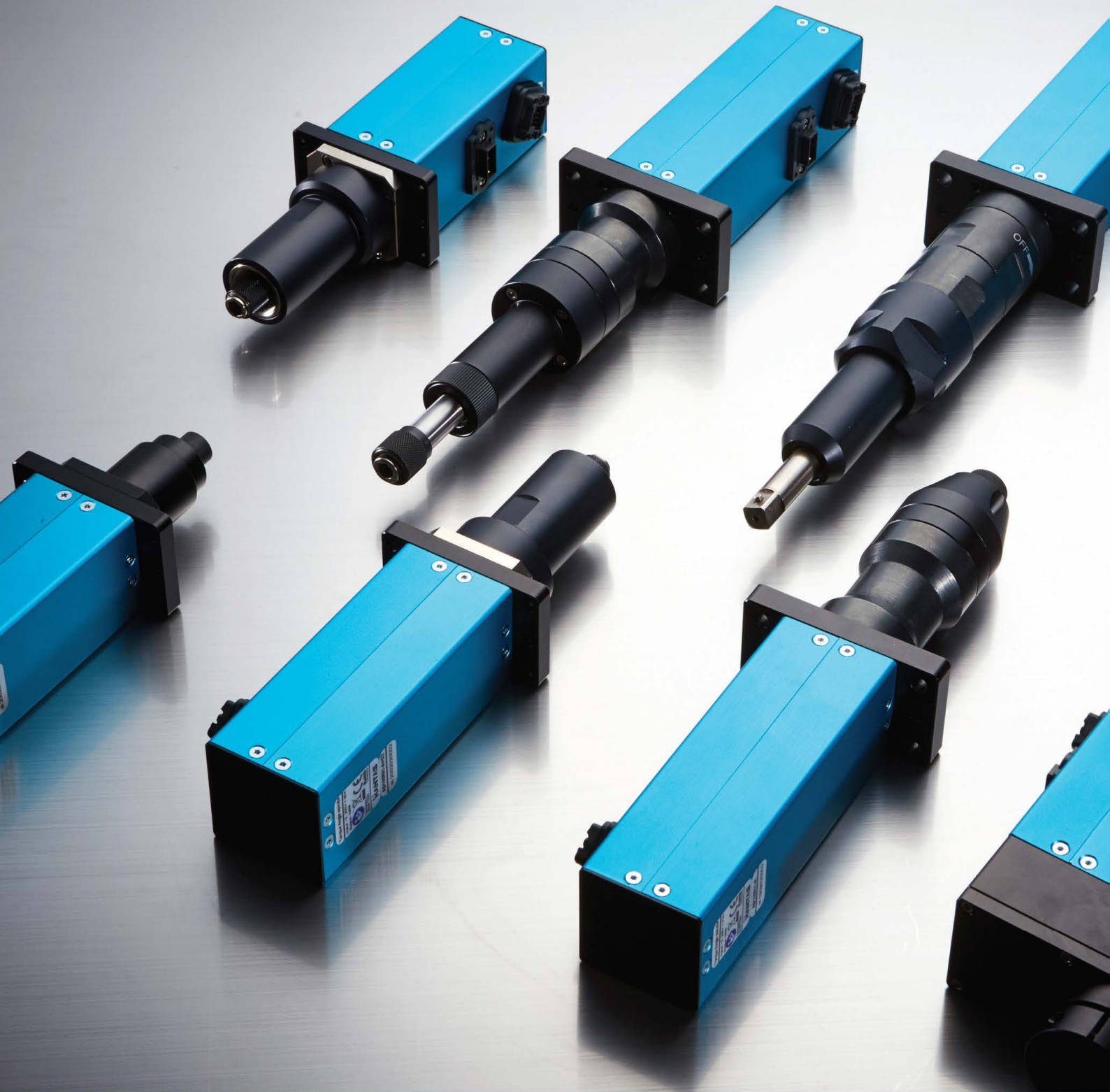


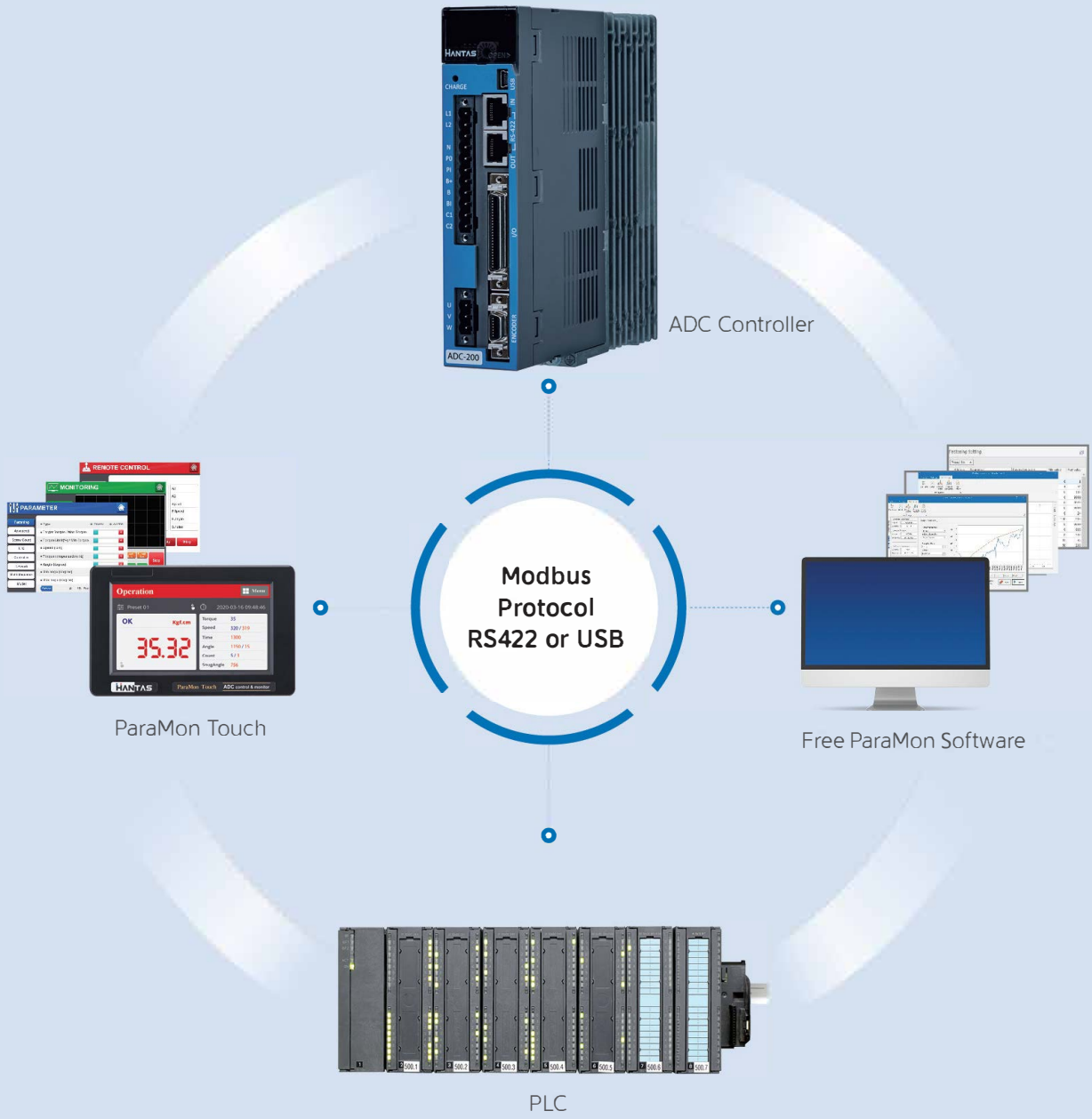
AD-Series DC Torque Control Spindle System





