
DYNAMO,INC.

It is now 40 years since we started producing die casting cores and components.
Today we supply 8000 different components with a monthly volume of 30,000 parts.
Our customer base is over 1000 companies worldwide and growing.

DYNAMO,INC.

Company Profile

Main Office Dynamo, Inc.

Capital ／ 20 million yen
Established ／ 1990
Representative ／ CEO Masatoshi Mark Tsujimura
Address ／ Kyouei-douri 7-107 Seto-City Aichi-Ken Japan
Tel +81-561-88-1076 Fax +81-561-88-1077
URL http://www.dynamo.co.jp
Number of Employees ／ 120 - We provide ourselves to be an equal opportunity employer
E-mail ／ info@dynamo.co.jp

Sales ／ 3.2 billion yen / year
Member organizations ／ NADCA
Japan Die casting Association

Japan Second Factory

Kyouei-douri 7-110 Seto-City
Aichi-Ken 489-0809 Japan

CEO ／ Masatoshi Mark Tsujimura

Japan Third Factory

2799 Nakashidami Moriyama-ku
Nagoya-City Aichi-Ken 463-0002
Japan, C/O Nihon Seiki Co., Ltd.

CEO ／ Masatoshi Mark Tsujimura

USA Office Dynamo USA

Tel +1-847-691-0076
dynamo@comcast.net

North America and Europe Sales Manager
Joseph（Joe）McGrath

DYNAMO Vietnam Co.,LTD

Lot C3.2, Road D1, Dong An 2
industry park,
Thu Dau Mot City, Binh Duong, Viet Nam
Tel +84-650-351-5277 Fax +84-650-351-5286

CEO ／ TRUONG TAN PHAT
Number of Employees ／ 80

DYNAMO Mexico

Tel +1-708-261-6492
dynamo.jd@comcast.net

North America Sales Engineer
Jose De la Rosa

DYNAMO Trade Co.,Ltd Dalian China

Tel +81-90-7309-5354
yano-t2@dynamo.co.jp

CEO ／ Toshiharu Yano

DYNAMO Vietnam Co.,LTD Second Factory

Lot C3.2, Road D1, Dong An 2
industry park,
Thu Dau Mot City, Binh Duong, Viet Nam
Tel +84-650-351-5277 Fax +84-650-351-5286

CEO ／ TRUONG TAN PHAT

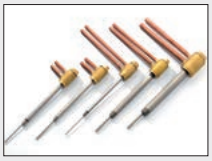
DYNAMO Vietnam Co.,LTD Mold Division

consulting ／ Nihon Seiki Co., Ltd.

Lot C3.2, Road D1, Dong An 2
industry park,
Thu Dau Mot City, Binh Duong, Viet Nam
Tel +84-650-351-5277 Fax +84-650-351-5286

CEO ／ TRUONG TAN PHAT

CONTENTS

10	**LINER** **COOLING TUBES**	 
11	**DYNACOOL** **ST・OT・RT・RS**	   
12	**HARD LOCK SETSCREW**	
13	**STREAM**	

CORE PIN MATERIAL

DIECAST CAVITY PARTS

Feature

Custom made CORE PIN

We have over 30 -year- history to produce custom-made core pins. Always we pick up customers offer and keep world standard. We take safe, cost value, and delivery every time.

Custom limit

- **ϕ300 × L1000mm at maximum core pin length**
- **For Water hole: ϕ1, ϕ1.8, ϕ2, ϕ2.5, ϕ3, ϕ3.5 ～**
  (Basically, L600mm at the longest. Please contact us.)

DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

CORE PIN MATERIALS

List of steel classes

Trade name	Designation	Recommended HRC	Features	Stock
SKD61 (DAC)	A	42 ~ 50	General material for die-casting die.	◎
SKD61	H45	43 ~ 47	2 types of SKD61. Each with different hardness.	◎
SKD61	H48	46 ~ 50		◎
DAC-MAGIC	D-Magic	46 ~ 50	High temperature strength, toughness.	◎
DAC-S	D-S	46 ~ 50	ESR Version for H13. Higher heat check resistance.	○
DIEVAR	DIEVAR	42 ~ 50	High-toughness, High temperature strength High heat resistance.	○
DHA-THERMO	THERMO	42 ~ 50	High thermal conductivity. High degree of hardness.	○
DHA-WORLD	WORLD	42 ~ 50	SKD61	○
FDAC	FDAC	38 ~ 42	Prehardened, Free-cutting Steel for holders etc.	◎
HPM38	HPM38	50 ~ 53	Prehardened, improved SUS420J2, Corrosion resistant.	○
HPM7	HPM7	29 ~ 33	Plastic type steed for prehardening & SCM base.	◎
S45C	S45C	20 ~ 25	Standard material for die-casting die machinism Parts.	◎

※Other materials available on request.

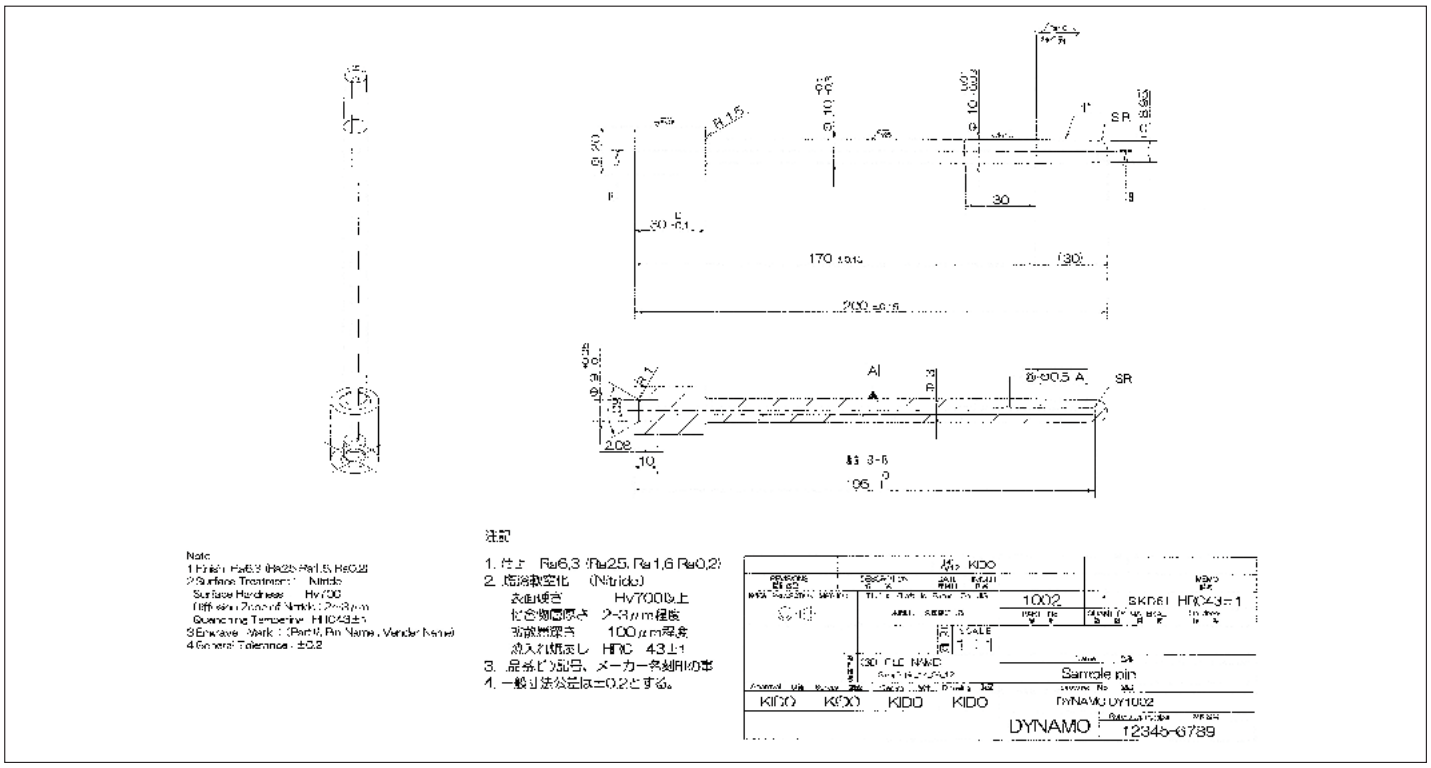
SKH51 (YXM1)	SKH51	55 ~ 60	For High speed tool steel, general cutting tool.	◎
YXR33	YXR33	52 ~ 58	High-toughness. High erosion resistance.	◎
YAG	YAG	45 ~ 53	Very strong steel, Very high-toughness. Can be hardened by aging treatment. (480 ~ 520℃)	○
SKD11 (SLD)	SKD11	58 ~ 62	For cold working tool steel or press type tool.	○

※DAC、DAC-MAGIC、DAC-S、FDAC、HPM38、HPM7、YXM1、YXR33、YAG、SLD Presented by Hitachi.
※Anvilloy, D2M, Be Cu and other materials available on request.

