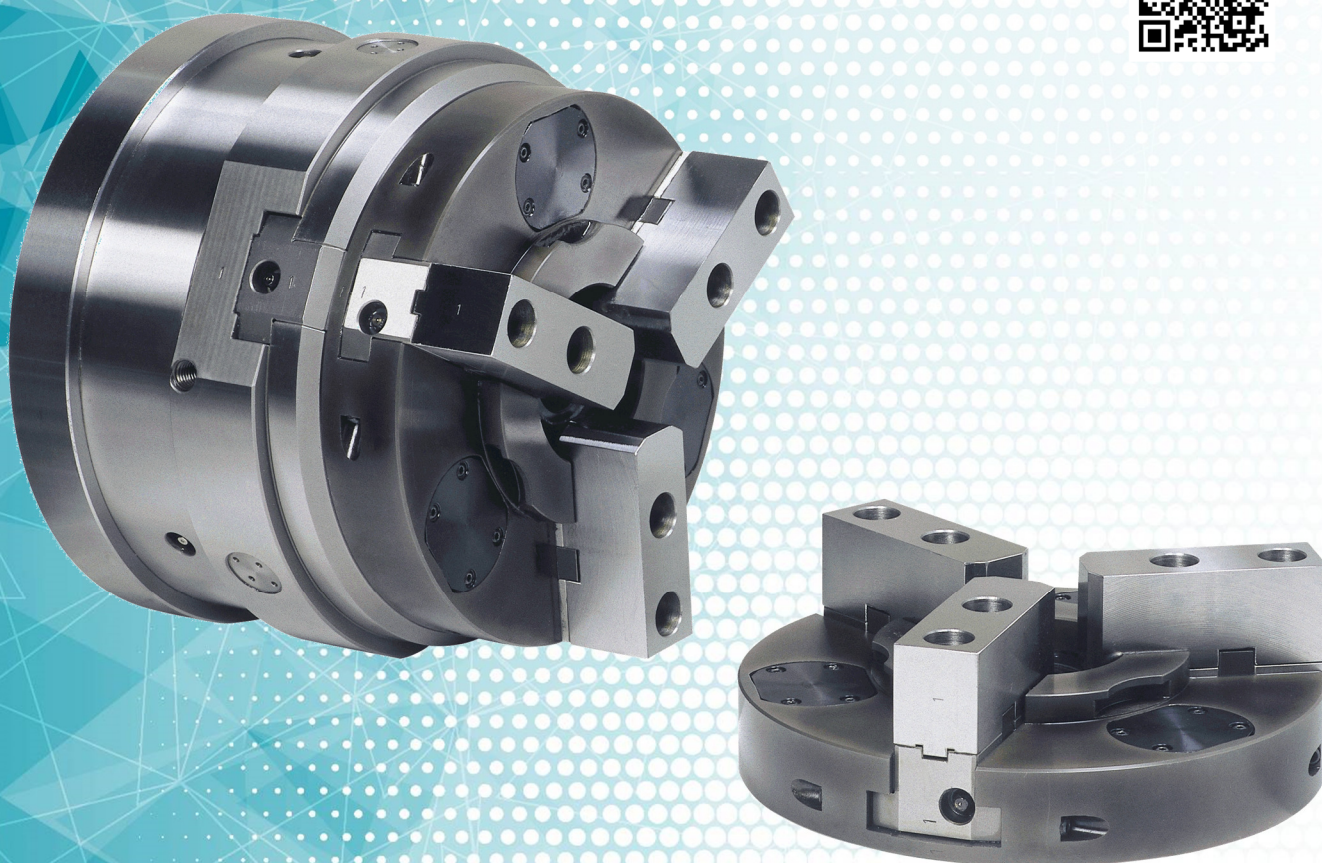


AJC

Automatic Jaw exChange

- 自動段取替え -



松本機械工業株式会社

MATSUMOTO MACHINE CO., LTD.

<https://mmkchuck.com>

〒920-0059 石川県金沢市示野町二80番地 TEL:076-267-3211 FAX:076-268-5279



特長

Features

24時間無人運転！

Unmanned operation 24 hours !

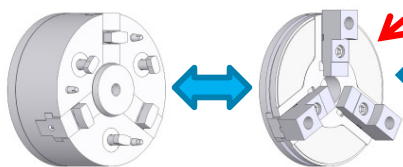
★変種変量生産の自動化

ロボットやローダーで交換プレートごと
自動交換！

Handring by robot or loader

分割構造

Divided structure



3爪を一度に交換！

3 jaws exchange at a time

ワークが変わっても対応できるね！

Even if a work piece changes,
the set-up can be possible automatically.

やったね！
Did it !



いろいろなワークに対応！

Various workpieces

are possible.

円形

Circular shape

角形

Square shape

異形

Variant shape

交換プレート

Exchange plate

自動段取り替え！

Automatic Set-up !

唯一無二！

当社オリジナルデザイン！

The one and only !

MATSUMOTO original design !