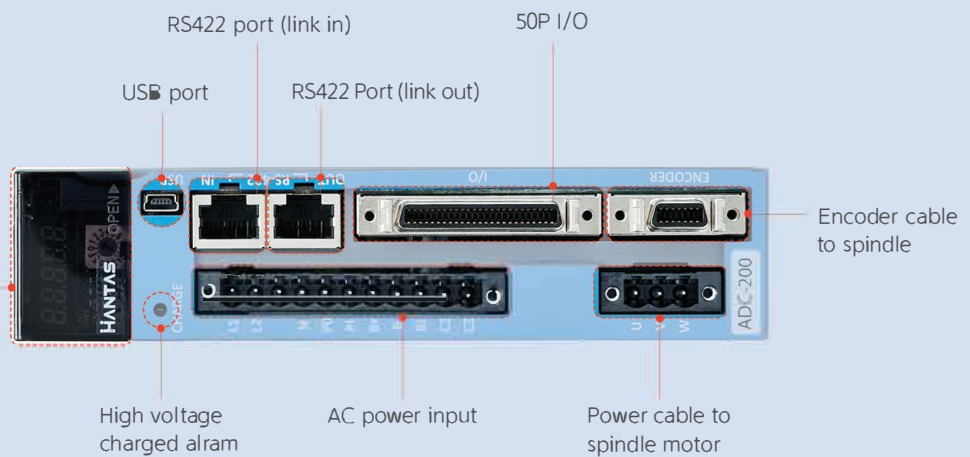
MAIN FEATURE

- (15) Digital Torque and angle Programs (Presets)
- Multi-Step Sequence programs
- Auto Safe speed
- Self Customizing on actual tightening application for optimized setting
- Torque and angle fastening monitoring capabilities
- Screw Counting
- Error Information displayed by code
- Easy setting of parameters and monitoring by ParaMon Software Program
- Real time graphing of fastening process via ParaMon Software Program
- Real time monitoring of fastening process via ParaMon Software Program
- Modbus-TRU protocol
- RS422 & USB communication port
- Fastening data storage in TPM Torque Process Monitoring (Optional)
- Torque Accuracy, 10% in full scale, repeatability +/- 3%
- Fastening torque data analysis (Std Dev, Mean, AVG, CP and CPK) via ParaMon software program
- Programmable I/O, 16 inputs and 8 outputs
- Long Life cycle, greater than 5 million cycles



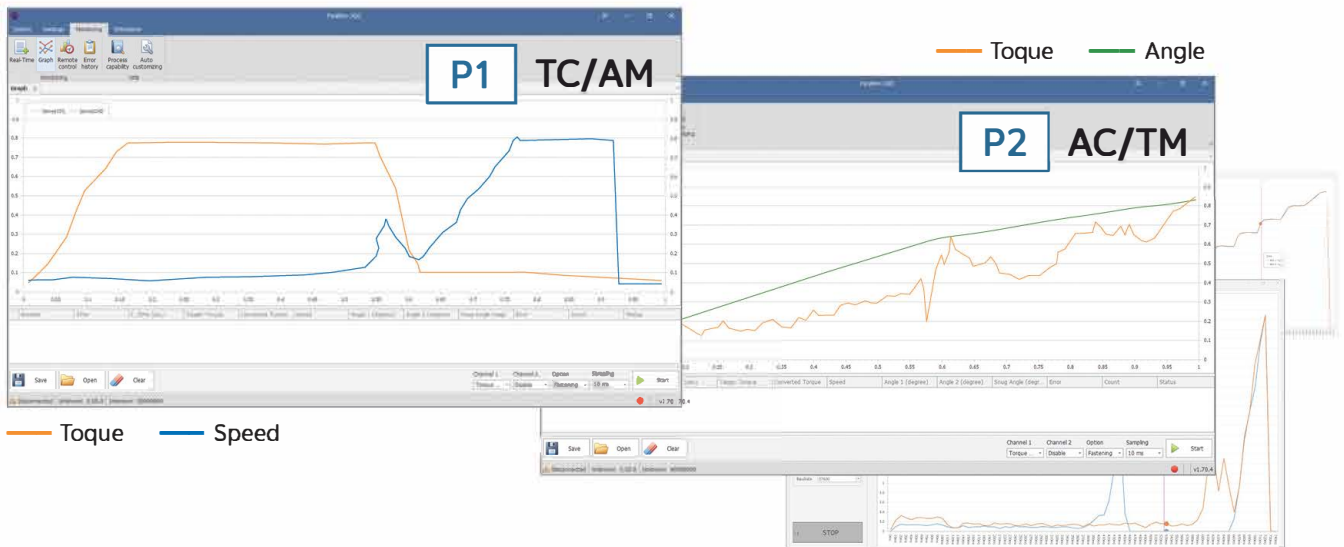
ADC Controller Details

Split as follows:
LED Display
Preset # and Target
Torque



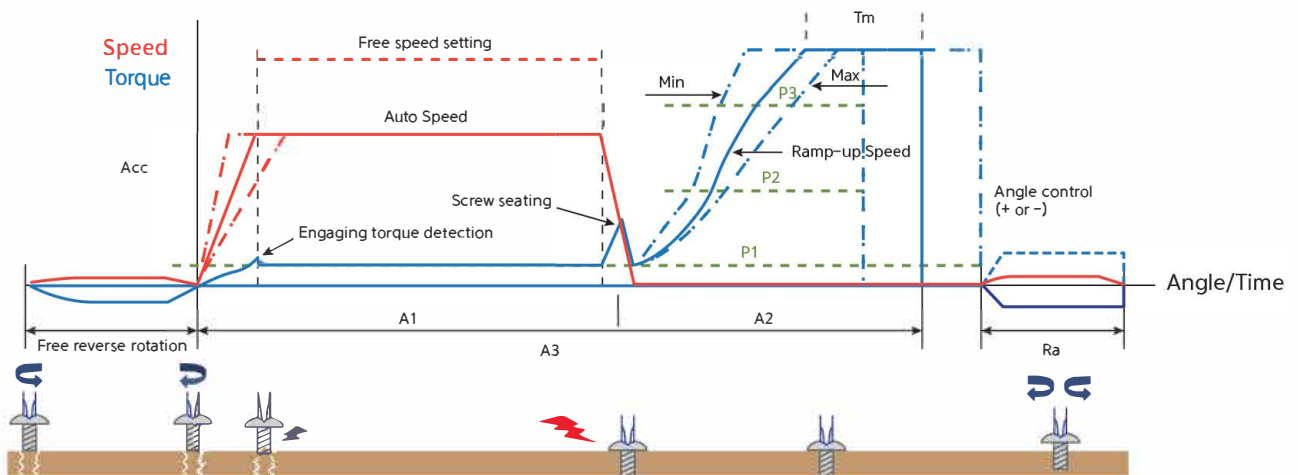
Torque & Angle control by preset

- 1) 15 fastening presets (Up to 99 with optional TPM Torque Process Monitoring)
- 2) 15 fastening parameters per preset



15 customizable fastening parameters:

- **Tightening mode**
Torque control + angle monitoring (TC/AM)
Angle control + torque monitoring (AC/TM)
- **Torque**
Target torque, min/max torque, snug torque, seating torque, torque compensation
- **Angle**
Target angle, min/max angle, free speed angle
- **Speed**
Target speed, Free speed
- **Time**
Soft start time, torque rising time, torque holding time
- **Advanced Function**
Angle after torque-up, Engaging torque detection, Free reverse rotation, Thread tapping.