Copper	CU	—	Thermal conductivity : 389.773 (W/m・K)	◎
Copper 25	BeCU25	—	Thermal conductivity : 108.968 ~ 129.924 (W/m・K)	△
Copper 50	BeCU50	—	Thermal conductivity : 209.556 ~ 238.894 (W/m・K)	△
Brass (BSBM2)	CB3604D	—	Thermal conductivity : 121.542 (W/m・K)	○
SUS303	SUS303	—	Thermal conductivity : 16.345 (W/m・K)	○
SUS304	SUS304	—	Thermal conductivity : 16.345 (W/m・K)	○
ANVILOY	ANVILOY	—	Sintering cemented alloy・Excellent erosion resistance.	○

◎ : Fully equipped　○ : Partly equipped　△ : Back-order

DRAWING



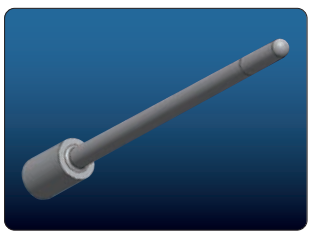
Feature

Specialized and accurate drawings presented by Dynamo !

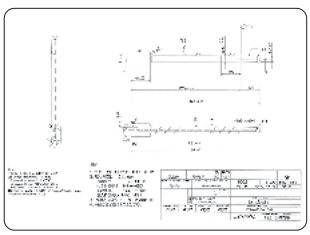
Now, the 3D designs are very popular in the world. At the same time, we have been improving our skills and knowledge for more than 40 Yrs. It will cut your cost and make your work easier. Let us help you work smoothly and smarter with our drawing technology. From drawing to manufacturing, we are always supportive of you with our advanced technology.

Production Process

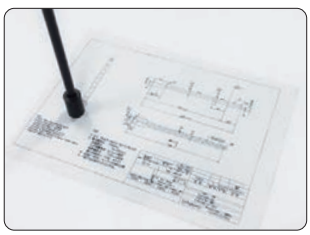
Designing 3D



Drawing 2D



Product and Inspection



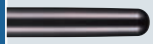
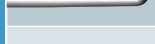
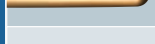
Customers

DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

List of coating

	Sample	Coating	Color	Feature
Nitriding		Tufftride	Black	Nitrogen on surface will help weal and abrasion resistance, fatigue crack resistance.
		Ion nitride	Gray	Nitrogen on surface will help weal and abrasion resistance, fatigue crack resistance.
		KOSUMO V1	Light gray	Tuned gas nitride for die-casting die.
		KOSUMO V2	Light gray	Arti-heatcrack by controling compound layer, diffusion zone depth, nitrided hardness control.
		Sursulf	Gray	Nitrogen on surface will help weal, oxidation, heat resistance.
		Kanuc	Brown~Black	For better fatigue crack resistance and abrasion resistance.
		Kanuc OX	Black	For fatigue crack resistance, sficking resistance, parting powder affinity.
Nitride PVD Coating		Dynamo S coat	Purple	Nitriding on base and covered PVD.
		Dynamo X coat	Purlish-red	Based on triple layer nitriding, it has a high adhesion to the base material.
		CMTi	Gold	Hybrid of nitriding and PVD.
PVD Coating		Dynamo coat	Purple gray	Coatig thickness(7-10μm). For adrasion resistance, heat resistance.
		CrN	No color	For sliding, heat resistance, corrosion resistance.
		TiN	Gold	For abrasion resistance and sliding.
		TiALN	Purple	For abrasion resistance and heat resistance.
		ALCRONA	Blue gray	For anti-burning on heat generated, heat resistance
		FUTURA NANO	Purple gray	Laminated nano layer. For anti-burning on less parting powder parts.
		LUMENA	Purple gray	Thick film, a laminated nano layer.Laminated nano layer. For anti-burning on less parting powder parts. For erosion, crack.
		LELLYON CL	No color	Cr typed-multilayer coating. This make items improve erosion resistance.
CVD Coating		TD	Metallic gray	Adhesion, Anti-sticking resistance by heat CVD.
		Ti3	Gold	Adhesion by heat CVD, and 3 special layered film.
PCVD Coating		P-CVD(TiN)	Gold	Avoid frow ersion, burning, wearabillity, heat checking crack.
		P-CVD(TiALN)	Purple	Avoid frow ersion, burning, wearabillity, heat checking crack.
		P-CVD(TiALSiCNO)	Purple	For parting powder free, or less good for erosion and burning.

※Please contact us about the other coating.

DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

COOLING CORE PIN

DIECAST CAVITY PARTS

Feature

Dynamo's Stable Production

Our strong point is the cooling processing. We have more than 14 gun drills in our factory, and over 20,000 pieces of cooling core pins are produced per month. Every item is certified that the quality and concentricity is within 0.3mm T.I.R.

Concentricity Tester

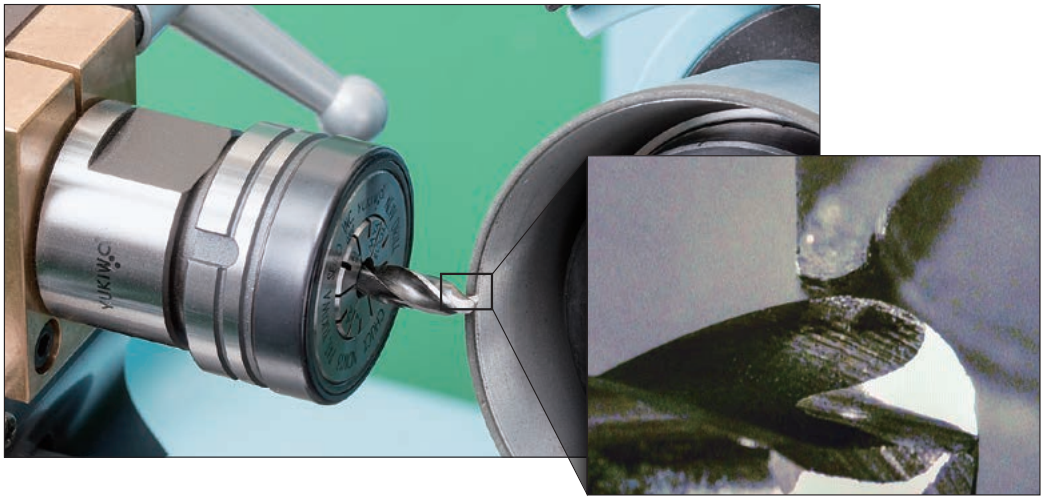
DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

COOLING CORE PIN

DIECAST CAVITY PARTS



Grind for SR drill

We also use an Endoscope to check the finish inside the gun drilled hole.
The minimum size is ϕ2mm.

Keep Quality

The level of Quality for hole is higher than before.
Now the hole of die cast core pin is very important.
We use gun drill machine which uses only SR-drill.
We of course have special grinding machine for gun drill. This is necessary for accurate regrind.
Now we can produce a ϕ3×L=600mm hole with good finish and concentricity and good finish by SR-drill.

EJECTOR SLEEVE

DIECAST CAVITY PARTS

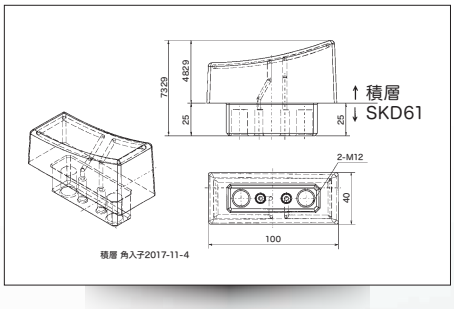
Record of many years

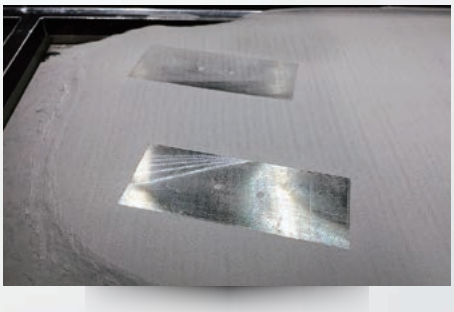
We have long history to produce ejector pin and Sleeve. Some time, the length of sleeve is over L=600mm, and some time the diameter of hole has a tol. of 0.01mm. The quantity of sleeves produced is 4000 pcs/month at present.

