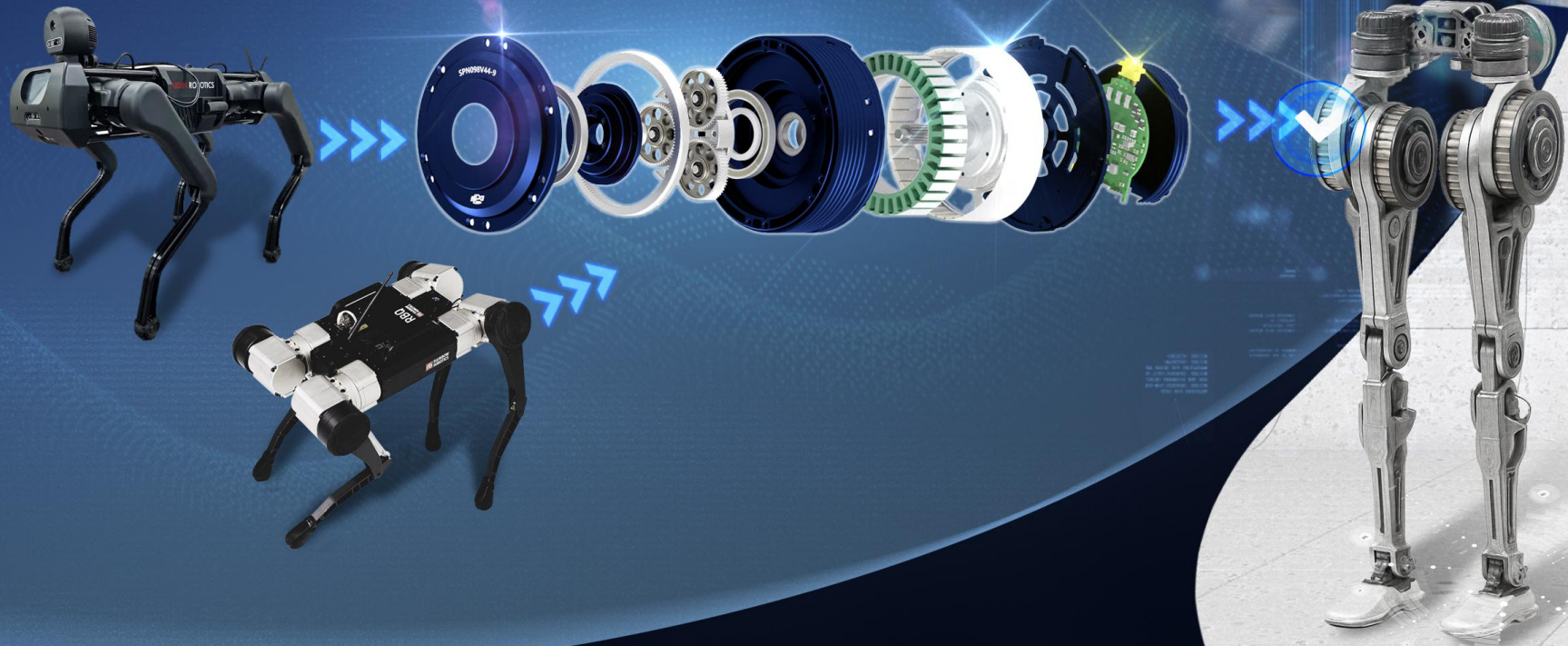


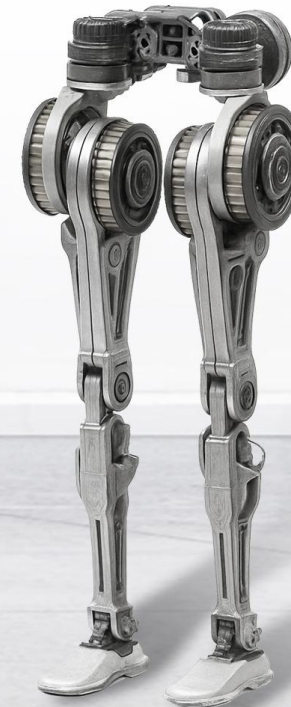
THE NEW SPG 2026



Disclaimer

This material has been prepared for company introduction, IR activities, and for the convenience of investors.

This material may contain information regarding the company's future activities, financial performance, or other forward-looking statements. The company hereby clarifies that such information is only a projection and may differ from actual activities or results. Therefore, investment decisions should not be made solely in reliance on the forecasts, information, or forward-looking statements contained herein. All investment responsibility rests entirely with the investor



Company History and Status

1970s

1973. 05. 21
Founded as Sungshin Co., Ltd.

1978. 01. 11
Completed the construction of the production facility for small-sized, high precision AC motors and commenced the production.

1988. 11. 30
10 Million-Dollar Exportation Tower award for the Trade Day (Presidential Award)

1990s

1991. 03. 21
Founded as SPG Co., Ltd. (Inauguration of the CEO, Jun ho Lee)

1991. 05. 01
Commenced the production of geared motors

1993. 02. 25
Named as a Technology-Intensive SME (Ministry of Science and Technology)

1993. 12. 30
Relocated the HQ from Bucheon to the factory at Namdong.

1994. 01. 01
Commenced the production of standard geared motors.

1996. 10. 15
UL mark certification (SPG)

1997. 01. 22
CE mark certification (SPG)

1998. 07. 20
Recognized as a venture company. (Ministry of SMEs and Startups, Incheon Branch)

2000s

2000. 01. 19
ISO 9001 certification (SPG)

2000. 05. 12
TUV mark certification (SPG)

2001. 11. 30
5-million-dollar Export Tower Award, the 38th Trade Day (Awarded by the Minister of Industry, Trade, and Resources, KITA)

2002. 07. 23
Enlisted with Korea Securities Industry Association
Enlisted in KOSDAQ market

2002. 11. 01
Presidential Award for New Technology Contribution

2002. 12. 04
Small-sized geared motors, recognized as the 'top class product of the world) by the Ministry of Industry, Trade, and Resources

2003. 12. 30
US incorporation established (SPG USA, Inc)

2004. 03. 04
Chinese local incorporation establish (SPG Motor (Suzhou) LLC)

2008. 05. 20
Established the Vietnamese local incorporation. (SPG VINA CO.,LTD)

2009. 11. 06
Named as a KOSDAQ HIDDEN CHAMPION (Korea Stock Exchange)

2010s

2014. 04. 09
Expanded business to CCTV security motion industry.

2014. 06. 13
Named as a World Class 300 company for 2014 (Ministry of SMEs and Startups)

2016. 11. 30
Acquired and merged Sungshin Co., Ltd.

2017. 01. 31
SPG Research Center opened (Songdo, Incheon)

2018. 12. 14
50-million-dollar Export Tower Award (KITA)

2022. 03. 04
Named as one of the model companies with good disclosure practices for 2021 (Korea Stock Exchange)





	Namdong (Korea)	Songdo (Korea)	QingDao (China)	Suzhou (China)	Hochiminh (Vietnam)	Yangsan (Korea)
Established	1991.03	2017.02	2002.05	2004.07	2006.06	1973.05
Capability (pcs)	3,000K	150K	16,700K	14,000K	12,700K	2,500K
Area	B/D : 150,717 ft ² LAND : 91,476 ft ²	B/D : 177,915 ft ² LAND : 81,841 ft ²	B/D : 185,130 ft ² LAND : 270,072 ft ²	B/D : 107,726 ft ² LAND : 142,279 ft ²	B/D : 106,286 ft ² LAND : 177,725 ft ²	B/D : 109,780 ft ² LAND : 106,722 ft ²
Employee	260	180	468	317	518	30
Products	<ul style="list-style-type: none"> • Standard G/Motor • Planetary G/H • Horse Power G/Motor • SH, SR REDUCER 		<ul style="list-style-type: none"> • AC FAN Motor 	<ul style="list-style-type: none"> • BLDC Motor • DC MOTOR 	<ul style="list-style-type: none"> • AC FAN Motor • SHADED POLE G/MOTOR • BLDC Fan Motor 	<ul style="list-style-type: none"> • Food Handler

TOTAL Capability (pcs): **49,050K** / Area: **B/D : 837,554 ft², LAND : 870,115 ft²** / Employee: **1,753**








The New **SPG**

CONTENTS

- 01 **SDD**(SPG Direct Drive)
- 02 **OHT**(Overhead Hoist Transport equipment)
- 03 **Defense Industry**
- 04 **AMR**
- 05 **Others**



1 The Evolution of Robots

	Cartesian coordinates	SCARA	Articulated	High-speed Articulated	Co-Bot	Dual Arm	Humanoid
Shape							
Reducer/ DoF	Planetary 3-axis	Harmonic 3-4 Axis	RV, Harmonic 6+ Axes	Harmonic 6+ Axes	Harmonic 6+ Axes	Planetary, Harmonic 22+ Axes	Planetary, Harmonic Direct Drive (integrated) 25-34 Axes
Manufacturers	Robostar Hyulim Robot	Robostar Hyulim Robot EPSON	Hyundai Robotics Yuil Robotics Nau Robotic FANUC KUKA YASKAWA	Hyundai Robotics NACHI Mitsubishi	Rainbow Robotics Doosan Robotics Hanwha Robotics Neuromeka Universal Robot Techman Robot	Rainbow Robotics Robotis CORAS Robotics ABB	Rainbow Robotics (Samsung) Boston Dynamics (Hyundai) Korea Institute of Machinery & Materials, Blue Robin Holiday Robotics Unitree Robotics Agility Robotics

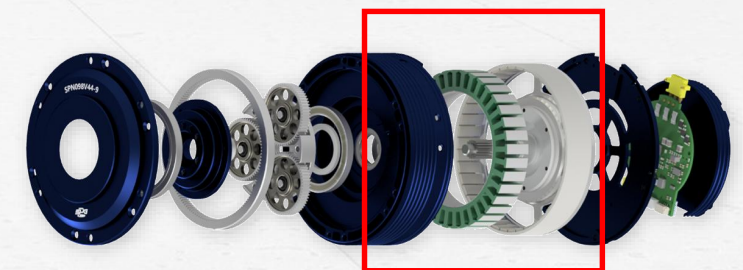
* SPG Precision Reducer (Planetary Reducer, SH, SR Reducer) Sales Revenue

· KRW 7.6 billion in 2023, KRW 10.2 billion in 2024, KRW 14.0 billion (estimated) in 2025

01 Motor

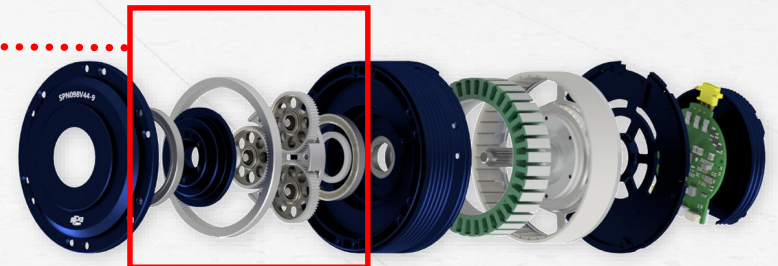
Category	Competitor	SDD	Remark
Efficiency (%)	70.4	80.7	Maximum Load Condition (Efficiency Improvement)
Torque Ripple (%)	4.4	1.5	Maximum Load Condition (Vibration & Noise Reduction, Lifetime Improvement)
Cogging Torque (mNm)	0.16	0.11	Rated and Maximum Load Conditions (Vibration & Noise Reduction, Lifetime Improvement)
Motor Temperature (°C)	93	67	Competitor Driver Protection Circuit Activation Point (Heat Reduction, Robot Lifetime Extension)

