로봇 및 자동화 장치에 최적화된 SH 시리즈 Torque,Angle 제어 Digital Screwdriver

SH Torque-Angle Control Digital Screwdriver

Optimized for robot and custom automation screw fastening

SEHAN
ELECTOOLS



Scara robot fastening



SH 100 + Robot

Main features

- 220V AC Servo motor (Japan)
- Over 5 million cycle of life expectancy
- Torque accuracy 10% in full scale
- Torque repeatability ±3%
- Auto Speed setting from 100-1,500rpm (scale: 1rpm)
- Digital torque set and save 8 memories
- Real time fastening data (torque, rpm, angle...) output by RS-232C, RS-485
- Available for clean room
- Firmware upgrade by Com port
- Error information by code display
- Easy parameter setting by Smart-Manager (PC software)
- Real time torque data and curve display
- 8 latest error history memory



Desk top robot fastening-AFS

Assurance of torque accuracy

SH Torque-Angle control Digital Screwdriver made by Sehan technology provide high precise torque accuracy.

Torque accuracy :10% in full scale, torque repeatability : ±3%.

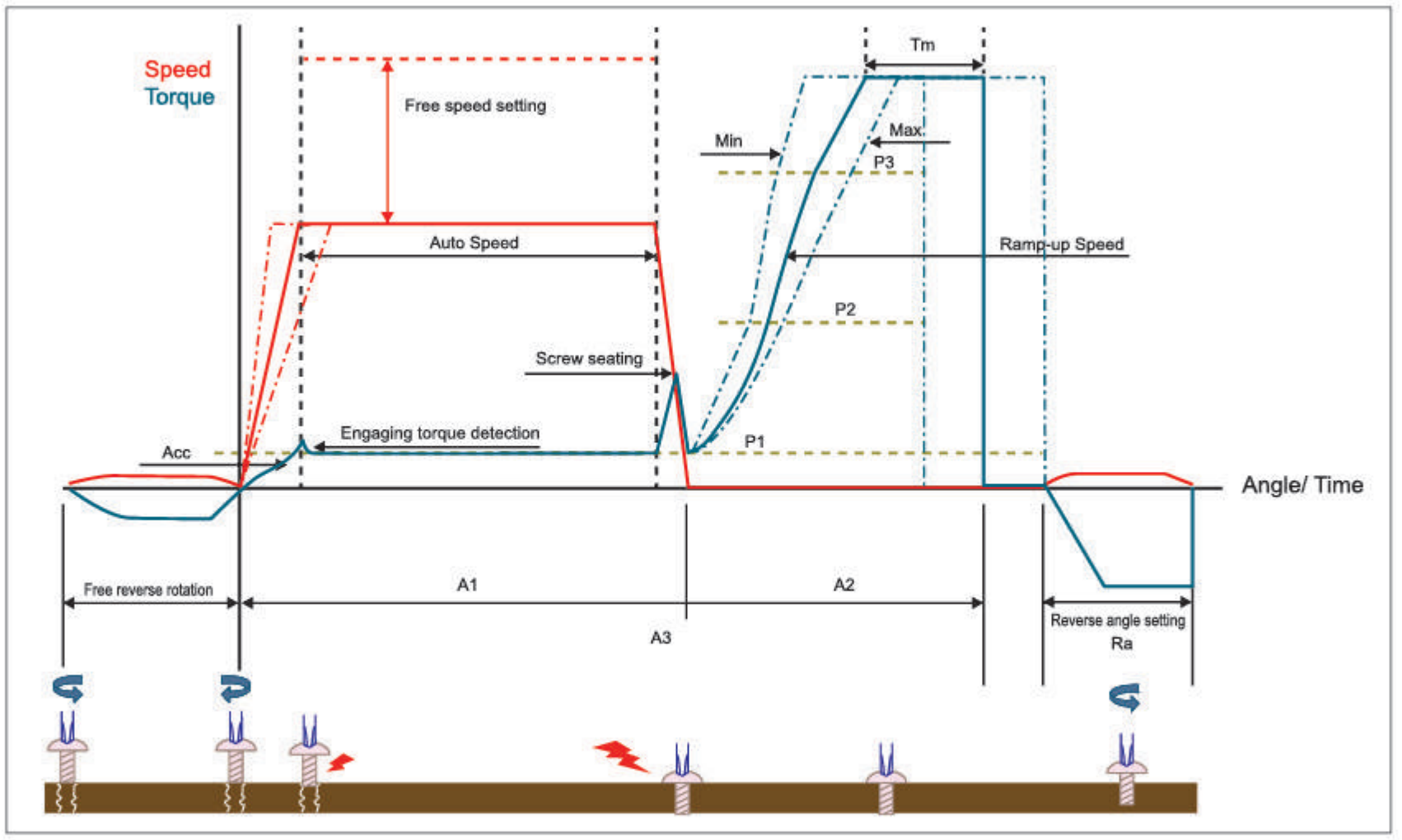
40년 역사의 세한전동 기술로 구현된 완벽한 전류제어 Torque-Angle control Digital Screwdriver - 목표한 토오크에 정확히 도달하여 일정시간 유지함으로서 우수한 조임. 풀림력을 제공합니다.

토오크 정확도는 전체구간에서 10% 이내며, 반복정밀도는 ±3% 로 매우 우수합니다.





Controller and screwdriver



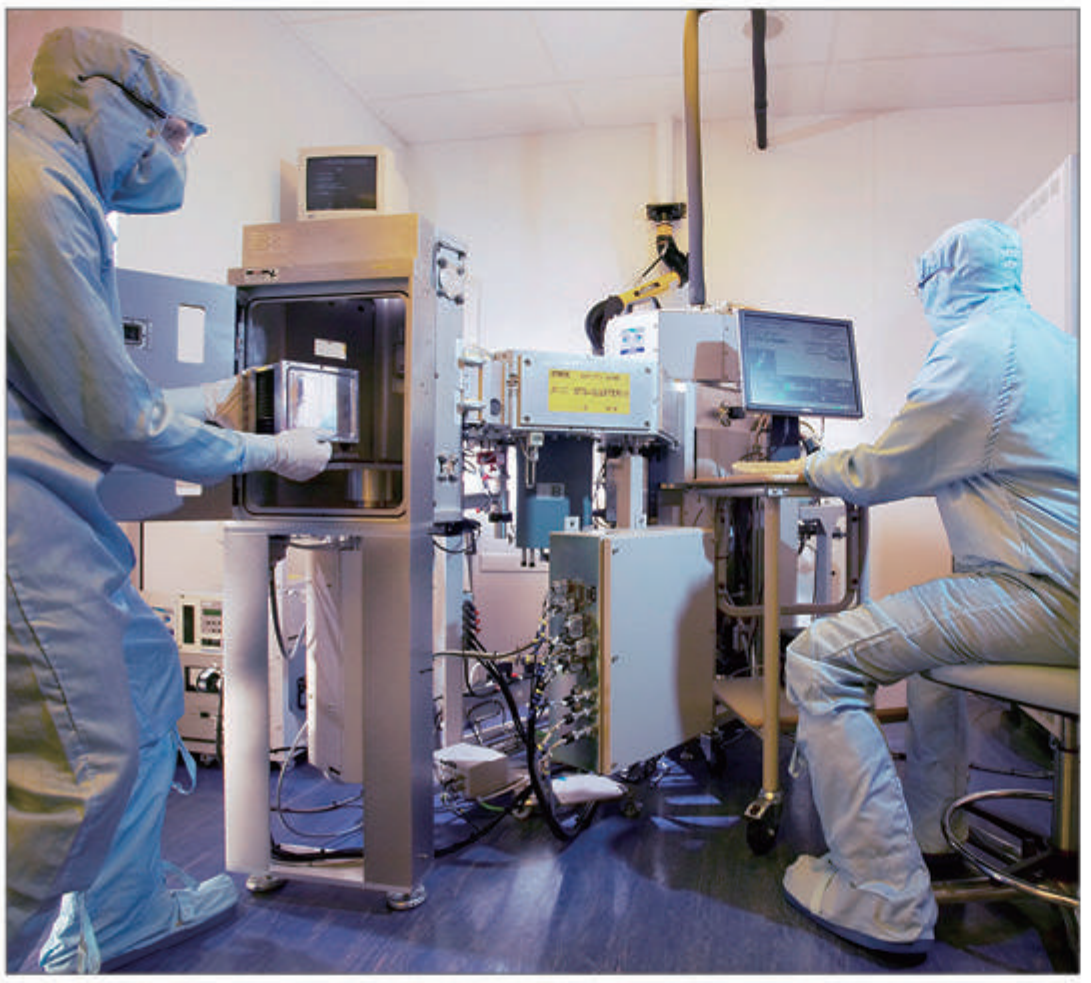
Advanced tightening process setting

No particle, Low noise and long-life expectancy

SH Torque-Angle control Digital Screwdriver with a Brushless Motor provide the extra features as below.

- Long life expectancy
- Low noise
- No particle :Suitable for clean room

SH Torque-Angle control Digital Screwdriver는 Brushless motor를 내장하고 있기 때문에 내구성이 좋으며 소음이 적고,
미세먼지를 발생시키지 않습니다.