チャック構造

Chuck structure

下部マスタージョウ

Lower master jaw

回転方向位置決めピン

Locate pin

交換プレート

Exchange plate

ダストシール

Dust seal

スィベルクランプピン

Swivel clamp pin

メインボディ

Main body

交換プレート芯出テーパー

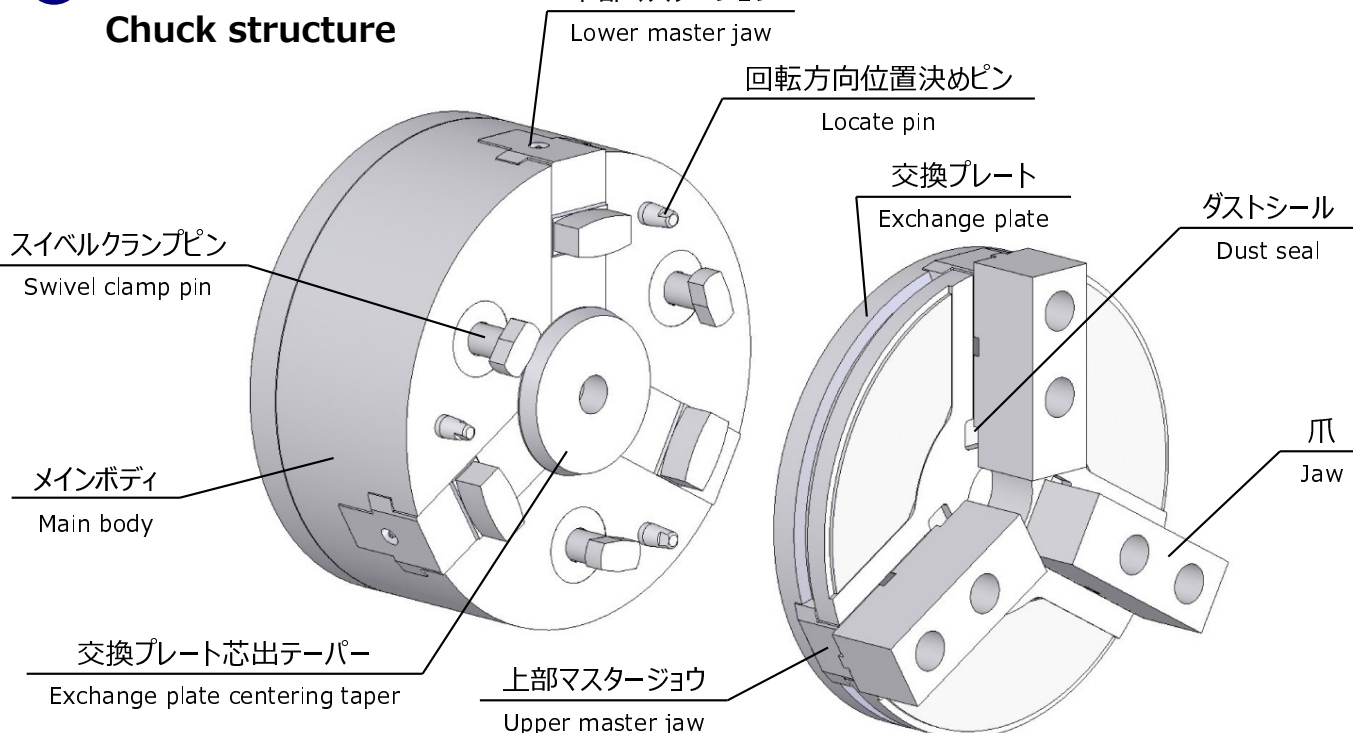
Exchange plate centering taper

上部マスタージョウ

Upper master jaw

爪

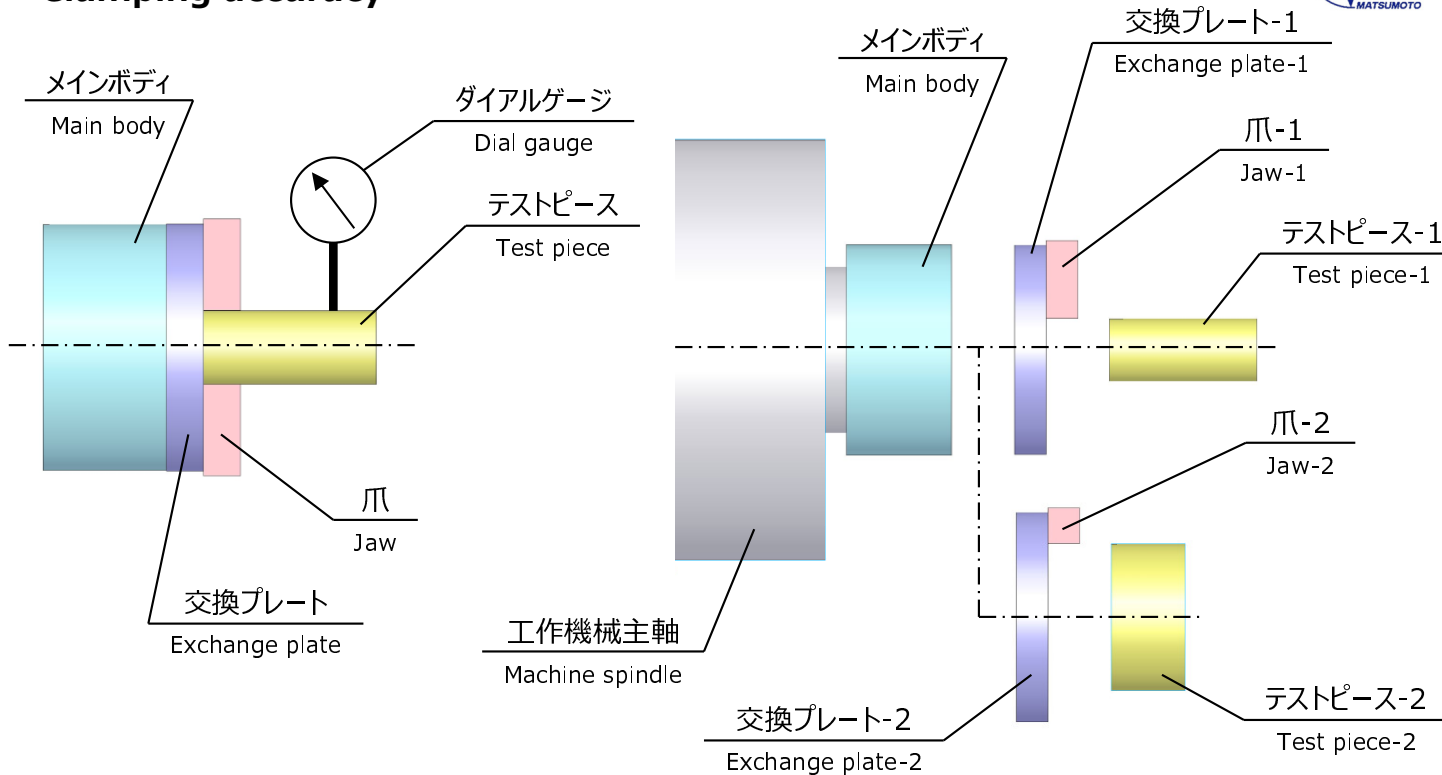
Jaw





把握精度

Clamping accuracy



把握精度は上図内容となります。(Tir: Total indicator reading)

The clamping accuracy is the upper figure contents.

テストピースは精度の良い物でなければなりません。通常、高硬度で研磨仕上げされます。

The test piece should be good accuracy.

It is usually finished by grinding with high hardness.

	8in/10in	12in	15in/18in
メインボディ据付精度 Main body install accuracy	0.010	0.010	0.010
メインボディ単体精度 Main body operation accuracy	0.010	0.015	0.020
交換プレート位置決め精度 Exchange plate positioning accuracy	0.010	0.015	0.020
チャッキングシステム精度 Chucking system accuracy	0.030	0.040	0.050

(mm / Tir)

■ 交換プレートと爪を外す場合の精度 (例: 8in) / Exchange plate and jaw (E.g. 8in)

交換プレートから爪を外す場合、位置決め精度 ≤ 0.010 (mm/Tir)が追加され、チャッキングシステム精度 ≤ 0.040 (mm/Tir)となります。

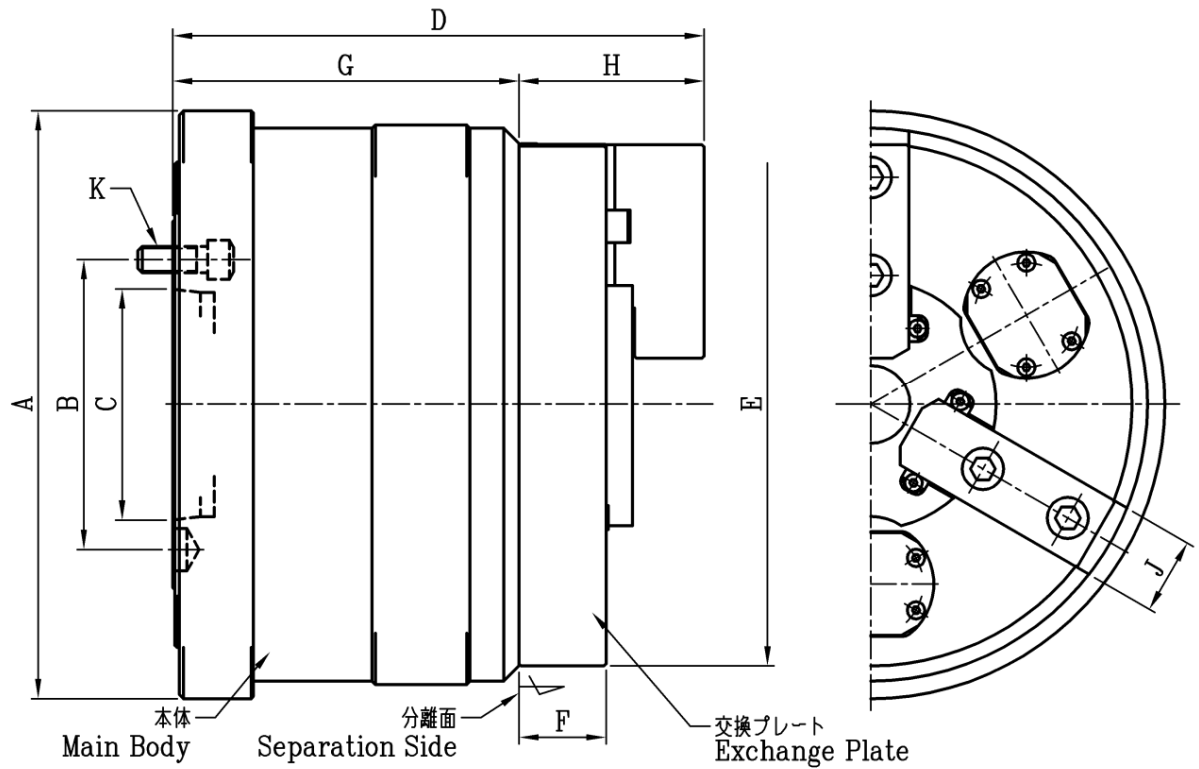
When jaws are removed from exchange plate, positioning accuracy ≤ 0.01 (mm/Tir) is added and chucking system accuracy is ≤ 0.040 (mm/Tir).