The Evolution of Robots



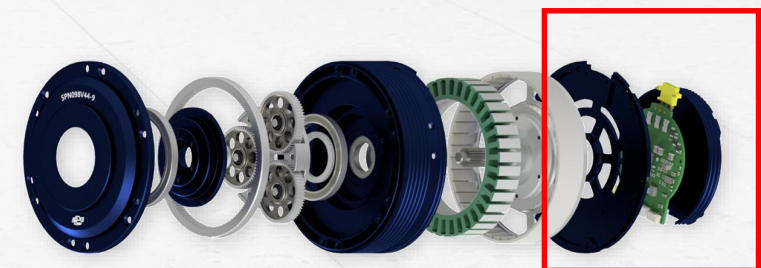
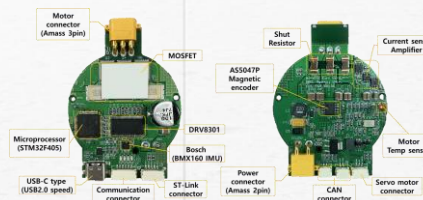
02 Reducer

Category	Competitor	SDD	Remark
Lightweighting	-	90% to competitor	Gear & Housing Lightweighting for Improved System Efficiency and Higher Torque Output
Safety Factor	Service factor 1.0	+20% to competitor	High-Strength Gears for Increased Torque and Enhanced Durability
Backlash (arcmin)	20	9	Reduced Gear Backlash for High Precision and High Responsiveness




















03 AI Controller

Category	Competitor	SDD	Remark
Voltage	24~48v	24~150v	Reduction of peak current and possibility of adopting low-cost components (improved heat dissipation, reduced cost)
Interface	CAN, USB	Ether CAT	Compatible with various communication protocols
Protection	Temperature, overcurrent	AI-based fault diagnosis	Ensuring high reliability of the actuator



1 SDD dedicated R&D members

 <p>Motor/Actuator</p> <p>Heo Jin Ph.D</p> 	 <p>Advancing Technology for Humanity</p> <p>IEEE Fellow</p>	 <p>한국전자기술연구원</p> <p>Korea Electronics Technology Institute</p>	 <p>Ph.D Hanyang Univ</p>
 <p>Precision Reducer</p> <p>Kim Jung-yeob Ph.D</p> 	 <p>국방 과학 연구 소 Agency for Defense Development</p> <p>ADD</p>	 <p>KAIST Hubo Lab</p>	 <p>KAIST Ph.D. in Mechanical Engineering</p>
 <p>Controller</p> <p>Choi Dong-il Ph.D</p> 	 <p>KARI 한국항공우주연구원 Korea Aerospace Research Institute</p>	 <p>NAVER LABS</p>	 <p>Carnegie Mellon University</p>
		 <p>KAIST Hubo Lab</p>	 <p>KAIST Ph.D. in Mechanical Engineering</p>

Integrated Joint Module

“ SDD(SPГ Direct Drive) ”

“DD(Direct Drive) Fast Response + Integrated reducer”

5,000 + Planned
Mass Production in
CY2026



Planetary Gear

Motor

Controller

SDD VS Normal Actuator

	Normal Actuator	SDD Actuator
Reduction Ratio	Mid-High	Low (easy control)
Dynamic Performance	Relatively Low	High
Back Driving	X	O
Torque Density	Low	High

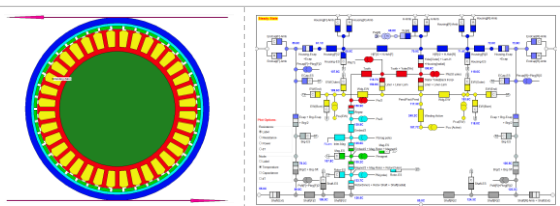
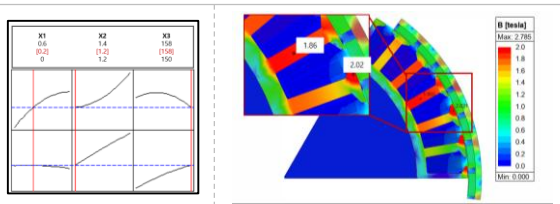
Actuator for Humanoid Robot Hip Joint

Human-body inspired design aims at minimizing vibration and noise while maximizing efficiency

- ▮ Capability in multi-physics optimization analysis

multi-physics analysis

- RSM-based optimization design
- Analysis of copper, iron, and mechanical losses
- Motor thermal rating calculation



- ▮ 27 billion KRW invested in precision gear facilities

High-precision manufacturing

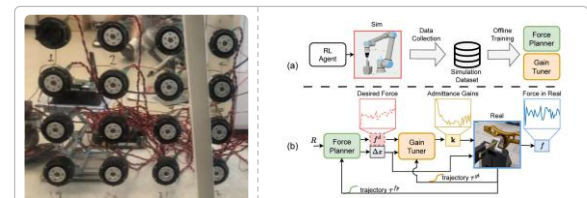
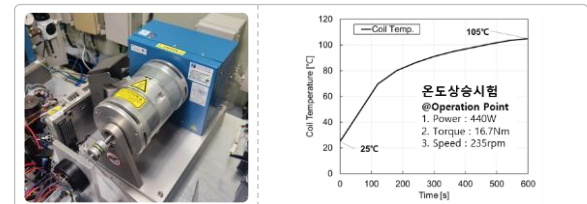
- Consistent Quality
- Efficient Production
- Cost Saving



- ▮ UL TCP LAB

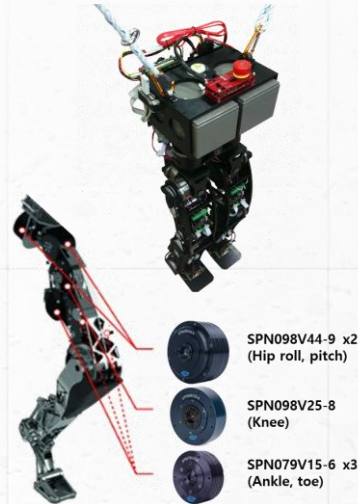
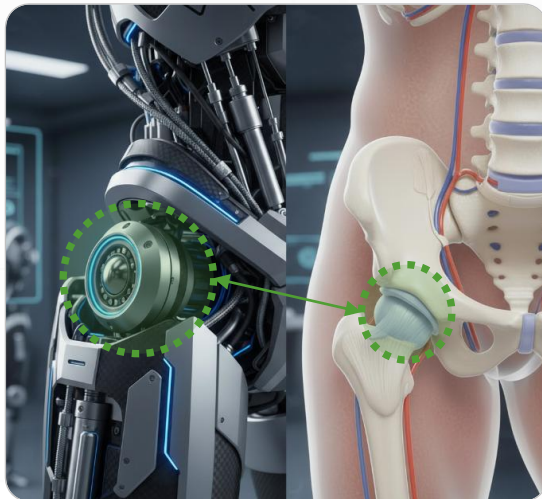
Performance evaluation and analysis

- Review of up-to-date evaluation criteria
- Performance evaluation process development
- Reliability and environmental evaluation

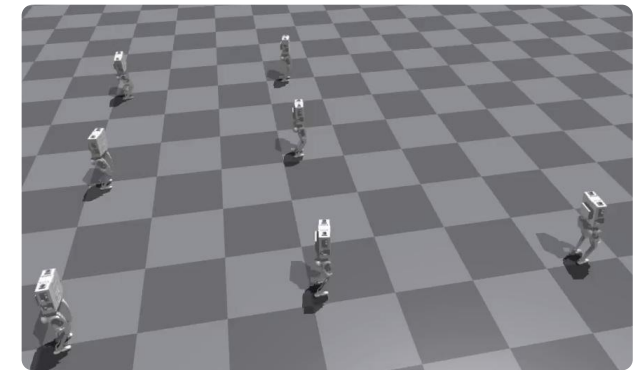
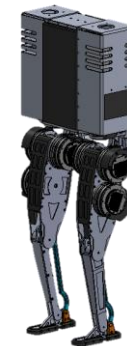


“ The key for humanoid – realize human-like dynamic motions ”

withstand high loads and strong impacts, like the hip joint.



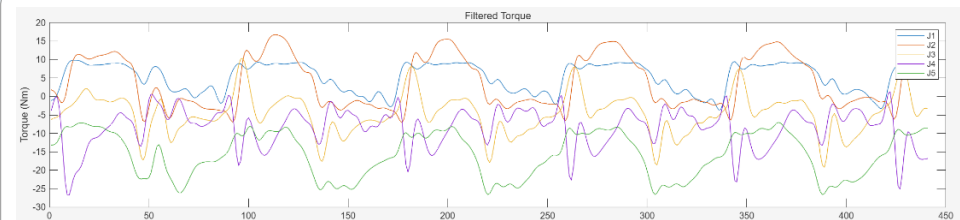
“10-DOF biped robot STOB V3”
SEOULTECH HRR Lab



SDD actuator design optimized for dynamic gait profile

For robots, the ability to handle peak torque and impact at foot contact is crucial

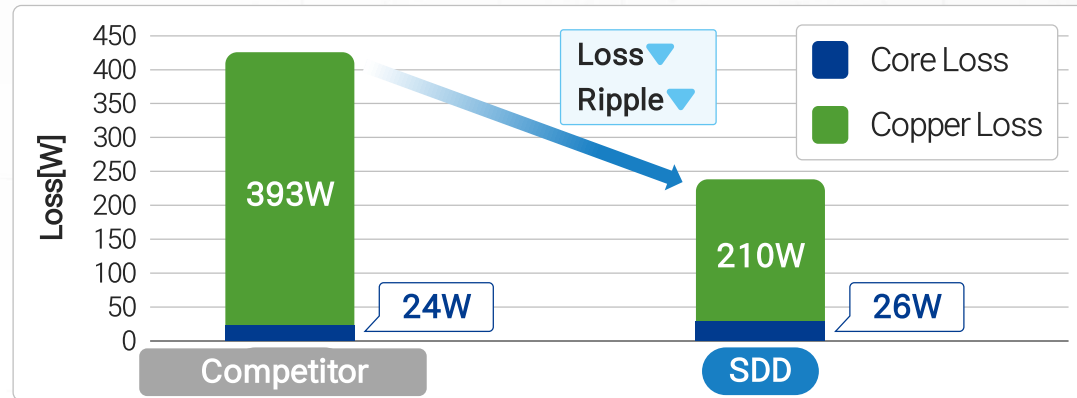
Dynamic Locomotion Profile



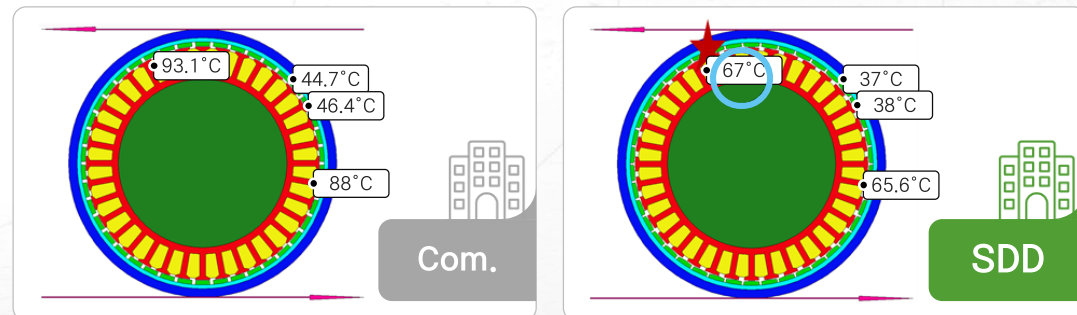
1 SDD Model Feature- (Motor)