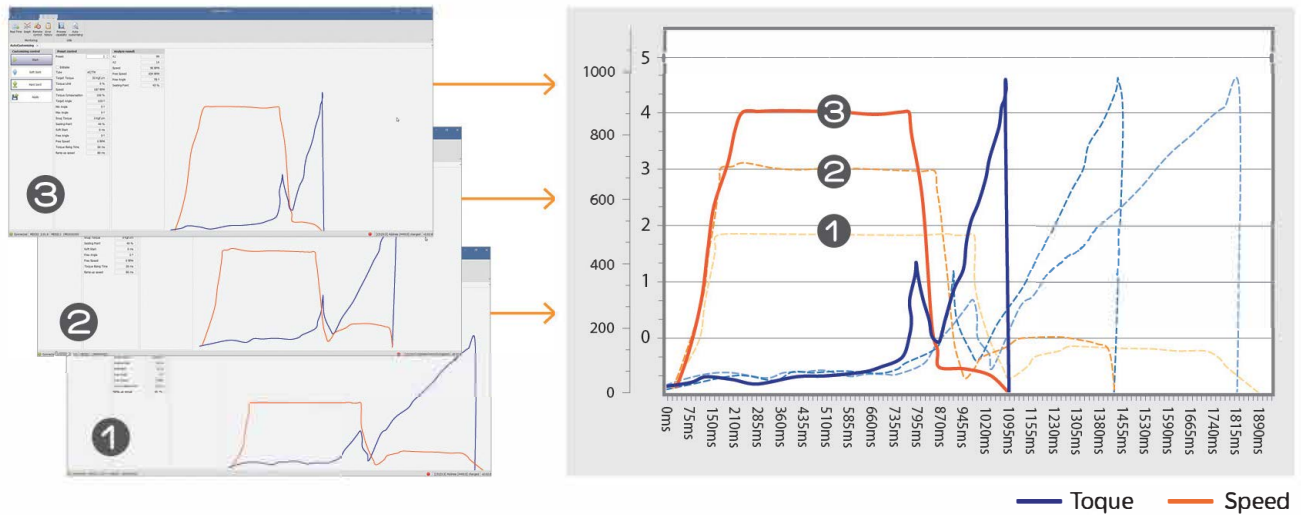


Ability to optimize tightening condition by built-in self customizing simulation feature

Auto customizing simulation

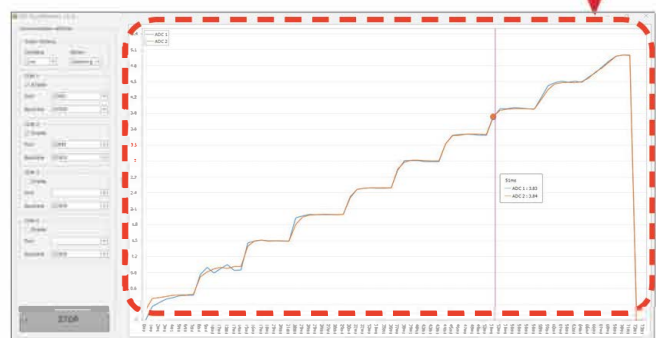
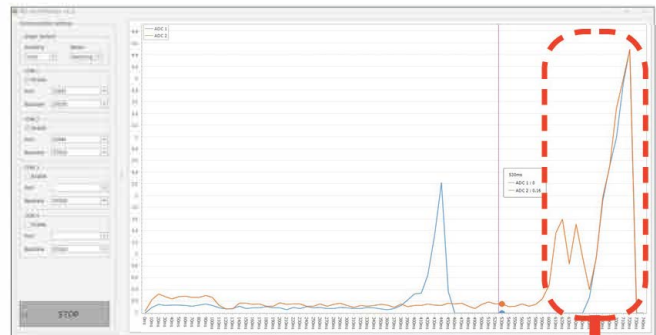
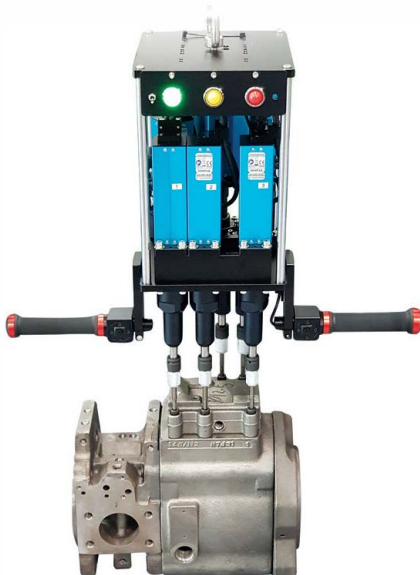
Auto customizing feature can be utilized to optimize fastening speed and accuracy

Run the Auto-customizing feature for a each specific fastening cycle until no additional changes are being made, then choose to apply or not apply the change.



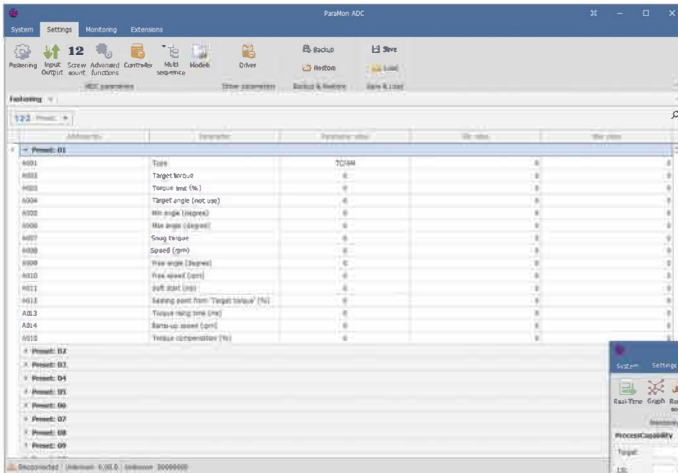
Synchronized fastening up to 31 tools, Multi-spindle

ADC is capable of synchronizing up to 31 spindles by I/O control.

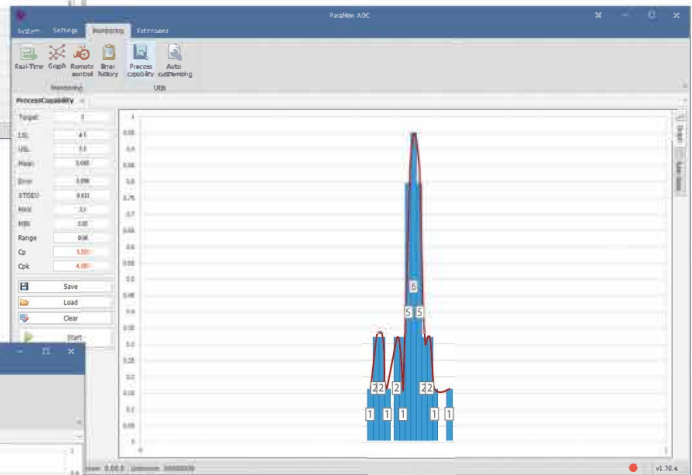


ParaMon Software can be utilized to set parameters and be utilized data monitoring and data analysis.

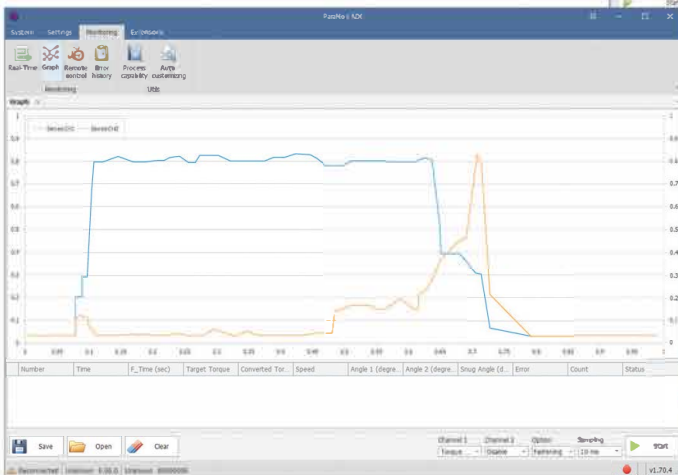
2 channel real-time curve display for torque, speed, angle.
Torque capability analysis for mean value, standard deviation, CP and CPK. Auto data output on every event in Modbus protocol.



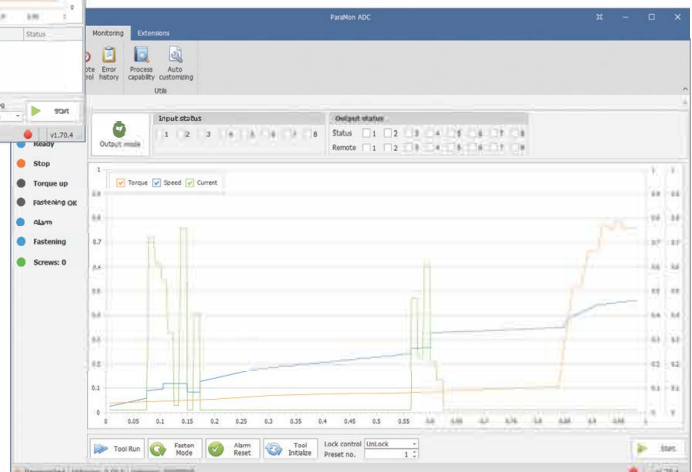
Fastening parameter setting



Process capability analysis



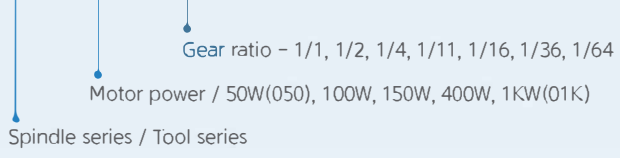
Real-time graph monitoring (2 channel)



Remote control & monitoring

MODEL

A D 1 0 0 R 0 1





AD1KR20-Q

A blue and silver torque wrench with a hexagonal drive end and a control panel on the handle.



