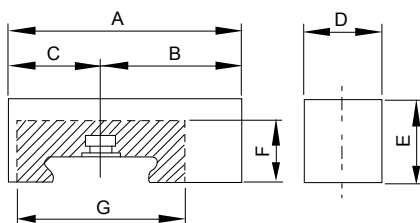


QB300

Dimensions Model	A	B	C (H6)	D	E	F	G max.	G min.	H	J	K max.	L	M	N	P	Q max.	Q min.	R	S	T	U	V	W	X
QB306	169	81	140	1048	5	45	11	-1	19	20	M55×20	6-M10	31	90	54	585	55.75	32	36	192.5	13	M6×10	116	16
QB308	210	91	170	1334	5	52	14.5	-15	20.5	30	M60×20	6-M12	39	106	64	72	68.3	37	42	220.7	13	M6×12	150	20
QB310	254	100	220	1714	5	75	8.5	-10.5	25	45	M85×20	6-M16	43	125	76	88	83.6	42	49	242	15.5	M8×15	190	22
QB312	304	110	220	1714	6	91	8	-15	28	50	M100×20	6-M16	51	139	90	106.3	101	42	49	267	15.5	M8×15	190	23

Specifications Model	Thru-Hole mm	Outer gripping range mm	Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN (kgf)	Max. Gripping Force kN (kgf)	Max. Speed min⁻¹	Net Weight with Soft top jaws kg	Moment of inertia kg·m²	Matching Cylinder	Max. pressure MPa (kgf/cm²)	Matching Soft top jaw
QB306	45	Φ10~Φ140	5.5	12	22.0 (2243)	57.0 (5812)	5500	12.6	0.058	S1246	2.80 (28.6)	SB06BB
QB308	52	Φ18~Φ180	7.4	16	34.0 (3467)	84.0 (8565)	4500	23.2	0.173	S1552	2.60 (26.5)	SB08BB
QB310	75	Φ22~Φ210	8.8	19	43.0 (4385)	111.0 (11319)	4000	35.0	0.318	S1875	2.70 (27.5)	SB10BB
QB312	91	Φ30~Φ250	10.6	23	55.0 (5608)	144.0 (14684)	3000	56.0	0.745	S2091	2.70 (27.5)	SB12BB

Soft Top Jaw Dimension Drawing



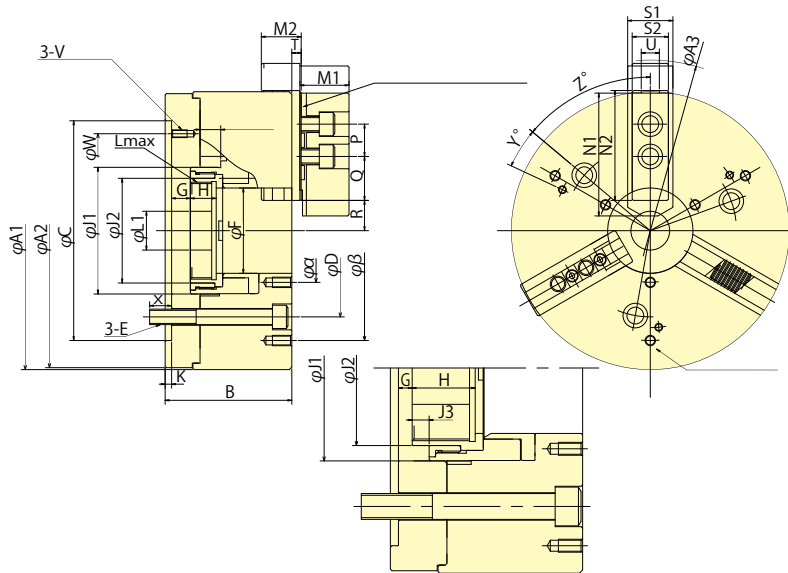
Note) No modification is allowed in shaded area.

Soft Jaw Model Dimensions	6"		8"		10"		12"	
	SB06BB	SB06BB-040	SB08BB	SB08BB-056	SB10BB	SB10BB-060	SB12BB	SB12BB-070
A	90	90	106	106	125	125	139	139
B	54	54	64	64	76	76	90	90
C	36	36	42	42	49	49	49	49
D	32	32	37	37	42	42	42	42
E	30	40	38	56	42	60	50	70
F	24	24	28	28	31	31	34	34
G	68	68	76	76	88	88	92	92
Min. gripper range	10	10	18	18	22	22	30	30

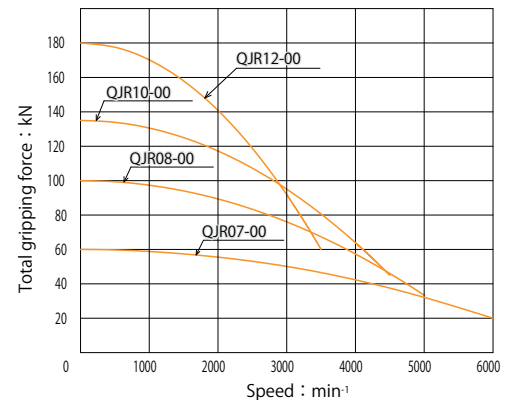
STANDARD CHUCKS

QJR SERIES Quick Jaw Replacement Chucks

SUITABLE FOR
SMALL AND LARGE
BATCH PRODUCTION



Gripping Characteristic Graphs



QJR SERIES

Model	A1	A2	A3	B	C (H6)	D	E	F	Gmax.	Gmin.	H	J1	J2	J3	K	Lmax.	L1	M1	M2
QJR07-00	178	178	212	92	140	104.8	M10	53	11.0	-4.0	24	81	66	95	5	M60 x2	20	32	25.5
QJR08-00	215	212	264	98	170	133.4	M12	66	14.5	-1.5	20	98	81	-	5	M75 x2	30	38	30.8
QJR10-00	254	251	312	119	220	171.4	M16	81	8.5	-10.5	39	115	96	10.5	5	M90 x2	45	42	39.0
QJR12-00	315	312	360	133	220 (300)	171.4 (235)	M16 (M20)	106	8.0	-15.0	42	140	121	15	6	M115 x2	50	50	45.2

Model	N1	N2	P	Q	Rmax.	Rmin.	S1	S2	T	U	V	W	X	Y	Z	α	β	γ
QJR07-00	72	73	20	28.5	14.0-32.0	10.3-28.3	31	255	545	12	M6 x12	116	17	-30	50	75	155	M8 x13
QJR08-00	95	85.0	25	34.0	20.4-44.4	16.7-40.7	35	28	725	14	M6 x12	150	17	15	50	80	170	M8 x15
QJR10-00	110	100.5	30	40.5	21.2-52.7	16.8-48.3	40	35	1130	16	M8 x15	190	23	-15	50	100	220	M8 x15
QJR12-00	111	108.0	30	57.0	33.9-69.9	28.6-64.6	50	50	1200	21	M8 x15 (M10 x16)	190 (260)	22 (27)	-15	45 (50)	130	280	M10 x17

Specifications	Thru-Hole	Gripping range mm		Jaw Stroke (diameter)	Plunger Stroke	Max. Draw Bar Pull Force	Max. Gripping Force	Max. Speed	Net Weight with Soft top jaws	Moment of inertia	Option	
Model	mm	Max.	Min.	mm	mm	kN	kN	min ⁻¹	kg	kg · m ²	Matching Base jaw	Matching Soft top jaw
QJR07-00	53	178	19	7.4	15	25	60	6000	14	0.06	QJR07-BJ00	SB06B1
QJR08-00	66	210	23	7.4	16	45	100	5000	25	0.18	QJR08-BJ00	SB08B1
QJR10-00	81	254	41	8.8	19	60	135	4500	45	0.41	QJR10-BJ00	SB10B1
QJR12-00	106	315	47	10.6	23	81	180	3500	75	1.15	QJR12-BJ00	SB12N1

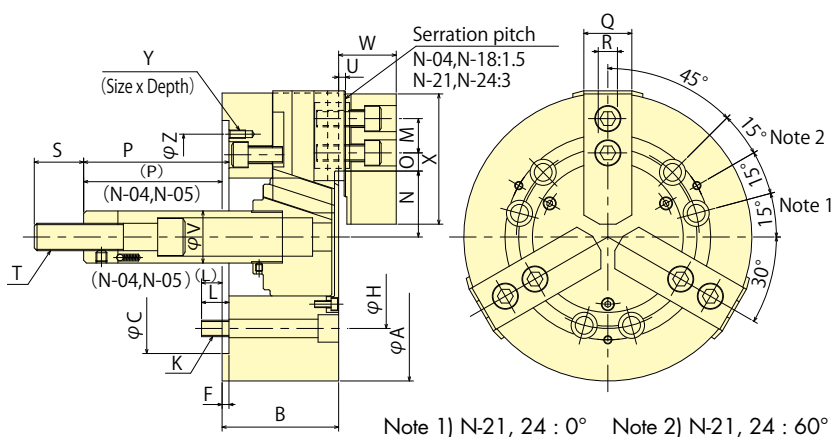
STANDARD CHUCKS

N SERIES Closed Center Power Chuck

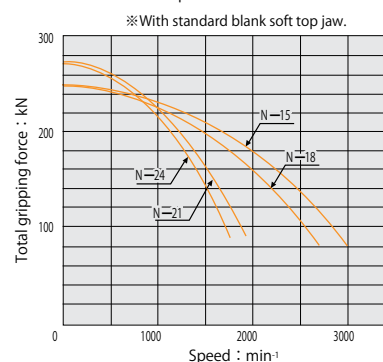
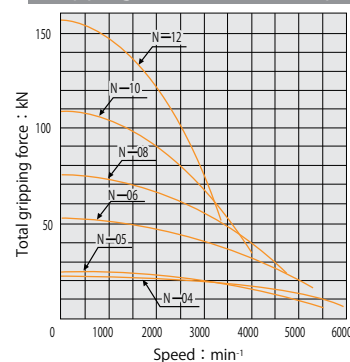


CLOSED CENTER STANDARD CHUCK

- Two jaw configurations available
- Our largest N chuck model N28 also available



Gripping Characteristic Graphs



Model	A	B	C (H6)	F	H	J	K	L	M	N max.	N min.	O max.	O min.	P max.	P min.	Q	R	S	T	U	V	W	X	Y	Z
N-04	110	52	60	6	80	—	3-M8	12	14	233	20.1	1125	825	18	3	23	10	25	M10×15	3	26	27	55	—	—
N-05	135	55	80	7	100	—	3-M8	14	19	304	27.2	1125	675	9	—6	23	10	35	M12×17.5	3	28	29	62	—	—
N-06	165	74	140	5	104.8	21	6-M10	14	20	378	33.55	1375	775	101.5	81.5	31	12	36	M16×20	4	34	35	72	M6×10	116
N-08	210	85	170	5	133.4	25	6-M12	20	25	463	41.9	2225	1175	127	106	35	14	36	M20×25	5	38	42	95	M6×12	150
N-10	254	89	220	5	171.4	34	6-M16	18	30	511	46.7	3075	1125	158	133	40	16	36	M20×25	5	45	46	110	M8×15	190
N-12	304	106	220	6	171.4	34	6-M16	18	30	61	55.75	4875	1275	163	133	50	18	36	M20×25	5	50	54	129	M8×15	190
N-15	381	114	300	6	235.0	—	6-M20	30	43	775	69.5	4875	2325	104	69	50	25.5	55	M30×35	2	60	61	135	M10×20	260
N-18	450	114	300	6	235.0	—	6-M20	30	43	108	100	4875	2325	92	57	50	25.5	55	M30×35	2	60	61	135	M10×20	260
N-21	530	125	380	6	330.2	—	6-M22	31	60	86	78	93.5	27.5	97	62	65	25	55	M30×35	3	60	71	180	M12×30	330.2
N-24	610	125	380	6	330.2	—	6-M22	31	60	125	117	93.5	27.5	97	62	65	25	55	M30×35	3	60	71	180	M12×30	330.2

Model	Gripping range mm	Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN (kgf)	Max. Gripping Force kN (kgf)	Max. Speed min⁻¹	Net Weight with Soft top jaws kg	Moment of inertia kg·m²	Matching Cylinder hydraulic	Max. pressure MPa (kgf/cm²)	Matching Hard top jaw	Matching Soft top jaw
N-04	110 8	6.4	15	82 (836)	228 (2325)	6000	4.1	0.008	Y0715R	AY-1315R	240 (245)	SB04B1
N-05	135 16	6.4	15	82 (836)	252 (2570)	5500	6.2	0.015	Y0715R	AY-1315R	240 (245)	SB05B1
N-06	165 19	8.5	20	18.0 (1835)	525 (5353)	5270	13.0	0.045	Y1020R	AY-1720R	260 (265)	SB06B1
N-08	210 23	8.8	21	25.0 (2549)	750 (7648)	4760	25.0	0.138	Y1225R	AY-2225R	250 (255)	SB08B1
N-10	254 24	8.8	25	29.0 (2957)	1080 (11013)	4010	37.0	0.300	Y1225R	AY-2225R	280 (286)	SB10B1
N-12	304 26	10.5	30	41.0 (4181)	1560 (15807)	3380	57.3	0.725	Y1530R	—	270 (275)	SB12A1
N-15	381 72	16	35	82.0 (8362)	2490 (25391)	3040	101.0	1.900	Y2035R	—	320 (326)	SB15N1
N-18	450 133	16	35	82.0 (8362)	2490 (25391)	2710	126.0	3.300	Y2035R	—	320 (326)	SB15N1
N-21	530 62	16	35	82.0 (8362)	2730 (27838)	1940	198.0	7.100	Y2035R	—	320 (326)	SB18A2
N-24	610 152	16	35	82.0 (8362)	2730 (27838)	1760	252.0	12.000	Y2035R	—	320 (326)	SB18A2

STANDARD CHUCKS

NV SERIES Large Power Chucks for Vertical Lathes

LOW MAINTENANCE POWER CHUCK FOR VERTICAL LATHES

- Sealed base jaw to prevent swarf and coolant ingress

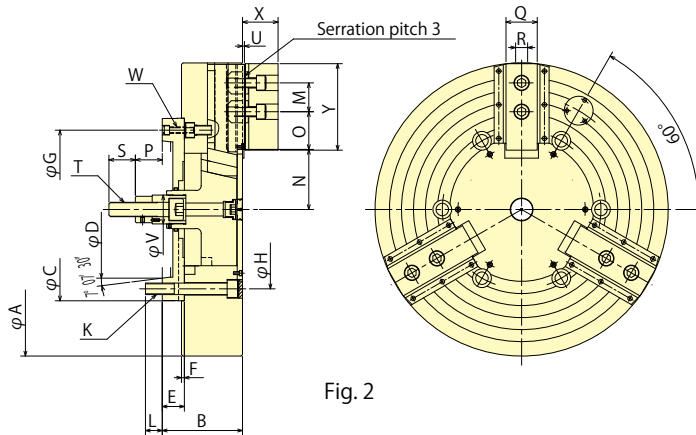


Fig. 2

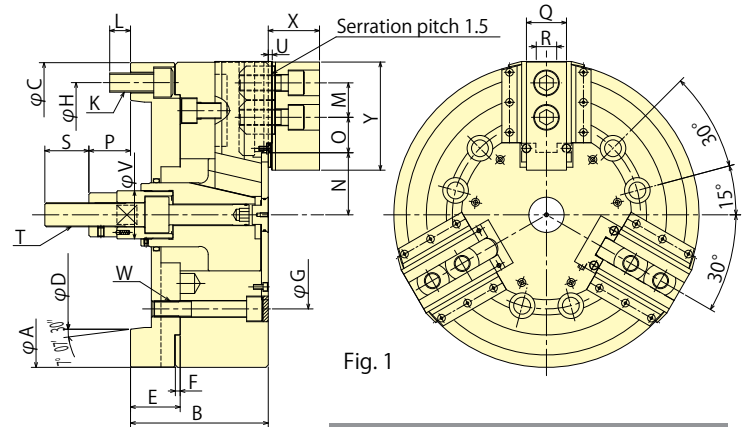
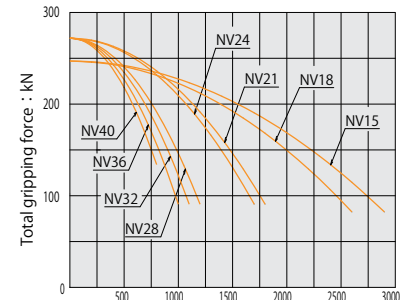


Fig. 1

Gripping Characteristic Graphs

※With standard blank soft top jaw.



Model	A	B	C	D	E	F	G	H	J	K	L	M	N max.	N min.	O max.	O min.	P max.	P min.	Q	R	S	T	U	V	W	X	Y
NV15C15	381	172	380	285.75	62	6	235.0	330.2	—	6-M24	26	43	77.5	69.5	48.75	23.25	91	56	50	25.5	55	M30	5	60	6-M20	64	135
NV18C15	450	172	380	285.75	62	6	235.0	330.2	—	6-M24	26	43	108.0	100.0	48.75	23.25	91	56	50	25.5	55	M30	5	60	6-M20	64	135
NV21C15	530	167	380	285.75	46	6	330.2	330.2	—	6-M24	35	60	86.0	78.0	93.50	27.50	91	56	65	25.0	55	M30	6	60	3-M12	74	180
NV24C15	610	167	380	285.75	46	6	330.2	330.2	—	6-M24	29	60	125.0	117.0	93.50	27.50	91	56	65	25.0	55	M30	6	60	3-M12	74	180
NV28C15	700	167	380	285.75	46	6	330.2	330.2	—	6-M24	29	60	125.0	117.0	141.50	27.50	91	56	65	25.0	55	M30	6	60	3-M12	74	180
NV32C15	800	167	380	285.75	46	6	330.2	330.2	—	6-M24	29	60	125.0	117.0	189.50	27.50	91	56	65	25.0	55	M30	6	60	3-M12	74	180
NV36C15	914	167	380	285.75	46	6	330.2	330.2	—	6-M24	29	60	125.0	117.0	249.50	27.50	91	56	65	25.0	55	M30	6	60	3-M12	74	180
NV40C15	1000	167	380	285.75	46	6	330.2	330.2	—	6-M24	29	60	125.0	117.0	282.50	27.50	91	56	65	25.0	55	M30	6	60	3-M12	74	180

Model	Gripping range mm Max. Min.	Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN (kgf)	Max. Gripping Force kN (kgf)	Max. Speed min ⁻¹	Net Weight with Soft top jaws kg	Moment of inertia kg·m ²	Matching Cylinder	Max. pressure MPa (kgf/cm ²)	Matching Soft top jaw	Spindle nose size
NV15C15	381 72	16	35	82 (8362)	247 (25187)	2900	139	2.700	Y2035R	3.2 (32.6)	SB15N1	A ₂ -15
NV18C15	450 133	16	35	82 (8362)	247 (25187)	2600	166	4.100	Y2035R	3.2 (32.6)	SB15N1	A ₂ -15
NV21C15	530 62	16	35	82 (8362)	272 (27736)	1800	227	7.600	Y2035R	3.2 (32.6)	SB18A2	A ₂ -15
NV24C15	610 152	16	35	82 (8362)	272 (27736)	1700	282	12.800	Y2035R	3.2 (32.6)	SB18A2	A ₂ -15
NV28C15	700 152	16	35	82 (8362)	272 (27736)	1200	360	21.900	Y2035R	3.2 (32.6)	SB18A2	A ₂ -15
NV32C15	800 152	16	35	82 (8362)	272 (27736)	1100	472	37.200	Y2035R	3.2 (32.6)	SB18A2	A ₂ -15
NV36C15	914 152	16	35	82 (8362)	272 (27736)	1000	594	62.400	Y2035R	3.2 (32.6)	SB18A2	A ₂ -15
NV40C15	1000 152	16	35	82 (8362)	272 (27736)	800	738	91.500	Y2035R	3.2 (32.6)	SB18A2	A ₂ -15

STANDARD CHUCKS

HW SERIES 4-Jaw Lever Type Power Chuck Closed Center

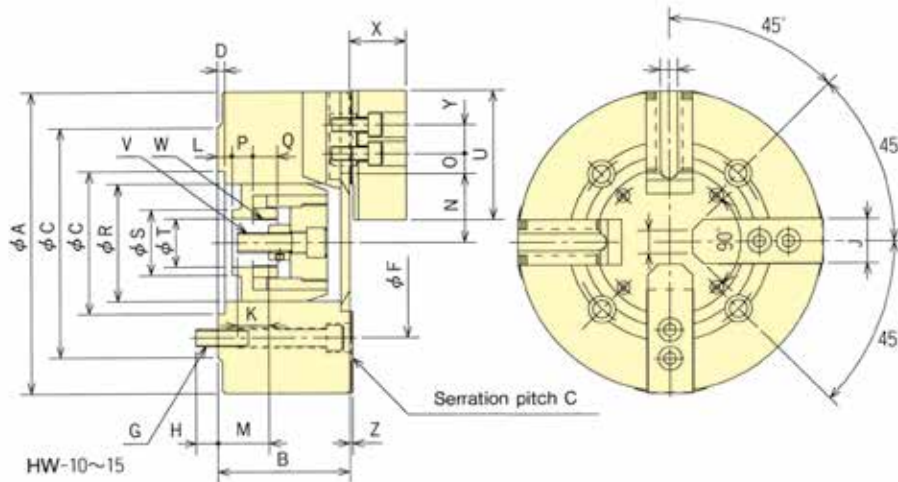
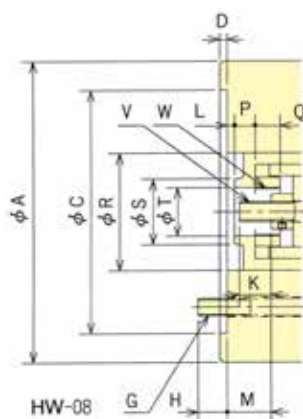
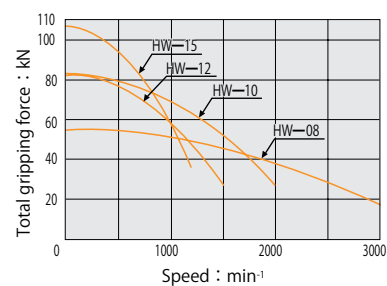


STEADILY GRIPS ANY IRREGULAR SHAPED WORK

- Self centering mechanism
- Long Jaw Stroke ensures components with variation are gripped securely

Gripping Characteristic Graphs

※With standard blank soft top jaw.



HW SERIES

Model	Dimensions			DP	E	F	G	H	J		LL		M		MN		NO		O		QR	ST	UV		WX	Y	ZC	A1	B1	1		
	AK	B	C (H6)								min.	max.	min.	max.	min.	max.	min.	max.														
HW-08	210	91	170	5	—	133.4	4-M12	20	31	29	10.5	—6.5	39	22	503	437	28.5	9.25	175	17	82	46	34	90	M14×2.0	M34×1.5	39	20	2	12	16	1.5
HW-10	270	110	120	5.5	200	170	4-M16	24	40	31	18	—4	49	27	64	56	28	13	20	20	103	58	42	110	M16×2.0	M42×1.5	45	30	5	16	—	3.0
HW-12	304	110	120	5.5	200	170	4-M16	24	40	31	18	—4	49	27	64	56	49	13	20	20	103	58	42	110	M16×2.0	M42×1.5	45	30	5	16	—	3.0
HW-15	381	135	195	7.5	285	235	4-M20	30	50	55	26	1	59.5	345	78	695	665	125	185	24	130	78	55	129	M20×2.5	M55×2.0	53	38	5	18	—	3.0

Model	Specifications		Gripping range mm		Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar※ (Per of Plunger) kN (kgf)	Max. Gripping Force※ (Per of Jaw) kN (kgf)	Max. Speed min	Net Weight with Soft top jaws kg	Moment of inertia kg·m²	Matching Cylinder	Max. pressure MPa (kgf/cm²)	Matching Soft top jaw
	Max.	Min.	Max.	Min.										
HW-08	210	26			13.2	17	16.5 (1683)	28.0 (2855)	3000	23.0	0.153	YW1220R	1.71 (17.4)	S B08B1Q
HW-10	270	54			16	22	23.0 (2345)	42.0 (4283)	2000	50.0	0.500	YW1225R	2.29 (23.4)	S B10A2Q
HW-12	304	54			16	22	23.0 (2345)	42.0 (4283)	1500	58.0	0.700	YW1225R	2.29 (23.4)	S B10A2Q
HW-15	381	63			17	25	28.0 (2855)	54.0 (5506)	1200	118.0	2.250	YW1225R	2.73 (27.8)	S B15A2Q

※In chuck total, both maximum allowable input value and static gripping force value are double on the above list.