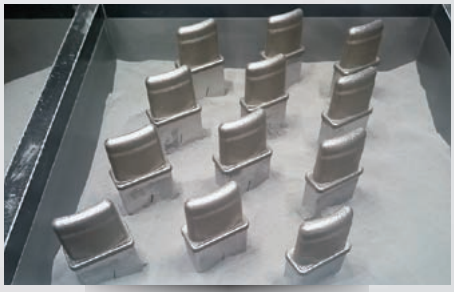
3D PRINTED INSERT

DIECAST CAVITY PARTS

The Key to an INNOVATIVE FUTURE for us

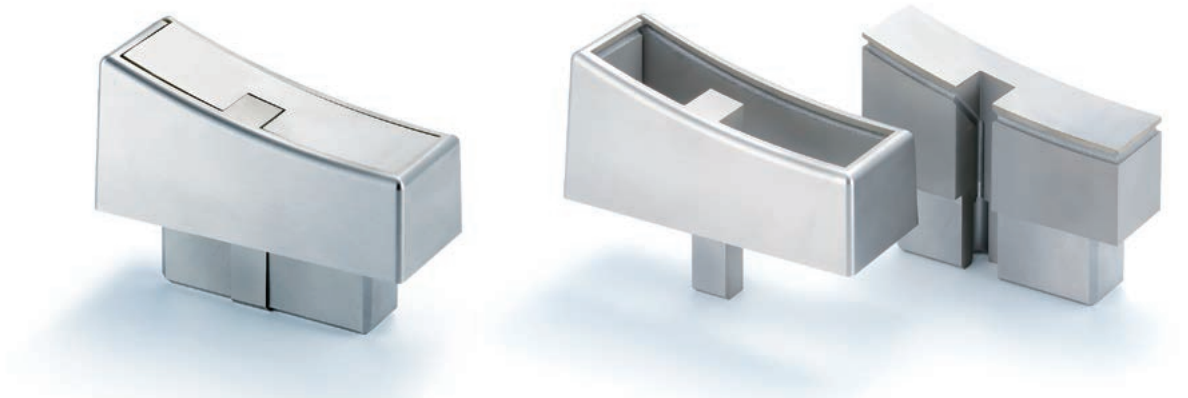






DYNAMO,INC.

3D PRINTED INSERT



All your concepts become reality

Comprehensive support for your water line demands including 3D model designing.

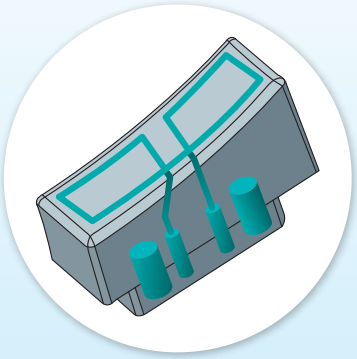
It is an optimal construction method to use 3D printed products instead of the conventional ones for the parts where you want to reduce cycle times, decrease shrink porosity, decrease leaks and increase production rates.
Flexible designed 3D printed water line and its layout will increase your product accuracy and solve problems such as erosion, soldering etc..
We have a variety options for your needs. Please contact us!

Material MAS-1

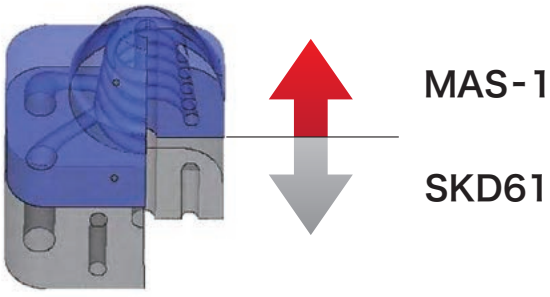
Forming Laser lamination layer

MAS-1 is well documented
in Die casting industry as a welding material.

To reduce manufacturing cost, we can offer HV type.
※ The base is SKD61, the lamination layer is MAS-1.



A concept of a Hybrid insert



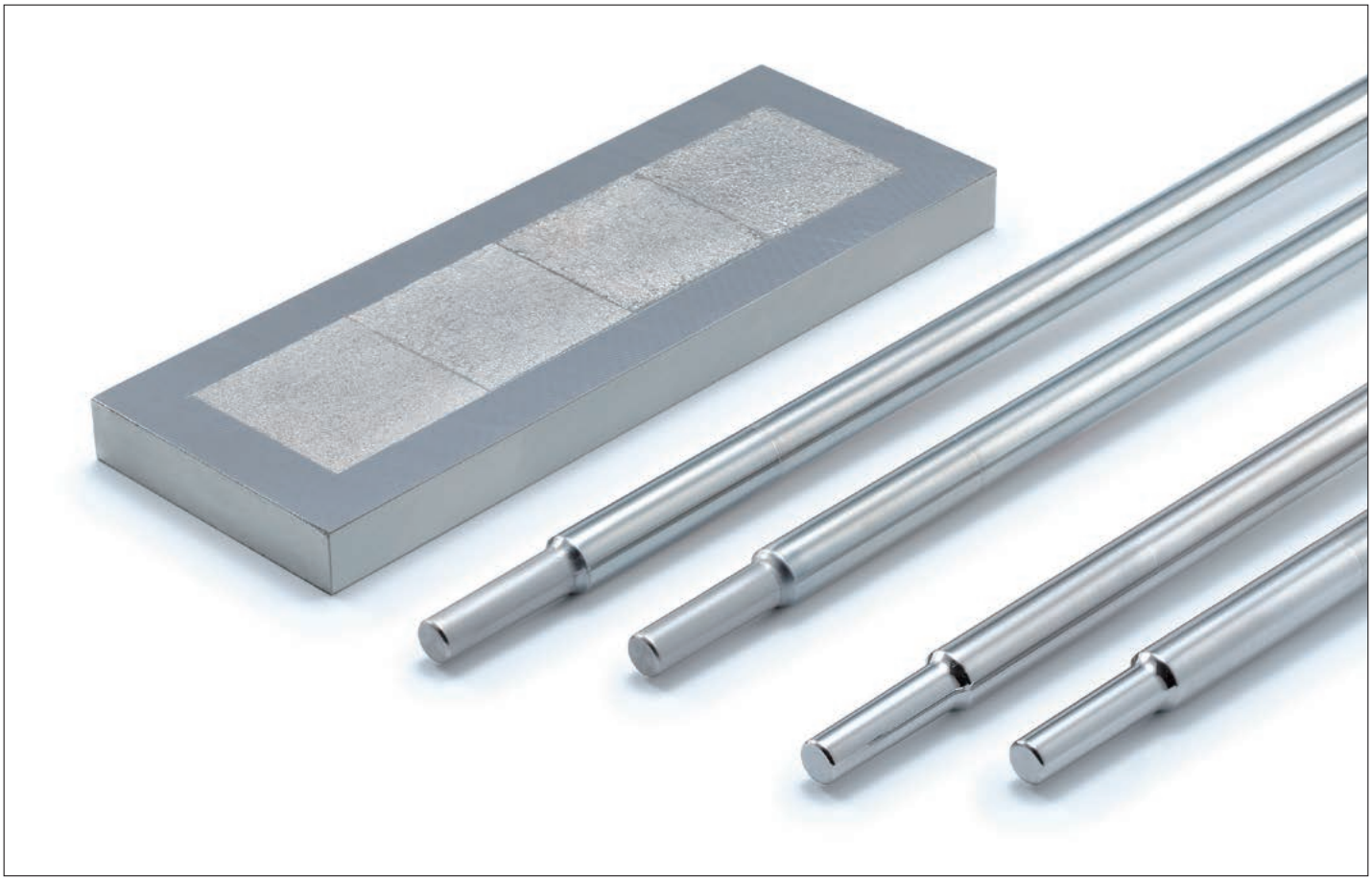
DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

CORE PIN OPTION

DIECAST CAVITY PARTS



Feature

Fine Polish/Draw Polish/Spark Depo by DYNAMO, INC.

Most of the die-casting die products have a lot of requirements for surface finish. Our 3 types of surface finish should meet all of your needs. To certify the products quality, we guarantee the surface quality by inspection with electronic surface roughness gauge.

DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

CORE PIN OPTION

DIECAST CAVITY PARTS

standard	JIS2001
round	R
filter	GAUSS
λc	0.8 mm
λs	2.5 μm
interval number	5
pre/back-running	ON
waveform deletion	OFF
results judgment	average value

Ra	0.076 μm
Rz	0.538 μm
RzJIS	0.420 μm

Draw Polish

We finish it with polishing of the pin by machine.
It will be made uniform draw polish.
It helps pins last longer, and eject part smoothly.

standard	JIS2001
round	R
filter	GAUSS
λc	0.8 mm
λs	2.5 μm
arbitrary length	3.00 mm
pre/back-running	ON
waveform deletion	OFF
results judgment	average value

Ra	0.030 μm
Rz	0.224 μm
RzJIS	0.163 μm

Fine Polish

No tool marks, and mirror like finish.
It will help eject part smoothly and help reduce any soldering issues.

Spark Depo

Any troubles such as abrasion resistance, heat resistance, corrosion resistance and oxidation resistance will be reduced with spark depo coating.

Electron Microscope

Our specialized polishing makes die-casting products better quality.