Easy connecting with other systems

SH Torque-Angle control Digital Screwdriver can be used with other systems including PLC flexibly,

SH Torque-Angle control Digital Screwdriver는 PLC를 비롯한 외부설비에 유연하게 연동됩니다.



Smart manager

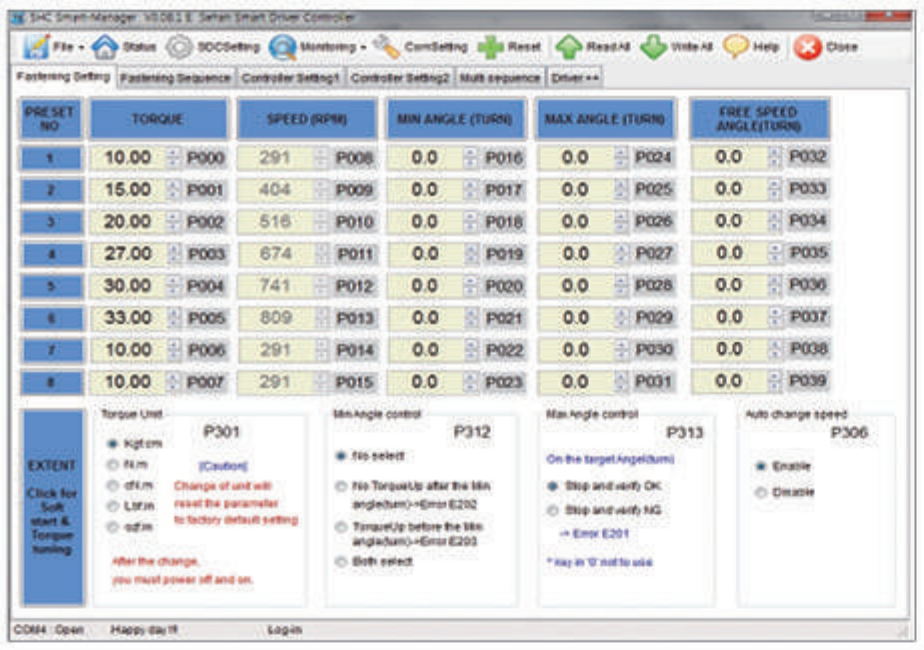
The PC software, Smart Manager is convenient to set the parameters and monitor the fastening data including torque, speed, angle etc.

All fastening data are monitored on real time display and output by RS232 or RS485 com ports.

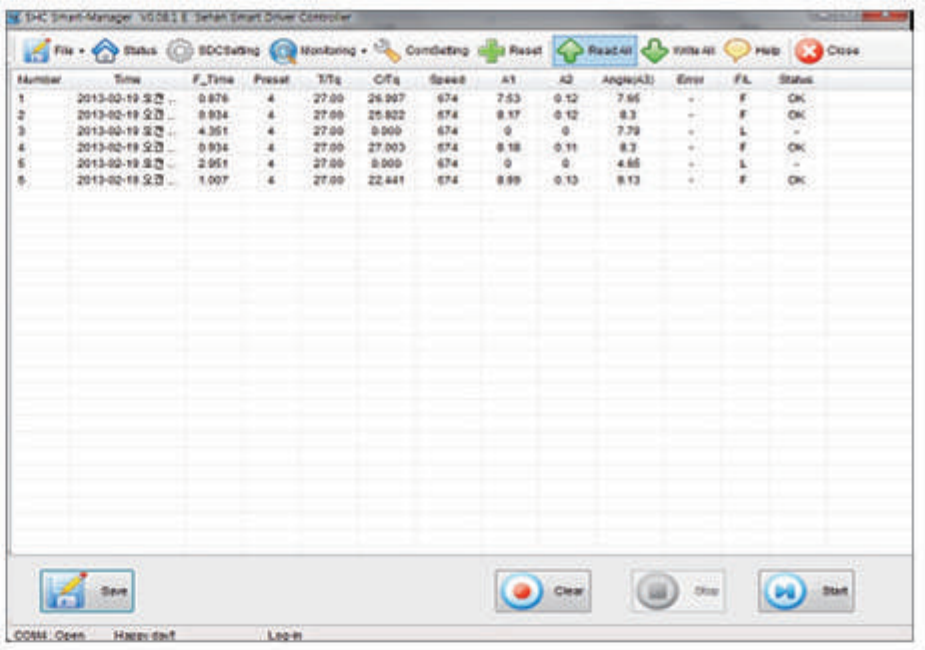
It also provide the real time torque, speed and angle curve which is very useful to analyze the critical fastening.

SH 전용 소프트웨어 Smart Manager로 손쉽게 파라미터를 세팅 할 수 있으며 토오크, 회전 수, 각도 등 체결품질 관련 데이터를 실시간 모니터링 할 수 있습니다. 모든 체결 정보는 실시간 디스플레이를 통하여 모니터링되며, 시리얼 포트 (RS232, RS485)를 통해 출력됩니다. 특히 그래프 모니터링은 체결품질 관련 데이터 분석에 도움을주어 귀사제품의 품질향상에 큰 도움을 줄 수있습니다.

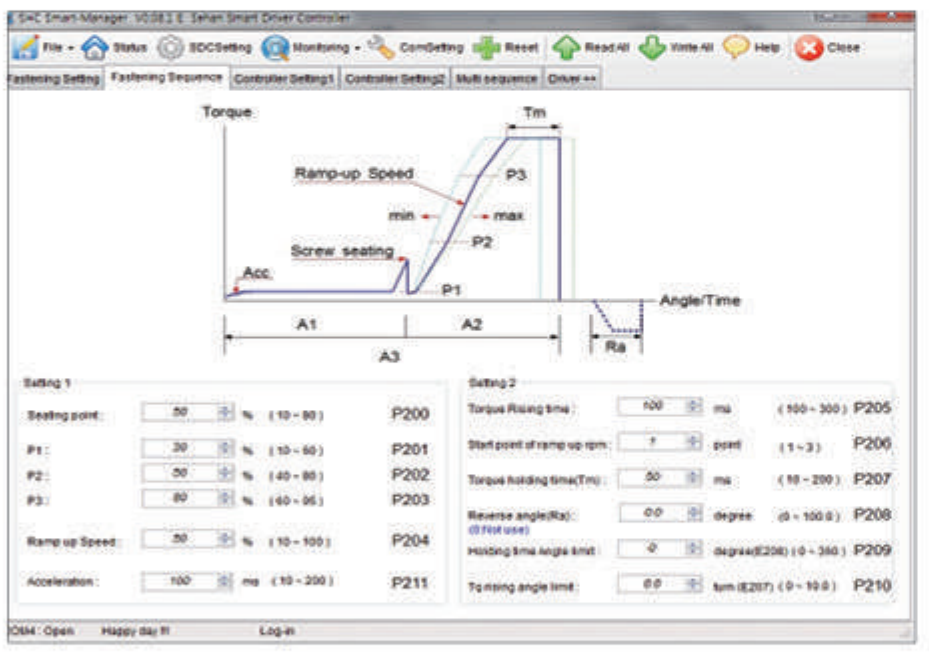
- Easy parameter setting by Smart Manager (PC software)
- Real time torque data and curve display
- 8 latest error history memory
- Save or open a file of parameter setting



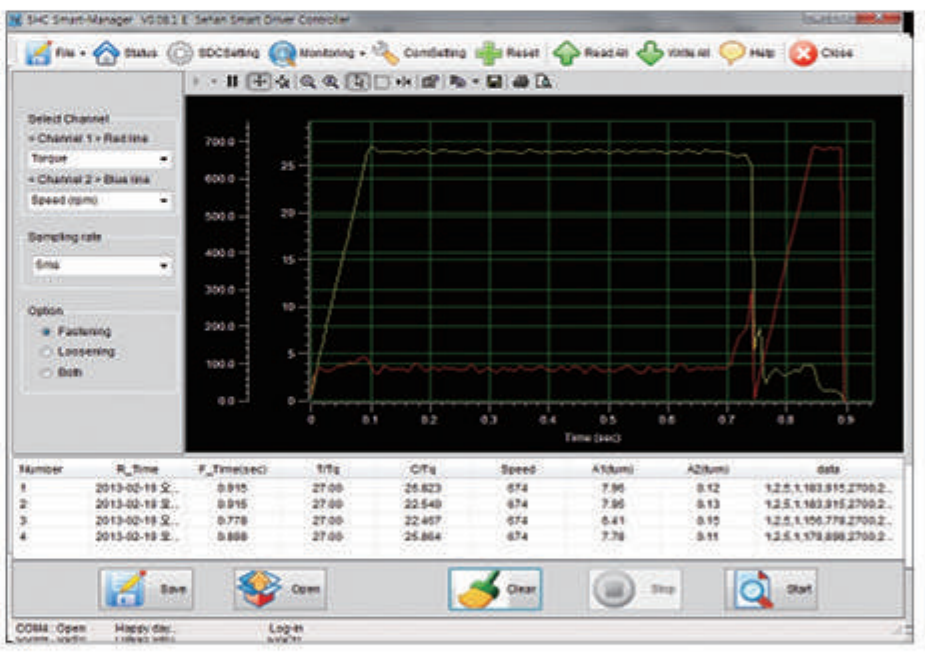
Parameter setting main window
(Torque ,Speed ,Angle, etc)



Data output by RS232C/RS485
(Torque, Speed, Angle, etc)