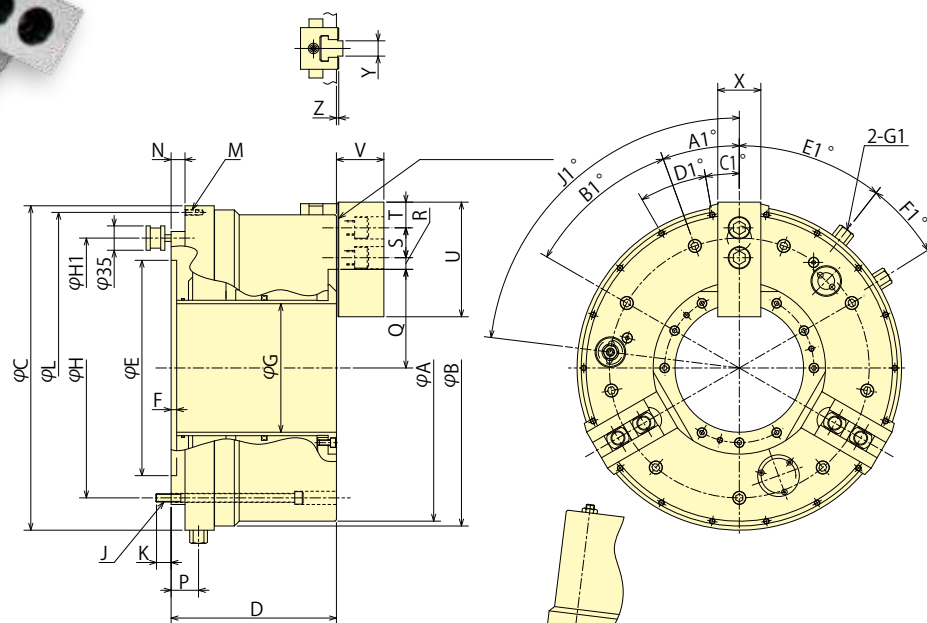
※The movement order of jaw cannot be assigned in combination with YW cylinder. (Contact to Kitagawa when assignment is required.)

OIL & GAS CHUCKS

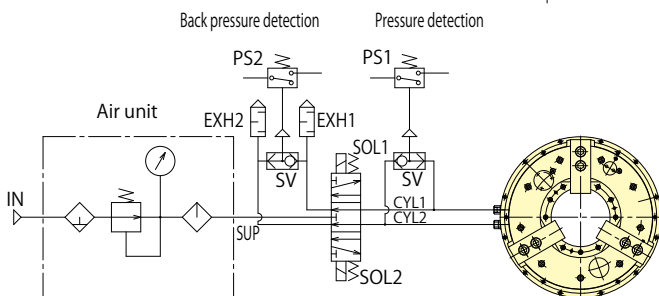
UPR SERIES 3-Jaw Air-Operated Self Contained Chucks

AIR-OPERATED CHUCK FOR PERFECT OIL PIPE STANDARDS

- Jaw jogging, full integration and installation available



Recommended Air Circuit Diagram



	A	B	C (Ø42)	D	E (H7)	F	G	H	J	K	L
UPR450	441	455	467	238	310	8	185	374	9-M12	22	448
UPR600	590	605	605	272	450	8	275	508	12-M12	22	585
UPR650	655	675	685	283	510	8	325	580	12-M16	24	666
UPR710	715	740	750	283	550	8	375	620	9-M16	24	730
UPR910	915	915	925	291	700	10	560	800	12-M16	26	905

Model	M	N	P	Q max.	Q min.	R max.	R min.	S	T	U	V	W	X	Y (h8)	Z	A1	B1	C1	D1	E1	F1	G1	H1	J1	K1
UPR450	18-M8 Depth 20	20	39.5	142	122	34.75	16.75	43	37	165	68.3	1.5	62	22	3.3	20°	9×40°	10°	18×20°	38°	20°	Rc3/8	374	83°	374
UPR600	18-M8 Depth 20	20	50	196.5	171.5	32.5	20.5	60	39.5	180	70.5	3	65	25.5	3.3	15°	12×30°	0°	18×20°	25°	20°	Rc3/8	508	60°	508
UPR650	18-M8 Depth 20	20	50	223	198	38.5	20.5	60	40	209.5	81.3	3	75	30	3.3	15°	12×30°	0°	18×20°	25°	20°	Rc1/2	580	60°	580
UPR710	18-M8 Depth 20	20	43	248	223	50.5	23.5	60	40	209.5	81.3	3	75	30	3.3	20°	9×40°	0°	18×20°	30°	15°	Rc1/2	620	45°	620
UPR910	18-M8 Depth 20	33	56	342	317	50.5	23.5	60	40	209.5	81.3	3	75	30	3.3	15°	12×30°	0°	18×20°	30°	15°	Rc1/2	800	60°	800

Model	Plunger Stroke mm	Thru-Hole mm	Jaw Stroke (diameter) mm Rapid	Gripping	Gripping range mm Max.	Min.	Max. Gripping Force kN (kgf)	Max. Speed min ⁻¹	Net Weight kg	Moment of inertia kg·m ²	Max. pressure MPa
UPR450	53	185	26	14	441	127	100 (10197)	1300	195	5.5	0.6
UPR600	53.5	275	33	17	590	235	120 (12236)	1100	365	19.7	0.5
UPR650	53.5	325	33	17	655	240	147 (14990)	1000	476	32.2	0.6
UPR710	53.5	375	33	17	715	294	162 (16519)	900	532	43.1	0.6
UPR910	53.5	560	33	17	915	475	162 (16519)	600	735	103	0.5

UPR
S
E
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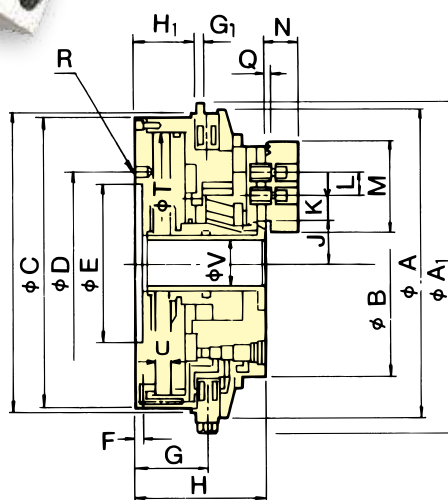
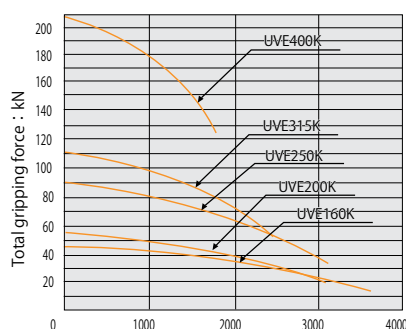
UVE-K SERIES 3-Jaw Air-Operated Self Contained Chuck



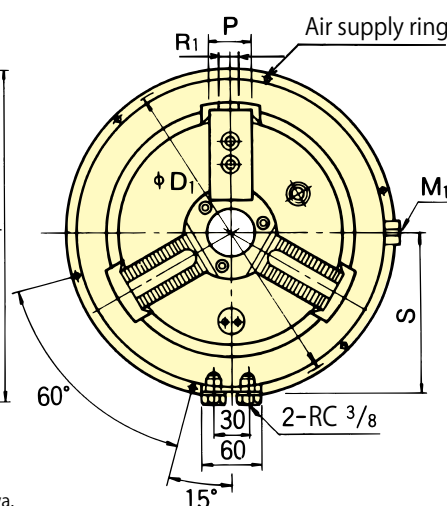
BUILT-IN PNEUMATIC CYLINDER

- Full integration and installation available

Gripping Characteristic Graphs



⑤ When chuck is used in vertical position contact Kitagawa.



※ Each curve shows air pressure 0.6MPa (6.1kgf/cm²).
This is a case that standard soft jaws are used.

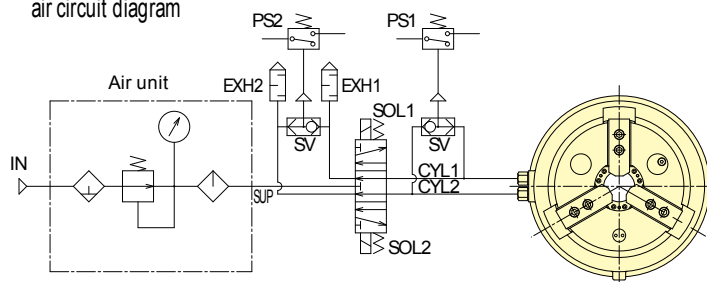
Mode	Dimensions				E (H7)	F	G	H	J max.	J min.	K max.	K min.	L	M	N	P	Q	R	S	T	U	V	A ₁	C ₁ (h6)	D ₁	G ₁	H ₁ ±0.1	M ₁	R ₁
	A	B	C	D																									
UVE160K	250	170	230	180	160	6.5	83	137	33.5	29.3	1925	1025	25	76.5	38.5	40	225	6-M10	138	205	24	38	273	240	260	6	71	M10	14
UVE200K	280	200	260	210	185	8	82.5	141	43	38.8	2025	1125	30	110	43	40	225	6-M10	150	230	24	50	302	275	288	6	69	M10	16
UVE250K	330	250	310	260	235	8	87.5	151	47.5	42.6	3975	1275	30	110	43	40	225	6-M10	175	280	28	60	350	320	336	6	74	M12	16
UVE315K	385	315	365	315	290	8	90.5	155	64	59.1	4625	1475	38	129	51	50	225	6-M10	206	335	28	92	410	380	395	8	77	M12	18
UVE400K	495	400	475	340	300	8	118	200	86	79	375	165	60	156	71	62	3.3	6-M16	257	440	40	120	518	485	505	8	104	M16	22

Mode	Specifications	Centre hole dia		Gripping range mm		Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Gripping Force (at air pressure 0.6Mpa & 1kgf/cm ² air)	Max. Speed min ⁻¹	Net Weight kg	Moment of inertia kg · m ²	Matching Soft top jaw	Retraction per 10mm (at air pressure 6.1kg/cm ²)	Serration pitch
	mm	Max.	Min.											
UVE160K		38	170	18	8.4	24	45.0 (4588)	3600 (3500)	29.5	0.250	SB06C1	2.375	1.5	
UVE200K		50	200	18	8.4	24	54.0 (5506)	3200 (2800)	38.5	0.350	SB10B1	2.990	1.5	
UVE250K		60	250	18	9.8	28	90.0 (9177)	3000 (2200)	61.0	0.725	SB10B1	4.432	1.5	
UVE315K		92	315	48	9.8	28	111.0 (11318)	2500 (1800)	81.0	1.450	SB12C1	6.343	1.5	
UVE400K		120	400	90	14	40	210.0 (21413)	1800 (1200)	145.0	4.375	SB15A2	10.943	3	

Model	Gripping range mm	Hard jaw
UVE160K	Φ12~Φ170	HB06U1
UVE200K	Φ14~Φ180	HB08U1
UVE250K	Φ21~Φ225	HB08U1
UVE315K	Φ36~Φ310	HB12U1
UVE400K	Φ80~Φ400	HB16U2

※Hard jaw for UVE200K & 250K is same.
※Hard jaw for UVE500K size or more is manufactured under prearrangement.

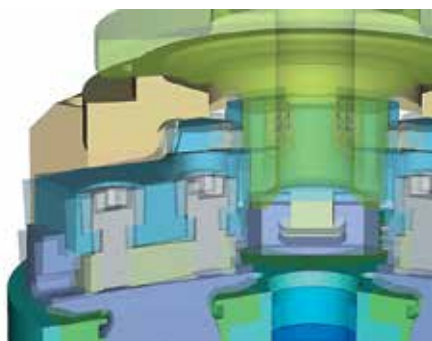
air circuit diagram



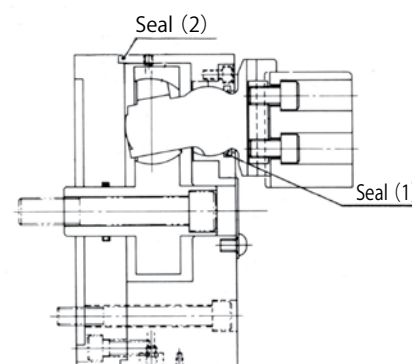
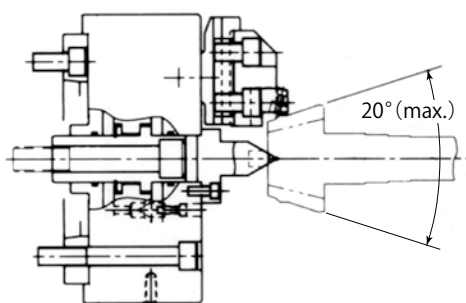
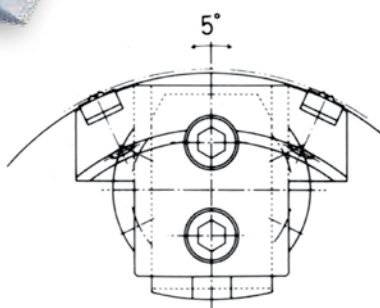
ADVANCED CHUCKS

PW (C) SERIES Power Wing Chuck

PULL BACK OF
WORKPIECE FOR
SECURE GRIPPING OF
CASTING OR FORGING



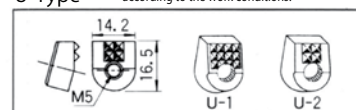
Powerful Gripping Capabilities



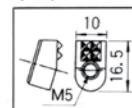
■ Type of the gripping pieces

U-Type

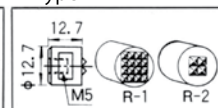
*The type of the gripping pieces is selected according to the work conditions.



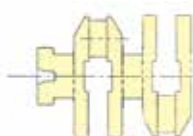
U-2S



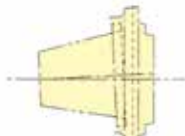
R-Type



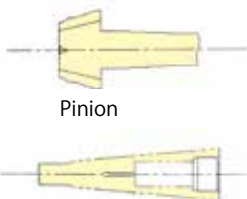
Work Examples



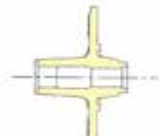
Crankshaft



Transmission Joint



Pinion



Rear Hub



Pulley



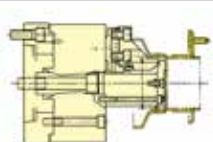
Brake Drum

Housing Cartridge

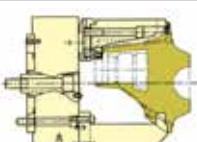
Gripping Examples



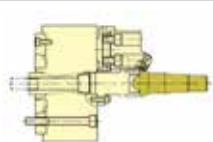
Coupling



Housing



Housing



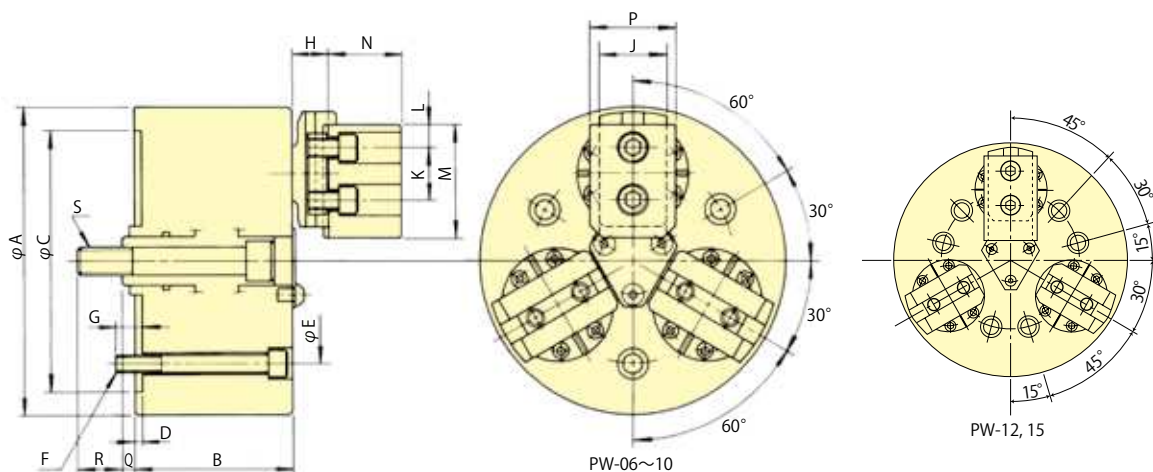
Shaft



Brake Drum



Turbine Housing

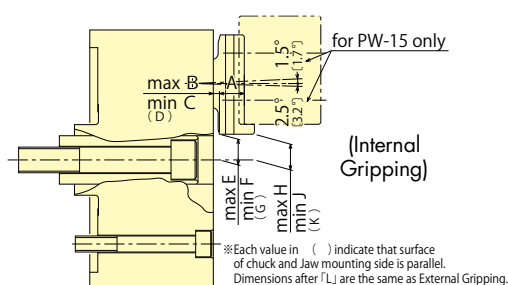
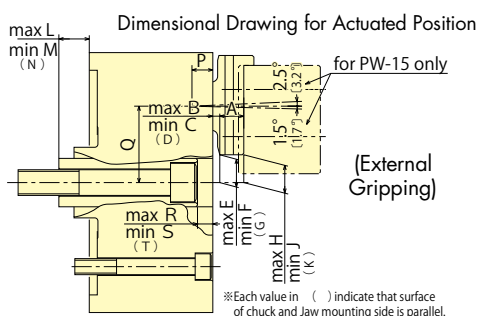
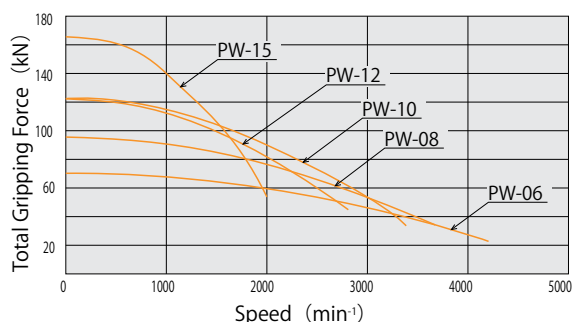


Model	A	B	C (H6)	D	E	F	G	H	J
PW-06	162	77	140	5	104.8	3-M10	14	19.3	38.07
PW-08	200	88	170	5	133.4	3-M12	18	23.33	44.45
PW-10	254	105	220	5	171.4	3-M16	25	29.14	57.1
PW-12	300	105	220	5	171.4	6-M16	25	29.14	57.1
PW-15	381	117	300	5	235	6-M20	30	32.4	66.62

Model	K	L	M	N	P	Q max.	Q min.	R	S
PW-06	29.36	15	67.5	47.7	50.8	24	12.6	25.4	M16
PW-08	34.14	15	74	54.17	57	29.3	15.1	29.2	M18
PW-10	44.45	19	89.5	66.9	70.1	34.9	17.4	34.7	M22
PW-12	44.45	19	108.5	66.9	70.1	34.9	17.4	34.7	M22
PW-15	53.98	23.9	140	73.2	76.2	48.7	26.3	41	M27

Model	Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN (kgf)	Max. Gripping Force kN (kgf)	Max. Speed min ⁻¹	Net Weight with Soft top jaws kg	Moment of inertia kg · m ²	Matching Cylinder	Max. pressure MPa (kgf·cm ²)	Gripping range external φ mm	Gripping range internal φ mm	Compensation value for PWC only mm
PW-06	7.9	11.4	233 (2376)	70.0 (7138)	4200	14.7	0.050	Y1225R	2.30 (23.5)	12.7~120	70~152	1.0
PW-08	9.5	14.2	32.0 (3263)	96.0 (9788)	3700	23.5	0.110	Y1225R	3.09 (31.5)	16~152	76~203	1.5
PW-10	12.7	17.5	41.0 (4180)	123.0 (12540)	3400	39.3	0.265	Y1530R	2.80 (28.5)	50~203	85~235	2.0
PW-12	12.7	17.5	41.0 (4180)	123.0 (12540)	2800	58.3	0.523	Y1530R	2.80 (28.5)	63~241	127~305	2.0
PW-15	15.8	22.4	55.0 (5607)	165.0 (16800)	2000	95.0	1.943	Y2035R	2.14 (21.8)	76~317	165~381	3.0

Gripping Performance



Dimensions for actuated position (External Gripping)

Model	A	B	C	D	E	F	G	H	J	K
PW-06	15.50	5.02	3.05	3.80	20.09	18.89	19.33	20.77	18.48	19.33
PW-08	18.50	5.68	3.24	4.80	22.63	21.18	22.10	23.08	20.36	22.10
PW-10	25.61	5.47	2.44	3.53	31.16	29.44	30.03	32.37	28.77	30.03
PW-12	25.61	5.47	2.44	3.53	51.81	50.09	50.68	53.02	49.42	50.68
PW-15	28.67	6.27	2.35	3.73	75.85	73.76	74.45	77.45	72.91	74.45

Model	L	M	N	P	Q	R	S	T
PW-06	24.0	12.6	18.95	13.20	47.63	14.60	3.20	9.55
PW-08	29.30	15.10	22.95	16.40	57.15	18.50	4.30	12.17
PW-10	34.90	17.40	27.05	19.30	71.43	19.60	2.10	11.75
PW-12	34.90	17.40	27.05	19.30	92.08	19.60	2.10	11.75
PW-15	48.70	26.30	38.40	20.07	120.65	24.90	2.50	14.60

Dimensions for actuated position (Internal Gripping)

Model	A	B	C	D	E	F	G	H	J	K
PW-06	15.03	5.66	3.43	4.27	16.32	15.08	15.53	17.25	14.52	15.53
PW-08	16.71	8.35	5.56	6.62	18.04	16.41	17.00	18.99	15.84	17.00
PW-10	20.51	10.92	7.23	8.63	19.59	17.61	18.33	20.74	16.92	18.33
PW-12	20.51	10.92	7.23	8.63	40.24	38.26	38.98	41.39	37.57	38.98
PW-15	23.94	12.19	6.44	8.46	54.75	52.23	53.05	56.41	51.35	53.05

ADVANCED CHUCKS

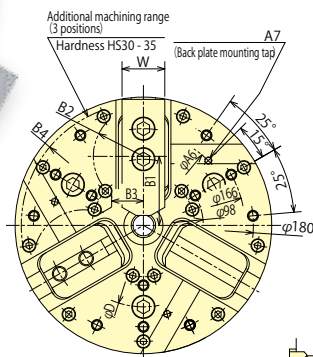
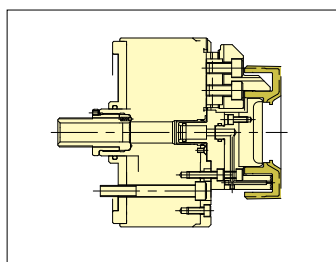
DL200 SERIES Dual Lock Chuck



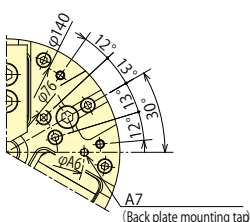
2-WAY GRIPPING WITH VERSATILITY

- Also available in open center and long stroke models

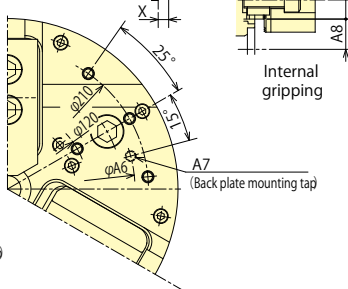
Gripping Example



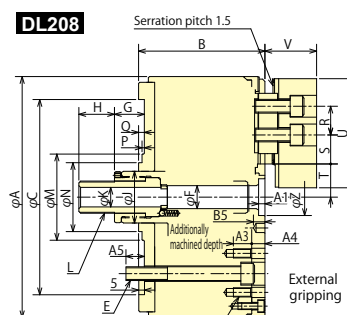
DL206



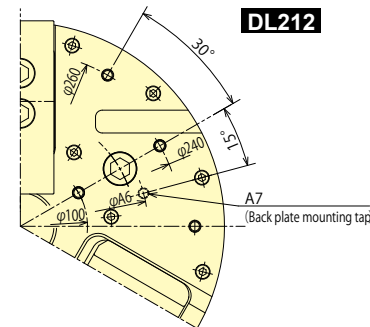
DL210



DL208



DL212



■ Dimensions

Model	A	B	C	D	E	F	G max.	G min.	H	J	K	L	M	N	P	Q	R	S max.	S min.	T max.	T min.
DL206	169	105	140	104.8	3-M10	20	34	22.5	30	42	17	M26 x1.5	—	55	—	7	20	14.25	8.25	23.7	20.8
DL208	210	110	170	133.4	3-M12	20	37.5	26	31	45	17	M28 x1.5	75	60	2	5	25	25.25	16.25	28.9	25.3
DL210	254	132	220	171.4	3-M16	20	38.5	24.5	39.5	50	17	M30 x1.5	—	65	—	5	30	26.25	12.75	32.8	28.3
DL212	304	132	220	171.4	3-M16	50	33.5	19.5	44.5	75	17	M30 x1.5	—	—	—	—	30	26.25	12.75	57.8	53.3

Model	U	V	W	X	Y	Z	A1	A2	A3	A4	A5	A6	A7	A8 max.	A8 min.	A9 max.	A9 min.	B1	B2	B3	B4	B5
DL206	72	41.5	31	10.3	12	32	4	3×7-M6	12	10.5	15	116	3-M6	23.7	20.8	21.25	15.25	47	R32	24	R79	MAX 9
DL208	95	45	35	7.8	14	32	5.5	3×4-M8	16	11.5	16	150	3-M6	26.2	22.6	20.25	11.25	56.5	R42	27	R100	MAX 10
DL210	101.5	59	45	14.7	18	35	5.5	3×4-M8	16	14	24	190	3-M8	29.7	25.2	35.25	21.75	68	R49	33	R120	MAX 12
DL212	129	64	50	14.7	18	50	14	3×4-M8	16	14	24	190	3-M8	54.7	50.2	35.25	21.75	93	R49	33	R145	MAX 12