Comparison Under Maximum Load

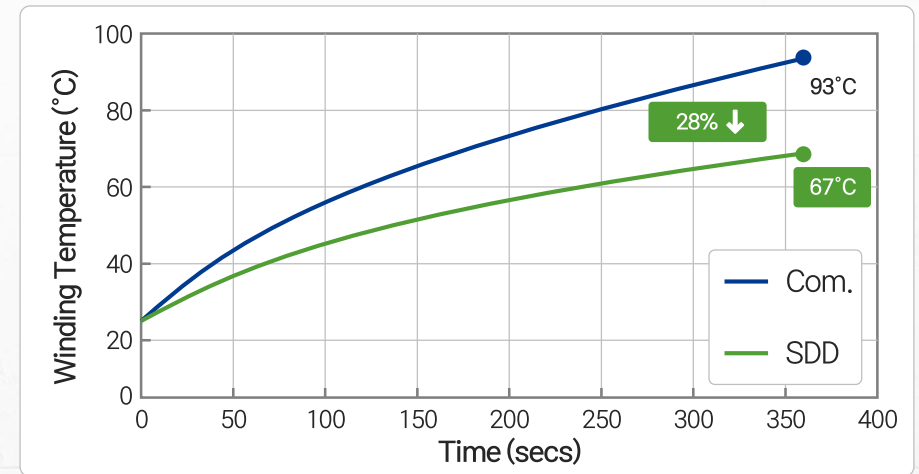
	Competitor	SDD	
Cocking torque [Nm _{PK-PK}]	0.16	0.11	31.25% ↓
Torque ripple[%]	4.4	1.5	2.9% ↓
Eff. [%]	70.4	80.7	10.3% ↑



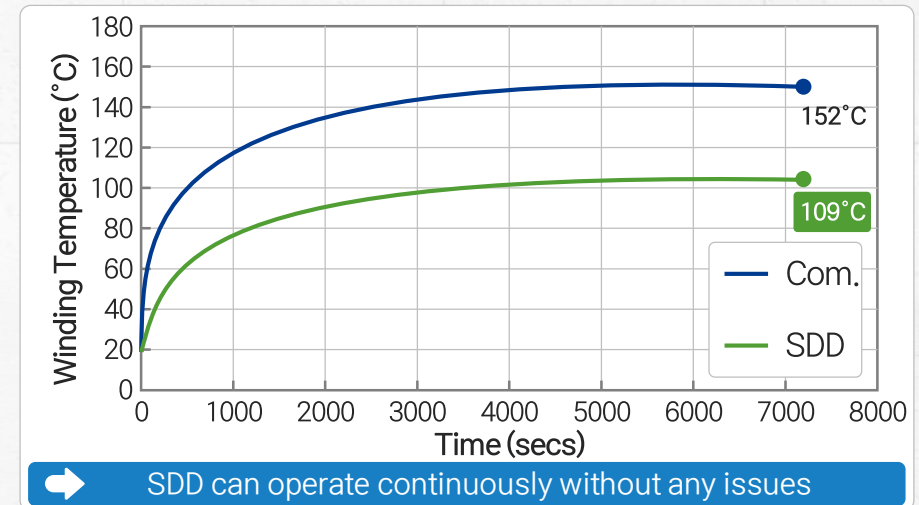
Simulation-Based Thermal Analysis Results



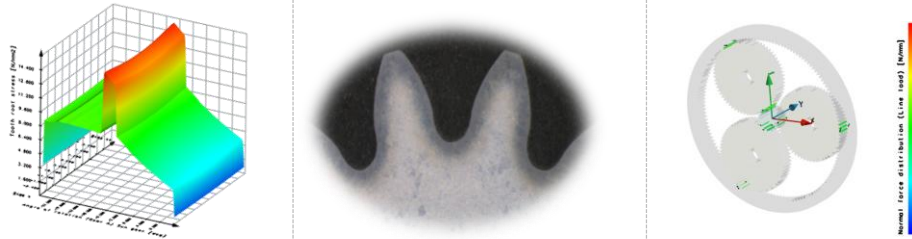
Actuator Thermal Performance Enhancement Results at Rated Load



Actuator Heat Profile Evaluation Without Thermal Damage Consideration



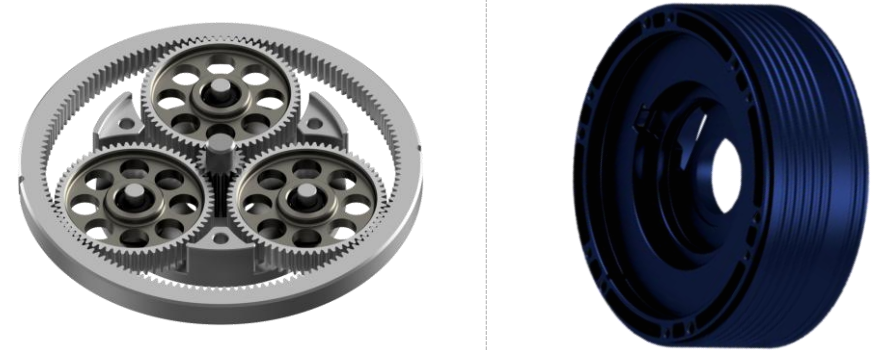
High-Strength Gear



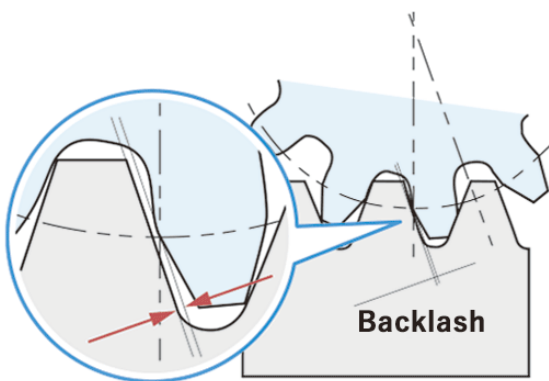
- 20% Increase in Safety Margin Compared to Competitors



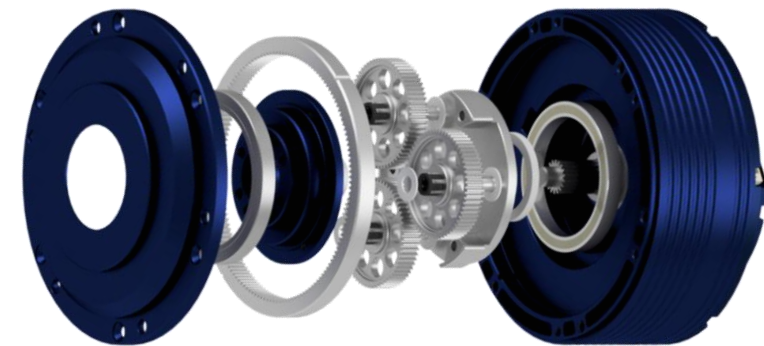
Weight Reduction (Gear & Housing)



High Precision / Low Noise



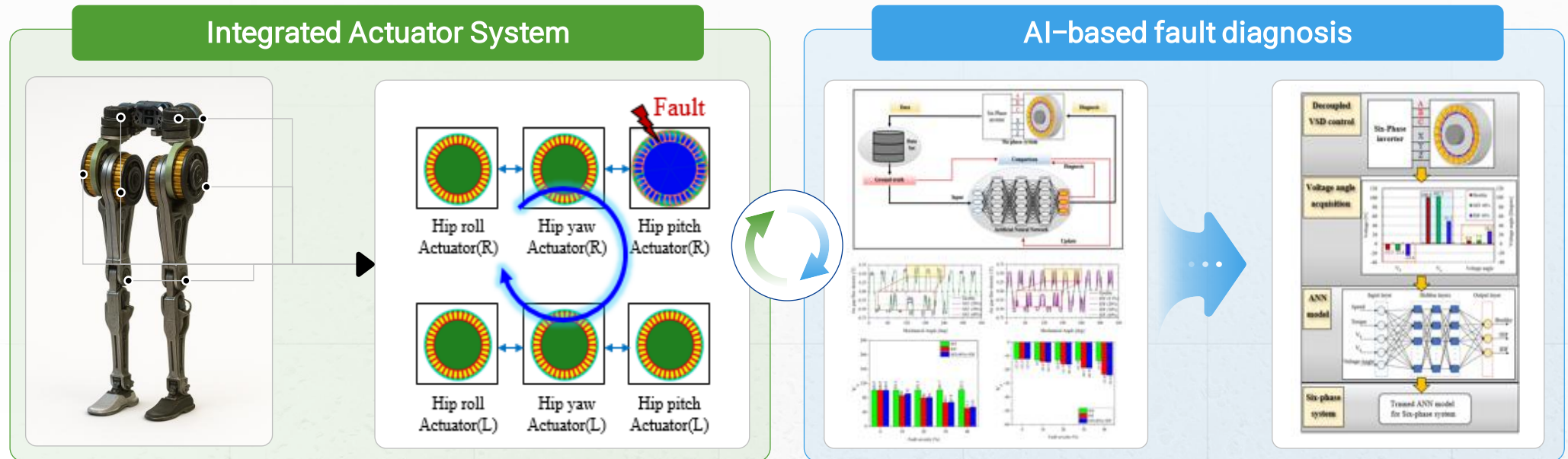
- Low Backlash (≤ 9 arcmin)
- Precision Gear Machining



- 10% Reduction Compared to Competitors



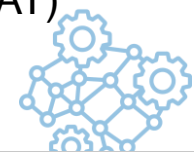
Integration of AI-Based Fault Diagnosis Function for Actuator to Ensure High Reliability



AI-Driven Modular Distributed Control Architecture

Actuator Embedded with AI-Powered Predictive and Corrective Algorithms

- ➔ Real-Time Module-Level Cooperation Enabled by High-Performance Networks (EtherCAT)
- ➔ Adjacent modules seamlessly execute proxy control in case of module malfunction





LGSciencepark  MOU (2025.11.18)



 한국기계연구원 KOREA INSTITUTE OF MACHINERY & MATERIALS MOU (2025.10.13)

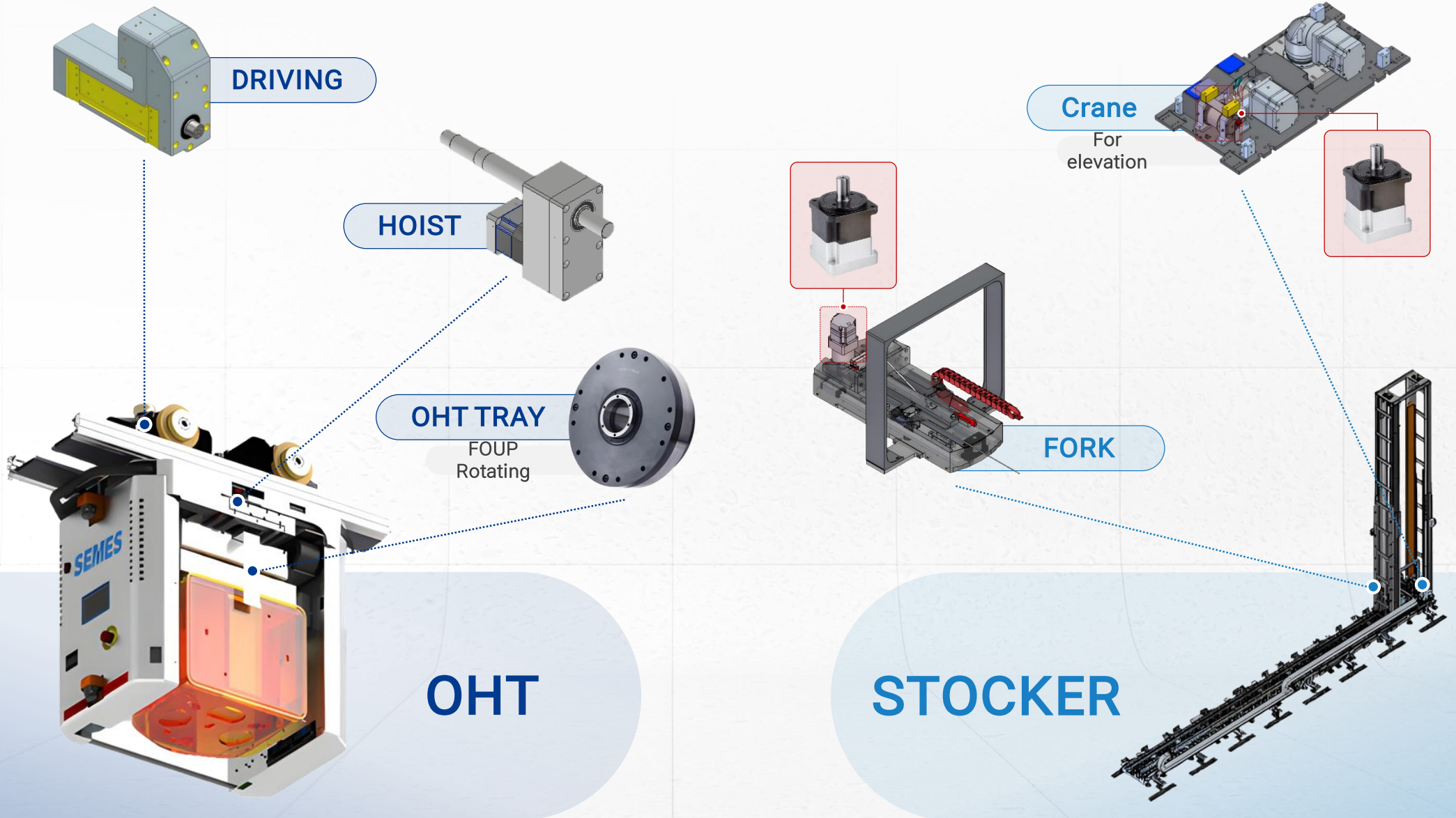


Targeting U.S. humanoid robotics market by participating exhibitions in 2026.

