



*Leading Smart Bolting*



BOLTING  
**TOOLS**  
& AUXILIARY  
EQUIPMENT

## Technology & Innovation

### Industry 4.0

- + Software Development
- + Smart tools
- + IoT
- + Data Analytics
- + Autonomous Control

### Virtual & Augmented Reality

- + Training
- + Support
- + Product Testing
- + Product Development
- + Demonstrations
- + Procedure Validation
- + Assembly Manuals
- + Repair Guides



## The Academy

- + Taylor Made Courses
- + Flexible Plans
- + On-line and Presential
- + Practical Training Modules
- + Different levels

## CERTIFIED BOLTING QUALIFICATION

25 years offering training courses

+ INFO





# FLANGE PILOT SYSTEM


COMPLETE PROCESS CONTROL  
Leak Free Plants

What, Who, When, Where, How

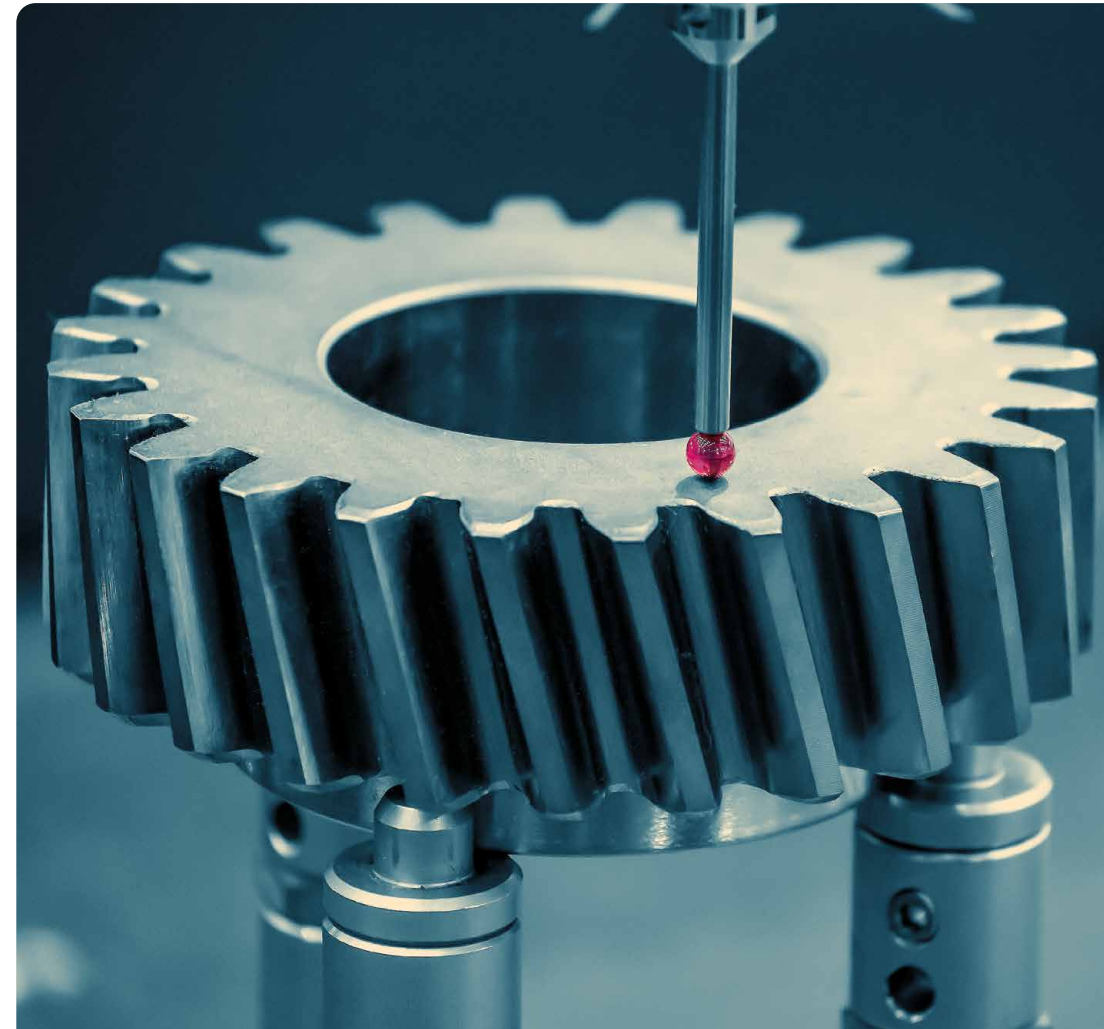
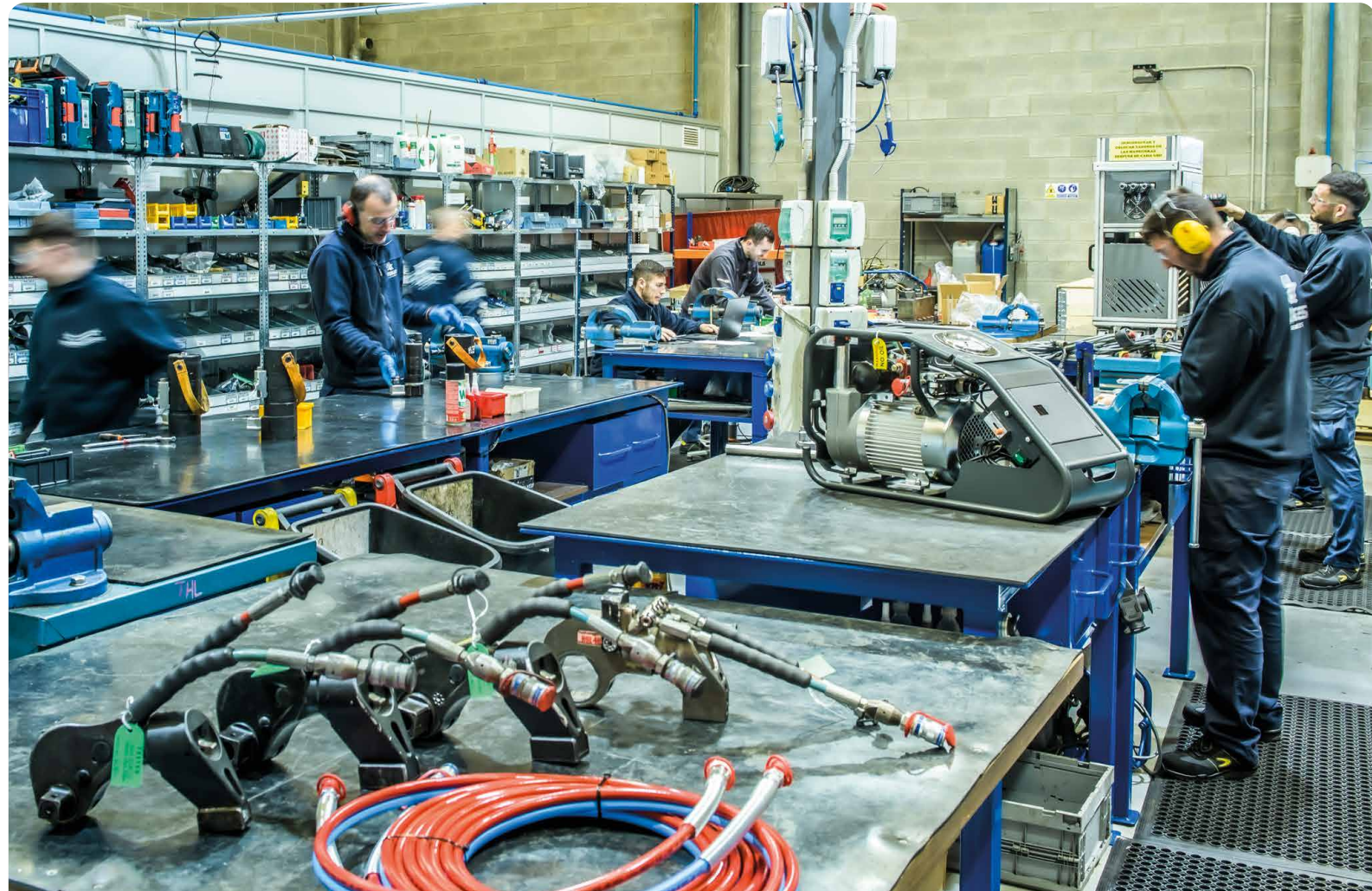
-  Traceability
-  Digitalization
-  Procedures
-  Guided processes
-  Reports
-  Safety & Control
-  Reliability
-  Insurance Saving
-  Real-Time Help



Scan the QR Code for more INFO



**Record All Bolt Tightening Processes**



### ASME PCC-1

The ASME PCC-1 standard not only indicates how the correct tightening of a flanged joint should be, but also indicates the training of the operators in charge of carrying out these activities.

Texas Controls has been the second company worldwide to obtain this recognition, and once again, our internal processes have been verified by SGS, which guarantees that we comply and align ourselves with the principles established in the PCC-1 Guidelines for Pressure Boundary Bolted Flange Joint Assembly' (BFJA) of The American Society of Mechanical Engineers (ASME).

### Tool Design & Manufacturing in our factory in Bergondo

Our facilities are strategically located to provide excellent service to our customers by sea, air and land freight in the national and international markets

- + More than 3000 m<sup>2</sup> production facilities
- + Modern manufacturing techniques
- + Highly skilled workforce

+ INFO



### HIGH QUALITY CONTROL SYSTEM

- Control of the processes
- Highly qualified technicians
- The highest quality raw materials and components
- Quality inspection at production

**Best-in-Class Quality Assurance System**

### International Standards

- + CE European Certificates
- + UKCA certificate
- + RoHS certificate
- + ISO 9001
- + ISO 14001
- + ISO 45001
- + Testing & Evaluation

### Best Available Techniques

- + CAD, CAM and CAE (Computer-aided design and manufacturing)
- + 3D printing
- + CNC Machining
- + Laser cutting for precise and efficient cutting of tool materials
- + Surface and Heat Treatments
- + Quality Control Systems
- + Automated Processes



### Manufacturing machinery

- + 5-axis Milling Machines
- + CNC Lathes
- + 3D Printers
- + Test & Calibration Benches
- + Laser Engraving Machine
- + Auxiliary Machines



Our manufacturing plant specializes in advanced techniques for producing high-quality tools. Equipped with CAD/CAM software, 3D printing, laser technologies and machining, we create precise tools using composites, ceramics, and special alloys. Our tools are the best on the market, being strong, lightweight, and durable, giving you the performance and reliability you need to succeed.