Model	Jaw stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN (kgf)		Max. Gripping Force kN (kgf)		Max. Speed min ⁻¹	Net Weight with Soft top jaws kg	Moment of inertia kg · m ²
			External gripping	Internal gripping	External gripping	Internal gripping			
DL206	5.8	11.5	19.0 (1937)	12.6 (1285)	54.0 (5506)	36.0 (3671)	6000	18.0	0.080
DL208	7.2	11.5	35.0 (3569)	23.0 (2345)	84.0 (8566)	56.0 (5710)	5000	30.0	0.135
DL210	9.0	14	50.0 (5099)	33.0 (3365)	110.0 (11217)	73.3 (7478)	4000	52.0	0.410
DL212	9.0	14	50.0 (5099)	33.0 (3365)	110.0 (11217)	73.3 (7478)	3000	74.0	0.880

Model	Matching Cylinder	Max. pressure MPa (kgf/cm ²)		Gripping range in standard jaw of use mm	Standard jaw type	Gripping range in optional jaw of use mm	Optional jaw type	Min. input kN (kgf)	Min. pressure MPa (kgf/cm ²)
		External gripping	Internal gripping						
DL206	Y1020R	2.70 (27.5)	1.70 (17.3)	φ25~ φ140	SB06D1	φ25~ φ158	SB06B1	5.0 (510)	0.9 (9.2)
DL208	Y1225R	3.40 (34.7)	2.10 (21.4)	φ30~ φ210	SB08B1	—	—	6.2 (632)	0.8 (8.2)
DL210	Y1530R	3.40 (34.7)	2.30 (23.5)	φ40~ φ234	SB10D1	φ40~ φ254	SB12A1 (Note 9)	10.0 (1020)	0.9 (9.2)
DL212	Y1530R	3.40 (34.7)	2.30 (23.5)	φ90~ φ304	SB12A1	—	—	10.0 (1020)	0.9 (9.2)

Also available in open center and long stroke models

ADVANCED CHUCKS

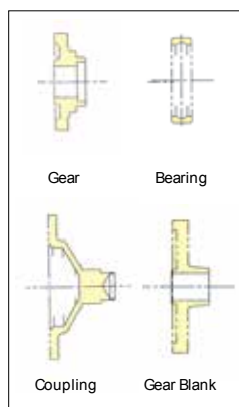
PU SERIES Pull Lock Chuck



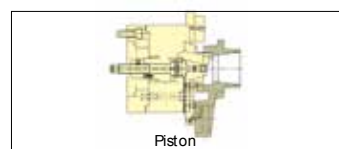
PULL BACK CHUCK FOR EXTERNAL GRIPPING

- Higher RPM capacity
- Long-term stable accuracy
- Excellent repeatability
- Open center available

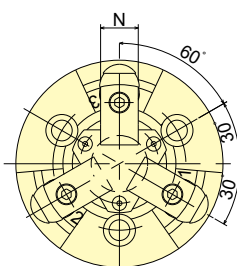
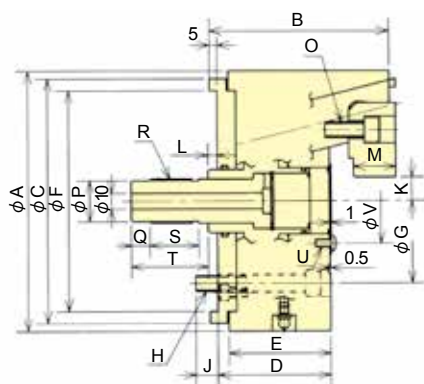
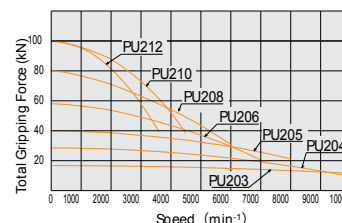
Work Examples



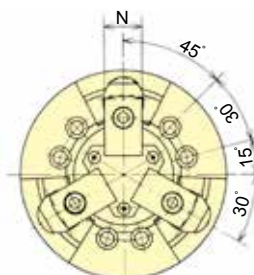
Gripping Examples



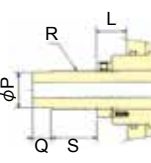
Gripping Performance



PU203~PU205



PU206~PU212



PU203~PU205
(Drawbar connection)

PU
S
E
R
I
E
S

Model	A	B	C	D	E	F (G7)	G	H	J	K max.	K min.	L max.	L min.	M	N	O	P	Q	R	S	T	U	V
PU203	75	54.5	75	38.5	34	69	54	3-M6	9	2.5	1.5	21.5	17.5	9	15	3-M5	8	10	M10	19	—	3-M3	25.5
PU204	110	72.5	100	51	43	85	70.6	3-M10	12	10.75	9.25	19	13	14	20	3-M6	18	12	M20×1.5	24	—	3-M4	42
PU205	135	84.5	135	59	51	110	82.6	3-M10	15	13.25	11.75	23	17	17	24	3-M8	23	12	M25×1.5	30	—	3-M5	52
PU206	165	115	155	72	65	140	104.8	6-M10	14	16.25	13.75	11	1	27	30	3-M10	26	12	M28×1.5	31	49	3-M5	54
PU208	210	135	180	85	70	170	133.4	6-M12	15	16.25	13.75	11	1	31	35	3-M12	32	15	M35×1.5	30	51	3-M6	65
PU210	254	150	230	95	82	220	171.4	6-M16	23	21.25	18.75	12	2	35	40	3-M14	35	15	M38×1.5	30	51	3-M8	80
PU212	304	155	240	95	82	220	171.4	6-M16	23	46.25	43.75	12	2	40	40	3-M14	42	15	M45×1.5	30	51	3-M10	100

Model	Max. mm	Min. mm	Jaw Stroke (diameter) mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN (kgf)	Max. Gripping Force kN (kgf)	Max. Speed min⁻¹	Net Weight with Soft top jaws kg	Moment of inertia kg · m²	Matching Cylinder	Max. pressure MPa (kgf/cm²)
PU203	32	4	2	4	5.8 (590)	16.7 (1700)	10000	1.5	0.0012	YG-329	1.63 (16.6)
PU204	60	10	3	6	10.0 (1020)	28.5 (2906)	8000 10000	3.8	0.006	F0933H YG-296	2.06 (21.0) 1.18 (12.0)
PU205	84	15	3	6	14.0 (1428)	40.0 (4079)	8000	6.6	0.017	F0933H	2.50 (25.5)
PU206	100	25	5	10	18.0 (1835)	58.0 (5914)	7000	14.1	0.050	Y1020R	2.55 (26.0)
PU208	130	25	5	10	25.0 (2549)	80.0 (8158)	6000	24.0	0.133	Y1225R	2.50 (25.5)
PU210	160	35	5	10	35.0 (3569)	100.0 (10197)	4500	42.0	0.338	Y1225R	3.35 (34.2)
PU212	210	85	5	10	35.0 (3569)	100.0 (10197)	3600	60.5	0.655	Y1225R	3.35 (34.2)

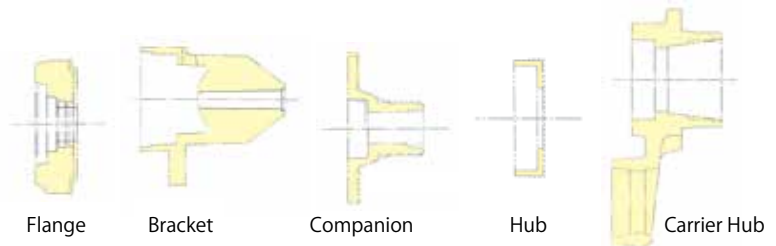
ADVANCED CHUCKS

PUE SERIES Pull Lock Chuck

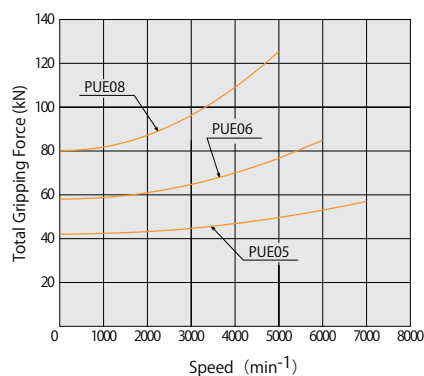


PULL BACK CHUCK FOR INTERNAL GRIPPING

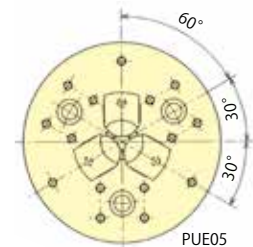
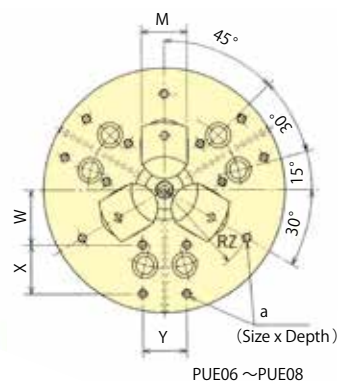
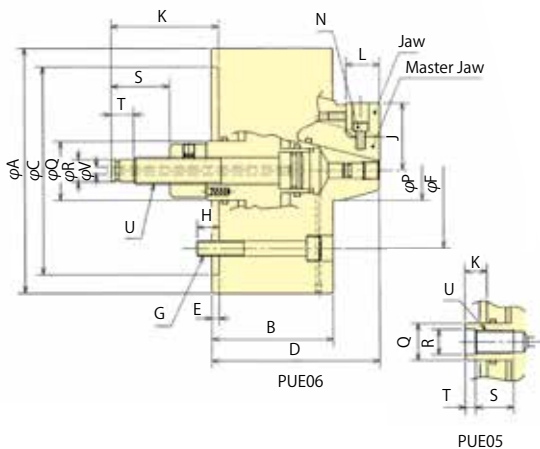
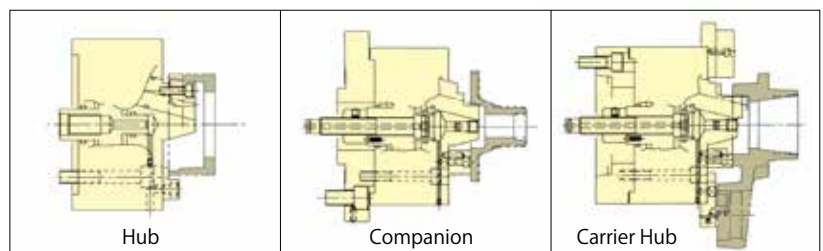
Work Examples



Gripping Performance



Gripping Examples



PUE

Dimensions	A	B	C (G7)	D	E	F	G	H	J max.	J min.	K max.	K min.	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	a
Model																											
PUE05	135	72	110	98	5	82.55	3-M10	15	34.4	33	18	12	20	24	3-M6	24	25	17 ^{+0.1}	26	7	M16x2	—	31	20	30	55	M6x11
PUE06	165	83	140	115	5	104.8	6-M10	15	46.9	44.5	78.5	68.5	23	31	3-M6	40	40	15h8	40	15	M18x2.5	5	37	33	30	65	M6x11
PUE08	210	94	170	139	5	133.4	6-M12	17	57.2	54.8	91.5	81.5	23	35	3-M6	49	40	15h8	47.5	15	M20	5	45	40	30	80	M6x11

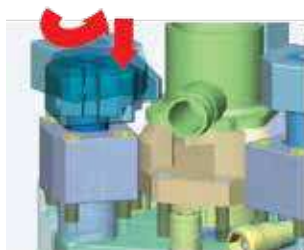
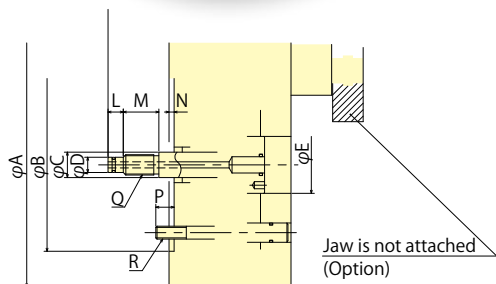
Specs	Jaw Stroke (diameter)/mm	Plunger Stroke mm	Max. Draw Bar Pull Force kN (kgf)	Max. Gripping Force kN (kgf)	Max. Speed min ⁻¹	Net Weight with Soft top jaws	Moment of inertia kg · m ²	Matching Cylinder	Max. pressure MPa (kgf/cm ²)	Gripping range		
Model										Standard jaws	Option jaws	Master jaws
PUE05	2.8	6	13.0 (1325)	42.0 (4280)	7000	7.6	0.018	Y1020R [※]	1.90 (19.5)	φ50~φ65	φ65~φ80	φ29~φ50
PUE06	4.8	10	18.0 (1835)	58.0 (5914)	6000	13.9	0.043	Y1020R	2.50 (25.5)	φ70~φ89	φ89~φ105	φ44~φ70
PUE08	4.8	10	24.8 (2529)	80.0 (8158)	5000	26.8	0.144	Y1020R	3.40 (34.5)	φ90~φ110	φ110~φ150	φ50~φ90

FG SERIES Finger Chuck

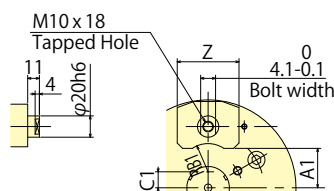
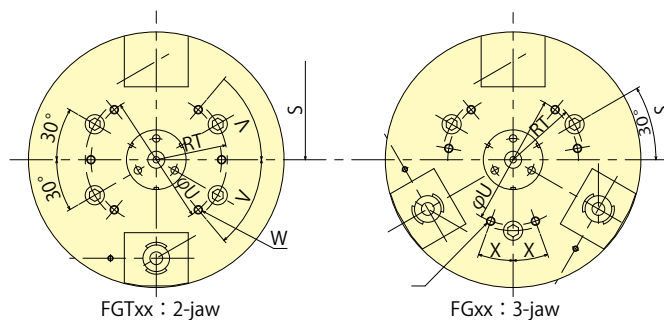
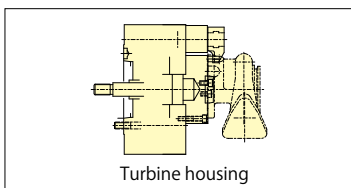


FACE CLAMP CHUCK

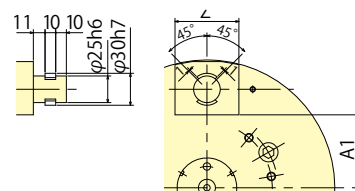
- Ideal for thin-walled workpieces
- For applications where free-state machining is required



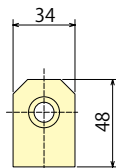
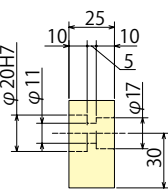
Gripping Examples



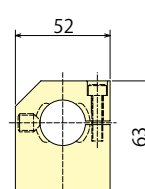
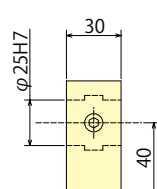
05", 06" jaw mounting part dimensions
(Jaw's shaft)



08", 10", 12" jaw mounting part dimension
(Jaw's shaft)



for 05", 06"



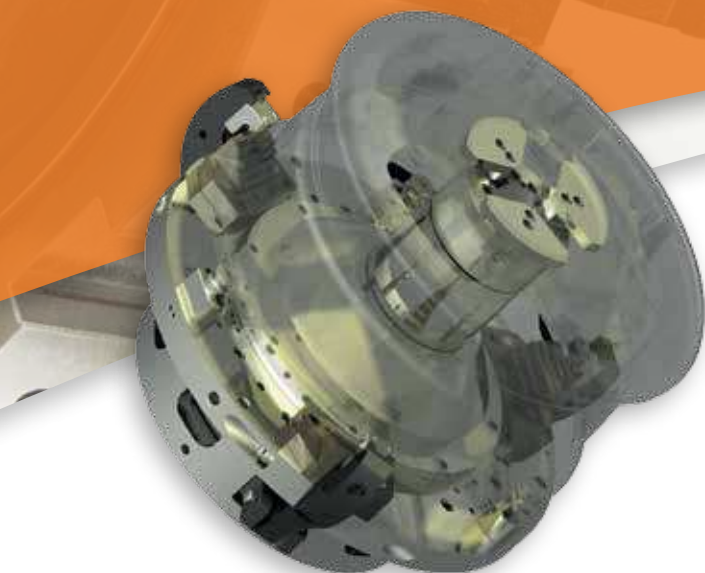
for 08", 10", 12"

Model	Dimensions																			W	X	Y	Z	A1	B1	C1	
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U								V
FGT05/FG05	135	110	14	9	37	50–70	110	36–56	8	12	15	30	5	14	M12	M10	42.5	41.3	50	30°	4–M6 screw depth 12	—	3–M6 screw depth 12	58	22	26.5	—
FGT06/FG06	165	140	16	12	40	50–70	110	36–56	8	12	15	30	5	14	M16	M10	57.5	52.4	64	30°	4–M8 screw depth 15	—	3–M8 screw depth 15	58	37	26.5	15
FGT08/FG08	210	170	25	16	56	50–70	120	71–91	8	12	15	30	5	18	M20	M12	77.5	66.7	104	50°	6–M8 screw depth 15	20°	6–M8 screw depth 15	60	53.5	—	—
FGT10/FG10	254	220	25	16	56	50–70	120	71–91	8	12	15	30	5	24	M20	M16	99.5	85.7	140	50°	6–M8 screw depth 15	20°	6–M8 screw depth 15	60	75.5	—	—
FGT12/FG12	304	220	25	16	56	50–70	120	71–91	8	12	15	30	5	24	M20	M16	124.5	85.7	190	50°	6–M8 screw depth 15	20°	6–M8 screw depth 15	60	100.5	—	—

Specs Model	Max. Draw Bar Pull Force kN(kgf)	Max. Speed min ⁻¹	Net Weight kg	Moment of inertia kg · m ²	Matching Cylinder	Damping stroke mm	Gripping force / jaw kN(kgf)	Max. Gripping dia. mm	Limit height by optional jaw	Equalizing q'ty mm	Cylinder with seating
FGT05/FG05	5.0 (510) / 7.5 (765)	4000	10.0 / 12.0	0.025 / 0.030	Y1020R	8	2.0(204) ※1	52	41	1	Y1020RE09C
FGT06/FG06	6.0 (612) / 9.0 (918)	4000	11.0 / 13.0	0.045 / 0.050	Y1020R	8	2.5(255) ※1	78	41	1.5	Y1020RE09C
FGT08/FG08	12.0 (1224) / 18.0 (1835)	3500	22.0 / 24.0	0.130 / 0.140	Y1020R	8	5.5(561) ※2	105	61	2	Y1020RE09C
FGT10/FG10	12.0 (1224) / 18.0 (1835)	3500	34.0 / 36.0	0.290 / 0.310	Y1020R	8	5.5(561) ※2	150	61	2	Y1020RE09C
FGT12/FG12	12.0 (1224) / 18.0 (1835)	3000	46.0 / 48.0	0.570 / 0.590	Y1020R	8	5.5(561) ※2	200	61	2.5	Y1020RE09C

ADVANCED CHUCKS

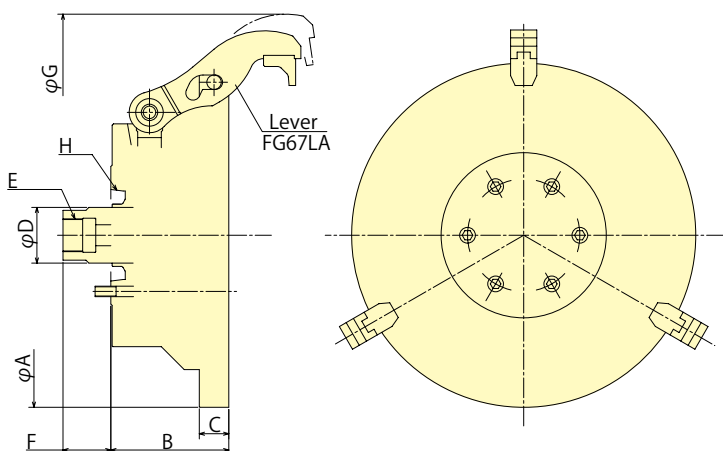
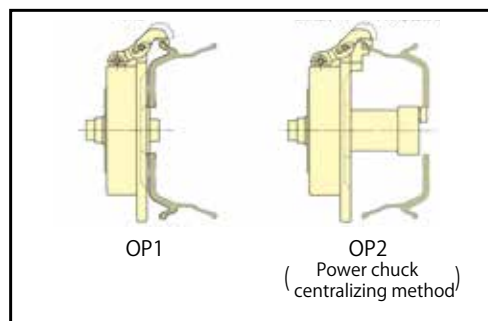
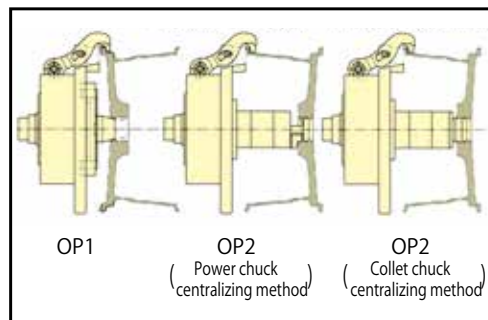
FG-V SERIES Finger Chuck for Automotive Wheels



THE STANDARD OF THE WHEEL INDUSTRY

- Rigid body finger chucks
- Aluminum wheel machining for automobiles
- Active centering method available

Gripping Examples



Model	A	B	C	D	E	F _{max.}	F _{min.}	G	H
FG50V	525	180	45	85	M50×1.5	73	38	675	A2-8
FG56V	575	180	45	85	M50×1.5	73	38	725	A2-11
FG62V	625	180	45	85	M50×1.5	73	38	775	A2-11

Model	Max. Draw Bar Pull Force kN (kgf)	Max. Speed min ⁻¹	Net Weight kg	Moment of inertia kg · m ²	Open jaw stroke/Clamping stroke mm	Gripping force/jaw kN (kgf)
FG50V	30.0 (3059)	2500	135.0	3.750	18.5/16.5	9.5 (969)
FG56V	30.0 (3059)	2500	190.0	5.800	18.5/16.5	9.5 (969)
FG62V	30.0 (3059)	2500	220.0	8.800	18.5/16.5	9.5 (969)

Model	12"	13"	14"	15"	16"	17"	18"	19"	20"	21.5"	22.5"
FG50V		○	○	○	○	○	○				
FG56V		○	○	○	○	○	○	○	○		
FG62V					○	○	○	○	○	○	○

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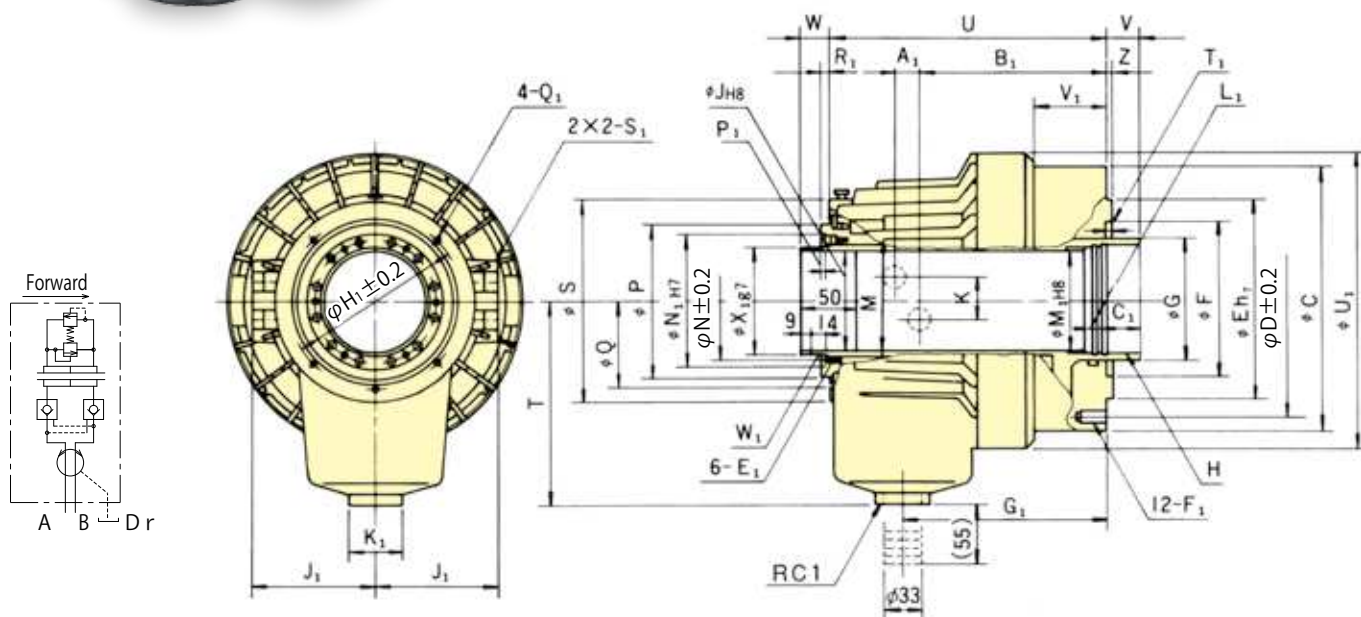
CYLINDERS