BORE CORE

DIECAST CAVITY PARTS

Cylinder Block

Now the monthly quantity of Bore Core is up to 100 pcs. The last year record was up to 1000 pcs per year. The Bore Core is very important item for us.
We produce highest quality Bore Core in the world.
We produce Bore Core for Cylinder Block.
The Bore Core is main insert for cylinder block die casting.
The design of Bore Core are really diffcult to produce.
Sometimes the length is over 500mm and the hole also deep.
Sometimes the surfare finish like a mirror.
But we every time clear a lots kinds of request.

DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

BORE CORE

BORE CORE Line

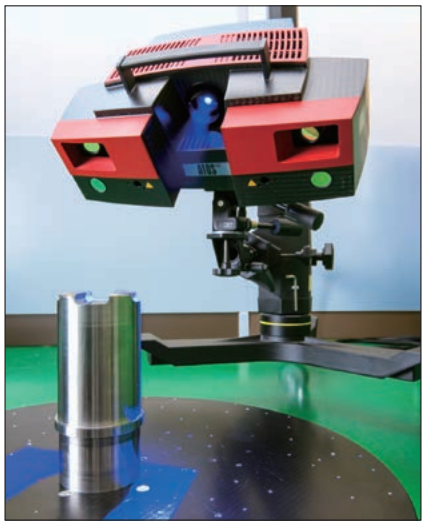
Production line for Bore Core. We have really wide production line for bore core. The capacity is 100 pcs per month it will get your target price and delivery.

Lathe Machine

We have over 10 lathe machines that produce Bore Core. If you know that we have long history produce die cast core pins. Our technical of Lathe machine evolved year by year.
Especially, the long boring are our specialty.
We can produce over 10mm under cut / one side by boring.

Machining Center

We have 11 vertical Machining Centers and 4 horizontal Machining Centers in our Bore Core Cell.
Our specialties are long and wide boring. We will use BT-Tool and we have a lots of size BT-Tool and we have a lots of size BT-Tool. All machining is done with high speed hard milling avoiding EDM when possible.



Non contact measuring machine

We will inspect by Non contact measuring machine. Of course we will use 3D Model for check. We would like to produce Bore Core with perfect quallity.

DISTRIBUTOR&RING

DIECAST CAVITY PARTS

Feature

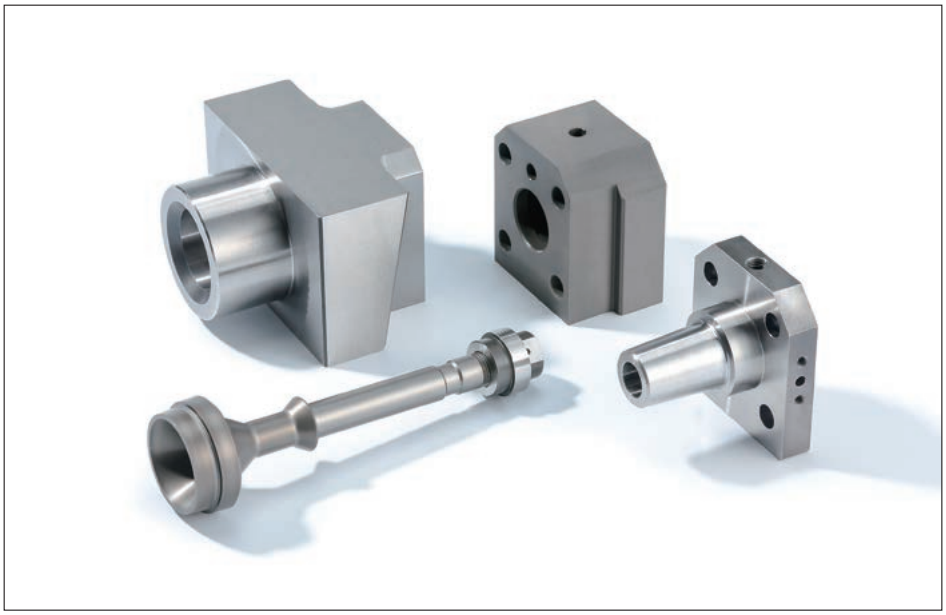
We produce a lot of distributor and ring.
The size is Max ϕ300㎜. Last year the quantity is over 100 set.
Recently, it is popular to use high level coolant for biscuit.
As you know, it will shortening the cycle of Aluminum die cast.
We have a lot of experience and machines.
We will continue to produce good quality, good price and quick delivery.

DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.
Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

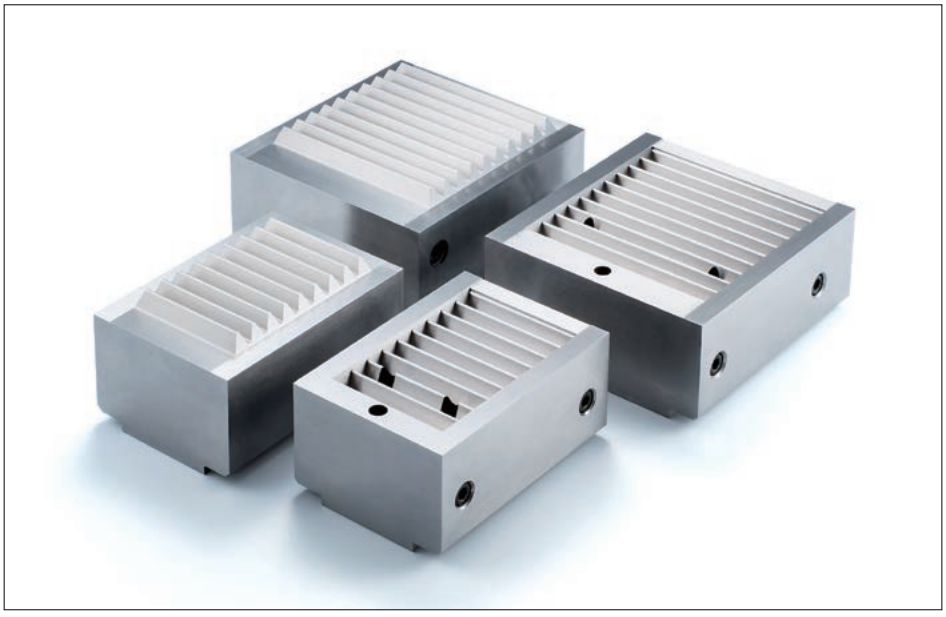
VALVE UNIT

DIECAST CAVITY PARTS



We produce Vacuum Valve Unit.
Vacuum is very important for the quality of die-casting parts.

SUPER VENT



We have long history to produce Super Vent.
It will use decompression.
Decompression is important for quality.
The Super Vent is finish by all grind.
The performance will help reduce porosity.
If you use Super Vent, you will never do without.

Supported by Koyama-steel

INSERTS

IN

DIECAST CAVITY PARTS

Feature

We have a long history of producing inserts for diecasting dies.
Recently, Aluminum die-casters are being tasked to reduce the weight of their castings with material saving inserts which are thin and have a long water hole.
We can produce an insert with a hole which is ϕ3mm × L = 500mm, without difficulty.
We have all kind of TAP. (NPT, BSP M, UNF)
We have over 45 lathe and 25 machining centers at our three plants for these items.

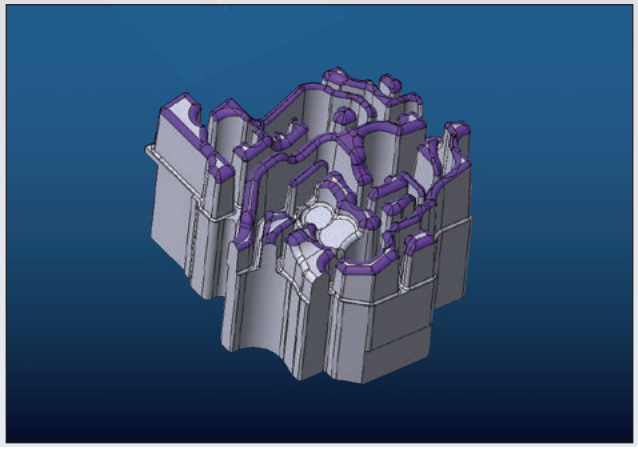
DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

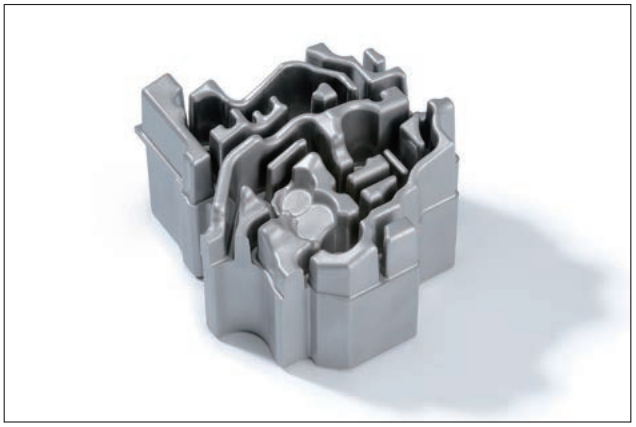
INSERTS

DIECAST CAVITY PARTS



3D Interface

All Diecasters and die-builders use different CAD system. But we would like to propose STEP and Parasolid, to transfer data. Because the data does not always translate accurately.
DYNAMO prefers to use STEP and Parasolid.
(Please contact us. We can handle CATIA and UG, Pro-E, Solidworks & Iges)



Direct Milling

We prefer to use direct hard milling.
Minimum end mill size is ϕ0.5mm and the machine is 20000 rpm/s. Where possible the insert is machined without EDM, removing the need for polishing the recast layer and re-tempering the part, increasing the shot life of the insert.