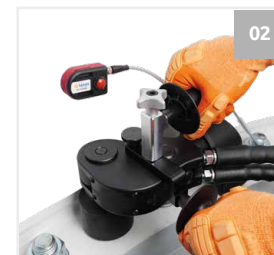
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- ✓ GR Turbine Tensioner Kits
- ✓ Hydraulic Nuts



02

### Torque Tightening Equipment

- ✓ Hydraulic Torque Wrenches
- ✓ MultiTorque® System
- ✓ Pneumatic & Battery RAD torque Systems
- ✓ Torque Wrenches: Manual Series



03

### Hydraulic Pumps

- ✓ Compact Pumps (Tensioning)
- ✓ Compact Pumps (Torque)
- ✓ Compact Pumps (Torque & Tensioning)
- ✓ Hydraulic Cylinders & Pumps



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### Auxiliary Products

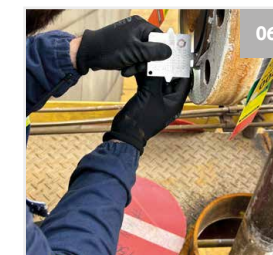
- ✓ Nut Splitters
- ✓ Flange Aligners & Spreaders
- ✓ MG 100 Flange Facer
- ✓ Impact Sockets
- ✓ TC Slogging Spanners
- ✓ Back-up Rings & Hardened Washers



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### Measurement, Calibration & Verification

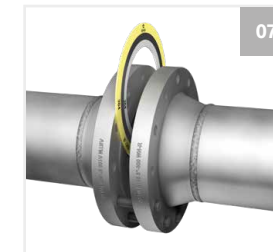
- ✓ Ultrasonic: BoltPilot Monitor®
- ✓ BoltPilot® Load Calibrator
- ✓ Test & Calibration Systems
- ✓ Smart Sockets



06

### Inspection Kits

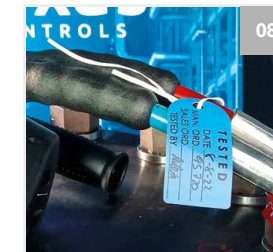
- ✓ Test Systems
- ✓ Roughness tester
- ✓ Flange Gap Gauge
- ✓ RTJ Gauges
- ✓ Flange ID Labels



07

### Gaskets

- ✓ Non-Metallic
- ✓ Semi-Metallic
- ✓ Metallic
- ✓ Special Gaskets



08

### Services

- ✓ Rental
- ✓ Repair and afters sales
- ✓ Analysis, diagnose and solutions
- ✓ Measurements - Prototyping
- ✓ Ultrasonic monitoring
- ✓ Fleet management
- ✓ Supervision
- ✓ Training - The Academy®





**texas**  
CONTROLS

**OKUMA**

**texas**  
CONTROLS

# Tensioning Equipment

- 01. THL TENSIONERS
- 02. GR TURBINE TENSIONER KITS
- 03. HYDRAULIC NUTS

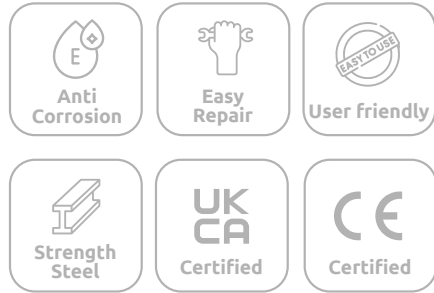
TOOLS

# THL Tensioners

VERSATILE HYDRAULIC TOOL

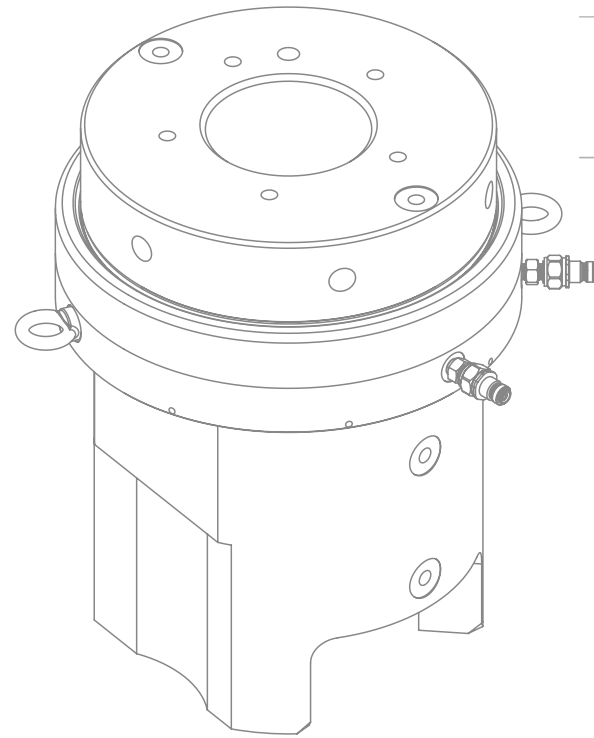
THL series cover a wide range of diameters of bolts, up to 6"

/01



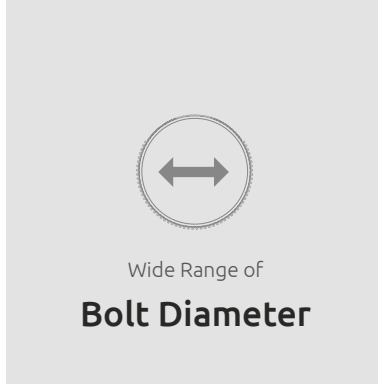
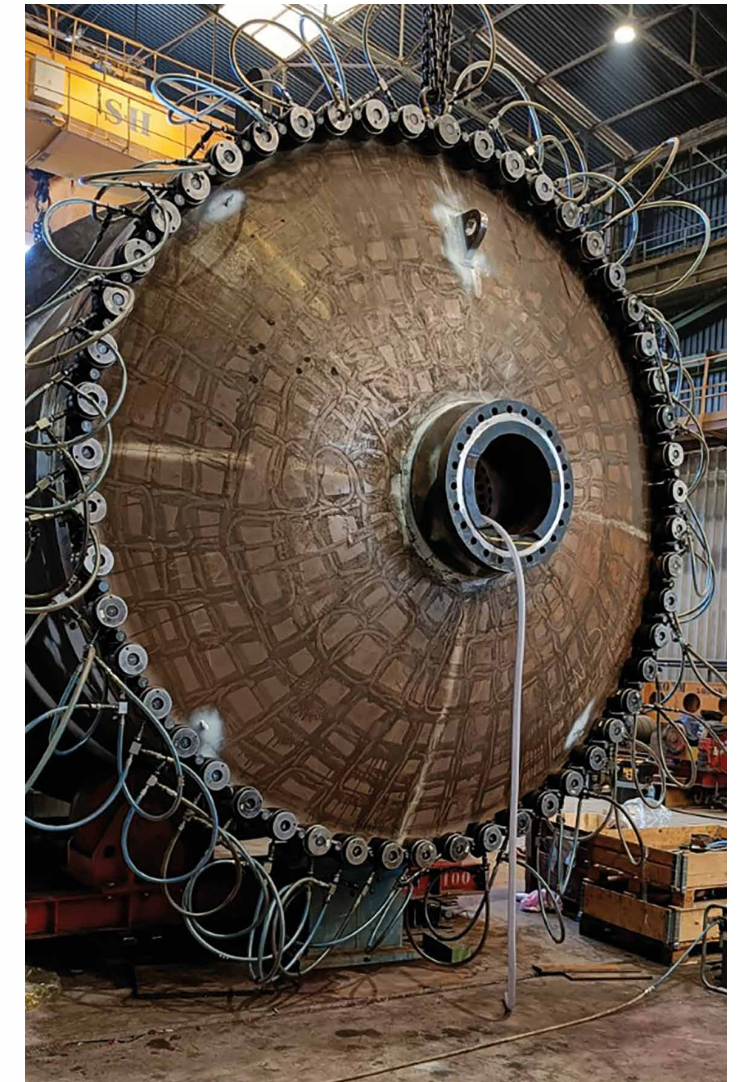
### Main features

- + Max. working pressure 1.500 bar.
- + Max. stroke 15 mm.
- + Adaptor sets for different bolt sizes.
- + High-pressure quick connect couplings, with no-rings needed, ensure better performance.
- + Metric & special threads are available under request.
- + Proven safety design: Pressure is released to the inside of the tool in case of exceeding the max. stroke.
- + Designed for ASME B16.5, ASME B16.47 Serie A (MSS SP44) y ASME B16.47 Serie B (API 605) flanges and heavy hexagonal nuts according to ANSI B18.2.2.



*From Design*

*To the Market*



## Flange Management Software

Can build a complete database of all bolted flange joint assemblies and all joint data



>> More info



Flange Pilot®



Plan, Control & Record critical work on flanges in real time



Improve efficiency & Safe Costs

THL TENSIONERS

Models	Stud Size		Total Load Capacity	Hydraulic Pressure Area	Effective O.D. (A)	Min CLD (B)	Complete Tool Weight
	Imperial	Metric					
THLT02	3/4	M18	203,6	1.357	73,5	48	2,1
	7/8	M22	203,6	1.357	73,5	53	2,3
THLT01	1	M24	341,7	2.278	86	58	2,8
	1 1/8	M27x3	341,7	2.278	86	63	2,9
THL1.5	1 1/4	M33x3.5	441,5	2.944	102,6	72	4,9
	1 3/8	M36x4	441,5	2.944	102,6	79	4,9
THL1	1 1/8	M27x3	522,8	3.485	106,5	68	5,0
		M30x3.5	522,8	3.485	106,5	69	5,1
	1 1/4	M33x3.5	522,8	3.485	106,5	70	5,1
	1 3/8	M36x4	522,8	3.485	106,5	74	5,2
	1 1/2	M39x4	522,8	3.485	106,5	85	5,4
THL2	1 1/4	M33x3.5	641,0	4.276	115	74	5,7
		M30x3.5	641,0	4.276	115	74	5,9
	1 3/8	M36x4	641,0	4.276	115	79	6,0
	1 1/2	M39x4	641,0	4.276	115	81	6,1
	1 5/8	M42x4.5	641,0	4.276	115	89	6,7
THL3	1 1/2	M39x4	886,5	5.910	135	87	8,9
	1 5/8	M42x4.5	886,5	5.910	135	89	9,1
	1 3/4	M45x4.5	886,5	5.910	135	93	9,2
	1 7/8	M48x5	886,5	5.910	135	100	10
	2	M52x5	886,5	5.910	135	106	11
THL4	1 5/8	M42x4.5	1.182,2	7.881	150	96	12
	1 3/4	M45x4.5	1.182,2	7.881	150	98	12
	1 7/8	M48x5	1.182,2	7.881	150	101	12
	2	M52x5	1.182,2	7.881	150	106	12
	2 1/4	M56x5.5	1.182,2	7.881	150	118	13
THL5	1 7/8	M48x5	1.484,1	9.894	169	109	16,2
	2	M52x5	1.484,1	9.894	169	110	16,5
	2 1/4	M56x5.5	1.484,1	9.894	169	118	17,1
THL6	2 1/4	M56x5.5	1.911,5	12.743	190,5	124	21,8
	2 1/2	M64x6	1.911,5	12.743	190,5	129	22,5
	2 3/4	M72x6	1.911,5	12.743	190,5	146	22,9
THL6.5	2 1/4	M56x5.5	1.800,0	12.000	193	126	23
	2 1/2	M64x6	1.800,0	12.000	193	130	23,6
	2 3/4	M72x6	1.800,0	12.000	193	142	24,3
	3	M76x6	1.800,0	12.000	193	152	23,8
		M80x6	1.800,0	12.000	193	153	25,6
THL6.2	2 1/4	M56x5.5	1.500,0	10.000	183	121	19,5
	2 1/2	M64x6	1.500,0	10.000	183	131	20,7
	2 3/4	M72x6	1.500,0	10.000	183	143	21,4
	3	M76x6	1.500,0	10.000	183	155	21,0
		M80x6	1.500,0	10.000	183	155	21,5
THL7	2 1/2	M64x6	2.391,6	15.944	209	135	28,5
	2 3/4	M72x6	2.391,6	15.944	209	145	28,9
THL8	2 3/4	M72x6	2.748,3	18.322	222,5	147	33,4
	3	M76x6	2.748,3	18.322	222,5	156	34,8
THL9	3	M76x6	3.266,7	21.778	248	165	45,1
	3 1/4	M85x6	3.266,7	21.778	248	173	44,3
	3 1/2	M90x6	3.266,7	21.778	248	183	46,5
THL10	3 1/4	M85x6	3.922,1	26.147	276	180	59,0
	3 1/2	M90x6	3.922,1	26.147	276	183	64,0
	3 3/4	M95x6	3.922,1	26.147	276	192	68,0
	4	M100x6	3.922,1	26.147	276	205	71,0
	4 1/4		3.922,1	26.147	276	220	58,0
THL11	ESP 4 2/5		3.922,1	26.147	276	208	55,1
	ESP 4 1/4		4.350,0	29.000	302	194	59,7
	ESP 4 1/2		4.350,0	29.000	302	216	72,7
	ESP 4 3/4		4.350,0	29.000	302	235	73,1
	ESP 5		4.350,0	29.000	302	219	70,8
THL12	ESP 5 1/2		5.625,0	37.500	332	244	105,1
THL13	ESP 5 3/4		7.050,0	47.000	378	238	136,2
	ESP 6		7.050,0	47.000	378	250	148,4