S SERIES Large Thru-Hole High Speed Hydraulic Cylinder



STANDARD THRU-HOLE TYPE

- Compact and light weight
- Built-in check valve and relief valve
- Our largest S hydraulic cylinder model #S2816-47A also available



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Model	C	D	E	F	G	H	J Thru-hole	K	M	N	P	Q	S	T	U	V max.	V min.	W max.	W min.	Z	A1
S 1246	155	130	100	80	65	M 55×20	46	36	52.9	64	85	51.5	118	115	179	15	0	40	25	5	11.5
S 1552	190	170	130	85	70	M 60×20	52	36	59.6	73	96	57.5	137	130	191	22	0	47	25	5	12
S 1875	215	190	160	120	95	M 85×20	75	36	84.6	98	121	70.5	166	160	225	25	0	50	25	5	17.5
S 2091	240	215	180	140	110	M 100×20	91	34	99.6	108	138	79	182	185	248	30	0	55	25	5	21

Model	B1	C1	Erdepth	Fdepth	G1	H1	J1	K1	L1	M1	N1	P1	Q1depth	R1	S1	T1	U1	V1	W1	X1
S 1246	1265	30	M6×9	M10×20	135	98	76	47	15	50	76	4	M5×10	6	RC1/2	6	200	46	M52×15	50
S 1552	136	30	M6×9	M10×20	145	110	86	47	15	55	85	4	M6×12	7	RC1/2	6	220	51	M58×15	56
S 1875	1535	35	M6×9	M10×20	166.5	155	101	47	15	80	108	4	M6×12	7	RC1/2	6	242	58	M84×20	81
S 2091	168	35	M6×14	M12×24	183	165	110	47	15	95	120	4	M6×12	7	RC1/2	6	267	66	M99×20	96

Model	Piston Dia. mm	Piston stroke mm	Piston Area	Draw bar	Max Operation Pressure	Max. Speed	Moment of inertia	Net Weight	Total leakage
			Push Side cm ² Pull Side cm ²	Push Side kN(kgf) Pull Side kN(kgf)	MPa (kgf/cm ²)	min ⁻¹	kg·m ²	kg	r/min
S1246	125	15	100 89	38.0 (3875) 33.0 (3365)	4.00 (40.8)	7000	0.019	12.0	3.0
S1552	155	22	161 150	60.0 (6118) 56.0 (5710)	4.00 (40.8)	6200	0.053	16.8	3.9
S1875	180	25	198 183	74.0 (7546) 69.0 (7036)	4.00 (40.8)	4700	0.095	26.0	4.2
S2091	205	30	252 234	94.0 (9585) 88.0 (8973)	4.00 (40.8)	3800	0.153	33.0	4.5

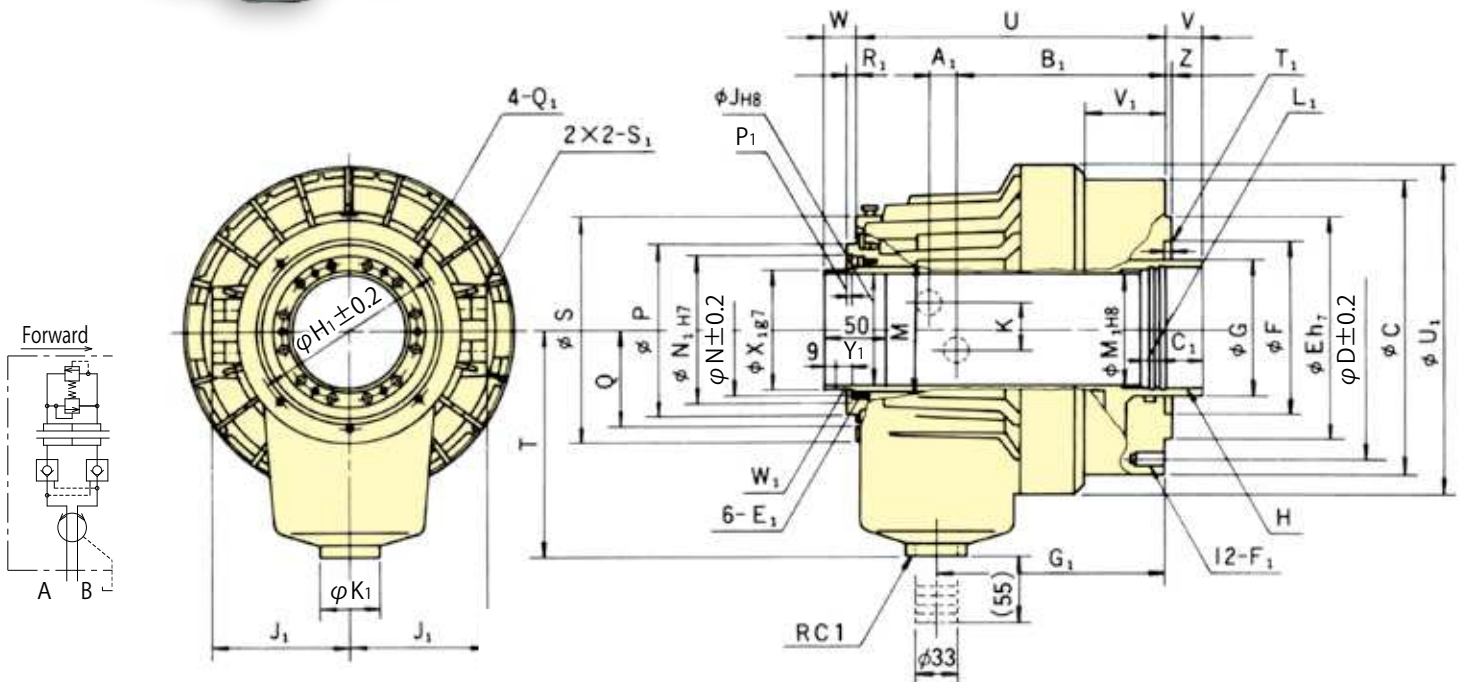
CYLINDERS

S-L SERIES Large Thru-Hole High Speed Hydraulic Cylinder



STANDARD THRU-HOLE TYPE

- Large piston stroke
- Built-in check valve and relief valve



S L SERIES

Model	C	D	E	F	G	H	J Thru-hole	K	M	N	P	Q	S	T	U	V max.	V min.	W max.	W min.	Z	A ₁
S 1246 L	155	130	100	80	65	M55×2.0	46	36	52.9	64	85	51.5	118	115	200	27	-5	57	25	5	11.5
S 1552 L	190	170	130	85	70	M60×2.0	52	36	59.6	73	96	57.5	137	130	208	29	-5	59	25	5	12
S 1875 L	215	190	160	120	95	M85×2.0	75	36	84.6	98	121	70.5	166	160	241	35	-5	65	25	5	17.5
S 2091 L	240	215	180	140	110	M100×2.0	91	34	99.6	108	138	79	182	185	268	45	-5	75	25	5	21

Model	B ₁	C ₁	E depth	F depth	G ₁	H ₁	J ₁	K ₁	L ₁	M ₁	N ₁	P ₁	Q depth	R ₁	S ₁	T ₁	U ₁	V ₁	W ₁	X ₁	Y ₁
S 1246 L	147.5	30	M6×9	M10×20	156	98	76	47	15	50	76	4	M5×10	6	RC1/2	12	200	67	M52×15	50	33
S 1552 L	153	30	M6×9	M10×20	162	110	86	47	15	55	85	4	M6×12	7	RC1/2	12	220	68	M58×15	56	33
S 1875 L	169.5	35	M6×9	M10×20	182.5	155	101	47	15	80	108	4	M6×12	7	RC1/2	12	242	74	M84×20	81	33
S 2091 L	188	35	M6×14	M12×24	203	165	110	47	15	95	120	4	M6×12	7	RC1/2	12	267	86	M99×20	96	38

Model	Specifications Piston Dia. mm	Piston stroke mm	Piston Area		Draw bar		Max. Operation Pressure MPa (kgf/cm ²)	Max. Speed min ⁻¹	Moment of inertia kg·m ²	Net Weight kg	Total leakage r/min
			Push Side cm ²	Pull Side cm ²	Push Side (kN/kgf)	Pull Side (kN/kgf)					
S 1246 L	125	32	100	89	38.0 (3875)	33.0 (3365)	4.00 (40.8)	7000	0.022	12.8	3.0
S 1552 L	155	34	161	150	60.0 (6118)	56.0 (5710)	4.00 (40.8)	6200	0.058	17.0	3.9
S 1875 L	180	40	198	183	74.0 (7546)	69.0 (7036)	4.00 (40.8)	4700	0.100	26.8	4.2
S 2091 L	205	50	252	234	94.0 (9585)	88.0 (8973)	4.00 (40.8)	3800	0.160	34.1	4.5

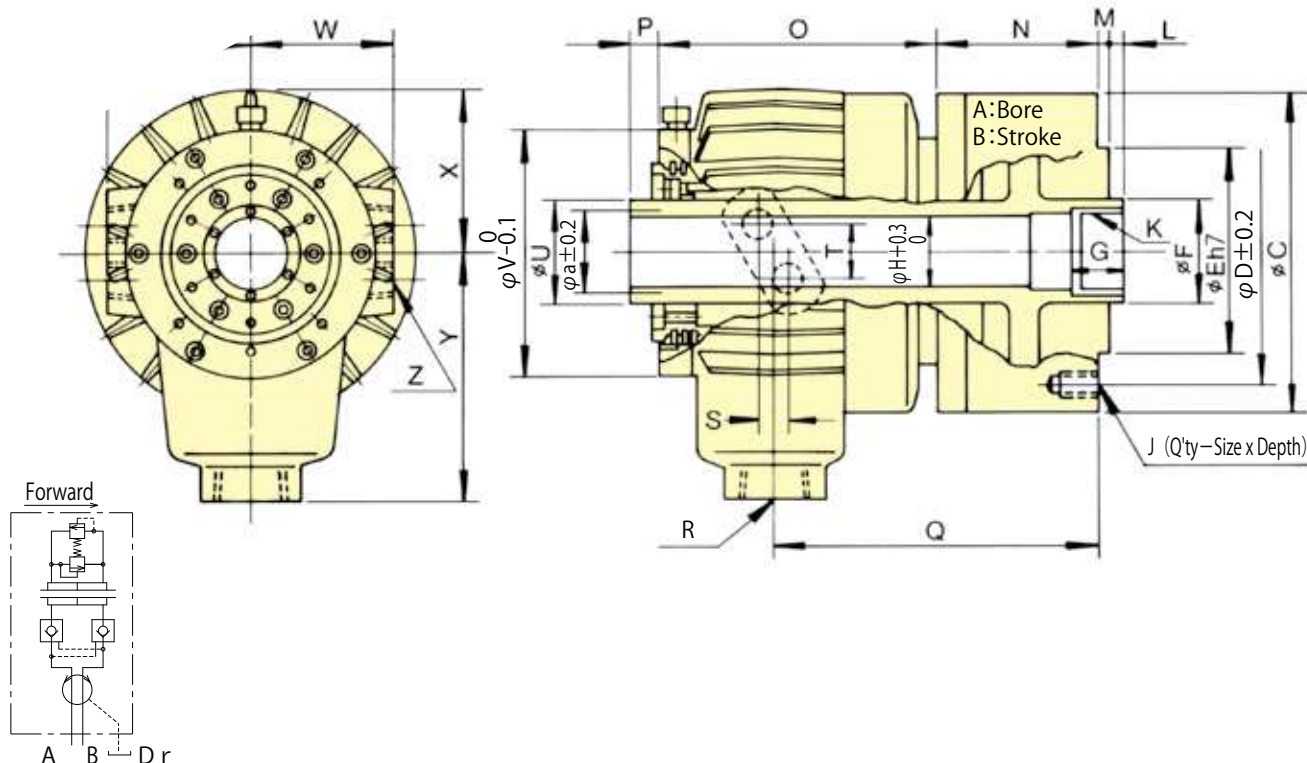
CYLINDERS

F SERIES High Speed Hydraulic Cylinder



STANDARD THRU-HOLE TYPE

- Built-in check valve and relief valve
- Our largest F hydraulic cylinder model #F2511HP also available



F S E R I E S

Model	A	B	C	D	E (h7)	F	G	H	J	K	L max.	L min.	M	N	O	P max.	P min.	Q	R	S	T	U	V	W	X	Y	Z	a
F0933H	95	12	125	100	80	45	25	33.5	6-M 8×15	M 38×15	+ 7	- 5	5	71	119	41	29	142	RC ³ /4	11.8	22	M39×15	104	64	66	110	2×2-RC ¹ /4	-
F2511H	250	23	310	275	230	140	45	117.5	12-M 16×32	M 130×20	+18	- 5	6	101	209	38	15	217	RC 1	27	20	134.6	232	125	135.5	215	2×2-PT ³ /8	127

■ Specifications ※Total leakage : Pressure 3.00MPa (30.6kgf/cm²) and oil temperature 50°C. ※Draw bar pull force : Pressure 4.00MPa (40.8kgf/cm²)

Model	Thru-Hole mm	Piston stroke mm	Piston Area Push Side cm ² Pull Side cm ²	Draw bar Push Side kN(kgf) Pull Side kN(kgf)	Max. Operation Pressure MPa (kgf/cm ²)	Total leakage r/min	Max. Speed min ⁻¹	Net Weight kg	Moment of inertia kg·m ²
F0933H	33	12	58 55	22.0 (2243) 20.6 (2100)	4.00 (40.8)	3.0	8000	8.5	0.008
F2511H	117.5	23	348 336	125.0 (12746) 120.0 (12236)	4.00 (40.8)	7.0	2800	60.0	0.455

CYLINDERS

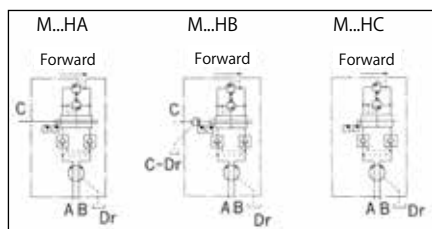
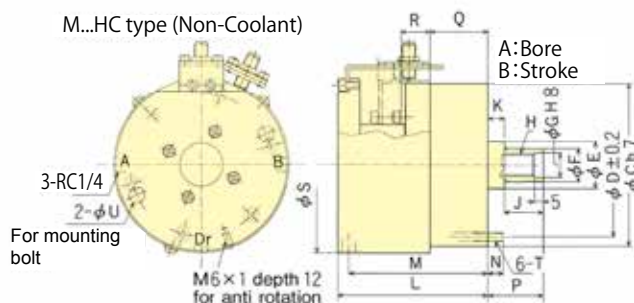
M SERIES Compact Style Hydraulic Cylinder with Closed Center



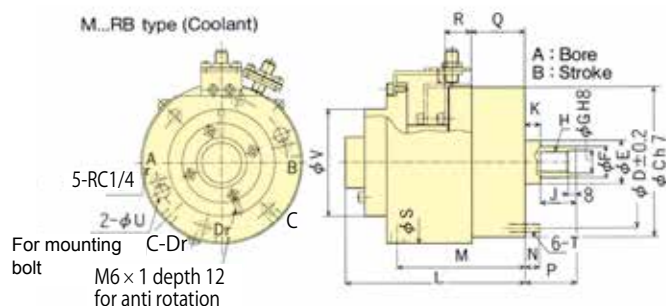
COMPACT DESIGN MAXIMIZES LATHE PERFORMANCE

- Short, compact and lightweight
- Our largest M hydraulic cylinder model #M1935HC also available

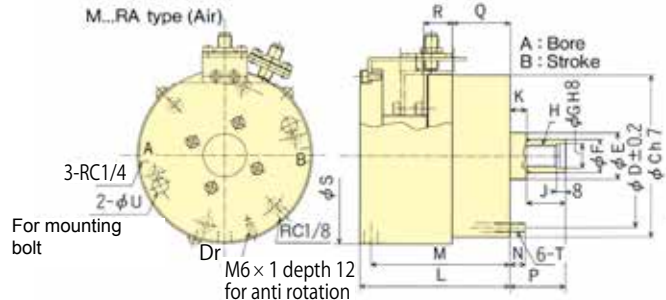
M...HC type (Non-Coolant)



M...RB type (Coolant)



M...RA type (Air)



**M
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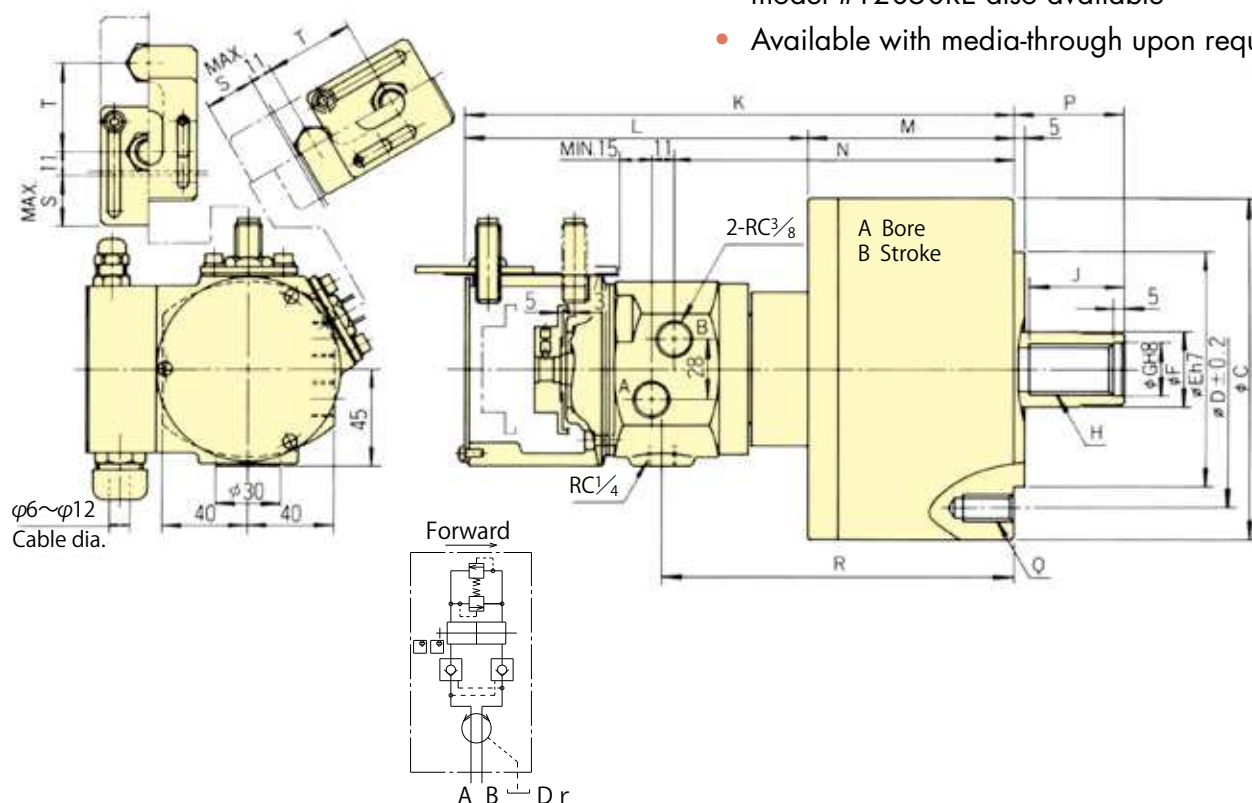
Model	A	B	C (h7)	D	E	F	G (H8)	H	J	K	L	M	N	P max.	P min.	Q max.	Q min.	R	S	T	U	V
M1120HA21N	110	20	145	128	42	30	22	M20	30	15	135	125	14	60	40	72	52	26	1592	M 8	14	—
M1120HB21N	110	20	145	128	42	30	22	M20	30	15	175	125	14	60	40	72	52	26	1592	M 8	14	104
M1120HC21N	110	20	145	128	42	30	22	M20	30	15	135	125	14	60	40	72	52	26	1592	M 8	14	—
M1221HA21N	120	21	168	145	44	32	22	M20	30	15	138	128	14	60	39	75	54	27	1822	M10	17	—
M1221HB21N	120	21	168	145	44	32	22	M20	30	15	178	128	14	60	39	75	54	27	1822	M10	17	104
M1221HC21N	120	21	168	145	44	32	22	M20	30	15	138	128	14	60	39	75	54	27	1822	M10	17	—
M1330HA21N	130	30	168	150	51	36	26	M24	35	15	144	134	18	60	30	79	49	37	1822	M10	17	—
M1330HB21N	130	30	168	150	51	36	26	M24	35	15	184	134	18	60	30	79	49	37	1822	M10	17	104
M1330HC21N	130	30	168	150	51	36	26	M24	35	15	144	134	18	60	30	79	49	37	1822	M10	17	—

Model	Specifications	Piston stroke mm	Piston Area		Draw bar		Max. Operation Pressure MPa (kgf/cm ²)	Total leakage r/min	Max. Speed min ⁻¹	Net Weight kg	Moment of inertia kg·m ²
			Push Side cm ²	Pull Side cm ²	Push Side (kN/gf)	Pull Side (kN/gf)					
M1120HA21N		20	87.6	84	28.0 (2855)	27.0 (2753)	3.50 (35.7)	1.2	6000	8.2	0.016
M1120HB21N		20	87.6	84	28.0 (2855)	27.0 (2753)	3.50 (35.7)	1.2	6000	8.5	0.016
M1120HC21N		20	87.6	84	28.0 (2855)	27.0 (2753)	3.50 (35.7)	1.2	6000	8.2	0.016
M1221HA21N		21	105.7	102	39.0 (3977)	38.0 (3875)	4.00 (40.8)	1.2	6000	10.2	0.028
M1221HB21N		21	105.7	102	39.0 (3977)	38.0 (3875)	4.00 (40.8)	1.2	6000	10.5	0.028
M1221HC21N		21	105.7	102	39.0 (3977)	38.0 (3875)	4.00 (40.8)	1.2	6000	10.2	0.028
M1330HA21N		30	125.3	119	47.0 (4793)	45.0 (4589)	4.00 (40.8)	1.2	6000	10.3	0.029
M1330HB21N		30	125.3	119	47.0 (4793)	45.0 (4589)	4.00 (40.8)	1.2	6000	10.6	0.029
M1330HC21N		30	125.3	119	47.0 (4793)	45.0 (4589)	4.00 (40.8)	1.2	6000	10.3	0.029



CLOSED CENTER STANDARD SERIES

- Built in proximity switch
- Built-in check valve, relief valve and sensor switches
- Our largest Y hydraulic cylinder model #Y2050RE also available
- Available with media-through upon request



Dimensions Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P max.	P min.	Q	R	S	T
Y0715RE	75	15	104	90	65	30	21	M20	32	227	161	66	127	46	31	6-M 6×20	133	23	41
Y1020RE	105	20	135	100	80	30	21	M20	35	252	163	89	152	45	25	6-M10×20	158	23	41
Y1225RE	125	25	160	130	110	35	25	M24	44	260	163	97	160	51	26	6-M12×24	166	23	41
Y1530RE	150	30	190	130	110	45	31	M30	45	269	163	106	169	56	26	12-M12×24	175	23	41
Y2035RE	200	35	245	145	120	55	37	M36	60	288	166	122	183	69	34	12-M16×30	189	28	46

Specifications Model	Piston stroke mm	Piston Area		Draw bar		Max. Operation Pressure MPa (kgf/cm ²)	Total leakage r/min	Max. Speed min ⁻¹	Net Weight kg	Moment of inertia kg·m ²
		Push Side cm ²	Pull Side cm ²	Push Side kN(kgf)	Pull Side kN(kgf)					
Y0715RE	15	42	37	15.9 (1621)	13.9 (1417)	4.00 (40.8)	0.8	6000	4.5	0.003
Y1020RE	20	84	79	31.0 (3161)	29.0 (2957)	4.00 (40.8)	0.8	6000	7.6	0.012
Y1225RE	25	120	113	45.0 (4589)	42.0 (4283)	4.00 (40.8)	0.8	6000	10.5	0.023
Y1530RE	30	174	160	65.0 (6628)	60.0 (6118)	4.00 (40.8)	0.8	5500	14.0	0.048
Y2035RE	35	312	290	117.0 (11930)	108.0 (11013)	4.00 (40.8)	0.8	5500	22.5	0.098

