

NARA Mold & Die

The world Best
Mold & Die Company

www.naramnd.com

[www.naramnd.com]





The World Best Mold & Die Company

 NARA Mold & Die Co., Ltd.



Message from the CEO

The Best support for the best product

**“We are pioneers in Injection & Stamping technologies.
We’re a R&D intensive engineering Company.”**

For more than 60 years, our group of top engineers has performed innovative tooling techniques that have established NARA Mold & Die Co., Ltd.

As the leader in tooling technology.

NARA Mold & Die Co., Ltd. Has a track record of solving the most difficult requirements.

We are prepared for a fast turn around with creative and innovative ideas.

“Customer Satisfaction”

- 1) Designing service that has been proven in effective manufacturing.
- 2) Low-Cost and on-time delivery to the customers, ranging from precision components to large complicated parts including prototype.
- 3) Customer satisfaction with Low-cost, High-quality and on-time Delivery.



Young - Jo, Kim

PRESIDENT

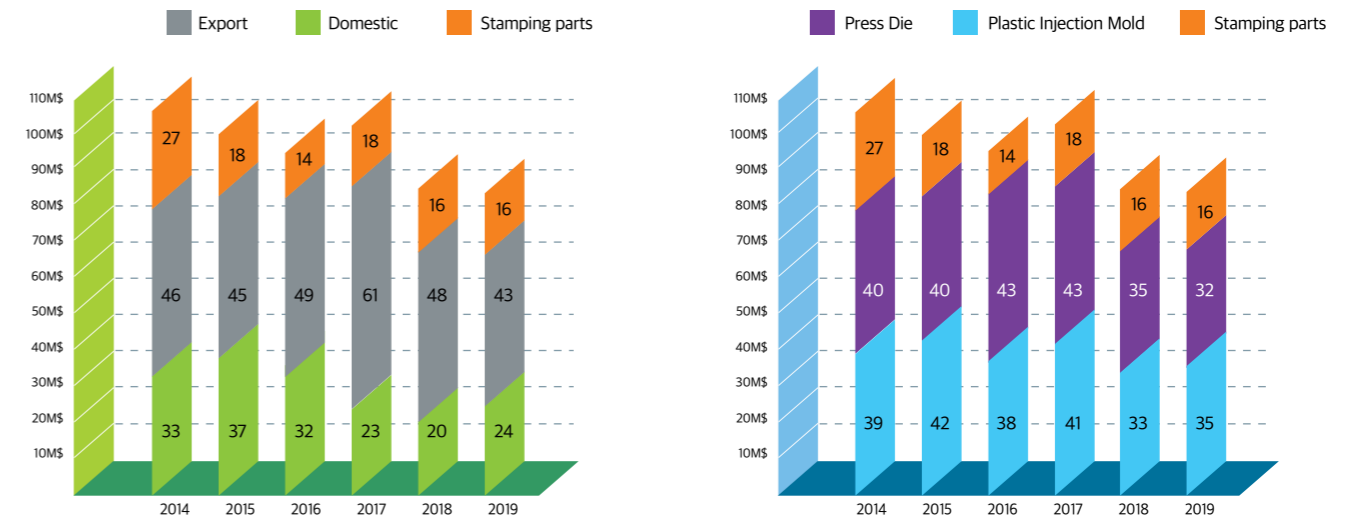
Company History

- 1958 : Established with Goldstar Co., Ltd.
- 1975 : Won the presidential award at the precision technical contest 3 times in a row.
- 1978 : Development of Transfer Die
- 1984 : Introduction of CAD/CAM
- 1985 : Development of Motor S/R core stamping Die
- 1987 : Started CAE analysis(Mold Flow)
- 1988 : Participated in the International Vocational Training Competition (21 Gold awards, 12 Silver awards, 5 Bronze awards)
- 1989 : Development of Plastic injection In-Mold
- 1991 : Development of Gas assisted injection Mold
- 1992 : Development of Heated forming Die for Shadow mask
- 1994 : Development of One-bodied speaker grille mold for TV
- 1996 : ISO 14001 certified
- 1997 : Set up DIMS as Manufacturing Management System
- 1997 : Development of New Film (Hiject) technology
- 1998 : Development of Mg. Die casting
- 1998 : Introduction of 3D sheet Metal forming CAE analysis
- 1999 : Spun off from LGE to **NARA Mold & Die Co., Ltd.**
- 2000 : ISO 9001 certified
- 2001 : QS 9000 certified / Listed on the KOSDAQ
- 2002 : Established PT. NARA Summit Ind. in Indonesia
- 2003 : Moved to New Factory
- 2004 : Won presidential commendation for accomplished 20 million export
- 2005 : Established NARA Mold Tech Pyeongtaek plant in Korea / TS16949 certified
- 2008 : Established NARA Mold & Die Kunshan plant in China
- 2009 : Won presidential commendation for contribution in national industrial development
- 2011 : Designated as the best manufacturing line by Hyundai-Kia Motors Group
- 2013 : Achieved the presidential commendation of \$50 million export and Established NARA Mold Tech Oksan plant in Korea
- 2015 : Established NARA Mold Injection Technology Nanjing Co., LTD In China
- 2018 : Established NARA P&C Division 2nd plant in Daegu in Korea
- 2018 : Established NARA Battery Engineering Poland limited liability company in Poland

Company Outline

- Capital : USD 7,200,000
- Employee : 270
- Bank : WOORI BANK(Changwon branch)

Annual Turnover



High Quality, Durability and new technology to be the leader in future





Mazak 5 Axis Machining Center



Engel 800 Ton (3 Color + H&C Dolphin System)



Engel 650 Ton (2 Color + MuCell)

Business Items Injection Mold

Automotive Parts



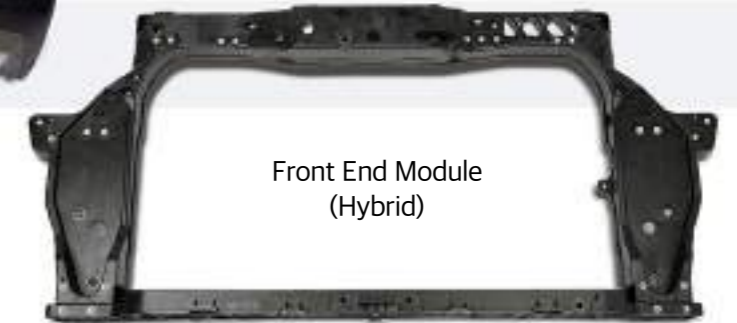
Front Bumper



Front End Module
(All Plastic)