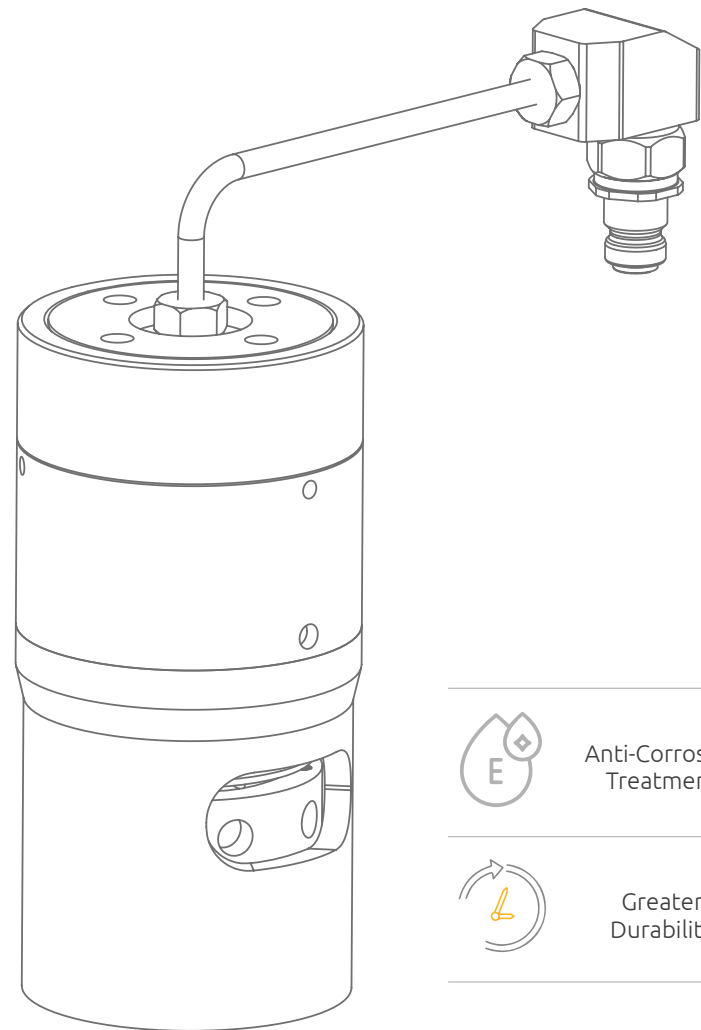





/02

## GR Turbine Tensioner Kits

Tensioners used in gas or steam turbines to generate electricity



 Anti-Corrosion Treatment

 Greater Durability

/03

## Hydraulic Nuts

CUSTOM DESIGNS

Ideal for heavy-duty applications



>> More info

- + Hydraulic nuts enable quicker intervention times for bolted joints that need tightening and loosening on a regular basis.
- + Available as bottom collar, top collar and shim type.
- + Supplied up to M250 in size (to date) (larger sizes under request).
- + Substitutes original nut, like combining a tensioner and permanent nut.
- + Low loss of applied load.
- + Special designs available.
- + High temperature solutions available.
- + Ideal for Tight Spaces.
- + Special threads and sizes available on request.



### PRECISION TIGHTENING

High Load Capacity  
Uniform clamping force  
Corrosion Resistance  
Easy installation

**Reducing installation time and effort**



## Torque Tightening Equipment

- 01. Hydraulic Torque Wrenches
- 02. Multi Torque System
- 03. RAD Torque  
(Pneumatic & Battery)
- 04. Manual torque Wrenches

# Hydraulic Torque Wrenches

SL SERIES · RSL HEX SERIES

/01



### SL SERIES

Simple design  
Ultra resistant and durable  
Reduce tightening times

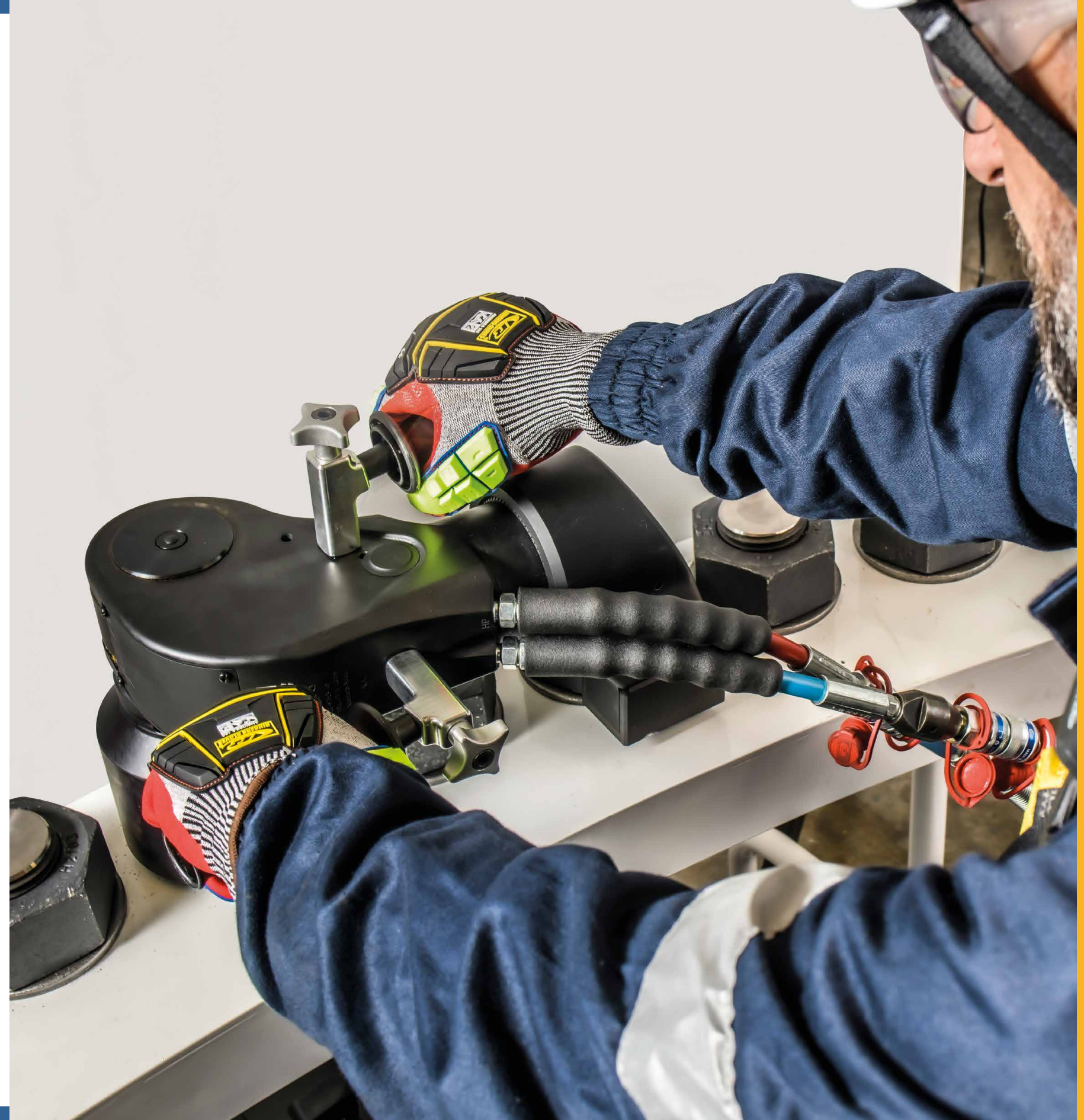
**Max Pressure 800 bar**

### RSL HEX SERIES

Transport Kit

Best torque dimensions/weight ratio  
Heavy duty  
Extremely versatile

**Max Pressure 690 bar**





INTEGRATED SAFETY HANDLE CONNECTION

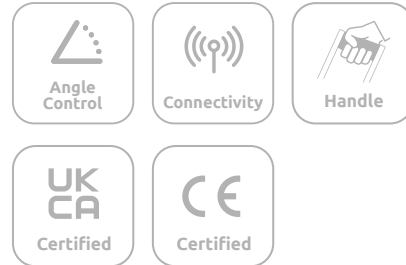


OPTIONAL: SWIVEL CONNECTION

Model	Max Torque Nm	Min Torque Nm	SQ Drive in	Weight Kg
SL1	2185	266	3/4"	3,5
SL3	4203	507	1"	6,05
SL5	5835	709	1 1/2"	7,95
SL7	8094	914	1 1/2"	9,75
SL9	12216	1551	1 1/2"	12,5
SL13	14898	1879	1 1/2"	18
SL21	26638	3405	2 1/2"	29
SL31	44935	6179	2 1/2"	41

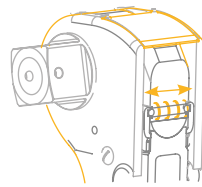
## SL SERIES

Square Drive Units

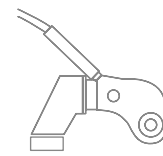


## Patented Retraction System

The most robust and reliable wrench in the market



**TR**S  
Patented **Anti-break**  
Retract System  
TEXAS Retract System™



Fast speed  
& Optimized Design



Flange Pilot®



>> Download here the Data Sheet



TEXAS Retract System™

Piston return System that prevents breakage or damage to components, specially in the instantaneous release of energy from the loosening process.