■ お客様ワークピースと把握精度 / Customer workpiece and clamping accuracy

お客様のワークピースが、テストピースに比較し、精度が大きく劣る場合、チャック精度が良くとも、把握精度が要求を満足しない場合があります。予め、ご了解宜しくお願い致します。

When the customer workpiece might be no good accuracy in comparison with test piece, clamping accuracy might not satisfy customer demand, even if chuck accuracy is good. Please understand beforehand.

パワーチャック : AJC仕様 **Power chuck : AJC specifications**

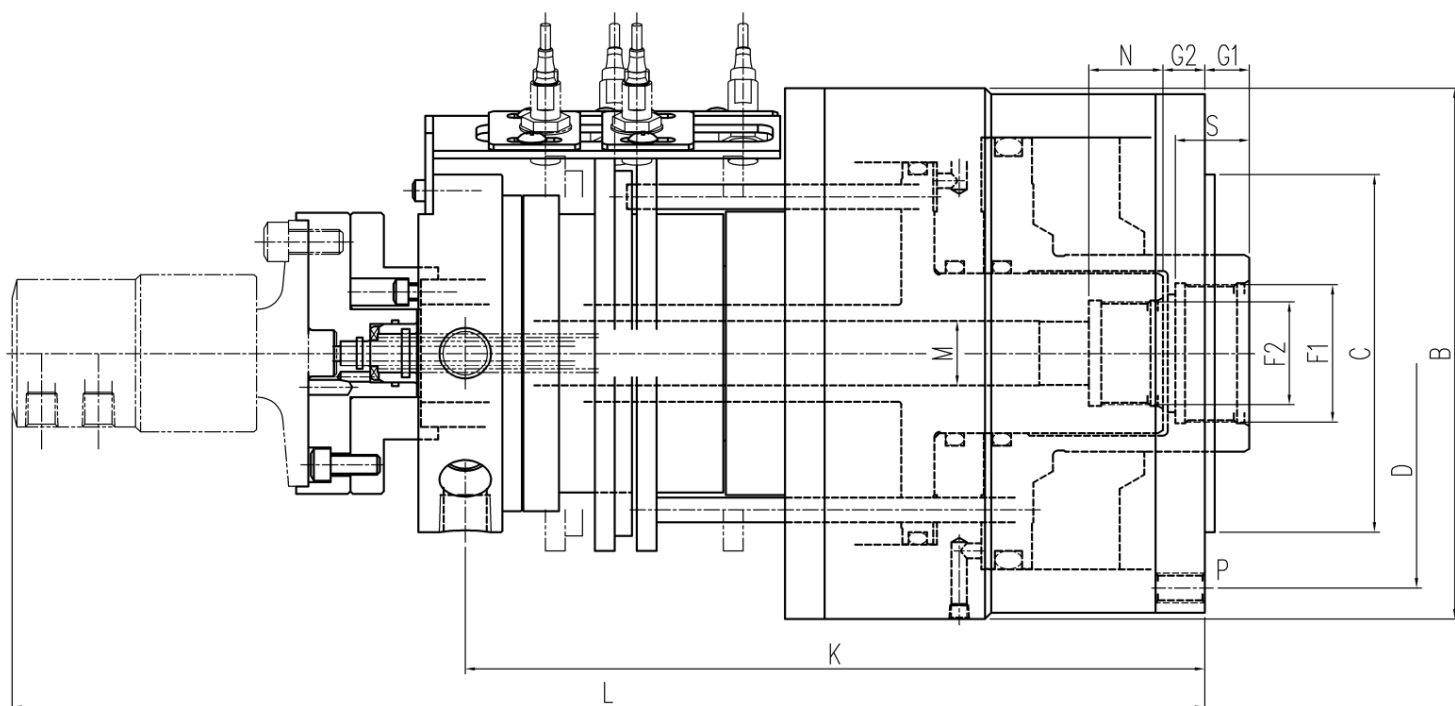


モデル名 Model name	径の呼び Nominal dia.	A	B	C	D	E	F	G	H	J	K	把握径 Clamp dia.	
												Max.	Min.
AJCA6-8-22	8 inch	φ 220	P.C.D.133.4	A2-#6	210.9	φ 200	33	147.5	63.4	30	M12	φ 180	φ 28
AJCA8-10-35	10 inch	φ 257	P.C.D.171.4	A2-#8	244	φ 240	40	159	85	35	M16	φ 216	φ 43
AJCA8-12-46	12 inch	φ 305	P.C.D.171.4	A2-#8	279	φ 290	46	183	96	40	M16	φ 261	φ 40
AJCA8-15-72	15 inch	φ 381	P.C.D.171.4	A2-#8	360	φ 381	60	234	126	60	M16	φ 342	φ 83
AJCA11-18-72	18 inch	φ 457	P.C.D.235	A2-#11	346	φ 457	60	220	126	60	M20	φ 411	φ 126

モデル名 Model name	最高回転数 Maximum speed	爪ストローク Jaw stroke	シフターストローク Sifter stroke	最大把握力 Max. clamping force	許容シリンダー推力 Max. draw bar pull	メインボディ重量 Main body weight	交換プレート重量 Exchange plate weight	総重量 Total weight	GD ²	交換プレートクランプストローク Exchange plate clamp stroke 交換プレートクランプ力 Wxchange plate clamping force	適用シリンダー Applicable cylinder
	RPM	mm	mm	KN	KN	Kg	Kg	Kg	N-m	mm	
AJCA6-8-22	3600	φ 10.7	20	58.8	31.9	32	8	40	10.8	30	RNW155-26-20
AJCA8-10-35	3500	φ 9.0	20	85.3	37.3	55	16	71	21.7	32	RNW155-26-20
AJCA8-12-46	2500	φ 9.0	20	94.1	41.2	100	27	127	53.9	32	RNW155-26-20
AJCA8-15-72	1250	φ 13.3	30	114.7	47.6	181	52	233	165.7	37	RNW195-26-30
AJCA11-18-72	900	φ 13.3	30	147.1	60	230	75	305	312.1	37	RNW195-26-30

