



Torque Reaction Arms | Up to 664 in-lb

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

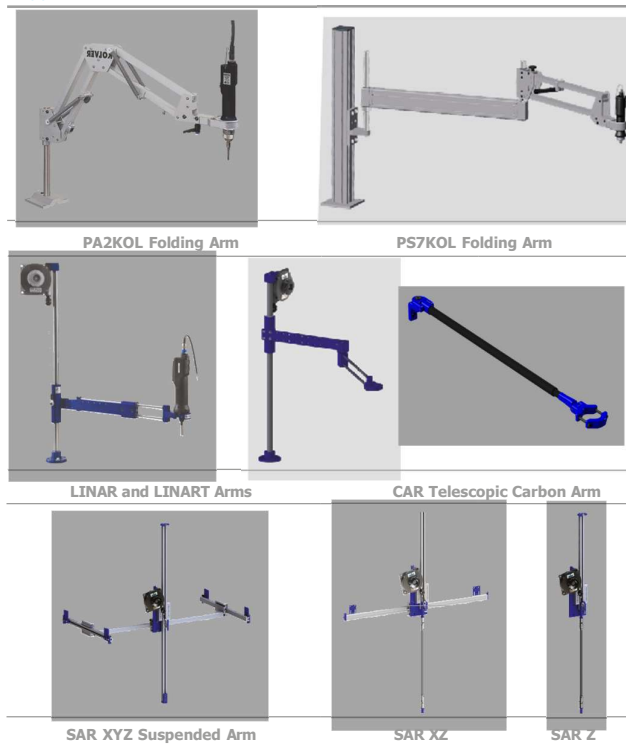
CAR series torque reaction arms eliminate the reaction that screwdrivers generate when they stop at the pre-set torque (up to 442 in-lb). Their carbon structure makes them extremely lightweight and incredibly resistant at the same time. This means that they resist degradation in high fatigue applications 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



Folding and Linear Torque Reaction Arms

Code	Model	Arm Weight lb	Max Payload lb	Min Reach in	Max Reach in	Max Torque in-lb
010600	PA2KOL	5.5	3.3	17.3	25.2	177
010602	PA7KOL	9.3	22*	19.6	37.4	664
010603	PS7KOL	11.7	22*	11.8	39.4	664
010681	LINAR1	3.3	3.3	7.2	26.2	221
010682	LINAR2	3.3	3.3	7.2	26.2	442
010683	LINART	3.5	3.1	4.5	29.1	221

* Required payload is to be specified with order

Folding and Linear Torque Reaction Arms with Autoadvance Kit

Code	Model	Arm Weight lb	Piston Stroke in	Min Reach in	Max Reach in	Max Torque in-lb
010682/A	LINAR2/A	13.4	0 - 2	7.2	26.2	442
Autoadvance kit						
020099	The Autoadvance kit can be supplied separately – to be installed on LINAR2 and LINART to convert them into /A models.					

Telescopic Torque Reaction Arms

Code	Model	Arm Weight lb	Max Payload lb	Min Reach in	Max Reach in	Max Torque in-lb
010661	CAR101	0.4	5.9	21.6	35.7	89
010663	CAR281	1.3	5.9	19.3	37.4	221
010664	CAR282	1.5	5.9	28.7	65	221
010665	CAR501	1.4	5.9	19.3	37.4	442
010666	CAR502	1.8	5.9	28.7	65	442

