

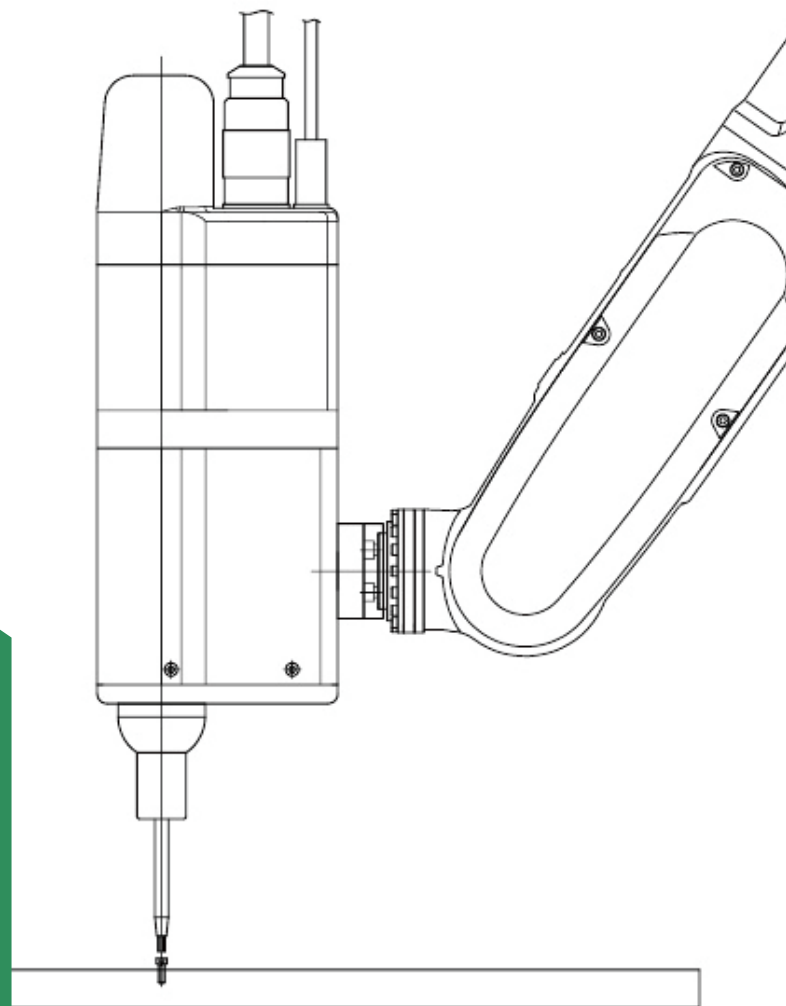
# SETech

System Engineering Technology

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**NUTRUNNER LINE UP** CATALOG

**Nutrunner Robot**  
**AC Servo Nutrunner**  
**Hand-held Nutrunner**  
**Reaction arm**  
**Position control system**  
**Torque Transducer**  
**Load Cell**  
**Pressure Sensor**  
**L.V.D.T.**





# History

- 1996 Established company "YEON-DO measurement"
- 1998 Developed BRUSH TYPE ROTARY TORQUE TRANSDUCER
- 1999 Company name had been changed (SETech)  
NON-ROTARY TORQUE TRANSDUCER was developed
- 2000 BRUSHLESS TYPE TORQUE TRANSDUCER was developed
- 2002 Achieve CE (TORQUE TRANSDUCER), ISO9001, KSA9002
- 2003 AC Servo NUTRUNNER (STNR-DT, STNR-ST, STNR-AG, STNR-DU) was developed
- 2005 SERVO PRESS was developed  
Registered venture company (051324033-1-0110)  
Applied Patent (No. 10-2005-0039517)  
Applied Utility Model Registration (No. 0390854, 0391558)  
Applied Utility Model Registration (No. 0408748)  
Applied Design Registration (No. 043570)  
Selected "Potential Export S&M company"
- 2008 Achieve ISO14001
- 2009 Awarded innovation venture company
- 2012 Company name has been changed to "SETech CO., LTD." due to corporate conversion
- 2014 Pistol type Hand-held NUTRUNNER (Coded, Codeless) was developed
- 2015 Hand-held NUTRUNNER (Coded, Codeless) was developed
- 2017 Applied Patent (No. 10-2017-0043771)  
Cushion included NUTRUNNER "STNR-CU" was developed
- 2018 Moved Head office and R&D center (Daegu innovation city)  
Achieve CE (NUTRUNNER)
- 2019 Continuous Passive Motion rehabilitation exercise equipment was developed
- 2020 Isokinetic rehabilitation exercise equipment was developed  
One connector type NUTRUNNER "STNR-RT" has been launched  
NUTRUNNER ROBOT "KN07-RC" had been launched  
Hand-held NUTRUNNER "STHT-DT" and "STHT-AG" have been launched  
Vertical type reaction arm "SRAF" has been launched
- 2021 **Registration at HYUNDAI motors potential bidder**  
NUTRUNNER ROBOT "KN07-RS" has been launched as model change from "KN07-RC"  
Robot attachment type NUTRUNNER "STNR-RS" has been launched  
HMI Integrated controller "YD-8100" has been launched  
Reaction arm "SRAF-A" and "SRAF-L" have been launched  
Tool position control system "SPC" has been launched

# Introduction

**We promise to grow into a more competitive company both in KOREA and abroad by developing better products than now.**

SETech CO., LTD. is the specialized measurements and control instruments manufacturing company.  
SETech CO., LTD. has been developing and manufacturing AC servo NUTRUNNER and TORQUE transducer during 25 years. Especially, AC servo NUTRUNNER, Hand-held NUTRUNNER and rotary type TORQUE transducers had been developed the first in KOREA by SETech CO., LTD.  
SETech CO., LTD. products have been providing to industrial site with high quality, high accuracy and competitive price.  
Finally, SETech CO., LTD. promises to grow into a more competitive company both in KOREA and abroad by developing better products than now.

# Certificates



# NUTRUNNER LINE UP

## NUTRUNNER Robot



KN07 series | page. 06



SRX series | page. 08



SR3 series | page. 10

## Hand-held



STHT-DT | page. 42



STHT-AG | page. 44



YD-8100 | page. 46

## Robot



STNR-RS | page. 12



STNR-VTC | page. 14



STNR-SQV | page. 16



STNR-SQC | page. 18

## Reaction arm



SRAF-L | page. 48



SRAF-A | page. 49



SRAH | page. 50



SPC | page. 51

## Automation



STNR-T-DT | page. 20



STNR-DT | page. 22



STNR-CU | page. 24



STNR-AG | page. 26



STNR-ST | page. 28



STNR-DU | page. 30



YD-5000 | page. 34



YD-6000 | page. 36



YD-5000DU | page. 40



YD-6000DU | page. 44



# KNO7 series

## Multi axis NUTRUNNER ROBOT

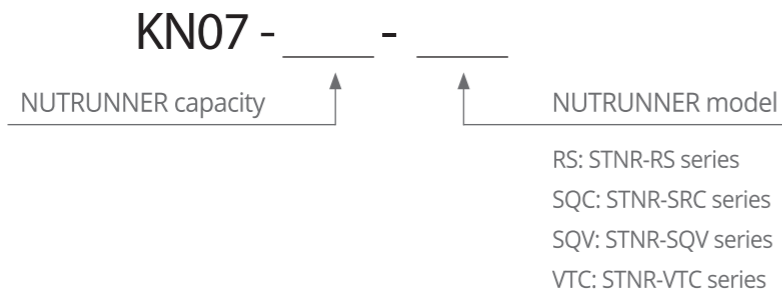
### Features

- 6축 다관절 로봇과 너트런너가 결합된 다축 너트런너 로봇
- 로봇에서 너트런너를 제어하여 시스템 관리 용이
- 사용자가 체결 공정을 위해 별도의 설계가 필요 없음
- 토크 내장 너트런너로 고정밀 체결 가능
- 엔코더 탑재로 각도 제어 가능

- 6-axis nutrunner robot
- Easy to manage the system by controlling the nutrunner from the robot
- Design for the fastening process is not necessary
- High accuracy bolt fastening is available by adopting torque transducer
- Angle control is available by adopting encoder

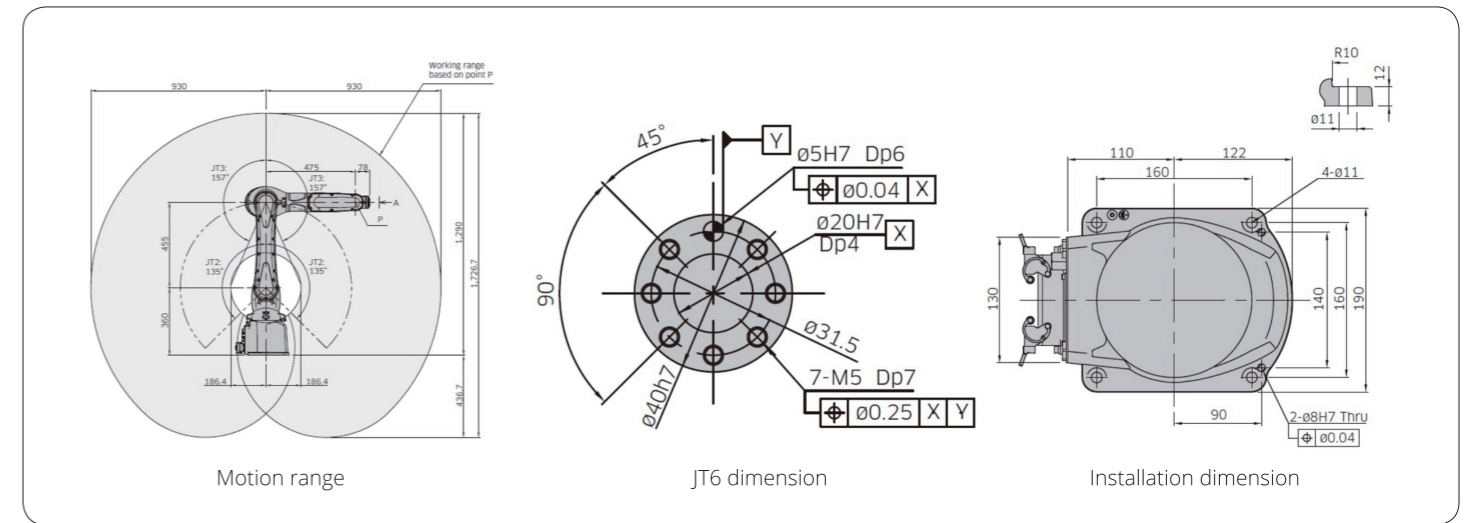


### Specification for NUTRUNNER



Model	Scope	Capacity	Max Speed (r/min)	
KN07-09KC-XX	1.8 kgf.cm ~ 7.2 kgf.cm	9 kgf.cm	88.2 Ncm	2660
KN07-18KC-XX	3.6 kgf.cm ~ 14.4 kgf.cm	18 kgf.cm	176.4 Ncm	2660
KN07-35KC-XX	7 kgf.cm ~ 28 kgf.cm	35 kgf.cm	343 Ncm	1330
KN07-50KC-XX	10 kgf.cm ~ 40 kgf.cm	50 kgf.cm	490 Ncm	1330
KN07-85KC-XX	17 kgf.cm ~ 68 kgf.cm	85 kgf.cm	833 Ncm	870
KN07-01KM-XX	20 ~ 80 kgf.cm	100 kgf.cm	980 N.cm	870
KN07-02KM-XX	40 ~ 160 kgf.cm	200 kgf.cm	1960 N.cm	430

### Dimension for ROBOT



### Specification for ROBOT

제조사 / Manufacturer	Kawasaki robotics	
형식 / Type	수직 다관절 / Articulated Robot	
자유도 / Degrees of Freedom (axes)	6	
최대 가반질량 / Payload (kg)	7	
최대 리치 / Max. Reach (mm)	930	
위치반복정밀도 / Positional Repeatability (mm) <sup>*1</sup>	±0.03	
동작범위 / Motion Range (°)	Arm Rotation (JT1)	±180
	Arm Out-in (JT2)	±135
	Arm Up-Down (JT3)	±157
	Wrist Swivel (JT4)	±200
	Wrist Bend (JT5)	±125
	Wrist Twist (JT6)	±360
최대 속도 / Max. Speed (°/s)	Arm Rotation (JT1)	370
	Arm Out-In (JT2)	310
	Arm Up-Down (JT3)	410
	Wrist Swivel (JT4)	550
	Wrist Bend (JT5)	550
	Wrist Twist (JT6)	1,000
허용 모멘트 / Allowable Moment (N.m)	Wrist Swivel (JT4)	17
	Wrist Bend (JT5)	17
	Wrist Twist (JT6)	10
허용 관성 모멘트 / Allowable Moment of Inertia (kg.m <sup>2</sup> )	Wrist Swivel (JT4)	0.5
	Wrist Bend (JT5)	0.5
	Wrist Twist (JT6)	0.2
본체질량 / Mass (kg)	36	
설치방법 / Mounting	바닥식, 현수식 / Floor, Ceiling	
설치환경 / Installation Environment	Ambient Temperature (°C)	0 ~ 45
	Relative Humidity (%)	38 ~ 85 (No dew, nor frost allowed)
대응 컨트롤러 / 소요전원 / Controller / Power Requirements (kVA)	F60 / 2.0	
보호등급 / Protection	손목 : IP67 상당 기축 : IP65 상당 Wrist : IP67 equivalent / Base axis : IP65 equivalent	

\* 1 ISO9283에 준거하였습니다. / 1 It conforms to ISO9283





# SR3 series

## SCARA NUTRUNNER ROBOT

### Features

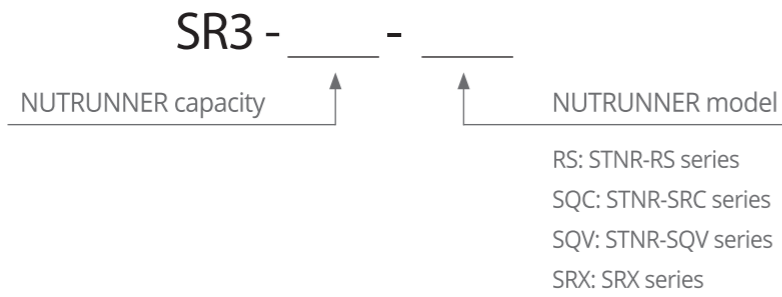
- 스카라 로봇과 너트런너가 결합된 너트런너 로봇
- 로봇에서 너트런너를 제어하여 시스템 관리 용이
- 사용자가 체결 공정을 위해 별도의 설계가 필요 없음
- 토크 내장 너트런너로 고정밀 체결 가능
- 엔코더 탑재로 각도 제어 가능



SR3-SRX

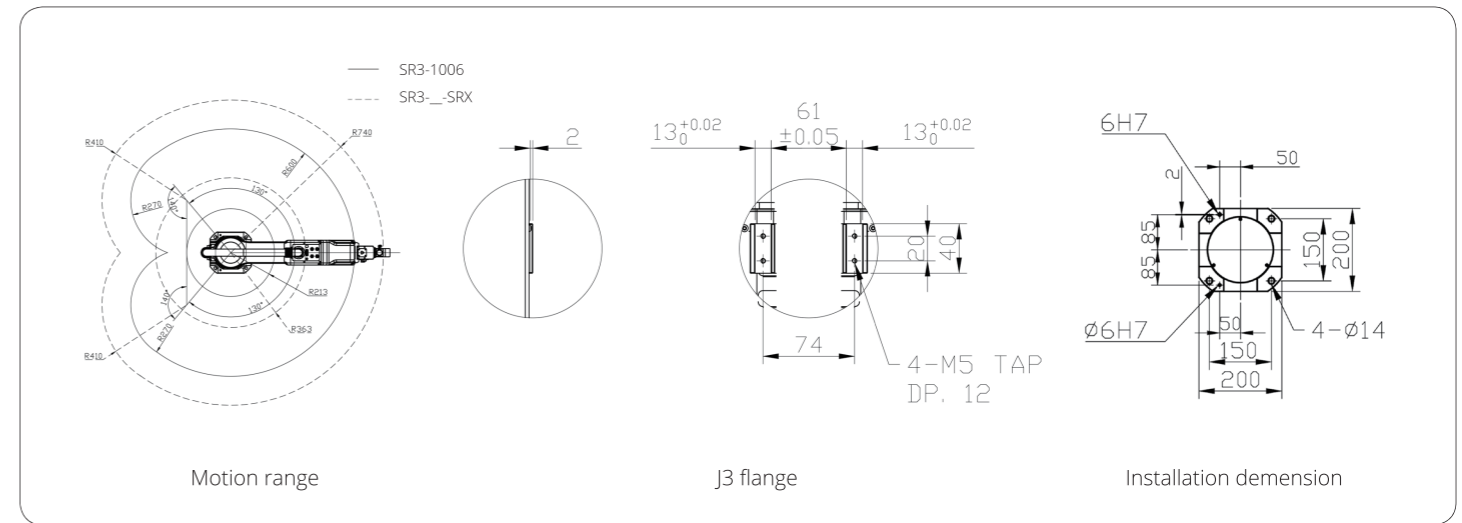
- Scara nutrunner robot
- Easy to manage the system by controlling the nutrunner from the robot
- Design for the fastening process is not necessary
- High accuracy bolt fastening is available by adopting torque transducer
- Angle control is available by adopting encoder

### Specification for NUTRUNNER



Model	Scope	Capacity	Max Speed (r/min)	
SR3-09KC-XX	1.8 kgf.cm ~ 7.2 kgf.cm	9 kgf.cm	88.2 Ncm	2660
SR3-18KC-XX	3.6 kgf.cm ~ 14.4 kgf.cm	18 kgf.cm	176.4 Ncm	2660
SR3-35KC-XX	7 kgf.cm ~ 28 kgf.cm	35 kgf.cm	343 Ncm	1330
SR3-50KC-XX	10 kgf.cm ~ 40 kgf.cm	50 kgf.cm	490 Ncm	1330
SR3-85KC-XX	17 kgf.cm ~ 68 kgf.cm	85 kgf.cm	833 Ncm	870
SR3-01KM-XX	20 ~ 80 kgf.cm	100 kgf.cm	980 N.cm	870
SR3-02KM-XX	40 ~ 160 kgf.cm	200 kgf.cm	1960 N.cm	430

### Dimension for ROBOT



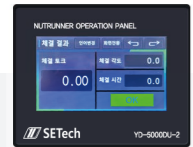
### Specification for ROBOT

모델 / Model	SR3-1006	
암 길이 / Arm length	600mm	
정격 가반 하중 / Rated payload	5kg	
최대 가반 하중 / Max. payload	10kg	
위치 반복 정밀도 / Positional Repeatability	±0.02mm	
자유도 / Degree of freedom(axis)	3	
본체 중량 / Body weight	26kg	
IP 등급 / IP Level	Ip54	
최대 동작 범위 / Range of motion	J1	±130°
	J2	±140°
	J3	120mm
최대 속도 / Max. speed	J1	360°/s
	J2	444°/s
	J3	1250mm/s
모터 소비전력 (W) / Motor power	J1	1000
	J2	400
	J3	200
전체 모터 소비전력(W) / Total motor power	1600	
입력 전원 / Input voltage	220V 50HZ	
인터페이스 / interface	MODBUS-485, MODBUS-232 MODBUS-TCP, TCP/IP, I/O	
설치 환경 / Installation environments	습도	20%-75H (결로 없는 곳)
	온도	0°C-45°C
	기타	가연성, 부식성 가스 및 액체가 없어야 하며, 전기적 노이즈 발생원으로 부터 멀리 떨어져 있어야함
설치 방법 / Mounting method	수평, 천장 / horizontal, ceiling	

# STNR-RS

## Robot attachment type

### Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000BE



Controller unit  
YD-8100

※ 진공형 및 일반형은 별도 문의 바랍니다.  
Please contact us about vacuum type and general type



### Introduction

- STNR-RS는 다관절 로봇에 쉽게 부착할 수 있도록 설계됨
- Air 실린더, Y-pipe 그리고 위치 센서가 부착되어 있어, 볼트 슈팅 체결 공정 설계 시, 용이하게 사용 가능
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- STNR-RS is designed for easy adoption for multi-axis robot
- Easy to design bolt shooting assembly process, since air-cylinder, Y-pipe and position sensor are included
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

### Features

- M2에서 M6 , 나사 길이 최대 20 mm 까지 슈팅이 가능함
- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- M2 to M6, bolt and bolt length max. 20 mm can be shotted by using STNR-RS
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

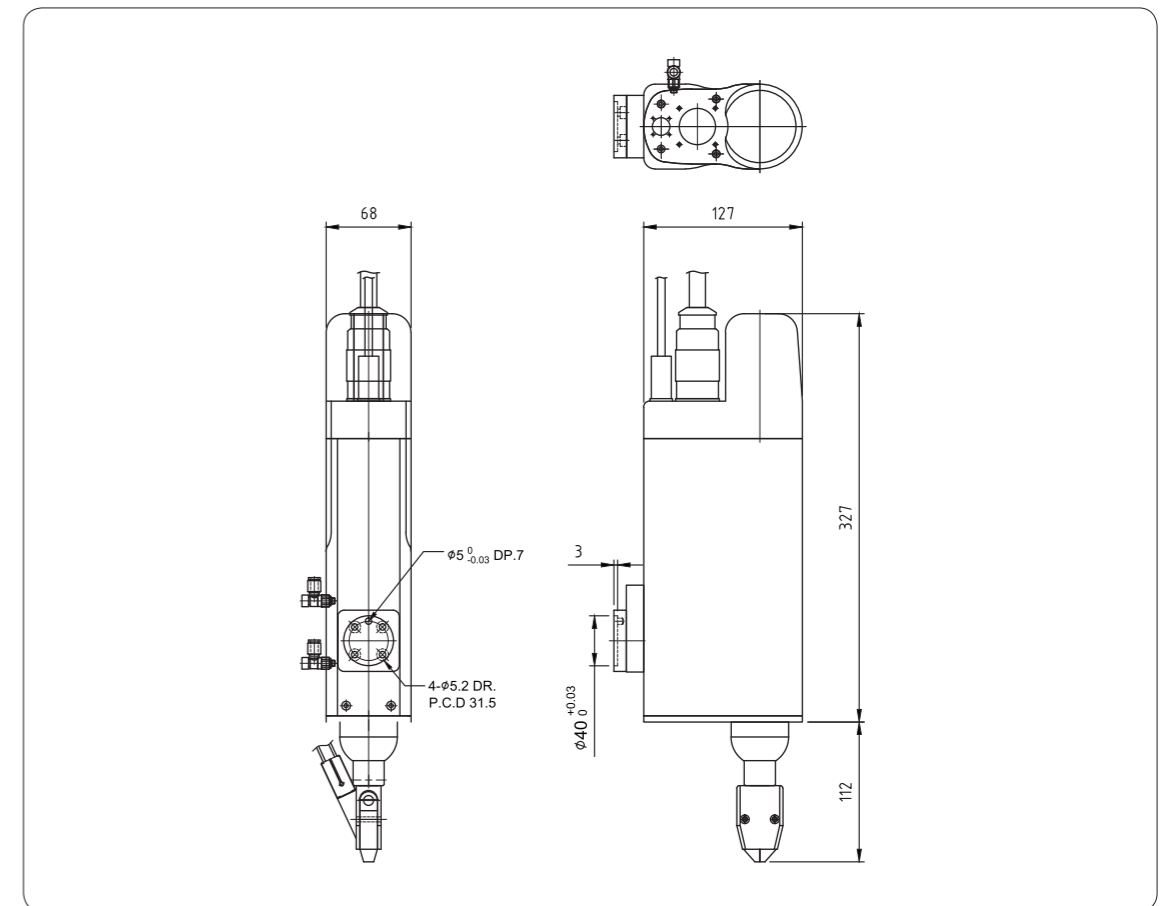
### Specification



Model	Scope	Capacity	Max Speed (r/min)	Weight (kg)	
STNR-09KC-RS	1.8 kgf.cm ~ 7.2 kgf.cm	9 kgf.cm	88.2 Ncm	2660	3.5
STNR-18KC-RS	3.6 kgf.cm ~ 14.4 kgf.cm	18 kgf.cm	176.4 Ncm	2660	3.5
STNR-35KC-RS	7 kgf.cm ~ 28 kgf.cm	35 kgf.cm	343 Ncm	1330	3.5
STNR-50KC-RS	10 kgf.cm ~ 40 kgf.cm	50 kgf.cm	490 Ncm	1330	3.5
STNR-85KC-RS	17 kgf.cm ~ 68 kgf.cm	85 kgf.cm	833 Ncm	870	3.5
STNR-01KM-RS	20 ~ 80 kgf.cm	100 kgf.cm	980 N.cm	870	3.5
STNR-02KM-RS	40 ~ 160 kgf.cm	200 kgf.cm	1960 N.cm	430	3.5