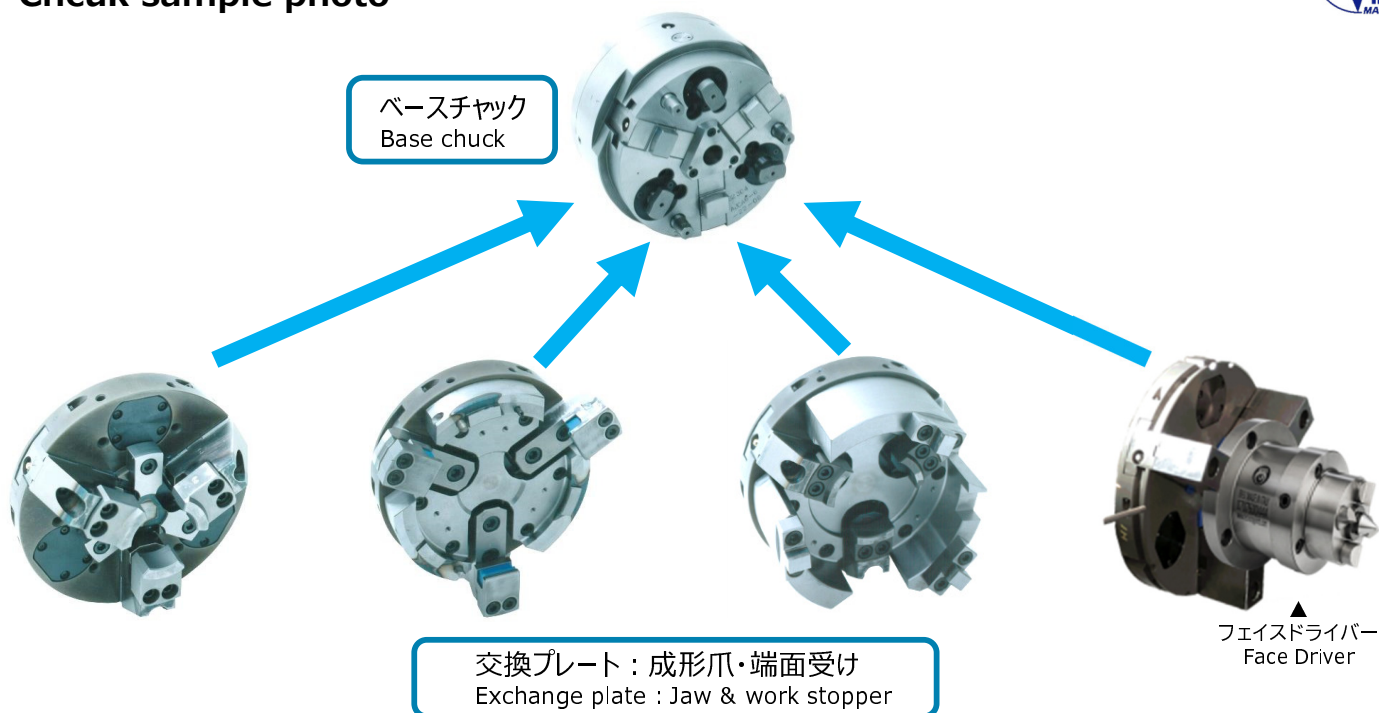
油圧ダブルシリンダ : RNW仕様

Hydraulic double cylinder: RNW specifications

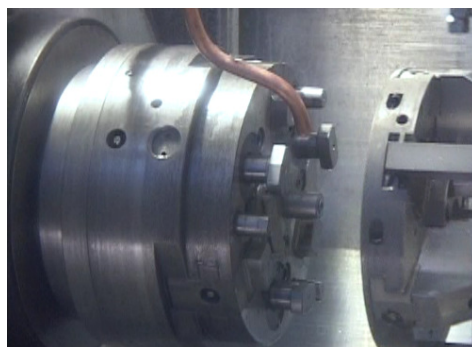
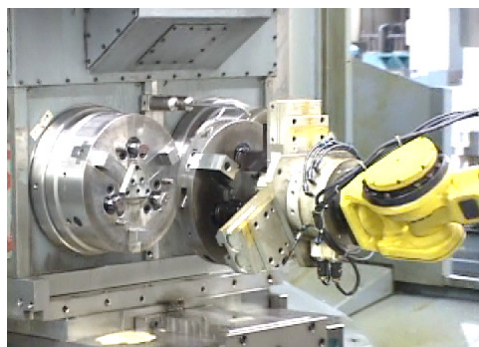


モデル名 Model name	B	C	D	F1	F2	G1 Max. / Min.	G2 Max. / Min.	K	L	M	N	P	S
RNW155-20-02	φ 215	145h7	P.C.D. 190	M56 × P1. 5	M42 × P1. 5	53/18	37/17	300	483	φ 26	25	6- M12xD20	30
RNW195-30-01	φ 235	145h7	P.C.D. 210	M70 × P1. 5	M55 × P1. 5	68/28	37/7	330	495	φ 26	30	6- M12xD24	30

モデル名 Model name	爪 Jaw			交換プレートクランプ Exchange plate clamp			貫通穴径 Thru-hole diameter	最高回転数 Max. speed	最大媒体圧力 Max. pressure		GD ²		重量 Weight
	ピストン面積 Piston area		ストローク Piston stroke	ピストン面積 Piston area		ストローク Piston stroke							
	押側 Push	引側 Pull		押側 Push	引側 Pull								
	cm ²	cm ²		mm	cm ²								
RNW155-20-02	176.1	155.5	20	207.3	190.3	35	φ 26	3600	2.94	30	6.08	0.62	40
RNW195-30-01	227.8	207.2	30	250.2	226.7	40	φ 26	3600	2.94	30	13.8	1.4	51



ワークピース / Workpiece	モーターケース、アルミダイキャスト / Motor case, Aluminum diecast
取付機械 / Install machine	横型複合旋盤 / Combined horizontal lathe machine
工程 / Process	旋削, ミーリング, 穴加工 / Turning, Milling, Drilling
チャック / Chuck	AJC-12 交換プレート & バランスウェイト & 回転方向位置決め / Exchange plate & Balance weight & Rotation positioning



ワークピース / Workpiece	工作機械部品 / Parts for machine tool
取付機械 / Install machine	横型マシニングセンタ / Horizontal machining center
工程 / Process	ミーリング, 穴加工 / Milling, Drilling
チャック / Chuck	AJC-12 ワークピース & 交換プレート着脱, 双方ロボット / Workpiece & exchange plate handling by robot

コストを抑えてフレキシブルに対応 Cost-cutting and flexibility



24時間自動運転

自動段取り替え

24 hours

Automatic operation

Automatic exchange

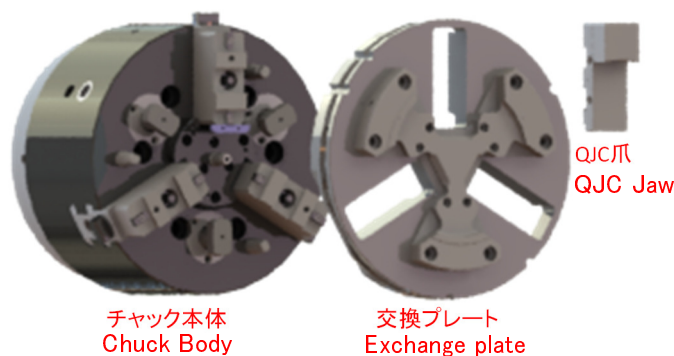
Wハンドローダーチャック

Loder Chuck with double hands

ワーク
Work piece

交換プレート
Exchange plate

AJC chuck

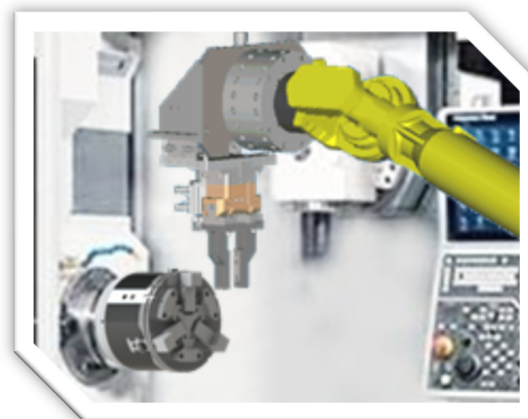


ROBO-AJC

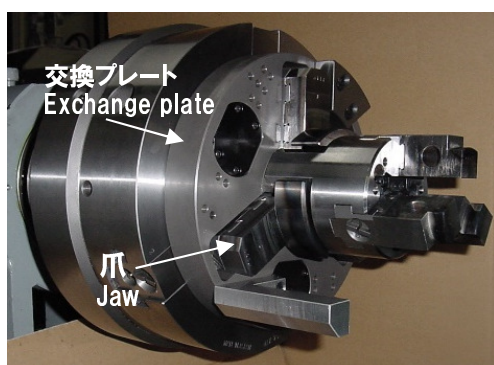
ROBO-QJCとAJCを合体させました
Combine ROBO-QJC and AJC