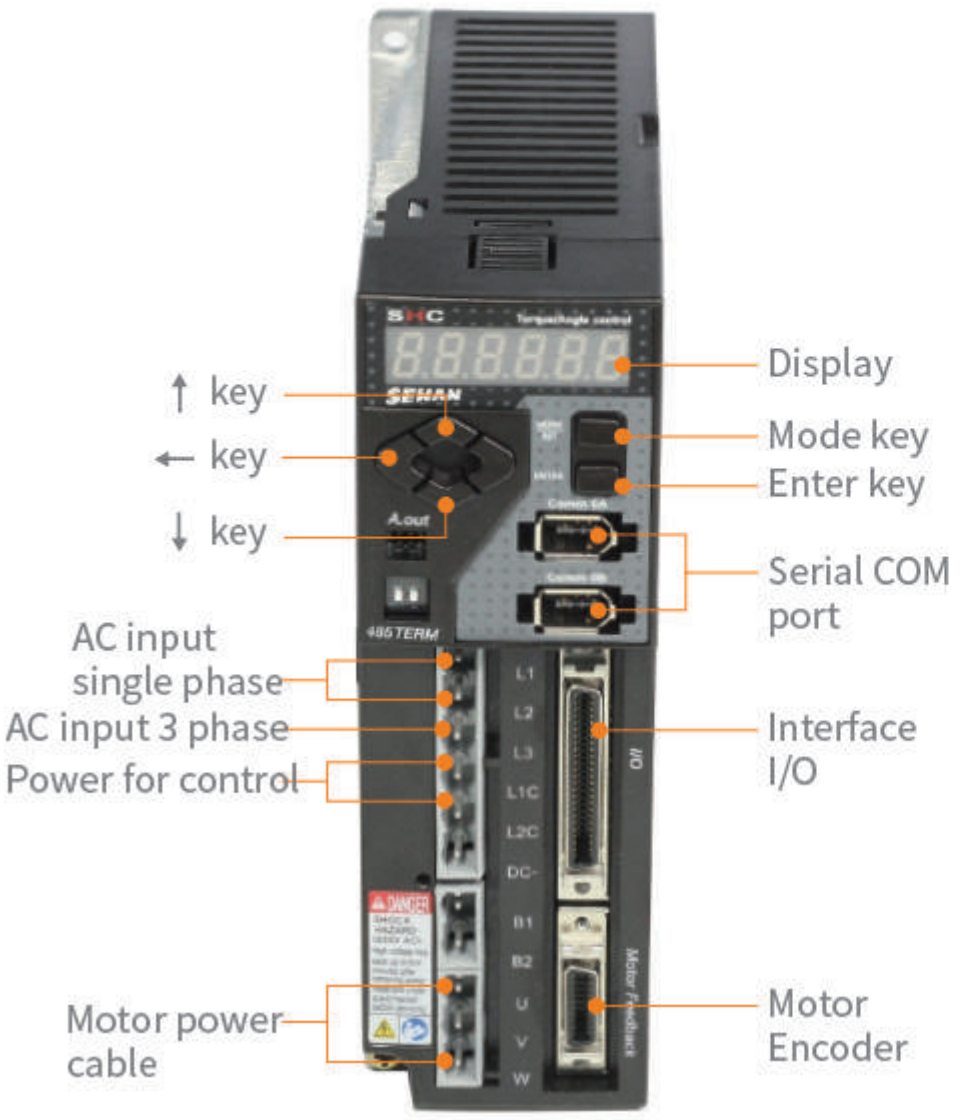


Fastening sequence



Real time monitoring CURVE
(Speed, Torque vs time)

Controller specification

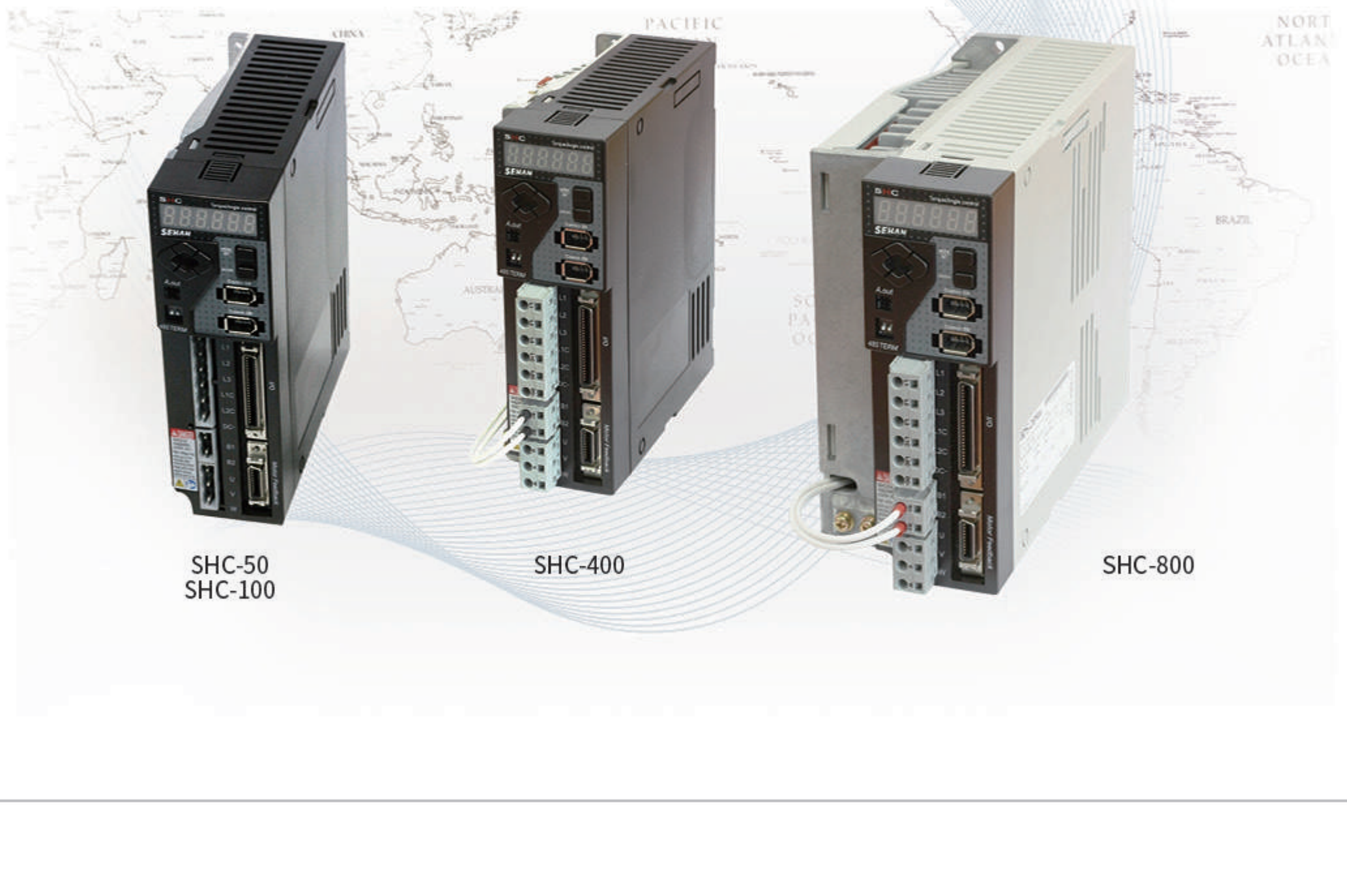


General specification			
No	Item		Specification
1	Input		AC220V, 50~60Hz Single / 3 phase
2	Control range	Torque	0.5 ~ 650.0 Kgf.cm in 8 models
		Speed	100 - 1,500 rpm in 8 models
		Angle	0.1 turn (resolution 0.003 step)
3	Parameters		Torque, (Speed) & Angle, etc
4	preset # selecting		50P I/O interface
5	Torque calibration		-10% ~ +10%
6	Auto recognition		Auto detection of connected driver when power ON of controller
7	Error display		Error code display (3 groups)
8	Fastening quality control		Fastening data verification (NG/OK) against the pre-setting pattern of angle
9	Parameter setting and monitoring		MS windows PC software, Smart-Manager or Front panel. Smart phone App for Android OS.