2 OHT Demonstration video



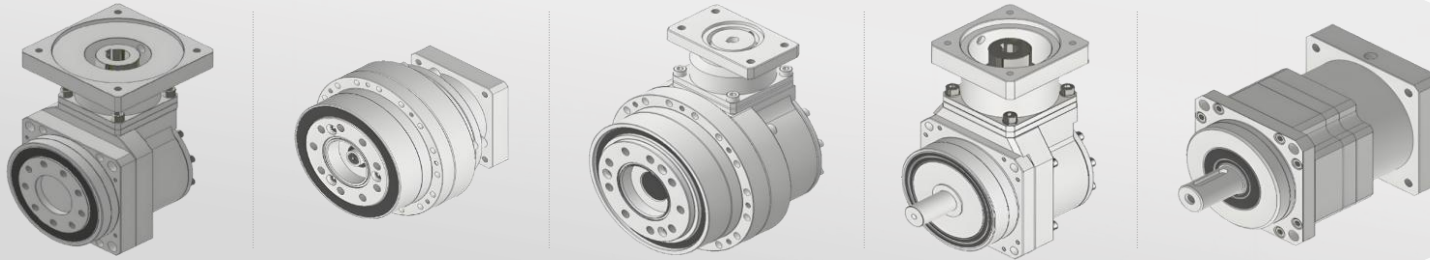
2 OHT, STOCKER



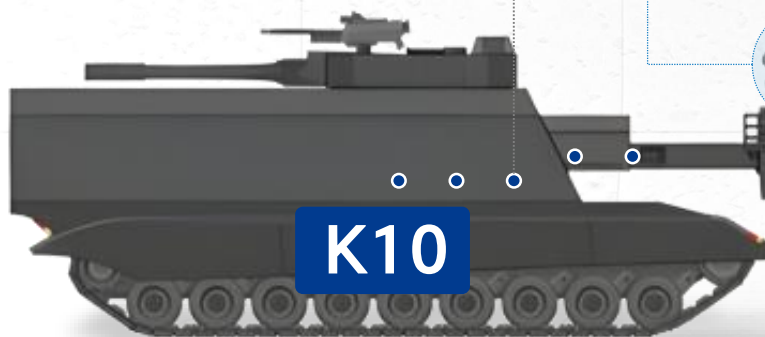
3 Defense Industry(2025 ADEX)



Planetary Gear / SR TYPE



KCG-20 KCG-25 KCG-32
RCWS SH 3-Axes Applied



K10

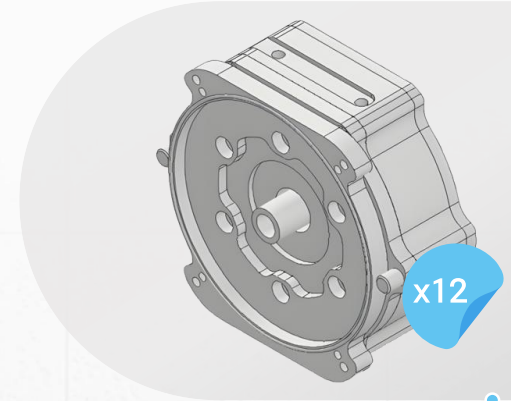
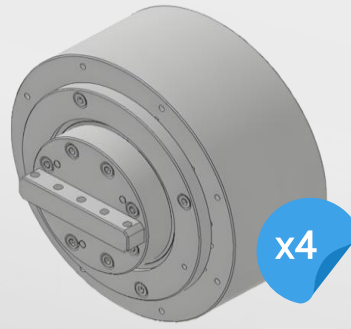
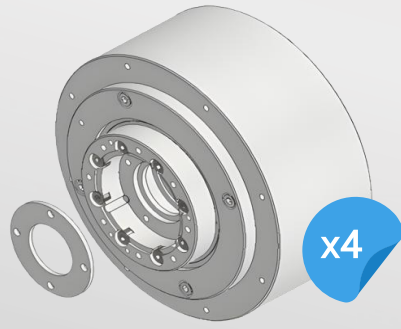
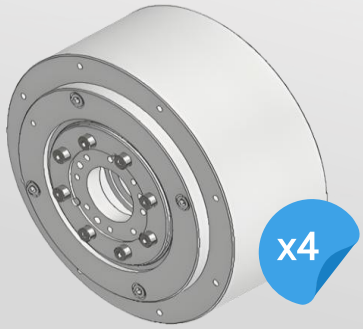


K9



Precision Reducer for Automated Defense System

Estimated Turn over : 10 billion KRW at 2028



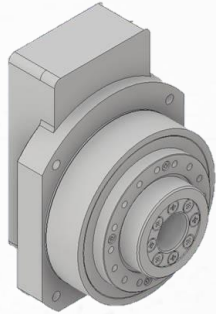
AIDIN ROBOTICS



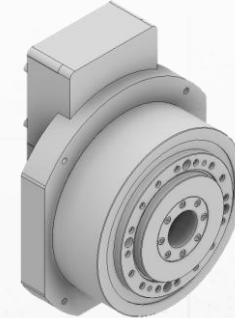
RAINBOW ROBOTICS

Quadruped Robot Reducer

[SH TYPE]



KSF-25-080-UH

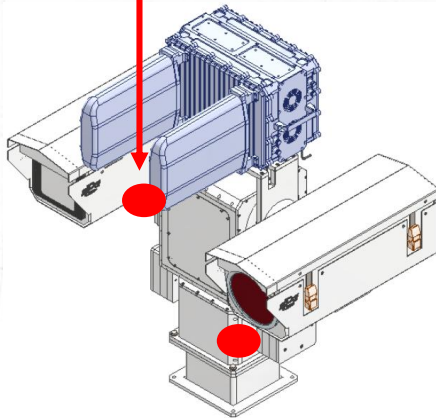


KSF-32-120-UH

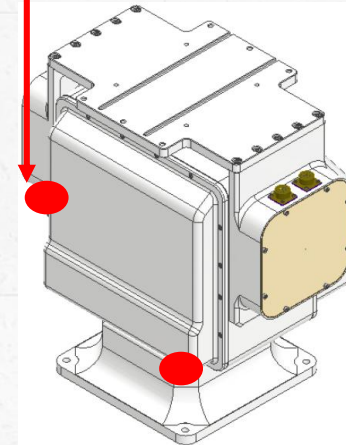


PAN
TILT

PAN
TILT



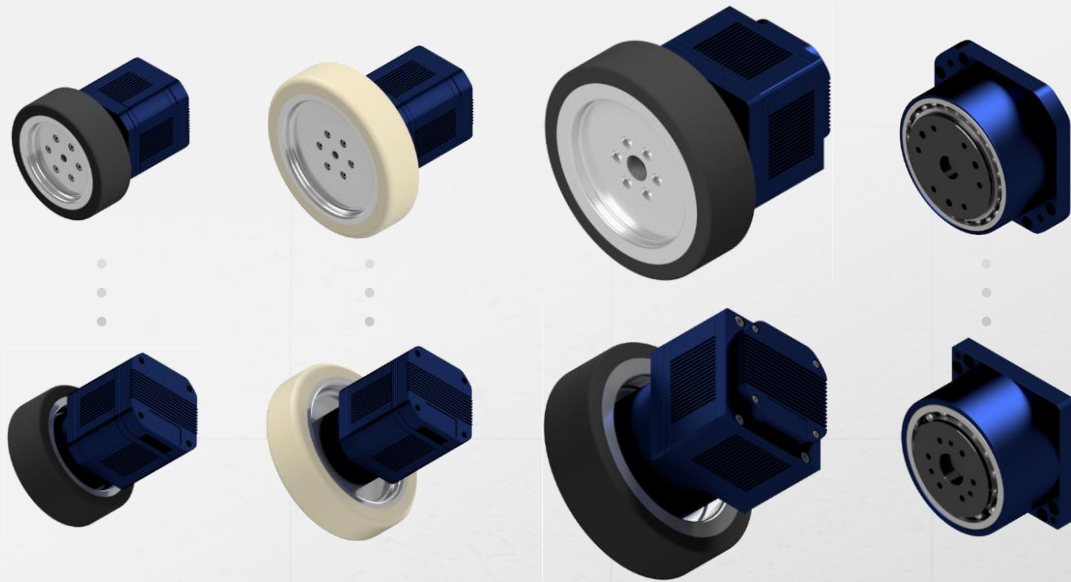
SNS-90000



SNS-50000

SPG Positioning Camera

Wheel + Reducer + Motor + Controller Integrated Module



Robot



Mobile Robot

COMPACT/High torque,precision

- Low Backlash Precision Positioning & Motion Control (≤ 10 arcmin)
- High-efficiency design with planetary gear application, extended battery operating time
- Customizable output, gear ratios, and development of various wheels available
- Partners: Rainbow Robotics, Samsung Display, Yujin Robotics, LG CNS, Brills, T-Robotics



Medical

Smart Factory Needs

SPG

SPG Co., Ltd.



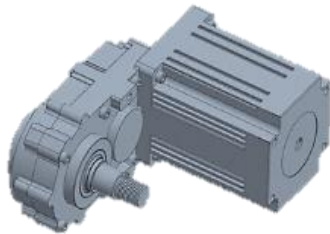
Up and down drive

AC Geared Motor
14,000EA
ICG-94470 TYPE



Up and down drive

DC Geared Motor
26,000EA
DGO-9028 TYPE



Bed wheel drive

BLDC Geared Motor
3,800EA
XPH10500F TYPE



Wheel auto lock

DC Geared Motor
13,000EA
DGO-5236 TYPE



Bed angle adjustment

AC Geared Motor
7,400EA
ICG-94440 TYPE



Medical bed

\$3million annually

Smart Factory Needs

SPG

SPG Co., Ltd.



IV Pole Motor

DC Geared Motor
6,800EA
RS46BXLB TYPE



Vacuum Regulator Motor

DC Geared Motor
14,500EA
RS45AYLC TYPE



Inner Tank Drain Valve Motor

DC Geared Motor
5,800EA
RS44AYLF TYPE



Surgical waste

\$2million annually

Auto Door

Smart Factory Needs

SPG

SPG Co., Ltd.