Voltage	24 V DC
Auto Switch	Current 5 ~ 30 mA (Please keep this range)
Internal Voltage Drop	4.5 V

### Dimensions





# STNR-VTC

## Vacuum bit changer type

### Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000BE



Controller unit  
YD-8100



### Introduction

- 진공 흡착식 비트를 변경할 수 있는 너트런너
- 진공으로 나사를 흡착하여 체결
- 나사 종류가 다르더라도 진공비트를 변경하여 체결 가능
- 토크 트랜스듀서가 내장되어 있어 정확한 토크 출력
- 엔코더 탑재로 체결 각도 제어 가능
- Vacuum bit changer included nutrunner model
- Fastening the bolt by bolt picking system with vacuum
- Even if the bolt type is different, the bolt can be fastened by changing the vacuum bit easily
- High accuracy bolt fastening is available by adopting torque transducer
- Angle control is available by adopting encoder

### Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

### Specification

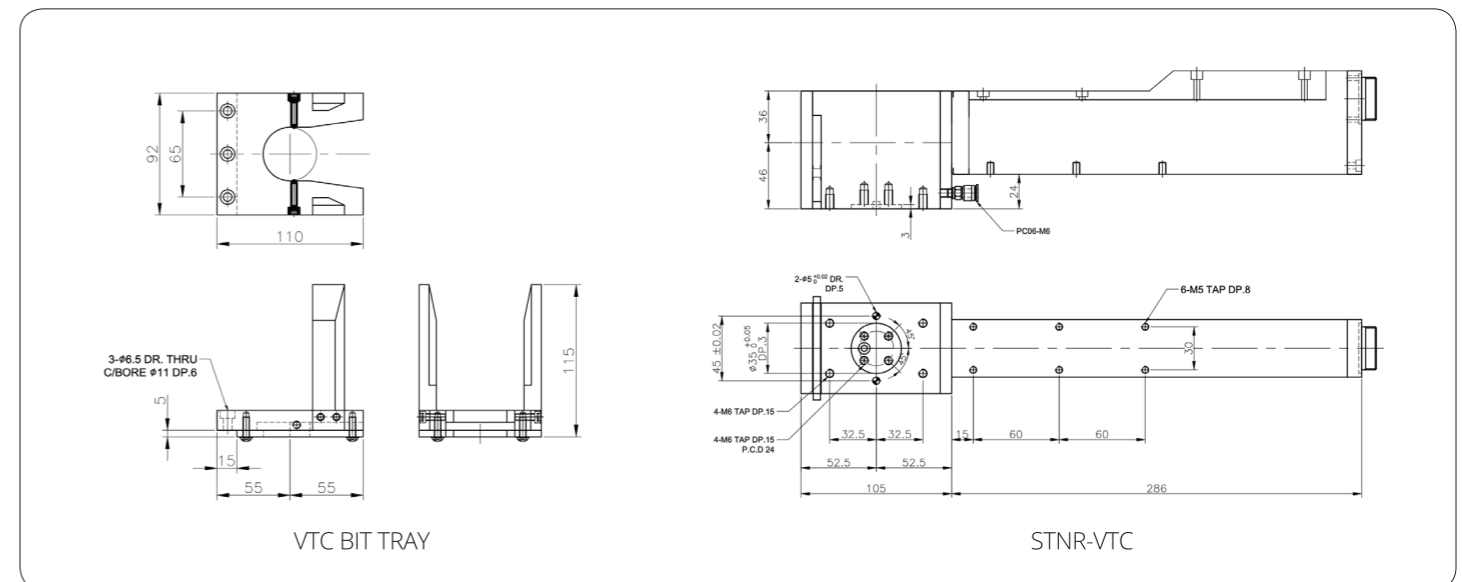


Model	Scope	Capacity	Max Speed (r/min)	Weight (kg)	
STNR-09KC-VTC	1.8 kgf.cm ~ 7.2 kgf.cm	9 kgf.cm	88.2 Ncm	2660	4
STNR-18KC-VTC	3.6 kgf.cm ~ 14.4 kgf.cm	18 kgf.cm	176.4 Ncm	2660	4
STNR-35KC-VTC	7 kgf.cm ~ 28 kgf.cm	35 kgf.cm	343 Ncm	1330	4
STNR-50KC-VTC	10 kgf.cm ~ 40 kgf.cm	50 kgf.cm	490 Ncm	1330	4
STNR-85KC-VTC	17 kgf.cm ~ 68 kgf.cm	85 kgf.cm	833 Ncm	870	4
STNR-01KM-VTC	20 ~ 100 kgf.cm	100 kgf.cm	980 N.cm	870	4
STNR-02KM-VTC	40 ~ 200 kgf.cm	200 kgf.cm	1960 N.cm	430	4

\* 제품 무게는 진공 비트 포함 무게 입니다.

\* The weight of the product is included vacuum bit

### Dimensions



# STNR-SQV

Vacuum unit all-in-one nutrunner

## Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000BE



Controller unit  
YD-8100



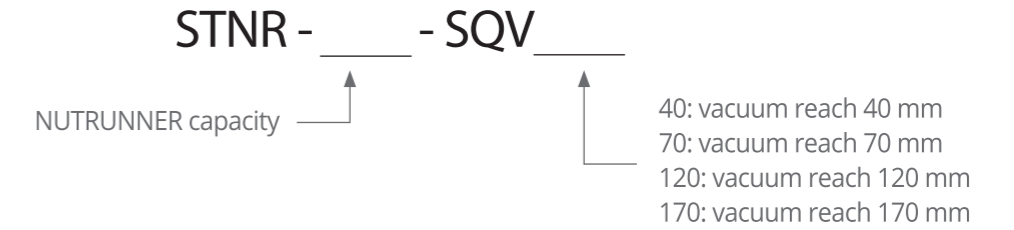
## Introduction

- 진공 유니트 일체형 너트런너
- 슈팅이 불가능한 나사 체결 시, 유용
- 토크 내장 너트런너로 고정밀 체결 가능
- 엔코더 탑재로 각도 제어가능
- Vacuum unit all-in-one nutrunner
- STNR-SQV series are useful for tightening screws where shooting the bolt is not possible to apply process
- STNR-SQV series can tighten the bolt with high accuracy(torque transducer is adopted)
- STNR-SQV series can control the rotation angle (encoder is adopted)

## Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

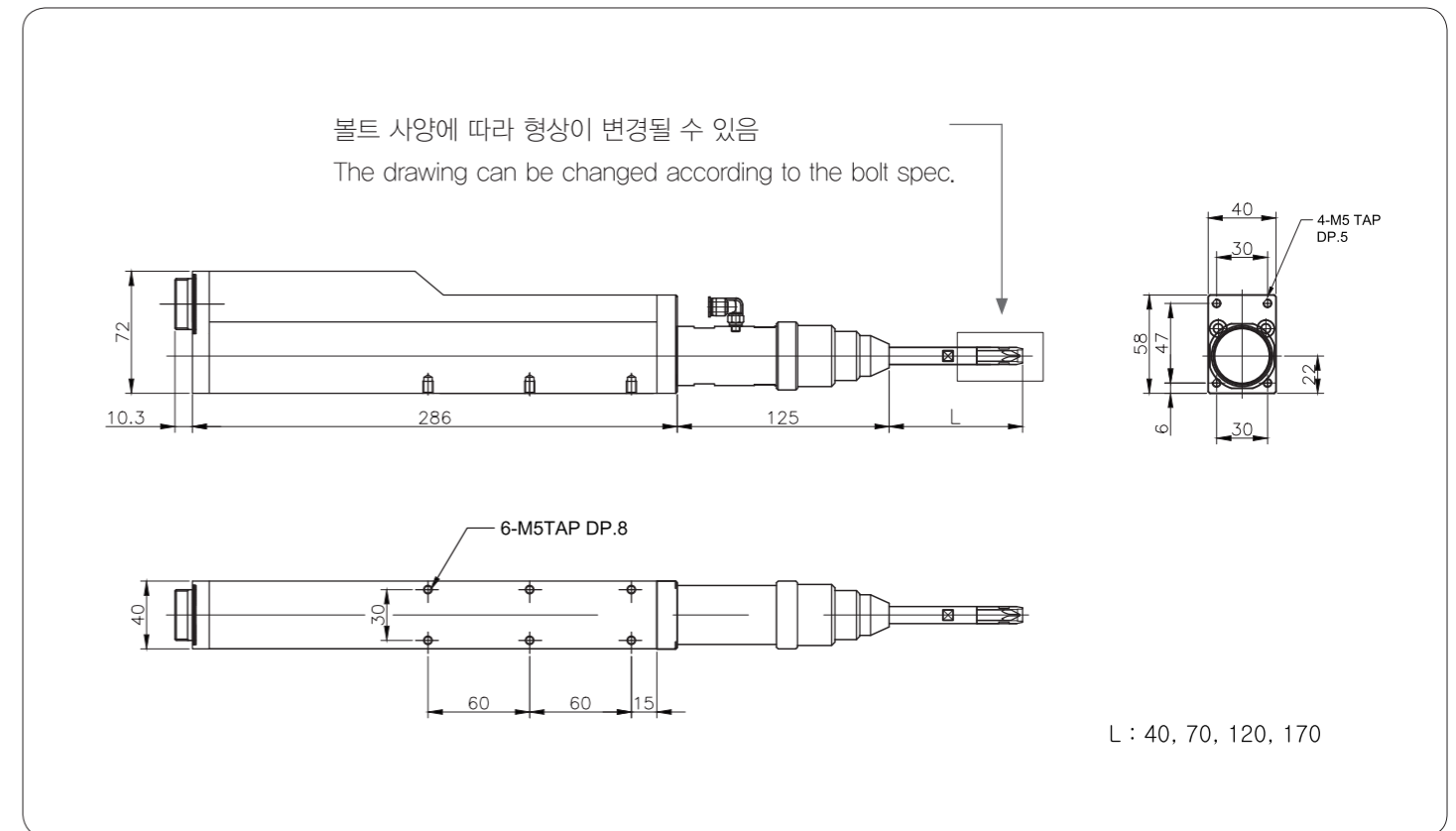
## Specification



Model	Scope	Capacity	Max Speed (r/min)	Weight (kg)	
STNR-09KC-SQV	1.8 kgf.cm ~ 7.2 kgf.cm	9 kgf.cm	88.2 Ncm	2660	2.5
STNR-18KC-SQV	3.6 kgf.cm ~ 14.4 kgf.cm	18 kgf.cm	176.4 Ncm	2660	2.5
STNR-35KC-SQV	7 kgf.cm ~ 28 kgf.cm	35 kgf.cm	343 Ncm	1330	2.5
STNR-50KC-SQV	10 kgf.cm ~ 40 kgf.cm	50 kgf.cm	490 Ncm	1330	2.5
STNR-85KC-SQV	17 kgf.cm ~ 68 kgf.cm	85 kgf.cm	833 Ncm	870	2.5
STNR-01KM-SQV	20 ~ 80 kgf.cm	100 kgf.cm	980 N.cm	870	2.5
STNR-02KM-SQV	40 ~ 160 kgf.cm	200 kgf.cm	1960 N.cm	430	2.5

\* 기본 사양보다 더 긴 진공 리치가 필요하시면 별도 문의 바랍니다.  
If you need a longer vacuum pipe reach than the basic specifications, please contact us.

## Dimensions



# STNR-SQC

One connector type

## Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000BE



Controller unit  
YD-8100



## Introduction

- STNR-SQC는 30 mm 쿠션 내장으로 로봇 또는 기계 설비에 쉽게 설치할 수 있도록 설계됨
- 커넥터가 하나로 되어있어, 설치 및 유지 보수에 용이
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- 30 mm cushion is included in STNR-SQC for easy to set up at robot or machine facilities
- Easy to maintenance, since the connector is only one
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

## Features

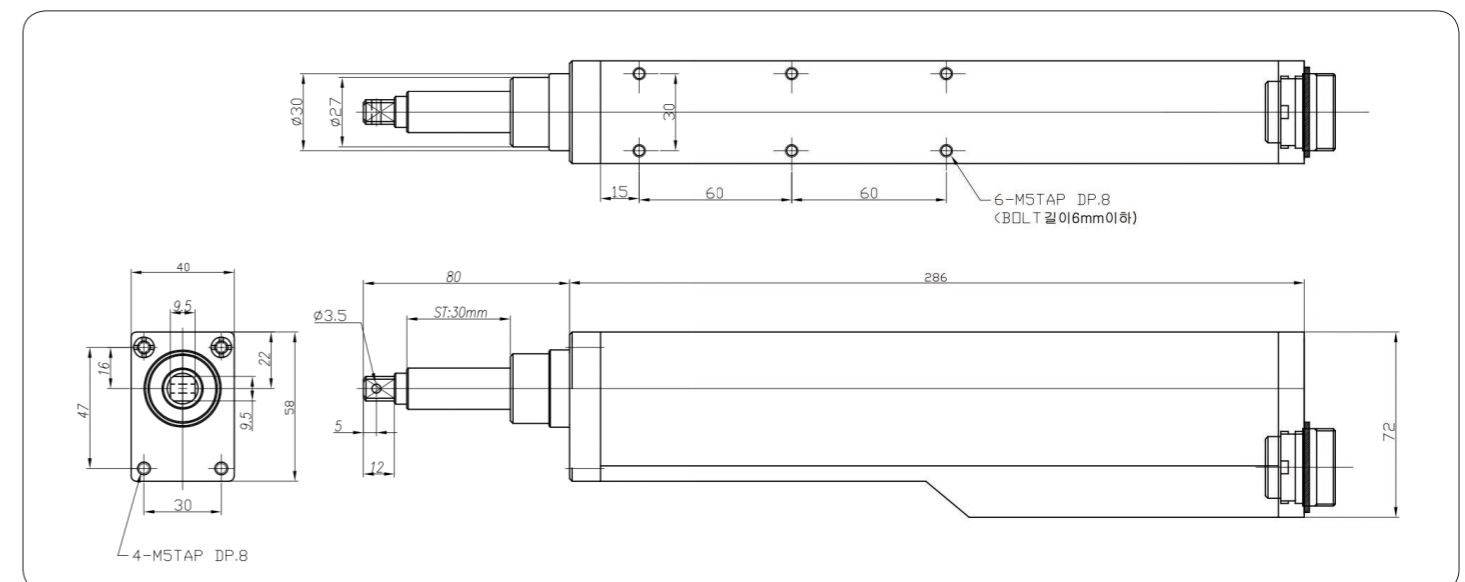
- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

## Specification

STNR - \_\_\_\_\_ - SQC  
 ↑  
 NUTRUNNER capacity

Model	Scope	Capacity	Max Speed (r/min)	Weight (kg)	
STNR-09KC-SQC	1.8 kgf.cm ~ 7.2 kgf.cm	9 kgf.cm	88.2 Ncm	2660	2.0
STNR-18KC-SQC	3.6 kgf.cm ~ 14.4 kgf.cm	18 kgf.cm	176.4 Ncm	2660	2.0
STNR-35KC-SQC	7 kgf.cm ~ 28 kgf.cm	35 kgf.cm	343 Ncm	1330	2.0
STNR-50KC-SQC	10 kgf.cm ~ 40 kgf.cm	50 kgf.cm	490 Ncm	1330	2.0
STNR-85KC-SQC	17 kgf.cm ~ 68 kgf.cm	85 kgf.cm	833 Ncm	870	2.0
STNR-01KM-SQC	20 ~ 100 kgf.cm	100 kgf.cm	980 N.cm	870	2.0
STNR-02KM-SQC	40 ~ 200 kgf.cm	200 kgf.cm	1960 N.cm	430	2.0

## Dimensions





# STNR-T-DT

Low torque type

## Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000DE



## Introduction

- STNR-T-DT type은 작은 토크의 나사 체결에 적합하게 설계됨
- AC Servo motor를 채택하여 토크 효율 및 내구성 향상
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- The STNR-T-DT Type is designed for tightening small torque screws
- The AC servo motor has been adopted to improve torque efficiency and durability
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

## Features

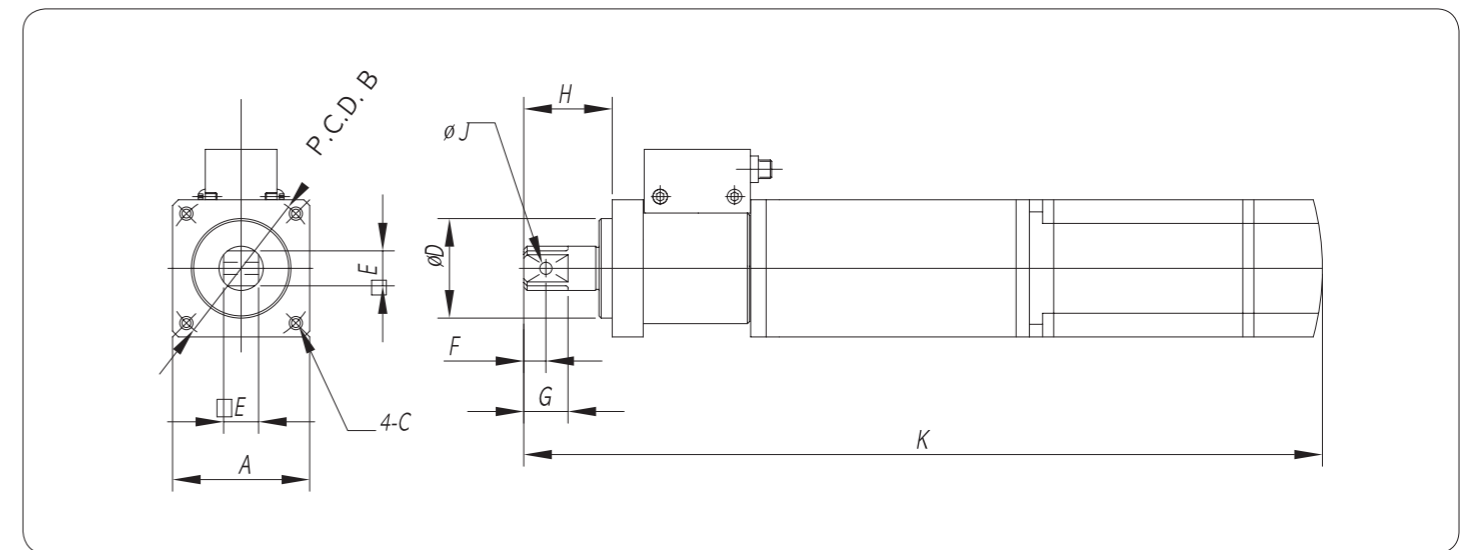
- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

## Specification

STNR - T \_\_\_\_\_ - DT  
 ↑  
 NUTRUNNER capacity

Model	Scope	Capacity		Max Speed (r/min)	Weight (kg)
STNR-T4.5KC-DT	0.5 ~ 3.8 kgf.cm	4.5 kgf.cm	44.1 N.cm	5000	1.8
STNR-T09KC-DT	1.4 ~ 8 kgf.cm	9 kgf.cm	88.2 N.cm	2500	1.8
STNR-T18KC-DT	2.7 ~ 15 kgf.cm	18 kgf.cm	176.4 N.cm	2500	2
STNR-T28KC-DT	4.2 ~ 24 kgf.cm	28 kgf.cm	274.4 N.cm	2500	2
STNR-T35KC-DT	6 ~ 30 kgf.cm	35 kgf.cm	343 N.cm	2500	2.5
STNR-T50KC-DT	10 ~ 45 kgf.cm	50 kgf.cm	490 N.cm	1250	2.5
STNR-T85KC-DT	13 ~ 80 kgf.cm	85 kgf.cm	833 N.cm	1250	2.5
STNR-T140KC-DT	23 ~ 125 kgf.cm	140 kgf.cm	1372 N.cm	375	3

## Dimensions



Capacity	A	ØB	4-C	ØD	□E	F	G	H	ØJ	K
4.5, 9 kgf.cm	40	46	M5	23	9.53	5	12	28	3.5	232
18, 28 kgf.cm	40	46	M5	23	9.53	5	12	28	3.5	282
35 kgf.cm	40	46	M5	23	9.53	5	12	28	3.5	282
85 kgf.cm	40	46	M5	23	9.53	5	12	28	3.5	282
140 kgf.cm	40	46	M5	23	9.53	5	12	28	3.5	282

# STNR-DT

General straight type

## Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000DE



## Introduction

- STNR-DT type은 일반 나사 체결에 적합하게 설계
- AC Servo motor를 채택하여 토크 효율 및 내구성 향상
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- The STNR-DT Type is designed for general bolt tightening
- The AC servo motor has been adopted to improve torque efficiency and durability
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

## Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

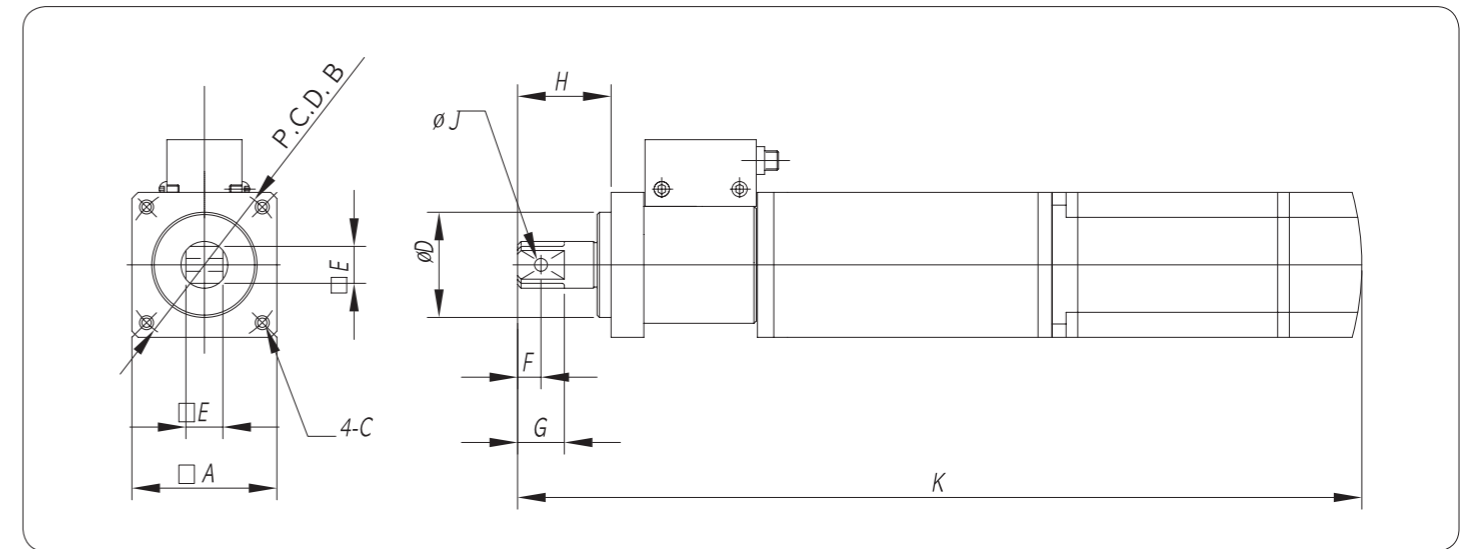
## Specification

STNR - \_\_\_\_\_ - DT  
 ↑  
 NUTRUNNER capacity

Model	Scope	Capacity		Max Speed (r/min)	Weight(Kg)
STNR-01KM-DT	0.2 ~ 0.8 kgf.m	1 kgf.m	9.807 Nm	375	2.5
STNR-02KM-DT	0.4 ~ 1.6 kgf.m	2 kgf.m	19.61 Nm	375	2.5
STNR-03KM-DT	0.6 ~ 2.4 kgf.m	3 kgf.m	29.42 Nm	208	2.8
STNR-04KM-DT	0.8 ~ 3.2 kgf.m	4 kgf.m	39.22 Nm	208	2.8
STNR-06KM-DT	1.2 ~ 4.8 kgf.m	6 kgf.m	58.84 Nm	270	5.5
STNR-08KM-DT	1.6 ~ 6.4 kgf.m	8 kgf.m	78.45 Nm	270	5.5
STNR-13KM-DT	2.6 ~ 10.4 kgf.m	13 kgf.m	127.49 Nm	155	6
STNR-20KM-DT	4 ~ 16 kgf.m	20 kgf.m	196.14 Nm	155	6
STNR-30KM-DT	6 ~ 24 kgf.m	30 kgf.m	294.21 Nm	100	15
STNR-40KM-DT	8 ~ 32 kgf.m	40 kgf.m	392.28 Nm	100	15
STNR-60KM-DT	12 ~ 48 kgf.m	60 kgf.m	588.42 Nm	80	18

※ 더 높은 용량의 모델이 필요하실 경우, 별도 연락 바랍니다.  
 If you need greater capacity model, please contact to us

## Dimensions



Capacity	A	ØB	4-C	ØD	□E	F	G	H	ØJ	K
1 ~ 4 kgf.m	40	46	M5	23	9.5	5	12	28	3.5	282
6 ~ 8 kgf.m	62	70	M6	45	12.7	8	16	40	4.5	370
13 ~ 20 kgf.m	62	70	M6	45	15.8	10	20	40	4.5	370
30 ~ 60 kgf.m	80	90	M10	66	19	13	25	42	5.5	450

# STNR-CU

Cushion included type

## Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000DE



## Introduction

- STNR-CU type은 40 mm 쿠션이 내장되어 있어, 별도의 쿠션이 필요 없음
- AC Servo motor를 채택하여 토크 효율 및 내구성 향상
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- The STNR-CU Type is included 40 mm cushion. User do not need to design separate cushion
- The AC servo motor has been adopted to improve torque efficiency and durability
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

## Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

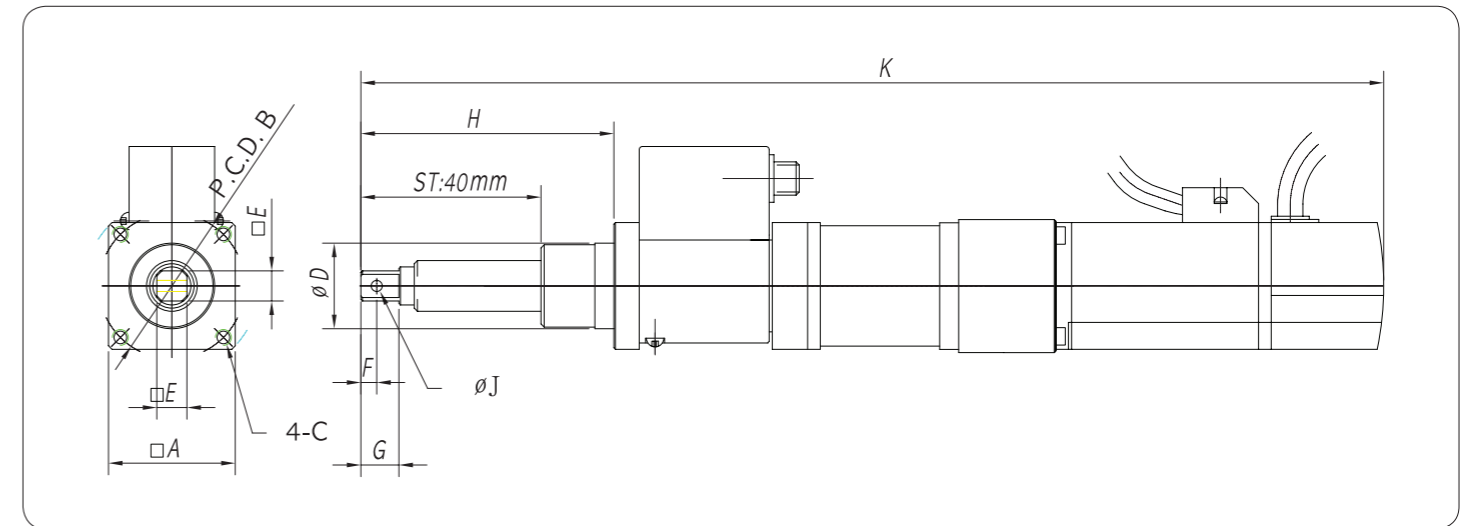
## Specification

STNR - \_\_\_\_\_ - CU  
 ↑  
 NUTRUNNER capacity

Model	Scope	Capacity		Max Speed (r/min)	Weight (kg)
STNR-01KM-CU	0.2 ~ 0.8 kgf.m	1 kgf.m	9.807 Nm	375	3
STNR-02KM-CU	0.4 ~ 1.6 kgf.m	2 kgf.m	19.61 Nm	375	3
STNR-03KM-CU	0.6 ~ 2.4 kgf.m	3 kgf.m	29.42 Nm	208	3.5
STNR-04KM-CU	0.8 ~ 3.2 kgf.m	4 kgf.m	39.22 Nm	208	3.5
STNR-06KM-CU	1.2 ~ 4.8 kgf.m	6 kgf.m	58.84 Nm	270	8.5
STNR-08KM-CU	1.6 ~ 6.4 kgf.m	8 kgf.m	78.45 Nm	270	8.5
STNR-13KM-CU	2.6 ~ 10.4 kgf.m	13 kgf.m	127.49 Nm	155	10
STNR-20KM-CU	4 ~ 16 kgf.m	20 kgf.m	196.14 Nm	155	10
STNR-30KM-CU	6 ~ 24 kgf.m	30 kgf.m	294.21 Nm	100	20
STNR-40KM-CU	8 ~ 32 kgf.m	40 kgf.m	392.28 Nm	100	20
STNR-60KM-CU	12 ~ 48 kgf.m	60 kgf.m	588.42 Nm	80	25

※ 더 높은 용량의 모델이 필요하실 경우, 별도 연락 바랍니다.  
 If you need greater capacity model, please contact to us

## Dimensions



Capacity	A	ØB	4-C	ØD	□E	F	G	H	ØJ	K
1 ~ 4 kgf.m	40	46	M5	26	9.5	5	12	80	3.5	335
6 ~ 8 kgf.m	62	70	M6	45	12.7	8	16	104	4.5	396
13 ~ 20 kgf.m	62	70	M6	45	15.8	10	20	104	4.5	396
30 ~ 60 kgf.m	80	90	M10	66	19	13	25	117	5.5	487



# STNR-AG

## Angle type

## Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000DE



## Introduction

- STNR-AG type은 수직으로 설치할 수 없는 곳에 사용 가능하도록 설계
- Foot mount는 사용자의 요구에 따라 위치 변경 제작 가능
- AC Servo motor를 채택하여 토크 효율 및 내구성 향상
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- STNR-AG type is designed to be used in places that cannot be installed vertically
- Foot mount position can be changed by user request
- The AC servo motor has been adopted to improve torque efficiency and durability
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

## Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

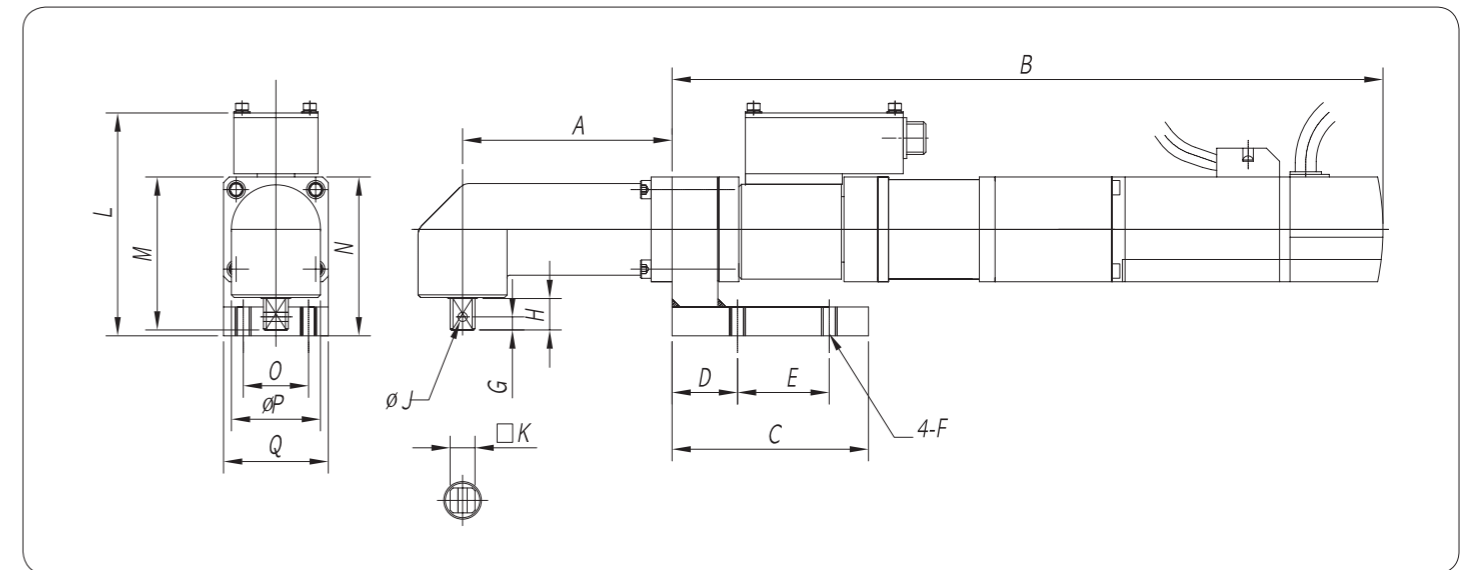
## Specification

STNR - \_\_\_\_\_ - AG  
 ↑  
 NUTRUNNER capacity

Model	Scope	Capacity		Max Speed (r/min)	Weight (kg)
STNR-01KM-AG	0.2 ~ 0.8 kgf.m	1 kgf.m	9.807 Nm	375	3
STNR-02KM-AG	0.4 ~ 1.6 kgf.m	2 kgf.m	19.61 Nm	375	3
STNR-03KM-AG	0.6 ~ 2.4 kgf.m	3 kgf.m	29.42 Nm	208	3.5
STNR-04KM-AG	0.8 ~ 3.2 kgf.m	4 kgf.m	39.22 Nm	208	3.5
STNR-06KM-AG	1.2 ~ 4.8 kgf.m	6 kgf.m	58.84 Nm	270	8.5
STNR-08KM-AG	1.6 ~ 6.4 kgf.m	8 kgf.m	78.45 Nm	270	8.5
STNR-13KM-AG	2.6 ~ 10.4 kgf.m	13 kgf.m	127.49 Nm	155	10
STNR-20KM-AG	4 ~ 16 kgf.m	20 kgf.m	196.14 Nm	155	10

※ 더 높은 용량의 모델이 필요하실 경우, 별도 연락 바랍니다.  
 If you need greater capacity model, please contact to us

## Dimensions



Capacity	A	B	C	D	E	4-F	G	H	ØJ	□K	L	M	N	O	ØP	Q
1 ~ 4 kgf.m	80	272	75	25	35	M6	5	12	3.5	9.5	89	58.4	60.8	26	35	42
6 ~ 8 kgf.m	110	312	87	30	45	M8	10	20	5.5	12.7	126	93.5	94	42	56	62
13 ~ 20 kgf.m	110	340	87	30	45	M8	10	20	5.5	15.8	126	97	94	42	56	62

# STNR-ST

## Offset type

## Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000DE



## Introduction

- STNR-ST type은 좁은 공간에 여러 대를 설치할 수 있도록 적합하게 설계
- AC Servo motor를 채택하여 토크 효율 및 내구성 향상
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- STNR-ST type is designed to fit multiple units in a narrow space
- The AC servo motor has been adopted to improve torque efficiency and durability
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

## Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

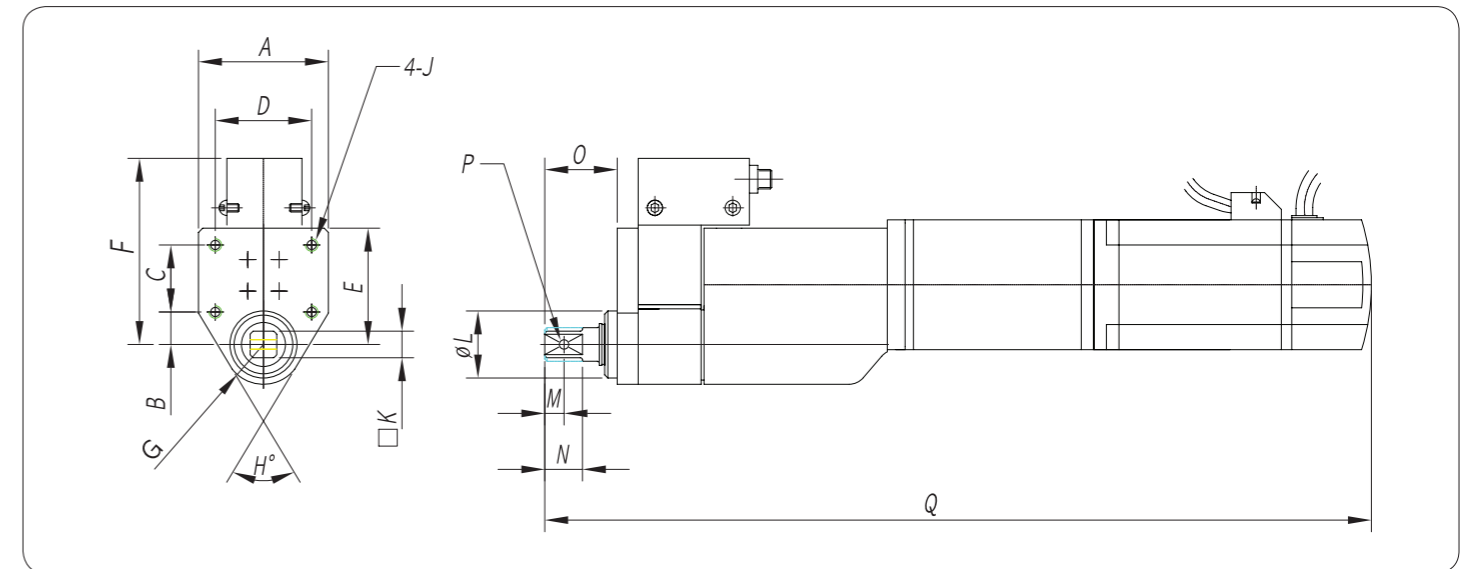
## Specification

STNR - \_\_\_\_\_ - ST  
 ↑  
 NUTRUNNER capacity

Model	Scope	Capacity		Max Speed (r/min)	Weight (kg)
STNR-01KM-ST	0.2 ~ 0.8 kgf.m	1 kgf.m	9.807 Nm	375	3
STNR-02KM-ST	0.4 ~ 1.6 kgf.m	2 kgf.m	19.61 Nm	375	3
STNR-03KM-ST	0.6 ~ 2.4 kgf.m	3 kgf.m	29.42 Nm	208	3.2
STNR-04KM-ST	0.8 ~ 3.2 kgf.m	4 kgf.m	39.22 Nm	208	3.5
STNR-06KM-ST	1.2 ~ 4.8 kgf.m	6 kgf.m	58.84 Nm	270	7
STNR-08KM-ST	1.6 ~ 6.4 kgf.m	8 kgf.m	78.45 Nm	270	8.5
STNR-13KM-ST	2.6 ~ 10.4 kgf.m	13 kgf.m	127.49 Nm	155	8.5
STNR-20KM-ST	4 ~ 16 kgf.m	20 kgf.m	196.14 Nm	155	10

※ 더 높은 용량의 모델이 필요하실 경우, 별도 연락 바랍니다.  
 If you need greater capacity model, please contact to us

## Dimensions



Capacity	A	B	C	D	E	F	G	H	4-J	□K	∅L	M	N	O	P	Q
1 ~ 4 kgf.m	40	15	13.6	30	33.6	64	R13.5	98°	M5	9.5	23	5	12	28	3.5	320
6 ~ 8 kgf.m	62	15.5	32	46	55.5	85	R19	62°	M6	12.7	32	8	16	34.6	4.5	463
13 ~ 20 kgf.m	62	15.5	32	46	55.5	85	R19	62°	M6	15.8	38	10	20	42	5.5	465

# STNR-DU

## U type

### Application



HMI unit  
YD-5000DU



Controller unit  
YD-5000DE



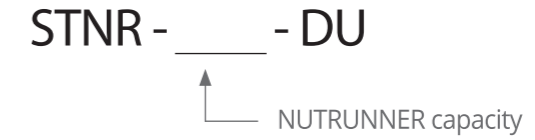
### Introduction

- STNR-DU type은 설치 공간이 낮은 곳에 설치가 가능하도록 설계
- AC Servo motor를 채택하여 토크 효율 및 내구성 향상
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- STNR-DU type is designed to be installed in a low installation space
- The AC servo motor has been adopted to improve torque efficiency and durability
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

### Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-5000DU에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- YD-6000에 31축의 Nutrunner를 연결하여 운전 및 설정 변경이 가능
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in the display unit
- 31 channel is provided
- 31 spindle NUTRUNNER can be operated and set parameters by YD-6000

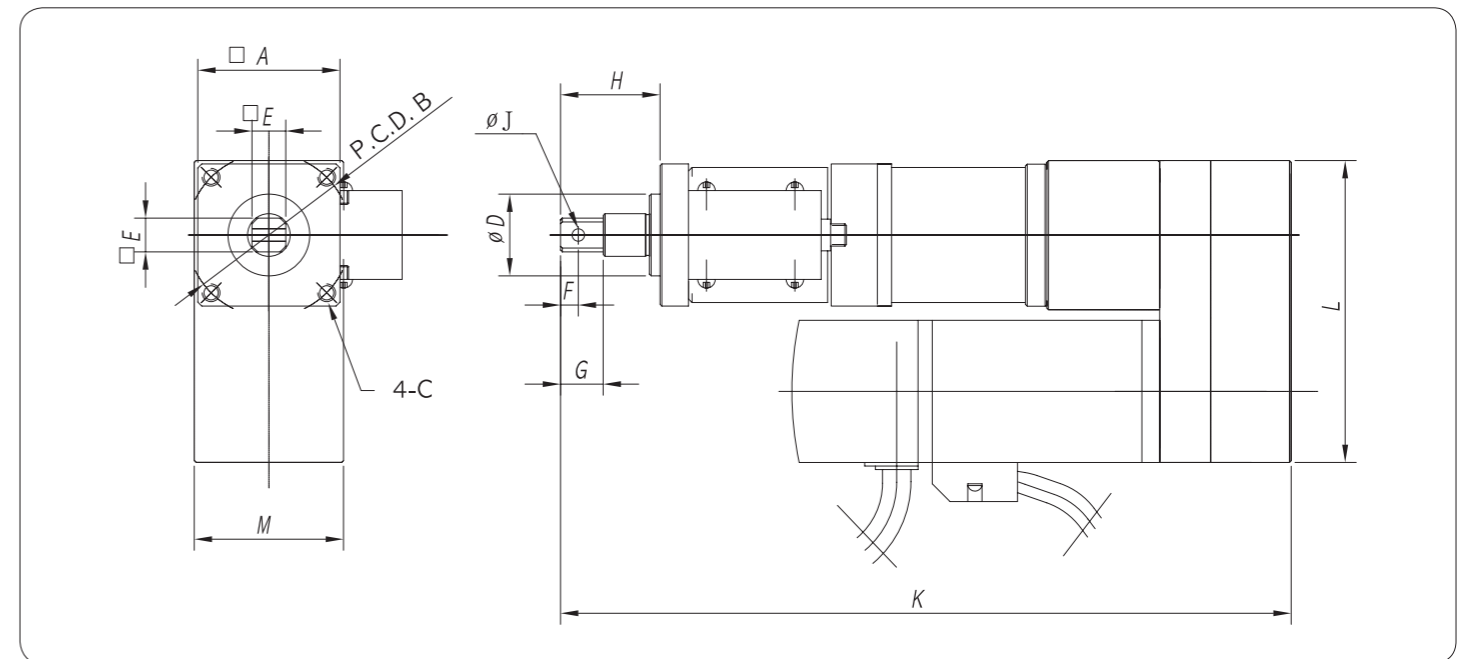
### Specification



Model	Scope	Capacity		Max Speed (r/min)	Weight (kg)
STNR-01KM-DU	0.2 ~ 0.8 kgf.m	1 kgf.m	9.807 Nm	375	3
STNR-02KM-DU	0.4 ~ 1.6 kgf.m	2 kgf.m	19.61 Nm	375	3
STNR-03KM-DU	0.6 ~ 2.4 kgf.m	3 kgf.m	29.42 Nm	208	3.5
STNR-04KM-DU	0.8 ~ 3.2 kgf.m	4 kgf.m	39.22 Nm	208	3.5
STNR-06KM-DU	1.2 ~ 4.8 kgf.m	6 kgf.m	58.84 Nm	270	6.5
STNR-08KM-DU	1.6 ~ 6.4 kgf.m	8 kgf.m	78.45 Nm	270	6.5
STNR-13KM-DU	2.6 ~ 10.4 kgf.m	13 kgf.m	127.49 Nm	155	7.5
STNR-20KM-DU	4 ~ 16 kgf.m	20 kgf.m	196.14 Nm	155	7.5