Rear Bumper



Front End Module
(Hybrid)



Instrument Panel



Front Console



Instrument Panel



Radiator Grille



Console



Glove Box



Heater Case Upper & Lower



Door Panel



Pillar



Heater Case



Case Fan Blower



Door Trim



IP Lower & Child Parts



Radiator Tank



CAC Tank



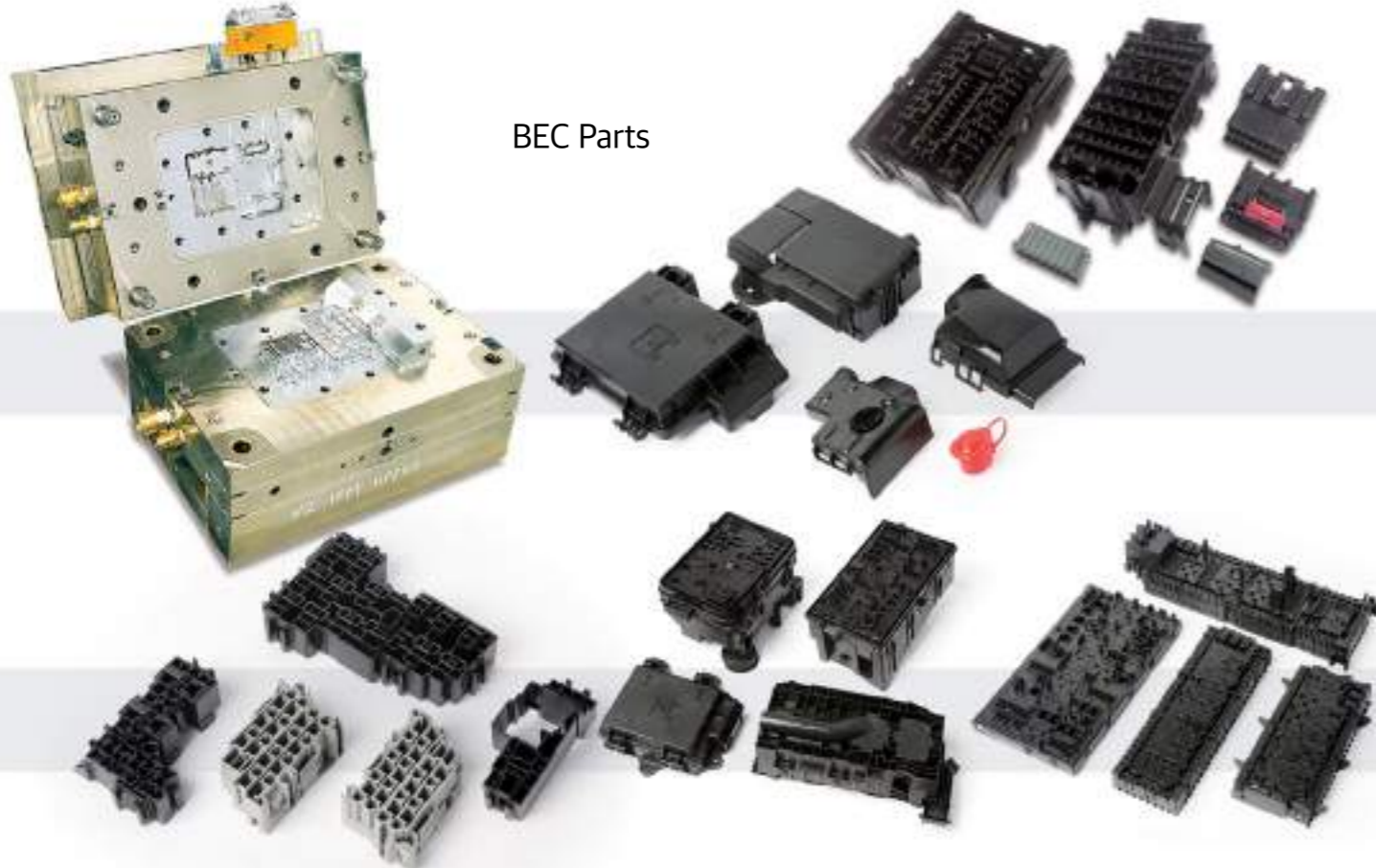
Rear Panel



Cooling Fan



Radiator Module



BEC Parts



Irrigation Parts



Injector Parts

GDI Injection Molding

Injection Molding (Low) On-off Solenoid Valve

Seat Belt Tongue



Living & Consumer Parts

Case / Pallet / Bath Tub / Container Box

Blower

Lawn Mower Wheel

Pallet



Injection Molding (Low)