Sliding Auto Door



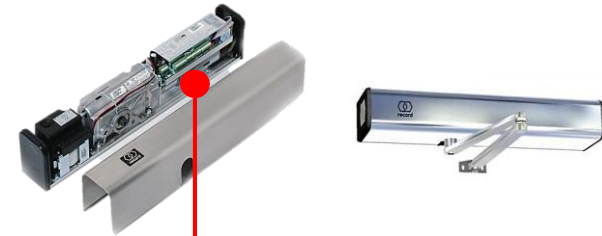
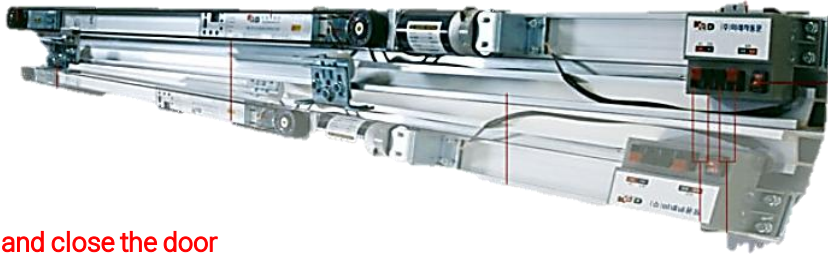
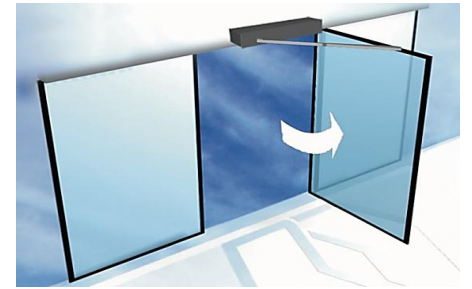
Screen Auto Door



Auto door in the house

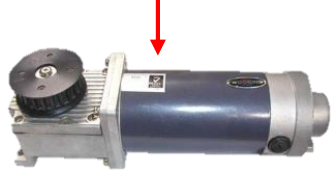


Swing Auto Door



Open and close the door

Open and close the door



DC Geared Motor
45,000EA
DGO-6024 TYPE



BLDC Geared Motor
Not In Mass Production
DGO-6324 TYPE



BLDC Motor
6,000EA
DGO-6024 TYPE



BLDC Geared Motor
Not In Mass Production
DGO-6324 TYPE



DC Geared Motor
5,500EA
DGO-4224 TYPE



DC Geared Motor
50,000EA
DGO-6348 TYPE

GEARED MOTOR LAYOUT FOR AUTO DOOR

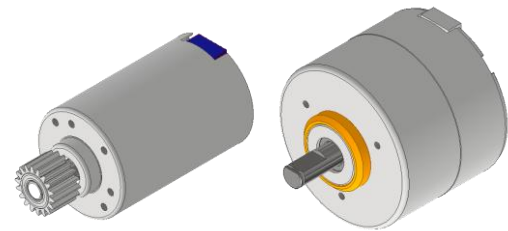
\$2.8million annually

ATM Machine

Smart Factory Needs

SPG

SPG Co., Ltd.



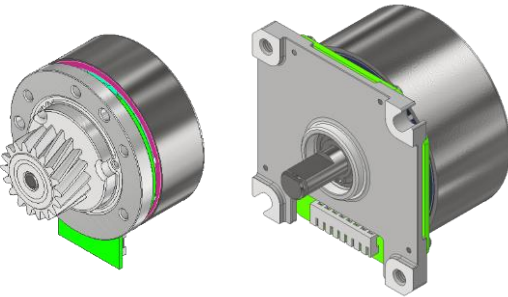
Drive

BLDC Motor
BL- TYPE

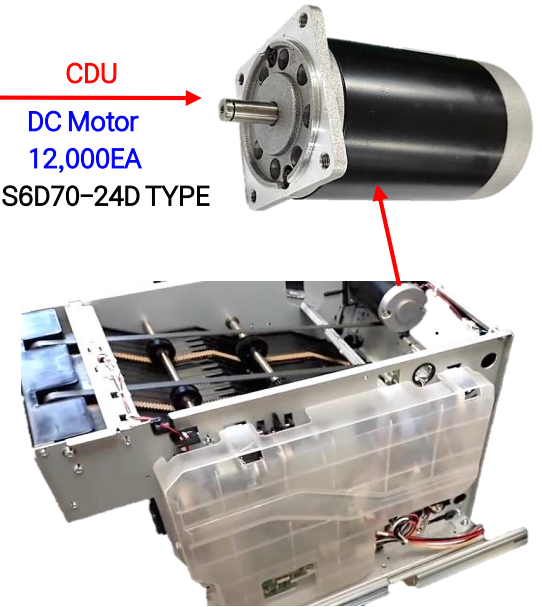
27,500EA

Drive

BLDC Motor
BLO- TYPE



ATM Machine



CDU

DC Motor
12,000EA
S6D70-24D TYPE

\$2million annually

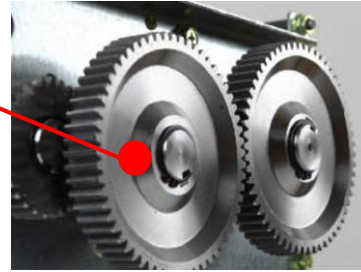
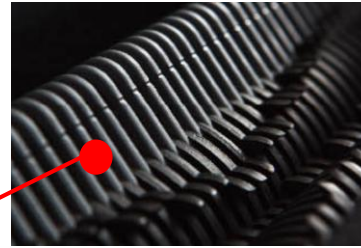
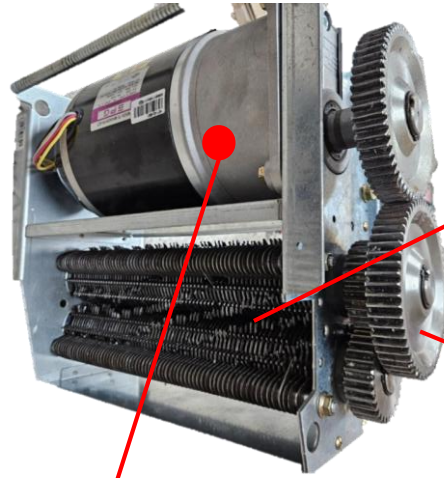


Shredder

Smart Factory Needs

SPG

SPG Co., Ltd



Shredder Drive

AC GEARED MOTOR

14,000EA

PM(MEGA) TYPE

1Ph. 0.2 / 0.4 / 0.75 / 1.5kW

3Ph. 0.75 / 1.5 / 2.2 / 3.7 / 7.5 kW

\$1.5million annually

Shredder for Office / Industrial Use

Valve

Smart Factory Needs

SPG

SPG Co., Ltd.



Valve opening and closing

DC Geared Motor
DGO-4005 TYPE
(Gear box short)

43,000EA

Valve opening and closing

DC Geared Motor
DGO-4005 TYPE
(Gear box long)



\$1 million annually

Water meter Valve

Smart Factory Needs

SPG

SPG Co., Ltd



Valve Opening & Closing

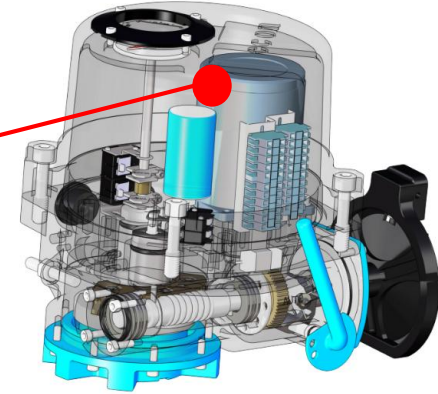
AC MOTOR

S6/S7/S8/S9/S10 TYPE

1Ph. 10W ~ 300W

3Ph. 15W ~ 400W

DC 6W ~ 40W



120,000EA



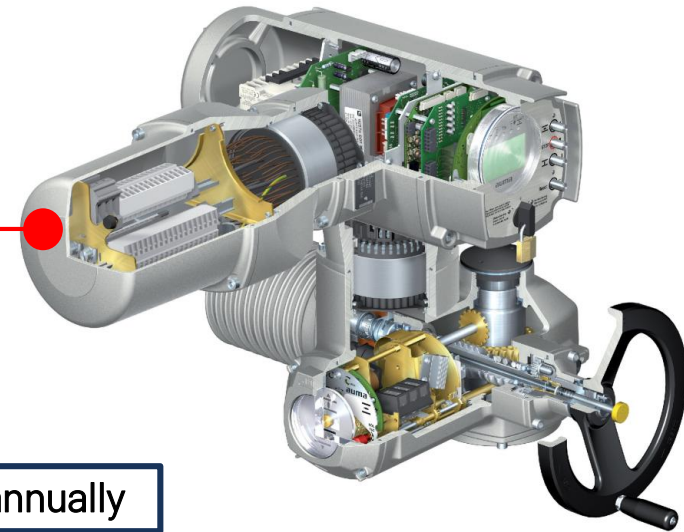
Valve Opening & Closing

AC MOTOR

P TYPE

1Ph. 0.2kW ~ 1.2kW

3Ph. 0.2kW ~ 5.5kW



\$3million annually

ACTUATOR

Parking Gate

Smart Factory Needs

SPG

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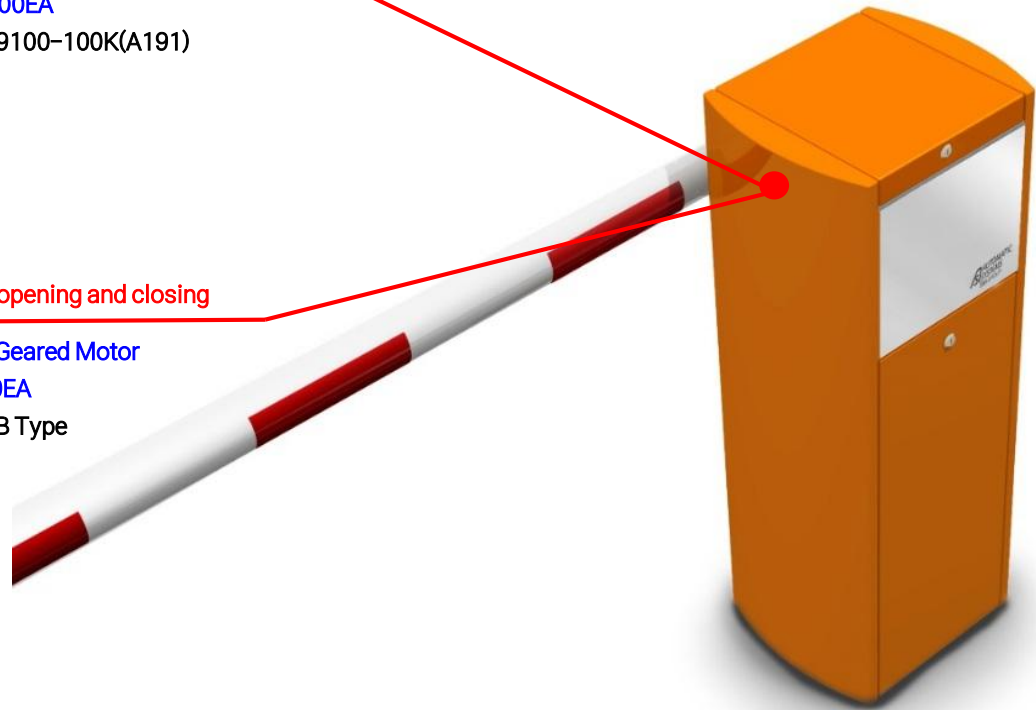
Bar opening and closing

BLDC Geared Motor
15,000EA
XFH9100-100K(A191)