※ 더 높은 용량의 모델이 필요하실 경우, 별도 연락 바랍니다.  
 If you need greater capacity model, please contact to us

### Dimensions



Capacity	A	ØB	C	ØD	E	F	G	H	ØJ	K	L	M
1 ~ 4 kgf.m	40	46	M5	23	9.5	5	12	28	3.5	206	85	42
6 ~ 8 kgf.m	62	70	M6	45	12.7	8	16	40	4.5	267	126	62
13 ~ 20 kgf.m	62	70	M6	45	15.8	10	20	40	4.5	267	126	62



# STNR-SP

## Spindle ASM



## Application



NUTRUNNER unit  
STNR series

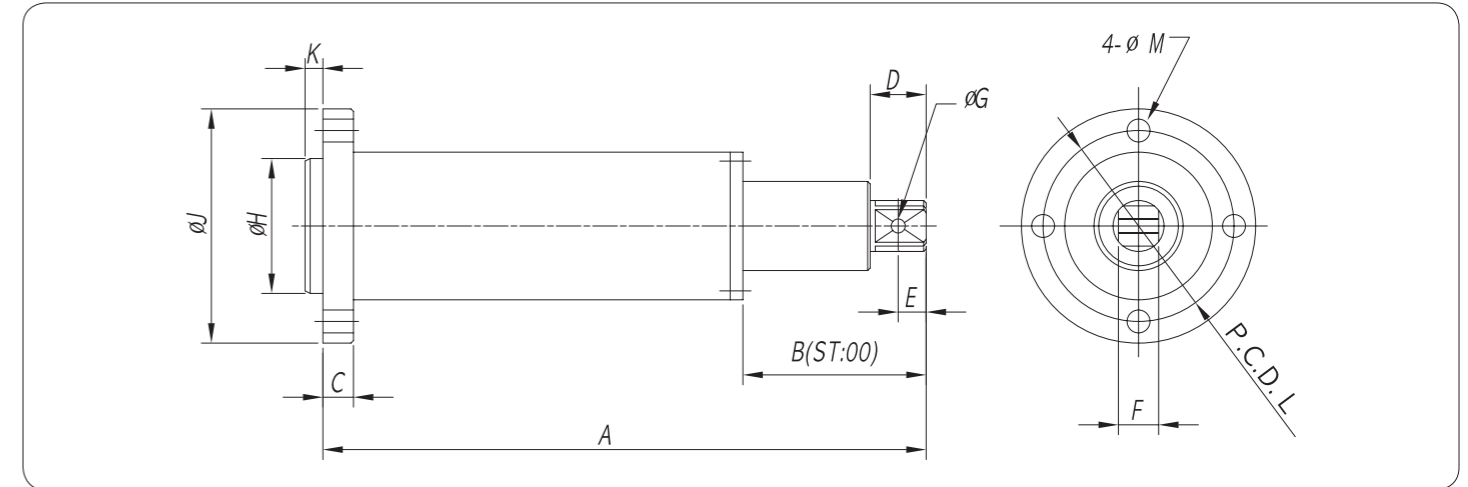
## Introduction

- STNR-ST type은 쿠션 스피들 유닛으로 볼트 및 너트 체결 시 발생하는 충격을 흡수하여 TOOL을 보호
- 나사 체결 시, 쿠션이 나사를 밀어줌으로 너트런너의 높이를 별도로 조절할 필요 없음
- 정확한 토크를 전달할 수 있도록 설계
- STNR-ST type is a cushion spindle unit that absorbs the shock generated when bolts and nuts are tightened to protect the tool
- When tightening screws, the cushion pushes the screws, so there is no need to adjust the height of the nut runner
- Designed to deliver accurate torque

## Features

Model	Capacity	Max Speed (r/min)	Weight (kg)	
STNR-1~2KM-SP	2 kgf.m	19.61 Nm	5000	3
STNR-3~4KM-SP	4 kgf.m	39.22 Nm	5000	3.5
STNR-6~8KM-SP	8 kgf.m	78.45 Nm	5000	6.5
STNR-13~20KM-SP	20 kgf.m	196.14 Nm	5000	7.5

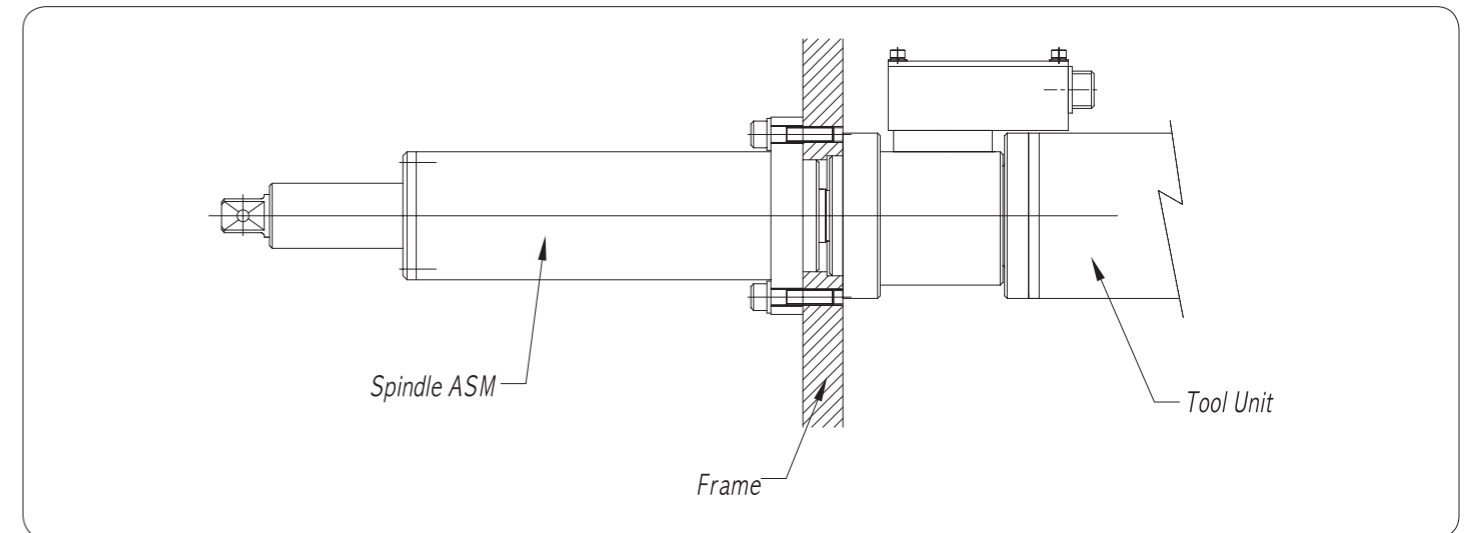
## Dimensions



Capacity	A	B	C	D	E	□F	∅G	∅H	∅J	K	L	∅M	STROKE
1 ~ 4 kgf.m	180	53	12	13	5	9.5	3.5	37	62	6	52	6	ST 40
6 ~ 8 kgf.m	218	68	12	18	8	12.7	4.5	42	74	6	61	7	ST 50
13 ~ 20 kgf.m	237	72	12	22	10	15.8	4.5	53	92	7	75	9	ST 50

※ 더 높은 용량의 모델이 필요하실 경우, 별도 연락 바랍니다.  
If you need greater capacity model, please contact to us

## How to install



## Recommend Frame Thickness

Capacity	Frame Thickness
1 ~ 4 kgf.m	15 mm
6 ~ 20 kgf.m	15 mm
30 ~ 60 kgf.m	18 mm

# YD-5000

## Local controller

### Application



HMI unit  
YD-5000DU



NUTRUNNER  
STNR series



### Specification

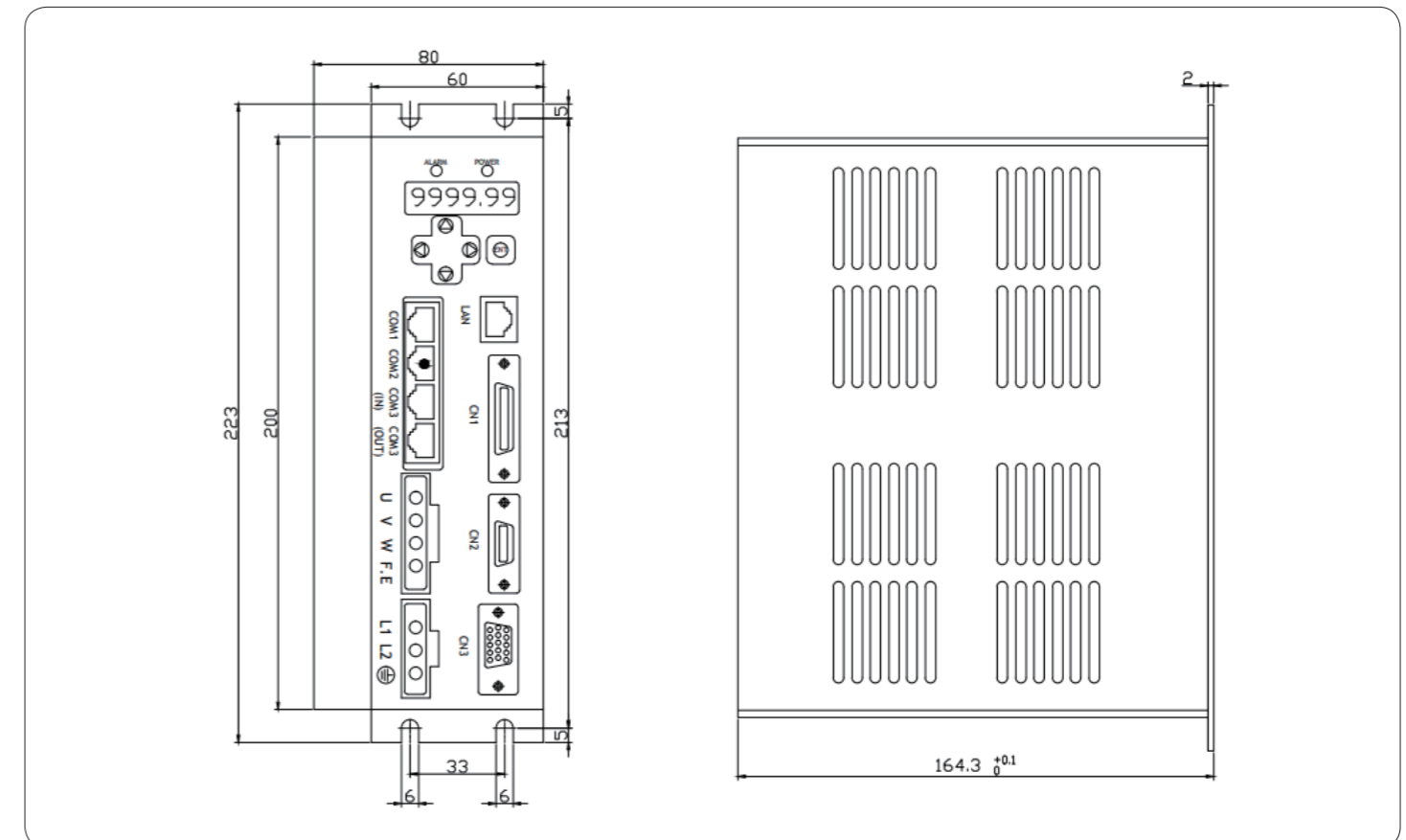
Item	Model	YD-5010DE	YD-5040DE	YD-5140DE	YD-5100DE	YD-5040BE
Power		AC 220V ±10 %, 50.60 Hz				
Applied Motor		3 phase sine wave PWM drive type AC servo motor				3 phase sine wave PWM drive type BLDC motor
Detector Type		Incremental Line Drive 1024 ~ 10000 [P/R]				
Capacity	Input Control	16 EA (Photo Coupler Isolation DC 24V)				
	Output Control	16 EA (Photo Coupler Isolation DC 24V)				
	Number of Program Channels	Up to 31 channels				
	Number of Connected Stations	Up to 31 stations				
Communication	COM1, COM2	RS232 Communication PORT				
	COM3	RS485 Communication PORT				
	Ethernet	TCP/IP				
Function	Display Function	7-segment [6 digits] built-in, Power & Alarm Lamp				
	Temperature	0 ~ 50 °C				
Environment	Humidity	90 % 이하 결로가 없는 곳 Less than 90 %. No condensation				
	Surroundings	실내, 부식성, 인화성가스 또는 액체가 없는 곳, 도전성 분진이 없는 곳 Indoor / No corrosive gas, No inflammable gas and li quid, No electric dust				

### Tool & Drive Unit Table

Tool Model	Control Driver	Weight (kg)
STNR-01KM-DT	YD-5010DE	0.8
STNR-02KM-DT		
STNR-03KM-DT		
STNR-04KM-DT		
STNR-06KM-DT	YD-5040DE	0.8
STNR-08KM-DT		
STNR-13KM-DT	YD-5140DE	1.3
STNR-20KM-DT		
STNR-30KM-DT	YD-5100DE	1.3
STNR-40KM-DT		
STNR-60KM-DT		
STNR-SQC series	YD-5040BE	0.8
STNR-SQV series		
STNR-RS series		

※ Remark : The same drive unit form STNR and all product lines (Drive selection according to Nut-runner Tool Unit capacity)

### Dimensions



# YD-6000

## Master controller

### Application



Master HMI unit  
YD-6000DU



Local controller  
YD-5000 series



### Specification

Item	Model	YD-6000 (Master Controller)
	Power	DC 24V ±10 %
Performance	Control Power Source	20 EA (Photo Coupler Isolation DC 24V)
	Control Output	44 EA (Photo Coupler Isolation DC 24V)
	Number of Controller Connections	Up to 31
	External Storage Device	SD Card (8 GB)
Communication	COM 1	RS485 PORT (Local Unit)
	COM 2	RS485 PORT (Host Device)
	COM 3	RS232 PORT (Host Device)
	COM 4	RS232 PORT (Loader Unit)
	Ethernet	TCP/IP - Host Device (Result Output)
Function	Display Function	7-segment [6 digits] built-in X2
		7-segment [6 digits] built-in X1
	Control Key	OK & Alarm & NG Lamp
Environment	Temperature	0 ~ 50 °C
	Humidity	90 % 이하 결로가 없는 곳 Less than 90 %. No condensation
	Surroundings	실내, 부식성, 인화성가스 또는 액체가 없는 곳, 도전성 분진이 없는 곳 Indoor / No corrosive gas, No inflammable gas and li quid, No electric dust

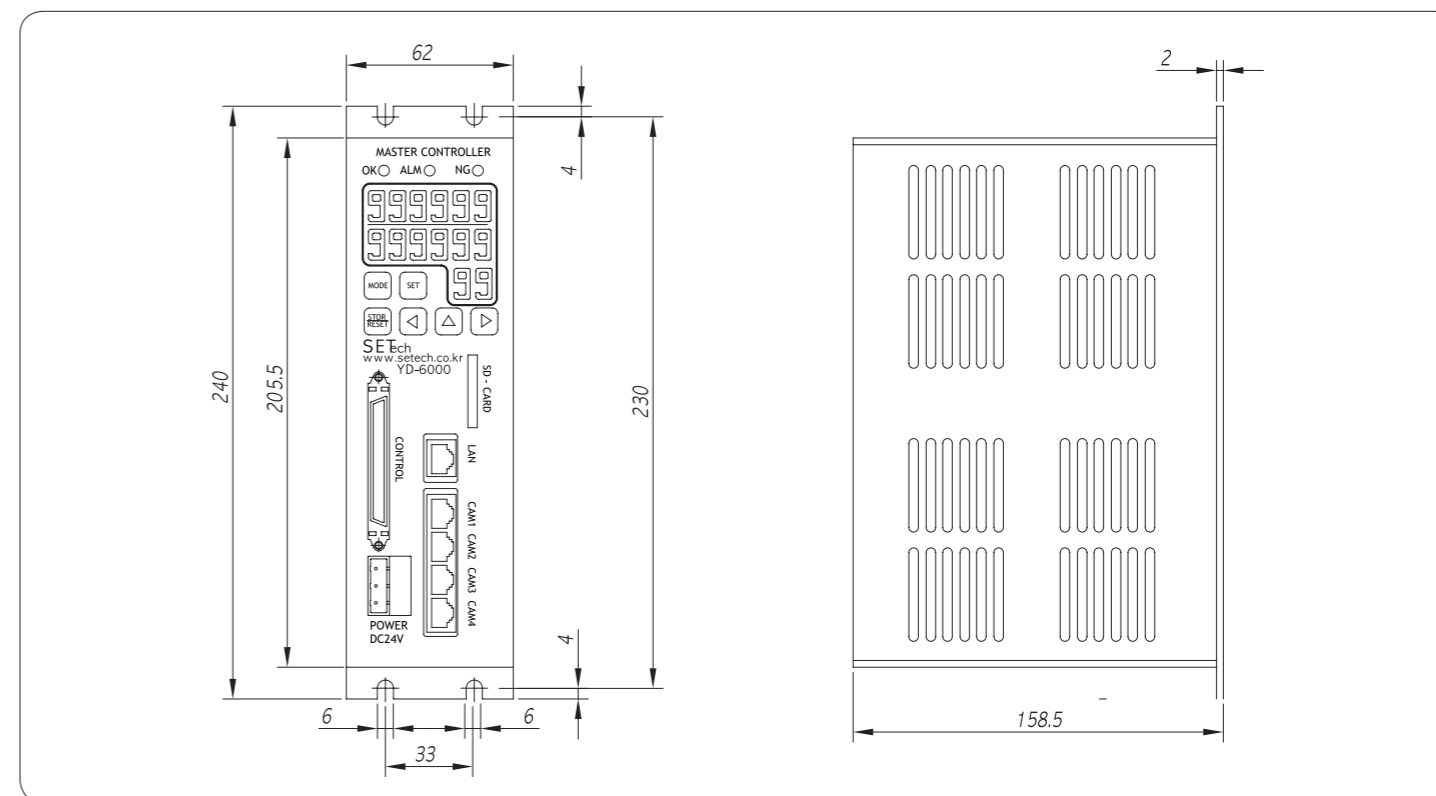
### Features

- NUTRUNNER 최대 31대까지 통신으로 연결이 가능
- NUTRUNNER 각각의 선택적 운전이 가능
- 8 GB SD memory card 적용
- Torque, Angle, 속도, 회전 방향 임의 설정 가능
- Up to 31 NUTRUNNERS can be connected through communication
- Selective operation of each NUTRUNNER is possible
- 8 GB SD memory card applied
- Torque, Angle, speed and rotation direction can be set arbitrarily

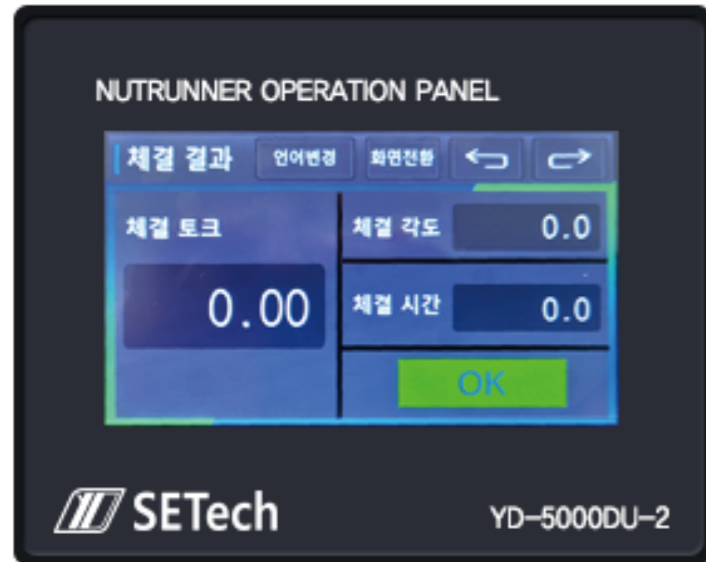
### Drive Unit Table

Master	Local Control Driver	Weight (kg)
YD-6000	YD-5010DE	0.8
	YD-5040DE	0.8
	YD-5140DE	1.3
	YD-5100DE	1.3
	YD-5040BE	0.8

### Dimensions



# YD-5000DU



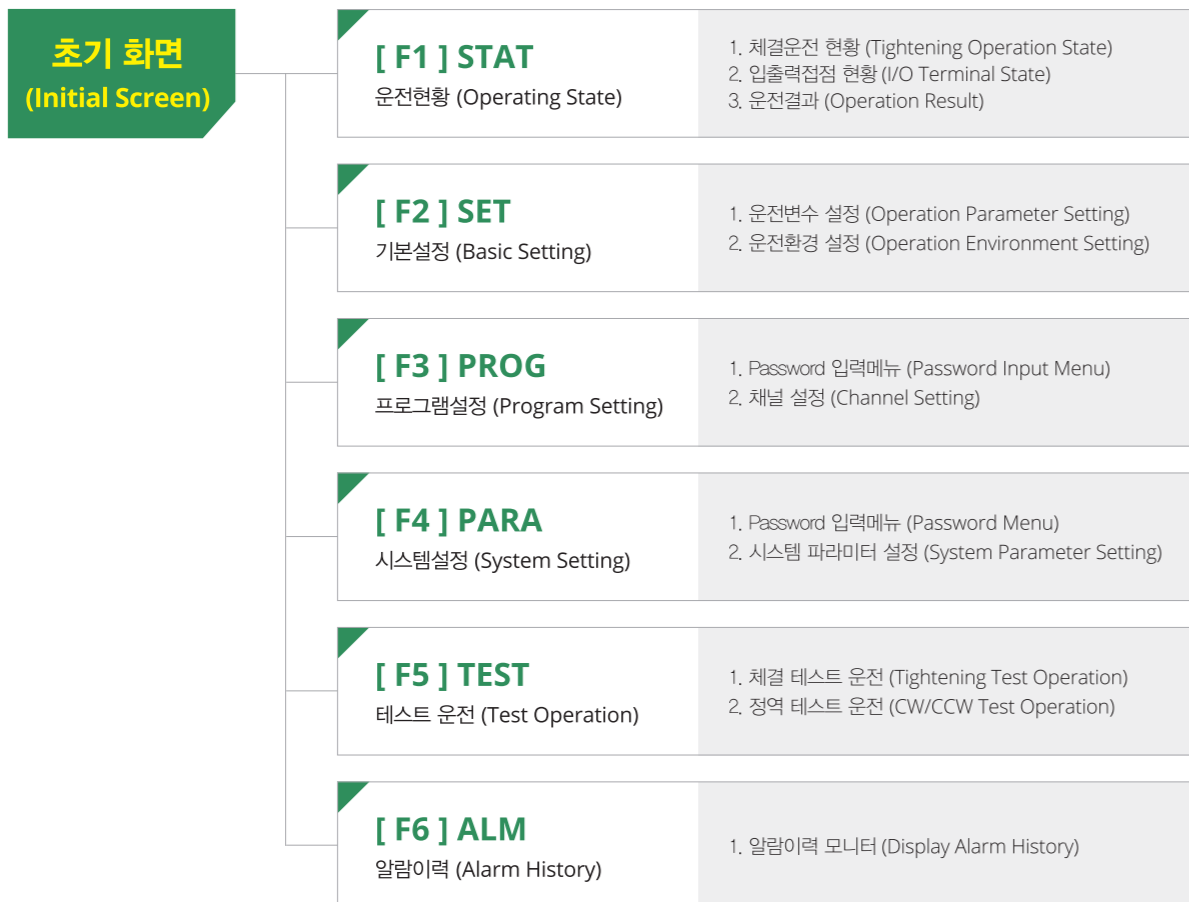
### ※Option 사양

- ▶ YD-5000 전용 HMI
- ▶ 입력전압 : DC 24V
- ▶ 조작이 쉬운 6개 메뉴키
- ▶ TFT 16M color LCD 채용
- ▶ 통신기능: RS232
- ▶ HMI for YD-5000
- ▶ Power source : DC 24V
- ▶ Six easy-to-operate menu keys
- ▶ TFT 16M color LCD
- ▶ RS232 communication support