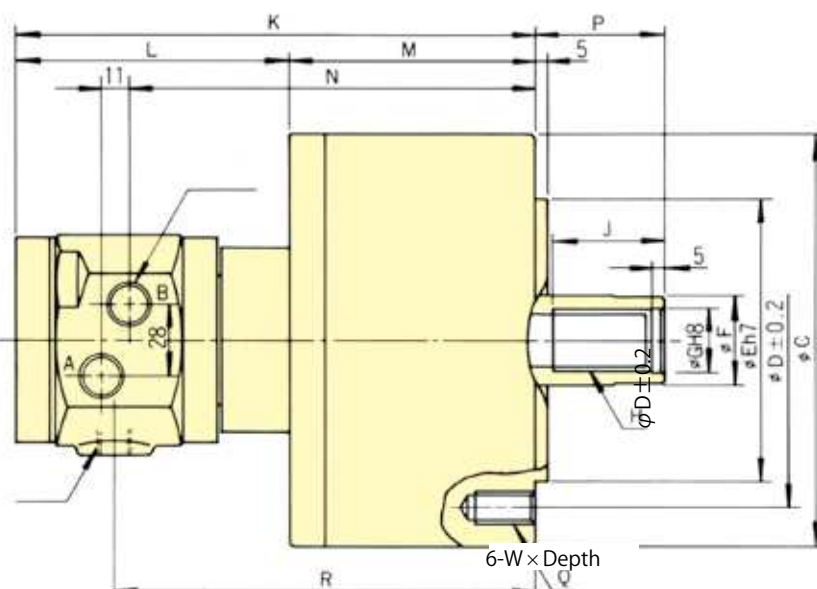
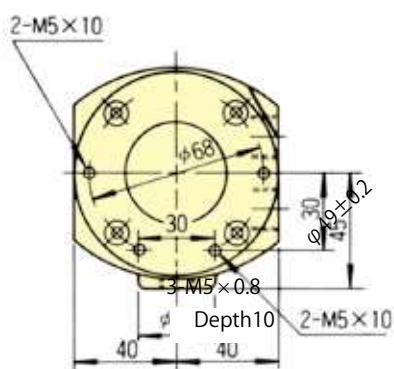
CYLINDERS

AY-R SERIES High Speed Air Cylinder with Closed Center



IDEALLY FOR
EXTREMELY THIN
WALLED WORKPIECES

- Secure operation even at low thrust air cylinder for machining easily deformed thin workpieces



AY-R
SERIES

Dimensions	A	B	C	D	E (h7)	F	G (H8)	K	L max.	L min.	N	R	S	T	U	V	W
Model																	
AY1315R	156	150	120	90	65	20	13	143	35	20	63	99	27	2	M12	22	M 6×10
AY1720R	200	195	140	100	80	25	17	162	65	45	82	118	45	5	M16	30	M10×16
AY2225R	255	245	170	130	110	30	21	173	71	46	93	129	33	5	M20	35	M12×20

■ Specifications ※Draw bar pull force : air pressure 0.5MPa (5.1kgf/cm²) [at efficiency 75%]

Specifications	Piston stroke mm	Piston Area		Draw bar		Max. air pressure MPa (kgf/cm ²)	Max. Speed min ⁻¹	Net Weight kg	Moment of inertia kg·m ²
Model		Push Side cm ²	Pull Side cm ²	Push Side kN(kgf)	Pull Side kN(kgf)				
AY1315R	15	131	128	4.9 (500)	4.8 (489)	0.8 (8.2)	5000	5.0	0.010
AY1720R	20	227	220	8.5 (867)	8.2 (836)	0.8 (8.2)	5000	8.2	0.028
AY2225R	25	378	371	14.1 (1438)	13.9 (1417)	0.8 (8.2)	4000	9.8	0.080

YS SERIES

Stationary Cylinder



SUITABLE FOR USE ON
MACHINING CENTER

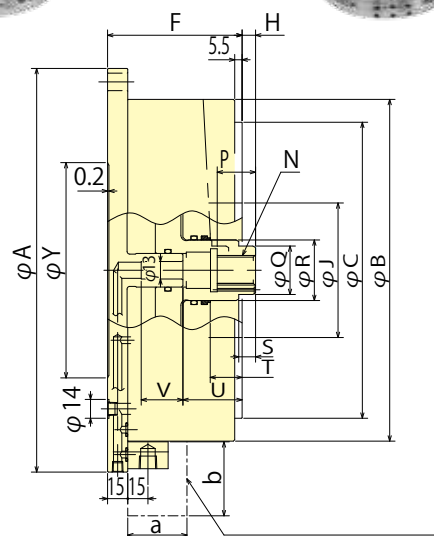
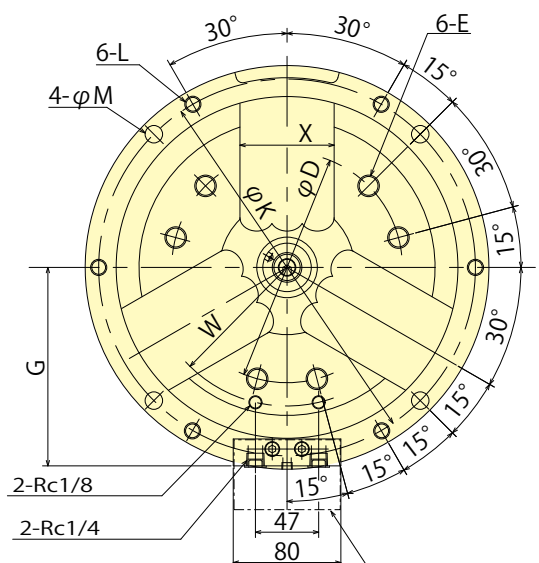
- Suitable for a variety of chuck types
- Can be mounted to milling and drilling machines
- Pneumatic or hydraulic and actuation available



Combination
with PW chuck



Combination
with PU chuck



Model	φAh7	φB	φCh7	φD	E	F	G	H max.	H min.	φJ	φK	L	φM
YS1415K	203	165	140	104.8	M10depth17	72	103	8	-7	75	185	M10	11
YS1820K	248	210	170	133.4	M12depth24	92	125.5	11	-9	100	230	M10	11
YS2220K	300	254	220	171.4	M16depth24	100	147.5	10	-10	100	280	M12	13
Model	N	P	φQ	φR	S	T	U	V	W	X	Y	a	b
YS1415K	M16	14	–	40	–	9.3	23	25	60	48	95	45	55
YS1820K	M18	21.5	30	40	7.3	17.3	35.5	31	80	70	125	45	55
YS2220K	M22	28.5	36	45	12.5	23.7	44	31	95	70	160	45	55

Model	Piston stroke	Max. allowable pressure		Max. thrust				Net Weight	Matching chuck size
		Pneumatic	Hydraulic	Pneumatic	0.6MPa (6kgf/cm²)	Hydraulic	1.5MPa (15.3kgf/cm2)		
YS1415K	15mm	0.7MPa (7.0kgf/cm²)	1.5MPa (15.3kgf/cm²)	Push	8.5kN(867kgf)	Push	20.8kN(2121kgf)	15.0kg	6inch
				Pull	8.1kN(826kgf)	Pull	20.1kN(2050kgf)		
YS1820K	20mm	0.7MPa (7.0kgf/cm²)	1.5MPa (15.3kgf/cm²)	Push	15.1kN(1540kgf)	Push	37.7kN(3844kgf)	22.0kg	8inch
				Pull	14.6kN(1489kgf)	Pull	36.5kN(3722kgf)		
YS2220K	20mm	0.7MPa (7.0kgf/cm²)	1.5MPa (15.3kgf/cm²)	Push	21.4kN(2182kgf)	Push	53.6kN(5466kgf)	39.0kg	10inch
				Pull	20.8kN(2121kgf)	Pull	51.9kN(5292kgf)		

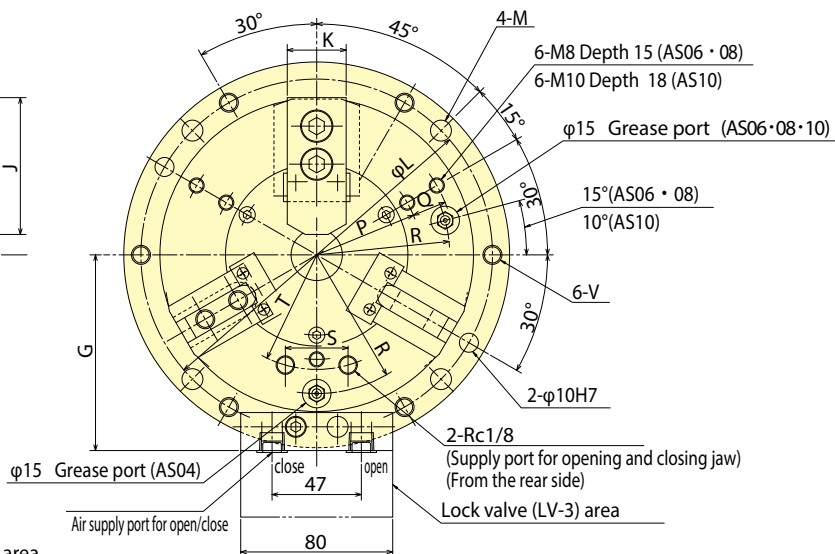
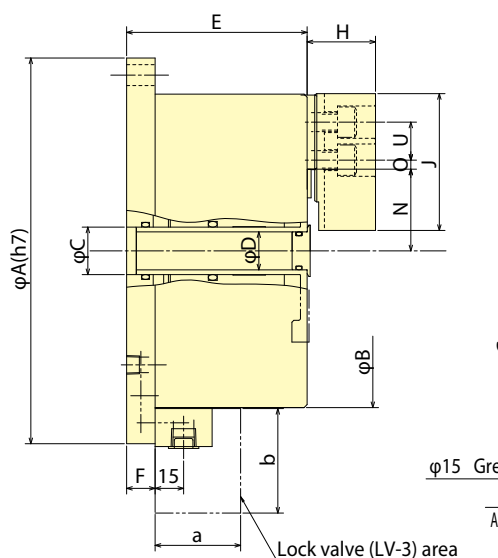
WORK GRIPPERS

AS SERIES Pneumatically Operated Stationary Chuck



CAN BE USED AS AN ALTERNATIVE TO A FIXTURE

- Small and lightweight design
- Also available in 2 jaw style AT work grippers
- Can be built into an engineered table with air supply
- Full integration and installation available
- Charge and release capabilities available with optional lock valve



Model	Dimensions	φ A (h7)	φ B	φ C (H7)	φ D	E	F	G	H	J	K	φ L (±0.2)	φ M	N max.	N min.	O max.	O min.	P	Q	R
AS04		148	110	20H7	—	90	15	75.5	27	55	23	130	9	25.5	22.9	9.75	6.75	—	—	43
AS06		203	165	25H7	20	95	15	103	36	72	31	185	11	44.5	41.9	9.25	4.75	55	18	70
AS08		248	210	36H7	30	106	15	125.5	42	95	35	230	11	53	49.85	14.75	8.75	68	25	90
AS10		300	254	50H7	43	110	16	147.5	46	110	40	280	13	66	62.85	16	8.5	85	30	110

Model	Dimensions	S	T	U	V	a	b
AS04		33	34	14	M8	45	55
AS06		33	60.3	20	M10	45	55
AS08		33	80	25	M10	45	55
AS10		33	95	30	M12	45	55

Model	Specifications	Jaw Stroke (diameter) mm	Gripping Force [Pneumatic at 0.6MPa (0.6kgf/cm ²) kN (kgf)]	Net Weight (kg)	Max. air pressure MPa (kgf/cm ²)	Matching Soft top jaw	Gripping range(mm)		Air consumption (NE)
							Max.	Min.	
AS04		5.2	7.5 (765)	7.3	0.7 (7.0)	SB04B1	110	10	0.40
AS06		5.2	21.0 (2140)	16.0	0.7 (7.0)	SB06B1	165	23	1.04
AS08		6.3	33.0 (3365)	27.7	0.7 (7.0)	SB08B1	210	30	1.81
AS10		6.3	48.0 (4895)	42.5	0.7 (7.0)	SB10A1	254	50	2.52

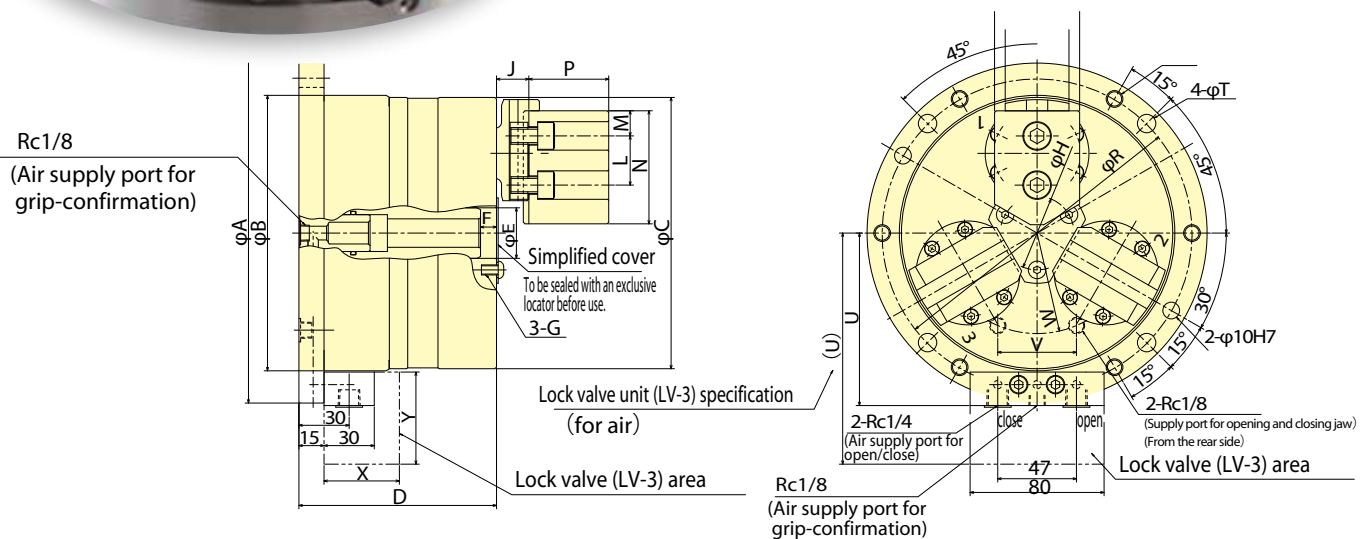
WORK GRIPPERS

PWS06 Power Wing Work Gripper



SUITABLE FOR 3-5 AXIS MACHINES

- Space and cost reduction achieved by built-in cylinder
- Ideal for machining castings on milling machines
- Will fit within the standard column height of the machine
- Charge and release capabilities available with optional lock valve

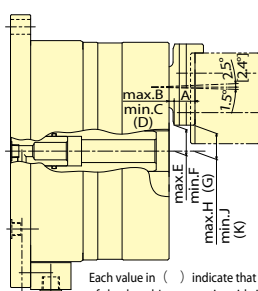


Model	Dimensions																							
	A h7	B	C	D	E +0.02 0	F min	G	H	J	K	L	M	N	P	Q		S	T	U	(U)	V	W	X	Y
PWS06	203	1645	162	118	30.17	3.5		44	193	38.07	2936	15	675	477	508	185	M10	11	103	138	47	60	45	55

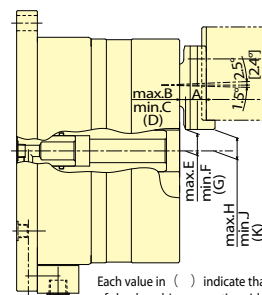
Dimensions	Plunger Stroke mm	Jaw Stroke (diameter) mm	Gripping Force kN (kgf)		Max. allowable pressure MPa (kgf/cm ²)		Min. allowable pressure MPa (kgf/cm ²)		Gripping range mm				Net Weight with Soft top jaws kg	Air Consumption (Nℓ)
Model			Pneumatic at 0.6MPa (6kgf/cm ²)	Hydraulic at 1.3MPa (13kgf/cm ²)	Pneumatic	Hydraulic			external φ	Internal φ	Max.	Min.		
PWS06	11.1	7.7	19 (1937)	53 (5404)	0.7 (7)	1.3 (13)	0.2 (2)		120	12.7	152	70	24	0.54

Dimensions	A	B	C	D	E	F	G	H	J	K
Model										
PWS06	15.50	4.96	3.05	3.80	20.06	18.89	19.33	20.70	18.48	19.33

Dimensions	A	B	C	D	E	F	G	H	J	K
Model										
PWS06	15.03	5.59	3.43	4.27	16.28	15.08	15.53	17.17	14.52	15.53



Actuated Position
(External Gripping)

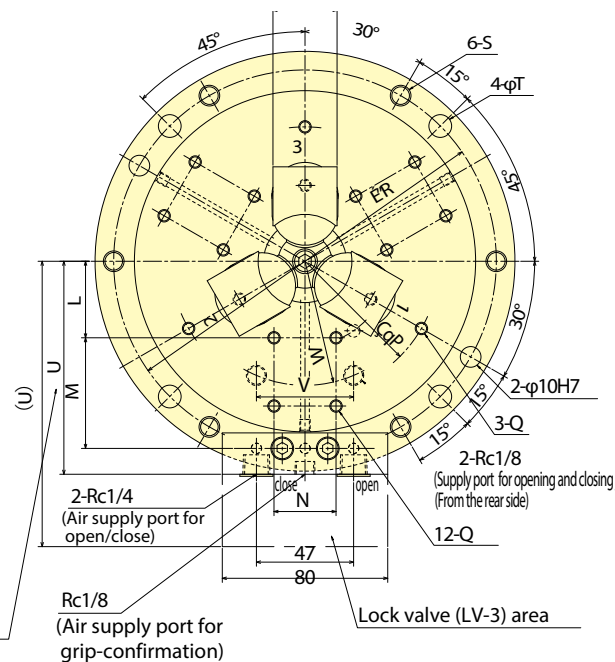
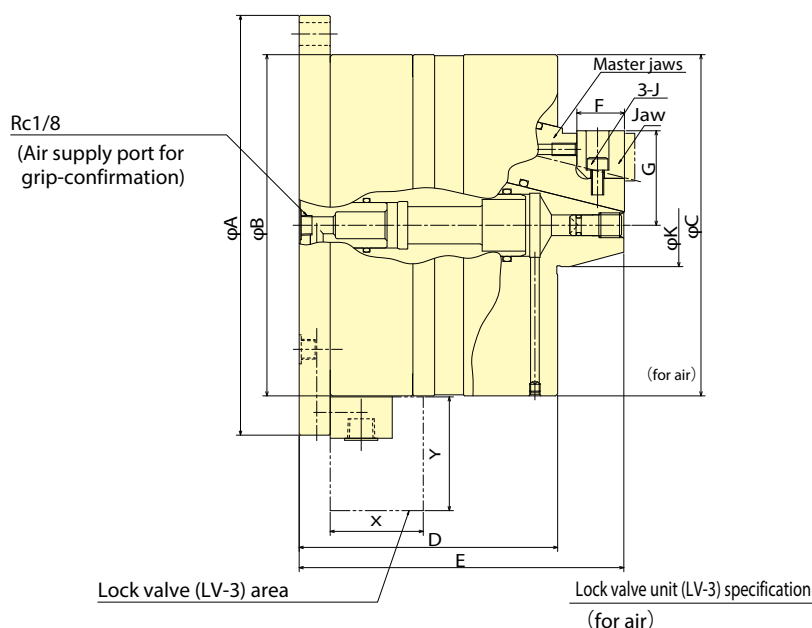


Actuated Position
(Internal Gripping)



SUITABLE FOR 3-5 AXIS MACHINES

- Suitable for finish machining with stationary machining accuracy
- Space and cost reduction achieved by built-in cylinder
- Available to mounted on the NC rotary table
- Charge and release capabilities available with optional lock valve



■ Dimensions ※The dimensions of (U)/X/Y marked are the size of LV-3(Lock-valve).

Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	(U)	V	W	X	Y
Model	h7						max. min.									(±0.2)								
PUES06	203	165	165	125	157	23	45.7 44.5	31	M6	40	37	33	30	65	M6 Depth12	185	M10	11	103	1387	47	60	45	55

■ Specifications ※Clamping force varies in clamping state for jaws and workpiece. ※Air Consumption = Under Pressure 0.6MPa Plunger Stroke per 10mm

Dimensions	Plunger Stroke mm	Jaw Stroke (diameter) mm	Gripping Force kN (kgf)		Max. allowable pressure MPa(kgf/cm ²)		Min. allowable pressure MPa(kgf/cm ²)	Gripping range mm			Net Weight with Soft top jaws kg	Air Consumption (Nl)
Model			Pneumatic at 0.6MPa (6kgf/cm ²)	Hydraulic at 1.3MPa (13kgf/cm ²)	Pneumatic	Hydraulic		Standard jaws	Option jaws	Master jaws		
PUES06	10	4.8	20(2039)	57(5812)	0.7(7)	1.3(13)	0.2(2)	φ70-φ89	φ89-φ105	φ44-φ70	21	0.54

WORK GRIPPERS

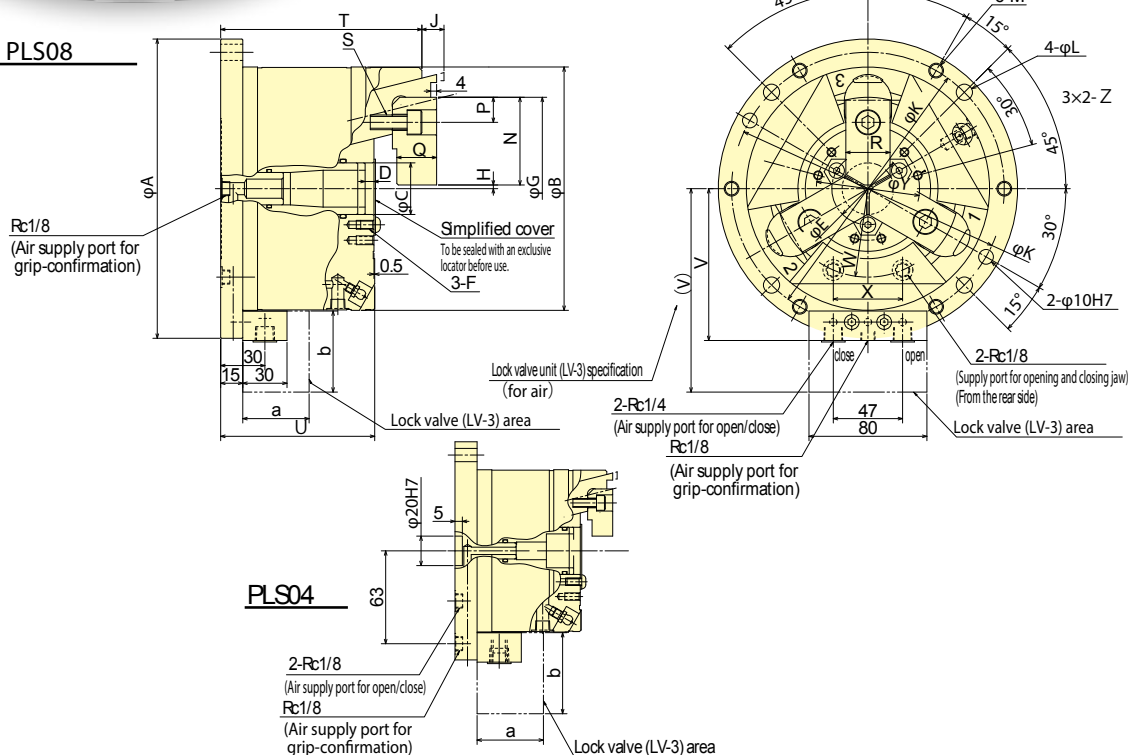
PLS SERIES Pull Lock Work Gripper



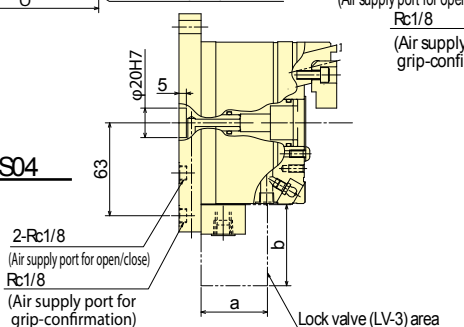
PULL LOCK FOR STEADY GRIPPING

- Stable cutting is guaranteed through high precision and exceptional gripping performance
- Perfect for CNC machining applications, thanks to component detection feature
- Charge and release capabilities available with optional lock valve

PLS06, PLS08



PLS04



Dimensions	A	B	C	D	E	F	G	H	H	J	J	K	L	M	N
Model	(h7)	(^{0.0} / _{-0.1})	(^{+0.01} / ₊₀)	min.			(H6)	max.	min.	max.	min.	(±0.2)			
PLS04	148	110.1	32	4.5	42	M5 Depth 10	84	2.25	0.75	7	1	130	9	M 8	40.5
PLS06	203	165.1	35	6.0	49	M6 Depth 12	124	3.75	1.25	15	5	185	11	M10	59.5
PLS08	248	210.1	55	6.0	71	M6 Depth 12	154	3.75	1.25	17	7	230	11	M10	74.5

Dimensions	P	Q	R	S	T	U	V	(V)	W	X	Y	Z	a	b
Model														
PLS04	9.5	14	20	M 6	103	85.5	75.5	110.5	34	33	62	M5 Depth 10	45	55
PLS06	17	27	30	M10	136.5	104.5	103	138	60	47	70	M6 Depth 12	45	55
PLS08	20.5	31	35	M12	155.5	118.5	125.5	160.5	80	47	95	M6 Depth 12	45	55