◆ ROBO-QJC・・・爪のみ交換可能
Only the Jaw can be exchanged

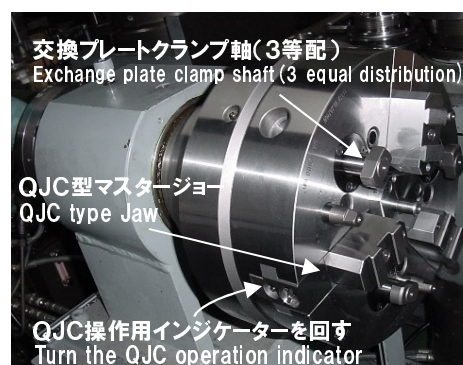
◆ AJC・・・爪と交換プレート一体型
Jaw and Exchange plate integrated type



爪と交換プレートをそれぞれ個別で交換する
Replace the Jaw and Exchange plate individually



交換プレート装着状態
Exchange plate installed



交換プレート取り外した状態
Exchange plate removed

- ◆ 爪と交換プレートが個別に交換できることにより治具が兼用の時は爪のみ交換でOK
Since the Jaw and Exchange plate can be individually replaced,
only the Jaw needs to be replaced when the jig is dual-purpose.

- ◆ 総数的に低減できるので省段取り化
Reduction in setup and saving time

- ◆ ワーク製作の順序で、爪のみ交換で段取り替えが可能
The jaws can be changed in accordance with the workpiece manufacturing sequence



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<https://mmkchuck.com>



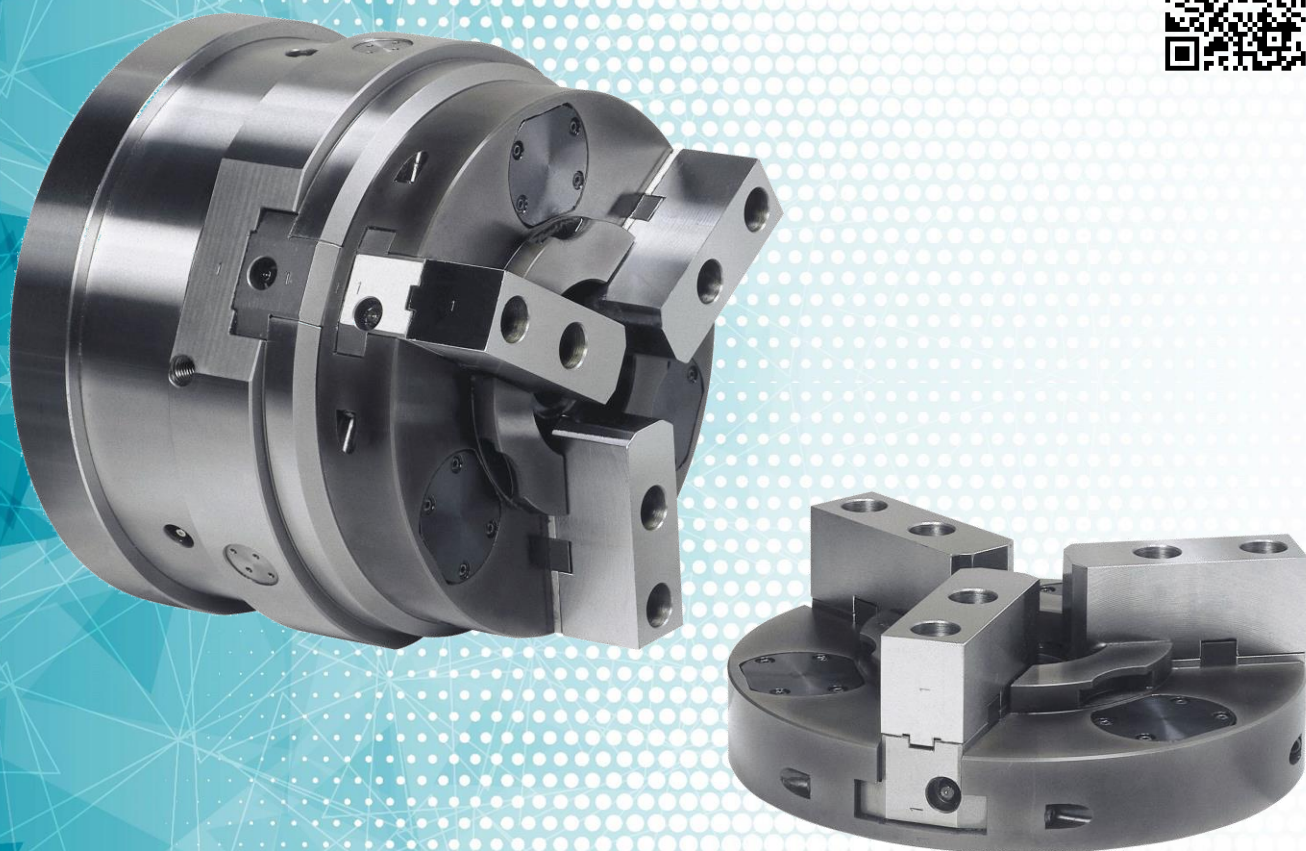
対象: 本社工場

対象: 本社工場・東京・名古屋営業所

Chuck・J-13・2405・500・Printed in Japan

AJC

Automatic Jaw Change



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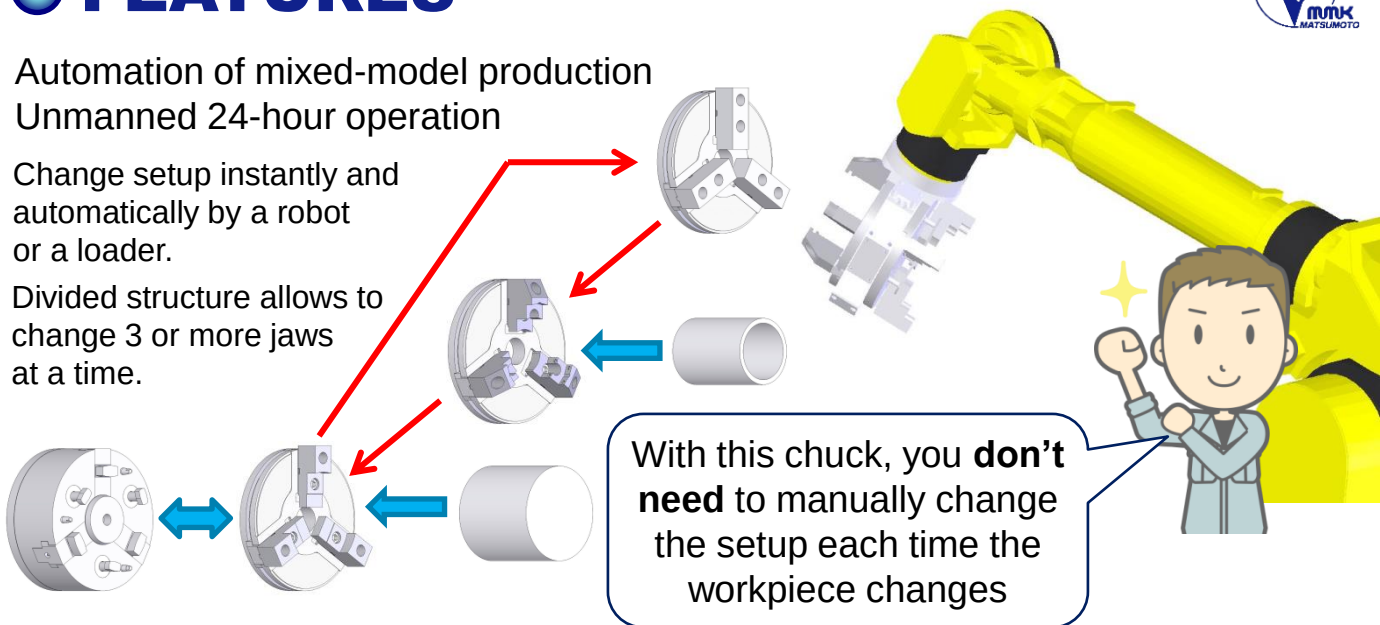
● FEATURES



Automation of mixed-model production
Unmanned 24-hour operation

Change setup instantly and automatically by a robot or a loader.