3Axis Coordination Measuring

All inserts are checked on a 3 Axis CMM using the base 3D-Model supplied.
We choose at least 13 points on cavity area, and also at least 13 parts on the fit area.
We presently have 3 CNC CMM's all newer than 2009.

ENGINE

DIECAST CAVITY PARTS

NIHON SEIKI CO., LTD.

Feature

The insert and core die is one of our main item. Especially, Water Jacket (WJ) for Engine block die-casting die is our special product. We produce over 100 pieces WJ a year (sales result in 2013-2014)

Our quality is a result of our 100 year history. We have produced 250 complete Engine block die-casting dies so far. We have the newest technology and equipment including 3 axis, 4 axis, and 5 axis CNC machines. We use hard milling and the result is making less use of EDM. It will increase shot count life for your die-casting die. Our experience and new technology will help expand your future.

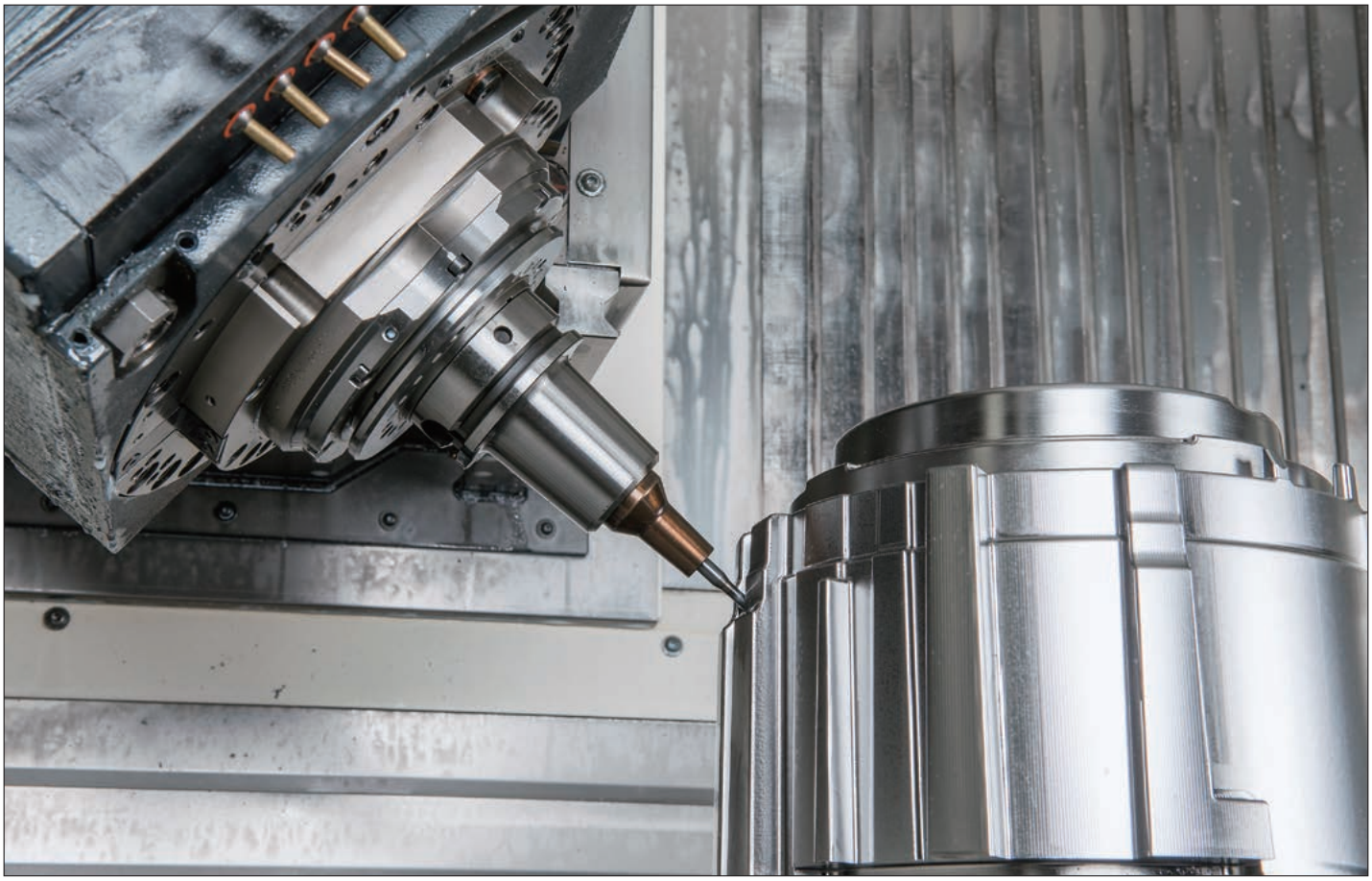
DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

TRANSMISSION

DIECAST CAVITY PARTS



NIHON SEIKI CO., LTD.

Feature

Auto transmission die-casting dies and transmission case die-casting dies are also the most representative items in our products, and we have produced over 1000 pieces for each item so far.
As well as Engine block, transmission case is very important part.
We specialize in producing spline cores for FF and FR.
We have produced 50 pieces of spline a year (sales result in 2013-2014).
We always use the 5 axis machine, reducing the need for EDM and to keep items a good quality. Our specialized spline cores will win in a highly competitively market.

LINER

DIECASTING DIE PARTS

Protect your main insert core

Recently, medium and large die casting die main insert often to use. “LINER” that protects the water hole of main insert from rust and leakage from cracks in the insert.
It is really popular and we start to stock material. We have 3 choices of Material.
Each thermal conductivity is different.

● CU	Thermal Conductivity 389.773 (W／m･K)	STOCK ～φ50
● Brass	Thermal Conductivity 121.542 (W／m･K)	STOCK ～φ40
● SUS303	Thermal Conductivity 16.345 (W／m･K)	STOCK ～φ33

We would like to propose base thickness of liner are 1.0㎜.
Sometimes problems are caused by too thin a liner, and some time the coolant effect is diminished if the liner is too thick. Please check the thermal conductivity and material for your die. We can produce liners with a max head diameter as shown above.

DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

COOLING TUBES

DIECASTING DIE PARTS

Feature

Recently, there has been an upsurge in the use of cooling tubes in die casting dies. The cooling of dies is very popular now and increases year by year. Dynamo now produces many types of cooling tubes. The material is normally stainless, but can be produced in other materials. As you know, we produce over 30,000 pcs custom made core pins per month. We will use this technology and brazing process to make cooling tubes. The brazing process uses a system developed by Dynamo. This brazing system is automated. It will eliminate leaks and provide good cost performance.

Brazing System

DYNAMO, INC.
www.dynamo.co.jp

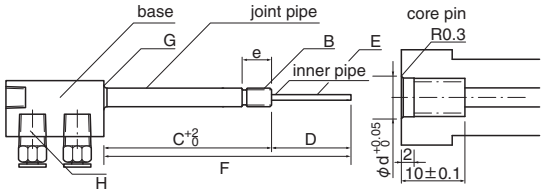
DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

DYNACOOL ST

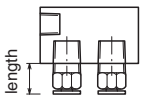
DIECASTING DIE PARTS

Our narrowest pipes can cool any pins.
We can produce any size of pipes for any pins!
You can take inside pipe out when detent plug is taken off!



Size of one touch fitting

Unit : mm



	length from base
φ4 joint	about 11.0
φ6 joint	about 13.0

※ This fitting made by PISCO

Feature

We can ship with one touch tube fitting.