AD400R20-Q

A blue and silver torque wrench with a hexagonal drive end and a control panel on the handle. It features a red and white warning symbol on the handle.



AD050M01-A+VC2
Offset Type

A blue and silver torque wrench with a long, thin offset drive end and a control panel on the handle.



AD customizing Model
Offset Type

A blue and silver torque wrench with a customizing model offset drive end and a control panel on the handle.

ADC – Spindle control drive



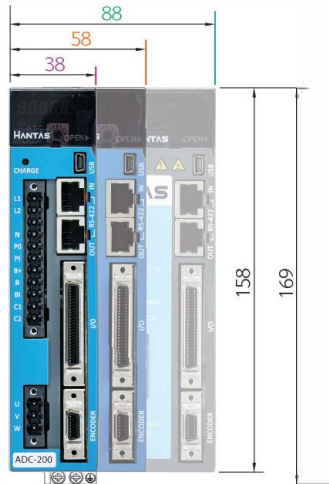
ADC-100,
200, 400



ADC-1K



ADC-2K



	ADC-100	ADC-200	ADC-400	ADC-1K	ADC-2K
Input power	AC200-230V, 50/60Hz single phase			AC200-230V 3 phase	
Rated Output	1.4A	1.7A	3.0A	6.75A	13.5A
Temperature	Operation 0-50°C, Storage -20~65°C / 90% RH				
Humidity	90% RH				
Protection	Over current, over load, over heat, over & low voltage				
COM port	RS-422 (Modbus-RTU) / max 200m, USB 2.0 (mini B)				
Protocol	Modbus-RTU				
No. of program	15 presets				
Auto pairing	Auto detection of spindles when powered on				

SPECIFICATION

Model	Torque (kgf.cm)	Speed (rpm)	Weight (kg)	Bit Socket	Spindle drive
AD050R01	0.5 ~ 6	150 – 2000	0.59	Hex1/4" or dia 4	ADC-100
AD050M01	0.5 ~ 6	150 – 2000	0.80	Hex1/4"	
AD100R01	2 ~ 12	150 – 2000	0.74	Hex1/4"	ADC-200
AD100M01	2 ~ 12	150 – 2000	0.94	Hex1/4"	
AD150R01	2 ~ 20	150 – 2000	0.90	Hex1/4"	ADC-400
AD150M01	2 ~ 20	150 – 2000	1.11	Hex1/4"	
AD150R03	6 ~ 50	100 – 1200	1.30	Hex1/4"	
AD150R04	8 ~ 60	100 – 1200	1.30	Hex1/4"	
AD150R11	20 ~ 150	50 – 450	1.36	Hex1/4"	
AD150R16	30 ~ 200	30 – 310	1.35	Hex1/4" or SQ3/8"	
AD150R27	40 ~ 400	30 – 180	1.39	SQ3/8"	
AD150R36	50 ~ 380	20 – 138	1.74	SQ3/8"	
AD150R64	100 ~ 650	10 – 75	1.89/1.90	SQ3/8" or SQ1/2"	
AD400R03	20 ~ 140	50 – 1650	2.75	SQ3/8"	
AD400R04	25 ~ 190	50 – 1200	2.75	SQ3/8"	
AD400R05	25 ~ 240	50 – 1000	2.75	SQ3/8"	
AD400R07	40 ~ 330	50 – 710	2.75	SQ3/8"	
AD400R10	50 ~ 480	50 – 500	2.80	SQ3/8"	
AD400R20	100 ~ 900	50 – 250	3.10	SQ3/8"	
AD1KR05	50 ~ 600	50 – 1000	7.45	SQ1/2"	ADC-2K
AD1KR10	200 ~ 1200	50 – 500	7.50	SQ1/2"	
AD1KR20	400 ~ 2400	50 – 250	8.40	SQ1/2"	
AD1KR25	800 ~ 3000	50 – 200	8.40	SQ1/2"	

OPTIONAL ACCESSORIES

TPM Torque Process Monitoring



310097 TPM Item Number 

Main features

- Parameter setting & monitoring same as ParaMon PC software
- Data auto saving in file system. One file a day / monthly folder, yearly folder
- Available for ADC controller
- 7" TFT LCD with touch screen
- Auto fastening data transfer by RS232
- Remote operation of the tool

Specification

- **Power supply** : AC100–240V~ 50/60Hz, 1.5A
- **Input power** : DC24V, 1A
- **Size** : 202(W) 154 (H) 40 (D)
- **Weight** : 0.59 kg
- **Display** : 7" TFT LCD with touch screen

VACUUM PICK-UP ASSY (VPA)



Vacuum Pick up Assy
Stroke 10mm



Vacuum Pick up Assy V2
Stroke 10mm



Item Code#	Specification	Available tools
310075	M20-Hex 1/4"	AD050R01-A, AD100R01-A, AD150R01-A
310076	M23-Hex 1/4"	AD150R03, AD150R04, AD150R11, AD150R16
310077	M20-Dia 4mm	AD050R01-E

BIT HOLDER ASSY



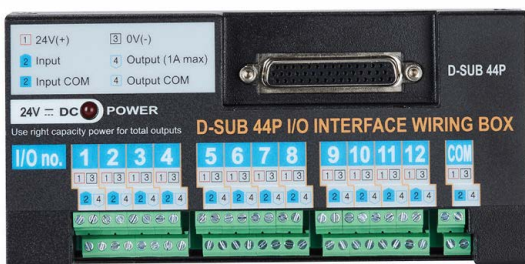
Item Code#	Specification	Available tools
** 310080	M20-Dia 4mm	AD050R01-E
** 310078	M20-Dia 7mm	AD050R01-A, AD100R01-A, AD150R01-A
** 310079	M23-Dia 7mm	AD150R03, AD150R04, AD150R11, AD150R16
** 310120	M20-Hex 1/4"	AD050R01-A, AD100R01-A, AD150R01-A
** 310121	M23-Hex 1/4"	AD150R03, AD150R04, AD150R11, AD150R16

** Specific driver bits are required. Please see drawings for driver bit

44P I/O WIRING BOX

It provides easy and convenient wiring for 12 inputs and outputs by sharing one single 24V power source.

Output port has the relay contact with a 1A max 1A capacity for each port. Be sure that the 24VDC power supply should have enough capacity for total output load.



310055 I/O wiring box D-Sub 44P



310087 I/O cable D-Sub 50P-44P (ADC controller)

SPINDLE CABLE SET (POWER & ENCODER)



Item Code#	Specification	Available tools
310081	CB-AD01-3M	Standard 3 m
310082	CB-AD01-5M	5 m long
310083	CB-AD01-7M	7 m long
310084	CB-AD01-10M	10 m long

I/O CABLE



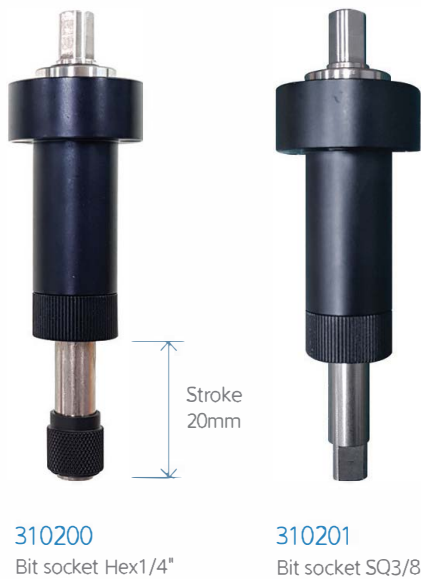
Item Code#	Specification	Available tools
310085	AD-50P-3M-OPEN	Standard, with numbering
310086	AD-50P-3M-DSUB25	Connect to I/O simulation box
310087	AD-50P-3M-DSUB44	Connect to 44P I/O wiring box

CABLE FIXING BLOCK



Cable fixing block prevent over stress of spindle cable sets on the connector. The cable should be firmly holded apart from the connector by using the fixing block.