Bar opening and closing

AC Geared Motor
1,600EA
FA/FB Type



\$800,000 annually

Parking Lot – Parking Gate

Pellet Heating System

Smart Factory Needs

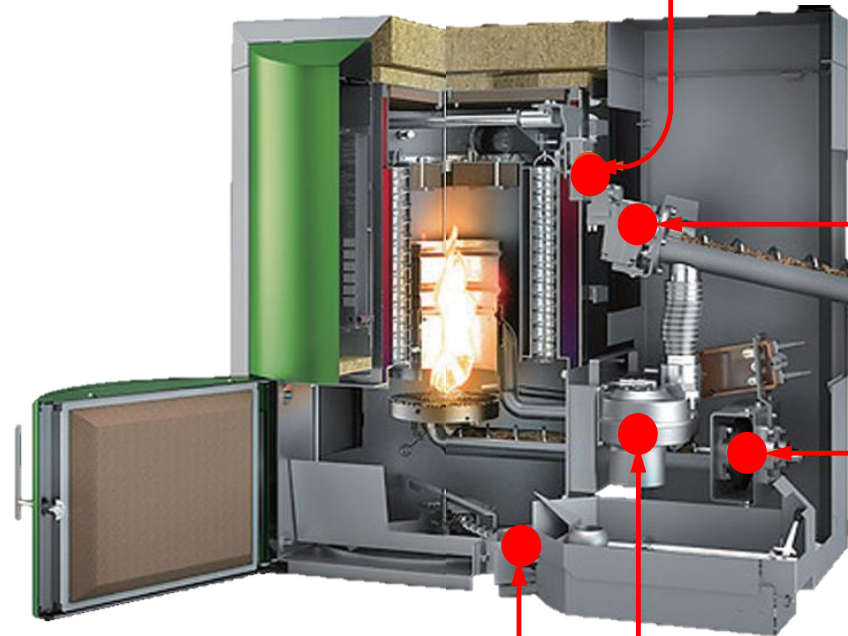
SPG

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AC Geared Motor
ISG-3 TYPE

Ash Cleaner



Pellet & Wood Chip Feeder

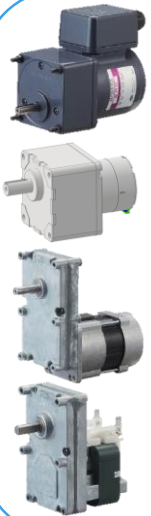
Pellet & Wood Chip Feeder

Ash Feeder

Blower & Exhaust Fan



AC / BLDC Radial Fan Motor



AC Geared Motor
Standard TYPE

BLDC Geared Motor
NEW TYPE

BLDC Geared Motor
ISG TYPE

AC Geared Motor
ISG TYPE

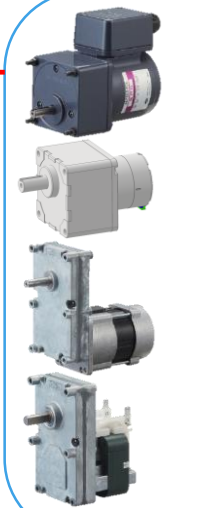


AC Geared Motor
Standard TYPE

BLDC Geared Motor
NEW TYPE

AC Geared Motor
FA TYPE

AC Geared Motor
FB TYPE



AC Geared Motor
Standard TYPE

BLDC Geared Motor
NEW TYPE

BLDC Geared Motor
ISG TYPE

AC Geared Motor
ISG TYPE

Pellet Heating System

Gas Boiler

Smart Factory Needs

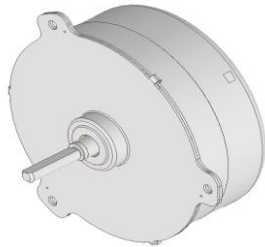
SPG

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Gas Boiler

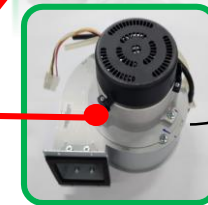


DL89806 Type

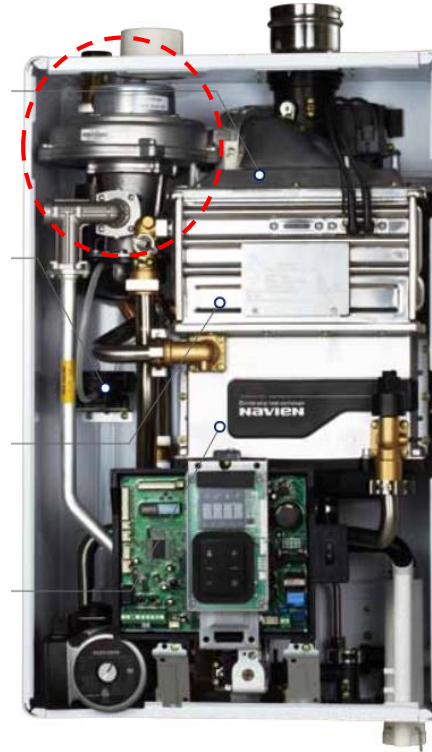


DL89812 Type

BLDC Motor



Blower



Condensing Gas Boiler

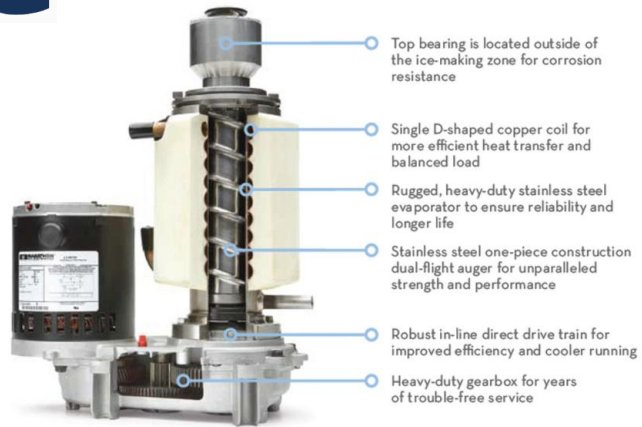


Food & Beverage

Smart Factory Needs

SPG

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Auger Ice Making

AC GEARED MOTOR
18,000EA
ICG TYPE
1Ph. 80W/200W



Ice Maker

\$2.4million annually

Smart Factory Needs

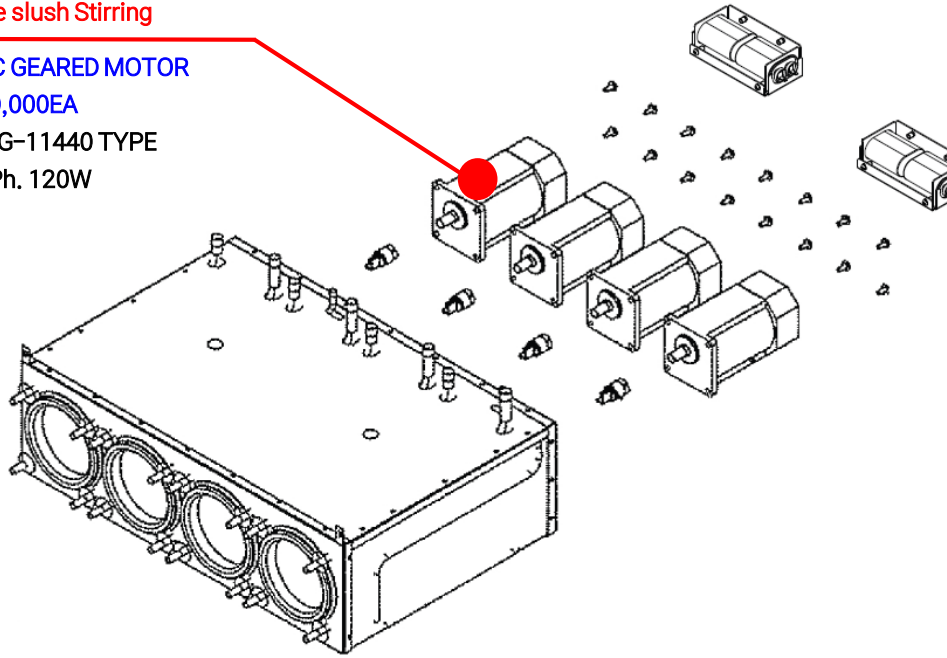
SPG

SPG Co., Ltd.



Ice slush Stirring

AC GEARED MOTOR
70,000EA
ICG-11440 TYPE
1Ph. 120W



Frozen Beverage Dispenser

\$4.6million annually

Smart Factory Needs

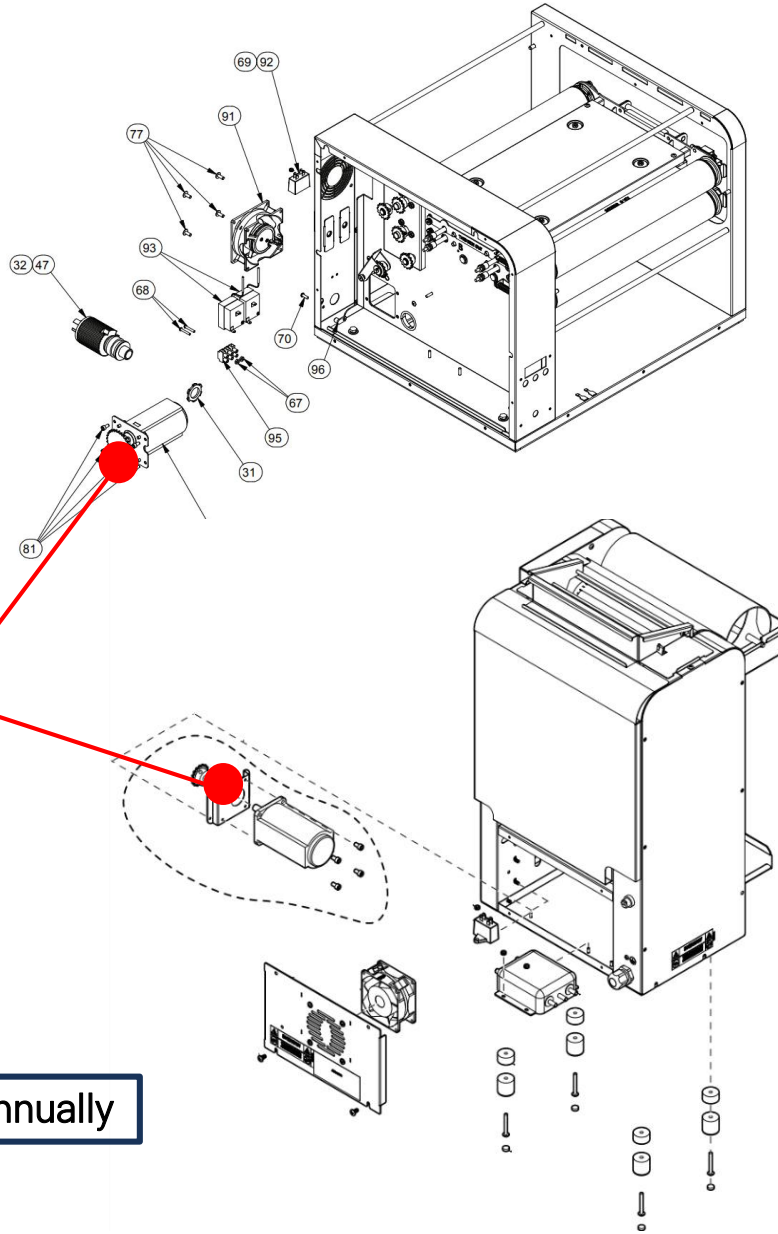
SPG

SPG Co., Ltd



Conveyor Drive
AC GEARED MOTOR
15,000EA
ICG-70425 TYPE
1Ph. 10W

\$520,000 annually

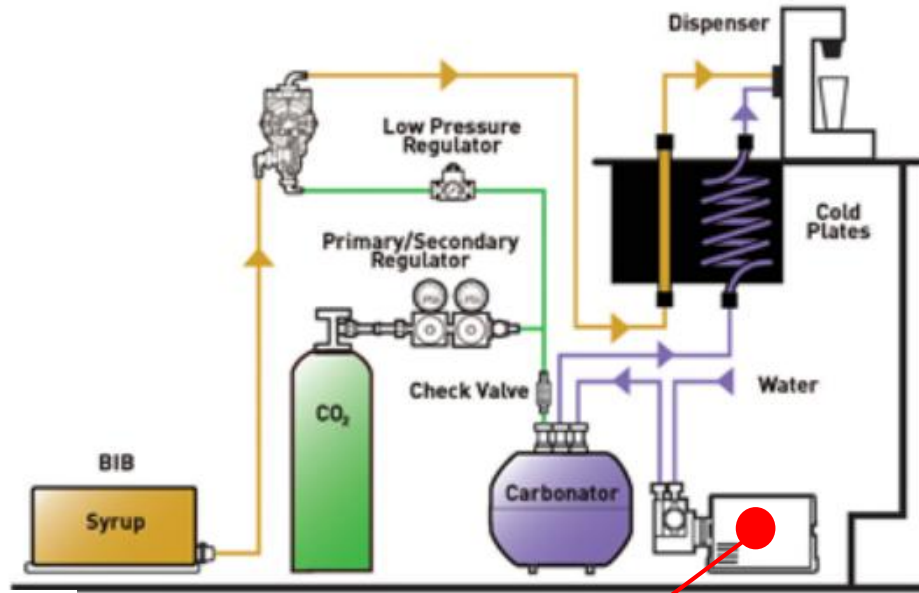


Toasters

Smart Factory Needs

SPG

SPG Co., Ltd.