Divided structure allows to change 3 or more jaws at a time.



VARIOUS WORKPIECES ARE POSSIBLE ON THE SAME MACHINE

CIRCULAR
SHAPE

SQUARE
SHAPE

VARIANT OR UNUSUAL
SHAPE



● CHUCK STRUCTURE

Lower Master Jaw

Locating Pin

Exchange Plate

Dust Seal

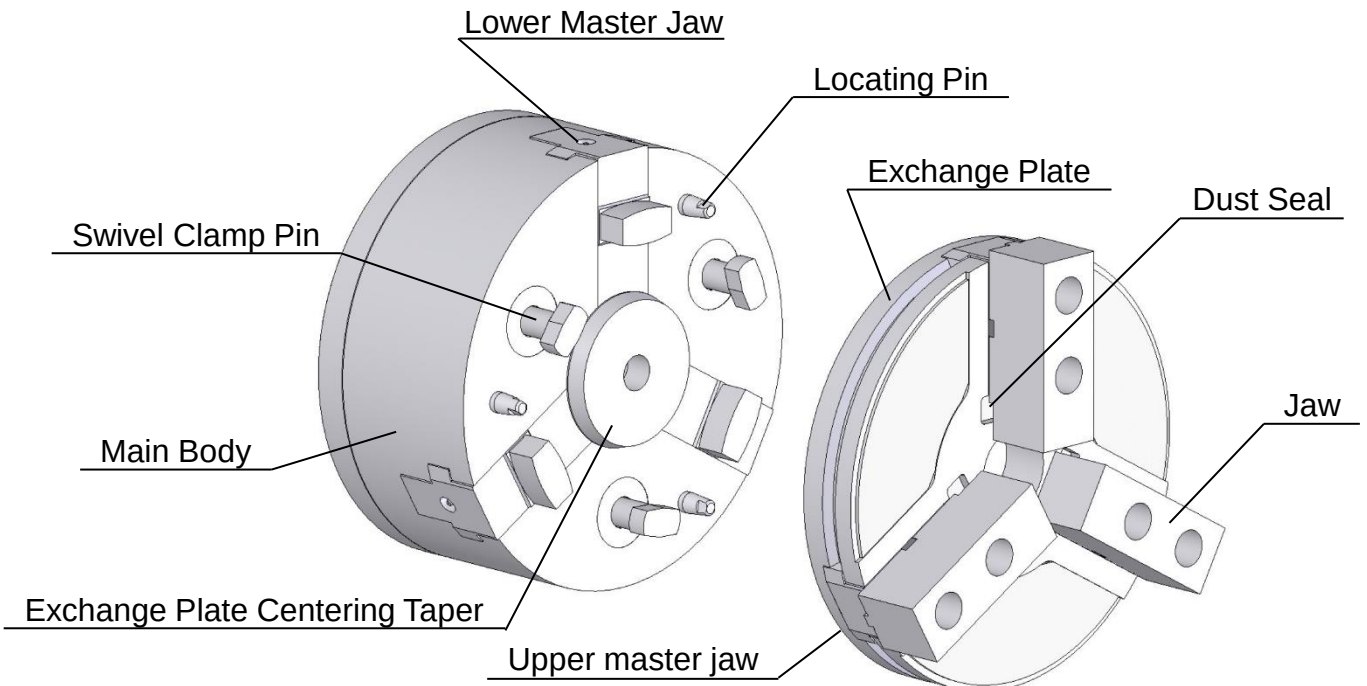
Swivel Clamp Pin

Main Body

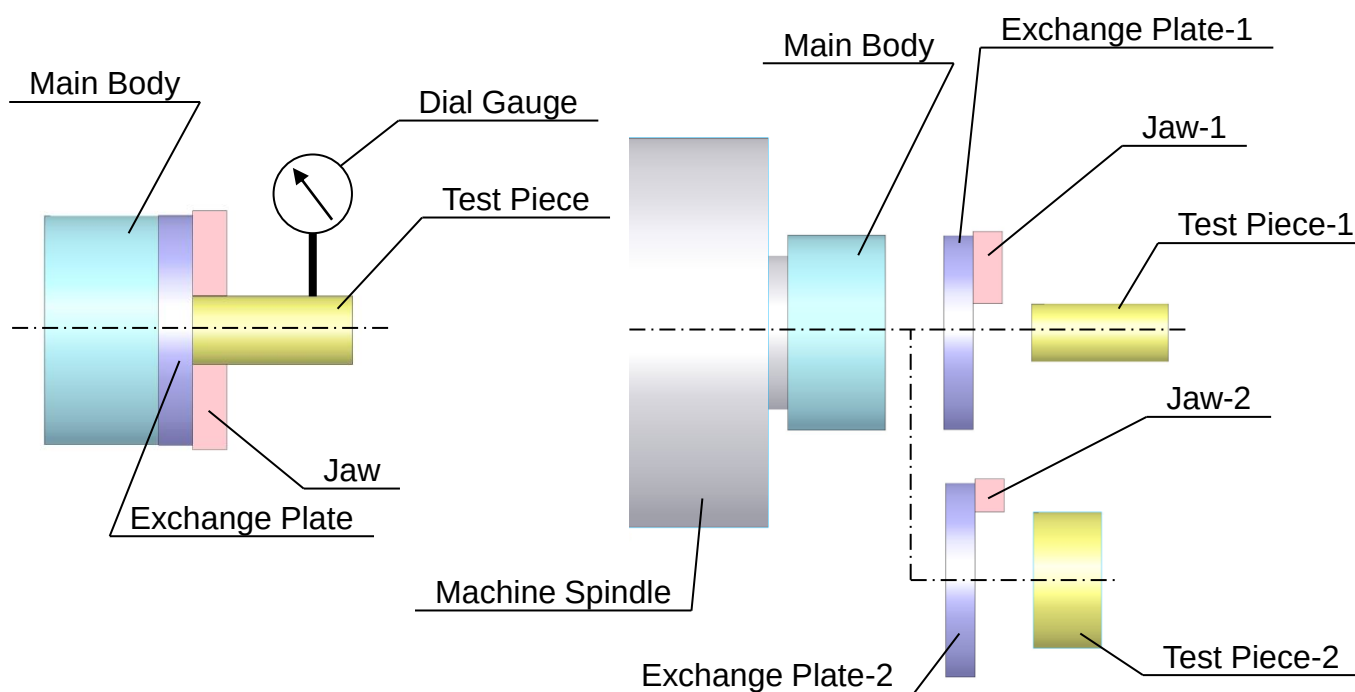
Jaw

Exchange Plate Centering Taper

Upper master jaw



CLAMPING ACCURACY



(TIR: Total Indicator Reading)

The clamping accuracy is shown in the figure above.

The test piece should be of good accuracy.

It is usually finished by grinding with a high-hardness abrasive.