TELESCOPIC BIT CUSHION (TBC)



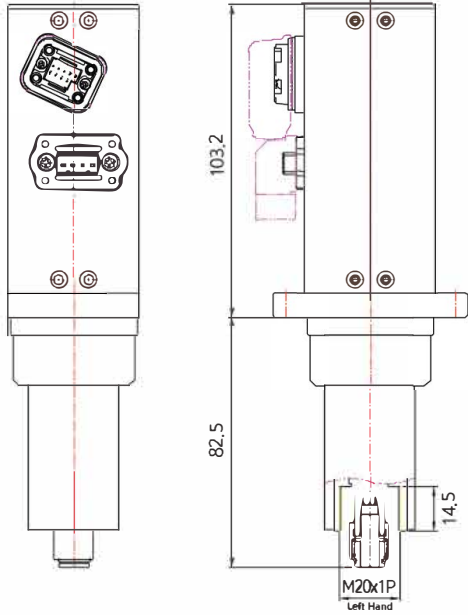
Detachable external 20mm stroke of bit cushion for MD and AD screwdriver.

Item Code#	Available tools
310200	Telescopic Bit Cushion for AD150R03, AD150R04, AD150R11, AD150R163 (1/4 F/Hex)
310201	Telescopic Bit Cushion for AD150R04, AD150R11, AD150R163 (3/8 Sq. Dr.)
310202	Telescopic Bit Cushion for AD150R36, AD150R64 (3/8 Sq. Dr.)

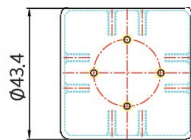
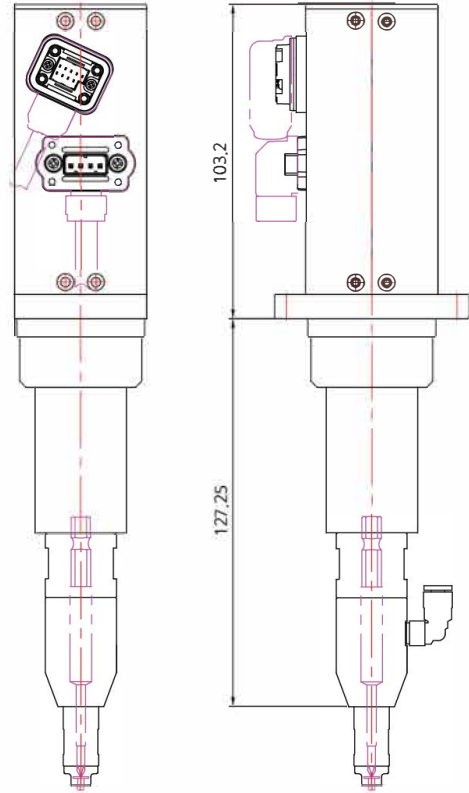
Item Code#	Specification	Torque(kgf.cm)	Speed(rpm)	Bit Socket
310195	AD150R04-A/TBC	5 ~ 50	1200	Hex 1/4"
310196	AD150R11-A/TBC	15 ~ 100	450	Hex 1/4"
310197	AD150R16-A/TBC	30 ~ 180	310	Hex 1/4"
310198	AD150R36-Q/TBC	50 ~ 300	140	SQ 3/8"
310199	AD150R64-Q/TBC	100 ~ 500	75	SQ 3/8"

LAYOUT DRAWINGS

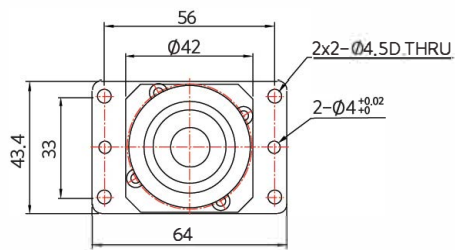
◦ AD050R01-A+C1



◦ AD050R01-A+VC1

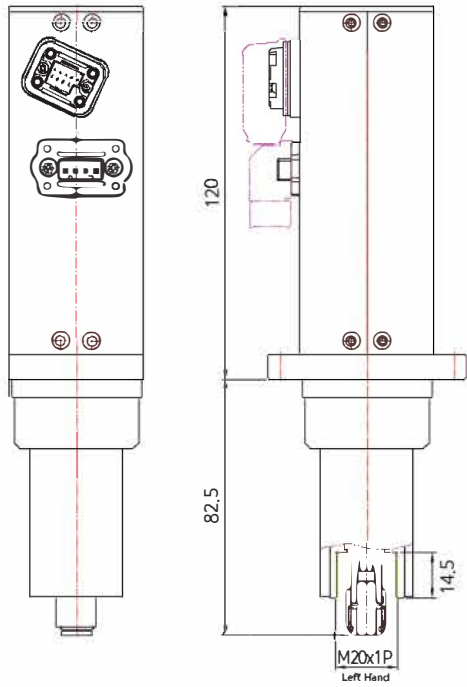


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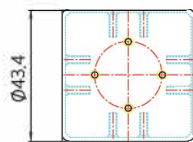
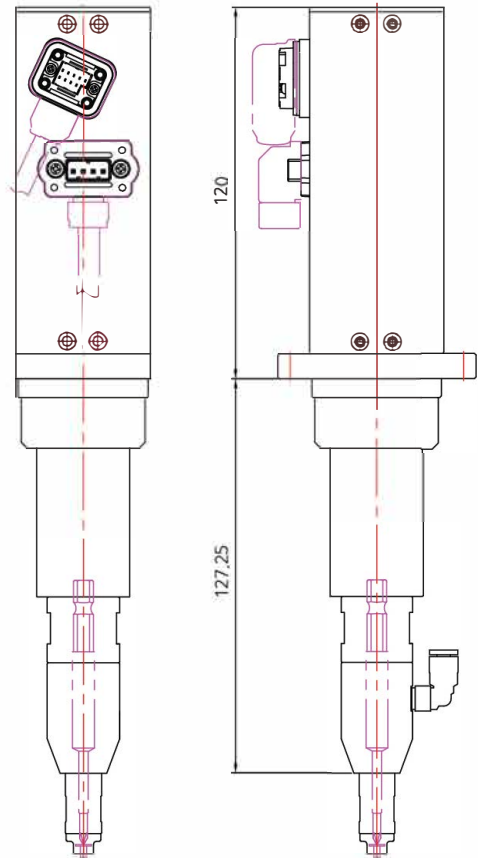


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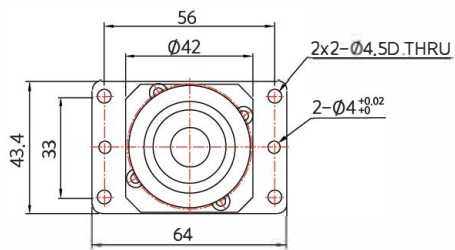
◦ AD100R01-A+C1