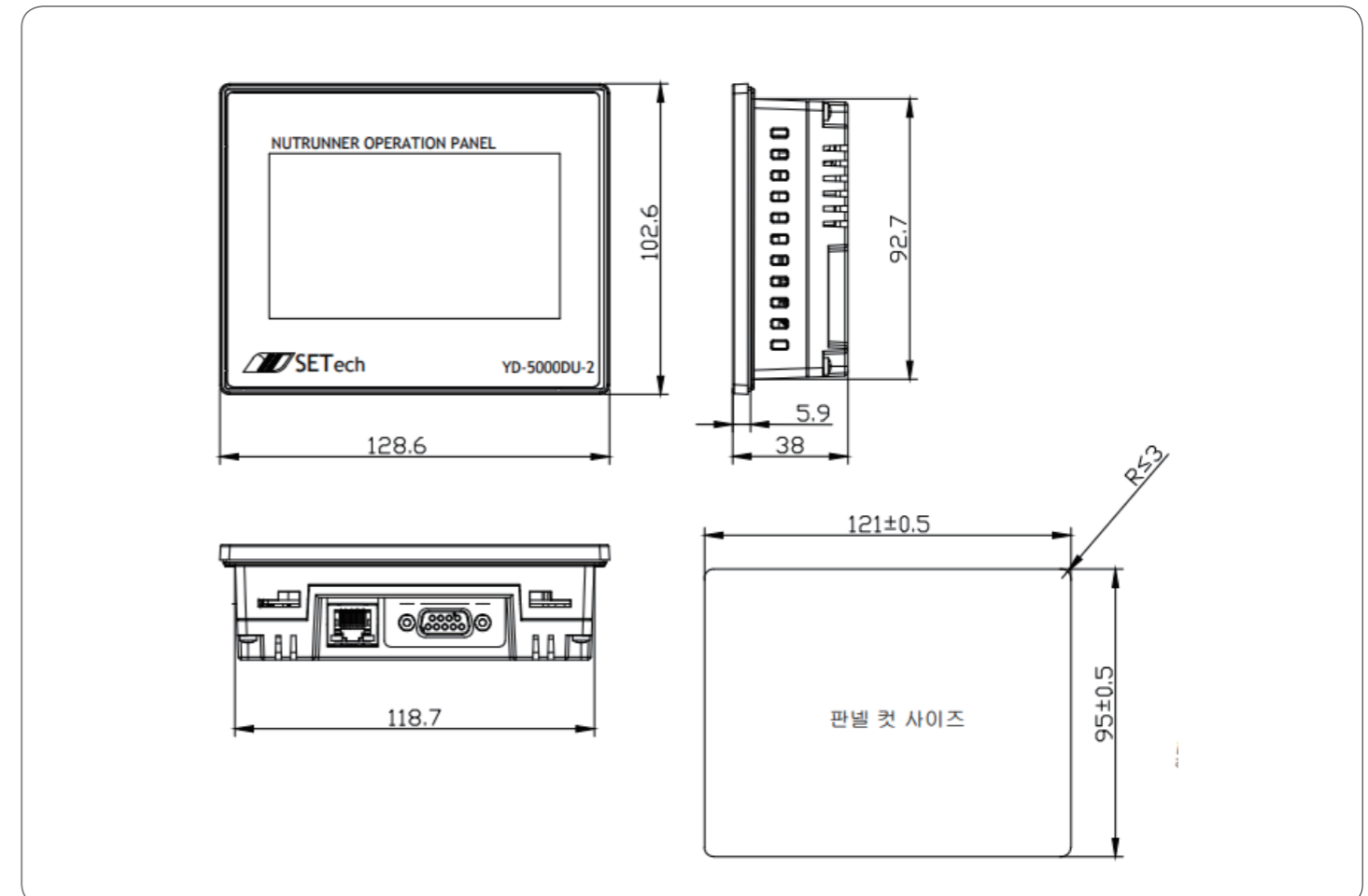
## Specification

항목	내용
입력전원 (Input Power)	DC 24V (20 ~ 28V)
입력전원케이블 (Input Power Cable)	AWG16 ~ AWG23 (U-Terminal 간격 : 3 mm)
소비전력 (Power Consumption)	12 W 이하 (12 W or less)
사용온도 (Operating Temperature)	0 ~ 50 °C
보관온도 (Storage Temperature)	-10 ~ 60 °C
사용습도 (Operating Humidity)	40 °C, 85 % RH 이하 (40 °C, 80 % RH or less)
내충격 (Impact Resistance)	10G X, Y, Z 각 방향 3회 (10G X, Y, X 3 times in each direction)
사용환경 (Environment)	실내, 부식성, 인화성가스 또는 액체가 없는 곳. 도전성 분진이 없는 곳 (Indoor / No corrosive gas, No inflammable gas and li quid, No electric dust)

## Display menu



## Dimensions





# YD-6000DU



### ※ Option 사양

- ▶ YD-6000DU 전용 HMI
- ▶ 입력전압 : DC 24V
- ▶ 조작이 쉬운 5개 메뉴키
- ▶ 통신기능 : RS232
- ▶ 로컬 너트런너 제어 설정 기능
  
- ▶ HMI for YD-6000
- ▶ Power source : DC 24V
- ▶ Five easy-to-operate menu keys
- ▶ 512KB Memory
- ▶ RS232 Communication support
- ▶ Local NUTRUNNER control and setting function

## Specification

항목	내용
입력전원 (Input Power)	DC 24V
입력전원케이블 (Input Power Cable)	AWG16 ~ AWG23 (U-Terminal 간격 : 3 mm)
소비전력 (Power Consumption)	25 W 이하 (25 W or less)
사용온도 (Operating Temperature)	0 ~ 50 °C
보관온도 (Storage Temperature)	-10 ~ 60 °C
사용습도 (Operating Humidity)	40 °C, 85 % RH 이하 (40 °C, 80 % RH or less)
내충격 (Impact Resistance)	10G X, Y, Z 각 방향 3회 (10G X, Y, X 3 times in each direction)
사용환경 (Environment)	실내, 부식성, 인화성가스 또는 액체가 없는 곳, 도전성 분진이 없는 곳 (Indoor / No corrosive gas, No inflammable gas and li quid, No electric dust)

## Display menu

**초기 화면 (Initial Screen)**

- [ F1 ] STAT**  
운전현황 (Operating State)

1. 마스터 운전 결과 (Master Operation Result)  
2. 입력 접점 현황 (Input Terminals State)  
3. 출력 접점 현황 (Output Terminals State)  
4. 축 끊음 상태 현황 (Local Spindle Skip State)
- [ F2 ] SET**  
환경설정 (Preferences)

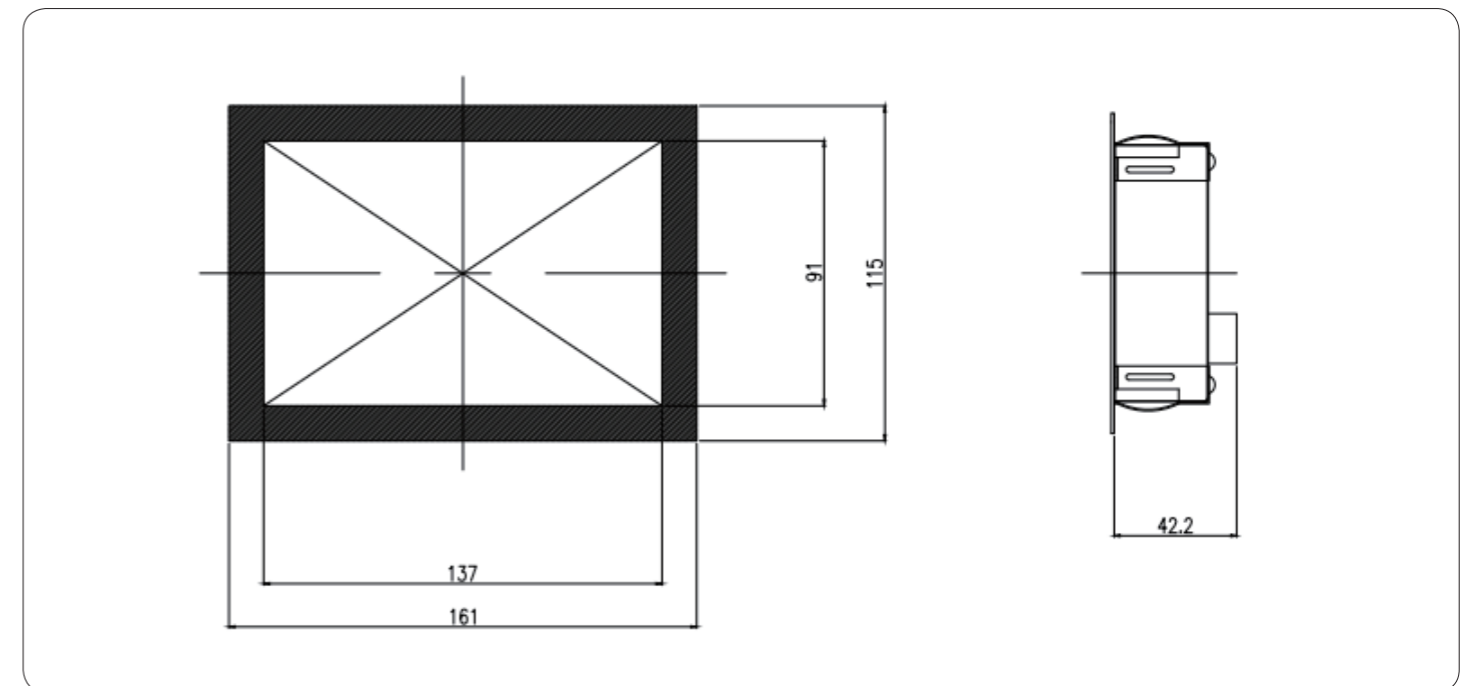
1. 시스템 환경 설정 (System Preferences Setting)
- [ F3 ] PROG**  
프로그램설정 (Program Setting)

1. 축 끊음 설정 (Local Spindle Skip Setting)  
2. 마스터 프로그램 설정 (Master Program Setting)  
3. 로컬 채널 복사 (Local Channel Copy)
- [ F4 ] TEST**  
테스트 운전 (Test Operation)

1. 마스터 체결 테스트운전 (Master Test Operation)
- [ F5 ] ALM**  
알람이력 (Alarm History)

1. 알람이력 모니터 (Display Alarm History)

## Dimensions



타공 사이즈 / Cutting Size : 137 × 91 mm  
 타공 후, 여백 12 mm 이상 확보 / After cutting, secure at least 12 mm of blank space  
 전원 및 통신선 여유 공간 확보 60 mm 이상 / Secure enough space for power and communication lines 60 mm or more

# STHT-DT

## Hand-held straight type

### Application



Controller unit  
YD-8100



Reaction arm series  
SRAF-LN SRAF-LE  
SRAF-AN SRAF-AE  
SRAH



### Specification

STHT - \_\_\_\_\_ - DT  
 ↑  
 NUTRUNNER capacity

Model	Scope	Capacity	Max Speed (r/min)	Weight (kg)	
STHT-09KC-DT	1.8 kgf.cm ~ 9 kgf.cm	9 kgf.cm	88.2 Ncm	2660	1.2
STHT-18KC-DT	3.6 kgf.cm ~ 18 kgf.cm	18 kgf.cm	176.4 Ncm	2660	1.2
STHT-35KC-DT	7 kgf.cm ~ 35 kgf.cm	35 kgf.cm	343 Ncm	1330	1.2
STHT-50KC-DT	10 kgf.cm ~ 50 kgf.cm	50 kgf.cm	490 Ncm	1330	1.2
STHT-85KC-DT	17 kgf.cm ~ 85 kgf.cm	85 kgf.cm	833 Ncm	870	1.2
STHT-01KM-DT	20 ~ 100 kgf.cm	100 kgf.cm	980 N.cm	870	1.2
STHT-02KM-DT	40 ~ 200 kgf.cm	200 kgf.cm	1960 N.cm	430	1.2

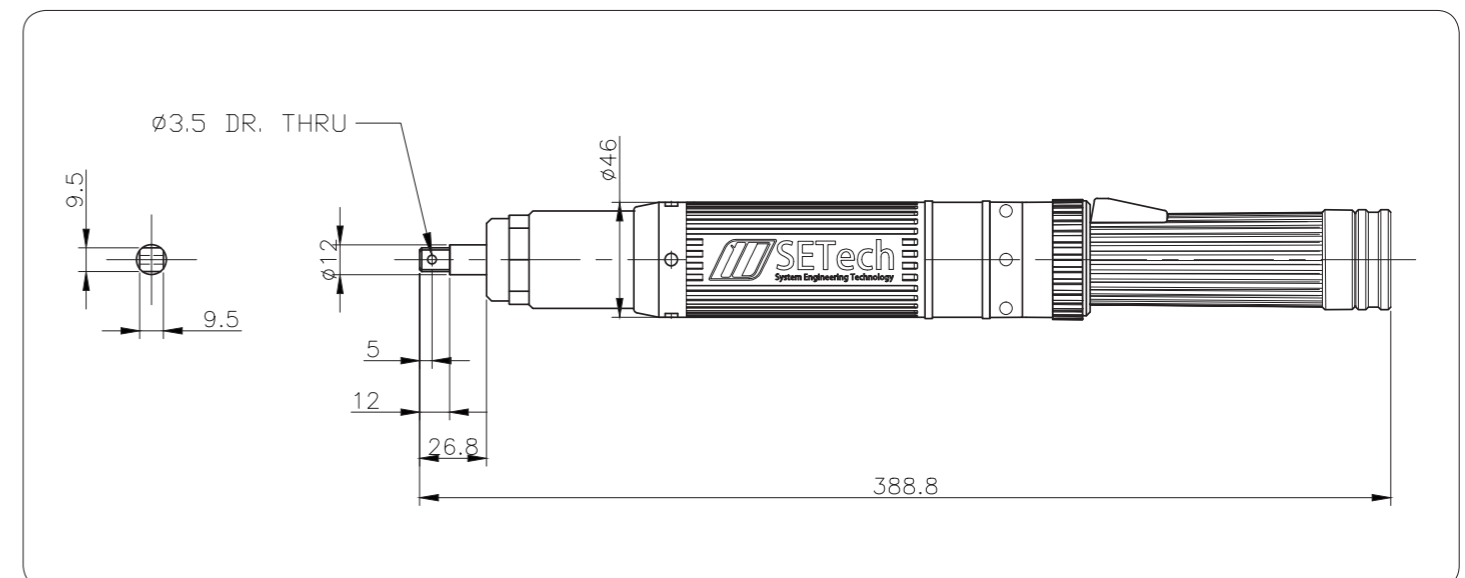
### Introduction

- STHT-DT는 사용자가 편하게 사용할 수 있도록 설계됨
- LED 내장으로 현재 너트런너의 상태 확인 가능
- 내장된 다이얼을 이용해 사용자가 쉽게 정역 방향 변환이 가능
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- STHT-DT is designed by convenient to use for user
- User can check current NUTRUNNER state by LED
- Easy to change the tightening direction by using built-in dial
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

### Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-8100에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in YD-8100
- 31 channel is provided

### Dimensions



# STHT-AG

## Hand-held angle type

### Application



Controller unit  
YD-8100



Reaction arm series  
SRAF-LN SRAF-LE  
SRAF-AN SRAF-AE  
SRAH



### Specification

STHT - \_\_\_\_\_ - AG

↑  
NUTRUNNER capacity

Model	Scope	Capacity	Max Speed (r/min)	Weight (kg)	
STHT-09KC-AG	1.8 kgf.cm ~ 9 kgf.cm	9 kgf.cm	88.2 Ncm	2660	1.2
STHT-18KC-AG	3.6 kgf.cm ~ 18 kgf.cm	18 kgf.cm	176.4 Ncm	2660	1.2
STHT-35KC-AG	7 kgf.cm ~ 35 kgf.cm	35 kgf.cm	343 Ncm	1330	1.2
STHT-50KC-AG	10 kgf.cm ~ 50 kgf.cm	50 kgf.cm	490 Ncm	1330	1.2
STHT-85KC-AG	17 kgf.cm ~ 85 kgf.cm	85 kgf.cm	833 Ncm	870	1.2
STHT-01KM-AG	20 ~ 100 kgf.cm	100 kgf.cm	980 N.cm	870	1.2
STHT-02KM-AG	40 ~ 200 kgf.cm	200 kgf.cm	1960 N.cm	430	1.2

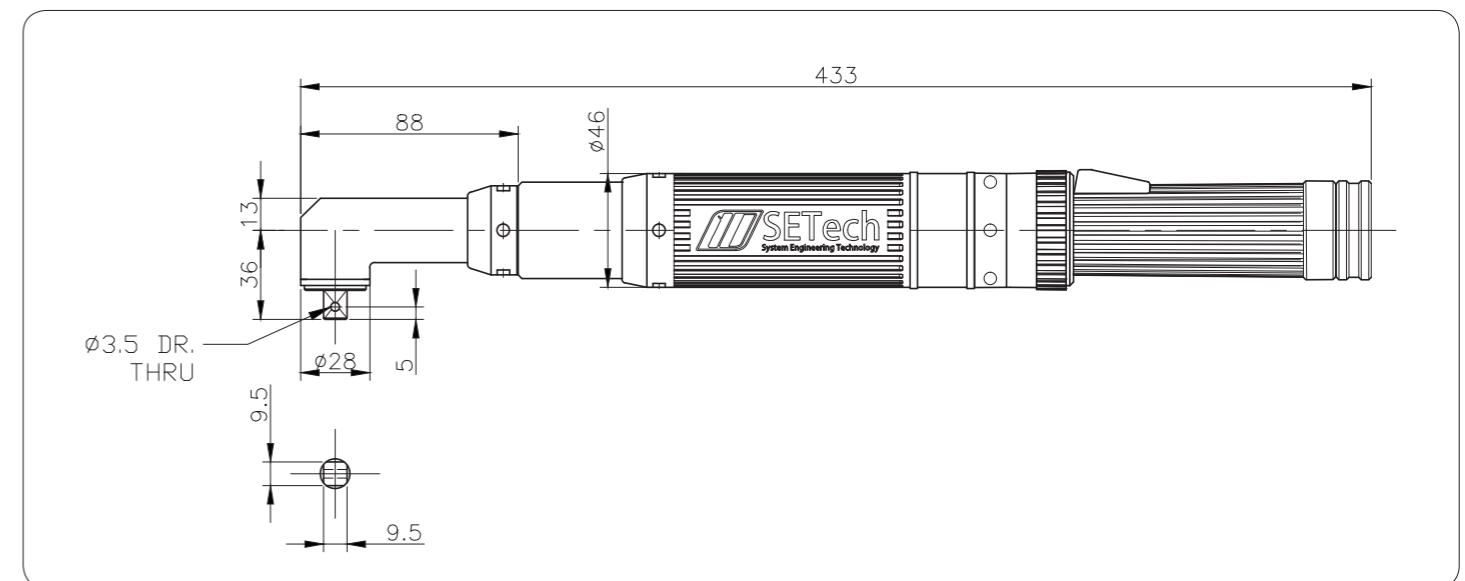
### Introduction

- STHT-AG는 사용자가 편하게 사용할 수 있도록 설계됨
- LED 내장으로 현재 너트런너의 상태 확인 가능
- 내장된 다이얼을 이용해 사용자가 쉽게 정역 방향 변환이 가능
- 토크 트랜스듀서가 내장되어 정확한 토크 출력
- 엔코더를 부착하여 체결 각도 제어 가능
- STHT-DT is designed by convenient to use for user
- User can check current NUTRUNNER state by LED
- Easy to change the tightening direction by using built-in dial
- User can get the high accurate tightening result torque, since torque transducer is adopted
- User can get the tightening angle data, since encoder is adopted

### Features

- Controller에서 Torque, Angle, 속도, 회전 방향 임의 설정 가능
- YD-8100에서 실시간 운전 진행 사항 확인 가능
- 31개의 채널 제공
- Torque, Angle, speed and rotation direction can be set arbitrarily
- Real-time operation progress can be checked in YD-8100
- 31 channel is provided

### Dimensions



# YD-8100

## Integrated controller



## Application



## Features

- 4.3" HMI 통합형 컨트롤러
- 감압식 터치스크린 채용
- 토크 체결력 실시간 그래프 표시 기능 탑재
- 체결 데이터 저장 기능 (SD 카드)
- 최대 31개 채널 제공
- 4.3 inch touch HMI integrated controller
- Pressure-sensitive touch screen is adopted
- Real-time torque graph display function
- Tightening result data storing function (SD card)
- Maximum 31 channel support

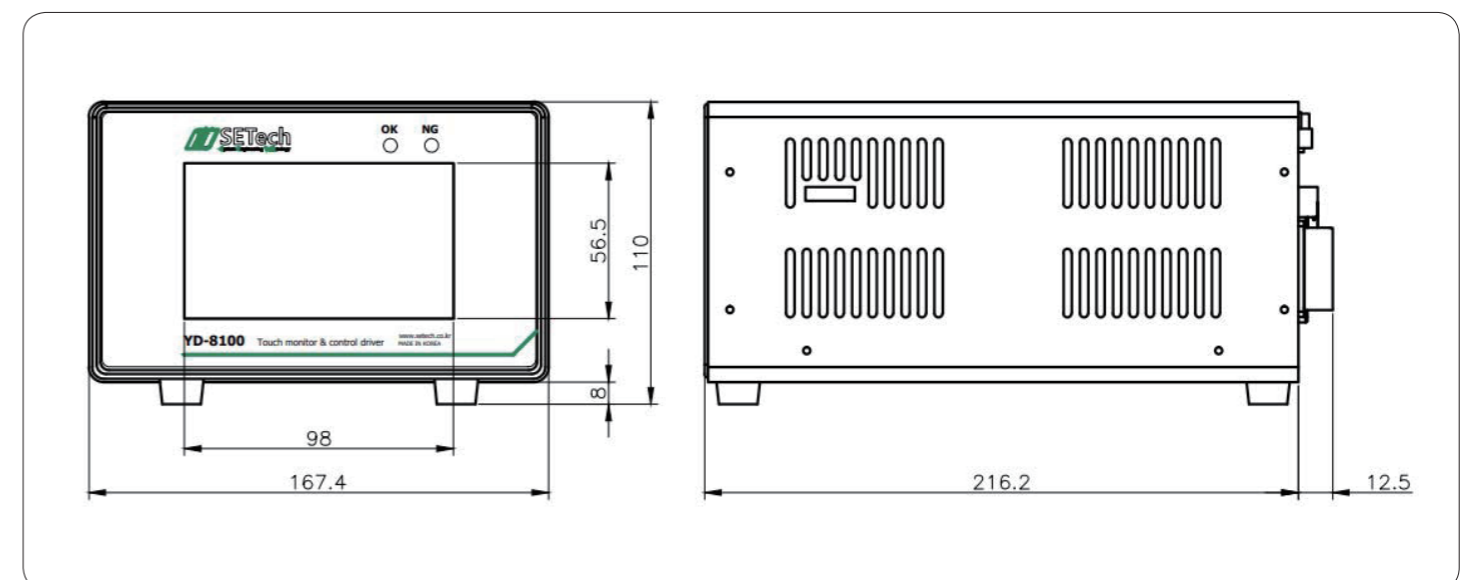
## Tool Unit

Tool Model	Control Driver	Weight (kg)
STHT-DT all	YD-8100	2.0
STHT-AG all		
STNR-RT all		
STNR-RS all		