SHC-100

Series

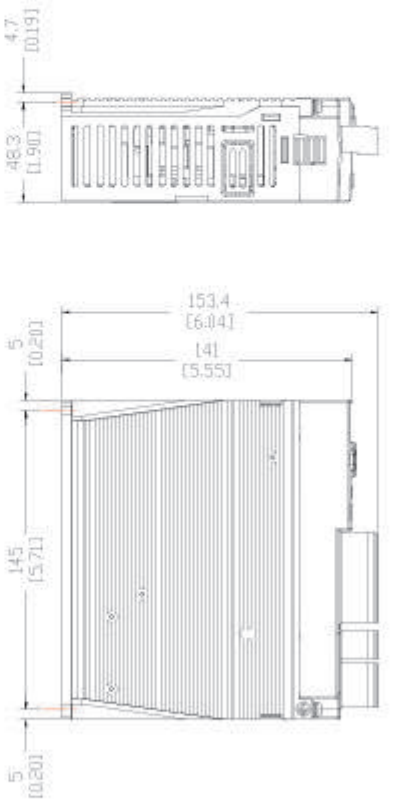
Capacity power (W)
50W, 100W, 200W, 400W, 800W



Drawing of controller

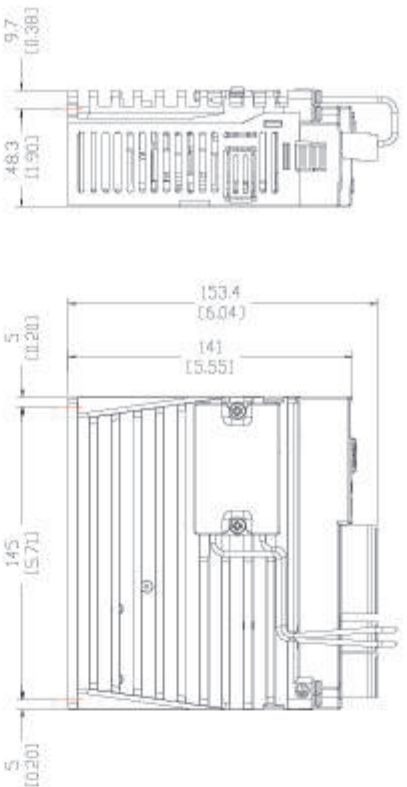
SHC-50/SHC-100





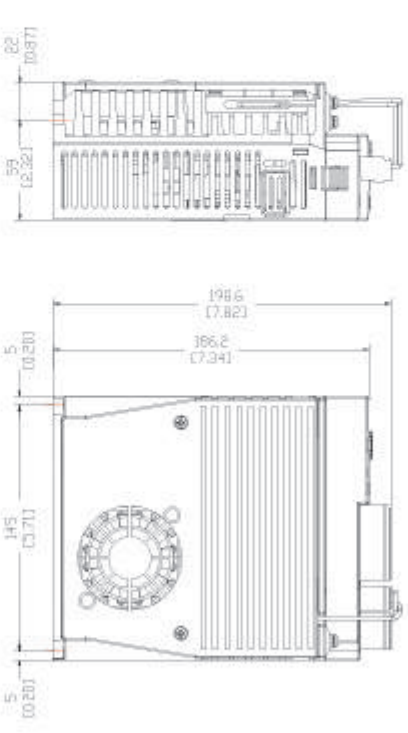
SHC-400



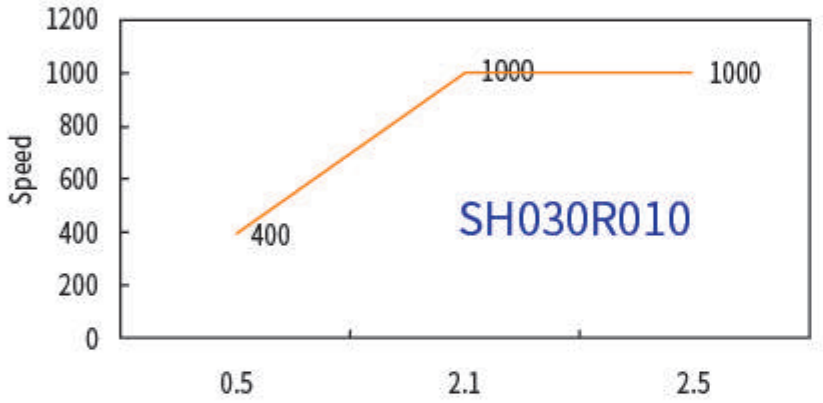


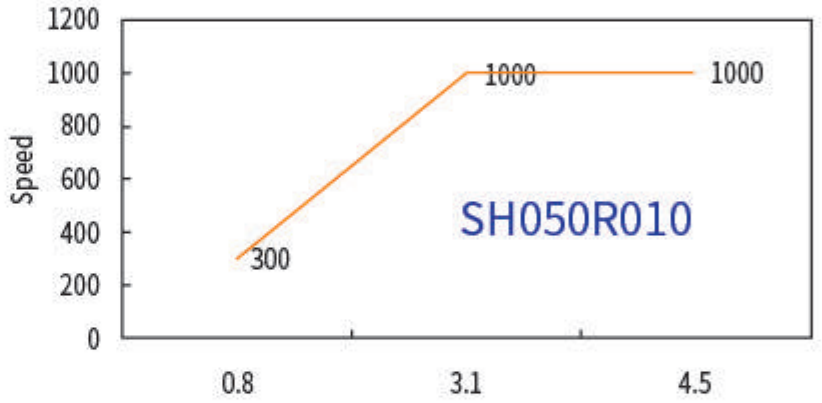
SHC-800

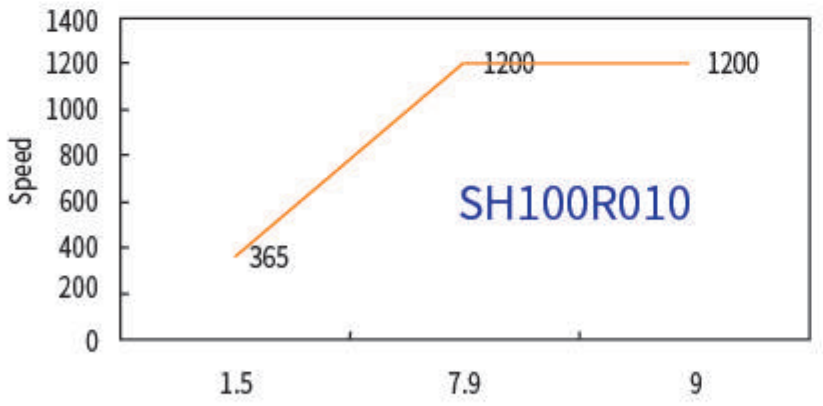


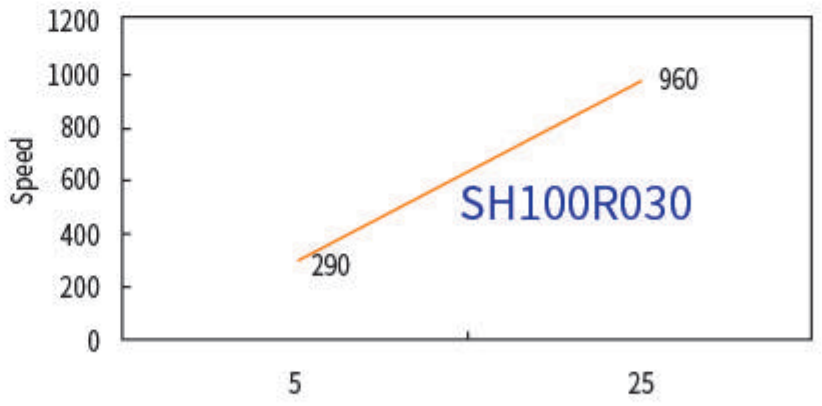


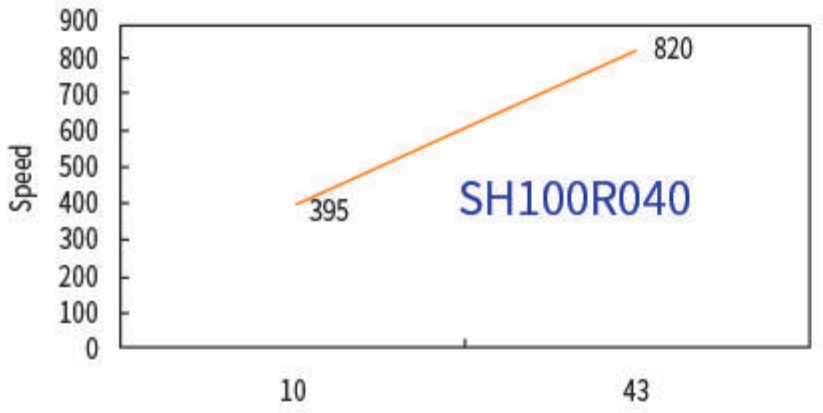
Automatic rotation speed according to the torque