MPI Injector

Position Sensor

Conn 55w F CTS

Chamber

8th Speed Sensor

plug connectors

Gamma CKP Sensor
7th DCT Sensor

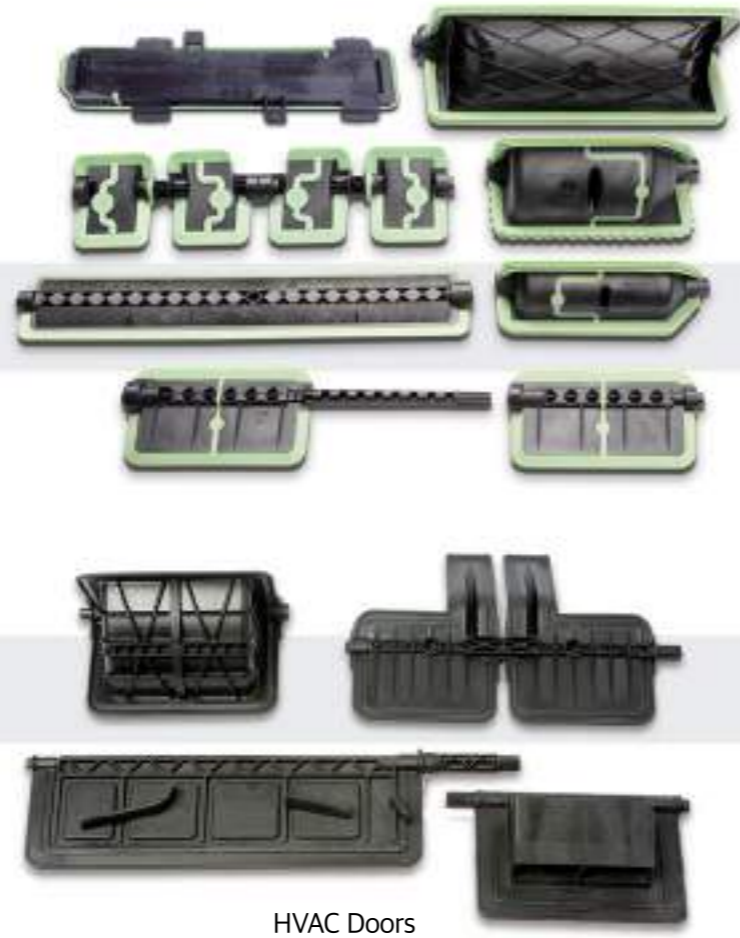


Window Evaporative Air Conditioner



Waste Container

2 Shot Injection Parts



HVAC Doors



Motor Holder



Housing

2 Shot Injection Parts+ MuCell



Blower Case

MuCell



HVAC Housing

Oil Pan

Water injection



Lawn Mower Handle



Filtercover

Stack Mold



Frame

Buttons



2 Shot Injection Wheel

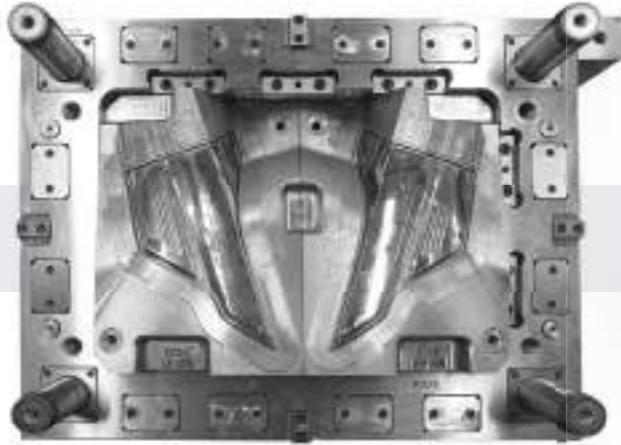
CFRP Insert



Sunroof Frame



Lens (3 Shot Injection)



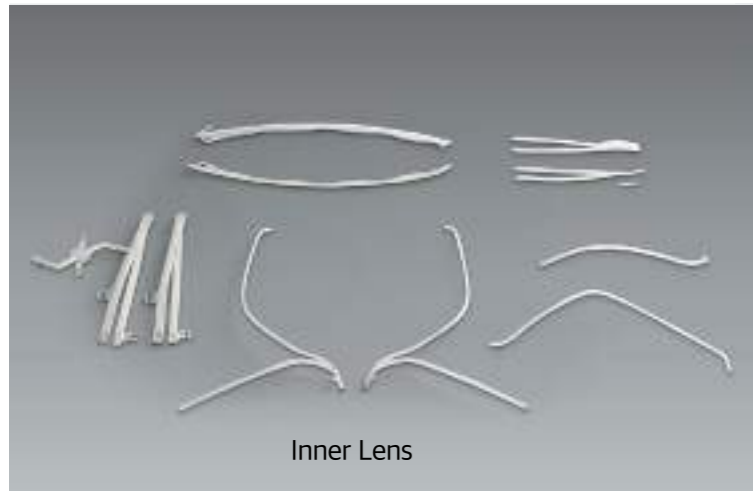
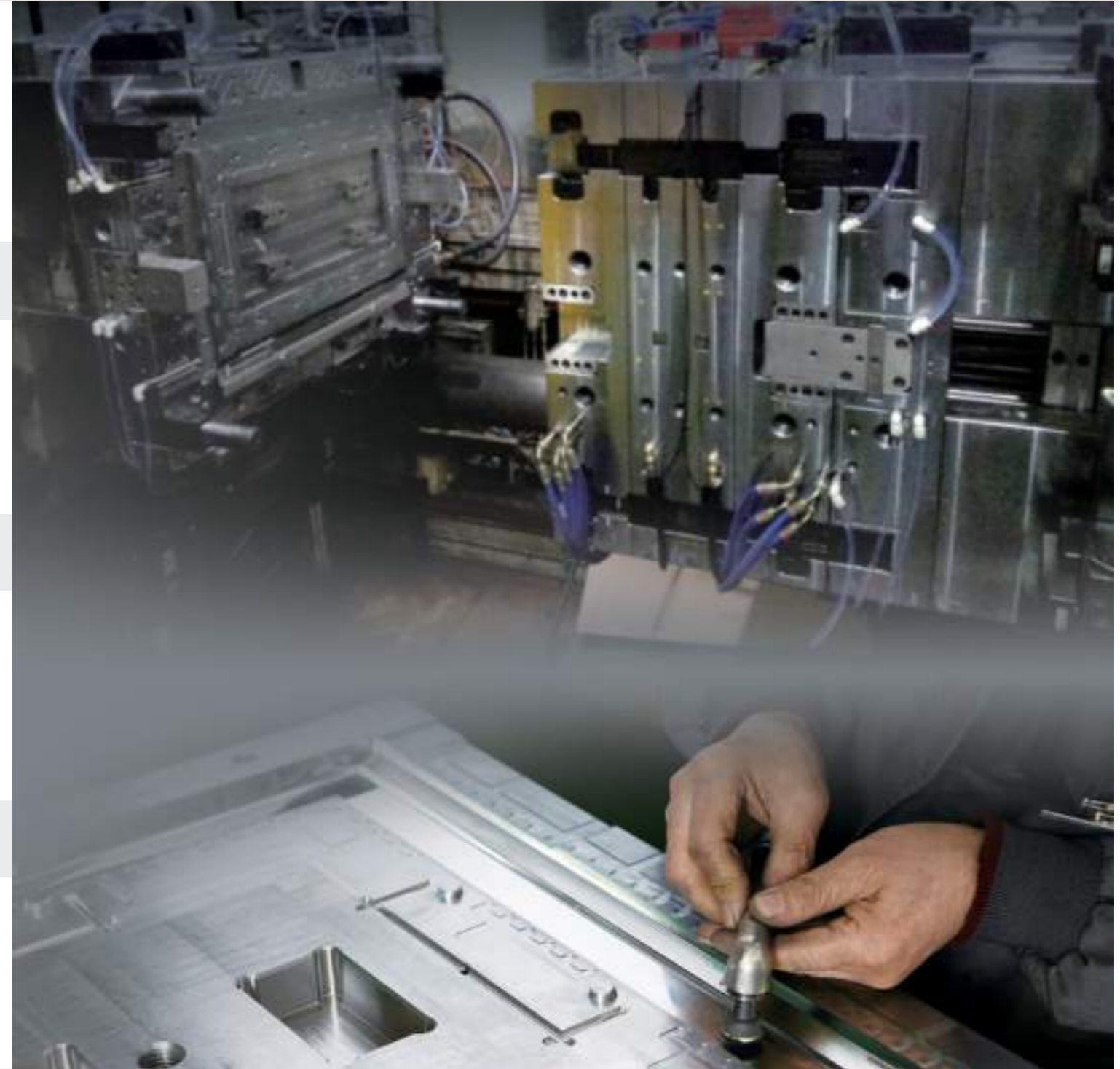
Outer Lens(3 Shot Injection)