## Specification

Item	Model	YD-8100
Power		Single phase AC 220V ±10 %, 50.60 Hz
Application Motor		Three phase sine wave PWM drive type BLAC motor
Detector Type		Incremental Line Drive 1024 ~ 10000 [P/R]
Capacity	Input Control	16 EA (Photo Coupler Isolation DC 24V)
	Output Control	16 EA (Photo Coupler Isolation DC 24V)
	Number of Program Channels	Up to 31 channels
	Number of Connected Stations	Up to 31 stations
Communication	RS232	RS232 Communication PORT
	Ethernet	TCP/IP
Function	Display Function	4.3 inch touch display
	External Storage	SD card, USB 2.0
Environment	Temperature	0 ~ 50 °C
	Humidity	90 % 이하 결로가 없는 곳 Less than 90 %. No condensation
	Surroundings	실내, 부식성, 인화성 가스 또는 액체가 없는 곳, 도전성 분진이 없는 곳 Indoor/ No corrosive gas, No inflammable gas and liquid, No electric dust

## Dimensions





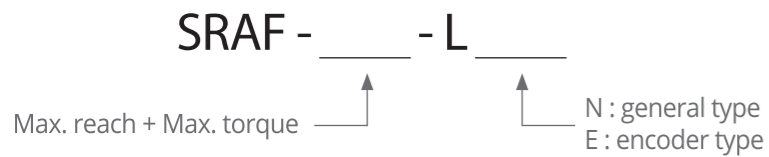
# SRAF-L

## Linear type reaction arm

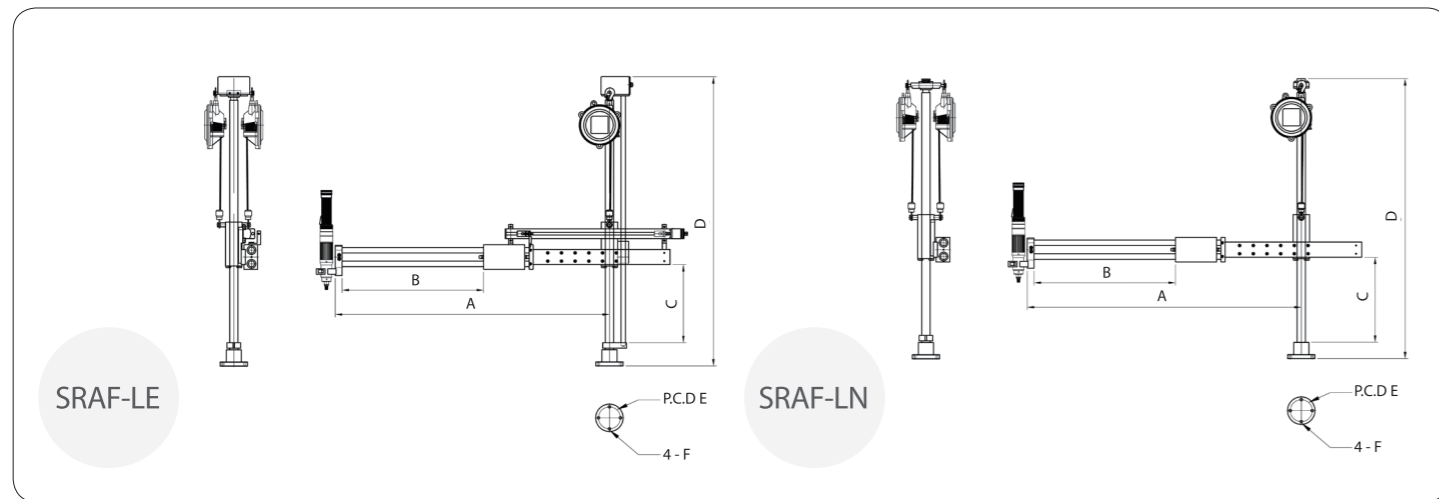
### Features

- SRAF-L type은 STHT 모델 (수동형) 너트런너를 이용하여 정확한 값으로 나사를 체결할 수 있도록 보조 역할을 합니다
- SRAF-LE (위치제어 엔코더 내장형)은 체결 위치 제어가 가능합니다 (SPC 사용 시)
- 최대 약 500 mm 까지 수직 수평 이동이 가능합니다
- 바닥 고정형
- SRAF-L type helps to get correct torque for tightening bolt by STHT model (manual nutrunner)
- SRAF-LE (encoder included type) can control tightening position (with SPC)
- SRAF-L has maximum 500 mm stroke for vertical and horizontal
- Floor mounting type

### Specification and Dimension



### Application



Model	SPC	Max Tool Weight	Max Torque	Weight	A	B	C	D	E	F
					Max Reach	Horizontal Stroke	Vertical Stroke	Height	P.C.D	HOLES
SRAF-1002-LE	O	4.6kg	2kgf.m / 19.61Nm	18.1kg	1000mm	450mm	500mm	1056mm	ø80	ø9
SRAF-1006-LE	O	2.2kg	6kgf.m / 58.83Nm	20.3kg	1000mm	450mm	500mm	1056mm	ø80	ø9
SRAF-1002-LN	X	5.7kg	2kgf.m / 19.61Nm	14.4kg	1000mm	500mm	450mm	1020mm	ø80	ø9
SRAF-1006-LN	X	3.3kg	6kgf.m / 58.83Nm	16.6kg	1000mm	500mm	450mm	1020mm	ø80	ø9

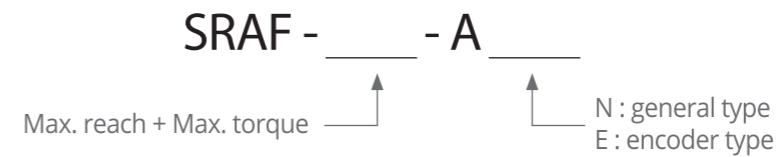
# SRAF-A

## Angle type reaction arm

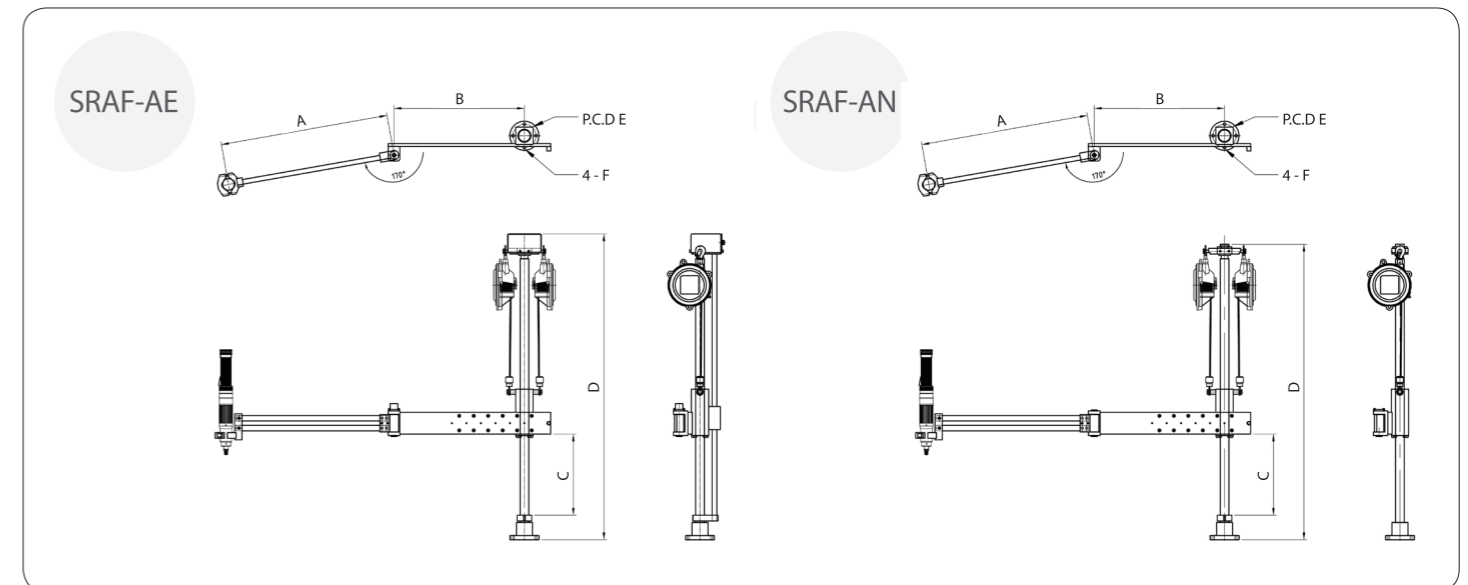
### Features

- SRAF-A type은 STHT 모델 (수동형) 너트런너를 이용하여 정확한 값으로 나사를 체결할 수 있도록 보조 역할을 합니다
- SRAF-AE (위치제어 엔코더 내장형)은 체결 위치 제어가 가능합니다 (SPC 사용 시)
- 최대 약 500 mm 까지 수직 수평 이동이 가능합니다
- 바닥 고정형
- SRAF-A type helps to get correct torque for tightening bolt by STHT model (manual nutrunner)
- SRAF-AE (encoder included type) can control tightening position (with SPC)
- SRAF-A has maximum 500 mm stroke for vertical and horizontal
- Floor mounting type

### Specification and Dimension



### Application



Model	SPC	Max Tool Weight	Max Torque	Weight	A+B	A	B	C	D	E	F
					Max Reach	Swivel Arm	Bese Arm	Vertical Stroke	Height	P.C.D	HOLES
SRAF-1006-AE	O	4.7kg	6kgf.m / 58.83Nm	18.1kg	1000mm	550mm	450mm	450mm	1056mm	ø80	ø9
SRAF-1006-AN	X	5.2kg	6kgf.m / 58.83Nm	15.1kg	1000mm	550mm	450mm	450mm	1020mm	ø80	ø9

# SRAH

## Vertical type reaction arm

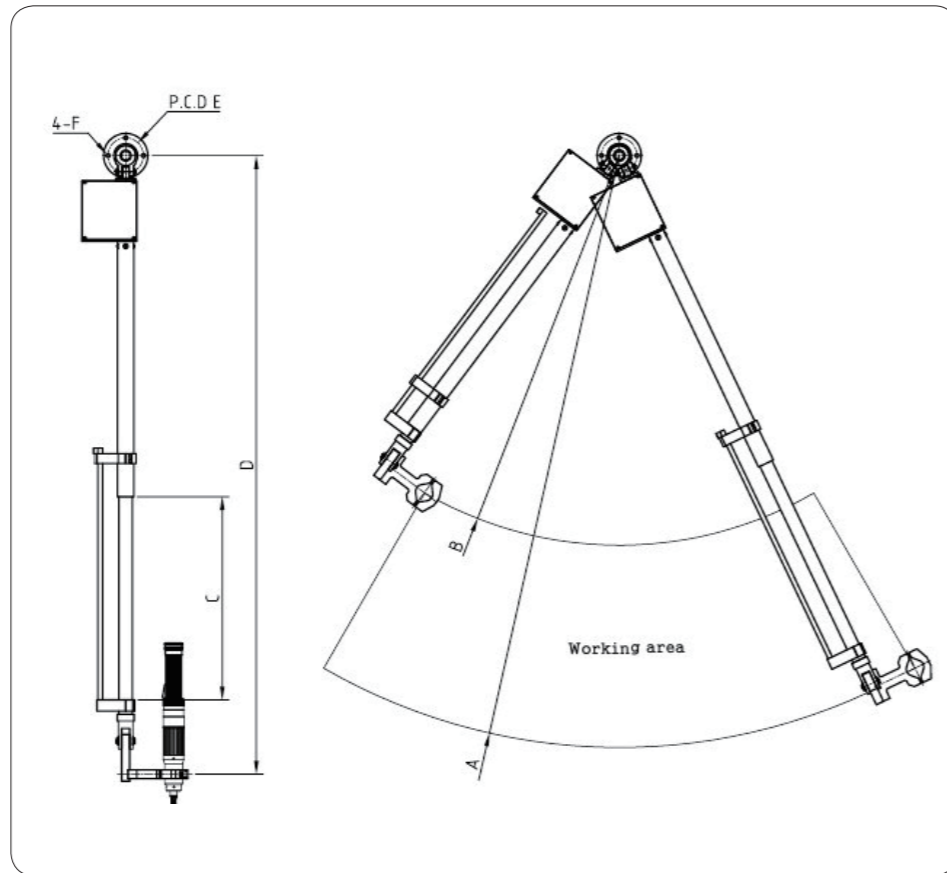
### Features

- SRAH type은 STHT 모델 (수동형) 너트런너를 이용하여 정확한 값으로 나사를 체결할 수 있도록 보조 역할을 합니다
- 최대 약 450 mm 까지 수직 수평 이동이 가능합니다
- 상부 고정형
- SRAH type helps to get correct torque for tightening bolt by STHT model (manual nutrunner)
- SRAH has maximum 450 mm stroke for vertical and horizontal
- Hanger type



### Specification and Dimension

SRAH -   
 ↑   
 Max. reach + Max. torque



Model	Max Tool Weight	Max Torque	Weight	A	B	C	D	E	F
SRAH-1202	3.1kg	19.61Nm	5.2kg	1332mm	877mm	450mm	1393mm	80mm	Ø9
SRAH-1206	2.4kg	58.83Nm	6.0kg	1332mm	877mm	450mm	1393mm	80mm	Ø9

# SPC

## SETech Position Control system

### Features

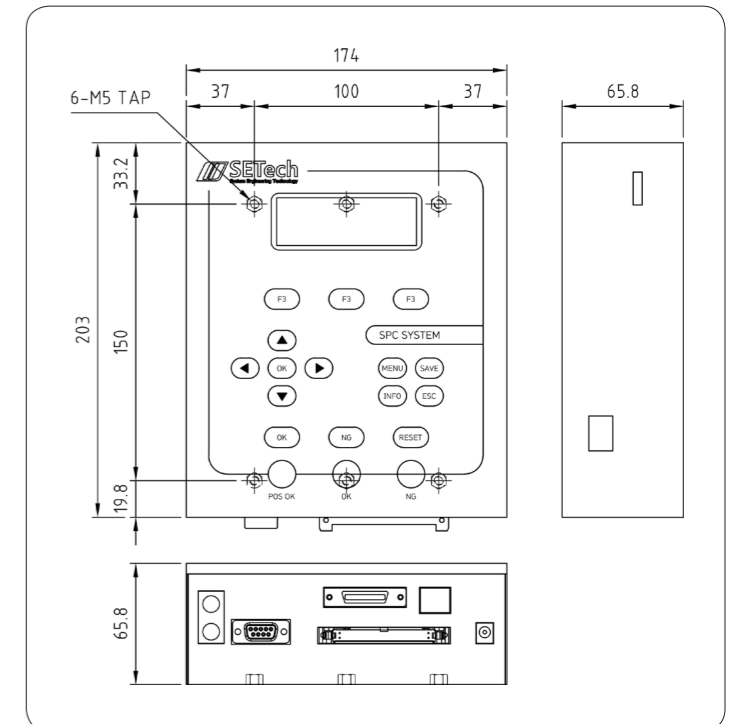
- SETech 너트런너와 반력암을 연결하여 위치 제어 및 체결 결과 표시
- 최대 50 개의 JOB과 1000 개의 위치 설정 가능
- 위치 OK / NG 신호 및 체결 OK / NG 확인 가능
- 체결마다 결과 데이터 전송 가능
- SPC controls the reaction arm position and show SETech NUTRUNNER tightening result by connection with SETech NUTRUNNER and reaction arm
- Maximum 50 JOBS and 1000 position can be set
- Position OK / NG signal and tightening OK / NG can be checked
- The result data can transmit per every tightening process



### Specification

MODEL	SPC	
SIZE	174 × 203 × 65.8	
POWER	24VDC	
Detector Type	Angle	Absolute Rotary Encoder 5VDC ±0.5, 10 mA, Analog
	Linear	Absolute Linear Sensor 24VDC -15 % or +20 %, 140 mA, Analog
Capacity	Input Control (NUTRUNNER)	16 EA (Photo Coupler Isolation DC 24V)
	Output Control (NUTRUNNER)	16 EA (Photo Coupler Isolation DC 24V)
	Input Control (external)	16 EA (Photo Coupler Isolation DC 24V)
	Output Control (external)	16 EA (Photo Coupler Isolation DC 24V)
	Number of JOB	Up to 50 JOB
COMM.	COM1	RS232
	Ethernet	TCP/IP
FUNCTION	Display Function	Front Display, Alarm Lamp
	Temperature	0 ~ 50 °C
ENVIRONMENT	less than 90 % No condensation	
	Indoor, No corrosive gas, No inflammable gas and liquid, No electric dust	

### Dimensions



# CABLE

## Motor Cable

Length (m)	5	10	20
Model	YD-5000DC-CM05	YD-5000DC-CM10	YD-5000DC-CM20

## Encoder Cable

Length (m)	5	10	20
Model	YD-5000DC-CE05	YD-5000DC-CE10	YD-5000DC-CE20

## Torque Transducer Cable

Length (m)	5	10	20
Model (5pin)	YD-5000DC-CT505	YD-5000DC-CT510	YD-5000DC-CT520
Model (6pin)	YD-5000DC-CT605	YD-5000DC-CT610	YD-5000DC-CT620

## Display Unit Cable (More than 1.25 Version)

Signal	No.
Rx	2
Tx	3
Grounding	5

Signal	No.
Rx	2
Tx	1
Grounding	4

Length (m)	5	10	20
Model	YD-5000DC-CH05	YD-5000DC-CH10	YD-5000DC-CH20

## STNR-RS, SQC, SQV Cable

Length (m)	5	10	20
Model	YD-5000BC-C05	YD-5000BC-C10	YD-5000BC-C20

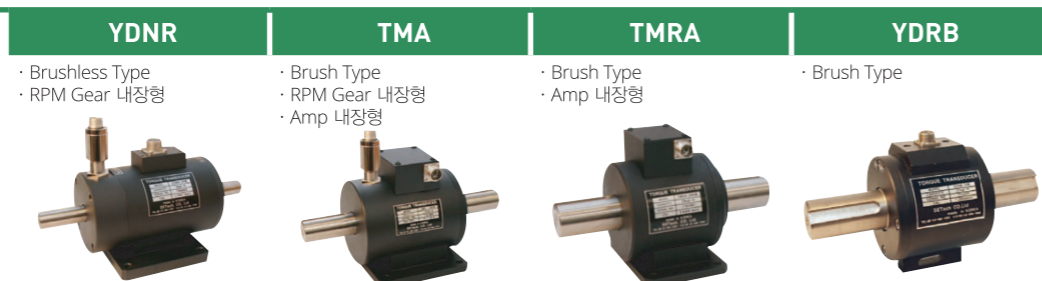
## STHT Cable

Length (m)	5	10	20
Model	YD-8100-C05	YD-8100-C10	YD-8100-C20



# Torque Transducers

## Rotary Type



· Brushless Type  
· RPM Gear 내장형

· Brush Type  
· RPM Gear 내장형  
· Amp 내장형

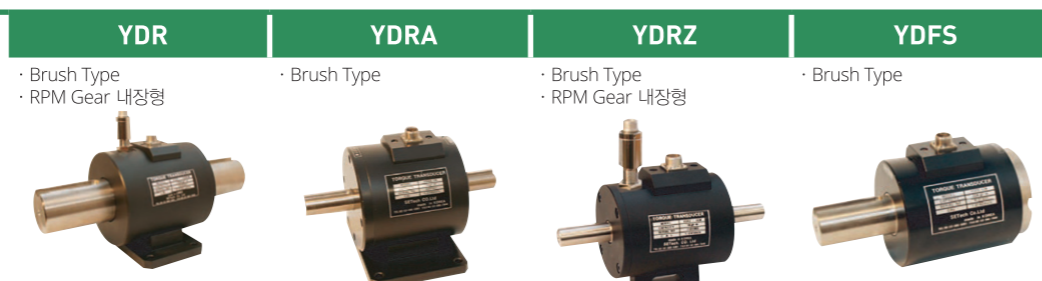
· Brush Type  
· Amp 내장형

· Brush Type

	YDNR	TMA	TMRA	YDRB
Rated Capacity	1kgf.m ~ 2000kgf.m	0.5kgf.m ~ 200kgf.m	0.5kgf.m ~ 200kgf.m	1kgf.m ~ 2000kgf.m
Rated Output	1.3mV/V±1%	0 ~ 10V (4 ~ 20mA, option)	0 ~ 10V (4 ~ 20mA, option)	1.5mV/V
Nonlinearity	0.3% R.O	0.3% R.O	0.3% R.O	0.3% R.O
Hysteresis	0.2% R.O	0.3% R.O	0.3% R.O	0.3% R.O
Repeatability	0.2% R.O	0.3% R.O	0.3% R.O	0.3% R.O
Terminal Resistance Input	-	350±3.5Ω	350±3.5Ω	350±3.5Ω
Terminal Resistance Output	-	350±3.5Ω	350±3.5Ω	350±3.5Ω
Insulation Resistance	-	300MΩ	300MΩ	300MΩ
Temperature Range Compensated	0.3% R.O/10°C	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C
Temperature Range Safe	0.2% Load/10°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C
Temperature Effect, on Zero Balance	0.05% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C
Temperature Effect, on Rated Output	0.03% Load/10°C	0.05% Load/10°C	0.05% Load/10°C	0.05% Load/10°C
Excitation Recommended	2 VAC 5kHz	±15V DC	±15V DC	10V DC
Safe Overload	150% R.C	150% R.C	150% R.C	150% R.C
Cable	Ø8 Shield 5m	Ø5 Shield 5m	Ø5 Shield 5m	Ø5 Shield 5m
R.P.M	3000 ~ 20000	4000 ~ 10000	4000 ~ 10000	2000 ~ 8000