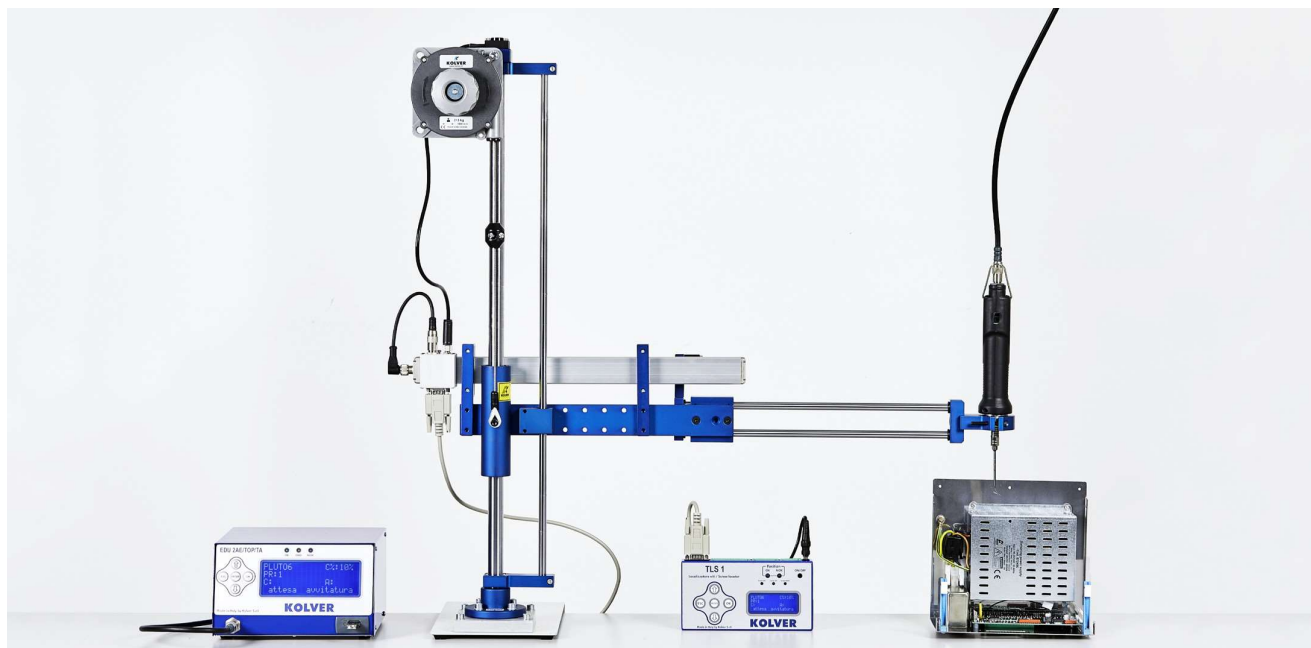
Suspended Torque Arms

Code	Model	Arm weight lb	Max Payload lb	Vertical Z Stroke mm	Horizontal X Stroke mm	Lateral Y Stroke mm	Max Torque in-lb
010690/Z/5	SAR15 Z	2.6	3.4	14.3	-	-	133
010690/XZ/85	SAR15 XZ 85	2.6	3.4	14.3	27.2	-	133
010690/XYZ/855	SAR15 XYZ 855	3.7	2.9	34.8	27.2	14.8	133

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 133 in-lb)
010695/UNI	Universal Tool Holder for any screwdriver (max diameter 1.9 in)

IMPORTANT: A diameter reduction adapter (code 234545) is required when LINAR and CAR arms are used with PLUTO35 or PLUTO50 screwdrivers (Ø 2.24 in).



Positioning Arms | Up to 442 in-lb

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 ± 0.04 in; 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).

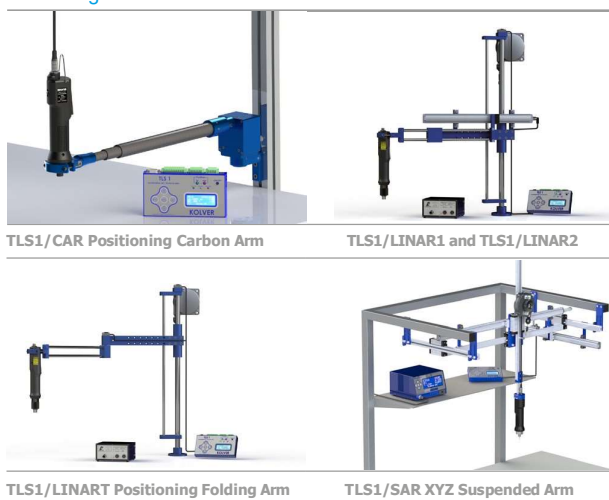
TLS1 with Suspended Arm

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 in-lb	Min Reach in	Max Reach in	Min distance between screws at max extension
010681/TLS1	LINAR1/TLS1	221	7.2	26.2	0.24 in
010682/TLS1	LINAR2/TLS1	442	7.2	26.2	0.24 in
010683/TLS1	LINART/TLS1	221	4.5	29.1	0.28 in

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

Folding and Linear Positioning Arms with Autoadvance Kit

Code	Model	Arm Weight lb	Piston Stroke in	Min Reach in	Max Reach in	Min distance between screws (max extension)
010682/TLS1/A	LINAR2/TLS1/A	13.4	0 - 2	7.2	26.2	0.24 in

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

Autoadvance kit

020099	The Autoadvance kit can be supplied separately – to be installed on LINAR2/TLS1 and LINART/TLS1 to convert them into /A models.
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Telescopic Positioning Arms

Code	Model	Max Torque in-lb	Min Reach in	Max Reach in	Min distance between screws at max extension
010663/TLS1	CAR281/TLS1	221	19.3	37.4	0.35 in
010664/TLS1	CAR282/TLS1	221	28.7	65	0.59 in
010665/TLS1	CAR501/TLS1	442	19.3	37.4	0.35 in
010666/TLS1	CAR502/TLS1	442	28.7	65	0.59 in

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 in-lb	Arm Weight lb	Vertical Stroke Z in	Vertical Stroke X in	Vertical Stroke Y in
010690/XYZ/TLS1	SAR15 XYZ/TLS1	133	17.6	34.8	27.2	14.8

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
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