# SL SERIES **SWIVEL OPTIONAL**

Optionally, it can include double rotating elbows that allow a combined rotation of the hoses of 360°



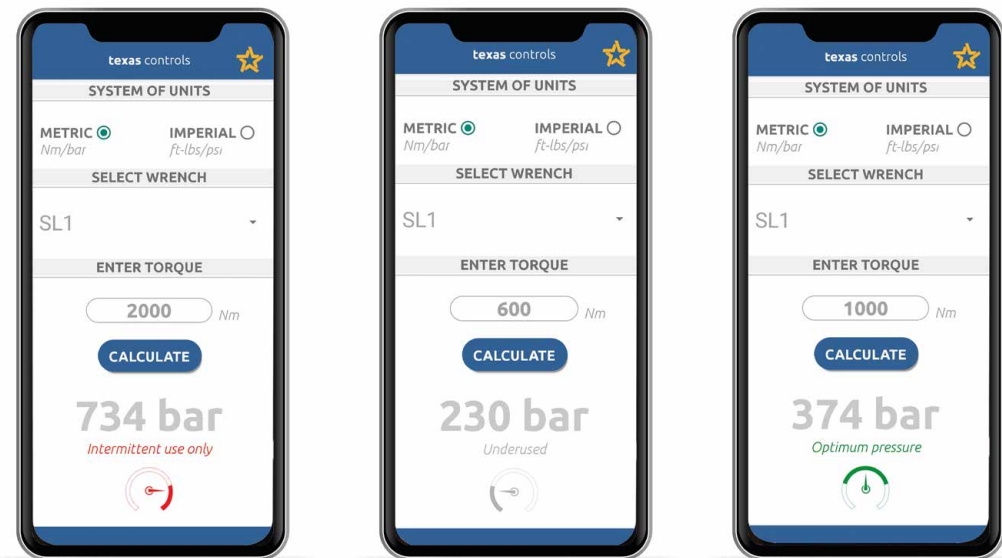
>> Download here the Data Sheet





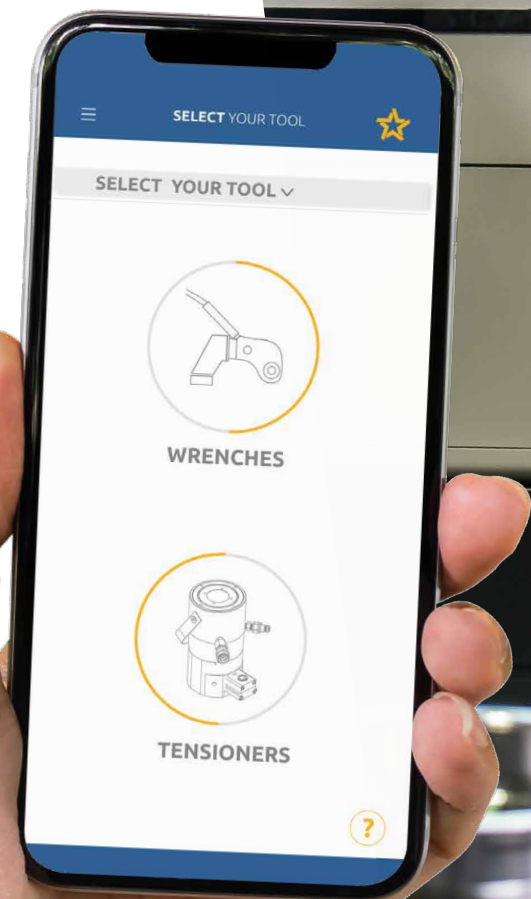


# Tool Pressure Calculator

- Work without Mistakes
- Get the Exact Pressure Value
- Automatic Alerts



- + It allows to obtain the pressure value at which a pump must be regulated.
- + Efficient management, without mistakes in the conversion and with automatic warnings of adequate pressure.

Scan the QR Code to download our APP



# AUXILIARY PRODUCTS FOR SL SERIES

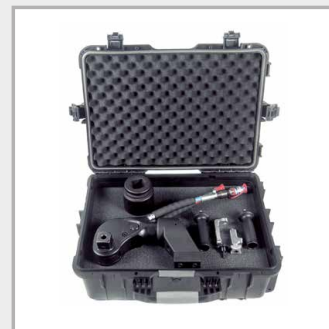
## Accessories



Handle Kit



Angle Control Device (A-CoD)



Transport Kit



Safety trigger control device (ST-CoD)



Special Reaction Arms



Impact Sockets

## On request

- + Direct Socket Drives
- + Adapted Reaction Arms
- + Allen/Hex Inserts/Drives
- + For other accessories please contact us: [texas@texascontrols.com](mailto:texas@texascontrols.com)

## Ancillary Equipments

### Pumps



MK21



MK31 & MK31c



MK51 & MK51c



MC23A

### Hoses



Double Hose



Double Hose with data cable



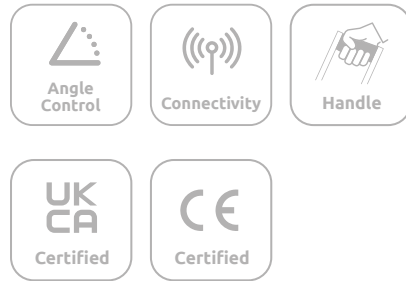
Hose Bag

**Ultra Heavy duty**

- + Simplicity
- + Heavy duty
- + Quickness
- + Best torque-dimensions /Weight Ratio

**RSL HEX SERIES**

Low Profile Units



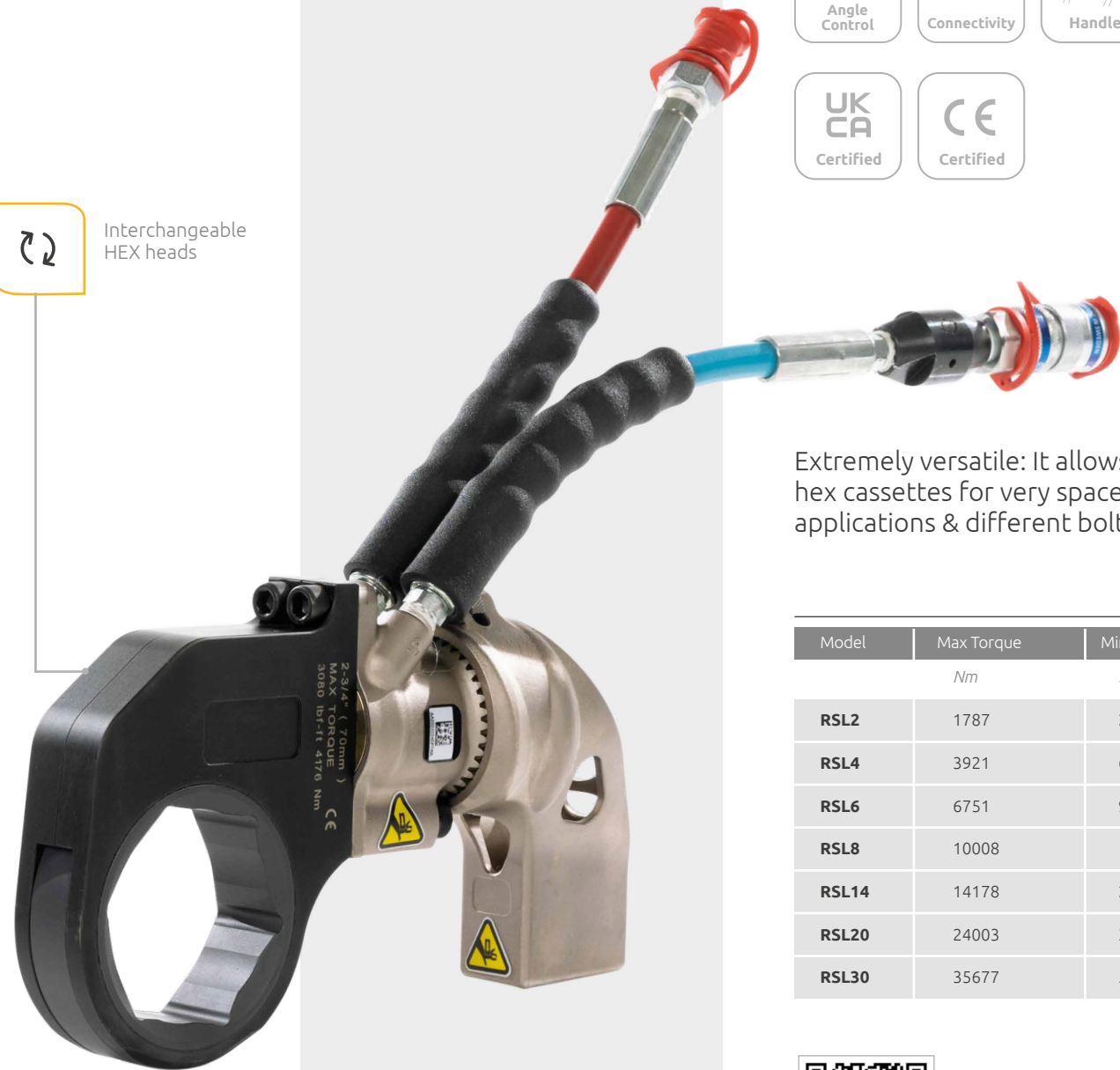
Extremely versatile: It allows to interchange hex cassettes for very space restrictive applications & different bolt sizes

Model	Max Torque <i>Nm</i>	Min Torque <i>Nm</i>	SQ Drive <i>in</i>	Weight <i>Kg</i>
<b>RSL2</b>	1787	266	3/4"	3,3
<b>RSL4</b>	3921	606	1"	5,9
<b>RSL6</b>	6751	994	1 1/2"	10
<b>RSL8</b>	10008	1530	1 1/2"	12
<b>RSL14</b>	14178	2091	1 1/2"	16,6
<b>RSL20</b>	24003	3928	2 1/2"	29,4
<b>RSL30</b>	35677	5113	2 1/2"	32,9



>> Download here the Data Sheet

Interchangeable HEX heads



**RSL HEX · ONLY 3 MOVING PARTS · OPTIMUM SIZE-WEIGHT**

**12%**

**SPEED INCREASE**  
during tightening processes



**HEAVY DUTY**  
High resistant materials



**INTERCHANGEABLE**  
HEX heads

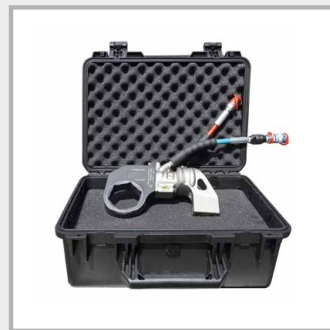


# AUXILIARY PRODUCTS FOR RSL HEX SERIES

## Accessories



Handle Kit



Transport Kit



Safety trigger control device ST-CoD



Special Reaction Arms

## On request

- + Direct Socket Drives
- + Adapted Reaction Arms
- + Allen/Hex Inserts/Drives
- + For other accessories please contact us: [texas@texascontrols.com](mailto:texas@texascontrols.com)