# Torque Transducers

## Rotary Type



· Brush Type  
· RPM Gear 내장형

· Brush Type

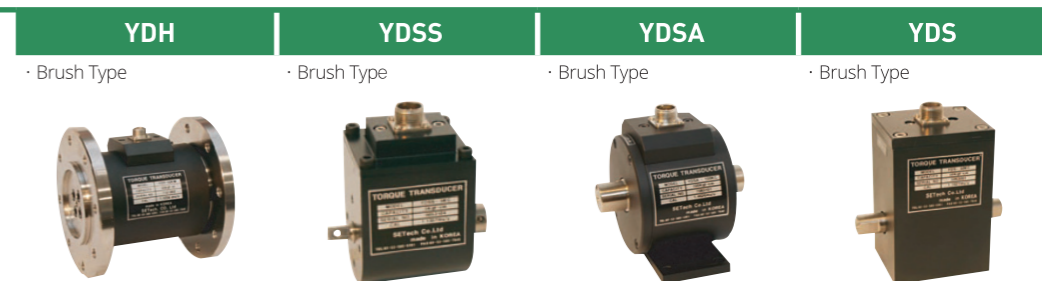
· Brush Type  
· RPM Gear 내장형

· Brush Type

	YDR	YDRA	YDRZ	YDFS
Rated Capacity	0.5kgf.m ~ 8000kgf.m	1kgf.m ~ 2000kgf.m	0.5kgf.m ~ 2000kgf.m	1kgf.m ~ 500kgf.m
Rated Output	1.5mV/V±1%	0 ~ 10V (4 ~ 20mA, option)	1.5mV/V	1.5mV/V
Nonlinearity	0.09% R.O	0.09% R.O	0.3% R.O	0.3% R.O
Hysteresis	0.08% R.O	0.08% R.O	0.3% R.O	0.3% R.O
Repeatability	0.09% R.O	0.09% R.O	0.3% R.O	0.3% R.O
Terminal Resistance Input	350±3.5Ω	350±3.5Ω	350±3.5Ω	350±3.5Ω
Terminal Resistance Output	350±3.5Ω	350±3.5Ω	350±3.5Ω	350±3.5Ω
Insulation Resistance	300MΩ	300MΩ	300MΩ	300MΩ
Temperature Range Compensated	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C
Temperature Range Safe	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C
Temperature Effect, on Zero Balance	0.02% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C	0.09% R.O/10°C
Temperature Effect, on Rated Output	0.02% Load/10°C	0.05% Load/10°C	0.05% Load/10°C	0.09% Load/10°C
Excitation Recommended	10V DC	10V DC	10V DC	10V DC
Safe Overload	150% R.C	150% R.C	150% R.C	150% R.C
Cable	Ø5 Shield 5m	Ø5 Shield 5m	Ø5 Shield 5m	Ø5 Shield 5m
R.P.M	2000 ~ 6000	2000 ~ 6000	2000 ~ 8000	2000 ~ 5000

# Torque Transducers

## Rotary Type



· Brush Type

· Brush Type

· Brush Type

· Brush Type

	YDH	YDSS	YDSA	YDS
Rated Capacity	20kgf.m ~ 8000kgf.m	2kgf.cm ~ 3000kgf.cm	2kgf.cm ~ 500kgf.cm	2kgf.cm ~ 200kgf.cm
Rated Output	1.5mV/V	1.3mV/V	1.3mV/V	1.3mV/V
Nonlinearity	0.3% R.O	0.3% R.O	0.2% (2, 5KC:0.3%)	0.5% R.O
Hysteresis	0.3% R.O	0.3% R.O	0.2% (2, 5KC:0.3%)	0.5% R.O
Repeatability	0.2% R.O	0.3% R.O	0.2% (2, 5KC:0.3%)	0.5% R.O
Terminal Resistance Input	350±3.5Ω	350±5Ω	350±5Ω	350±3.5Ω
Terminal Resistance Output	350±3.5Ω	350±5Ω	350±5Ω	350±3.5Ω
Insulation Resistance	300MΩ	300MΩ	300MΩ	300MΩ
Temperature Range Compensated	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C
Temperature Range Safe	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C
Temperature Effect, on Zero Balance	0.08% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C	0.08% R.O/10°C
Temperature Effect, on Rated Output	0.08% Load/10°C	0.1% Load/10°C	0.09% Load/10°C	0.1% Load/10°C
Excitation Recommended	10V DC	10V DC	10V DC/±15V DC (AMP TYPE)	10V DC
Safe Overload	150% R.C	150% R.C	150% R.C	150% R.C
Cable	Ø3, Ø5 Shield 5m	Ø3, Ø5 Shield 5m	Ø3, Ø5 Shield 5m	Ø3, Ø5 Shield 5m
R.P.M	1000 ~ 5000	5000	8000	3000



· Brush Type

Rated Capacity	5kgf.m ~ 500kgf.m
Rated Output	1.5mV/V
Nonlinearity	0.3% R.O
Hysteresis	0.3% R.O
Repeatability	0.2% R.O
Terminal Resistance Input	350±3.5Ω
Terminal Resistance Output	350±3.5Ω
Insulation Resistance	300MΩ
Temperature Range Compensated	-10°C ~ 60°C
Temperature Range Safe	-20°C ~ 70°C
Temperature Effect, on Zero Balance	0.1% R.O/10°C
Temperature Effect, on Rated Output	0.08% Load/10°C
Excitation Recommended	15V DC
Safe Overload	150% R.C
Cable	Ø5 Shield 5m
R.P.M	2000 ~ 5000

# RPM Sensor

MS-2000/2500

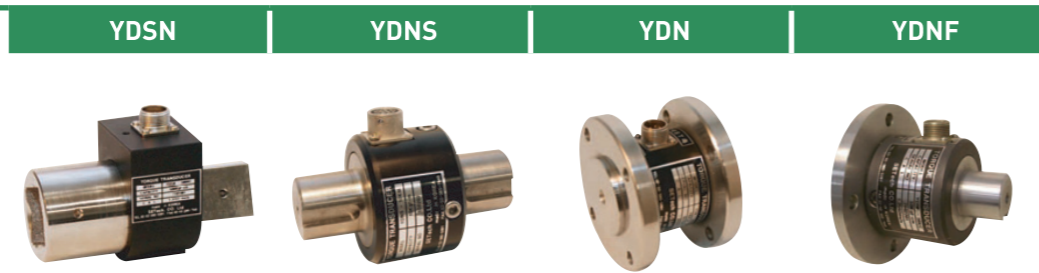


Detection Method	Hall element
Measurement Range	1Hz ~ 20kHz (using a60P/R gear, 1 ~ 20,000 r/min, - with an output waveform duty cycle is 50%±20%)
Detection Gear	Strong magnetic materials (modulus 0.5 ~ 3, tooth width 3mm or greater)
Power Supply Used	DC 12V±2V (0.5Vp ~ p or less ripple)
Current Consumption	40mA or less (12v, at 25°C)
Output Waveform	Low level ; +0.5V or less, High level ; 5±0.5V rectangular waveform (With no load)
Output Impedance	Approx. 330Ω
Output Type	Floating ground
Protective Circuit	Power supply polarity and output short protection
Operating Temperature Range	-10°C ~ +70°C
Storage Temperature Range	-20°C ~ +80°C
Matching Connector	6-pin connector (type R04-PB6F plug)
Allowable Vibration(during operation)	double-ended 1.2mm at 30Hz in X, Y, and Z direction for one hour each
Allowable Shock(non-operating)	490m/S <sup>2</sup> in X and Y direction each 3 times
Withstand Voltage	1. DC250V, 1min. (between shield and signal cable) 2. DC205V, - 1min. (between shield and sensor head)
Interface Indicator	YD-10M, YD-20M, YD-30M, YD-7512
Weight	Approx.80g (including two mounting nuts)
Accessories	Mounting nuts (2)



## Torque Transducers

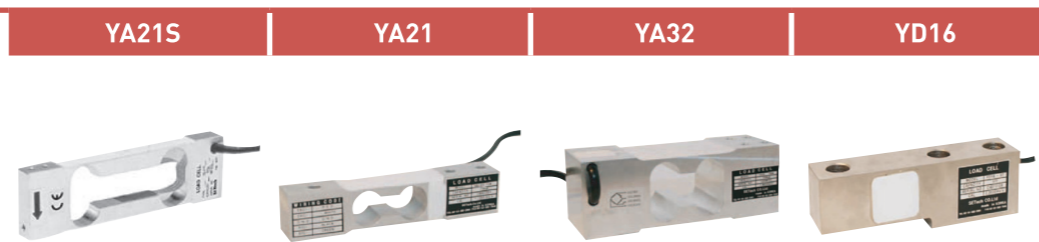
### Rotary Type



	YDSN	YDNS	YDN	YDNF
Rated Capacity	2kgf.cm ~ 1000kgf.cm	2kgf.cm ~ 10000kgf.cm	2kgf.cm ~ 500kgf.m	2kgf.cm ~ 200kgf.m
Rated Output	1.3mV/V	1.3mV/V±1%	1.5mV/V±1%	1.5mV/V±1%
Nonlinearity	0.3% R.O	0.1% R.O	0.3% R.O	0.3% R.O
Hysteresis	0.3% R.O	0.08% R.O	0.2% R.O	0.2% R.O
Repeatability	0.3% R.O	0.1% R.O	0.2% R.O	0.2% R.O
Terminal Resistance Input	350±5Ω	350±3.5Ω	350±3.5Ω	350±3.5Ω
Terminal Resistance Output	350±3Ω	350±3.5Ω	350±3.5Ω	350±3.5Ω
Insulation Resistance	2000MΩ	2000MΩ	200MΩ	2000MΩ
Temperature Range Compensated	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C
Temperature Range Safe	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C
Temperature Effect, on Zero Balance	0.05% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C
Temperature Effect, on Rated Output	0.1% Load/10°C	0.05% Load/10°C	0.08% Load/10°C	0.08% Load/10°C
Excitation Recommended	10V DC	10V DC	10V DC	10V DC
Safe Overload	150% R.C	150% R.C	150% R.C	150% R.C
Cable	Ø3, Ø5, Shield 5m	Ø3, Ø5, Shield 5m	Ø3, Ø5, Shield 5m	Ø3, Ø5, Shield 5m

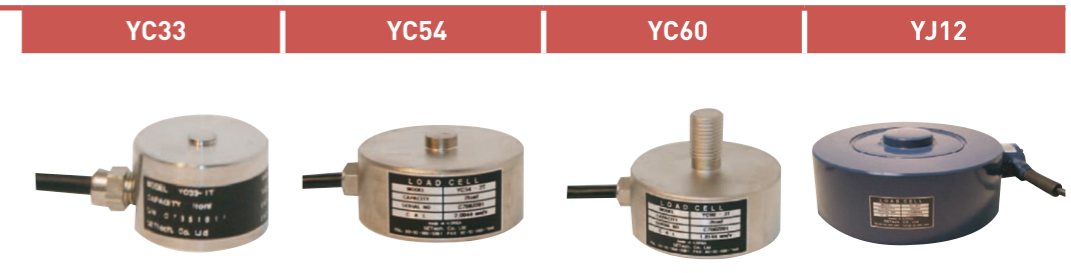
## Load Cells

### Beam Type



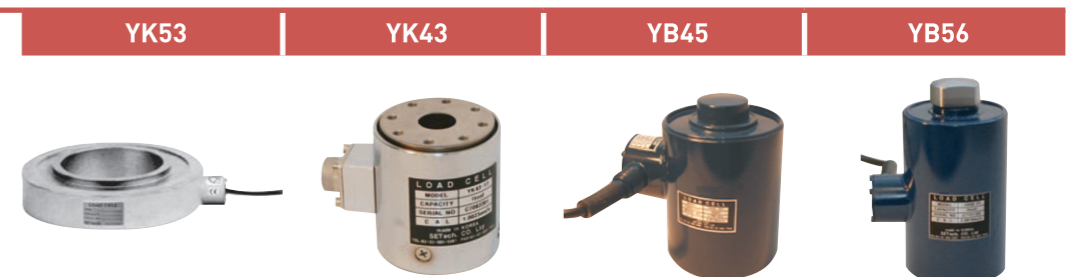
	YA21S	YA21	YA32	YD16
Rated Capacity	150gf ~ 600gf	1kgf ~ 50kgf	60kgf ~ 500kgf	50kgf ~ 10tonf
Rated Output	1.2mV/V±1%	1.5mV/V±1%	1.5mV/V±1%	2mV/V±1%
Nonlinearity	0.02% R.O	0.02% R.O	0.02% R.O	0.02% R.O
Hysteresis	0.02% R.O	0.02% R.O	0.02% R.O	0.025% R.O
Repeatability	0.02% R.O	0.02% R.O	0.02% R.O	0.025% R.O
Terminal Resistance Input	420±3Ω	420±3Ω	350±2Ω	350±3Ω
Terminal Resistance Output	350±2Ω	350±2Ω	350±2Ω	350±2Ω
Insulation Resistance	2000MΩ	2000MΩ	2000MΩ	2000MΩ
Temperature Range Compensated	-10°C ~ 40°C	-10°C ~ 40°C	-10°C ~ 50°C	-10°C ~ 50°C
Temperature Range Safe	-10°C ~ 50°C	-10°C ~ 50°C	-10°C ~ 50°C	-10°C ~ 50°C
Temperature Effect, on Zero Balance	0.03% R.O/10°C	0.03% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C
Temperature Effect, on Rated Output	0.02% Load/10°C	0.02% Load/10°C	0.02% Load/10°C	0.02% Load/10°C
Excitation Recommended	10V DC	10V DC	10V DC	10V DC
Safe Overload	150% R.C	150% R.C	150% R.C	150% R.C
Cable	Ø3 Shield 40cm	Ø3 Shield 40cm	Ø7 Shield 2m	Ø5 Shield 3m
Type	COMPRESSION & TENSION	COMPRESSION & TENSION	COMPRESSION & TENSION	COMPRESSION & TENSION

## Compression Load Cells



	YC33	YC54	YC60	YJ12
Rated Capacity	1kgf ~ 200kgf	50kgf ~ 20tonf	1kgf ~ 2tonf	1tonf ~ 200tonf
Rated Output	1mV/V±1%	2mV/V±0.4%	2mV/V±0.4%	2mV/V±0.1%
Nonlinearity	0.5% R.O	0.15% R.O	0.15% R.O	0.05% R.O
Hysteresis	0.5% R.O	0.1% R.O	0.1% R.O	0.05% R.O
Repeatability	0.5% R.O	0.05% R.O	0.05% R.O	0.03% R.O
Terminal Resistance Input	350±3.5Ω	350±5Ω	350±5Ω	350±3Ω
Terminal Resistance Output	350±3.5Ω	350±2Ω	350±2Ω	350±3Ω
Insulation Resistance	2000MΩ	2000MΩ	2000MΩ	2000MΩ
Temperature Range Compensated	-20°C ~ 70°C	-10°C ~ 70°C	-10°C ~ 70°C	-10°C ~ 70°C
Temperature Range Safe	-20°C ~ 70°C	-10°C ~ 70°C	-10°C ~ 80°C	-10°C ~ 70°C
Temperature Effect, on Zero Balance	0.05% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C	0.05% R.O/10°C
Temperature Effect, on Rated Output	0.02% Load/10°C	0.1% Load/10°C	0.1% Load/10°C	0.05% Load/10°C
Excitation Recommended	5V DC	10V DC	10V DC	10V DC
Safe Overload	150% R.C	150% R.C	150% R.C	150% R.C
Cable	Ø3 Shield 3m	Ø5 Shield 3m	Ø5 Shield 3m	Ø7 Shield 2m
Type	COMPRESSION	COMPRESSION	COMPRESSION	COMPRESSION

## Compression Load Cells



	YK53	YK43	YB45	YB56
Rated Capacity	10kgf ~ 10tonf	500kgf ~ 300tonf	10tonf ~ 500tonf	50kgf ~ 5tonf
Rated Output	1.5mV/V±1%	1mV/V±1%	2mV/V±0.1%	2mV/V±0.1%
Nonlinearity	0.5% R.O	0.5% R.O	0.1% R.O	0.1% R.O
Hysteresis	0.5% R.O	0.5% R.O	0.1% R.O	0.1% R.O
Repeatability	0.3% R.O	0.4% R.O	0.1% R.O	0.1% R.O
Terminal Resistance Input	700±3Ω	350±5Ω	350±5Ω	350±5Ω
Terminal Resistance Output	700±2Ω	350±2Ω	350±5Ω	350±5Ω
Insulation Resistance	2000MΩ	2000MΩ	5000MΩ	5000MΩ
Temperature Range Compensated	-10°C ~ 70°C	-10°C ~ 70°C	-10°C ~ 60°C	-10°C ~ 60°C
Temperature Range Safe	-20°C ~ 80°C	-20°C ~ 80°C	-20°C ~ 80°C	-20°C ~ 80°C
Temperature Effect, on Zero Balance	0.1% R.O/10°C	0.1% R.O/10°C	0.1% R.O/10°C	0.1% R.O/10°C
Temperature Effect, on Rated Output	0.05% Load/10°C	0.05% Load/10°C	0.1% Load/10°C	0.1% Load/10°C
Excitation Recommended	10V DC	10V DC	10V DC	10V DC
Safe Overload	120% R.C	150% R.C	150% R.C	150% R.C
Cable	Ø7 Shield 3m	Ø7 Shield 3m	Ø7 Shield 3m	Ø7 Shield 3m
Type	COMPRESSION	COMPRESSION	COMPRESSION	COMPRESSION

YF57



## Compression Load Cells

Rated Capacity	1tonf ~ 100tonf
Rated Output	2mV/V±0.1%
Nonlinearity	0.1% R.O
Hysteresis	0.1% R.O
Repeatability	0.1% R.O
Terminal Resistance Input	350±5Ω
Terminal Resistance Output	350±5Ω
Insulation Resistance	5000MΩ
Temperature Range Compensated	-10℃ ~ 60℃
Temperature Range Safe	-20℃ ~ 80℃
Temperature Effect, on Zero balance	0.1% R.O/10℃
Temperature Effect, on Rated Output	0.1% Load/10℃
Excitation Recommended	10V DC
Safe Overload	150% R.C
Cable	ø7 Shield 3m
Type	COMPRESSION & TENSION

YG28

YG38

YL31

YM13



## Compression & Tension Load Cells

Rated Capacity	2kgf ~ 2tonf	1tonf ~ 500tonf	10kgf ~ 10tonf	1kgf ~ 2tonf
Rated Output	2mV/V±0.1%	2mV/V±0.1%	2mV/V±0.1%	2mV/V±0.1%
Nonlinearity	0.05% R.O	0.05% R.O	0.03% R.O	0.15% R.O
Hysteresis	0.05% R.O	0.05% R.O	0.03% R.O	0.1% R.O
Repeatability	0.05% R.O	0.05% R.O	0.03% R.O	0.05% R.O
Terminal Resistance Input	350±5Ω	350±5Ω	350±5Ω	350±5Ω
Terminal Resistance Output	350±5Ω	350±5Ω	350±5Ω	350±5Ω
Insulation Resistance	2000MΩ	2000MΩ	2000MΩ	2000MΩ
Temperature Range Compensated	-10℃ ~ 50℃	-10℃ ~ 60℃	-20℃ ~ 80℃	-10℃ ~ 70℃
Temperature Range Safe	-20℃ ~ 80℃	-20℃ ~ 80℃	-20℃ ~ 80℃	-20℃ ~ 80℃
Temperature Effect, on Zero Balance	0.03% R.O/10℃	0.05% R.O/10℃	0.1% R.O/10℃	0.05% R.O/10℃
Temperature Effect, on Rated Output	0.03% Load/10℃	0.05% Load/10℃	0.05% Load/10℃	0.1% Load/10℃
Excitation Recommended	10V DC	10V DC	10V DC	10V DC
Safe Overload	150% R.C	150% R.C	150% R.C	150% R.C
Cable	ø5 Shield 3m	ø7 Shield 3m	ø5 Shield 3m	ø5 Shield 3m
Type	COMPRESSION & TENSION	COMPRESSION & TENSION	COMPRESSION & TENSION	COMPRESSION & TENSION

PSG

PSH



## Pressure Sensor

Rated Capacity	-760mm HG ~ 10kgf/cm <sup>2</sup>	-760mm HG ~ 35kgf/cm <sup>2</sup>
Linearity	±0.35%FS	±0.15%FS (RSS)
Hysteresis	±0.15%FS	±0.03%FS/℃
Repeatability	±0.15%FS	±0.03%FS/℃
Temperature Effect on Zero	±0.06%FS/℃	0 ~ 70℃
Temperature Effect on Span	±0.06%FS/℃	-20 ~ 80℃
Compensated Temperature Range	-10 ~ 60℃	300%FS Max.
Operating Temperature Range	-20 ~ 80℃	500%FS Min.
Proof Pressure	150%FS Max.	Connector, Head,
Burst Pressure	200%FS Min.	Din Connector
Electrical Connection	Connector, Cable	49.1% {5G}, 10 ~ 500Hz
Vibration	49.1% {5G}, 10 ~ 500Hz	490% {5G}
Shock	490% {50G}	11 ~ 28V DC (PSHA:15VDC Max.)
Excitation	11 ~ 28V DC (PSGA:1.5mA Max.)	0 ~ 5VDC, 1 ~ 5DC, 0 ~ 10VDC (3,4wire),
Output	100mV/1.5mA, 1 ~ 5VDC, 4 ~ 20mA (2Wire)	4 ~ 20mA (2,3Wire)
Pressure Port	PT1/8", PF1/8", PT1/4", PF1/4", PT3/8", PF3/8"	PT1/8", PF1/8", PT1/4", PF1/4", PT3/8", PF3/8"
Media-Wetted Materials	Stainless Steel 304, SiO <sub>2</sub> , NMR	Stainless Steel 316L, Viton
Weight	Connector Type:Approx, 110g (Sensor Only)	Connector Type:Approx, 140g (Sensor Only)

PMC

PMS/PMH



## Pressure Sensor

Rated Capacity	10kgf/cm <sup>2</sup> ~ 500kgf/cm <sup>2</sup>	10kgf/cm <sup>2</sup> ~ 1000kgf/cm <sup>2</sup>
Linearity	±0.5%FS	±0.35/±0.2%FS
Hysteresis	±0.2%FS	±0.15/±0.1%FS
Repeatability	±0.3%FS	±0.15/±0.1%FS
Temperature Effect on Zero	±0.08%FS/℃	±0.05/±0.02%FS/℃
Temperature Effect on Span	±0.08%FS/℃	±0.05/±0.02%FS/℃
Compensated Temperature Range	-20 ~ 80℃	-10 ~ 70 / -20 ~ 80℃
Operating Temperature Range	-30 ~ 120℃	-20 ~ 80 / -30 ~ 100℃
Proof Pressure	150%FS Max.	150%FS Max.
Burst Pressure	200%FS Min.	200%FS Min.
Electrical Connection	Connector, Cable, AMP, Connector (1 ~ 5VDC 3Wire Only), Head, Din Connector	Connector, Cable (3Wire Only), Head, Din Connector
Vibration	49.1% {5G}, 10 ~ 500Hz	49.1% {5G}, 10 ~ 500Hz
Shock	490% {50G}	981% {100G}
Excitation	11 ~ 28V DC (PMCA:12VDC Max)	11 ~ 28VDC Max
Output	100mV/1.5mA, 1 ~ 5VDC, 4 ~ 20mA (2Wire)	0 ~ 5VDC, 1 ~ 5VDC, 0 ~ 10VDC, 4 ~ 20mA (3Wire)
Pressure Port	PT1/8", PF1/8", PT1/4", PF1/4", PT3/8", PF3/8"	PT3/8", PF3/8", PF1/2" (Female)
Media-Wetted Materials	Stainless Steel 304, 630	Stainless Steel 630
Weight	Approx, 130g (AMP Connector Type)	Approx, 100g (AMP Connector Type)

PS-EN

PS-PM

L.V.D.T.