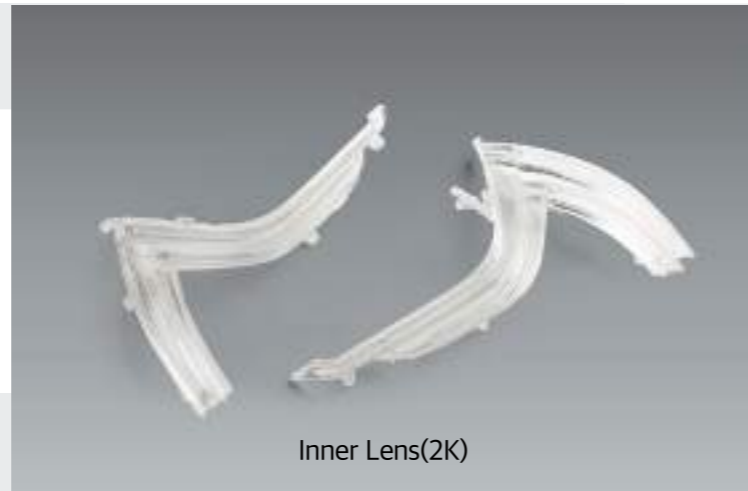
Outer Lens (2 Shot Injection)



Housing



Inner Lens



Inner Lens(2K)



OLED TV(Heat & Cool Injection)



Tub Module



Outer Tub



Riser B Bracket



Riser



Sidemember Standard



Sidemember Frame



Sidemember Cushion



Cushion pan half



Crossmember upper



Cushion Panel



Seat Rails (symmetry & asymmetry)



Impeller Shell/Core/Blade



Inner & Outer Housing



Turbine Shell/Core/Blade



Piston



Plate Carrier (2 Steps)