## Ancillary Equipments

### Pumps



MK21



MK31 & MK31c



MK51 & MK51c



MC23A

### Hoses



Double Hose



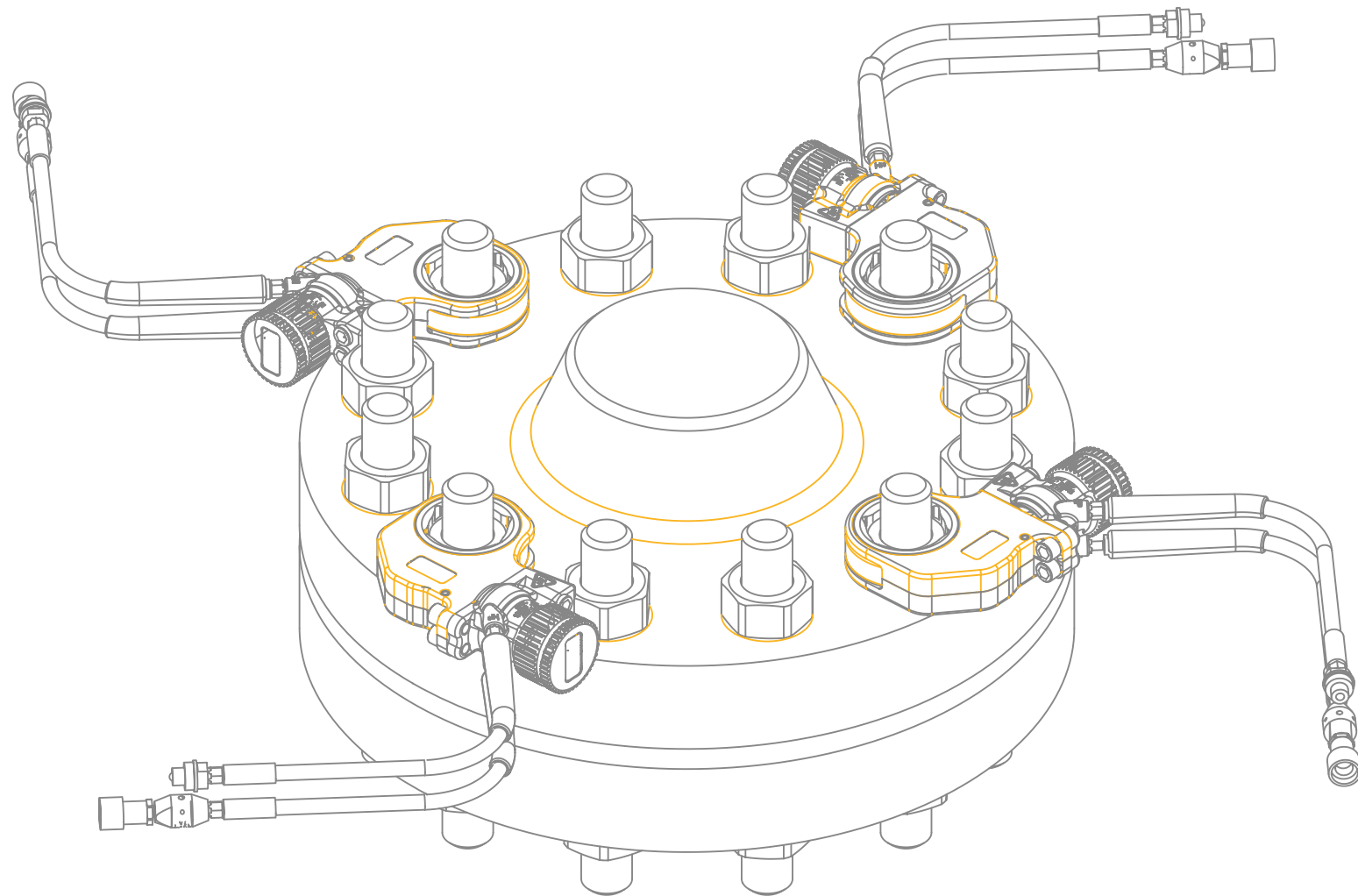
Double Hose with data cable



Hose Bag

# MultiTorque® System

Revolutionizing Fastening Techniques with Simultaneous Hydraulic Wrenching



## Precision & Efficiency



### Speed

The use of four hydraulic wrenches simultaneously streamlines the tightening process, especially when tightening four equidistant bolts, reducing elastic interaction and enabling uniform loads with fewer sequences per bolt compared to an individual wrench.



### Reduced Time Required

The MultiTorque® methodology significantly reduces the time needed to complete the tightening process compared to an individual torque wrench.



### Quality of Tightening

Simultaneous tightening of four equidistant bolts allows for a more uniform and efficient gasket compression, compensating for elastic interactions and achieving more consistent bolt loads. Additionally, the relationship between torque and load becomes more direct, enhancing control and precision.



### Less Damage of Bolts

The use of MultiTorque minimizes potential damage to bolts by distributing forces more evenly and minimizing torsional, flexural, and shearing forces, which is especially advantageous for stainless steel bolts.

# Pneumatic · Battery · Torque Wrenches RAD Torque Systems



## SINGLE SPEED

### PNEUMATIC SERIES

Optional Atex version  
Heavy Duty Tools  
Only 6,7 Bar

**Up to 15000 Nm**

More info



Handle kit  
& lifting devices  
available



## B-RAD

### BATTERY SERIES

The best cost / quality ratio  
Heavy Duty tools  
Light & portable  
Brushless motor

**Up to 7.000 Nm**



# PNEUMATIC SERIES RAD Single Speed

Reliable and dependable solution for the installation and removal of heavy-duty fasteners

Torque range: 70-15.000 Nm



80 DB  
Low noise level

+/-  
2%

Controlled repeatability



The best power-to-weight Ratio



Non-impacting

Model	Drive Size	Torque range	RPM	Weight
475SL	0,75"	70-475 Nm	65	2,7 Kg
10GX	0,75"	150-950 Nm	30	3,6 Kg
14GX	0,75"	275-1400 Nm	20	3,8 Kg
20DX	1,0"	400-2000 Nm	10	4,0 Kg
34GX	1,0"	700-3400Nm	9	6,1 Kg
40DX	1,0"	1200-4000 Nm	8	6,7 Kg
*46GX	1,0"	1400-4600 Nm	12	9,0 Kg
70DX	1,5"	2000-7000Nm	6.7	10,6 Kg
80DX	1,5"	2700-8000 Nm	6.6	12,4 Kg
110DX	1,5"	3400-11000 Nm	4	13,7 Kg
150DX	1,5"	5500-15000 Nm	3	18,9 Kg

# AVAILABLE PNEUMATIC SERIES ATEX

The RAD ATEX air wrench can be officially used in zones 1, 2, 21 and 22

Torque range: 30 – 7.000 Nm

CE Ex II 2G/D Ex c IIB/IIIB T6



### Pneumatic Standard Kit

- + Pneumatic Torque Wrench
- + 3.6 m Connection Hose
- + Transport case
- + Airmotor oil for the FRL unit
- + Flow Regulation Lubrication unit 2 Kg



### ATEX Pneumatic Kit

- + Pneumatic Torque Wrench
- + 3.6 m Connection Hose
- + Transport case
- + Airmotor oil for the FRL unit
- + Flow Regulation Lubrication unit 2 Kg
- + ATEX certificate



Explosive atmospheres pose significant risks in various industrial environments, making it crucial to prioritize safety measures. ATEX (explosive atmospheres) certified tools are specifically designed and constructed to minimize the risk of ignition in explosive atmospheres. These tools are intrinsically safe, ensuring they do not generate sparks, heat, or other potential sources of ignition that could trigger an explosion. By using ATEX tools, companies can significantly reduce the possibility of accidents and protect their workers and facilities from the potentially catastrophic consequences of an explosion. Implementing ATEX standards not only promotes safety but also ensures compliance with regulations and fosters a culture of risk prevention in hazardous environments.

**BATTERY SERIES** NEW

Torque range: 700 – 15.000 Nm

**B-RAD X**

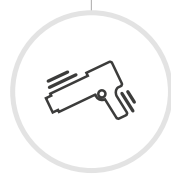
The most powerful cordless torque tool on the market



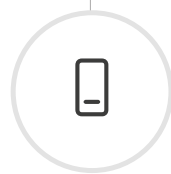
**75DB**  
Extremely low noise level

+/- **2%**

Controlled bolting



Non-impacting



Anti-fatigue trigger switch



Latch lock to protect battery



Lithium-ion Battery

Model	Drive Size	Torque range	RPM	Weight
<b>B-RAD X 7000-M</b>	1,5"	700-7.000 Nm	2,4	10,5 Kg
<b>B-RAD X 10K-M</b>	1,5"	1.000-11.000 Nm	1,7	13,8 Kg
<b>B-RAD X 15K-M</b>	1,5"	1.500-15.000 Nm	1,2	19,3 Kg



The B-RAD X was born out of demand from our customers who wanted and needed more portability in a higher performing torque wrench.

- ✓ Brushless DC motor for added durability and accuracy.
- ✓ Redesigned anti-fatigue trigger switch.
- ✓ Standard handguard for added operator protection.
- ✓ Two-hand start option.
- ✓ Latch lock to protect battery from falling.
- ✓ 4-button interface with high-contrast LED display provides feedback during operation.



## BATTERY SERIES B-RAD Select

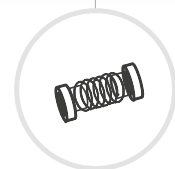
The B-RAD is especially suitable for jobs where electricity or compressed air are not available



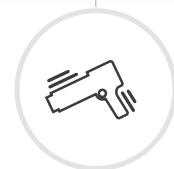
**65 DB**  
Extremely low noise level

+/-  
**3%**

Controlled bolting



Automatic reaction arm release



Non-impacting



Lithium-ion Battery

Torque range: 50 – 7.000 Nm

Model	Square Drive	Torque range	RPM	Weight
<b>B-RAD Select 275</b>	1/2" or 3/4"	50-270 Nm	47	3,2 Kg
<b>B-RAD Select 700</b>	3/4"	170-700 Nm	21	3,5 Kg
<b>B-RAD Select 1400</b>	3/4"	300-1.400 Nm	10	3,5 Kg
<b>B-RAD Select 1400-2</b>	3/4"	300-1.400 Nm	71	4,3 Kg
<b>B-RAD Select 2000</b>	1"	400-2.000 Nm	6	4,0 Kg
<b>B-RAD Select 2000-2</b>	1"	400-2.000 Nm	19	4,9 Kg
<b>B-RAD Select 4000</b>	1"	800-4.000 Nm	3	6,0 Kg
<b>B-RAD Select 4000-2</b>	1"	800-4.000 Nm	19	6,7 Kg
<b>B-RAD Select 7000</b>	1,5"	1.400-7.000 Nm	2	8,8 Kg

## BATTERY SERIES MB-RAD

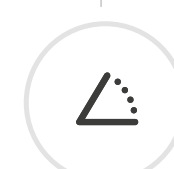
Torque range: 30 – 7.000 Nm



**65 DB**  
Extremely low noise level

+/-  
**3%**

Controlled bolting



Model	Square Drive	Torque range	RPM	Weight
<b>MB-RAD 300</b>	1/2"	30-300 Nm	48	3,5 Kg
<b>MB-RAD 700</b>	3/4"	70-700 Nm	21	3,5 Kg
<b>MB-RAD 1400</b>	3/4"	140-1.400 Nm	10	3,7 Kg
<b>MB-RAD 2000</b>	1"	200-2.000 Nm	6	4,3 Kg
<b>MB-RAD 4000</b>	1"	400-4.000 Nm	3	6,0 Kg
<b>MB-RAD 7000</b>	1,5"	700-7.000 Nm	2	8,7 Kg

# AUXILIARY PRODUCTS FOR RAD TORQUE SYSTEMS

## Reaction Arms



Deep Reaction Arm



Deep Reaction Arm



Double Reaction Arm



Blank Reaction Arm



Double Ended Blank Reaction Arm



Safety Sliding On Request

## Lifting Handle



Tool Handle

## On request

+ Bespoke designs under request  
+ For other accessories  
please contact us: [texas@texascontrols.com](mailto:texas@texascontrols.com)



# Torque Wrenches

MANUAL SERIES



>> More info

/04

## 730N Wide Range. Standard and Digital Options



+ MULTIPLE ADAPTERS



**WITH TRIGGERING**  
When the set value is reached, the manoscope emits a clearly audible double stop signal



### Multi-purpose

- + Extremely wide measuring range.
- + For precise applications up to 1000 Nm.
- + When the set value is reached, a clearly audible double stop signal is emitted.
- + Easy handling.
- + Quick adjustment from the outside without the need to disassemble the key.
- + With security locking "QuickRelease".
- + Wear resistant. Wear-free triggering system with flexion rod. Unlike conventional torque wrenches, a reset to 0 to release the spring is not necessary. The consequence is a correct and safe long-term measurement result, obtained quickly.
- + Clear assignment of the position setting.



