

# REACTION ARMS / POSITIONING SYSTEMS



## Torque Reaction Arms | Up to 75 Nm

Support arms manoeuvre smoothly as they absorb the torque reactions from the screwdrivers providing ergonomic support for the operator. They reduce RMI (Repetitive Motion Injury) and CTS (Carpal Tunnel Syndrome) while boosting production.

### Folding and Linear Torque Reaction Arm Series

Torque folding arms have been designed to eliminate the reaction generated by screwdrivers when they stop at the pre-set torque. Options include table or wall mount.

Linear arms keep the tool perpendicular and prevent cross threading and side load. Each model extends in horizontal direction and arm length is adjustable. The fluid movement increases precision and production for a variety of torque applications.

### Telescopic Carbon Arm Series

CAR series torque reaction arms eliminate the reaction that screwdrivers generate when they stop at the pre-set torque (up to 50 Nm). Their carbon structure makes them extremely lightweight and incredibly resistant at the same time. This means that they resist degradation in high fatigue applications much better than conventional materials.

### Suspended Torque Arm Series

SAR Suspended Torque Arms are the ideal solution to increase productivity. They can be easily installed on most workplaces to help the operator handle the screwdriver in total safety and stability while keeping the workspace clear. With minimized reaction force you will also improve finished product quality because there is no movement of the tool and all torque is absorbed in the joint.

Three models available, depending on the motion of the axes. SAR arms are supplied without tool holder – to be purchased depending on the screwdriver used (see chart on the next page).

### Support arm models



PA2KOL Folding Arm



PS7KOL Folding Arm



LINAR and LINART Arms



CAR Telescopic Carbon Arm



SAR XYZ Suspended Arm



SAR XZ



SAR Z



## Folding and Linear Torque Reaction Arms

Code	Model	Arm Weight kg	Max Payload kg	Min Reach mm	Max Reach mm	Max Torque Nm
010600	PA2KOL	2.5	1.5	440	640	20
010602	PA7KOL	4.2	10*	500	950	75
010603	PS7KOL	5.3	10*	300	1000	75
010681	LINAR1	1.5	1.5	184	665	25
010682	LINAR2	1.5	1.5	184	665	50
010683	LINART	1.6	1.4	114	740	25

\* Required payload is to be specified with order

## Telescopic Torque Reaction Arms

Code	Model	Arm Weight kg	Max Payload kg	Min Reach mm	Max Reach mm	Max Torque Nm
010661	CAR101	0.20	2.7	549	906	10
010663	CAR281	0.60	2.7	490	950	25
010664	CAR282	0.75	2.7	730	1650	25
010665	CAR501	0.65	2.7	490	950	50
010666	CAR502	0.80	2.7	730	1650	50

## Suspended Torque Arms

Code	Model	Arm Weight kg	Max Payload kg	Vertical Z Stroke mm	Horizontal X Stroke mm	Lateral Y Stroke mm	Max Torque Nm
010690/Z/5	SAR15 Z	1.2	1.8	364	-	-	15
010690/XZ/85	SAR15 XZ 85	1.2	1.8	364	692	-	15
010690/XYZ/855	SAR15 XYZ 855	1.7	1.3	885	692	376	15

### Tool holders for SAR arms

010695	Tool holder for PLUTO and RAF series inline screwdrivers
010698	Tool holder for FAB, NATO & MITO series inline screwdrivers
010695/P	Tool holder for right angle PLUTO screwdrivers (up to 15 Nm)
010695/UNI	Universal Tool Holder for any screwdriver (max diameter 47 mm)

**IMPORTANT: A diameter reduction adapter (code 234545) is required when LINAR and CAR arms are used with PLUTO35 or PLUTO50 screwdrivers (Ø 57 mm).**



## Positioning Arms | Up to 50 Nm

TLS1 is an intelligent system that error-proofs your assembly ensuring that every screw is in the correct location at the right torque. Assembly sequences and X-Y coordinates are easily programmed with user interface screens through the keypad from the intuitive menu. Torque programs are automatically selected and enabled from the screwdriver controller based on the TLS1 Arm locations and current sequence step. No PC is required.

### Main features

- 8 available programs and up to 35 screws per program.
- Screw position (length/angle) with accuracy: length  $\pm 1$  mm; angle  $\pm 1^\circ$ .
- Programmable tolerance and manual reset.
- Password protected.
- External keyboard and serial port for easy programming and statistics.