- material base : SUS303
  fitting : SUS304
  bubbler : SUS304
- Max pressure : 1.5Mpa
- O ring : JIS 4 Type D (heat resistant 200℃)

LIST A

Unit : mm

type	size	screw type joint pipe size	O.D.(φ)	bore(φ)	(e)	length of screw	φd	O-ring type joint pipe O-ring
ST (square)	①	M6	6.0	3.0	10	8	6.2	SS4.5
	②	M8	8.0	4.0	10	8	8.2	SS6.5
	③	Rc1/16	8.0	4.0	tolerance area 4	7	—	—
	④	Rc1/8	10.5	5.7	tolerance area 4	10	—	—
	⑤	Rc1/4	13.8	7.8	tolerance area 6	10	—	—

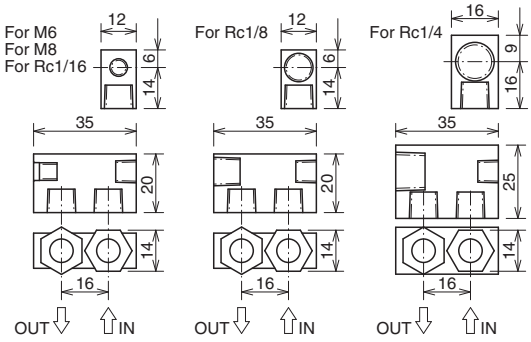
LIST B

Unit : mm

inner pipe size	O.D.(φ)	bore(φ)
①	1.0	0.75
②	1.2	0.9
③	1.5	1.2
④	1.8	1.4
⑤	2.0	1.6
⑥	2.2	1.8
⑦	2.4	2.0
⑧	3.0	2.6
⑨	4.2	3.8

ST base (Square Base)

Stainless steel made.
Hose direction is fixed.



Order system

Please choose size and type for A ~ H.

Order Number **DC** - [A] - [B] - [C] - [D] - [E] - [F] - [G] - [H]

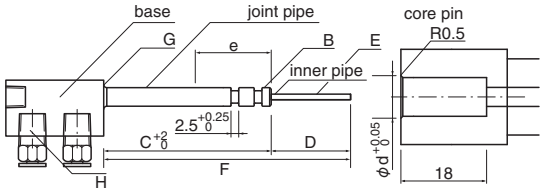
A : Base type	Please choose ST
B : Tap size	Please choose type from LIST A
C : Length of joint pipe	Please write optional size.
D : Length of inner pipe	Please write optional size.
E : Diameter of inner pipe	Please choose O.D. from LIST B
F : Total length (Length under neck)	Please write size of C + D.
G : Weld	Please write No weld =0 Need weld =1
H : Choose the fitting	One touch fitting : Please write No need =0 for φ4 fitting =1 for φ6 fitting =2

※ Not to accidentally off a base part from bubbler, we recommend toweld. ※ No price change between "No weld" and "Need weld". ※ Item's spec will be changed without notice.

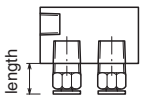
DYNACOOL OT

DIECASTING DIE PARTS

Our narrowest pipes can cool any pins.
We can make any size of pipes for any pins!
You can take inside pipe out when detent plug is taken off!



Size of one touch fitting



Unit : mm

	length from base
ϕ4 joint	about 11.0
ϕ6 joint	about 13.0

※ This fitting made by PISCO

Feature

We can ship with one touch tube fitting.

- material base : SUS303
  fitting : SUS304
  bubbler : SUS304
- Max pressure : 1.5Mpa
- O ring : JIS 4 Type D (heat resistant 200℃)

LIST A

Unit : mm

type	size	screw type joint pipe size	O.D.(ϕ)	bore(ϕ)	(e)	length of screw	ϕd	O-ring type joint pipe O-ring
OT (square)	⑥	ϕ6.0	6.0	3.0	18	—	6.3	S4
	⑦	ϕ8.0	8.0	4.0	18	—	8.2	S6
	⑧	ϕ10.0	10.0	5.0	18	—	10.0	P7

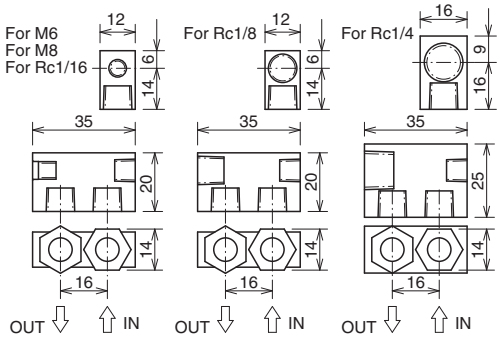
LIST B

Unit : mm

inner pipe size	O.D.(ϕ)	bore(ϕ)
①	1.0	0.75
②	1.2	0.9
③	1.5	1.2
④	1.8	1.4
⑤	2.0	1.6
⑥	2.2	1.8
⑦	2.4	2.0
⑧	3.0	2.6
⑨	4.2	3.8

OT base (Square Base)

Stainless steel
Hose direction is fixed.



Order system

Please choose size and type below for A ~ H.

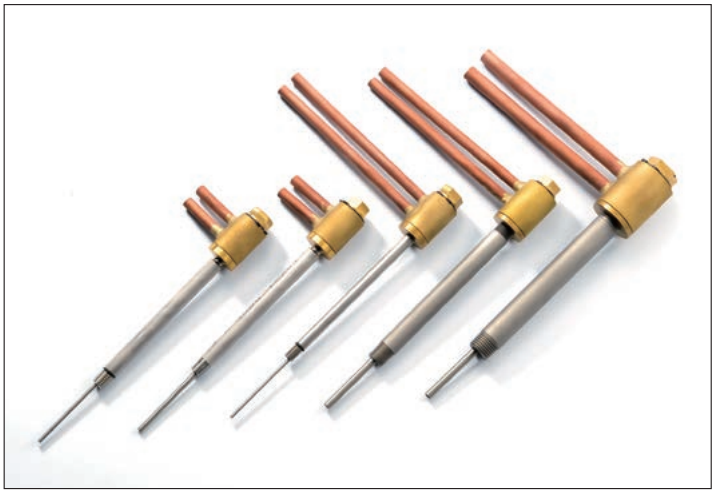
Order Number **DC** - A - B - C - D - E - F - G - H

A : Base type ····· Please choose OT
B : Tap size ····· Please choose sign from LIST A
C : Length of joint pipe ····· Please write optional size.
D : Length of inner pipe ····· Please write optional size.
E : Diameter of inner pipe ····· Please choose O.D. from LIST B
F : Total length (Length under neck) ····· Please write size of C + D.
G : Weld ····· Please write No weld =0 weld =1
H : Choose the fitting ····· One touch fitting : Please write No need =0 for ϕ4 fitting=1 for ϕ6 fitting =2

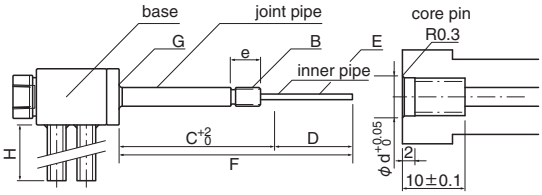
※ Not to accidentally off a base part from bubbler, we recommend toweld. ※ No price change between "No weld" and "Need weld". ※ Item's spec will be changed without notice.

DYNACOOL RT

DIECASTING DIE PARTS



You can choose dimensions as needed
Copper pipes can be formed in any direction.
Any size of pipe will cool your any kinds of pins.
We can produce any size of pipes for any size pin!
You can take inside pipe out when detent plug is taken off!



Feature

- material base : BRASS
  fitting : SUS304
  bubbler : SUS304
- Max pressure : 1.5Mpa
- O ring : JIS 4 Type D (heat resistant 200℃)

LIST A

Unit : mm

type	size	screw type joint pipe size	O.D.(φ)	bore(φ)	(e)	length of screw	φd	O-ring type joint pipe O-ring
RT (revolving)	①	M6	6.0	3.0	10	8	6.2	SS4.5
	②	M8	8.0	4.0	10	8	8.2	SS6.5
	③	Rc1/16	8.0	4.0	tolerance area 4	7	—	—
	④	Rc1/8	10.5	5.7	tolerance area 4	10	—	—
	⑤	Rc1/4	13.8	7.8	tolerance area 6	10	—	—

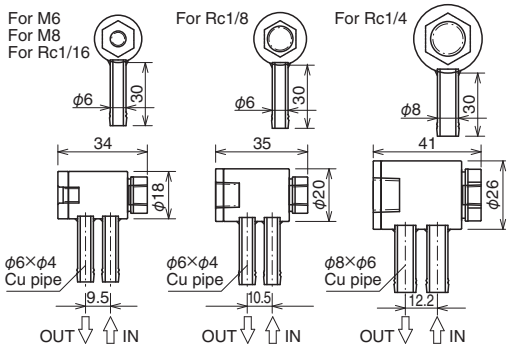
LIST B

Unit : mm

inner pipe size	O.D.(φ)	bore(φ)
①	1.0	0.75
②	1.2	0.9
③	1.5	1.2
④	1.8	1.4
⑤	2.0	1.6
⑥	2.2	1.8
⑦	2.4	2.0
⑧	3.0	2.6
⑨	4.2	3.8

RT base (Revolving Base)

The body is brass.
Nipple is Cu.
Inner & Outer pipes are SUS 304
Can change the direction of hose.



Order system

Please choose size and sign for A ~ H.