## 730D Universal talent with Data Recording



+ MULTIPLE ADAPTERS  
See left page



Electromechanical Triggering



Optional Software **SensoMaster**



Interconnected



Ergonomic



Easy to read





## Hydraulic Pumps

- 01. Compact Pumps (Tensioning)
- 02. Compact Pumps (Torque)
- 03. Compact Pumps (Torque & Tensioning)
- 04. Hydraulic Cylinders & Pumps

# Hydraulic Packs

Design & Control

Our pumps are capable of reaching pressures up to 2500 bar very quickly

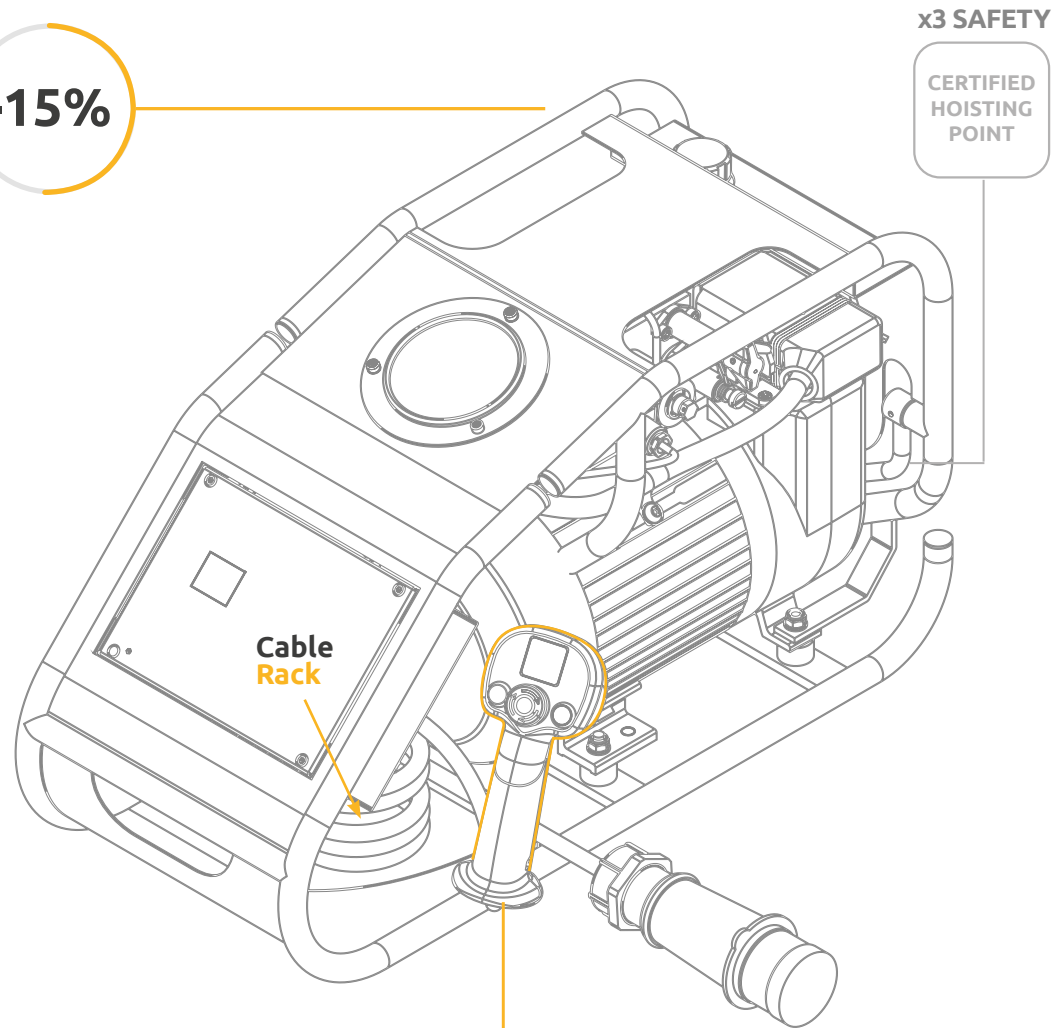


LIGHTER WEIGHT

-15%

## Electrical & Magneto-thermic protection

- Safe & Ergonomic
- Texas Smart Technology
- Alarm Messages  
Low Oil Level  
High temperature alarm
- Anti-corrosion & Anti-scratch Treatment
- Multi-configuration Customizable



x3 SAFETY

CERTIFIED HOISTING POINT



# Compact Pumps **TENSIONING**

/01

## MK600

Pneumatically powered unit for **explosive environments**

-  Easy Repair
-  User friendly
-  Handle
-  Heavy Duty
-  Lightweight
-  UK CA Certified
-  CE Certified
-  RoHS Certified



### Smart Features

- + The highest speed and reliability results in the market.
- + An improved oil return circuit allows to minimize the back-pressure when the oil goes back to the tank from the tensioners.
- + Robust & Compact.
- + Easy to use.
- + High flow-Quickly.
- + Safe and Lightweight.
- + Large capacity oil reservoir to work with a high number of tensioners simultaneously.
- + Capable of reaching high pressures quickly (up to 1500 bar) in the standard version. Other versions can reach up to 2500 bar



>> More info



# Compact Pumps

TORQUE

/02

## MC23A

Pneumatically powered unit for **explosive environments**



Customizable

- + Can be manufactured for different power outputs.
- + Quick or threaded connectors

### Main features

#### Handgrip REMOTE OPERATION



>> More info

- + Ease of use, simplicity of maintenance.
- + Low life cycle cost.
- + High efficiency pneumatic motor, which provides a high oil flow at high pressure.
- + Ergonomic remote control.
- + Compact and lightweight, it is ideal for work in industries such as the petrochemical industry, where access on foot to flanged joints is not always easy.
- + Easier and faster way to assemble/disassemble.
- + Ancillary with Multi-Port accessory.



# Compact Pumps

TORQUE

## MK Series

It is capable of reaching pressures up to 800 bar very quickly

- Easy Repair
- User friendly
- Handle
- Heavy Duty
- Lightweight
- UK CA Certified
- CE Certified
- RoHS Certified



>> More info MK21



>> More info MK31



Registered **MultiTorque®**  
TEXAS MultiTorque® System

## NEW! Edition MK31C

Low height



**MK21**  
Semiautomatic pump

**MK31**  
Automatic pump

Customizable

- + Can be manufactured for different power supplies
- + Quick or threaded connectors
- + Different languages
- + Maintenance
- + Multi-Port
- + Coaxial

Customizable

- + Data logging
- + Tightening sequences
- + Specific procedures
- + Pressure percentages
- + Previously pre-set torque and angle procedures



SMART Handgrip



- + Guided tightening
- + On-Screen Help
- + Results on screen
- + Customization per menu

### Native features

#### Handgrip REMOTE OPERATION



Plug & Play

- + Compact & Resistant.
- + Two stage pump. High Flow & High Pressure.
- + Certified Point Elevation.
- + Electronic Control System.
- + Easier and faster way to assemble/disassemble.
- + Remote operation using the handgrip.
- + Oil, voltage, current and temperature control.

+ ST-CoD Ancillary

Automatic

+ A-CoD Ancillary



Advanced automatic Tightening Algorithm

- + Fully automatic mode
- + Semi-automatic mode
- + Angle and torque modes
- + Tightening modes
- + Check mode



>> More info MK31C



# Compact Pumps

TORQUE&TENSIONING

/03

## Duplo MK51

The unit combines the **speed** of the MK31 and the **proven reliability** of the MK41 tensioning pump, sharing 90% of the spare parts



### Main Features

- + Rear tensioning connector.
- + Lateral torque connectors.
- + New control box designed for on site work.
- + Higher resistant to current peaks.
- + Easier and faster way to assemble/disassemble.
- + High flow / Fast.
- + Firmware updates available.
- + New "no leak" oil cap available.
- + No extra oil cooler needed.

No leaks and no wear  
on a test of 30000 tightening cycles  
(Under controlled laboratory conditions)

### Handgrip REMOTE OPERATION



Plug & Play

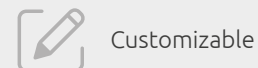
Standard



>> More info



### + ST-CoD Ancillary



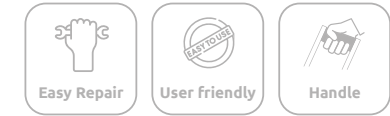
- + Customizable
- + Can be manufactured for different power supplies
- + Quick or threaded connectors
- + Different languages
- + Maintenance

# Rehobot Pumps & Cylinders

/04

## HAND PUMPS

Two-Stage PHS hydraulic hand pumps



### Features

- + Robust and well suited for harsh environments and rough handling as found in workshops and other mobile and industrial environments.
- + Equipped with a pressure gauge as standard. The gauge provides the user with precise control over the pressure being developed.
- + The two stage function makes the pump easier to operate.
- + Robust aluminium tank with low weight and simple oil filling.
- + Needle release valve ensures precise control over lowering operation.
- + Mounting holes for fixed installations and handle locking system for easy carrying.



## HYDRAULIC CYLINDERS

Unique

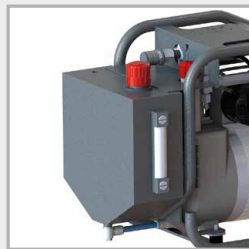
### Features

- + Suitable for harsh environments.
- + Threaded or quick connect couplings available.
- + Single acting push or hollow types.
- + Spring return.
- + Compact and standard versions.
- + Steel or aluminium materials.
- + Product cross reference application.



## PUMPS ACCESSORIES

### Accessories



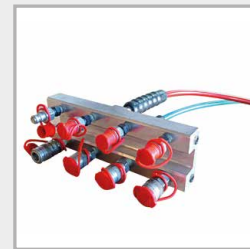
External Oil Tank



Manifold with 3 ports for tensioning



Multi-Port Manifold for torque



Multi-Torque distribution block



(2 NIPPLES + 1 COUPLING)

2-Way Distribution Block



(1 NIPPLE + 4 COUPLINGS)

4-Way Distribution Block

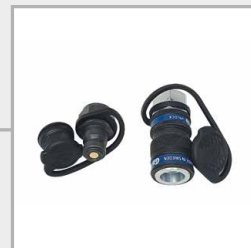
### Hydraulic Connectors



Threaded Couples



Quick Couples



Quick Couples



T-coax Couples (torque pumps)