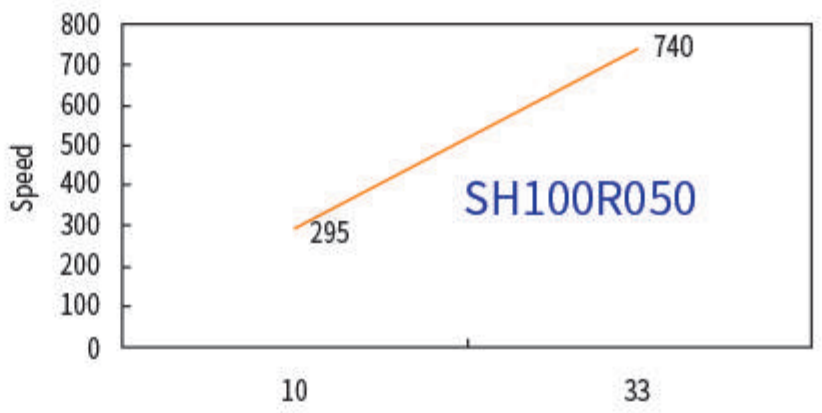


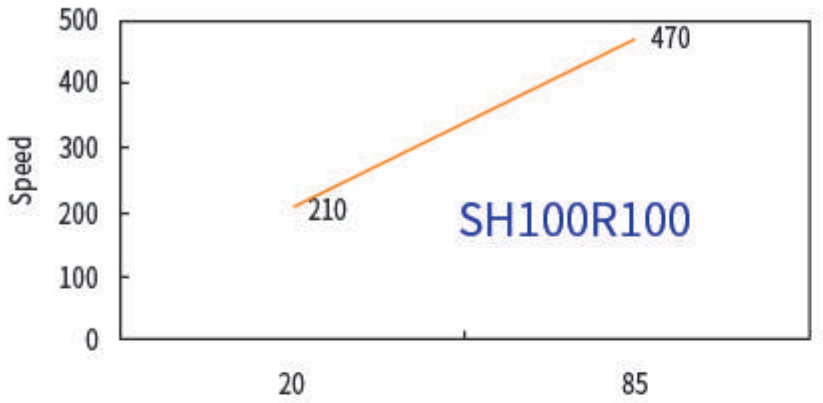


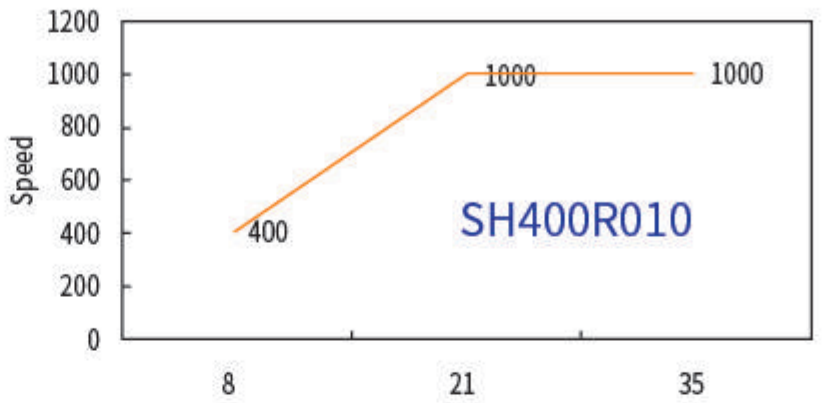


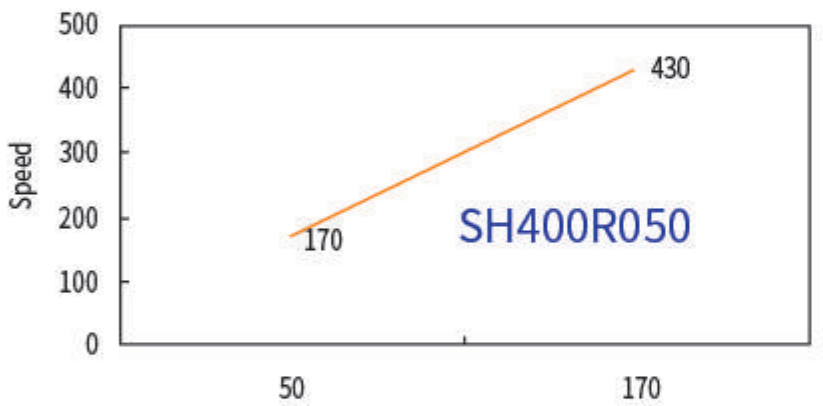


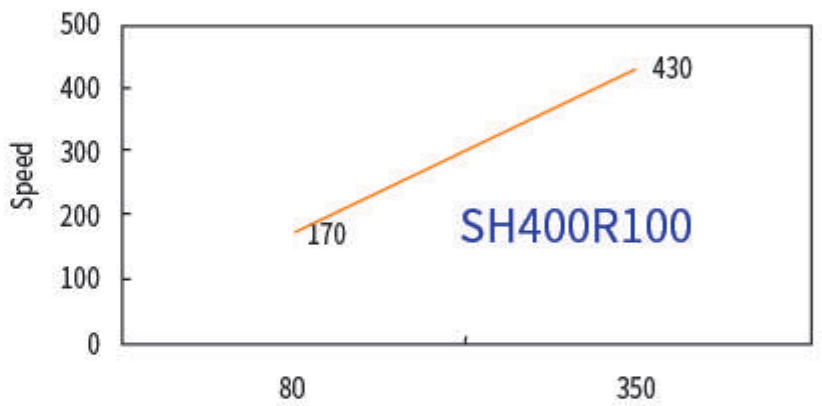


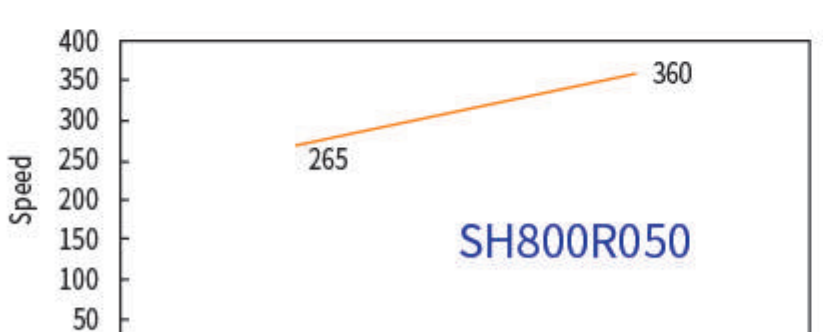


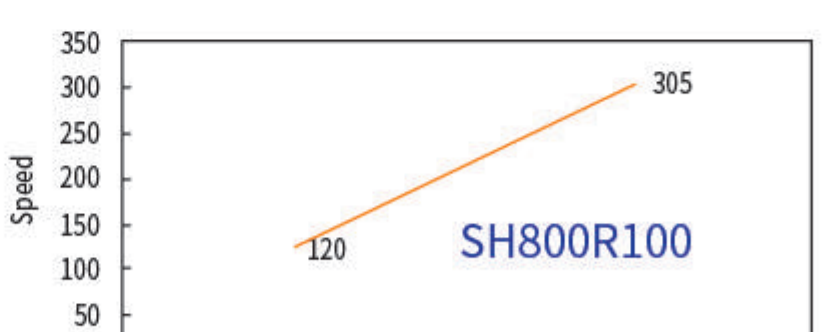












Digital screwdriver specification



SH030R010-E+VC



SH050R010-A+C



SH100R010-A+ VC



SH100R100-A



SH400R010-Q



SH100R010F-A+VC
(Custom design)

Digital screwdriver specification			
No	Item	Specification	Remark
1	EI.Power	AC220~240V, 50~60Hz	
2	Motor	220V AC servo motor, Japan	
3	Dimension	Refer the manual	
4	Torque range	Refer the manual	0.01 Kgf.cm/scale
5	Speed range	100~1,500 repm +/- 5%	Auto change
6	Torque accuracy	10% in full scale	
7	Torque repeatability	+/-3%	
8	Bit size	By request	
9	Start	Remote by I/O	
10	Cable	4P motor cable 5P encoder cable	

SH030R010F-A+V

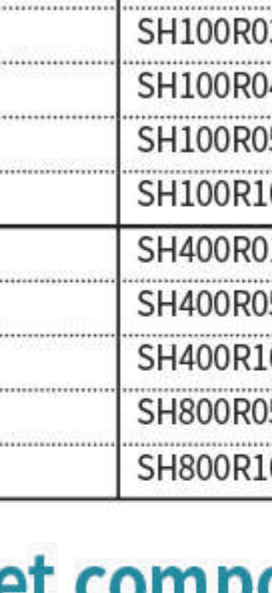
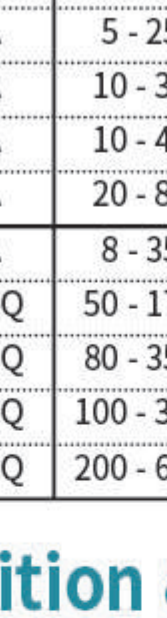
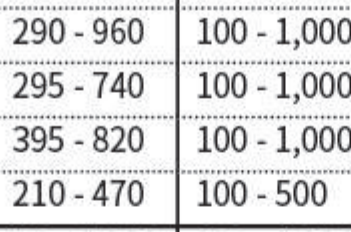
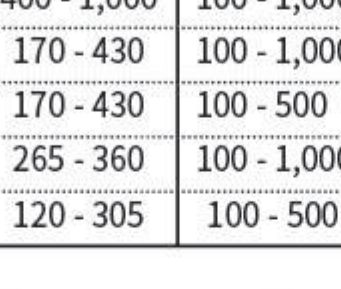
- Series
- Motor power (W)
- Gear type (M:Multiply, R:Reduction)
- Gear ratio (00.0)
- F:Offset type
- Bit socket size
  - A: 1/4” HEX Female
  - E: 4mm Round half moon
  - Q: SQ drive 3/8”
- V: Vacuum pick up ass’ y
- C: Bit cushion 6mm