Order Number **DC** – A – B – C – D – E – F – G – H set size = ( ) mm

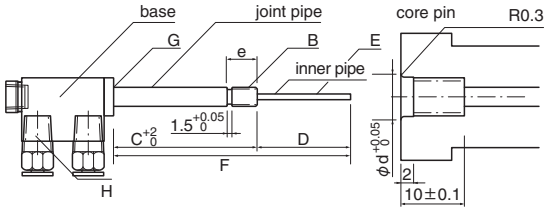
- A : Base type ····· Please choose RT
- B : Tap size ····· Please choose type from LIST A
- C : Length of joint pipe ····· Please write optional size.
- D : Length of inner pipe ····· Please write optional size.
- E : Diameter of inner pipe ····· Please choose O.D. from LIST B
- F : Total length (Length under neck) ····· Please write size of C + D.
- G : Weld ····· Please write No weld = 0 Need weld = 1
- H : Choose the fitting ····· Length of Cu pipe Normal 30 mm = 0 Set size ( ) mm = 1

※ Not to accidentally off a base part from bubbler, we recommend to weld. ※ No price change between "No weld" and "Need weld". ※ Item's spec will be changed without notice.

DYNACOOL RS

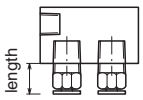
DIECASTING DIE PARTS

Our narrowest pipes can cool any pins.
We can produce any size of pipes for any pins!
You can take inside pipe out when detent plug is taken off!



Size of one touch fitting

Unit : mm



	length from base
φ4 joint	about 11.0
φ6 joint	about 13.0

※ This fitting made by PISCO

Feature

We can ship with one touch tube fitting.

- material base : BRASS, SUS303
  fitting : SUS304
  bubbler : SUS304
- Max pressure : 1.5Mpa
- O ring : JIS 4 Type D (heat resistant 200℃)

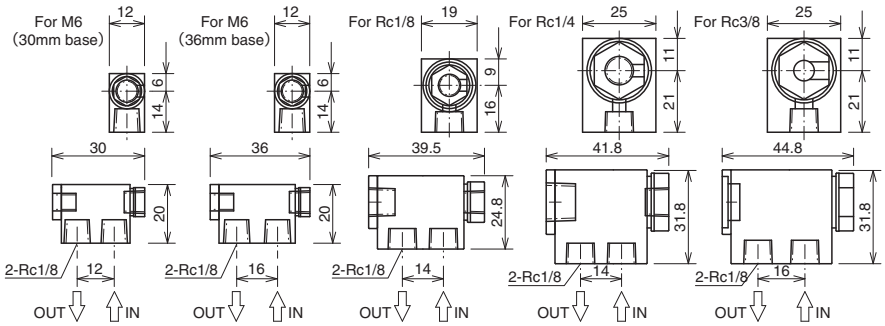
LIST A

Unit : mm

type	size	screw type joint pipe size	O.D.(φ)	bore(φ)	(e)	length of screw	φd	O-ring type joint pipe O-ring
RS (revolving square)	①	M6(30mm base)	6.0	3.0	10	8	6.2	SS4.5
	⑩	M6 (36mm base)	6.0	3.0	10	8	6.2	SS4.5
	④	Rc1/8	10.5	5.7	tolerance area 4	10	—	—
	⑤	Rc1/4	13.8	7.8	tolerance area 6	10	—	—
	⑨	Rc3/8	17.3	10.9	tolerance area 7	14	—	—

RS base (Revolving Square Base)

Body is brass. Square base is stainless.
Can change the direction of hose.



LIST B

Unit : mm

inner pipe size	O.D.(φ)	bore(φ)
①	1.0	0.75
②	1.2	0.9
③	1.5	1.2
④	1.8	1.4
⑤	2.0	1.6
⑥	2.2	1.8
⑦	2.4	2.0
⑧	3.0	2.6
⑨	4.2	3.8
⑩	8.0	6.0

※ Regarding RS M6, Please choose size from ①～⑤ .
※ Regarding RS Rc3/8,This is only form φ 8 × bore φ 6.

Order system

Please choose size and sign for A ～ H.

Order Number **DC** – A – B – C – D – E – F – G – H set size = ( ) mm

A : Base type ····· Please choose RS
B : Tap size ····· Please choose sign from LIST A
C : Length of joint pipe ····· Please write optional size.
D : Length of inner pipe ····· Please write optional size.
E : Diameter of inner pipe ····· Please choose O.D. from LIST B
F : Total length (Length under neck) ····· Please write size of C + D.
G : Weld ····· Please write No weld = 0 Need weld = 1
H : Choose the fitting ····· One touch joint : Plese write No need = 0 for φ4 fitting = 1 Need for φ6 fitting = 2

※ Not to accidentally off a base part from bubbler, we recommend to weld. ※ No price change between "No weld" and "Need weld". ※ Item's spec will be changed without notice.

HARD LOCK SETSCREW

DIECASTING DIE PARTS

Feature

Safety is power ! A definitive edition of set screw !

From industrial machine to fixed die,
our hard lock set screws answer to various needs.

- THE SEMI PERMANENT LOCKING STRUCTURE
- RE-USABILITY
  Repeated removal and installation
  does not affect anti-loosening effect.
- WORKABILITY
  Easy locking,
  using a single hexagon wrench.
- ECONOMICAL
  Lifetime cost is lower
  because of the reduced maintenance.

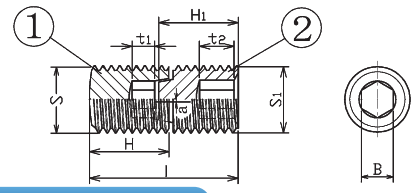
DYNAMO, INC.
www.dynamo.co.jp

DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076 Fax +81-561-88-1077 E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076 Fax : 630-497-8023

HARD LOCK SETSCREW

HLS drawing



HLS Standard spec of material/Surface treatment

Size	Hardness(material)	Surface treatment
M8～M20	Class10(SCM435 refining／surface hardness HRC45~53)	Black oxided
M24～M36	Class8(S45C refining／surface hardness HRC30~43)	Black oxided

※Please feel free to contact us about the other.

HLS size table(Standard) (Coarse screw C type)

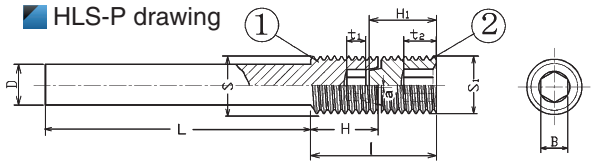
※We also have "HLS-T" (Order number is HLS-○-B)

Unit : ㎜

Thread Dia	Pitch		Fixing Screw ①			Lock Screw ②			in set	Hex. Hole ①②		Set weight	Tightning torque value Set screw(凹)／Lock screw(凸)	Security torque
S,S₁	Coarse	F:Fine	H	tolerance	t₁	H₁	tolerance	t₂	ℓ	B	tolerance	(g)		
M8	1.25	—	10	±0.29	≧2.5	10	±0.29	≧5	17.5	4	+0.02 +0.10	4	9～11	16
M10	1.5	—	12	±0.35	≧3	12	±0.35	≧6	21	5	+0.02 +0.14	8	16～20	30
M12	1.75	1.5	16	±0.35	≧5	16	±0.35	≧8	29	6	+0.02 +0.14	16	27～33	52
M14	2.0	1.5	16	±0.35	≧4	16	±0.35	≧8	28	6	+0.02 +0.14	22	27～33	52
M16	2.0	1.5	20	±0.42	≧6	20	±0.42	≧10	36	8	+0.03 +0.18	37	63～77	120
M18	2.5	1.5	20	±0.42	≧6	20	±0.42	≧10	36	8	+0.03 +0.18	47	63～77	120
M20	2.5	1.5	20	±0.42	≧7	20	±0.42	≧12	35	10	+0.03 +0.18	52	90～110	220
M22	2.5	1.5	25	±0.42	≧10	25	±0.42	≧15	45	12	+0.03 +0.18	79	150～190	370
M24	3.0	1.5	25	±0.42	≧9	25	±0.42	≧15	44	12	+0.03 +0.21	95	150～190	370
M30	3.5	1.5	30	±0.42	≧9	30	±0.42	≧15	54	17	+0.03 +0.21	161	530～650	980
M36	4.0	1.5	35	±0.5	≧8	35	±0.5	≧15	63	17	+0.03 +0.21	368	530～650	980

※Hexagon socket set screw to JIS B 1177(ISO4026) ※Screw accuracy…JIS B0205(1998)／(ISO 261)6g

HLS-P drawing



HLS-P Standard spec of material/Surface treatment

Size	Hardness(material)	Surface treatment
M12～M36	Class8(S45C refining／surface hardness HRC30~43)	Black oxided

※Please feel free to contact us about the other.