◦ AD100R01-A+VC1

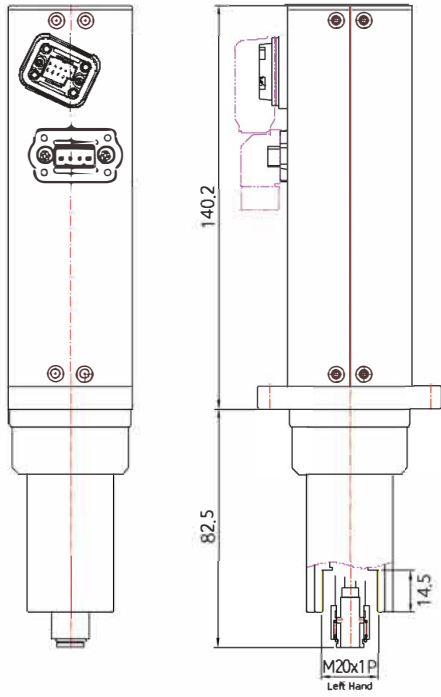


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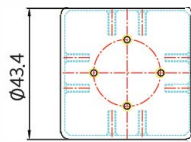
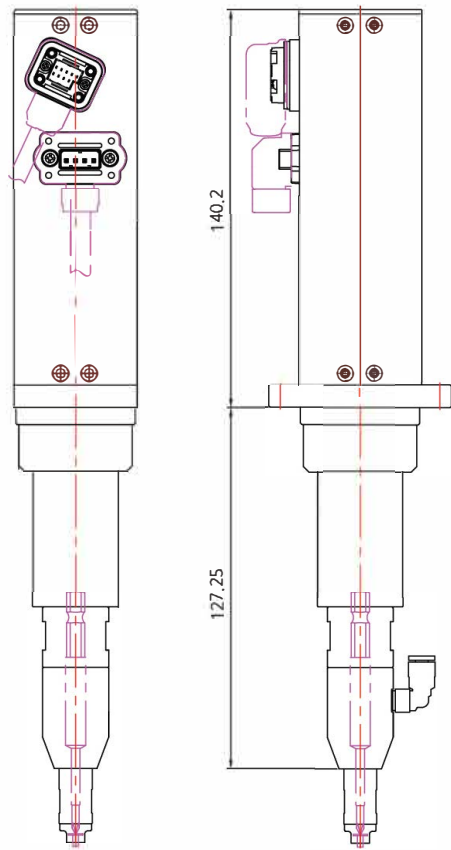


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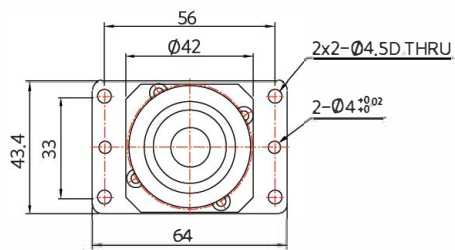
◦ AD150R01-A+C1



◦ AD150R01-A+VC1

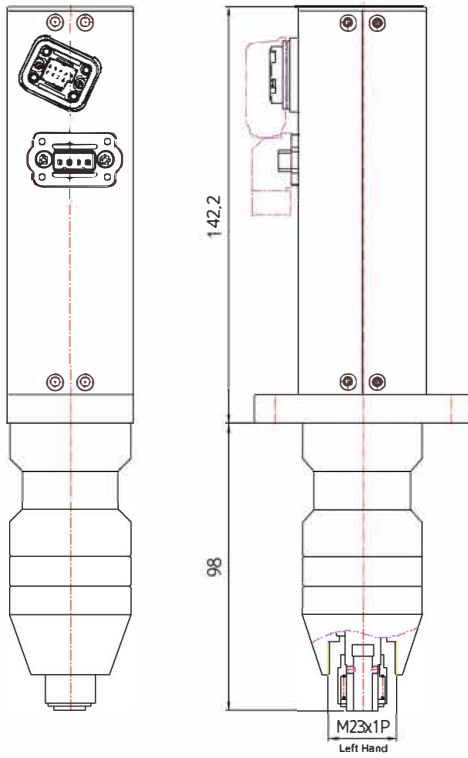


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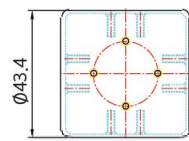
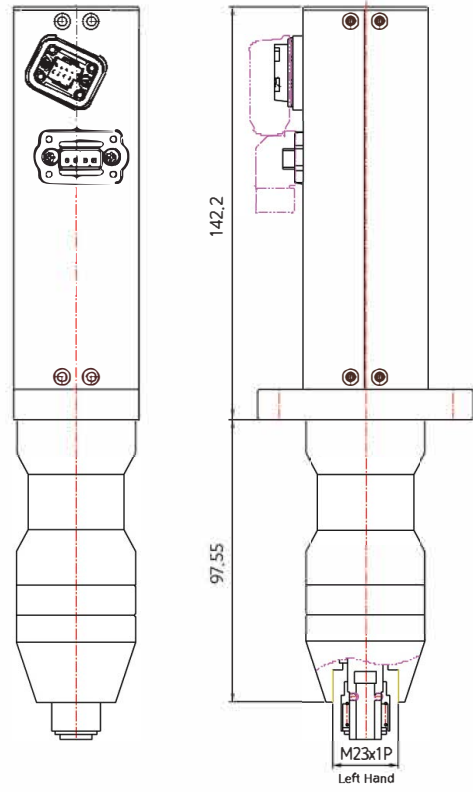


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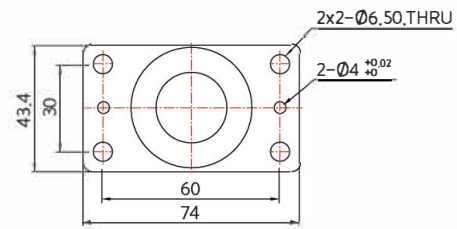
◦ AD150R04-A



◦ AD150R11-A

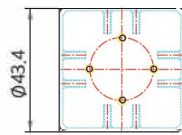
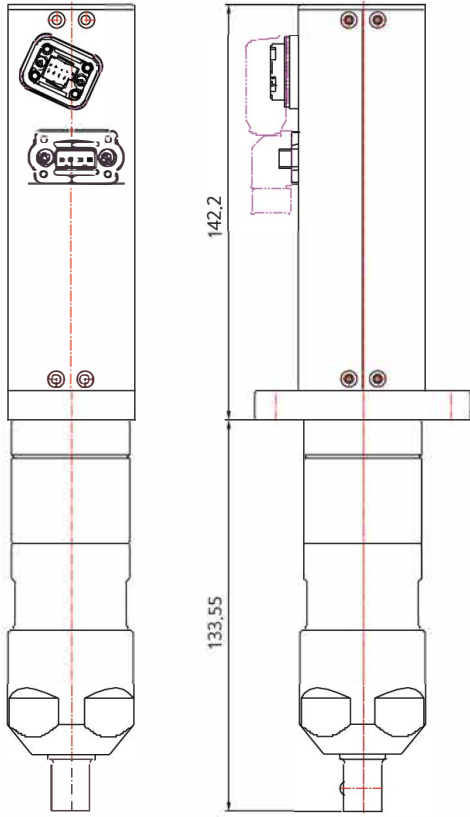


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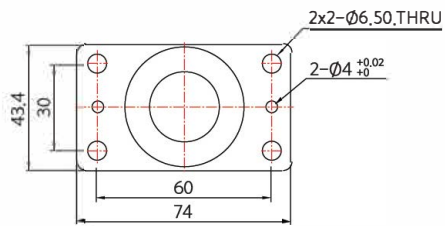


Bottom

• AD150R36-Q

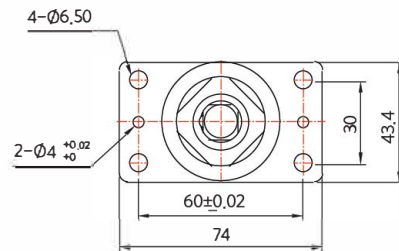
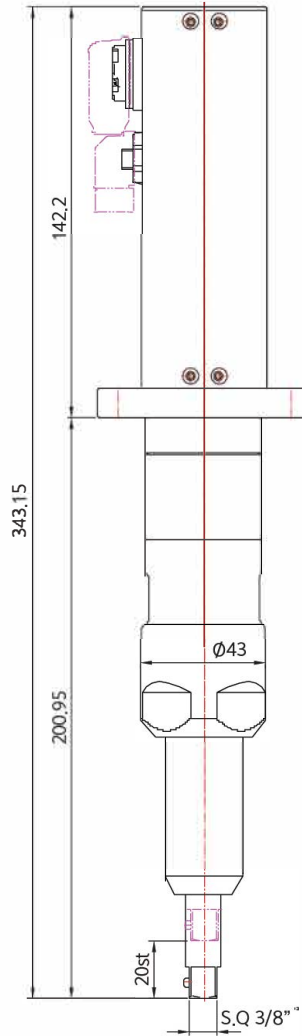