Model of Torque-Angle Control Digital Screwdriver

Type		Torque	Speed (RPM)		Length	Weight	Bit size	Option		Controller to be used
Offset type	Straight type	Kgf.cm	※Auto speed	Range	(mm)	(Kg)		Vacuum pickup	Bit cushion	
	SH030R010-A	0.5 - 2.5	410 - 1,000	100 - 1,000	173	0.63	1/4", HEX			SHC-50
	SH030R010-A+V	0.5 - 2.5	410 - 1,000	100 - 1,000	222	0.66	1/4", HEX	○		SHC-50
	SH030R010-A+C	0.5 - 2.5	410 - 1,000	100 - 1,000	173	0.63	1/4", HEX		○	SHC-50
	SH030R010-A+VC	0.5 - 2.5	410 - 1,000	100 - 1,000	222	0.66	1/4", HEX	○	○	SHC-50
	SH030R010-E	0.5 - 2.5	410 - 1,000	100 - 1,000	194.7	0.62	4mm, Round			SHC-50
	SH030R010-E+V	0.5 - 2.5	410 - 1,000	100 - 1,000	209.4	0.66	4mm, Round	○		SHC-50
	SH030R010-E+C	0.5 - 2.5	410 - 1,000	100 - 1,000	194.7	0.62	4mm, Round		○	SHC-50
	SH030R010-E+VC	0.5 - 2.5	410 - 1,000	100 - 1,000	209.4	0.66	4mm, Round	○	○	SHC-50
	SH050R010-A	0.8 - 4.5	300 - 1,000	100 - 1,000	187	0.72	1/4", HEX			SHC-50
	SH050R010-A+V	0.8 - 4.5	300 - 1,000	100 - 1,000	236	0.75	1/4", HEX	○		SHC-50
	SH050R010-A+C	0.8 - 4.5	300 - 1,000	100 - 1,000	187	0.72	1/4", HEX		○	SHC-50
	SH050R010-A+VC	0.8 - 4.5	300 - 1,000	100 - 1,000	236	0.75	1/4", HEX	○	○	SHC-50
	SH050R010-E	0.8 - 4.5	300 - 1,000	100 - 1,000	174.7	0.71	4mm, Round			SHC-50
	SH050R010-E+V	0.8 - 4.5	300 - 1,000	100 - 1,000	223.4	0.8	4mm, Round	○		SHC-50
	SH050R010-E+C	0.8 - 4.5	300 - 1,000	100 - 1,000	174.7	0.71	4mm, Round		○	SHC-50
	SH050R010-E+VC	0.8 - 4.5	300 - 1,000	100 - 1,000	223.4	0.8	4mm, Round	○	○	SHC-50
	SH100R010-A	1.5 - 9.0	365 - 1,200	100 - 1,200	201	0.83	1/4", HEX			SHC-100
	SH100R010-A+V	1.5 - 9.0	365 - 1,200	100 - 1,200	250	0.84	1/4", HEX	○		SHC-100
	SH100R010-A+C	1.5 - 9.0	365 - 1,200	100 - 1,200	201	0.83	1/4", HEX		○	SHC-100
SH100R010F-A+VC	SH100R010-A+VC	1.5 - 9.0	365 - 1,200	100 - 1,200	250	0.84	1/4", HEX	○	○	SHC-100
	SH100R030-A	5 - 25	290 - 960	100 - 1,000	257.4	1.45	1/4", HEX			SHC-100
	SH100R040-A	10 - 33	295 - 740	100 - 1,000	257.4	1.45	1/4", HEX			SHC-100
	SH100R050-A	10 - 43	395 - 820	100 - 1,000	257.4	1.45	1/4", HEX			SHC-100
	SH100R100-A	20 - 85	210 - 470	100 - 500	257.4	1.45	1/4", HEX			SHC-100
	SH400R010-A	8 - 35	400 - 1,000	100 - 1,000	216.4	1.5	1/4", HEX			SHC-400
	SH400R050-SQ	50 - 170	170 - 430	100 - 1,000	303	3.2	3/8",SQ Male			SHC-400
	SH400R100-SQ	80 - 350	170 - 430	100 - 500	303	3.2	3/8",SQ Male			SHC-400
	SH800R050-SQ	100 - 310	265 - 360	100 - 1,000	303.7	6.1	3/8",SQ Male			SHC-800
	SH800R100-SQ	200 - 650	120 - 305	100 - 500	303.7	6.1	3/8",SQ Male			SHC-800

Set composition & Accessories

Standard set composition

Controller / Digital screwdriver / Power cable & Encoder cable

Accessories

RS232C cable



Customized option

Screw vacuum pick up
Bit cushion

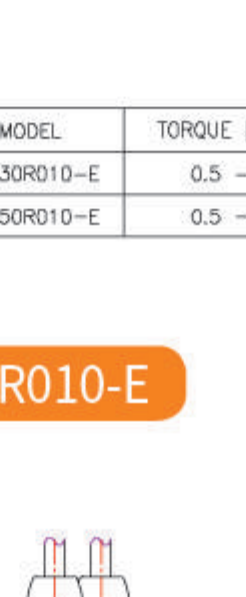


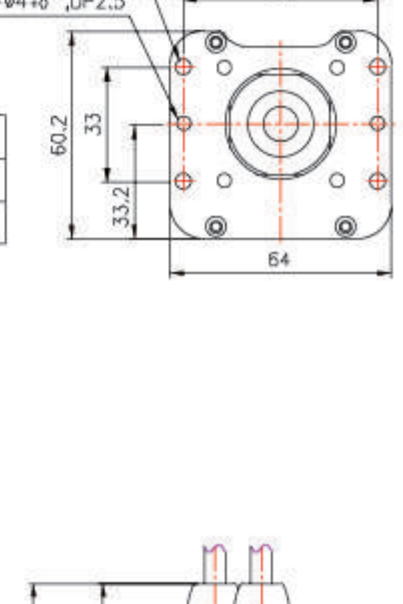
Drawing

SH030R010-E









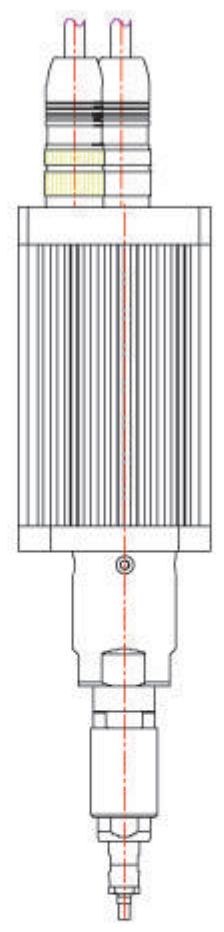
CODE NO.	MODEL	TORQUE [Kgf.cm]
1000624	SH030R010-E	0.5 - 2.5
1000625	SH050R010-E	0.5 - 2.5

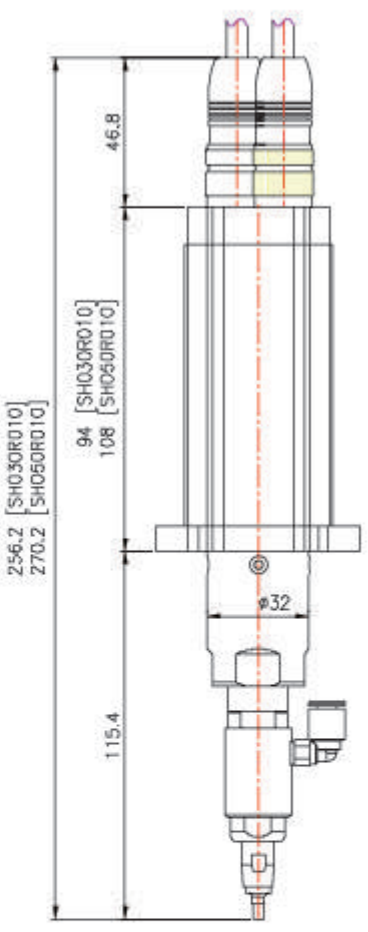
SH030R010-E, SH050R010-E

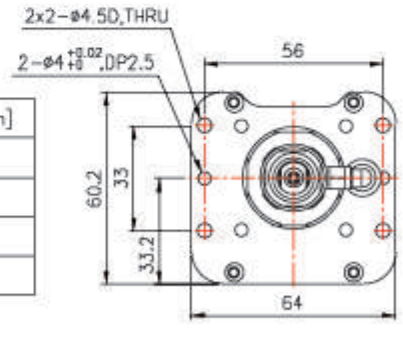
SH030R010-E+VC











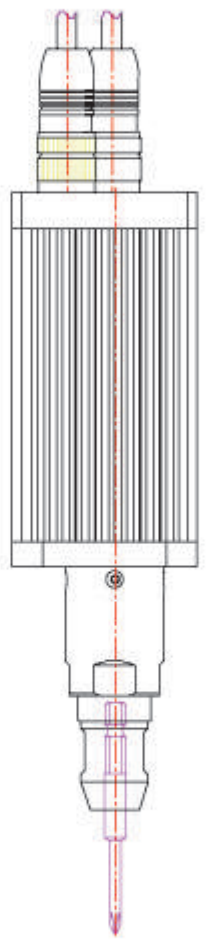
CODE NO.	MODEL	TORQUE [Kgf.cm]
	SH030R010-E+V	0.5 - 2.5
	SH030R010-E+VC	0.5 - 2.5
	SH050R010-E+V	0.8 - 4.5
	SH050R010-E+VC	0.8 - 4.5