### Different Cable Options



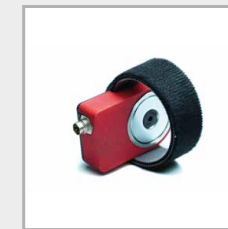
6,5 m



12,5 m

## Ancillary Equipments

### Control Devices



ST-CoD Torque Pumps



A-CoD



External Elongation Sensor

### Hoses



Hydraulic Twin Hose 5 m or 10 m



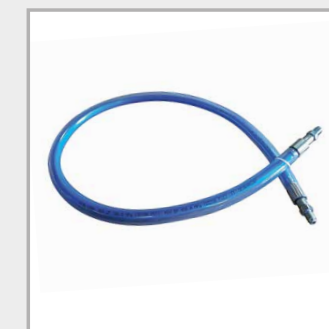
Double Hose with data cable



Link Hose 1500 bar 5 m or 10 m



Hose Bag



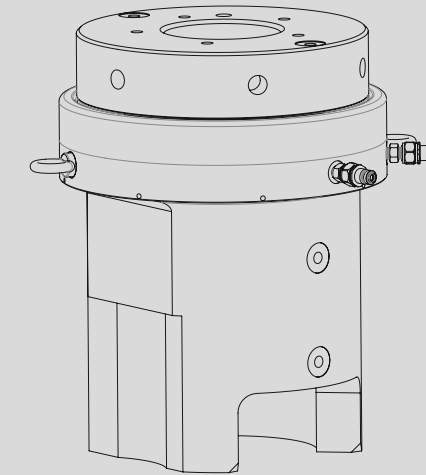
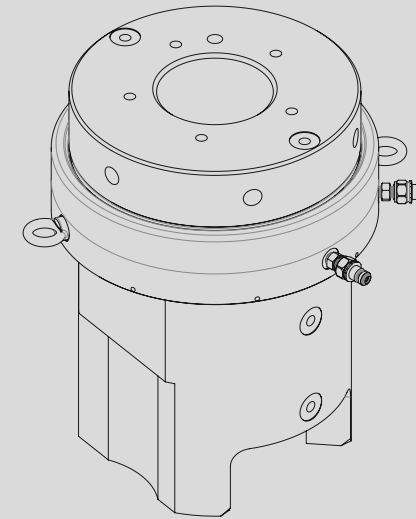
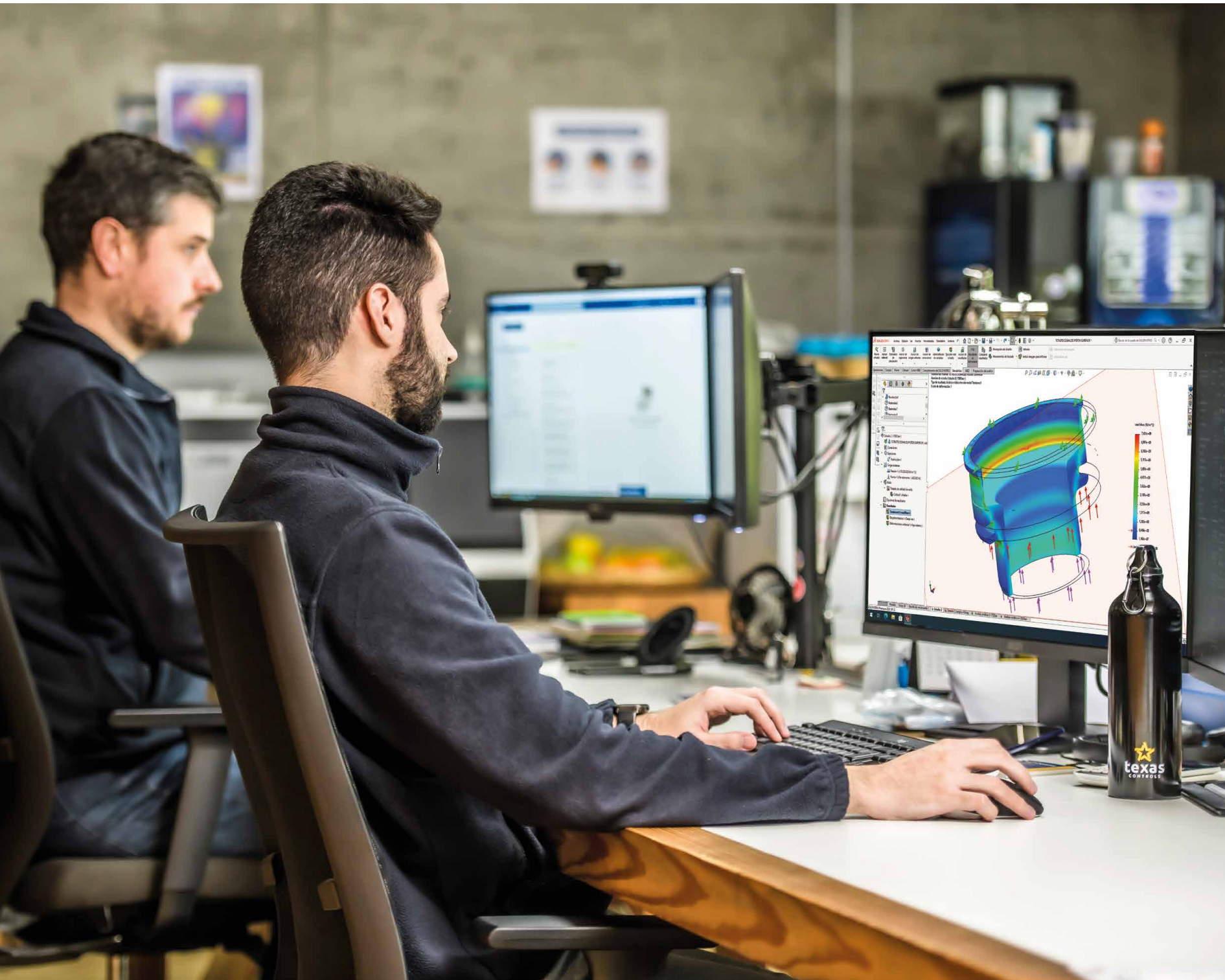
Interconnecting Hose 1800 bar 1,3 m



Interconnecting Hose 1800 bar 1,3 m WITH T-BLOCK



Link Hose 1500 bar 5 m or 10 m



One of the key highlights of our tensioner designs is their **adaptability**. We make special designs for custom applications, meeting the necessary requirements and maintaining the functionality and safety of standard designs.

## CUSTOM DESIGNS

We design & Manufacture according to customer needs

### Project development

- + Experienced engineers with extensive field expertise
- + Customized innovative solutions
- + High precision designs
- + 3D simulations
- + From early stage of the joint design to the final solutions

## UNIQUE & UNRIVALED PRODUCTS

All of our products are proudly designed and manufactured in Spain.

Our experience is unrivaled and while our products are often imitated, they're never duplicated.

+ INFO





## Auxiliary Products

- ✓ Nut Splitters
- ✓ Flange Aligners & Spreaders
- ✓ MG 100 Flange Facer
- ✓ Impact Sockets
- ✓ TC Slogging Spanners
- ✓ Back-up rings & Hardened washers

/01

# Nut Splitter

- Heat Treated
- Easy Cutting Tip Replace
- User friendly
- High Resistant
- Compact



## Features

- + Specially designed to work on flanged pipework.
- + Requires less hydraulic force than other nut-splitters and is more compact than other nut-splitters.
- + Integrated steel shroud:
  - Protects the user from flying particles.
  - Increases tool strength in critical areas.
- + Sharp cutting tip made from shock resisting steel:
  - Requires less hydraulic force to cut the nut.
  - Gives longer blade life.
- + Convex reaction point: Allows the nut to deform as the nut splits.
- + It can be used in tight spaces such as WELD NECK flanges. And also it is ideal for working at heights or subsea applications.

### PRODUCT RANGE

NS12TE, NS15TE, NS20TE, NS35TE & NS50TE

External Hydraulic Nut-Splitters

NS12TI & NS15TI

Integral Hydraulic Nut-Splitters



>> More info

# Flange Spreaders & Aligners

/02

## FLANGE SPREADERS

*Incomparable Elastic Recovery*



>> More info

## Features

- + Practical, portable and lightweight.
- + Revolving lanyard connection point.
- + Swivel hose coupler with elbow – improves access by allowing hose to revolve.
- + Spread indicator markings for clear precise visual progress feedback.
- + No finger pinch-points.
- + Increased step depth on upper steps.
- + Safety lanyard – 1.0 m (39") length.
- + Partially recessed coupler reduces coupler vulnerability.
- + Forged key components for strength and reliability.
- + Fail-safe design – designated cylinder nose seal failure.

**SPREADING FORCE:**  
20 T (200 kN) 1st step  
24 T (240 kN) 4th step

**SPREADING DISTANCE:**  
6.0 mm - 103.5 mm (0.24" - 4.1")  
WEIGHT: 6.4 kg (14.1 lb)

Max Temperature 1.000°C  
Max Pressure >500 bar

## FLANGE ALIGNERS

*103,5 mm Max. Spread*



>> More info



## Features

- + A simple solution to hydraulically spread flange joints with a minimum access gap of 6.0 mm (0.24") and certified for use in hazardous areas.
- + ATEX Certified. Certified for use in the hazardous areas: II 2G ck IIB T6/II 2D ck T85 °C.
- + Max. operating pressure (bar): 700.
- + Capacity (kN): 240.
- + Practical, portable and lightweight.
- + Moulded plastic handle for comfort.
- + Revolving handle to aid horizontal or vertical spreading.
- + Swivel hose coupler with elbow – improves access by allowing hose to revolve.
- + Fail-safe design – designated cylinder nose seal failure.

# MG100 Flange Facer

Mechanical Flange Facing Tool



>> More info

/03



### Features

- + Refacing made easy - hand-operated machine tool can be set up anywhere without the need for air, electric or hydraulic power support.
- + Lightweight and portable - easily transported to remote locations for increased productivity.
- + Adjustable cutting range for flange diameters between 1-12 inches [25,4-304,8 mm].
- + Interchangeable collets for ID mounting range from 1-6 inches allowing the user to work on many different flanges with minimal time between set-ups.
- + Interchangeable lead screws suitable for refacing damaged raised-face (RF) or flat-face (FF) joint flanges.
- + Tool body with expanding collets centers itself providing real concentric operation.
- + Accessory Kit FF120FSF is included as standard and provides a fine thread feed screw, 1/2" - 20 UNF, and delivers a Ra of: 60-100 µin (3,2 - 6,3).

# Impact Sockets

/04



### Features

- + High resistance.
- + From 1/2" to 2.1/2" SQD size.
- + HEX (6-point) .
- + & BI-HEX (12-point) options.
- + Special designs.
- + Safety accessories.



>> More info

Standard Sockets	AF	Diameter	Length
	mm	mm	mm
<b>Square Drive 1"</b>	22-115	40-155	60-115
<b>Square Drive 1-1/2"</b>	36-120	64-167	78-140
<b>Square Drive 3/4"</b>	22-65	44-54	37-88
<b>Square Drive 2-1/2"</b>	60-150	99-214	125-185
<b>Thinwall</b>			
1"	36-85	50-115	65-100
1-1/2"	60-90	80-120	95-115
2-1/2"	80-130	113-180	140-175

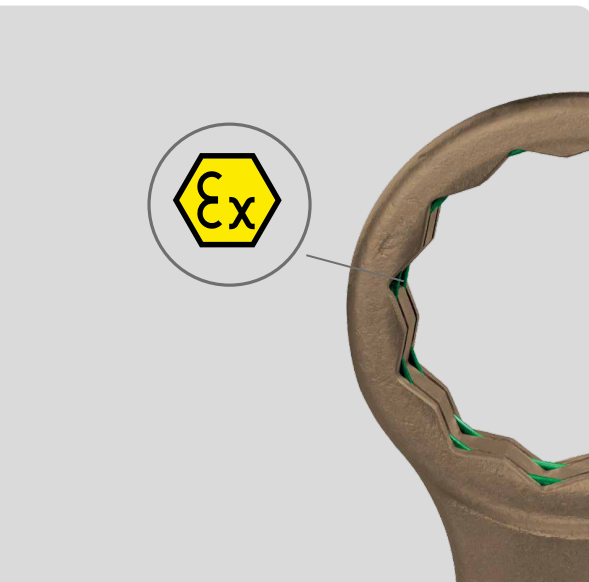
Large Sockets	AF	Diameter	Length
	mm	mm	mm
<b>Square Drive 3/4"</b>	22-65	37-88	95-105
<b>Square Drive 1"</b>	22-115	40-155	100-155

\* More options under request. Please contact texas@texascontrols.com

# TC Slogging Spanners

**TC Slogging Spanners** puts an end to any safety risks by securing itself on to the nut or bolt, your hands are free to operate a hammer with more force, precision and concentration

-  Lightweight
-  User friendly
-  High Resistant
-  Compact



**OPTIONAL:**  
AVAILABLE **NON-SPARKING**

This new TC Slogging Spanners is suitable for the ATEX environment with its non-sparking material and spring washers



### Features

- + Using a normal slugging wrench is a huge disadvantage for many reasons, the most important one is safety!
- + Injuries can occur easily when holding a wrench with one hand and trying to loosen or tighten a bolt or nut with a hammer in the other.
- + TC Slogging Spanners puts an end to any safety risks! By securing itself on to the nut or bolt, your hands are free to operate a hammer with more force, precision and concentration.
- + By integrating two spring washers, TC Slogging Spanners is a true innovation on a classic hand tool never seen before!