Hub Clutch



Damper Part



Drum Clutch



Friction Plate



Front Cover



Clutch plate & separation plate



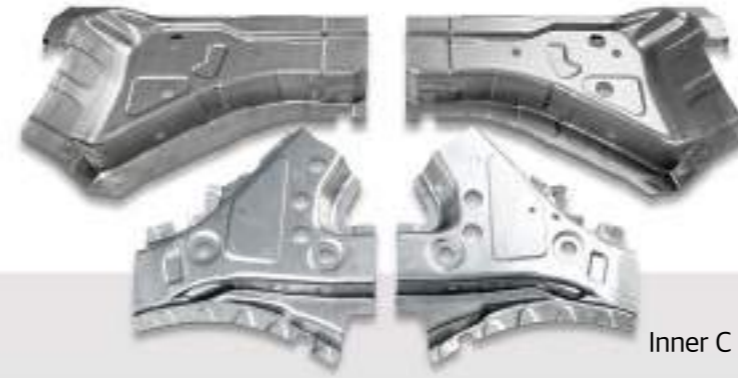
Hub Clutch



Cup



Interior front panel



Inner C Pillar



Reinforcement Bracket



Planum Panel



Inner bracket



Windshield Crossmember



Airbag housing



Skid Plate



Pedal Carrier



Efrc, Dryer Mount



Reinforcement panel



Reinforcement pillar



Muffler & Shell



Reinforcement Dash



Engine cup



Fuel Tank



Lawn mowing Machine Seat Panel



Coolant Plate



Rail RH Lower & Upper



Support-Heater core
Support-RAD. core



Eva. plate & End plate

Cross Member Rear Forward



FRT FUEL TANK XMBR UPR



CMBR RR FWD & RRWD



FRT FUEL TANK XMBR UPR



Header-RAD. Core



Water change Air Cooler



CMBR FRT RRWD & FWD



BRKT LCA Lower LH & RH



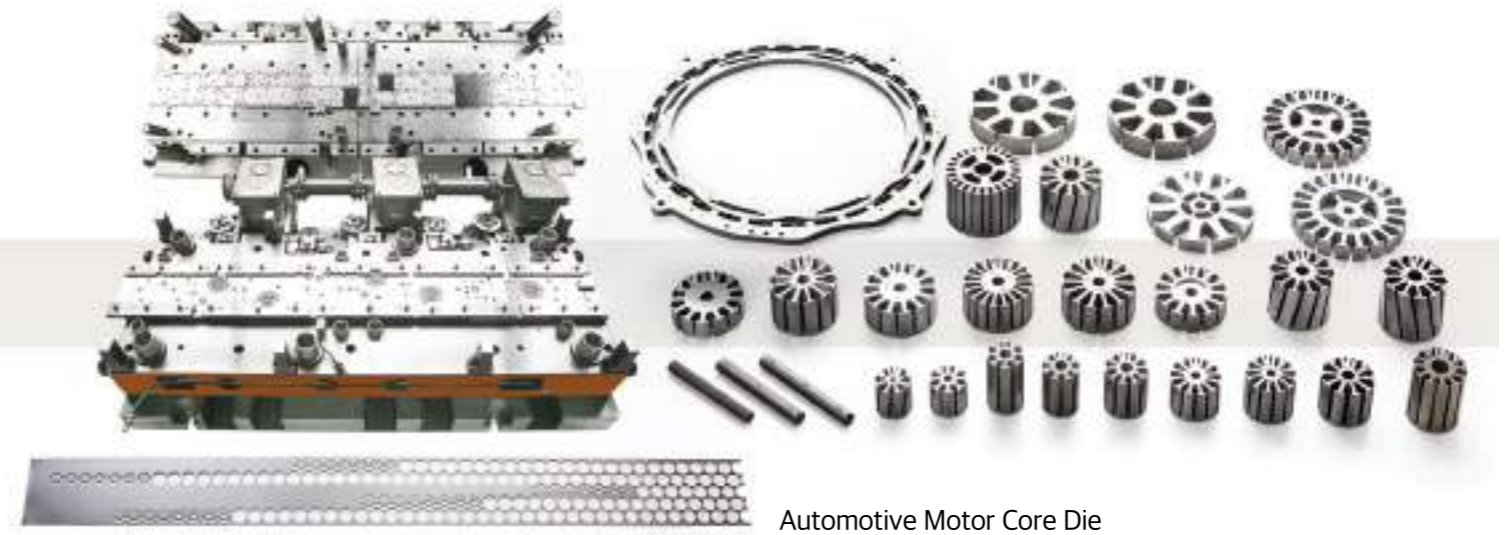
Heater-header core /
Heater-header tank



Window Rail

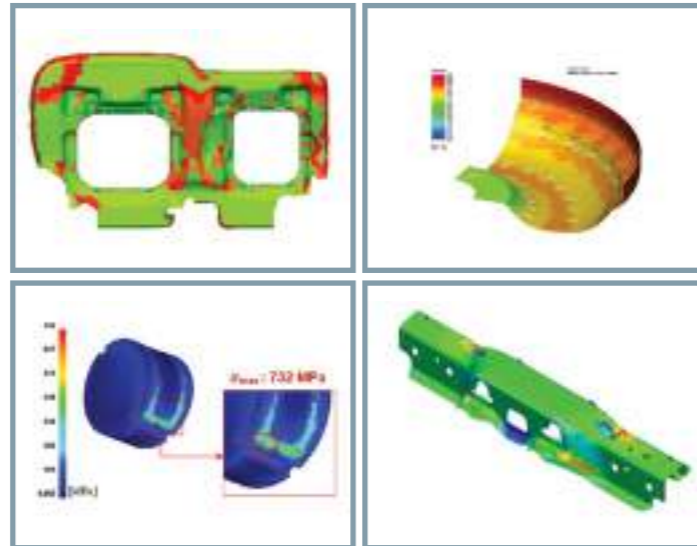


Brake Booster



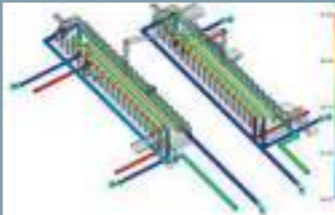
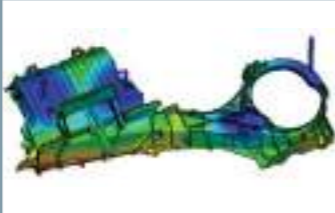
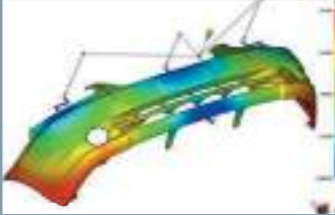

CAE for Press Die

- + CAE Engineer : 3 persons
- + 6 License for CAE
 - 4 License of PAM Stamp
 - 2 License of Deform
- + CAE Capabilities
 - Blank Size Analysis
 - Blank Holder Pressure Analysis
 - Wrinkle & Crack Analysis
- + Benefit
 - High Productivity
 - Cost Reduction



CAE for Injection Mold

- + Expert CAE Engineer : 3 persons
- + 4 copies for CAE
 - 3 Copy Mold Flow
 - 1 Copy Moldex 3D
- + CAE Capabilities
 - Flow Analysis
 - Cooling Analysis
 - Warpage Analysis
- + Benefit
 - High Productivity
 - Cost Reduction

	<p>Radiator Tank</p> <ul style="list-style-type: none"> ▶ Target : Minimizing bow & flatness warpage ▶ Advantage : Optimized compensation & cooling circuit
	<p>HVAC Upper Case</p> <ul style="list-style-type: none"> ▶ Target : Optimizing fill balance ▶ Advantage : Optimized gate and runner
	<p>Front Bumper</p> <ul style="list-style-type: none"> ▶ Target : Optimizing fill balance ▶ Advantage : Optimized gate and runner
	<p>Front End Module</p> <ul style="list-style-type: none"> ▶ Target : Optimizing injection temperature ▶ Advantage : Optimized gate location and preventing short shot

Communication

Communication (Same Information @ Same Time)

- + Update Program Tracking - Weekly base
 - Prevent "Information Discrepancies"
- + Available "Video Conference"
 - Overcome "Time Difference"- day and night
- + Available "Advanced Engineering" in RFQ

Die & Mold Integrated Management System (DIMS)