Carbonator Pump Drive

AC MOTOR

20,000EA(1st Step), 2nd Step : 70,000EA, 3rd Step : 500,000EA

SP-1M TYPE

1Ph. 250W

Switch



Convert



* Electronic Switch
Life Cycle : 1,000,000

* Mechanical Switch
Life Cycle : 100,000

\$40million annually

Beverage Dispenser

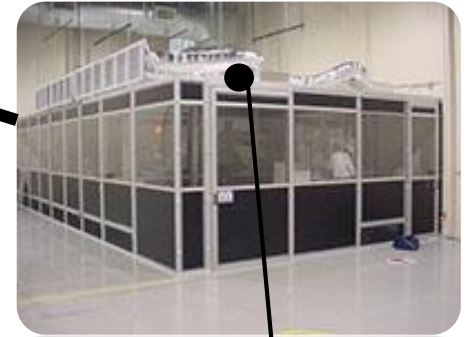
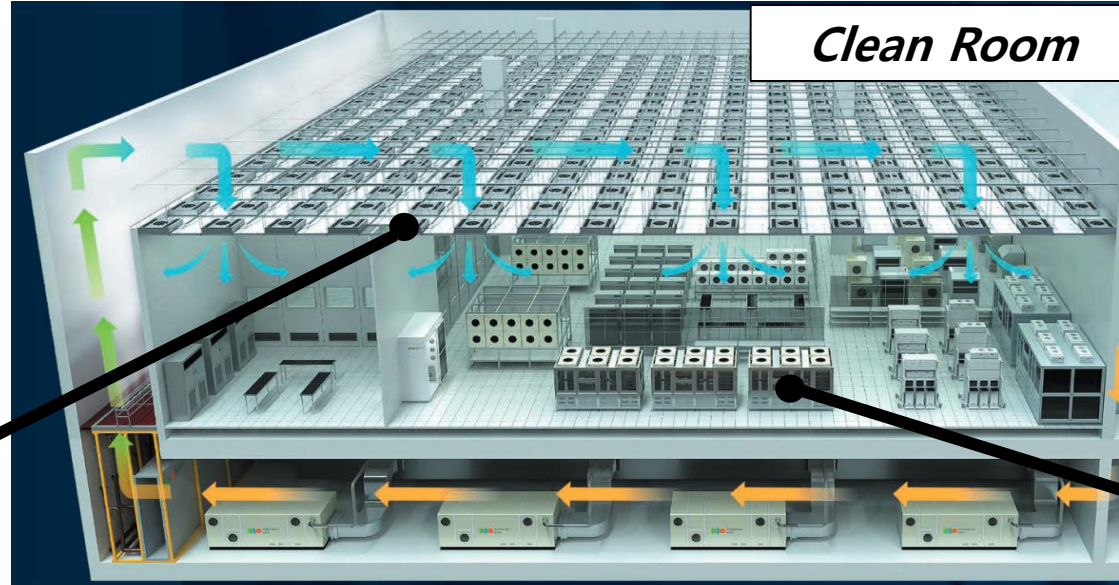
EFU & FFU

Smart Factory Needs

SPG

SPG Co., Ltd.

■ EC Blower MOTOR for EFU & FFU



BLDC Motor & Controller



FFU Fan Filter Unit



EFU Equipment Fan Filter Unit

Smart Factory Needs

SPG

SPG Co., Ltd.

Motor

200W : 10,000EA

300W : 5,000EA

400W : 10,000EA

650W : 5,000EA

\$1.2million annually

■ EC Blower MOTOR for EFU & FFU



SM1200 Type

- DL-11070SS120
- ~1200W
- Controller external



SM650 Type

- DL-11040SS65
- ~650W
- Controller external / built-in



SM400/300/200Type

- DL-86055SS40/30/20
- ~200W/300W/400W
- Controller external
- Sensored / Sensorless



EC400 Type

- EC-86055SS40
- ~400W
- Controller built-in



Ø470*H45
SM200,SM300 Series



Ø470*H85mm
SM400 Series

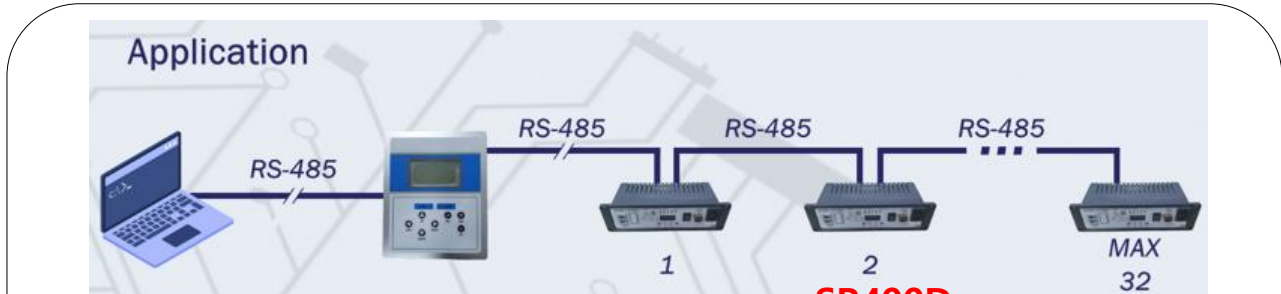



Ø470*H110
SM650 Series



Ø530*H110
SMP650 Series

Application






MFCL3

Multi Fan Controller

- Control and Monitor up to 32 Drivers
- RS-485 communication for group & individual control
- 144mm*178mm*31mm



SP400D

BLDC Motor Driver

- 1:1 installation with EFU/FFU
- 7,000EA, 350,000 dollars annually
- Remote/Local operation, Variable speed & Monitoring
- RS-485 communication for remote wired control
- 238mm*69mm*68mm

Air Handler Unit

Smart Factory Needs

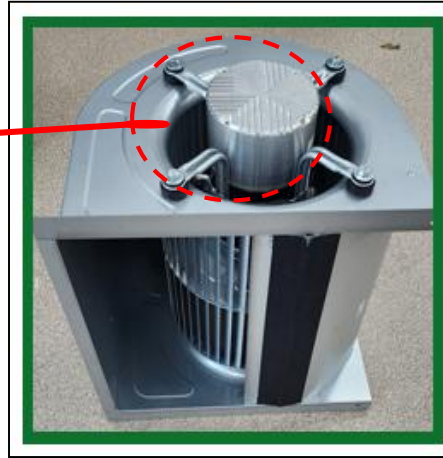
SPG

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Air-Handler Unit



EC13825 Type
EC13850 Type



BLDC Motor

Blower

Air-Handler Unit

Conveyor

Smart Factory Needs

SPG

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Conveyor drive

AC Geared Motor
100,000EA
Standard TYPE

AC Geared Motor
15,000EA
Industrial TYPE



Conveyor drive

DC Geared Motor
42,000EA
DGO-90180 TYPE



Conveyor Drive & Control

BLDC Geared Motor
Built-in controller



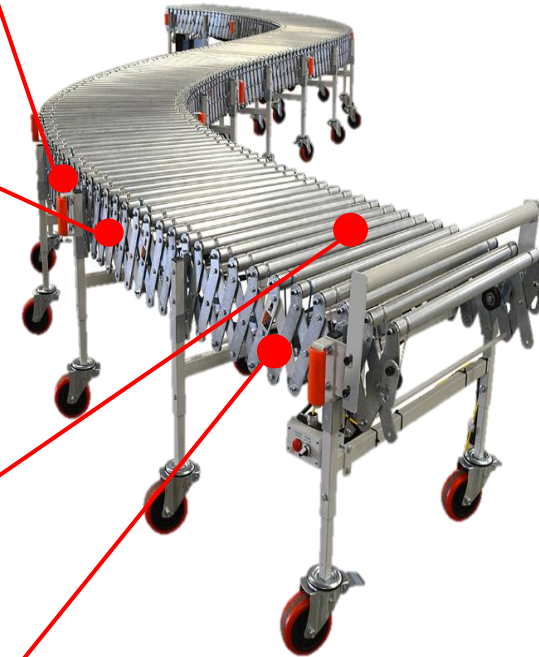
Conveyor Drive & Control

BLDC Geared Motor
Roller & Controller



Conveyor Drive

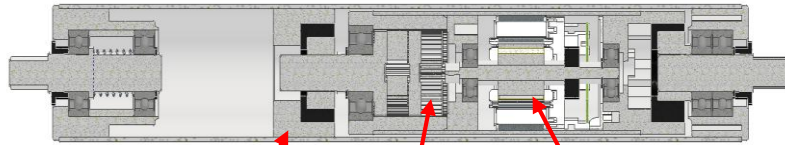
DD Motor



80,000EA for FMH, \$6.5million annually **➔** \$9million annually (Add BLDC Motor)

Conveyor

New Development - Power Roller Motor



Drive Wheel Planetary Gear Box Motor



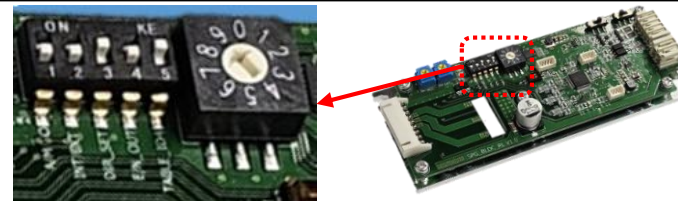
AMR
BLDC Geared Motor
Roller & Controller



Item	2024		2025		
	3Q	4Q	1Q	2Q	3Q~
Motor Design & Driver Development	[Progress Bar]				
Tooling		[Progress Bar]			
Sample Verification			[Progress Bar]		
Mass Production					[Progress Bar]

Item	Itoh Denki	SPG
Product Name	PM500FE	TBD
Roller Diameter	50φ	50φ
Roller Length	590mm	590mm
Rated Voltage	24V	24V
Gear Ratio	1:12.64	1:63
Speed Range	62~395RPM	62~395RPM

No.	Function	ON	OFF
SW1-1	Thermister/Under Voltage Reset	Manual	Automatic
SW1-2	Speed Variation	External	Internal
SW1-3	Turning Direction	CW	CCW
SW1-4	Error Signal	Discharges in normal status	Discharges when error arises
SW1-5	Speed Range	High Range	Low Range