	8in/10in	12in	15in/18in
Main body install accuracy	0.010	0.010	0.010
Main body operation accuracy	0.010	0.015	0.020
Exchange plate positioning accuracy	0.010	0.015	0.020
Chucking system accuracy	0.030	0.040	0.050

(mm / TIR)

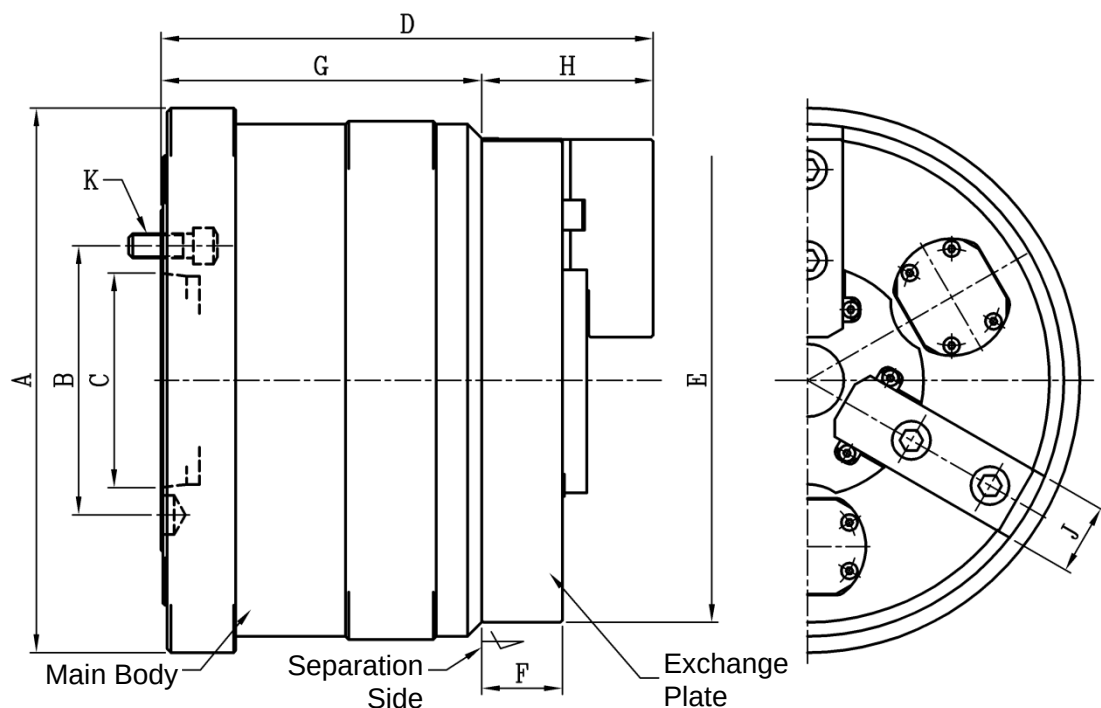
■ REMOVING JAWS FROM EXCHANGE PLATE (E.G. 8IN)

When the jaws are removed from the exchange plate, a positioning accuracy of ≤ 0.01 (mm/Tir) is added, resulting in the chucking system accuracy of ≤ 0.040 (mm/Tir).

■ CUSTOMER'S WORKPIECE AND CLAMPING ACCURACY

Please take into consideration that if the accuracy of your workpiece is notably lower compared to a test piece, the clamping accuracy may not meet your requirements, even if the accuracy of the chuck itself is good.

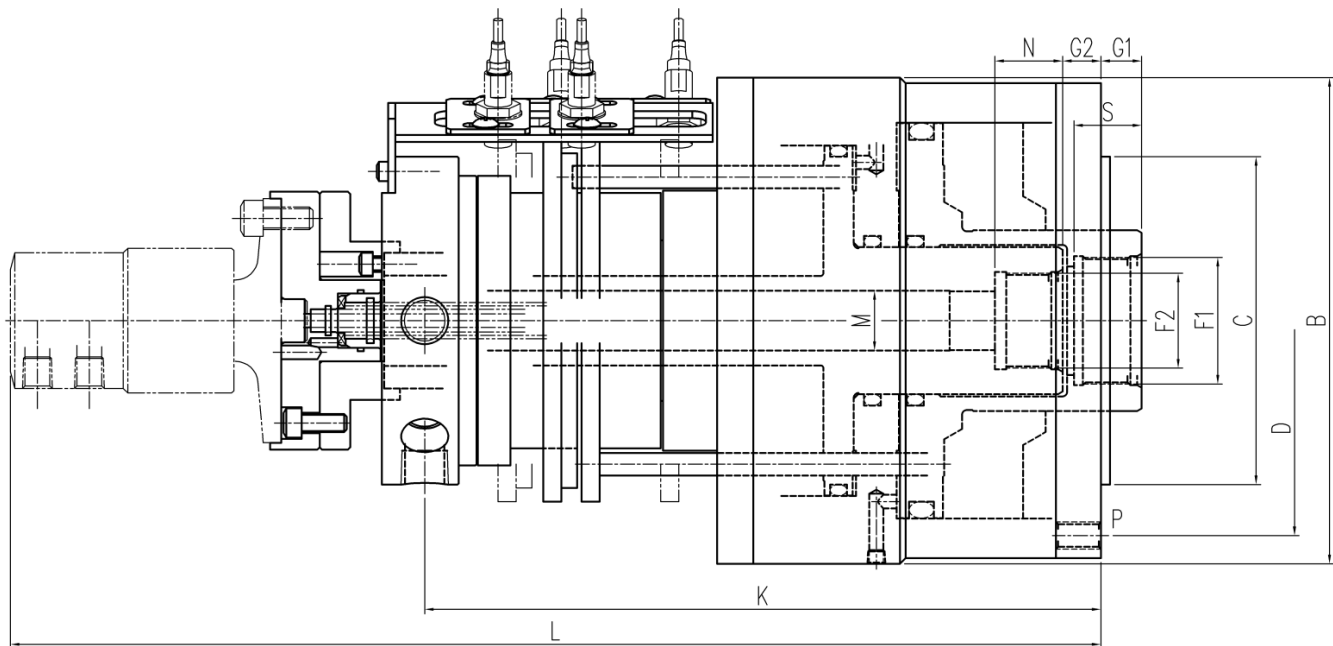
● POWER CHUCK: AJC SPECIFICATIONS



Model name	Nominal dia.	A	B	C	D	E	F	G	H	J	K	Clamp dia.	
												Max.	Min.
AJCA6-8-22	8 inch	φ220	P.C.D.133.4	A2-#6	210.9	φ200	33	147.5	63.4	30	M12	φ180	φ28
AJCA8-10-35	10 inch	φ257	P.C.D.171.4	A2-#8	244	φ240	40	159	85	35	M16	φ216	φ43
AJCA8-12-46	12 inch	φ305	P.C.D.171.4	A2-#8	279	φ290	46	183	96	40	M16	φ261	φ40
AJCA8-15-72	15 inch	φ381	P.C.D.171.4	A2-#8	360	φ381	60	234	126	60	M16	φ342	φ83
AJCA11-18-72	18 inch	φ457	P.C.D.235	A2-#11	346	φ457	60	220	126	60	M20	φ411	φ126

Model name	Max. speed	Jaw stroke	Sifter stroke	Max. clamping force	Max. draw bar pull	Main body weight	Exchange plate weight	Total weight	GD ²	Exchange plate clamp stroke	Exchange plate clamping force	Applicable cylinder
	RPM	mm	mm	KN	KN	Kg	Kg	Kg	N-m	mm	KN	
AJCA6-8-22	3600	φ10.7	20	58.8	31.9	32	8	40	10.8	30	29.4	RNW155-26-20
AJCA8-10-35	3500	φ9.0	20	85.3	37.3	55	16	71	21.7	32	42.6	RNW155-26-20
AJCA8-12-46	2500	φ9.0	20	94.1	41.2	100	27	127	53.9	32	42.6	RNW155-26-20
AJCA8-15-72	1250	φ13.3	30	114.7	47.6	181	52	233	165.7	37	53	RNW195-26-30
AJCA11-18-72	900	φ13.3	30	147.1	60	230	75	305	312.1	37	54.9	RNW195-26-30