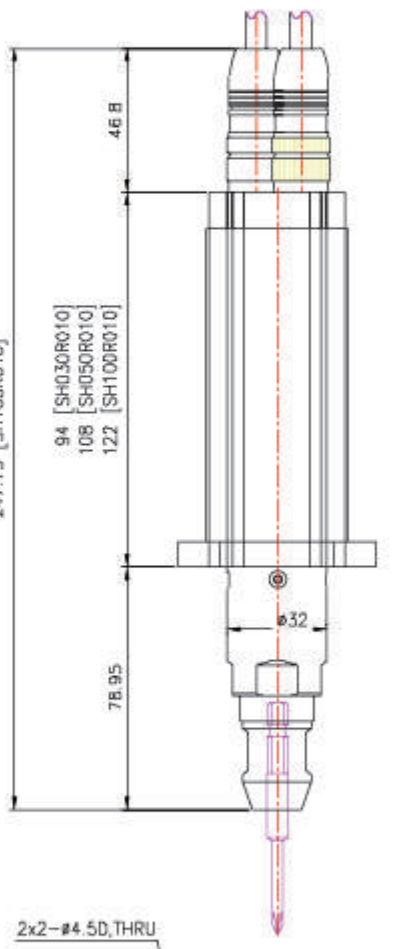
SH030R010-E+VC

SH050R010-A+C

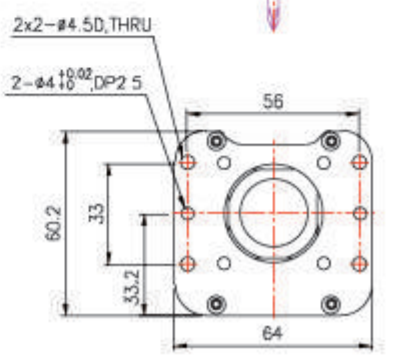






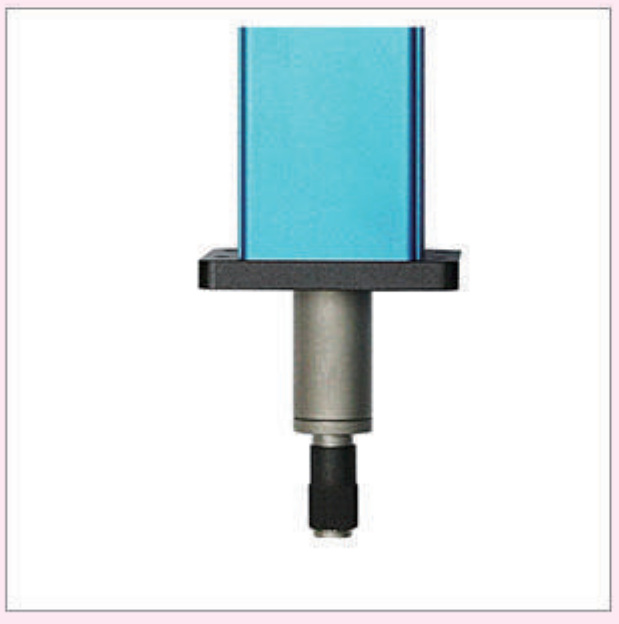


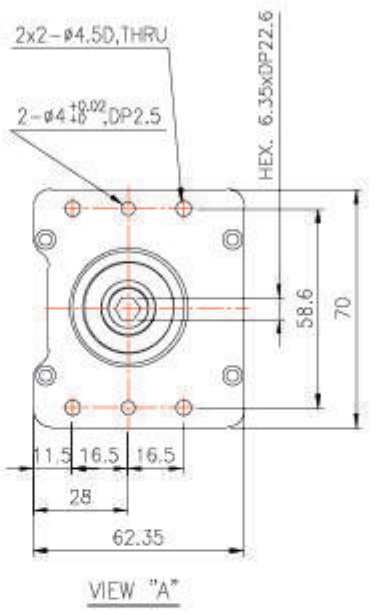
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1000601	SH030R010-A	0.5 - 2.5
1000609	SH030R010-A+C	0.5 - 2.5
1000602	SH050R010-A	0.8 - 4.5
1000610	SH050R010-A+C	0.8 - 4.5
1000603	SH100R010-A	1.5 - 9.0
1000611	SH100R010-A+C	1.5 - 9.0