Specifications Model	Plunger Stroke mm	Jaw Stroke (diameter) mm	Gripping Force kN (kgf)				Max. allowable pressure MPa (kgf/cm ²)		Min. allowable pressure MPa (kgf/cm ²)	Gripping range mm		Net Weight with Soft top jaws kg	Air Consumption (Nl)
			Pneumatic at 0.6MPa (6kgf/cm ²)		Hydraulic at 1.3MPa (13kgf/cm ²)		Pneumatic	Hydraulic					
			Use of soft jaw	Use of hardened jaw	Use of soft jaw	Use of hardened jaw							
PLS04	6	3	6.7 (683)	7.4 (754)	16.0 (1631)	17.4 (1774)	0.7 (7.0)	1.3 (13.0)	0.2 (2.0)	φ60	φ4	7.4	0.22
PLS06	10	5	18.5 (1886)	22.0 (2243)	40.0 (4078)	45.0 (4588)				φ100	φ7	18.0	0.54
PLS08	10	5	37.0 (3772)	40.0 (4078)	80.0 (8157)	84.0 (8565)				φ130	φ7	33.0	0.93

AUTOMATION PRODUCTS

AJPS Automatic Jaw Pallet System



AUTOMATION FOR
HIGH MIX, LOW VOLUME
PARTS MACHINING

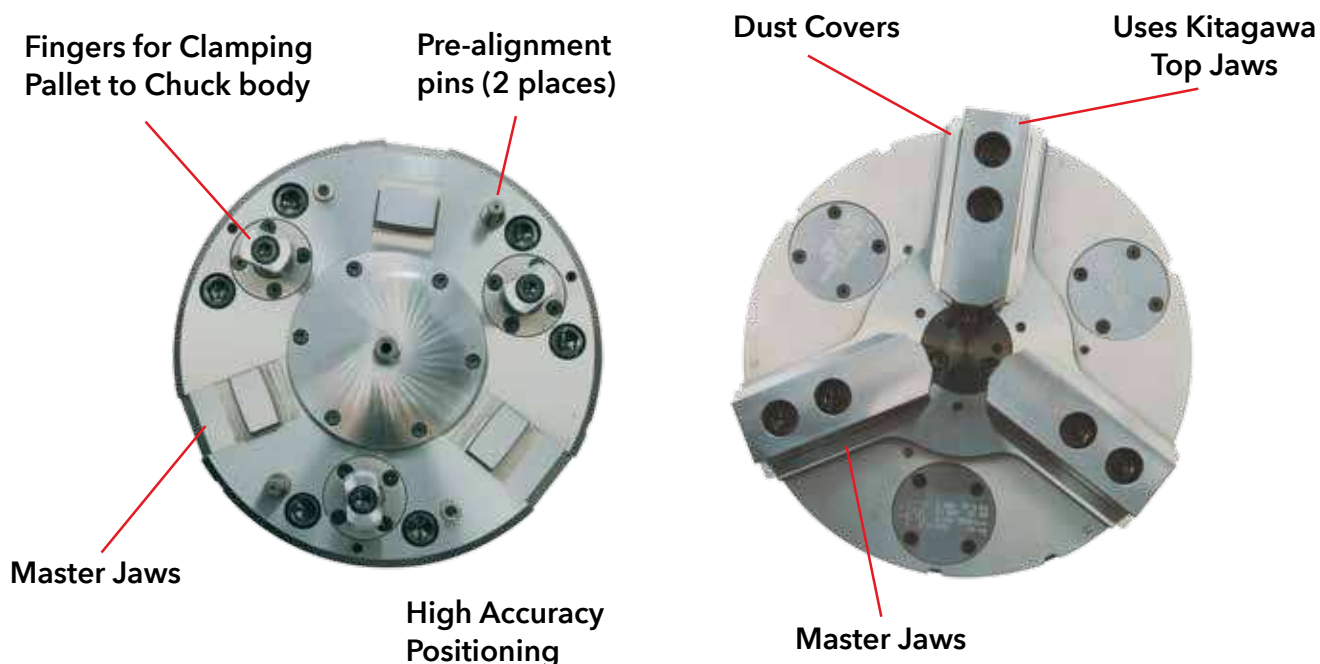


Robotic automation is finally a viable solution for low-to-moderate volume parts machining and manufacturing

- Jaw pallet replacing method allows you to change all 3 jaws at once by replacing entire pallet
- Delivers work-pieces and jaw pallets by robot or shuttle
- Flexible capabilities for automated robotic systems and continuous operations unattended
- Ideal for high mix, low volume production
- Precision high accuracy positioning and repeatability of pallet to chuck body
- Designed for protection from chips and contaminants
- Compact design uses less z axis space

AUTOMATION PRODUCTS

Made Flexible & Affordable



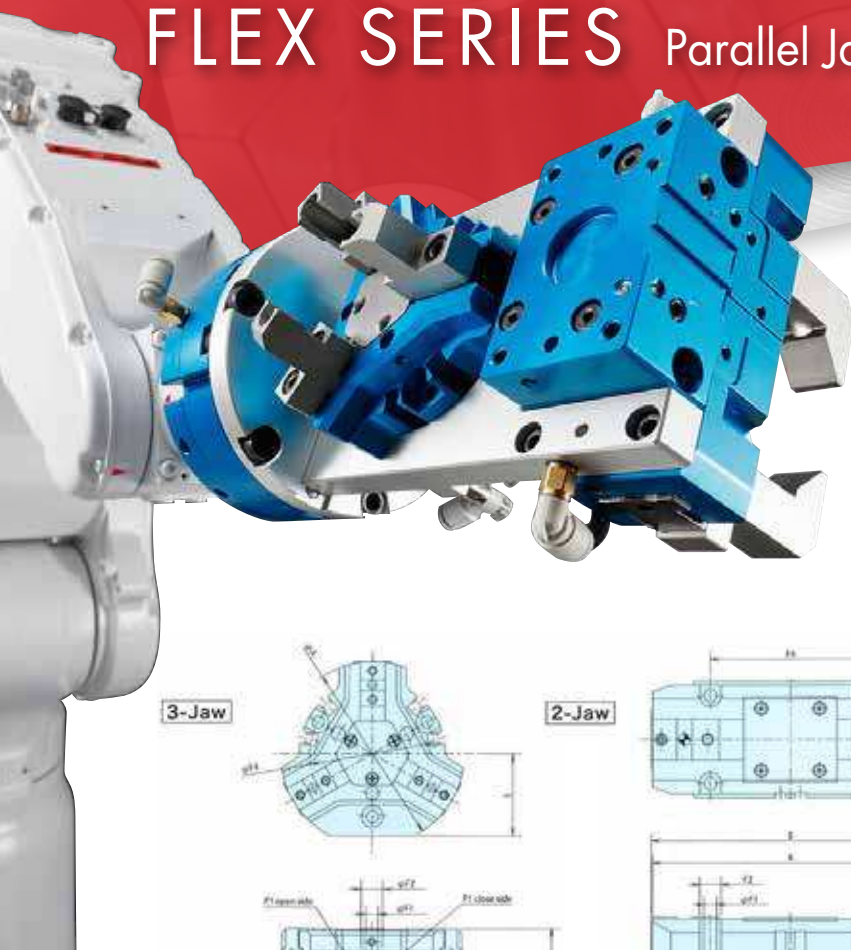
- Precision high accuracy positioning and repeatability of pallet to chuck body
- Designed for protection from chips and contaminants
- Compact design uses less Z axis space

A J P S S P E C I F I C A T I O N S

Automatic Jaw Pallet System Technical Data & Specifications		
Size	inch	10
Max. Speed	min-1	3500
Jaw stroke for Main clamp	mm	9.0
Plunger Stroke	mm	20.0
Max static gripping force	kN	81
Max. input	kN	37.5
Mass of Faceplate	kg	18
Mass (including Faceplate)	kg	66
Inertia (including Faceplate)	kg/m2	0.6
Thickness of chuck	mm	170
Stroke for clamping Faceplate	mm	22
Clamp force for Faceplate	kN	45
Gripping diameter	mm	54~254
Matching Cylinder		YG385W19C

AUTOMATION PRODUCTS

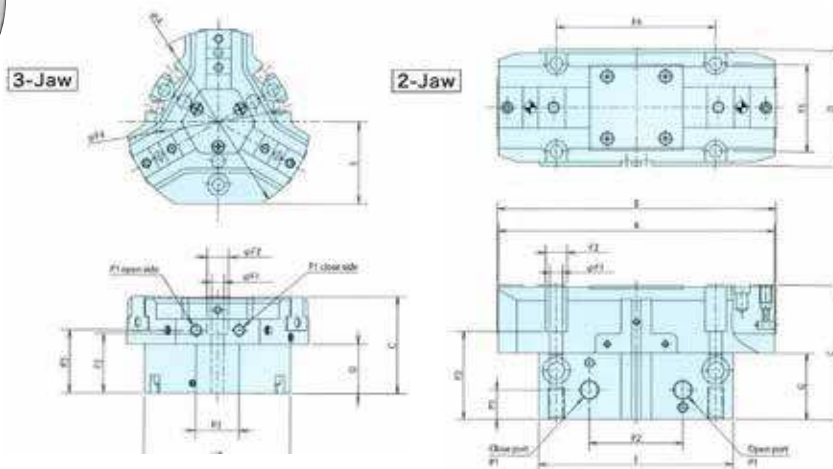
FLEX SERIES Parallel Jaw Grippers



3 JAW GRIPPER



2 JAW GRIPPER



- High durability, high repeatability
- Thin and lightweight body design
- Easy cleaning without attaching gripper from robot

Other configurations such as open center high grip light grip also available

2 JAW

Model	Outline Dimensions						Dimensions for Body Fitting					Dimensions of Air Supply		
	A	B	C	D	E	G	F1	F2	F3	F4	F5	P1	P2	P3
KNTS208	92	94	54	42	63	27	φ4.5	8	34	52	32	M5	31	12
KNTS210	115	117	59	50	81	30	φ5.5	9	36.5	66	38	M5	38	15
KNTS212	142	143	69	60	100	34	φ6.6	11	45	82	45	G1/8	48	15
KNTS216	187	188	83	72	120	40	φ6.6	11	50	100	56	G1/8	56	15

Item Model	Jaw Stroke	Gripping Force (Note 1)			Repeatability	Mass of Products	Amount of Air Consumption	Working Air Pressure
	Diameter (mm)	Measurement Distance L (mm)	O.D.Gripping (N)	I.D.Gripping (N)	(mm)	(kg)	(cm ³ /Round Trip)	(MPa)
KNTS208	16	10	369	419	±0.01	0.47	18.8	0.2~0.8
KNTS210	20	20	553	629	±0.01	0.77	35.1	0.2~0.8
KNTS212	24	20	759	867	±0.01	1.33	52.4	0.2~0.8
KNTS216	32	20	1194	1374	±0.01	2.51	123.2	0.2~0.8

(Note 1) Value at supply air pressure 0.6 MPa

3 JAW

Model	Outline Dimensions					Dimensions for Body Fitting				Dimensions of Air Supply		
	A	B	C	D	E	F1	F2	F3	F4	P1	P2	P3
KNTS307	φ82	φ65	43	21.9	36.5	φ5.5	φ9.5	26.5	56	M5	19.2	28
KNTS309	φ98	φ80	50.5	25	42.5	φ6.6	φ11	30.5	70	G1/8	23.3	33.7
KNTS311	φ121	φ100	59	31	50.5	φ6.6	φ11	36.5	90	G1/8	30.1	38

Item Model	Jaw Stroke	Gripping Force (Note 1)			Repeatability	Mass of Products	Amount of Air Consumption	Working Air Pressure
	Diameter (mm)	Measurement Distance L (mm)	O.D.Gripping (N)	I.D.Gripping (N)	(mm)	(kg)	(cm ³ /Round Trip)	(MPa)
KNTS307	12	10	587	682	±0.01	0.40	24.1	0.2~0.8
KNTS309	16	20	925	1017	±0.01	0.70	50.2	0.2~0.8
KNTS311	20	20	1628	1770	±0.01	1.21	112	0.2~0.8

AUTOMATION PRODUCTS

FLEX SERIES Robot Hand Changers

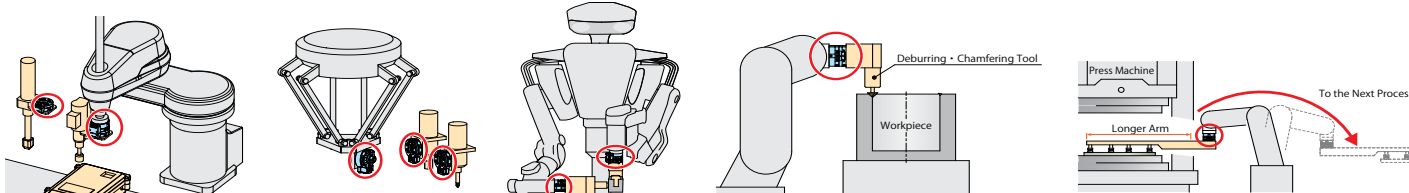


ENABLES MULTIPLE FUNCTIONS OF ROBOTS



- High accuracy locating repeatability
- Prevents core deflection & chattering
- Enhances production line productivity
- High rigidity: zero backlash

APPLICATION EXAMPLES



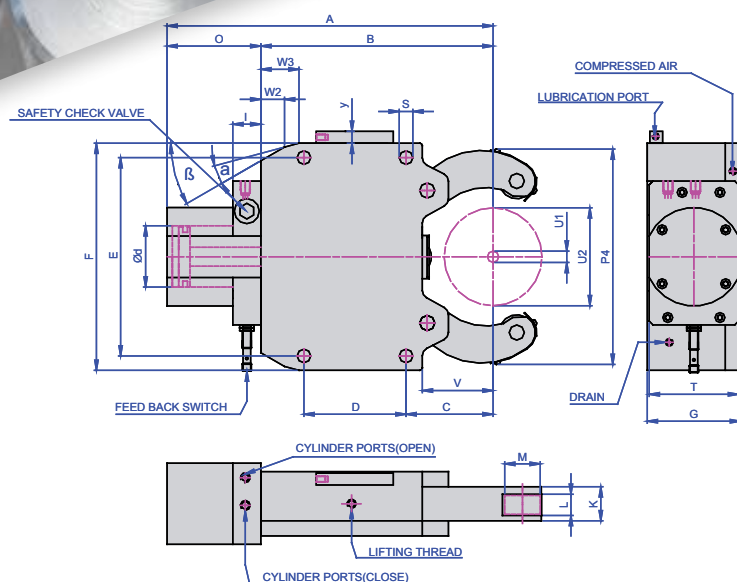
Model No.			KSWR0030	KSWR0070	KSWR0120	KSWR0250	KSWR0500	KSWR0750	KSWR1200
Allowable Weight ※1	At 0.5MPa	kg	3	7	12	25	50	75	120
	At 1MPa	kg	6	12	20	45	90	140	200
Locating Repeatability		mm	0.003						
Lift Stroke (Detaching Stroke)		mm	0.8	0.8	0.8	1.0	1.0	1.0	1.0
Cylinder Capacity	Lock	cm³	0.64	1.50	2.38	6.08	14.38	22.98	38.44
	Release	cm³	0.72	1.72	2.69	6.68	15.39	25.45	42.76
Air Pressure	Max. Operating Pressure	MPa	1.0						
	Min. Operating Pressure	MPa	0.4	0.35					
	Withstanding Pressure	MPa	1.5						
Holding Force			Refer to P.20						
Lifting Force (Detaching Force)			Refer to P.20						
Allowable Static Moment ※1	Bending (At 0.5MPa)	N・m	5	14	27	74	194	380	725
	Bending (At 1.0MPa)	N・m	(10)	(25)	(45)	(135)	(350)	(700)	(1400)
	Twisting	N・m	15	23	45	100	175	300	700
Operating Temperature		℃	0~70						
Usable Fluid			Dry Air						
Weight ※2	Master Cylinder	g	70	180	250	500	1000	1650	3800
	Tool Adapter	g	45	120	160	300	750	1100	2600
Air Port ※3	Thread Size ×	M3×0.5×2 Ports ※4	M5×0.8 ×6 Ports	M5×0.8 ×6 Ports	M5×0.8 ×6 Ports	M5×0.8 ×2 Ports Rc1/8×4 Ports	Rc1/8×9 Ports	Rc1/4×9 Ports	
	Number of Ports								
Electrode Option			Refer to P.25~P.37						

Notes

- ※1. Please consider the allowable weight and allowable static moment when selecting the product.
- ※2. Weight of the body without external options.
- ※3. Refer to P.16 for air port use.
- ※4. If the number of air port of SWR0030 is insufficient, we offer SWRY0010 with 6 air ports (Refer to P.39 Exclusive Use).

TURNING STEADY RESTS

CS SERIES Compact Steady Rests for Smaller Machines



STANDARD CAPABILITIES

- High performance, compact solution
- Clamping ranges up to 510mm
- Coolant flush through arms
- Spare set of rollers

STEADY REST TYPE.		CS3	CS4	CS4.1	CS5	CS5.1	CS6	CS6.1
		A	443	578	612	753	763	816
	B	335	450	490	607	622	670	680
	C	150	168	198	230	240	215	245
	D	140	180	180	240	240	330	300
	E	312	360	360	445	445	610	610
	F	345	400	400	485	485	680	680
	G	105	125	125	150	150	150	150
	K	45	60	60	75	75	75	75
	L	25	25	25	29	29	29	29
	M	47	52	52	62	62	80	80
	O	88	159	122	146	190	135	135
	P4	392.5	476.5	503	574	632.5	752	752
	S	18	23	23	23	23	27	27
	T	105	111	124	146	121	150	150
	V	115	146	171	195	195	185	215
	W2	10	100	110	130	135	155	155
	W3	50	62	60	51	55.5	87	87
	β	30	30	30	30	30	30	30
	α	15	15	15	15	15	20	20
Centering range with chip guard	U1	65	60	90	80	100	135	215
	U2	235	280	330	390	410	460	510
Cylinder bore.	d	70	90	90	100	100	120	120
Hyd. Connection.(BSP)	h	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Operating pressure.(Min/Max)	bar	8-70	08-70	8-70	8-80	08-80	8-80	8-80
Max. Clamp force /roller.	daN.	1000	1500	1500	2000	2000	3000	3000
Centering accuracy over the whole clamping range.	mm	0.04	0.05	0.05	0.06	0.06	0.06	0.06
Repeatability	mm	0.007	0.007	0.007	0.01	0.01	0.01	0.01
Max.peripheral roller speed.	m/min	700	700	700	725	660	700	700
Weight Approx.	kg	40	90	90	170	180	385	385

CS
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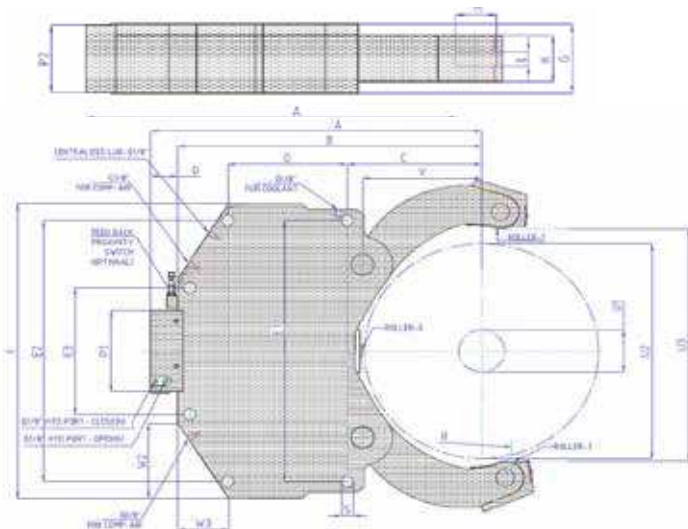


Standard Features:

- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication

TURNING STEADY RESTS

FRC SERIES Integral Steady Rests with Built-in Cylinder



STANDARD CAPABILITIES

- Ultra compact with integrated actuating cylinder
- Eliminates issues with mounting and installation
- Clamping ranges from 12mm-870mm
- Can be mounted to flat or slant bed lathes
- Spare set of rollers

FRC SERIES



Standard Features:

- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication

Centering Range

Maximum axial opening

Cylinder bore

Hyd.connection

Operating pressure, Min/ Max

Total clamping force

Centering accuracy over the whole clamping range

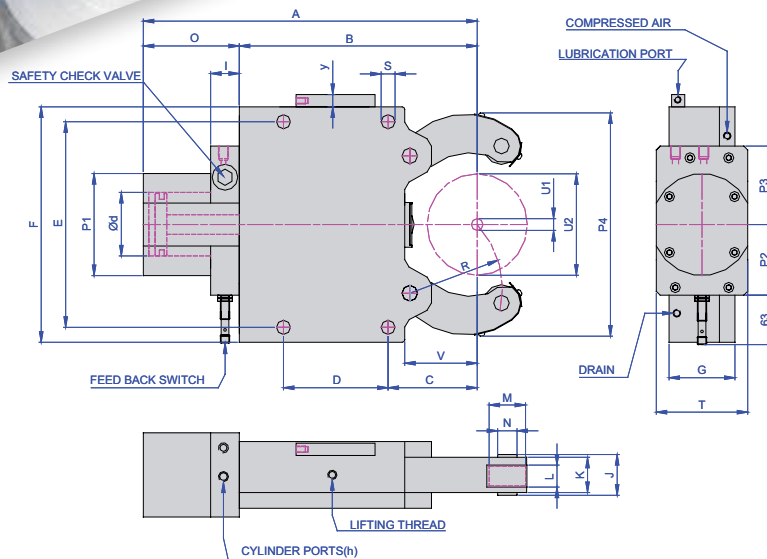
Repeatability

Weight

	FRC3025	FRC4532	FRC8536	FRC1043	FRC1447	FRC1051	FRC2568	FRC4587
A	434	509	537	622	647.5	707	847	1244
B	380	465	493	578	603.5	661	803	1200
C	146	178	208.5	280	305.5	292.5	415	640
D	155	210	210	220	220	260	312	400
E1	365	400	400	510	510	620	700	1100
E2	365	400	400	510	510	620	470	1100
E3								670
F	438	500	500	600	600	700	760	1200
G	110	145	145	145	145	145	165	198
K	53	68	68	98	98	98	98	118
L	25	29	29	29	29	32	32	75
M	52	62	72	80	80	80	100	160
O	54	44	44	44	44	59	44	44
P1	158	172	172	194	194	194	194	260
P2	109	144	144	144	144	144	144	197
R	168	215	235	280	300	325	430	606
S	23	23	23	26	26	26	35	35
V	124.5	167	191	214.5		259	353	480
W2	132	105	100	160	158	179	188	254
W3	83	101.5	97	74	104	101	108	135
U1	30	45	85	100	140	100	250	450
U2	255	320	360	430	470	510	680	870
U3	291	358	415	475	524	559	729	968
d	40	50	50	60	60	60	60	80
h	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"
bar	20-70	20-70	20-70	20-60	20-60	20-60	20-60	20-60
daN	4500	5500	5500	6800	6800	6800	6800	9200
mm	0.04	0.06	0.06	0.06	0.06	0.1	0.1	0.2
mm	0.005	0.005	0.005	0.01	0.01	0.02	0.02	0.02
kg	73	148	143	195	234	252	370	1337

TURNING STEADY RESTS

FRU SERIES For Standard Turning Applications



STANDARD CAPABILITIES

- Ideal for all standard turning applications
- Clamping ranges from 4mm to 630mm
- Mount on flat bed and slant bed lathes
- Mounting brackets and installation available to customers' requirements
- Spare set of rollers

FRU SERIES

STEADY REST TYPE		FRU1	FRU2	FRU3	FRU3.1	FRU3.2	FRU4	FRU5	FRU5.1	FRU6	FRU7	FRU8
	A	212	298.5	462	470	486	624	706	731.5	980	1235.5	1404
	B	137	195	308	316	332	437	500	520	709	898	1000
	C	51	70	115	123	138	146	178	198	215	320	375
	D	64	85	135	135	135	240	270	270	330	440	500
	E	118	170	262	262	262	365	400	400	610/640	650	855
	F	132	205	290	290	290	400	450	450	680	720	930
	G	55	70	85	85	85	110	145	145	145	162	190
	I	-	33	37	37	37	37	37	37	46	60	60
	J	33	42	52	52	52	67	83	83	83	96	110
	K	25	35	45	45	45	60	75	75	75	82	100
	L	12	19	25	25	25	25	29	29	29	32	32
	M	19	35	47	47	47	52	62	62	80	100	100
	N	10	21	25	25	25	32	40	40	43	55	60
	O	75	103.5	154	154	154	187	206.5	211.5	271	337.5	385.5
	P1	82.5	105	137	137	137	165	165	165	190	238	238
	P2	27.5	66	92	90	90	102	102	102	115	143	143
	P3	55	75	92	94	94	110	110	110	130	158	158
	P4	118.5	188	279	279	323	415	473	509.5	732	869.5	976
	R	50.5	75	117.3	124	139	172	209	236	290	390	402
S	11	14	18	18	18	23	23	23	27	27	35	
T	55	68	102	102	102	126	144	144	158	190	190	
V	37	60	91.5	99.5	109.5	128	160	180	182	292.5	295.5	
Y	-	19	19	19	19	19	20	20	27	27	27	
Centering range without chip guard.	U1	4	8	12	20	50	30	45	85	125	200	230
	U2	64	101	152	165	200	245	310	350	460	530	630
Centering range with 3 piece chip guard.	U1	4	16	16	20	50	30	45	85	125	191	230
	U2	64	101	152	165	200	245	310	350	460	530	630
Cylinder Bore.	d	30	50	80	80	80	100	100	100	130	150	150
Hyd. Connection. (BSP)	h	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Operating pressure. Min/Max	bar	6/50	8/60	8/60	8/60	8/60	8/60	8/80	8/80	8/70	6/70	6/70
Max. clamp force/roller	daN	100	350	1000	1000	1000	1500	2000	2000	3000	4000	4000
Clamping press/roller at 15 bar	daN	35	100	250	250	500	500	500	500	670	900	900
Centering accuracy over the whole clamping range	mm	0.02	0.02	0.04	0.04	0.04	0.05	0.06	0.06	0.06	0.08	0.08
Repeatability.	mm	0.005	0.005	0.007	0.007	0.007	0.007	0.01	0.01	0.01	0.02	0.02
Max. peripheral speed.	m/min	850	950	800	800	725	725	670	670	525	570	570
Weight Approx	kg	7	18.5	48	48	50	104	155	430	430	520	580

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Standard Features:

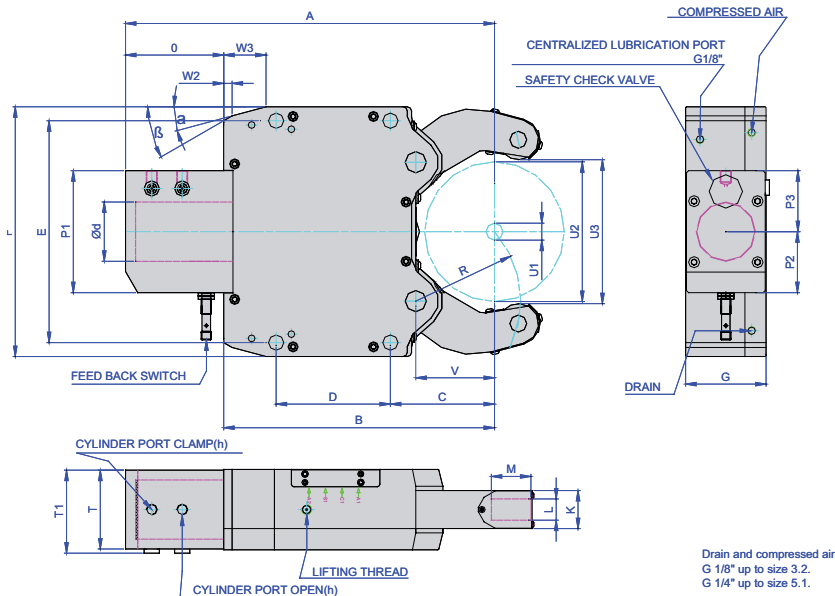
- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication

TURNING STEADY RESTS

FRUN SERIES Fully Sealed Body for Standard Turning

STANDARD CAPABILITIES

- Fully sealed body for protection
- Front body profile for easy chip flow
- Hydraulic ports on top & side of cylinder for easy access
- Built-in safety valve
- Spare set of rollers



Drain and compressed air
G 1/8\" up to size 3.2.
G 1/4\" up to size 5.1.