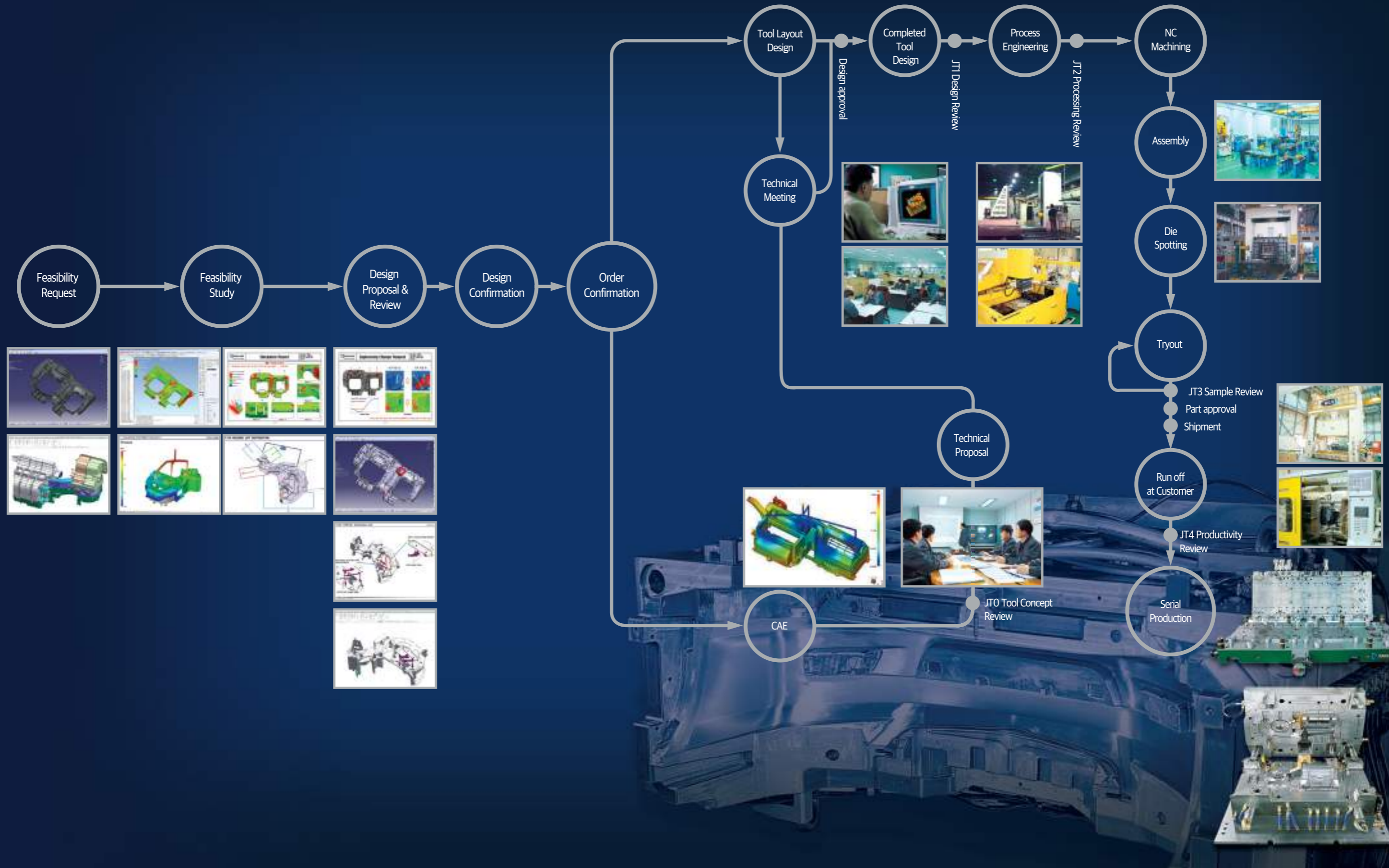
Die & Mold Integrated Management System finds out real time progress and controls load of manufacturing site at real time

- | | |
|--|--|
| <ul style="list-style-type: none"> + Load Control + Schedule Control + Advanced Control + Detailed component Control + Result Control | <ul style="list-style-type: none"> • Estimated Load • Designing Load • Working Load • Schedule of each steps • Daily schedule between processes • Prediction of Delivery • Schedule between processes • Placing order through Web • Managing the efficiency & Monitoring the productivity Main Facilities |
|--|--|