### TLS1 with CAR Arm

The TLS1/CAR Arm consists of a torque reaction arm with an encoder mounted at the pivot point and with a linear metering resistor. The encoder records the angle and the linear resistor records the distance. X-Y accuracy can be set by the operator according to each application.

### TLS1 with Linear Arm

TLS1/LINAR1 and TLS1/LINAR2 positioning arms work just like LINAR1 and LINAR2 with the addition of positioning sensors for a real time feedback on the position of the arm. Max torque and reach are the same as LINAR1 and LINAR2 respectively (see page 41). Adapter code 234545 is required for screwdriver model PLUTO35 and PLUTO50.

### TLS1 with Folding Arm

TLS1/LINART features a folding arm for extreme flexibility and accuracy. Thanks to the positioning sensors you can have a real time feedback on the position of the arm, which is very useful for default calibrations. Max torque and reach are the same as LINART (see page 41).

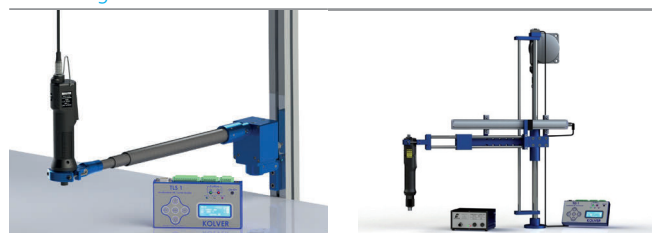
### TLS1 with Suspended Arm

A SAR XYZ/TLS1 is ideal for assembly stations where space is limited. It can be easily installed on most workplaces to help the operator handle the screwdriver in total safety and stability.

The TLS1 System makes each operation truly error-proof: it tracks the X-Y-Z coordinates to make sure that each screw is tightened only when the screwdriver is in correct position.

Max torque and reach are the same as SAR XYZ (see page 41).

### Positioning arm models



TLS1/CAR Positioning Carbon Arm

TLS1/LINAR1 and TLS1/LINAR2



TLS1/LINART Positioning Folding Arm

TLS1/SAR XYZ Suspended Arm



## Folding and Linear Positioning Arms

Code	Model	Max Torque Nm	Min Reach mm	Max Reach mm	Min distance between screws at max extension
010681/TLS1	LINAR1/TLS1	25	184	665	6 mm
010682/TLS1	LINAR2/TLS1	50	184	665	6 mm
010683/TLS1	LINART/TLS1	25	114	740	7 mm

Either of the following cables must be specified at time of purchase

260003/1	Cable to connect TLS system to EDU1FR/SG controller
260004/1	Cable to connect TLS system to EDU1BL/SG, EDU2AE, EDU2AE/HPro, EDU2AE/TOP or EDU2AE/TOP/TA controller
260004/KDU	Cable to connect TLS system to KDU controller

## Telescopic Positioning Arms

Code	Model	Max Torque Nm	Min Reach mm	Max Reach mm	Min distance between screws at max extension
010663/TLS1	CAR281/TLS1	25	490	950	9 mm
010664/TLS1	CAR282/TLS1	25	730	1650	15 mm
010665/TLS1	CAR501/TLS1	50	490	950	9 mm
010666/TLS1	CAR502/TLS1	50	730	1650	15 mm

Either of the following cables must be specified at time of purchase

260003/1	Cable to connect TLS system to EDU1FR/SG controller
260004/1	Cable to connect TLS system to EDU1BL/SG, EDU2AE, EDU2AE/HPro, EDU2AE/TOP or EDU2AE/TOP/TA controller
260004/KDU	Cable to connect TLS system to KDU controller

## Suspended Positioning Arms

Code	Model	Max Torque Nm	Arm Weight kg	Vertical Stroke Z mm	Vertical Stroke X mm	Vertical Stroke Y mm
010690/XYZ/TLS1	SAR15 XYZ/TLS1	15	8	885	692	376

Tool holders for SAR arm

010695	Tool holder for PLUTO and RAF series inline screwdrivers
010698	Tool holder for FAB, NATO & MITO series inline screwdrivers
010695/P	Tool holder for right angle PLUTO screwdrivers (up to 15 Nm)
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**IMPORTANT: A diameter reduction adapter (code 234545) is required when LINAR and CAR arms are used with PLUTO35 or PLUTO50 screwdrivers (Ø 57 mm).**