Wire Position Sensor



Measurement Range	0 ~ 2000mm	0 ~ 2000mm
Accuracy	±0.1%	±0.25%
Internal Sensor Type	Incremental Encoder	Precision Potentiometer
Resistance Range	-	100Ω ~ 100kΩ
Independent linearity	-	±0.25%
Min. Practical Independent linearity	-	±0.15%, <300Ω, ±0.075%, >300Ω
Position Output Signal	DC5V ~ 30V	-
Output Form	Voltage output, Open Collector, Totem Pole, Line Driver C DC 5V± 5%	-
Response Frequency	2000 P/R	-
Power Rated Watt	-	2-70°C derating 0-125°C
Dielectric Strength	-	1000Vrms
Min. Insulation Resistance Vibration	-	1000MΩ
Vibration	5G	15G
Shock	50G	100G
Maximum Noise	-	100Ω
MAX. and Voltage	-	0.25% of Input Voltage
Input/Output Connector	Socket 6 Pin	Socket 6 Pin
Operating Temperature Range	-10°C ~ 70°C	-10°C ~ 80°C
Material	Case : Aluminum Wire : Stainless Steel Rope	Case : Aluminum Wire : Stainless Steel Rop

DT-G

L.V.D.T.



Rated Capacity	5mm ~ 100mm
Rated Output	5mV/V±0.1%
Nonlinearity	0.3% R.O
Hysteresis	0.3% R.O
Repeatability	0.3% R.O
Temperature Resistance Input	350±3.5Ω
Temperature Resistance Output	350±3.5Ω
Temperature Range Compensated	-10°C ~ 70°C
Temperature Range Safe	0°C ~ 60°C
Excitation Recommended	5V DC
Cable	Ø3 shield 2m

YD-13BS

YD-100S

YD-200S

YD-1000S

Digital Indicator



Temperature Storage	-10 ~ 85°C	-10 ~ 85°C	-10 ~ 85°C	-10 ~ 85°C
Temperature Operating	0 ~ 60°C	0 ~ 60°C	0 ~ 60°C	0 ~ 60°C
Relay Output	High and Low set point, 50V 1A Contacts	High and Low set point, 50V 1A Contacts	High and Low set point, 50V 1A Contacts	High and Low set point, 50V 1A Contacts
Transducer Excitation	-	3, 4, 5, 10V DC	24V DC, ±15V DC	3, 4, 5, 10V DC
Type of Input Accepted	-	0.5 ~ 3.5mV/V	0 ~ 5V, 0 ~ 10V Current 0(4) ~ 20mA	0.5 ~ 3.5mV/V
Transducer Current Drive	120mA	120mA	120mA	120mA
Calibration Method	Front Panel Switches	Front Panel Switches	Front Panel Switches	Front Panel Switches
Signal Wave Fort	-	-	-	-
Frequency Response	5Khz	5Khz	5Khz	20Khz
Full Scale Output	-	10V DC (option 0 ~ 5V)	0 ~ 5V, 10V	0 ~ 5V, 10V
Low Pass Filter	10Hz, 100Hz, 1KHz	10Hz, 100Hz, 1KHz, W/B	10Hz, 100Hz, 1KHz, W/B	10Hz, 100Hz, 1KHz, W/B
Temperature Drift	0.02% FS/°C	0.02% FS/°C	0.02% FS/°C	0.02% FS/°C
Sampling Speed	15 times/sec	500 times/sec	500 times/sec	10000 times/sec
Characters Displayed	5 digits	5 digits	5 digits	5 digits
Typical Accuracy	±0.02%	±0.02%	±0.02%	±0.02%
Polarity Indicator	Yes	Yes	Yes	Yes
Decimal Point Selection	Push Button Setup	Push Button Setup	Push Button Setup	Push Button Setup
Display Size	14mm large	14mm & 10mm	14mm & 10mm	14mm & 10mm
Resolution Maximum	99999	99999	99999	99999
Type	7segment LED	7segment LED	7segment LED	7segment LED
Input/Output Connector	Screw terminals	Push Button	Push button	Push button
Weight	400g	1000g	1000g	1000g
Mounting	Panel Mounting	Panel Mounting	Panel Mounting	Panel Mounting
Size	48mm×96mm	96mm×96mm	96mm×96mm	96mm×96mm
Power Requirements	220V : 50/60Hz (option 110V AC), DC24V	220V: 50/60Hz (option 110V AC), DC24V	220V : 50/60Hz (option 110V AC), DC24V	220V : 50/60Hz (option 110V AC), DC24V



## Digital Indicator

YD-10BS, 15BS



YD-20BS, 23BS, 25BS



YD-3513, 3523, 3533



Temperature Storage	-10 ~ 85°C	-10 ~ 85°C	-10 ~ 85°C
Temperature Operating	0 ~ 60°C	0 ~ 60°C	0 ~ 60°C
Relay Output	High and Low set point, 50V 1A Contacts	High and Low set point, 50V 1A Contacts	High and Low set point, 50V 1A Contacts
Transducer Excitation	3, 4, 5, 10V DC	10, 12, 24V DC, ±15V DC	3, 4, 5, 10V DC
Type of Input Accepted	0.5 ~ 3.5mV/V	0 ~ 5V, 0 ~ 10V, Current0(4) ~ 20mA	0.5 ~ 3.5mV/V
Transducer Current Drive	120mA	120mA	120mA
Calibration Method	Front panel switches	Front panel switches	Front panel switches
Signal Wave Fort	-	-	-
Frequency Response	5Khz	5Khz	5Khz
Full Scale Output	10V DC (option 0 ~ 5V, 4 ~ 20mA, RS232C)	10V DC (option 0 ~ 5V, 4 ~ 20mA, RS232C)	10V DC (option 0 ~ 5V)
Low Pass Filter	10Hz, 100Hz, 1KHz	10Hz, 100Hz, 1KHz	10Hz, 100Hz, 1KHz, W/B
Temperature Drift	0.02% FS/°C	0.02% FS/°C	0.02% FS/°C
Sampling Speed	15 times/sec	10, 20 times/sec	50 t/s (YD3533), 500 t/s (YD3523), 10,000 t/s (YD-3513)
Characters Displayed	5 digits	5 digits	5 digits
Typical Accuracy	±0.02%	±0.02%	±0.02%
Polarity Indicator	Yes	Yes	Yes
Decimal Point Selection	Push button Setup	Push button Setup	Push button Setup
Display Size	14mm large	14mm large	10mm large
Resolution Maximum	99999	99999	99999
Type	7segment LED	7segment LED	7segment LED
Input/Output Connector	Screw terminals	Screw terminals	Screw terminals
Weight	400g	700g	500g
Mounting	Panel mounting	Panel mounting	Panel mounting
Size	48mm×96mm	48mm×96mm	48mm×96mm
Power Requirements	220V : 50/60Hz (option AC110V, DC24V)	220V : 50/60Hz (option AC110V, DC24V)	220V : 50/60Hz (option AC110V, DC24V)

## Digital Indicator

YD-5533



YDL-704S



YD-10BA



Temperature Storage	-10 ~ 85°C	-10 ~ 85°C	-10 ~ 85°C
Temperature Operating	0 ~ 60°C	0 ~ 60°C	0 ~ 60°C
Relay Output	High and Low set point, 50V 1A Contacts	AC 125V 0.5A DC24V 1A	High and Low set point, 50V 1A Contacts
Transducer Excitation	15, 24VDC, ±15VDC	5, 10, 15, 24VDC, ±15VDC	2V AC RMS(5KHz)
Type of Input Accepted	0 ~ 10V	0.5 ~ 3.5mV/v	-
Transducer Current Drive	120mA	120mA	-
Calibration Method	Front panel switches	Front panel switches	Front panel switches
Frequency Response	5Khz	5Khz	5Khz
Full Scale Output	0 ~ 10V	0 ~ 5V, 10V	10V DC (option0 ~ 5V)
Low Pass Filter	10Hz, 100Hz, 1KHz	10Hz, 100Hz, 1KHz	10Hz, 100Hz, 1KHz
Temperature Drift	0.02% FS/°C	0.02% FS/°C	0.02% FS/°C
A/D Convesion	-	16 Bit	-
Sampling Speed	10, 50 times/sec	500 times/sec	20 times/sec
Characters Displayed	5 digits	-	5 digits
Typical Accuracy	±0.02%	±0.02%	±0.02%
Polarity Indicator	Yes	Yes	Yes
Decimal Point Selection	Push button Setup	Push button Setup	Push button Setup
Display Size	14mm large	14mm & 10mm	16mm large
Resolution Maximum	99999	99999	99999
Type	7segment LED	5×7DOT 20Digit 4Line	7segment LED
Input/Output Connector	Screw terminals	Push Button	Screw terminals
Weight	700g	1000g	1000g
Mounting	Panel mounting	Panel mounting	Panel mounting
Size	48mm×96mm	96mm×96mm	96mm×48mm
Power Requirements	220V : 50/60Hz (option 110V AC), DC24V	220V : 50/60Hz (option 110V AC), DC24V	220V : 50/60Hz (option AC 110V )

## Indicator

### Tachometer

YD-7512, 7522, 7532



Temperature Storage	-10 ~ 85°C
Temperature Operating	0 ~ 60°C
Relay Output	High and Low set point, 50V 1A Contacts
Signal Wave Fort	Rectangular wave with a pulse width of 20μs or more
Signal Voltage Range	0 ~ 20KHz
Signal Current Range	Max. 100mA
Calibration Method	Front Panel Switches
Temperature Drift	0.02% FS/°C
Characters Displayed	5 digits
Typical Accuracy	±0.02%
Polarity Indicator	Yes
Decimal Point Selection	Push button Setup
Display Size	16mm large
Resolution Maximum	99999
Type	7segment LED
Input/Output Connector	Push Button
Weight	700g
Mounting	Panel Mounting
Size	48mm×96mm
Power Requirements	220V : 50/60Hz (option AC110V)

## Digital Memory Indicator

YD-323M, 423M, 523M



Temperature Storage	-10 ~ 85°C
Characters Displayed	5 digits
Temperature Operating	0°C ~ 60°C
Typical Accuracy	±0.02%
Relay Output	High and Low set point/50V 1A Contacts
Polarity Indicator	Yes
Decimal Point Selection	Push button setup
Transducer Current Drive	80mA
Display Size	14mm large
Calibration Method	Front panel switches
Resolution Maximum	99999
Calibration Method	Front panel switches
Resolution Maximum	99999
Frequency Response	5Khz
Type	7segment LED
Low Pass Filter	10Hz, 100Hz, 1KHz
Input/Output Connector	Screw terminals
Temperature Drift	0.02% FS/°C Weight 700g
Sampling Speed	50 times/sec
Mounting	Panel mounting
Input	0.5 ~ 3.5 mv/v
Size	48mm×96mm
Range	(option 0.5 ~ 7.5mv/v)

## Digital Indicator

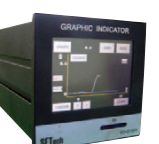
YDM-232, 04L



Power	90 ~ 240 VAC
Input Channel	1 ~ 4 ch
Display	6 Digit FND
Memory Type	Micro SD, SDHC
Operating Temp	0 ~ 70°C
Storage Temp	-20 ~ 85°C
Memory Capacity	4GB
Ref. clock	Manual Setting (key in) Remote Setting (option)
Data Receiver Type	1. Receiver Only 2. EXT Contactor Input 3. Time Interval

## Digital Indicator

YD-G1000/G2000



		A-Channel, (Load Cell)	A-Channel, (Distance Sensor)
Sensor EXC		DC 10/5V, 120mA	N/A
Input Signal Range		0 ~ ±40mA	0 ~ ±10V, 4 ~ 20mA, 0 ~ 20mA
Non-linearity		±0.02% F.S +1digit	±0.02% F.S +1digit
Input Sensitivity		1.0μV/Digit	1.0mV/Digit (0 ~ 10V)
Conversion Speed		4,000times/sec.	2,000times/sec.
Input Impedance		10Mohm	1Mohm/50ohm
Temperature Factor.		±0.005% of rdg +0.5 digit/°C	
Analogue Filter		10, 30, 300, 600Hz	
Display Window		STN color LCD, 74(W)×55(H)mm	
Digit		0 ~ ±99999	
Circumstance		0 ~ 40°C	
Power		AC 100 ~ 240V, 50/60Hz	
Consumed Power		Around 32VA	
Output	Standard	Relay Output (HH, HI, GO, LO, LL)	
	Option	1. RS-232C serial output 2. RS-485 serial output 3. ±0 ~ 10V or 4 ~ 20mA Analogue output 4. BCD parallel output 5. SD memory card	
Weight		Around 1.0Kg	



PT-101S

### Indicator

#### Compact Panel Printer



Printing	Direct thermal
Dimension	96×96×140 mm
Print Width	2-inch (48, 384dots)
Print Speed	50mm/sec
Interface	Indicator (RS-232C)
Resolution	203dpi, 8dots/mm
Data Memory	128KB
Characters Per Line	40
Character Size	9×24dots
Paper Supplied	thermal roll paper, label roll (57mm wide)
Operating Temperature	0 ~ 40°C
Print Head Duration	50KM
Weight	160g (Including roll paper)
Power	85 ~ 264VAC

YSA-20A

YSA-50A

YSA-60A

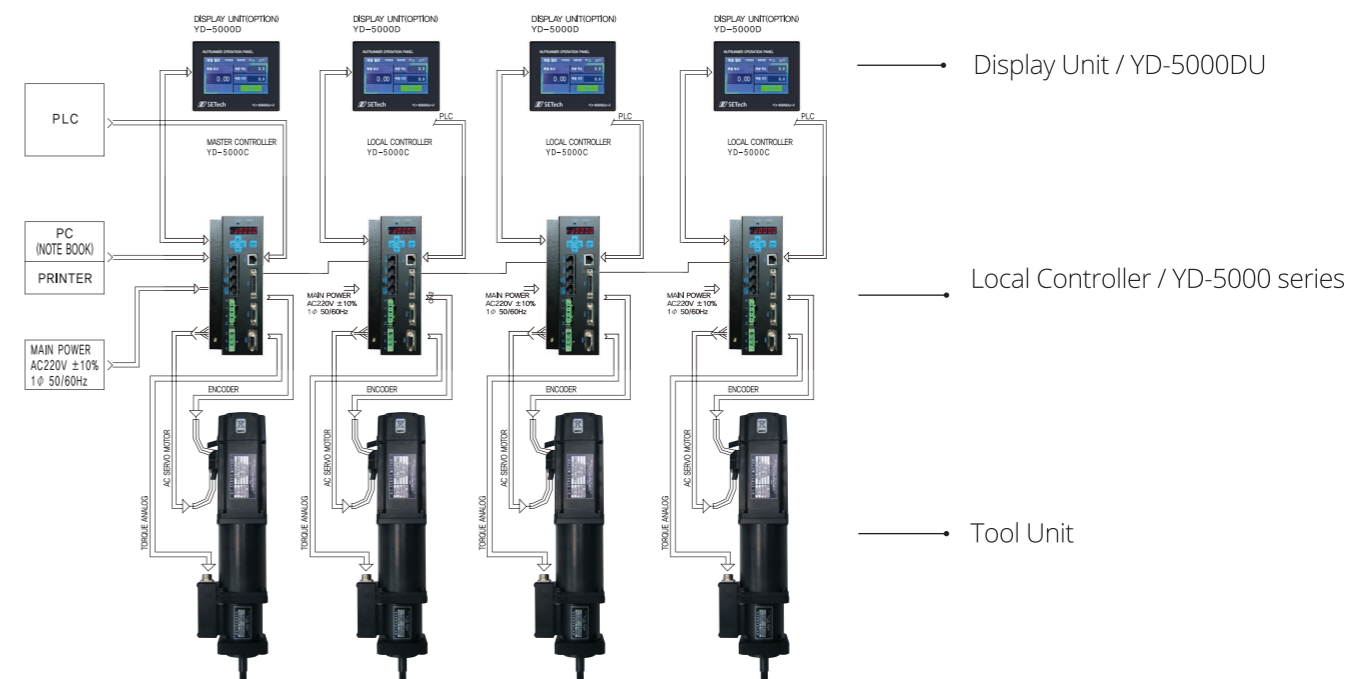
### Amplifier



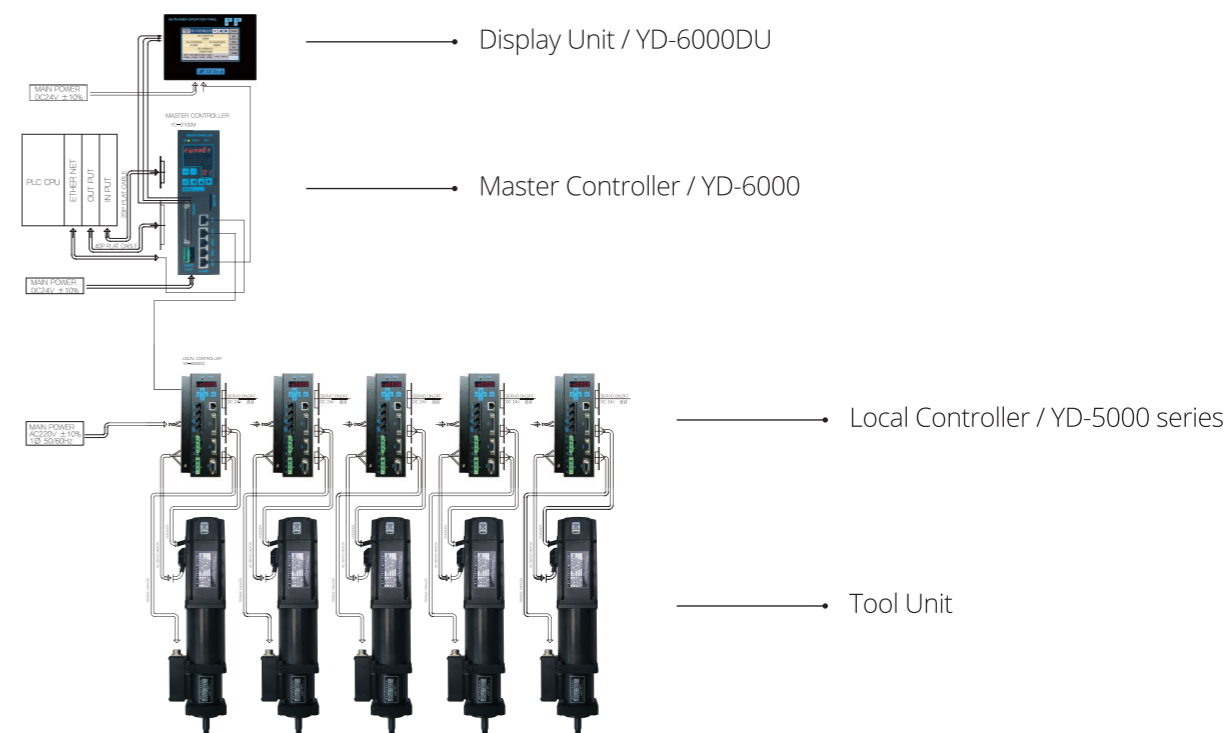
	YSA-20A	YSA-50A	YSA-60A
Number of Measuring Point	1Point per each unit	1Point per each unit	1Point per each unit
Measuring Method	Deflection method	Deflection method	Deflection method
Application Gage Resistance	100Ω ~ 1KΩ	100Ω ~ 1KΩ	100Ω ~ 1KΩ
Measuring Range	10V-1mV ~ 20mV/V, 5V-2mV ~ 40mV/V, 2.5V-4mV ~ 80mV/V	10V-1mV ~ 20mV/V, 5V-2mV ~ 40mV/V, 2.5V-4mV ~ 80mV/V	10V-1mV ~ 20mV/V, 5V-2mV ~ 40mV/V, 2.5V-4mV ~ 80mV/V
Bridge Voltage(BV/V)	Constant voltage, DC 5V, 10V	Constant voltage, DC 5V, 10V	Constant voltage, DC 5V, 10V
Zero Set Adjustment	-	-	normal: 40%, Abnormal: 4%
Zero Set Range	Adjustment by 10 turns VR (10%)	Adjustment by 10 turns VR (10%)	Adjustment by 10 turns VR (10%)
Zero Set Method	-	-	Volume control
Output	0 ~ ±10VDV (load resistance≥2KΩ), 4mA ~ 20mA (load resistance<500Ω)	0 ~ ±10VDV (load resistance≥2KΩ), 4mA ~ 20mA (load resistance<500Ω)	0 ~ ±10VDV (load resistance≥2KΩ), 4mA ~ 20mA (load resistance<500Ω)
Nonlinearity	±0.02% F.S	±0.02% F.S	±0.02% F.S
Sensitivity Adjustment	1000multiplier	1000multiplier	1 Point
S/N Ratio	51dB	51dB	51dB
Low Pass Filter	10Hz, 100Hz, 1KHz, 10KHz	10Hz, 100Hz, 1KHz, 10KHz	10Hz, 100Hz, 1KHz, 10KHz
Operating Temperature	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C
Temperature Sensitivity	±0.03% F.S./°C	±0.03% F.S./°C	Zero set:±1μV/°C, Sensitivity:±0.03%F.S/°C
Calibration	0.5mV/V=1000μSTRAIN	-	0.5mV/V=1000μSTRAIN
Power Sensitivity	±5%	±5%	±0.05%F.S/°C
Display	3 1/2 DIGIT	-	-
Size	45.5(W)×129(H)×234(D)mm	45.5(W)×129(H)×234(D)mm	42(W)×110(H)×123(D)mm, 0.5Kg
Power	AC 110V/220V, 50 ~ 60Hz	AC 110V/220V, 50 ~ 60Hz	220V:50 ~ 60Hz (option AC110V)

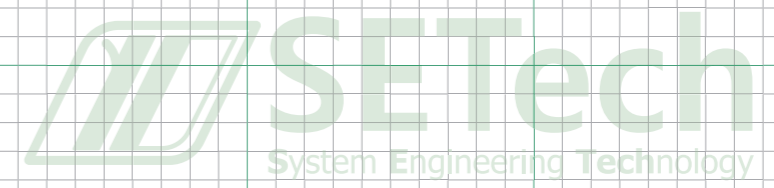
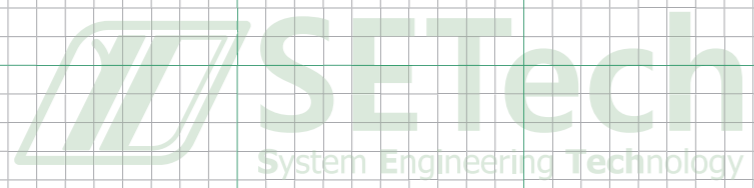
# SETech NUTRUNNER System layout

### Single-System Layout




### Multi-System Layout






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