Wearable Robot

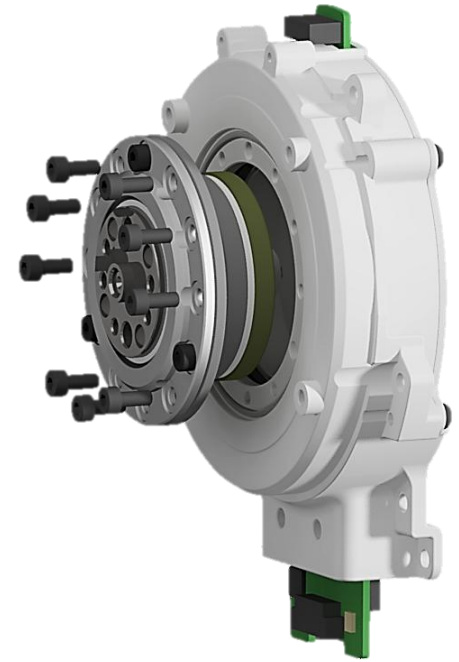
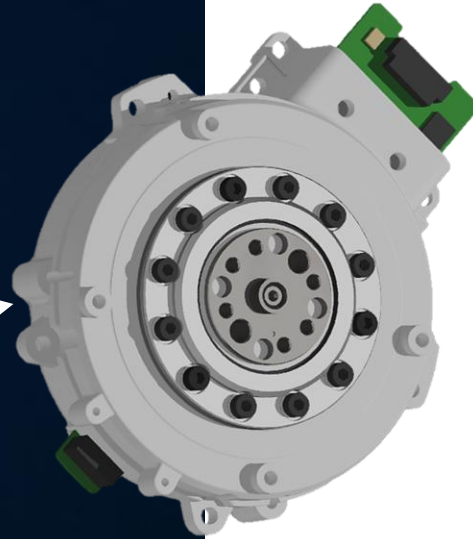
Smart Factory Needs

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Wearable robots

BLDC GEARED MOTOR LAYOUT



Humanoid Robot

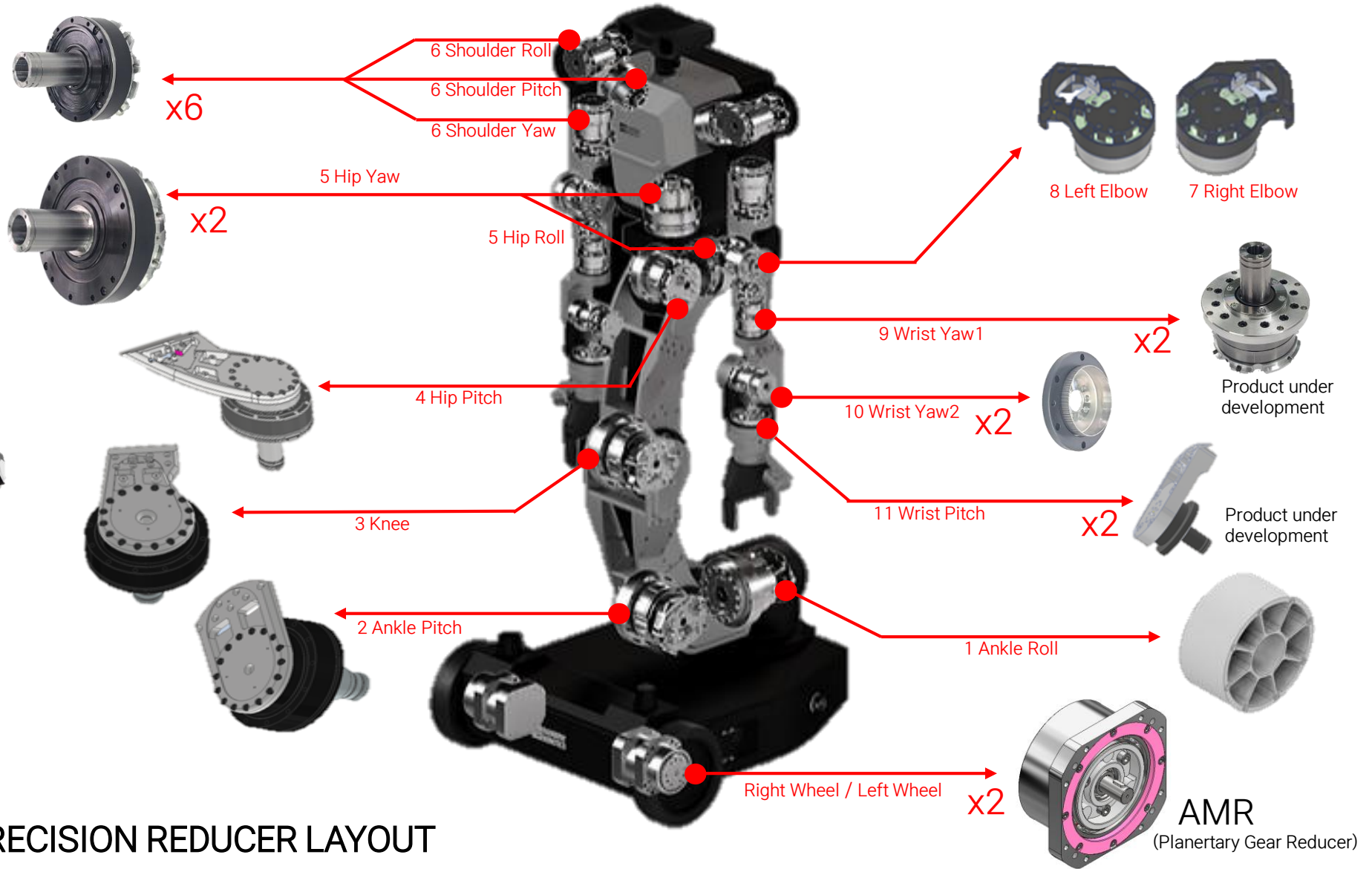
Smart Factory Needs

SPG

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PRECISION
REDUCER



RB-Y1 PRECISION REDUCER LAYOUT



Co-bot

RB1

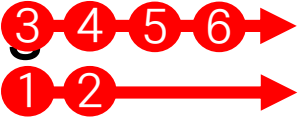
RB3

RB5

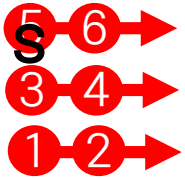
RB10

RB20

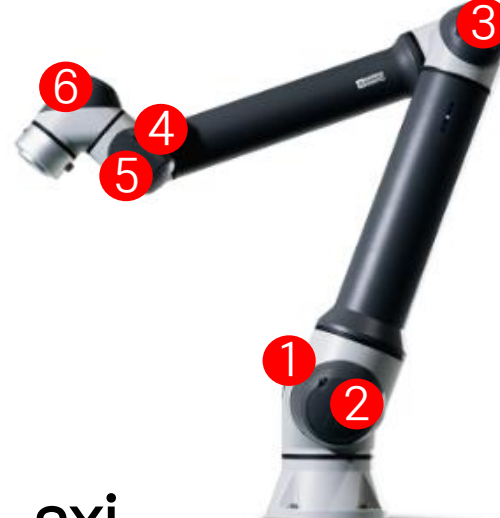
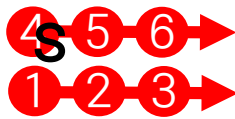
axi



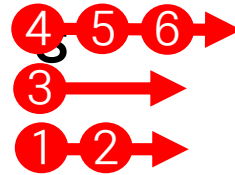
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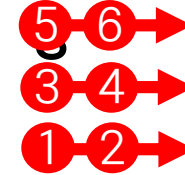
axi



axi



axi



Cobot PRECISION REDUCER LAYOUT

Smart Factory Needs

SPG

SPG Co., Ltd.
PRECISION
REDUCER

Smart Factory Needs

SPG

SPG Co., Ltd.
PRECISION
REDUCER

LINKBOT*

SR PRECISION REDUCER LAYOUT

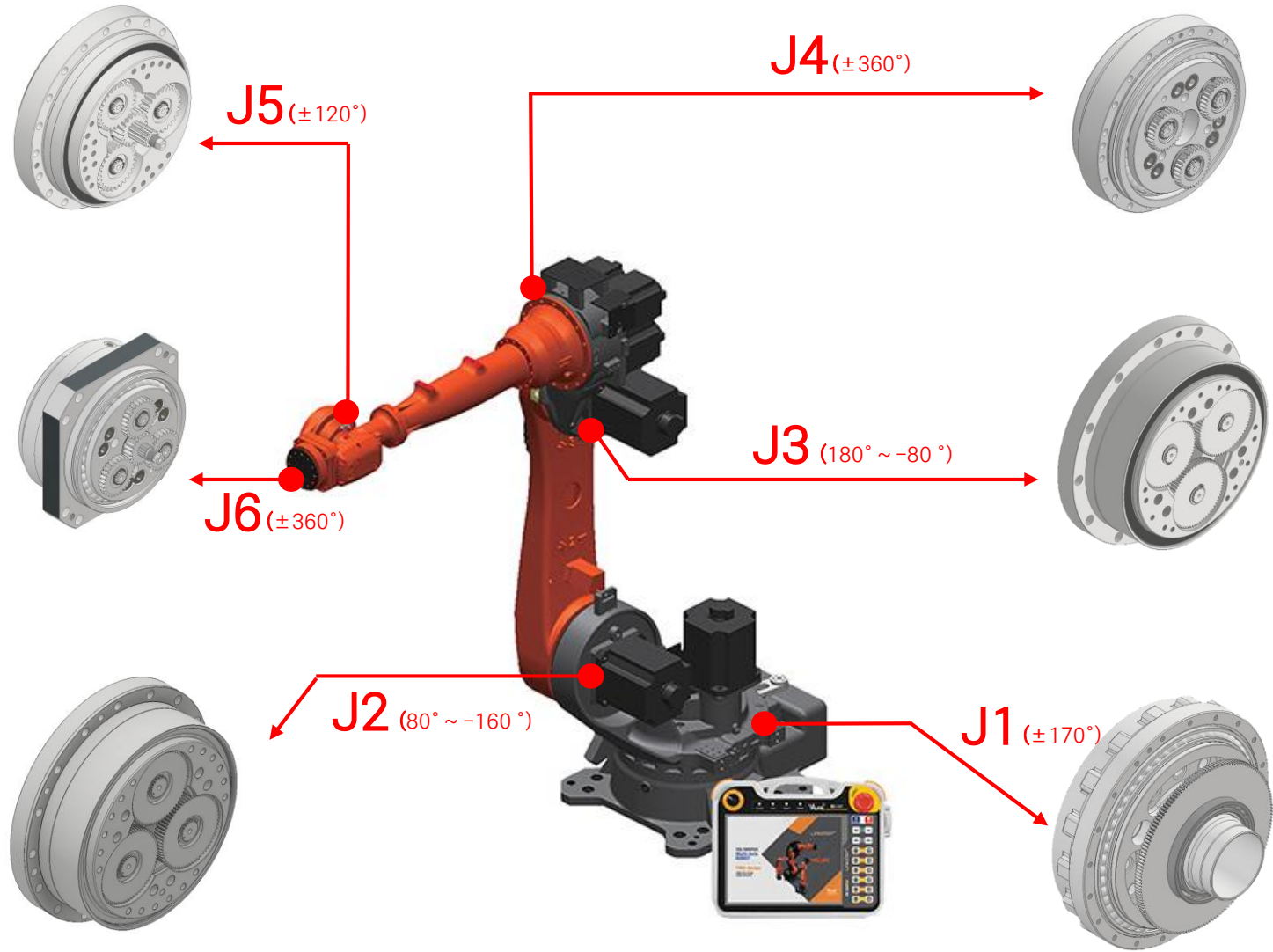
YMX-5200 대형 - I

가반하중(Payload) : 50kg
최대리치(Max. Reach) : 2,248mm

주요용도 Main uses	스팟용접 Spot welding	아크용접 Arc welding	핸들링 Handling	조립 Assembly	검사 Inspection
	●		●	●	●

설치방법 Installation method	고정 Fixing		
	바닥고정 on the floor	천정고정 on the ceiling	벽면고정 on the wall
	●		

제품명 Model name	YMX-5200
본체 무게 weight	610 kg
가반 하중 Payload	50 kg
자유도 Degrees of freedom	6 Axis
최대 Reach Max. Reach	2,248 mm
구동방식 Driving	AC SERVO Motor
정격용량 Rated capacity	26.7 kw



THANK YOU