FRUN SERIES



Standard Features:

- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication

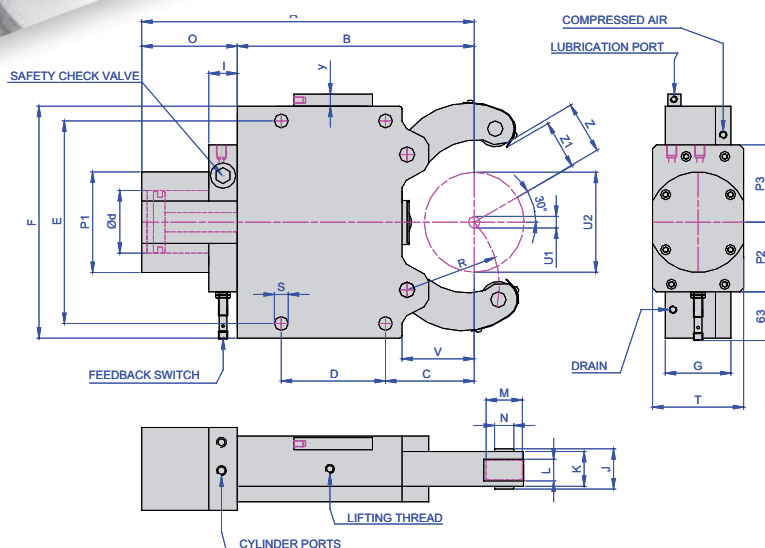
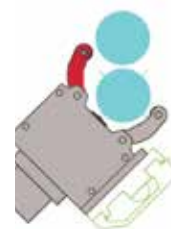
STEADY REST TYPE		FRUN1	FRUN2	FRUN3	FRUN3.1	FRUN3.2	FRUN4	FRUN5	FRUN5.1
A		214.5	277	428	436	451	603	697	717
B		149	195	312	320	335	448	510	530
C		52	70	115	123	138	146	178	198
D		66	85	135	135	135	240	270	270
E		140	170	262	262	262	365	400	270
F		160	195	295	295	295	405	440	440
G		63	75	95	95	95	110	145	145
K		28	35	45	45	45	60	75	75
L		15	19	25	25	25	25	29	29
M		24	35	47	47	47	52	62	62
O		65.5	82	116	116	116	155	187	187
P1		95.5	122	144	144	144	164	174	174
P2		37.5	61	72	72	72	82	87	87
P3		58	61	72	72	72	82	87	87
R		55	65.5	115.5	124	140	172	209	229
S		11	14	18	18	18	23	23	23
T		57	69	93	93	93	108	140	140
T1		62	74	98	98	98	113	147	147
V		41	51	85	93	108	128	160	180
W2		5	11.2	10	10	10	18.3	19	19
W3		20	30	50	50	50	58	62	62
β		45	30	30	30	30	40	40	40
α		15	15	15	15	15	15	18	18
Centering range	U1	6	8	12	20	50	30	45	85
	U2	70	101	152	165	200	245	310	350
Max.Axial opening	U3	75	106	162	170	202	253	318	352
Cylinder Bore.	d	30	50	70	70	70	90	100	100
Hyd. Connection.	h	1/8" BSP	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"
Operating pressure. Min/Max	bar	6--50	8--70	8--80	8--80	8--80	8--80	8--80	8--80
Max.clamp force/roller.	daN	100	450	1000	1000	1000	1700	2000	2000
Centering accuracy	mm	0.02	0.02	0.04	0.04	0.04	0.04	0.06	0.06
Repeatability.	mm	0.005	0.005	0.007	0.007	0.007	0.007	0.01	0.01
Max.peripheral Roller speed.	m/min	850	800	725	725	725	725	700	700
Weight Approx.	kg	10	20	48	48	48	104	174	178

TURNING STEADY RESTS

FRUA SERIES Upper Arm Swings Completely Open

STANDARD CAPABILITIES

- Made for applications where vertical loading is a requirement
- E.g. using a gantry loader
- Spare set of rollers



FRUA SERIES

STEADY REST TYPE



Standard Features:

- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication

Centering range without chip guard.

Centering range with 3 piece chip guard.

Cylinder Bore.

Hyd. Connection. (BSP)

Operating pressure. Min./Max.

Max. clamp force/roller.

Clamping press./roller at 15 bar

Centering accuracy over the whole clamping range.

Repeatability.

Max. Peripheral speed.

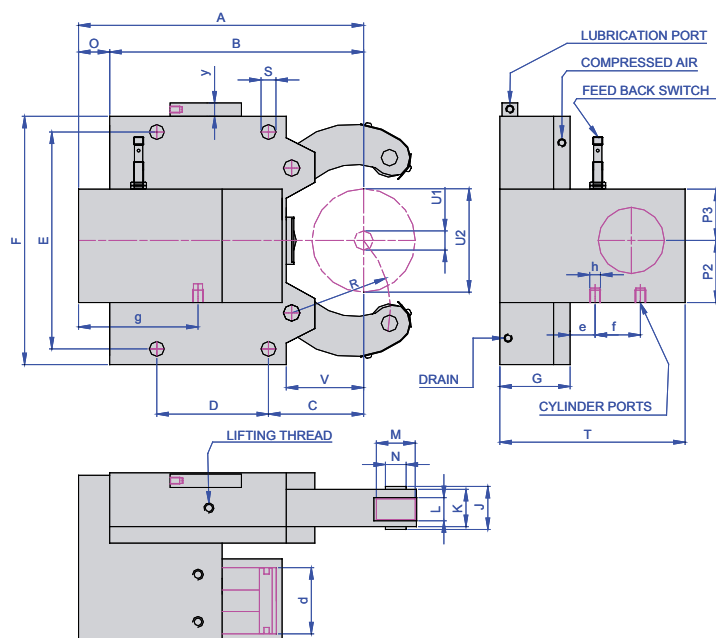
Weight Approx.

	FRUA 2	FRUA 3	FRUA 3.1	FRUA 4	FRUA 5	FRUA 6
A	295	463		609	686	980
B	195	308	316	437	500	709
C	70	115	123	146	178	215
D	85	135	135	240	270	330
E	170	262	262	365	400	610/640
F	205	290	290	400	450	705
G	70	85	85	110	145	145
I	33	37	37	38	37	37
J	42	53.5	52	67	78.5	83
K	35	45	45	60	75	75
L	19	25	25	25	29	29
M	35	47	47	52	62	80
N	21	20	25	32	40	42
O	100	155	149	172	186	271
P1	102	137	137	165	168	200
P2	66	92	90	102	94	120
P3	75	92	94	110	118	135
R	75	119	124	172	209	290
S	14	18	18	23	23	27
T	68	102	102	126	144	158
V	60	91.5	99.5	128	160	175
Y	19	19	19	19	20	19
U1	8	12	20	30	48	160
U2	80	130	150	220	268	460
U1	16	20	20	30	48	160
U2	80	130	150	220	268	460
Z	41	55	76	111	135	230
Z1	34	54	74	106	130	225
d	50	80	80	100	100	130
h	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"
bar	8/60	8/60	8/60	8/60	8/60	8-70
daN	350	1000	1000	1500	2000	3000
daN	100	250	250	500	500	670
mm	0.02	0.04	0.04	0.05	0.06	0.06
mm	0.005	0.007	0.007	0.007	0.01	0.01
m/min	950	800	800	725	670	525
Kg	18.5	48	48	104	160	430

** Angle of inclination is 19 degree instead of 30 degree

TURNING STEADY RESTS

FRUB SERIES Side Mounted Cylinder Design



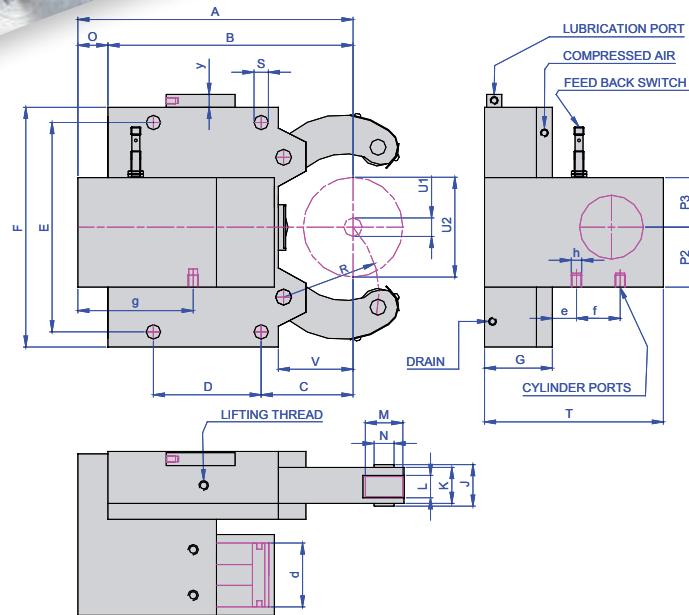
STANDARD CAPABILITIES

- For machines where the rear mounted cylinder may interfere with the machine enclosure
- Side mounted cylinder makes for compact steady rests
- Spare set of rollers

STEADY REST TYPE		FRU-B 3	FRU-B 3.1	FRU-B 4	FRU-B 5	FRU-B 6	FRU-B 7	FRU-B 8
 Standard Features: • Safety Valve • Provision for max. opening feedback • 1 set swarf guard 3-piece • Provision for compressed air connection • Provision for centralized lubrication	A	348	356	480	612.5	823	1001	1130
	B	308	316	437	500	709	897.5	1019
	C	115	123	146	178	215	320	375
	D	135	135	240	270	330	440	500
	E	262	262	365	400	610/640	650	855
	F	290	290	400	450	680	710	930
	G	85	85	110	145	145	180	190
	J	52	52	67	80	83	112	110
	K	45	45	60	75	75	100	100
	L	25	25	25	29	29	32	32
	M	47	47	52	62	80	100	100
	N	25	25	32	36	43	55	60
	O	40	40	43	112.5	114	103.5	111
	P2	74	74	85	85	125.8	130	130
	P3	57	57	68	85	89.2	130	130
	R	117.5	124	172	209	290	398	402
	S	18	18	23	23	27	27	35
	T	199	198	246	325	383	405	487
	V	91.5	99.5	128	160	182	283.5	290
	Y	19	19	19	20	27	27	27
Centering range without chip guard.	U1	12	20	30	50	125	200	230
	U2	152	165	245	310	460	530	630
Centering range with 3 piece chip guard.	U1	21	20	30	50	125	200	230
	U2	152	165	245	310	460	530	630
Cylinder Bore.	d	80	80	100	100	130	150	150
	e	58	58	68	85	55	191	191
	f	27	27	39	40	50	50	50
	g	180	180	220	270	430	450	450
Hyd. Connection. (BSP)	h	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"
Operating pressure. Min/Max	bar	8/60	8/60	8/60	8/80	8/70	8/70	8/70
Max. clamp force/roller.	daN	1000	1000	1500	2000	3000	4000	4000
Clamping press./roller at 15 bar	daN	250	250	400	400	600	880	880
Centering accuracy over the whole clamping range	mm	0.04	0.04	0.05	0.06	0.06	0.08	0.08
Repeatability	mm	0.007	0.007	0.007	0.01	0.01	0.02	0.02
Max. peripheral speed.	m/min	800	800	720	650	525	570	570
Weight Approx.	kg	53	53	115	190	500	580	650

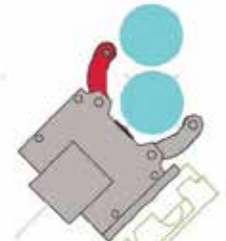
TURNING STEADY RESTS

FRUAB SERIES Side Mounted with Actuating Cylinder

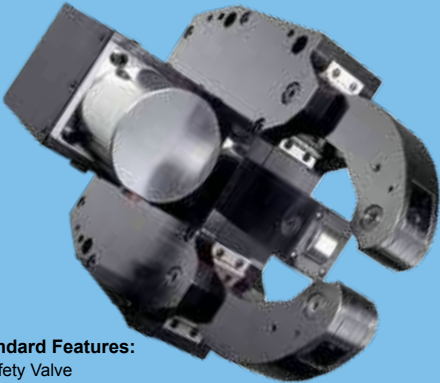


STANDARD CAPABILITIES

- Opening top arm for vertical load applications
- Side mounted actuating cylinder
- Extra wide opening top arm
- Spare set of rollers



FRUA-B SERIES

STEADY REST TYPE		FRUA-B 3	FRUA-B 3.1	FRUA-B 4	FRUA-B5
 Standard Features: • Safety Valve • Provision for max. opening feedback • 1 set swarf guard 3-piece • Provision for compressed air connection • Provision for centralized lubrication	A	348	356	480	614
	B	308	316	437	500
	C	115	123	146	178
	D	135	135	240	270
	E	262	262	365	400
	F	290	290	400	450
	G	85	85	110	145
	J	52	52	69.5	83
	K	45	45	60	75
	L	25	25	25	29
	M	47	47	52	62
	N	25	25	32	36
	O	40	40	43	124
	P2	74	74	85	85
	P3	57	57	68	85
	R	117.5	124	172	209
	S	18	18	23	23
T	199	198	245	325	
V	91.5	99.5	128	160	
Y	19	19	19	20	
Centering range without chip guard.	U1	12	20	30	48
	U2	130	150	220	268
Centering range with 3 piece chip guard.	U1	21	20	30	48
	U2	130	150	220	268
	Z	66	76	111	135
	Z1	62	72	106.5	130
Cylinder Bore.	d	80	80	100	100
	e	58	58	68	85
	f	27	27	39	40
	g	180	180	220	270
Hyd. Connection. (BSP)	h	¼"	¼"	3/8"	3/8"
Operating Press. Min/max	bar	8/60	8/60	8/60	8/80
Max. clamp pressure/roller.	daN	1000	1000	1500	2000
Clamping press./roller at 15 bar	daN	250	250	400	400
Centering accuracy over the whole clamping range.	mm	0.04	0.04	0.05	0.06
Repeatability.	mm	0.007	0.007	0.007	0.01
Max. Peripheral speed	m/min	800	800	720	650
Approx. weight	kg	55	55	115	190

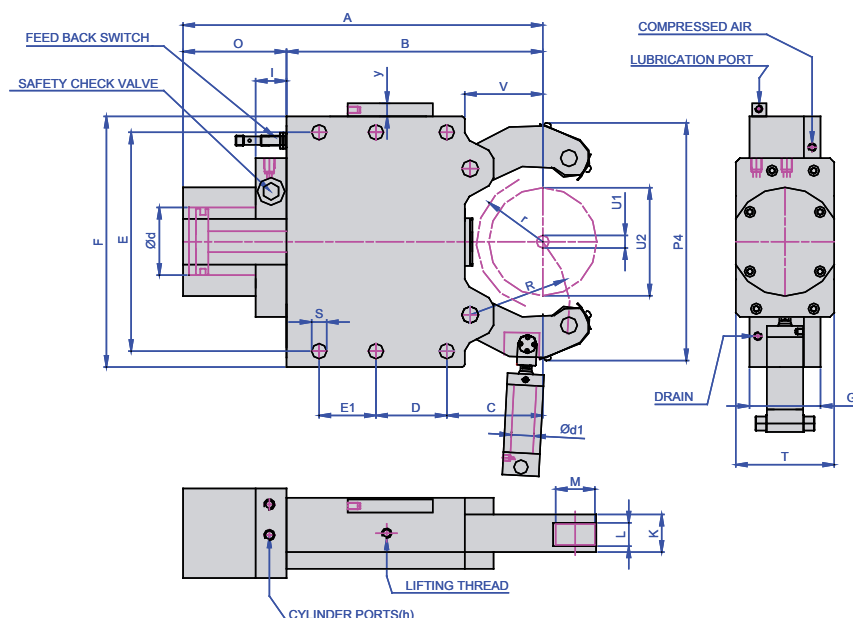
FRUA-B SERIES

TURNING STEADY RESTS

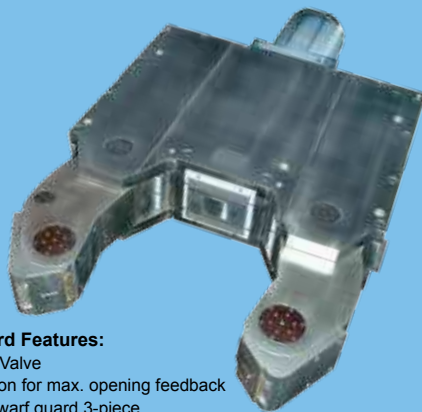
HEAVY DUTY SERIES 10-40 Ton Capacity

STANDARD CAPABILITIES

- Heavy duty construction
- Large rollers that can handle 10-40 tons
- Hydraulic support of bottom arm for flat bed lathe use
- For use in turbine shafts, windmill shafts, marine crank shafts, etc.
- Spare set of rollers



STEADY REST TYPE.



Standard Features:

- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication

Centering range with chip guard

Cylinder bore.

Max.Load caring capacity

Cylinder support of bottom arm

Min/Max.Pressure for bottom arm cylinder

Hyd. Connection.(BSP)

Operating pressure.(Min/Max)

Max. Clamp force /roller.

Clamp. Press./Roller at 15 bar

Centering accuracy over the whole clamping range.

Repeatability

Max.peripheral roller speed.

Weight Approx.

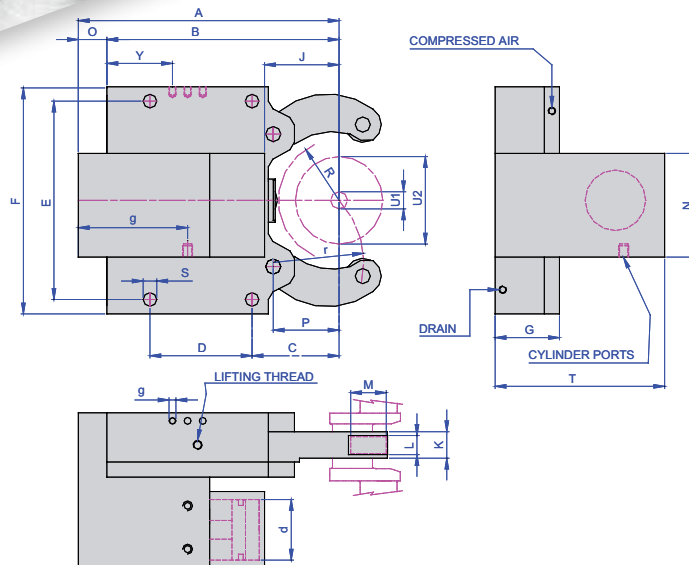
	HL80130	HS1060SAL	KRHS1540
A	2266	1564	1504.5
B	1760	1110	1176.5
C	680	358	462.5
D	310	525	365
E	1440	970	760
F	1500	1110	840
G	306	296	150
I	80	80	40
K	186	186	75
L	116	96	32
M	270	200	110
O	506	454	328
P4	1729	1069	1122
R	805	420	497
s	39	34	27
T	276	276	131
V	620	283	425.5
U1	600	100	150
U2	1050	520	400
d	200	200	100
d1	200	80	80
daN	30000	12000	4000
daN	20000	7000	1500
daN	25/80	20/75	15/40
h	1/2"	1/2"	3/8"
bar	15/80	10/60	08/115
daN	8300	6500	8300
daN	1200	1200	500
mm	0.08	0.06	0.04
mm	0.01	0.01	0.01
m/min	200	200	550
kg	3000	2200	750

TURNING STEADY RESTS

KRHS SERIES Designed for Crankshaft Turning

STANDARD CAPABILITIES

- Made for crankshaft and camshaft turning applications
- Coolant flush through arm options
- Side mounted hydraulic cylinder can be mounted on either side of the body
- Bracket design, build and installation available on request
- Spare set of rollers



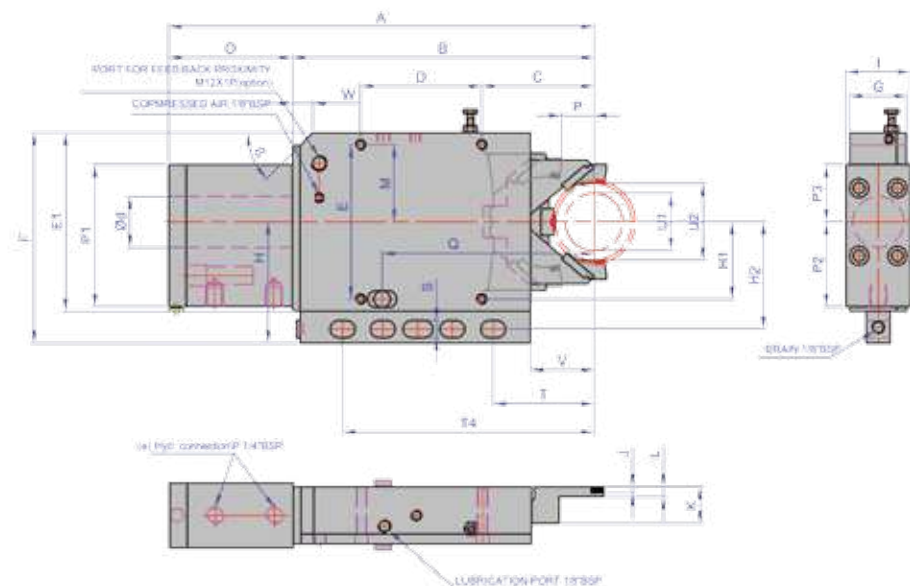
STEADY REST TYPE.		KRSHS 315D	KRSHS 315H	KRSHS 510	KRSHS521
 Standard Features: • Safety Valve • Provision for max. opening feedback • 1 set swarf guard 3-piece • Provision for compressed air connection • Provision for centralized lubrication	A	355	367	334	340
	B	331	363	296	340
	C	138	170	103	133
	D	135	135	135	135
	E	266	266	266	288
	F	300	300	300	315
	G	80	85	82	89
	J	108	135	83	110
	K	22	29	22	28
	L	14	18	14	18
	M	35	47	35	47
	N	123	129	129	139
	O	24	1.6	38	0
	P	108	140	73	110
	r	139.5	174	115	144
	S	M20x2.5 P	18	M20x2.5 P	18
	T	205	210.5	206	224
	Y	113	113	113	133
Clamping Ranges without chip guard	U1	40	70	45	54
	U2	70	150	110	100
Max. axial Opening	U	216	170	160	210
Clamping range with Chip guard	U1	40	70	45	54
	U2	70	150	110	100
	U	216	170	160	210
Eccentric throw (R value)	R	108	85	75	105
Cylinder bore.	d	50	80	50	80
Hyd. Connection. (BSP)	e	¼"	¼"	¼"	¼"
Lubrication ports	g	M8X1	M 8X1	M 8X1	M8X1
Standard Operating Pressure	bar	5-30	5-30	5-30	5-30
Max. Operating pressure	bar	35	35	35	35
Clamping press./roller at 6 bar	daN	39	100	39	100
Max. clamping pressure/roller.	daN	500	520	240	520
Centering accuracy over the whole clamping range.	mm	0.04	0.04	0.04	0.04
Repeatability	mm	0.01	0.01	0.01	0.01
Max. Peripheral speed.	m/mi	500	450	500	450
Weight Approx.	kg.	50	50	40	55

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GRINDING STEADY RESTS

AS SERIES Retractable Arms For Easy Overhead Loading

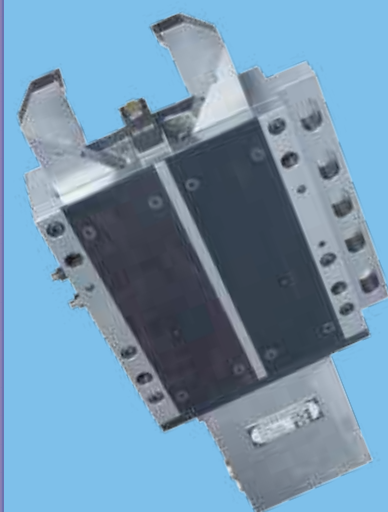


STANDARD CAPABILITIES

- Retractable arms for easy overhead gantry/robot loading
- Suitable for crankshaft, camshaft and cylindrical grinding
- High accuracy with three-point finely adjustable centering capability
- Modular regrindable Carbide or relappable PCD work rest pads
- Works well with attenuating In-Process-Gaging (IPG)

AS SERIES

Steady Rest Type



Standard Features:

- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication

Catering Ranges

Cylinder bore.