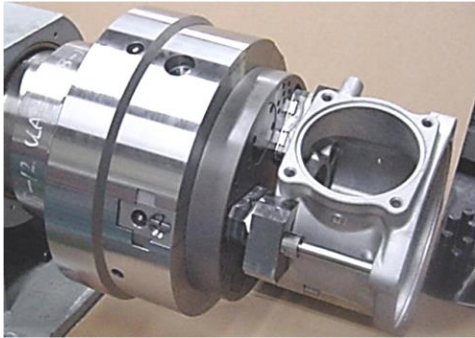
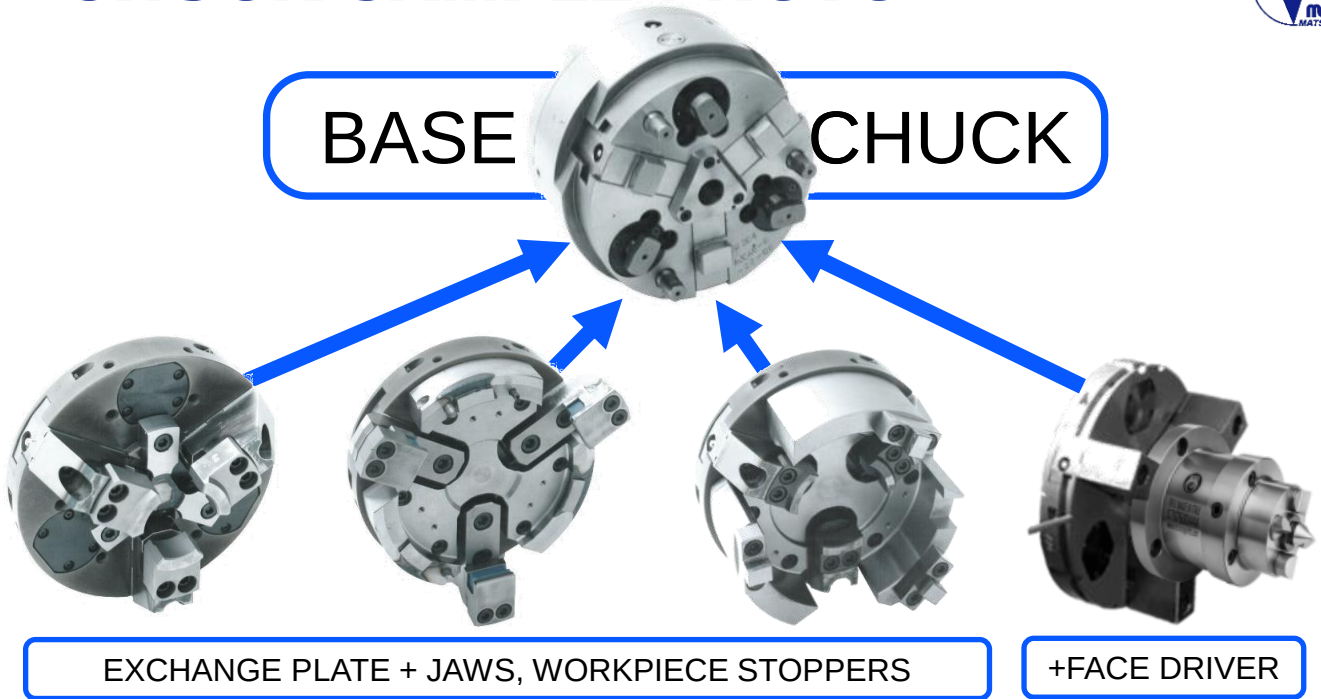
HYDRAULIC DOUBLE CYLINDER: RNW SPECIFICATIONS



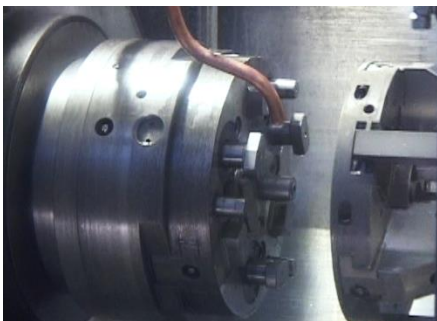
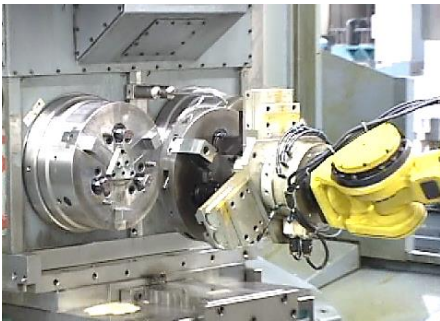
Model name	B	C	D	F1	F2	G1	G2	K	L	M	N	P	S
						Max. / Min.	Max. / Min.						
RNW155-20-02	φ215	145h7	P.C.D. 190	M56 × P1.5	M42 × P1.5	53/18	37/17	300	483	φ26	25	6-M12xD20	30
RNW195-30-01	φ235	145h7	P.C.D. 210	M70 × P1.5	M55 × P1.5	68/28	37/7	330	495	φ26	30	6-M12xD24	30

Model name	Jaw			Exchange plate clamp			Thru-hole diameter	Max. speed	Max. pressure		GD ²		Weight
	Piston area		Piston stroke	Piston area		Piston stroke							
	Push	Pull		Push	Pull								
	cm ²	cm ²		mm	cm ²								
RNW155-20-02	176.1	155.5	20	207.3	190.3	35	φ26	3600	2.94	30	6.08	0.62	40
RNW195-30-01	227.8	207.2	30	250.2	226.7	40	φ26	3600	2.94	30	13.8	1.4	51

CHUCK SAMPLE PHOTO



Workpiece	Motor case, Aluminum Die-Cast
Install machine	Combined horizontal lathe machine
Process	Turning, Milling, Drilling
Chuck	AJC-12 Exchange plate, balance weight, rotation positioning



YouTube



Workpiece	Parts for machine tool
Install machine	Horizontal machining center
Process	Milling, Drilling
Chuck	AJC-12 A single robot can change both the workpieces and the exchange plates.

COST-CUTTING AND FLEXIBILITY



HQJC JAW



CHUCK BODY

EXCHANGE
PLATE

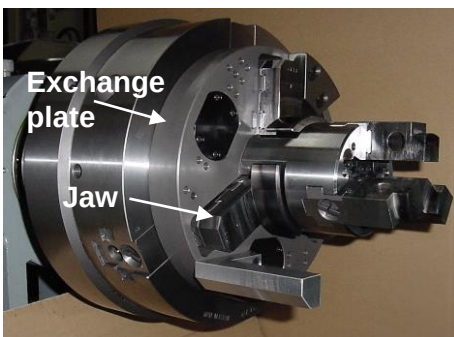
WE HAVE COMBINED HQJC AND AJC
FOR EVEN BETTER FLEXIBILITY

ROBO-AJC EXCHANGE PLATE

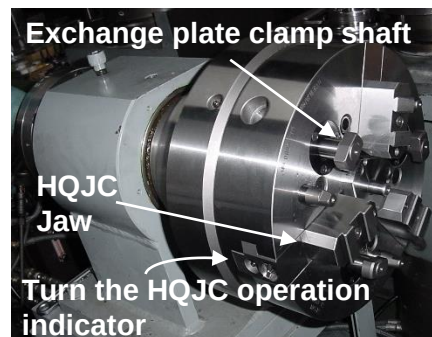
This special exchange plate allows to fully utilize the advantages of AJC exchange plates while also allowing to change only top jaws occasionally.



REPLACE JAWS AND EXCHANGE PLATES INDIVIDUALLY



Exchange plate installed



Exchange plate removed

- ✓ Ideal for situations where, among workpieces requiring intricate setups with jigs and other accessories, there is a need to occasionally change only the top jaws.
- ✓ Results in cost-reduction, allowing to save money on purchasing an additional exchange plate unless it is necessary.
- ✓ Can be used in tandem with standard AJC exchange plates, both manually and automatically.



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対象: 本社工場

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