Advanced Engineering

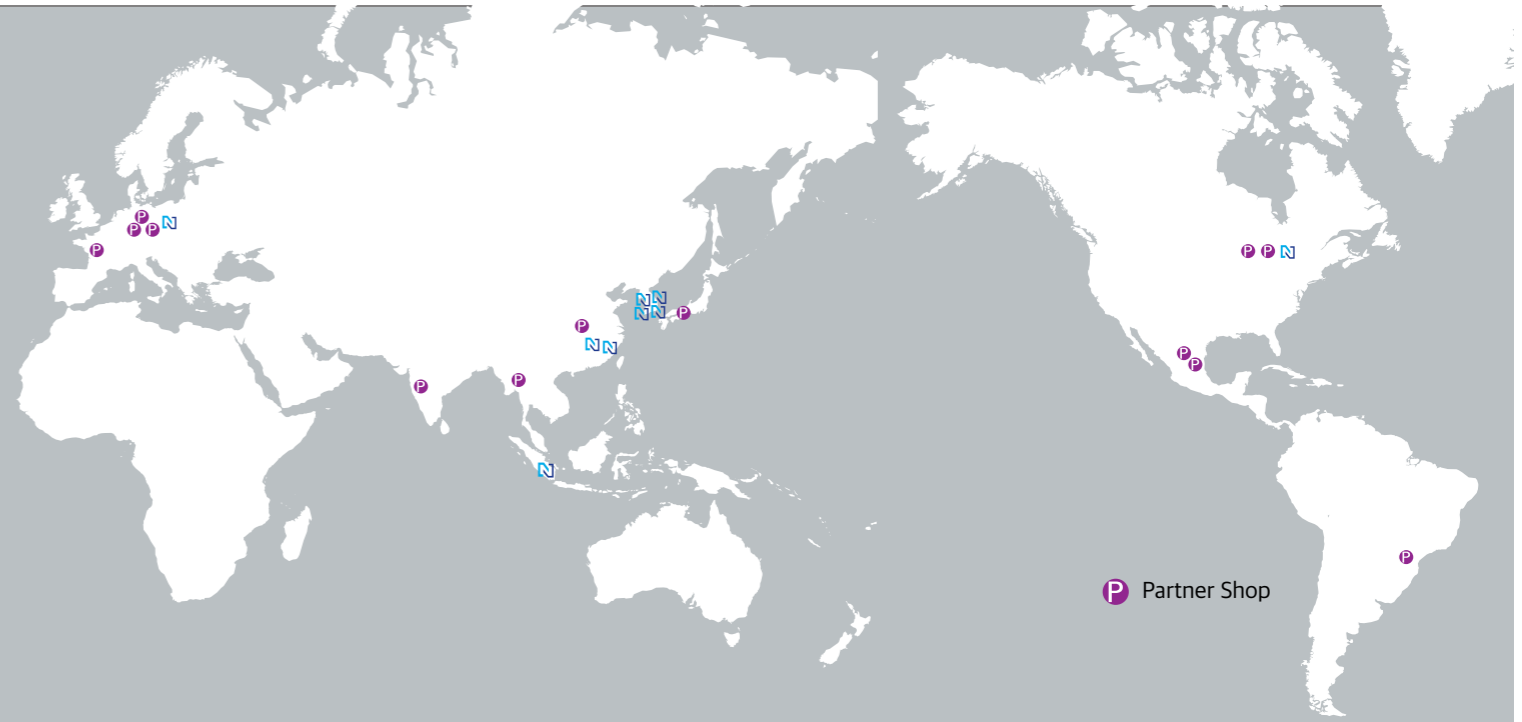
Tool Manufacturing





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P Partner Shop

Domestic



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Oversea



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Main Facilities

Machining Center

* : 5 Axis

No	Description	Maker	Model	Working Size (mm)	QTY
1	High Speed Machining Center*	OKUMA(JPN)	MCR-BIII	5000 x 3700 x 800 (1300)	1
2	High Speed Machining Center*	MAZAK(JPN)	VERSATECH V-100N	4000 x 3600 x 1880	1
3	High Speed Machining Center*	MAZAK(JPN)	VORTEX 1060V/8S	1600 x 1060 x 850	1
4	High Speed Machining Center*	MAKINO(JPN)	MCC2516	2500 x 1600 x 1300	1
5	High Speed Machining Center	OKUMA(JPN)	MCR-B II	5000 x 3700 x 800 (1300)	1
6	High Speed Machining Center	TOSHIBA(JPN)	BDT-13FR22-1	3000 x 2300 x 1600	1
7	High Speed Machining Center	TOSHIBA(JPN)	BDT-13FR22-2	3000 x 2300 x 1600	1
8	High Speed Machining Center	YASDA(JPN)	YBM-900N	2400 x 1200 x 1100	1
9	High Speed Machining Center	MAZAK(JPN)	FJV-50/80	2400 x 1150 x 500	1
10	High Speed Machining Center	RODERS(GER)	RP800	800 x 600 x 450	1
11	High Speed Machining Center	MORISEIKI	NVD 5000a	800 x 510 x 510	1
12	High Speed Machining Center	HUNDAI(KOR)	SPT-VM600	600 x 450 x 400	1
13	High Speed Machining Center	Makino	V22	320 x 280 x 300	2
14	High Speed Machining Center	Makino	PS65	660 x 510 x 410	2
15	Horizontal Machining Center	MAKINO(JPN)	HNC-1713	1700 x 1300 x 800	1
16	Horizontal Machining Center	MAKINO(JPN)	HDNC-1210	1250 x 1000 x 800	1
17	Vertical Machining Center	SNK(JPN)	RB-4VN	4000 x 2500 x 1400	1
18	Vertical Machining Center	MAKINO(JPN)	FDNC-170	1700 x 800 x 900	1
19	Vertical Machining Center	HYUNDAI(KOR)	SPT-V32	1100 x 650 x 450	1
20	Vertical Machining Center	Makino(JPN)	F3	650 x 550 x 450	1



High Speed Machining Center



High Speed Machining Center



High Speed Machining Center



5 Axis Machining Center



High Speed Machining Center



Jig Boring M/C



Jig Grinding M/C



CNC Electric Discharge M/C

EDM / W-EDM

No	Description	Maker	Model	Working Size (mm)	QTY
1	CNC Electric Discharge M/C	DAEHAN(KOR)	TURBO2000	5700 x 1620 x 750	1
2	CNC Electric Discharge M/C	MAKINO(JPN)	ENDC157S	2400 x 1350 x 700	1
3	CNC Electric Discharge M/C	MAKINO(JPN)	ENDC156	2400 x 1250 x 700	1
4	CNC Electric Discharge M/C	DOOKWANG(KOR)	DK800CNC	1800 x 1200 x 400	1
5	CNC Electric Discharge M/C	ZIMMERT(GER)	ZTK 850	565 x 400 x 415	1
6	CNC W-EDM	MITSUBISHI	QA-20	500 x 350 x 295	1
7	CNC W-EDM	AGIE(SWISS)	250SF+F HSS	400 x 250 x 250	1
8	CNC W-EDM	AGIS(SWISS)	CUT3000S	500 x 350 x 300	1
9	CNC W-EDM	SODICK(JPN)	SL600G	600 x 450 x 300	1
10	CNC W-EDM	SODICK(JPN)	AL600G	600 x 450 x 300	1
11	CNC W-EDM	Makino(JPN)	Edge2	300 x 250 x 250	2

Grinding Machine

No	Description	Maker	Model	Working Size (mm)	QTY
1	Surface Grinding Machine	Yuil(KOR)	YGS-2512 SCYZ	2500 x 1500 x 830	1
2	Surface Grinding Machine	OKAMOTO(JAP)	PSG-157	1500 x 700 x 600	1
3	NC Grinding Machine	ABA(GER)	MULTILINE1509	1700 x 800 x 550	1
4	Profile Grinding Machine	SCHNEIDER(GER)	H2-1500	1630 x 790 x 760	1
5	Profile Grinding Machine	NICCO(JAP)	NSC-550B	550 x 120 x 180	1
6	Form Grinding Machine	JUNG(SWISS)	S3-DR	450 x 165 x 250	2
7	Projection Grinding Machine	WAIDA(JAP)	PGX-3000	250 x 150 x 150	2