Hyd. Connection. (BSP)

Standard operating pressure

Centering accuracy over the whole clamping range

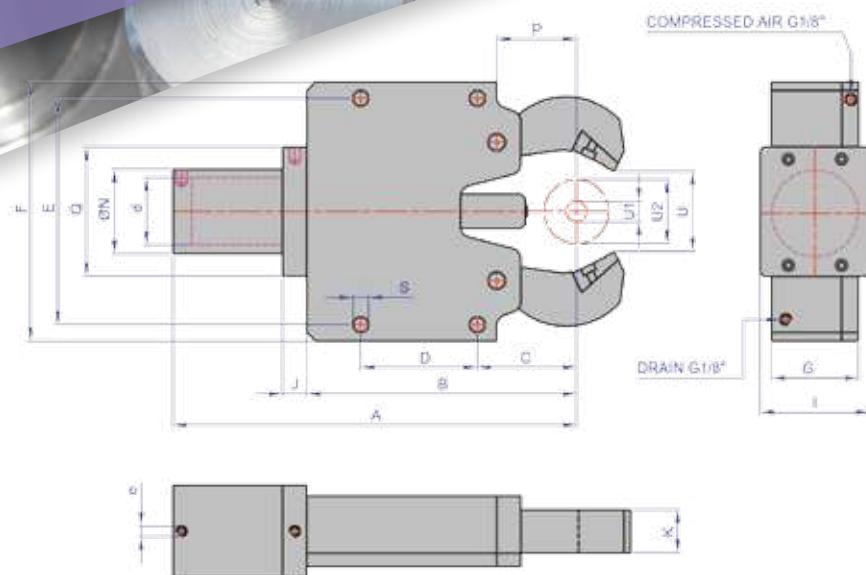
Repeatability

Weight Approx.

	AS125	AS235	AS260	AS460	AS6011	AS5514
A	338.5	333.5	355	333.5	674.5	650
B	236.5	236.5	236.5	236.5	536.5	565
C	88	88	88	88	175	295
D	95	95	95	95	260	135
E	121	121	121	121	254	254
E1	140	140	140	140		
F	165	165	165	165	285	285
G	45	45	45	45	69	65
H	95	95	95	95	142.5	142.5
H1	60.5	60.5	60.5	60.5	—	—
H2	84	84	84	84	—	—
I	51	51	51	51	62	65
J	5	5	5	5	5	5
L	10	8	8	8	12	10
K	19	29	29	29	26	23
M	60.5	60.5	60.5	60.5	—	—
O	124.5	97	97	97	138	85
P	33.5	28.5	25.3	25.3	—	—
P1	111.5	111.5	111.5	111.5	—	—
S	13.5	13.5	13.5	13.5	M16	M18
T	79	79	79	79	—	—
T4	197	197	197	197	—	—
V	49.5	49.5	49.5	49.5	140	185
W	16	16	16	16	68	96.5
X	19	19	19	19	270	255
U1	10	20	20	45	60	55
U2	25	35	60	60	115	142
d	40	40	40	40	50	40
e	1/4"	1/4"	1/4"	1/4"	1/8"	1/4"
bar	4-25	4-25	4-25	4-25	10-35	4-35
mm	0.002	0.002	0.002	0.002	0.01	0.002
mm	0.01	0.01	0.01	0.01	0.002	0.01
kg	35	35	35	35	55	60

GRINDING STEADY RESTS

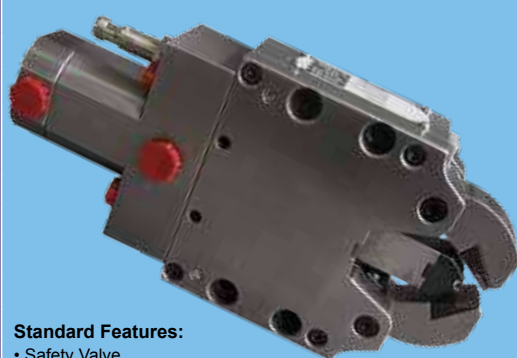
GHS SERIES for General Purpose Grinding Applications



STANDARD CAPABILITIES

- Suitable for all crankshaft, camshaft and cylindrical grinding applications
- High accuracy, with three-point finely adjustable centering capability
- Modular regrindable Carbide or relappable PCD work rest pads
- Works well with attenuating In-Process-Gaging (IPG)

Steady Rest Type



Standard Features:

- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication

Clamping Ranges

Max. axial Opening

Cylinder bore.

Hyd. Connection. (BSP)

Standard Operating Pressure

Max. Operating pressure

Clamp. Press./Pad. at 6 bar

Max. clamp pressure/Pad.

Centering accuracy over the whole clamping range.

Repeatability

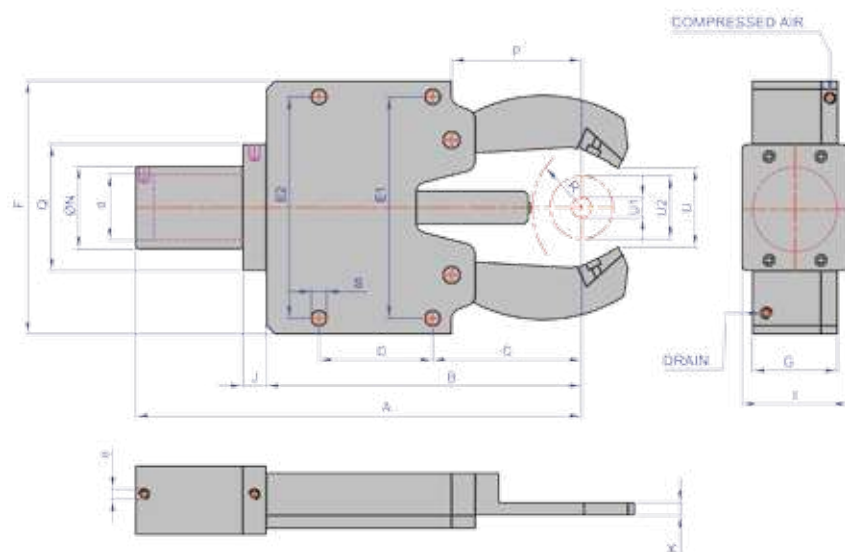
Weight Approx.

		GHS 260E	GHS260H	GHS 1012A	GHS103
A		241.5	221.5	463	241.6
B		146.5	146.5	312	141.5
C		56	56	115	73.5
D		65	65	135	35
E		128	128	262	106
F		146	146	300	123
G		44	44	85	50
I		44	44	85	50
J		23	23	25	35
K		32	20	45	20
N		44	82.5	65	55
P		44	46.5	93.5	44
Q		96	96	110	105
S		M12x1.75P	12	18	14.5/9
U1		20	15	10	12
U2		60	45	120	29
U		63	48	125	30
d		30	30	80	30
e		1/4"	1/4"	1/4"	1/4"
bar		1-10	2-10	2-15	5-18
bar		15	15	20	15
daN		25	25	100	25
daN		100	100	1000	100
mm		0.008	0.005	0.01	0.02
mm		0.003	0.002	0.003	0.003
kg		7	7	42	7

*Other models are available on request.

GRINDING STEADY RESTS

KRGU SERIES with Retractable Body



STANDARD CAPABILITIES

- Retractable body using guide ways
- Suitable for all crankshaft, camshaft and cylindrical grinding applications where high eccentric throw clearance is a requirement
- High accuracy, with three-point finely adjustable centering capability
- Modular regrindable Carbide or relappable PCD work rest pads
- Works well with attenuating In-Process-Gaging (IPG)

Steady Rest Type		KRGHS790	KRGU1517	KRGU4510	KRGHS9585	KRGU502	KRGU580	KRGU1019
 Standard Features: • Safety Valve • Provision for max. opening feedback • 1 set swarf guard 3-piece • Provision for compressed air connection • Provision for centralized lubrication	A	420	518.5	516.5	591	508.5	565.5	502
	B	323	423	408	444	405	462	355.5
	C	190	230	215	254	236	293	162
	D	90	135	135	142	125	125	135
	E1	202	262	262	350	337	234	262
	E2	202	262	262	320	337	234	262
	F	234	290	290	400	363	260	290
	G	55	64	62	64	62	62	64
	I	62	68	68	72	68	68	72
	J	25	33	33	25	33	33	25
	K	10	16	10	21	10	12	24
	N	53	105	119	95	105	105	95
	P	158.5	206.4	191.5	194.5	206.8	268.4	133.4
	Q	96	141	148	130	141	141	130
	S	M12 X 1.75	14	14	18	22/14	20/14	18
Clamping Ranges	U1	70	150	45	95	50	50	100
	U2	90	170	105	185	102	80	190
Max. axial Opening	U	98	181	125	210	109	106.5	226
Eccentric throw (R value)	R	120	175	125	285	59	57	122
Cylinder bore.	d	40	50	50	60	50	50	60
Hyd. Connection. (BSP)	e	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Standard Operating Pressure	bar	1-10	6-30	6-30	12-45	6-30	6-30	12-45
Max. Operating pressure	bar	15	35	35	60	30	35	60
Clamp. Press./Pad at 6 bar	daN	25	180	180	56	39	39	56
Max. clamp pressure/Pad.	daN	60	196	196	425	196	196	425
Centering accuracy over the whole clamping range.	mm	0.004	0.01	0.01	0.01	0.01	0.01	0.01
Repeatability	mm	0.005	0.004	0.004	0.004	0.002	0.004	0.004
Weight Approx.	kg	20	55	50	65	196	196	196

KRGU SERIES

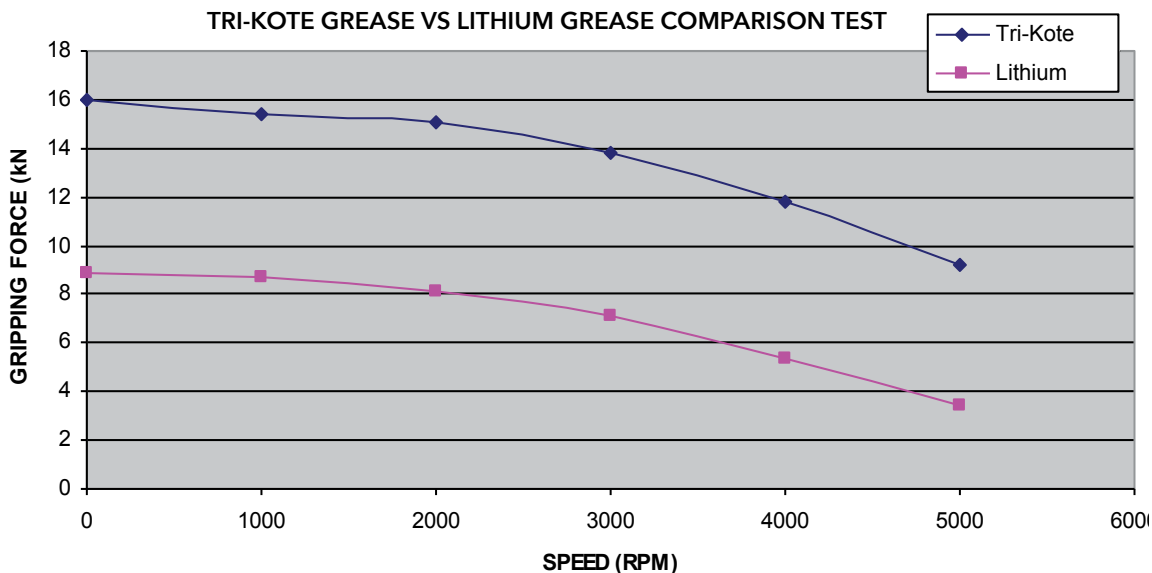
ACCESSORIES TRI-KOTE™

Lubricant Formulated for Kitagawa Chucks

CAPTURES & MEASURES GRIP FORCE DATA



- Improves cycle times and profits
- Increases gripping force by up to 60%
- Formulated for Kitagawa chucks
- Tri-Kote can triple service life
- Optional Kitagawa grease gun

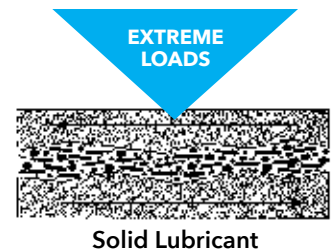
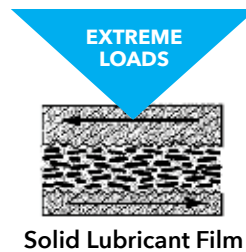
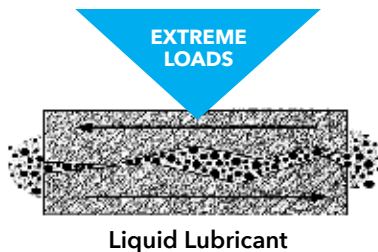
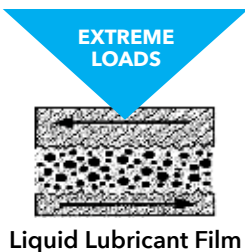


*Tri-Kote Grease
Outperforms
By 200%*

*In this side-by-side grip force
comparison test, Kitagawa
NorthTech's Tri-kote lubricant
and grease demonstrates
superior gripping force over
standard lithium grease.*

HYDRODYNAMIC LUBRICATION

BOUNDARY LUBRICATION



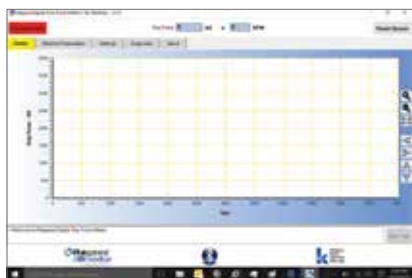
CAPTURES & ANALYZES
GRIP FORCE DATA

The application can output an Excel spreadsheet with information about the test, the data collected and the chart

- Easily perform advanced process and services diagnostics
- PC analyzer software preloaded on USB drive
- Super powerful Bluetooth dongle
- Digital load meter and handheld pendant included
- Test, monitor and troubleshoot gripping force

MTConnect

IIoT Industry 4.0



Home Page is the software's main screen with easy to navigate tabs, which includes Machine Parameters, Settings, Diagnostics and an About section.



Settings Tab displays grip force in newtons, kilograms force and pound force. It also has settings to disable or enable data collection and create and save a sensor log file.



Machine Parameters Tab lets users input information regarding their machine and application, such as number of spindles, gear pages, maximum RPM settings, and G code addresses for dwells.



Diagnostics Tab provides the actual live reading of the software connected to the sensor. This is where communication from the sensor and software takes place.

CUSTOM ENGINEERED WORKHOLDING



IN-HOUSE ENGINEERING SERVICES

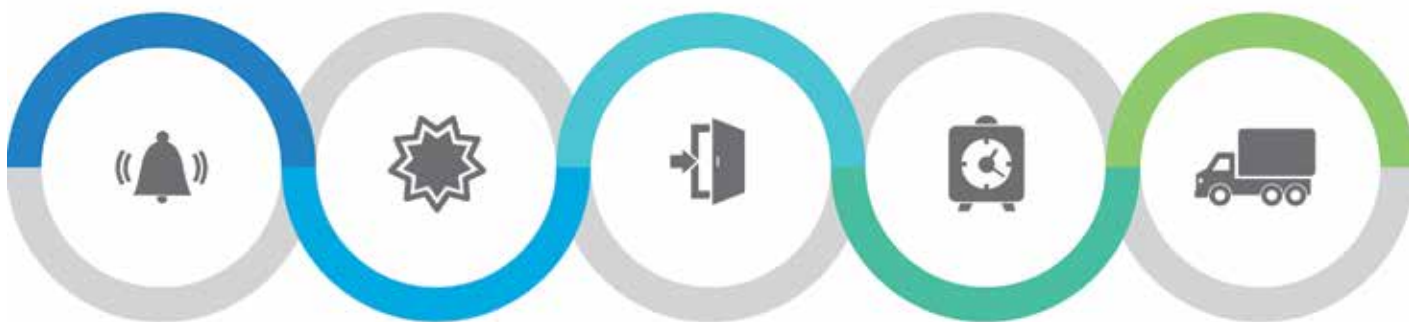
In addition to offering the broadest range of standard and special power chucks, Kitagawa NorthTech also offers in-house, applications engineering, custom engineered Workholding and productivity enhancement programs. Our in-house team consists of trained and experienced mechanical and manufacturing engineers dedicated to solving unique and complex machining and Workholding problems for our customers.

Custom Engineering Services:

- Needs Analysis
- Design and Engineering
- Workholding Manufacturing
- Assembly of Solutions
- Testing and Inspection
- Installation and Training

PRODUCTIVITY TEAM

SOLVING COMPLEX MACHINING PROBLEMS WITH OUR RESPONSIVE PROCESS



Needs Analysis

Our engineers perform a project review to gain an in-depth understanding of the application.

Concept Review

After the review, we provide an engineering concept to solve the workholding challenge.

Design & Engineering

Once the final concept is agreed upon, detailed designs and engineered drawings are completed.

Timely Production

The custom workholding system is then manufactured in-house to provide a timely and efficient solution.

Testing & Delivery

Before leaving our manufacturing facility, all workholding is fully inspected and tested.



PRODUCTIVITY TEAM



Project Management

- Certified Project Management
- Assigns Project Scope After a Study of Your Application
- Monitors All Stages of Production
- Timely Review & Approval of Processes
- Turnkey Management Through Final Delivery of Your Solution

CUSTOM ENGINEERED WORKHOLDING

CUSTOMIZED & UNIQUE

Often customers find an off-the-shelf solution will not serve their needs and they require a fully customized, engineered workholding solution. We have extensive expertise and capabilities in engineering customized turning and prismatic workholding for a wide range of industries and applications.



Notch Plate



Automotive Wheel



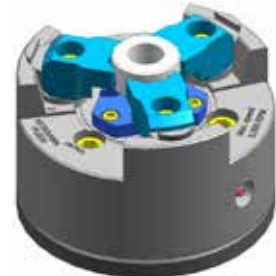
Turbo Housing



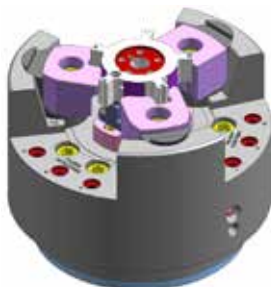
Solenoid Tube



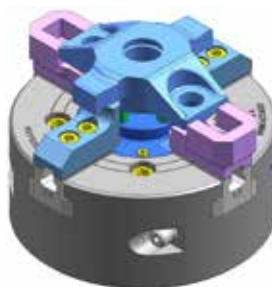
Gearbox Cover



Pinion Gear



Rotor



Gate Valve Component

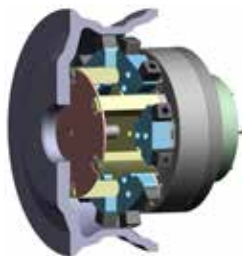


Wheel Hub

TURNING & PRISMATIC



Turbine Ring



Automotive Wheel



Steering Nut



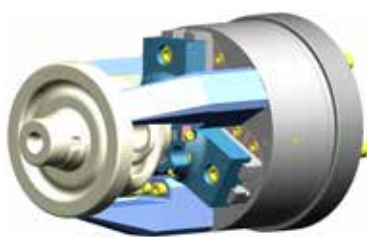
Wheel Turning



Thin Wall Turning



Housing Differential



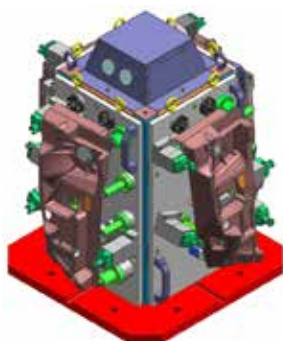
Differential Case



Tombstone for Horizontal Milling



Fixture for Vertical Milling



Automotive Chassis Component



Forging and Casting Turning



Tombstone for 5 Axis Milling

IN-HOUSE MANUFACTURING

IN-HOUSE MANUFACTURING FOR TOTAL QUALITY CONTROL

Our philosophy is to manage and provide as many manufacturing processes in-house to best serve our customers. In pursuit of this endeavor, we offer design, engineering, manufacturing, inspection and testing of engineered workholding and fixtures. We maintain the lowest possible production costs, decrease product development times and maximize quality.

- Manufacturing
- Quality Control
- Inspection Services
- Testing Services
- Project Management
- Engineering & Design Services



INSPECTION & TESTING

MANUFACTURING CAPABILITIES

We utilize state-of-the art manufacturing equipment to produce the highest quality workholding solutions for our customers. Our manufacturing facility serves a dual purpose for both modifying standard products, as well as manufacturing custom engineered workholding and fixtures.



INSPECTION PROCESSES

Every workholding assembly is fully inspected before it proceeds to final testing. We utilize the latest metrology equipment to verify tolerances and measurements. Our inspection equipment includes Coordinate Measuring Machines (CMMs), Optical Comparators and Micrometers and other tools.



FINAL TESTING

No workholding system leaves our facility until it is fully tested by an experienced technician. The assembly undergoes a series of rigorous quality control tests to ensure the workholding meets exact project specifications. All tests are documented and kept on file at Kitagawa for future reference.



REPAIR & REBUILD SERVICES



REPAIR & REBUILD SERVICES

GET YOUR WORKHOLDING EQUIPMENT BACK INTO OPERATION

Explore our comprehensive menu of in-house repair, rebuild and preventative maintenance services. Our services group is dedicated to helping customers get their valuable workholding equipment back up and running in their machining operations.

- Hydraulic Cylinder Repairs
- Rotary Table Repairs
- Chuck Repairs
- Installation Services
- Preventative Maintenance



Before



After

HYDRAULIC CYLINDER REPAIRS

We offer repairs on Kitagawa cylinders as well as any other brands. Our cylinder repair process includes disassembly and comprehensive cleaning and inspection of the cylinder as well as pressure testing and standard functionality tests.



CHUCKS, CYLINDERS & ROTARY TABLES



ROTARY TABLE REPAIRS & SERVICE

Physical inspection of all components and extensive diagnostic testing is performed. We overhaul the spindle and replace internal components such as gears, bushings and bearing switches to ensure the unit is returned to proper functioning order.

CHUCK REPAIRS

Every chuck repair is factory certified using genuine Kitagawa parts. Standard service procedures include complete disassembly of the chuck, extensive cleaning, inspected and testing for functionality and accuracy.



PREVENTATIVE MAINTENANCE

Taking preventative measures to maintain your machine shop workholding equipment will extend its life, uptime and reliability resulting in higher productivity. We offer on-site preventative maintenance training programs to help our customers better maintain their workholding equipment.



North American Locations

USA

MEXICO

CANADA

THE BEST WORKHOLDING



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