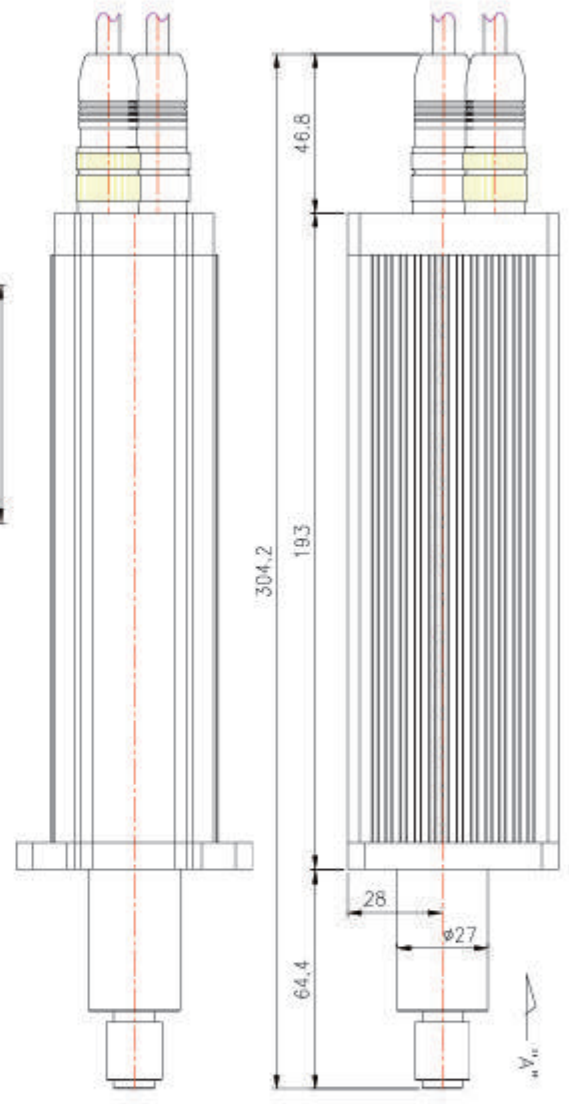


SH100R100-A





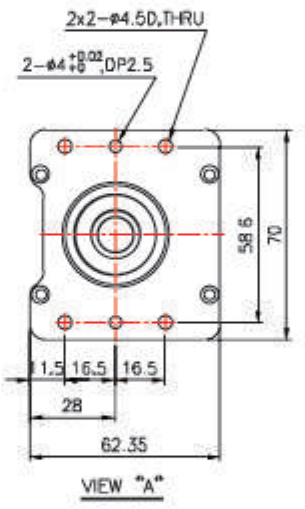


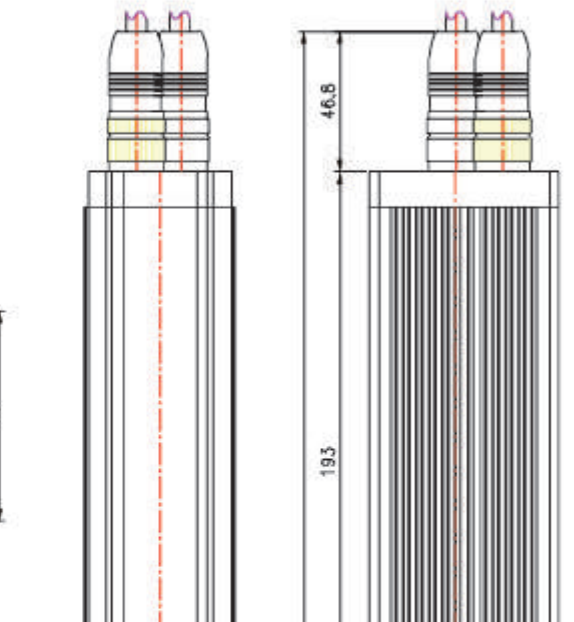


SH100R010-A+VC



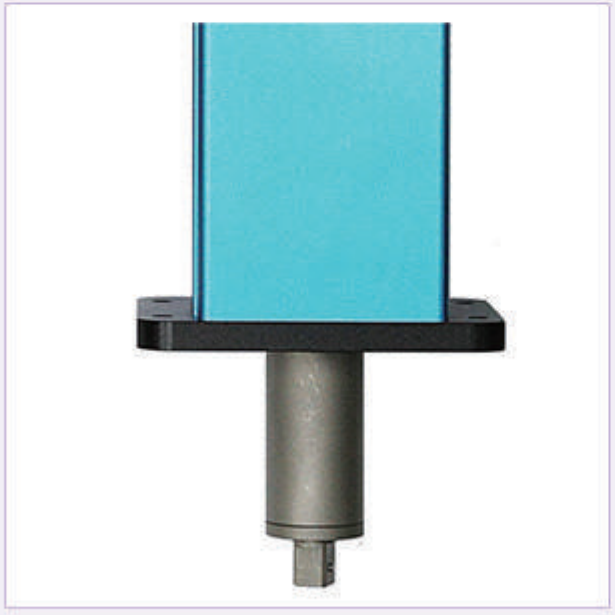


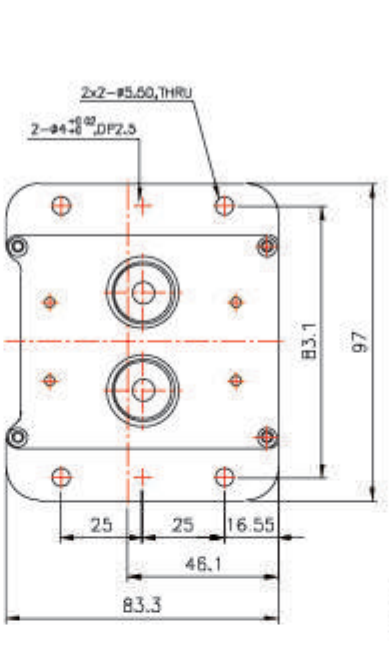


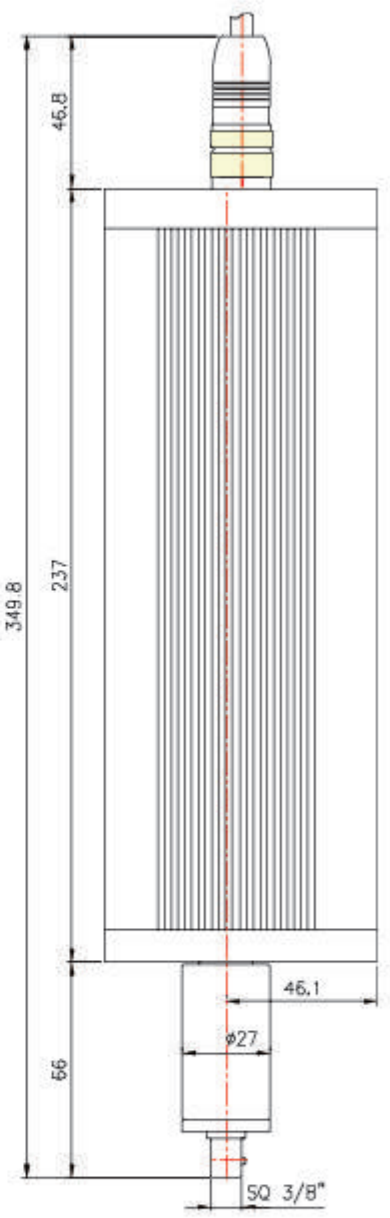


SH400R010-Q







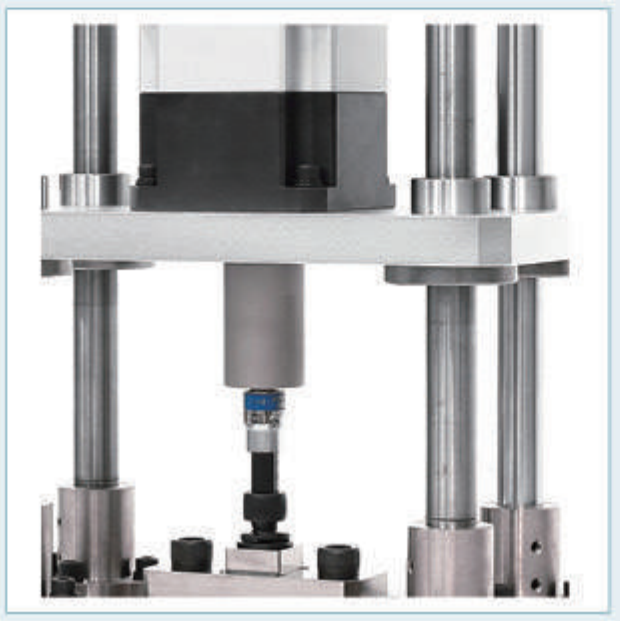


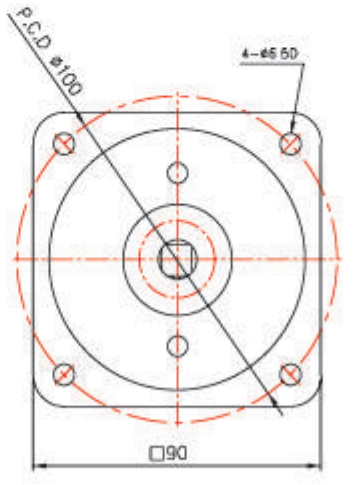
SH100R010-A+VC

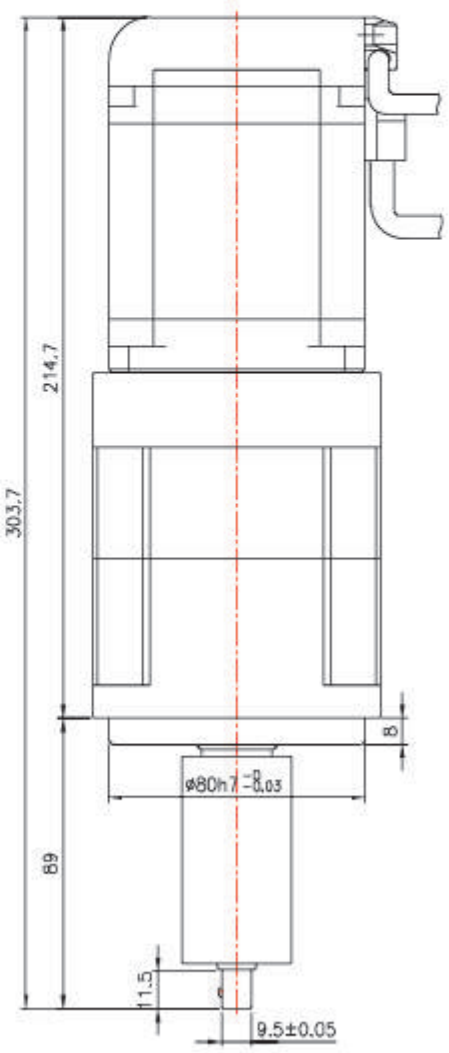
SH400R010-Q

SH800R100-Q





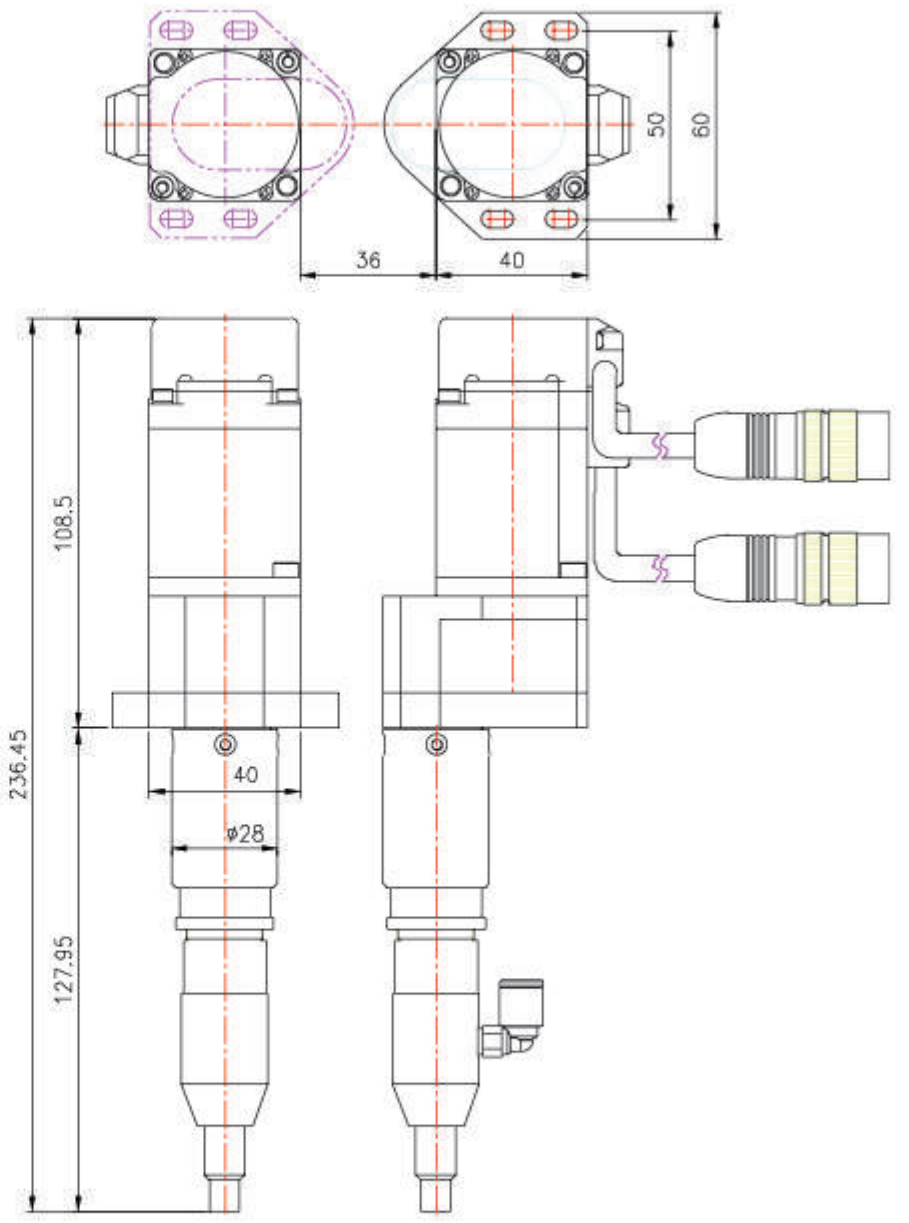




SH100R010F-A+VC







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