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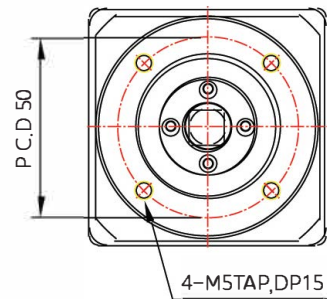
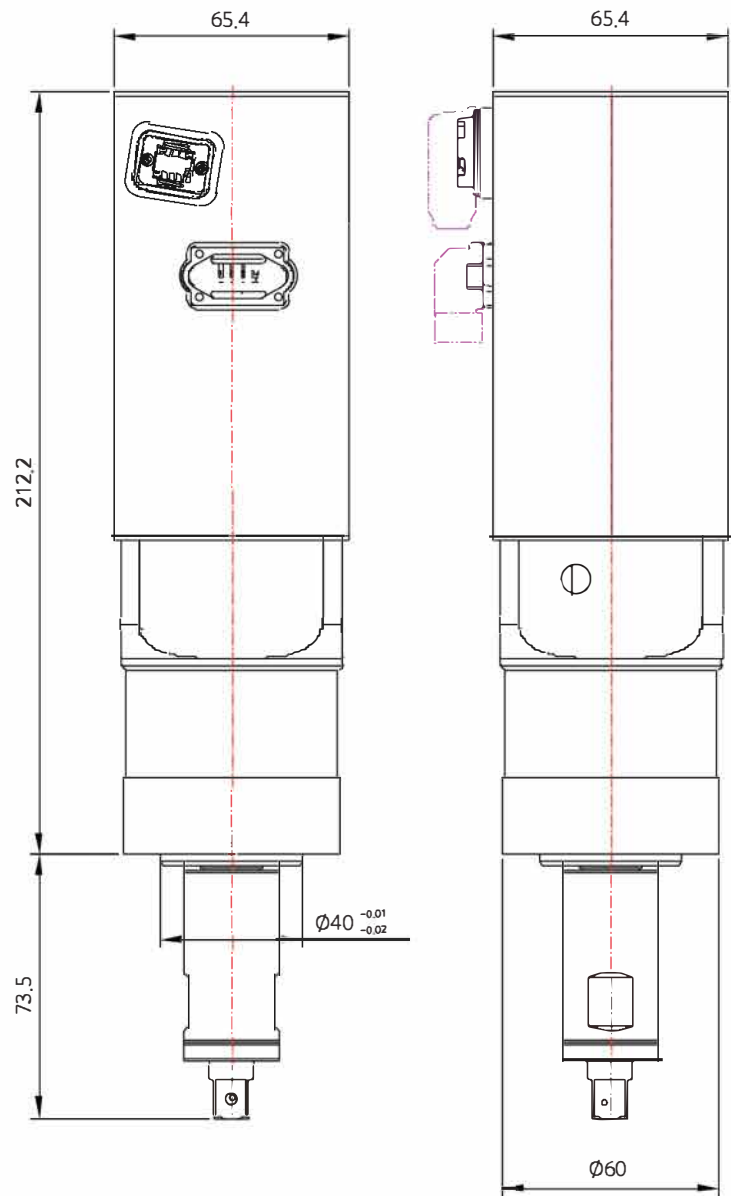
Bottom

• AD150R36-Q/TBC



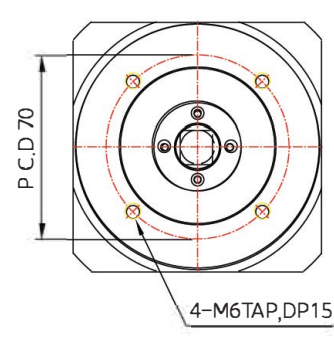
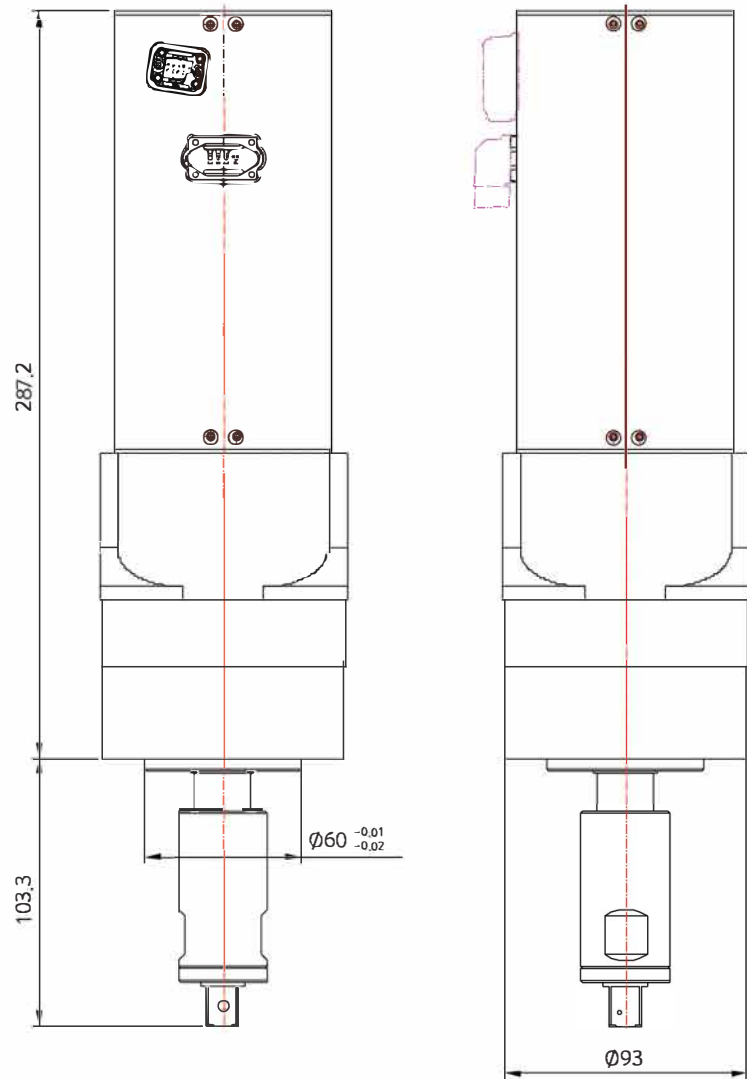
Bottom

• AD400R03-Q



Bottom

• AD1KR05-Q



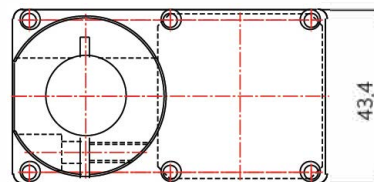
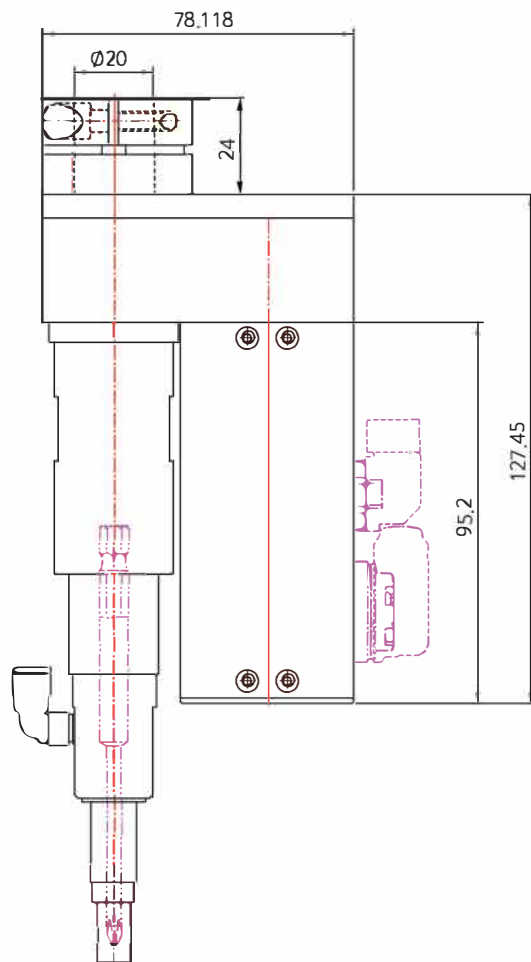
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AD MODEL M TYPE

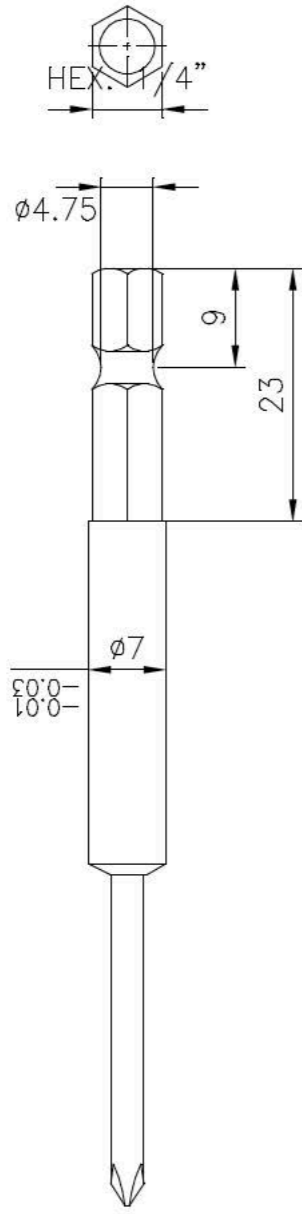
M Type models are a customized solution.