HLS-P size table(Spacer combined unit) (Coarse screw A type)

※We also have "HLS-TP" (Order number is HLS-○-D-L○)

Unit : ㎜

Thread Dia	Pitch		L	Fixing Screw ①			Lock Screw ②			in set	Hex. Hole ①②		Pin diameter		Set weight	Tightning torque value Set screw(凹)／Lock screw(凸)	Security torque
S,S₁	Coarse	F:Fine		H	tolerance	t₁	H₁	tolerance	t₂	ℓ	B	tolerance	D	tolerance	(g)		
M12	1.75	1.5	100 200	15	±0.35	≧4	16	±0.35	12	28	6	+0.02 +0.14	8	0 -0.2	53 92	27～33	52
M16	2.0	1.5 —	100 200 250	20	±0.42	≧6	20	±0.42	12	36	8	+0.03 +0.18	12	0 -0.2	123 212 257	63～77	120
M20	2.5	1.5 —	100 200 250 300	25	±0.42	≧6	20	±0.42	12	40	10	+0.03 +0.18	16	0 -0.2	217 374 453 531	90～110	220
M24	3.0	1.5 —	100 200 250 300	35	±0.42	≧7	25	±0.5	15	54	12	+0.03 +0.21	20	0 -0.2	369 613 735 857	150～190	370
M30	3.5	1.5 —	100 200 250	40	±0.42	≧7	30	±0.5	20	64	17	+0.03 +0.21	24	0 -0.2	570 922 1,098	530～650	980
M36	4.0	1.5	100 200	40	±0.5	≧7	35	±0.5	20	68	17	+0.03 +0.21	30	0 -0.2	948 1,501	530～650	980

※Hexagon socket set screw to JIS B 1177(ISO4026) ※Screw accuracy…JIS B0205(1998)／(ISO 261)6g

〈Order number example〉 M12 Coarse + L125…HLS-12-C-L125
M12Fine + L125…HLS-12-DF-L125

STREAM

MAX BOY collection

2 System　　4 System

Feature

Low cost and perfect timing.

All your needs will be covered by Dynamo's Stream !

- Simple setup using PLC.
- Uses shop air and water.
- Compact and light design.

2 System

Size	L160×W300×H480
Weight	Approx, 15kg

4 System

Size	L240×W600×H480
Weight	Approx, 26 kg

DYNAMO, INC.
www.dynamo.co.jp

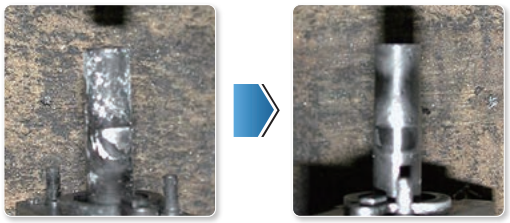
DYNAMO,INC.

Kyouei-douri 7-107 Seto-City Aichi-Ken Japan 489-0809
Tel +81-561-88-1076　Fax +81-561-88-1077　E-mail : info@dynamo.co.jp
USA Tel : 847-691-0076　Fax : 630-497-8023

STREAM

STREAM 1 accurate coolant

Stream makes it possible to pump cooling water at just the right time.



Before After

STREAM 2 solve your problems through three characteristics

characteristic 1

Accurate set up of cooling water volume.

No countercurrent prevents galling & shrinkage porosity.

characteristic 2

Water supply by air pressure.

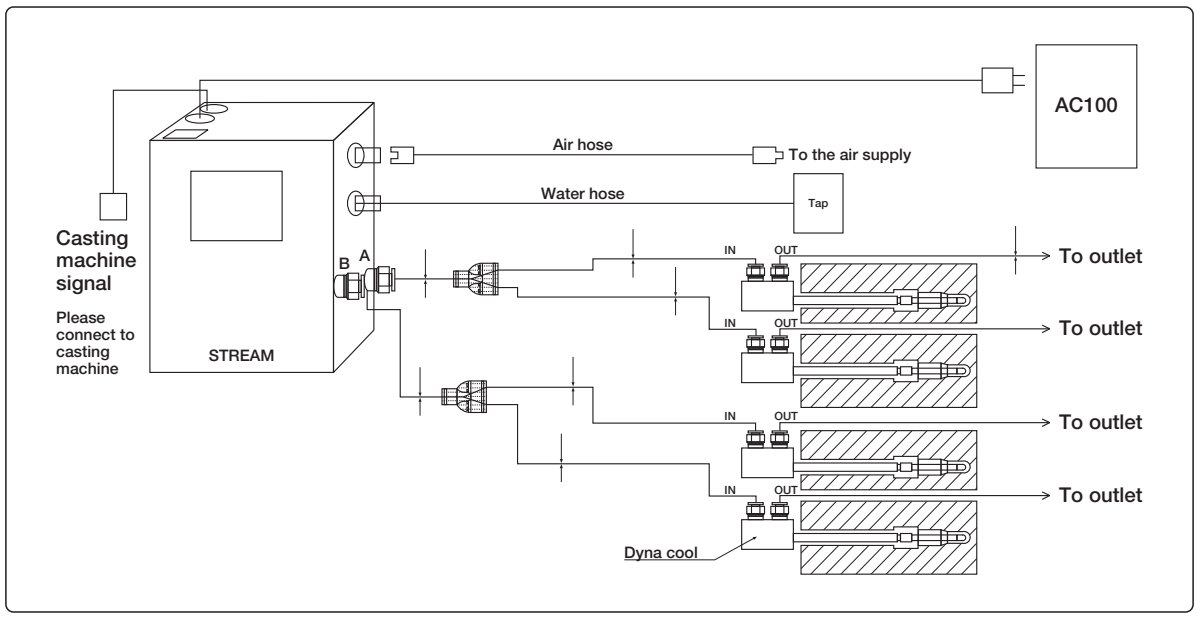
Possible to cool thin pins which is difficult by water pressure.

characteristic 3

Simple structure without high pressure pump.

Compact light design easy maintenance.

STREAM 3 Example



History

1920 Foundation of the original of Dynamo in Kobe.
1973 Founded of Yukoku Seiki, inc. in Nagoya-City.
1980 Start to production “custom made core pin”.
1990 Dynamo, Inc. start with capital 5 million yen.
1995 Increased capital to 10 million yen.
1996 Exhibited at Japan Die Casting Congress & Exposition in Yokohama, and released “Draw Polish”.
1998 Exhibited at Die Casting Congress & Exposition in Yokohama, and released “small coolant hole core pin”.
1999 Exhibited at NADCA 1999 Cleveland Ohio Die casting Congress & Exposition in USA.
2000 Exhibited at Japan Die Casting Congress & Exposition in Yokohama, and released “Cooling System”.
2001 Exhibited at NADCA1999 Cleveland Ohio Die casting Exposition.
2002 Exhibited at Japan Die Casting Congress & Exposition in Yokohama, and released “Fine Polish”.
2003 Acquired international dealerships for HLS (Hardlock Industry Co., Ltd)
Exhibited at NADCA2003 Indianapolis.Indiana Die casting Congress & Exposition.
2004 Exhibited at Japan Die Casting Congress & Exposition in Yokohama, and released “HLS”.
2006 Exhibited at Japan Die Casting Congress & Exposition in Yokohama, and released “ Surface Treatment”.
2007 Moved headquarters to Seto-city, Aichi, and open a new factory.
2008 Exhibited at NADCA 2008 Atlanta, Georgia Die casting Exposition.
Exhibited at 2012 Japan Die Casting Congress and Exposition in Yokohama and released “Cold Stream”.
Increased capital to 20 million yen in December.
2009 Started selling of Cold Stream in North America.
2010 Exhibited at Cast Expo 2010.
2011 Acquired a patent for Cold Stream.
2012 Acquired ISO9001 certification in March.
Dynamo in Vietnam started from July,2012.
Vietnam started to produce 8000 pcs of core pin and cooling pipe.
Exhibited at NADCA 2012 Die Casting Congress and Exposition.
Established Dynamo Second Factory.
2013 Exhibited at METALEX 2013 exhibition (at Ho Chi Minh City in Vietnam).
Second Factory started to produce 8000 pcs of core pin & insert part.
Second Factory started to run Bore core line.
The line produce 100 pcs Bore core in a month.

Main customer

AISIN AW CO.,LTD
AISIN SEIKI CO.,LTD
Ahresty
Isuzu Motors Limited
Suzuki Motor Corporation
DAIHATSU
Tokaiseiki Corporation
TOYOTA MOTOR Corporation
TOYOTA Industries Corporation
Fuji Heavy Industries Ltd
MAZDA Motor Corporation
Ryobi
Ahresty Mexicana,S.A.de C.V.
Ahresty Wilmington corporation
Bodine Aluminum, Inc.
Chrysler Company LLC.
EXCO ENGINEERING
GENERAL MOTORS
HAL ALUMINUM
Honda Engineering North America, INC.
Honda Manufacturing of Alabama, LLC.
Nemak USA, Inc.
RDCM, S. DE R.L. DE C.V.
Ryobi Aluminium Casting (UK), Ltd.
Ryobi Die Casting (USA), INC.
TD Automotive Compressor Georgia, LLC.
（other 900 companies）

■ Main Office Dynamo, Inc.

■ Die casting exhibition

■ Die casting exhibition

■ Japan Second Factory

■ Vietnam Factory