Jig Grinding Machine

No	Description	Maker	Model	Working Size (mm)	QTY
1	Jig Grinding Machine	HAUSER(SWISS)	S3-DR	450 x 250 x 150	1
2	CNC Jig Grinding Machine	HAUSER(SWISS)	S50L-111	1200 x 600 x 635	1
3	CNC Jig Grinding Machine	HAUSER(SWISS)	S50-311	900 x 600 x 635	1
4	CNC Jig Grinding Machine	MITSUISEIKI(JAP)	3GBN	400 x 250 x 300	1

Jig Boring Machine

No	Description	Maker	Model	Working Size (mm)	QTY
1	CNC Jig Boring M/C	YASDA(JAP)	YBM-1224	2400 x 1200 x 600	1
2	CNC Jig Boring M/C	HAUSER(SWISS)	SIP740	1500 x 1000 x 300	1
3	CNC Jig Boring M/C	HAUSER(SWISS)	MP54	900 x 600 x 635	1
4	CNC Jig Boring M/C	URAWA(JAP)	UB-75	700 x 500 x 400	1



2500ton Injection M/C



800ton 3K injection M/C



650ton 2K injection M/C



1,500ton Press



600ton Press



Laser Scanner



CMM



Vacuum Heat Treatment

CAD/CAM

No	Description	Maker	Model	QTY
1	CAD / CAM S/W	SIMENS	UNI GRAPHICS	25
2	CAM S/W	DASSAULT(FRA)	CATIA-V5	9
3	CAM S/W	DASSAULT(FRA)	SOLIDWORKS	8
4	CAM S/W	DELCAM(ENG)	POWER MILL/SHAPE	6
5	CAM S/W	LEMOINE(USA)	RTM/LTX	8
6	CAM S/W	WILCOX(USA)	PC-DIMS CAD++	5
7	Verification S/W	CUBIC TECH(KOR)	Z-MASTER	2
8	CAD / CAM S/W	CGS(JPN)	CAMTOOL	7
9	CAD / CAM S/W	ZEISS	CALYPSO	7

Measuring Instrument

No	Description	Maker	Model	Working Size (mm)	QTY
1	3D Measuring Instrument	ZEISS(GER)	UNM 850	2400 x 1200 x 1100	1
2	3D Measuring Instrument	BROW&SHARP(USA)	Global Status	2200 x 1200 x 1000	1
3	3D Measuring Instrument	BROW&SHARP(USA)	Global Status	2200 x 1200 x 1000	1
4	3D Measuring Instrument	HEXAGON(ITA)	Global EVO	1200 x 900 x 800	1
5	3D Measuring Instrument	MICRO(KOR)	MICRO 543	650 x 650 x 300	1
6	3D Measuring Instrument	BROW&SHARP(USA)	GAB013TA	600 x 800 x 450	1
7	3D Measuring Instrument	ZEISS(GER)	O-INSPECT	500 x 400 x 300	1
8	CNC Video Measuring	NIKON(JAP)	VMR 3020	300 x 200 x 150	1
9	3D Layout Headline	FUJIOKA(JAP)	ASM 2000	2400 x 2400 x 2000	1
10	Laser Scanner	BROW&SHARP(USA)	CMS106AcAJ	2200 x 1200 x 1000	1
11	Laser Scanner	ZEISS(GER)	T-SCAN CS+	2466 x 2177	1
12	Balance Machine	Shimadzu(JAP)	VG-10KEL	ø 470	1

Injection Trial Machine

No	Description	Maker	Model	Working Size	QTY
1	Injection Molding M/C	UBE(JPN)	MAX 2500	2500Ton	1
2	Injection Molding M/C	LG(KOR)	LGH1800S	1800Ton	1
3	Injection Molding M/C	LG(KOR)	LGH 1050N	1050Ton	1
4	Injection Molding M/C	LG(KOR)	LGH 450N	450Ton	1
5	Injection Molding M/C	FANUC(JAP)	S-200i300A	300Ton	1
6	Injection Molding M/C	LG(KOR)	LGH-150 II	150Ton	1

2K Injection Trial Machine

No	Description	Maker	Model	Working Size	QTY
1	Injection Molding M/C (3shots)	ENGEL	DUO800	800Ton	1
2	2K Injection Molding M/C(MUCELL)	ENGEL	DUO650combi	650Ton	1
3	Double Injection Molding M/C	BMK(KOR)	K-400TC	400Ton	1
4	Injection Machine	LG Cable(KOR)	LGH-850M	850Ton	1
5	Injection Machine	LG Cable(KOR)	IDE 650EN	650Ton	1
6	Injection Machine	LG Cable(KOR)	LGH-550N	550Ton	1
7	Injection Machine	LG Cable(KOR)	LGH-450N	450Ton	1

Press Trial Machine

No	Description	Maker	Model	Working Size	QTY
1	Mechanical Press Machine + Feeder & Leveler	HWAIL(KOR)	HE4P-1500	1500Ton	1
2	Mechanical Press Machine	HWAIL(KOR)	HE4P-1000	1000Ton	1
3	Mechanical Press Machine + Feeder & Leveler	HIM		1000Ton	1
4	Mechanical Press Machine + Feeder & Leveler	PRESTAR	ULS2-600	600Ton	1
5	High Speed Press Machine	MINSTER	PM4-450	400Ton	1
6	Mechanical Press Machine	LG(KOR)	SC2-300	300Ton	1

The Others

No	Description	Maker	Model	Clamping Force	QTY
1	Diespotting M/C	JAEIL(KOR)	DSP-4000M	400Ton	1
2	Diespotting M/C	ASAI(JAP)	DSP-2000M	300Ton	1
3	Gun Drill M/C	MIROKU(KOR)	KHG-2000		1
4	Tapping M/C	WIAC(KOR)	VX380TD		2
5	Laser Marking	DONGSUNG LASER(KOR)	MARK-F-100	300X300	2

Main Customers



Let's make our dreams and vision come true with customers!
 NARA Mold & Die Co., Ltd. has supplied world's best products.