M Type models can be a solution when there is limited Z Axis working space

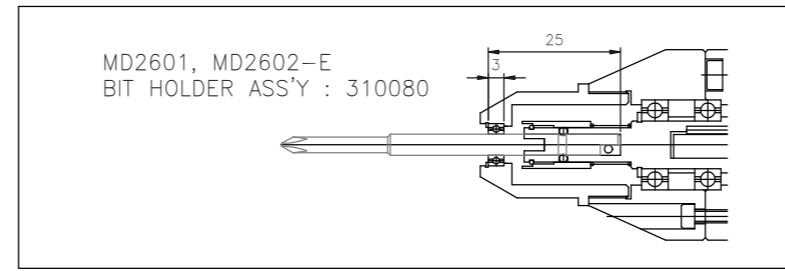
- AD050M01-A+VC1



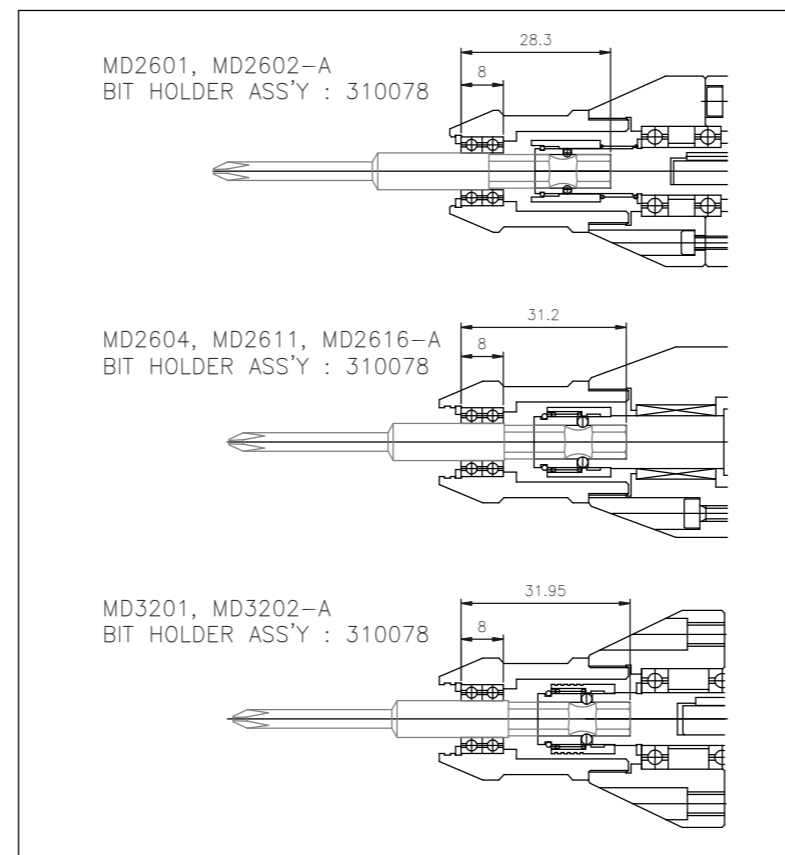
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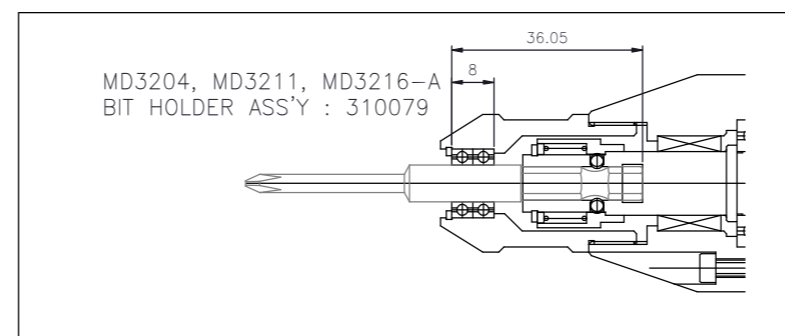
M20-Dia 4mm



M20-Dia 7mm

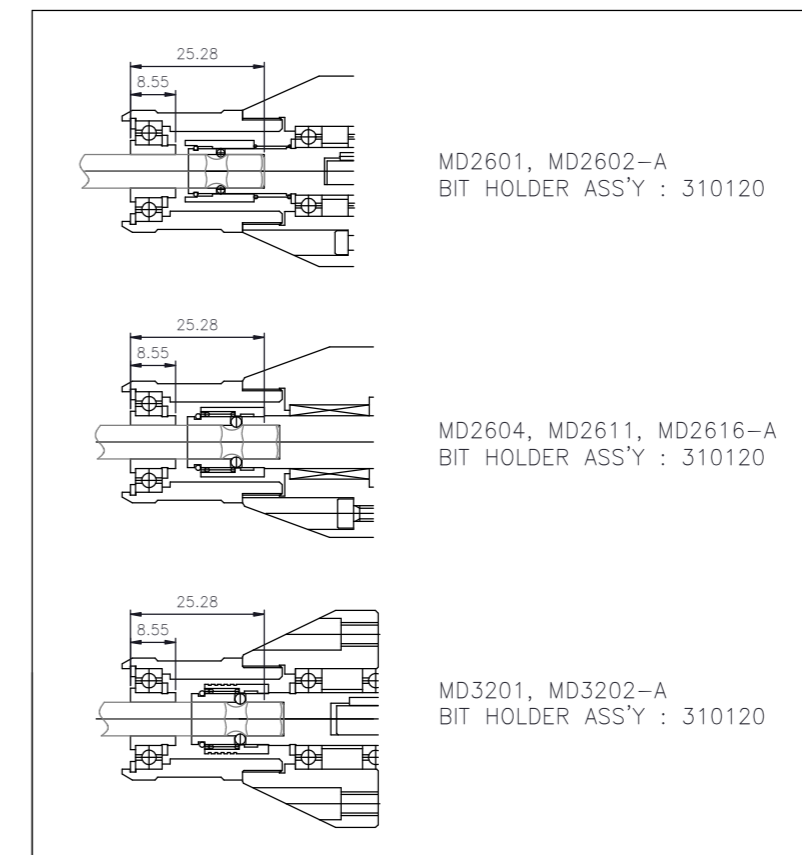


M23-Dia 7mm

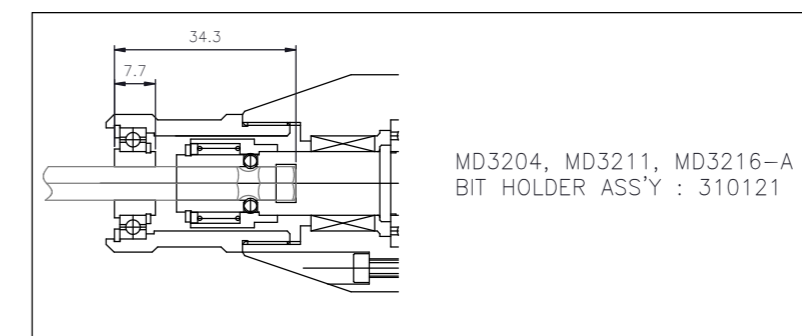


Layout Drawings for Torque Cover Bit Holders

M20-Hex 1/4"



M23-Hex 1/4"





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