 Increased Safety  
**Full Control**





**NONMANDATORY APPENDIX M  
WASHER USAGE GUIDANCE AND PURCHASE SPECIFICATIONS  
FOR THROUGH-HARDENED WASHERS**

**M-1 WASHER USAGE GUIDANCE**

(22) **M-1.1 Usage**  
The use of washers on pressure boundary bolted flange joints is optional. However, it is generally recognized that the use of through-hardened steel washers will improve the translation of torque input into bolt preload by providing a smooth and low-friction bearing surface for the nut.  
Washers protect the contact surface of the flange from damage caused by a turning nut. These are important considerations when torquing methods (either manual or hydraulic) are used for bolt tightening.  
This Appendix specifies the procurement of through-hardened washers for bolted flange joints covered within the scope of this Standard. The use of surface-hardened washers is not recommended since the soft interior material under direct compression will flow plastic causing washer cupping and thinning with the reduction in preload.

**M-1.4 Existing Standards**  
Washers in accordance with ASTM F436 have been used previously on piping flanges. However, the use of ASTM F436 washers may lead to interference with the spotface/back facing on the flanges. Also, ASTM F436 does not provide dimensions for certain nominal sizes needed for pipe or vessel flanges. The intent of the Type 1 washer in this Appendix is to specify a washer of the same general material as an ASTM F436 washer but with revised dimensions to make them compatible with pipe or vessel flanges.

**M-1.5 Previous Material**  
Figures 1 and 2 in the original edition of ASME PCC-1 referenced ASME SA-540 for the manufacture of washers for elevated temperatures. This Appendix does not continue the use of this material due to material cost and manufacturing concerns. Discontinuation of the use of SA-540 material does not imply that this material is technically deficient.

**Dimensions**  
The outside diameter of the washers detailed in this Appendix was selected to enable their use on flanges with spot faces or back facing meeting the requirements of ASME B1.1-2004 for metric flanges and MSS SP-9 for...

Table M-1.3-1

/06

# Flange SafeDisc® and Flange Washers

## Hardened Washer

**Features**

- ✓ Minimize the damage of the nut seating area on the flange caused by the rotation of the nut.
- ✓ Increase the contact area between bolt/nut and flange, thus achieving a better distribution of the friction effects.
- ✓ Make the friction between the nut and its seating area as homogeneous as possible among all bolts.

- + In torque tightening, specially with high temperatures, we must always use hardened washers, since the friction is very high and has repercussion in the residual and effective load. In addition, the use of washers allows to reduce and equalize frictions, and facilitates the compression of the joint.
- + It can be manufactured in different materials, depending on the service conditions.
- + It is knurled to prevent the nut from moving, so that no one can reach underneath to avoid accidents.
- + Material: Alloy Steel.
- + Target hardness: 38-45 HRC.
- + Thickness H, according to ASME.



**Features**

- ✓ Corrosion Resistant
- ✓ Maintains Bolt Integrity
- ✓ Performance Tested
- ✓ Several Material Options

- + Flange Washers withstand extreme temperatures as well as corrosive environments.
- + Once installed, these washers don't have to be retorqued, saving the operator time on maintenance.
- + Flange washers eliminate the effects of differential thermal expansion and can withstand demanding environments and repetitive use.
- + Flange washers increase the elasticity of a bolting system by a factor of 7 to 15 times, making them an economical alternative to costly system enhancements.







## Measurement, Calibration & Verification

- ✓ Ultrasonic: BoltPilot Monitor®
- ✓ BoltPilot® Load Calibrator
- ✓ Test & Calibration Systems
- ✓ Smart Sockets

# BoltPilot® Monitor

Quick, Cost Effective Latest Technology



The BoltPilot® Monitor defines the state of the art in the measurement of the actual elongation produced by tightening a threaded fastener. The measurement is achieved by determining the change in the transit time of an ultrasonic shock wave along the length of the fastener as the fastener is tightened using a mechanical method. The time is then converted to elongation, load, stress, or strain.

## Database Software

- + It measures fastener elongation, load and stress.
- + Data and signal recording.
- + USB Connection & Lithium battery.
- + Capacity 4 Gb internal & up to 64 Gb External SD slot.
- + It allows to download data in csv format.
- + Measurement range: 25,40 m.



>> More info

/01

Standard Kit



# BoltPilot Load Calibrator

Adaptable system for bolts from M36 to M72

/02



### Features

- + Ancillary with BoltPilot®.
- + Records measurements and provides a report of these calibrations.
- + Different reaction modules are available to adapt the system to the different wrenches in the market.
- + Adapters to replicate different clamp lengths and bolt / nut sizes are available.



>> More info

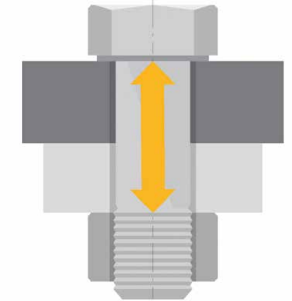


### Interactive Screen

The display shows the relevant information of the process:  
 current load value in the bolt (kN/lbf),  
 applied torque (Nm/ft-lbs) and pressure (bar/psi)  
 by/to the wrench respectively

## Bolt Load Control

Simulate the joint using the existing bolts and nuts to get the torque value needed to reach the target bolt load



*Torque conversion*

FOR ANY HYDRAULIC WRENCH IN THE MARKET





/03

**NEW** **Test&Calibration Systems**

**STC 30 · STC 50**



- BoltPilot® Inside
- Connectivity
- Pressure Control
- Torque Control
- UK CA Certified
- CE Certified

**Main Features**

- + Get pressure-torque data from your pump and wrench.
- + Ancillary with all the wrenches.
- + 30.000-50.000Nm: Other under request.
- + Robust construction.
- + Designed to work in the field.
- + Can be integrated into BoltPilot® system.
- + Test the wrenches in work position.



>> More info

ERROR RATE SENSOR

+/-  
**0,1%**

Model	Max Torque <i>Nm</i>
STC30	30.000 Nm
STC50	50.000 Nm

# Smart Sockets

Torque range: 200-16.200 Nm

## Revolutionizing Home Automation and Convenience

The RAD Smart Socket™ Series, patented impact sockets from 27 mm – 110 mm. These sockets are able to measure the actual torque applied to the bolted joint with a maximum deviation of 1%.



### Features

- + Measures and displays peak torque.
- + Built-in rechargeable lithium-ion battery
- + “Pass” / “Fail”, Track and Peak function.
- + Data logging – download logs (XLS, CSV, PDF).
- + Full traceability of bolted joints.
- + Bluetooth connectivity.
- + Graphics live view function.
- + Preinstalled tablet with RAD Connect – PRODOCS App.



>> More info

### All RAD Smart Socket™ include:

Locking pin and o-ring

Weatherproof storage case

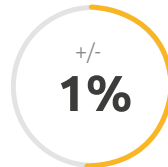
User manual

USB charger

Preinstalled tablet

Calibration certificate

/04



Maximum deviation



Non-impacting



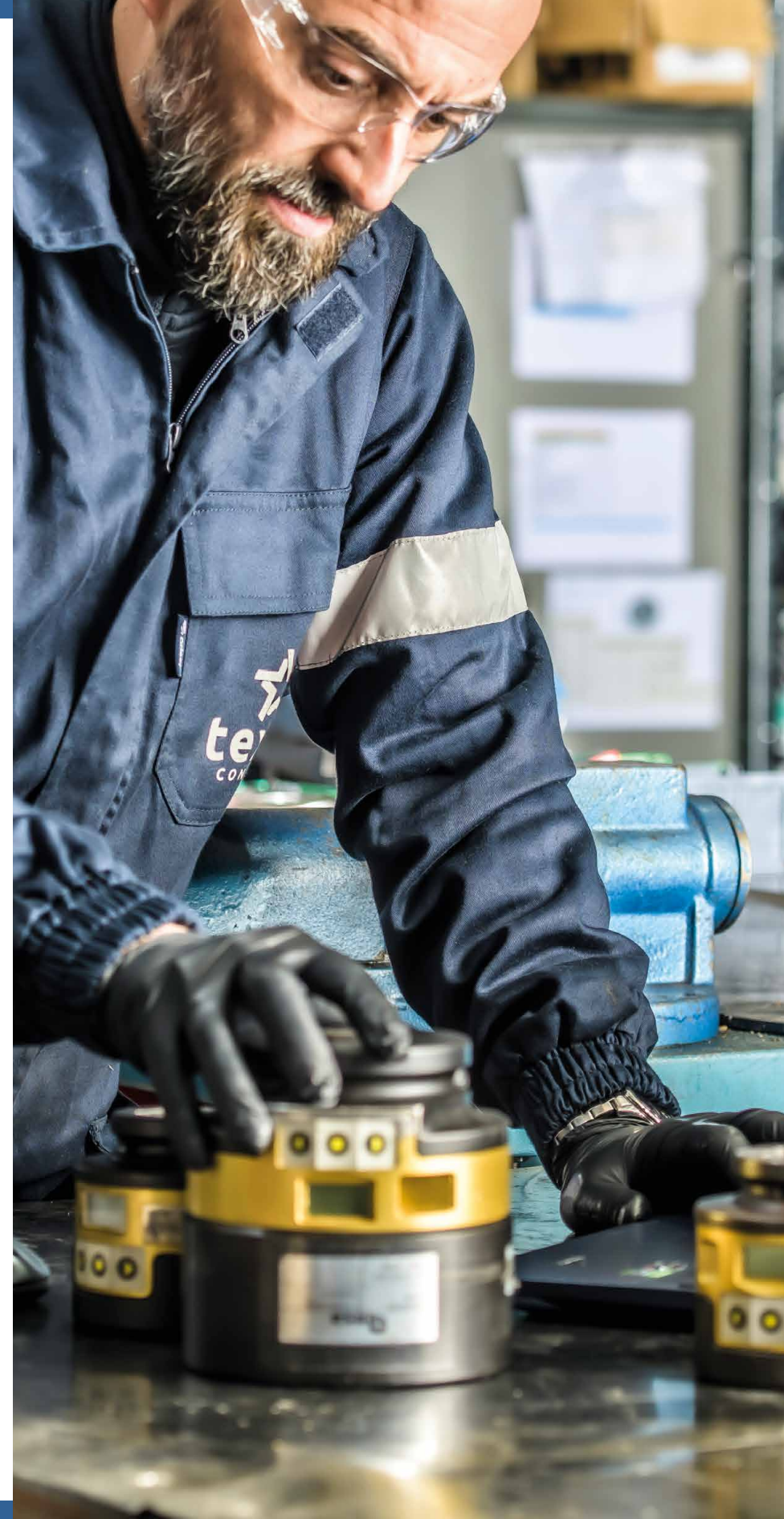
Lithium-ion Battery



Software Data Exchange



Bluetooth Connectivity



Model	Drive Size	Torque Range
	in	Nm
Smart Socket 29 mm	3/4"	200-2.034 Nm
Smart Socket 30 mm	3/4"	200-2.034 Nm
Smart Socket 33 mm	3/4"	200-2.034 Nm
Smart Socket 36 mm	3/4"	200-2.034 Nm
Smart Socket 41 mm	1"	200-2.034 Nm
Smart Socket 46 mm	1"	200-2.034 Nm
Smart Socket 50 mm	1"	400-4.050 Nm
Smart Socket 55 mm	1"	400-4.050 Nm
Smart Socket 60 mm	1"	400-4.050 Nm
Smart Socket 65 mm	1 1/2"	1.100-10.800 Nm
Smart Socket 70 mm	1 1/2"	1.100-10.800 Nm
Smart Socket 75 mm	1 1/2"	1.100-10.800 Nm
Smart Socket 80 mm	1 1/2"	1.100-10.800 Nm
Smart Socket 90 mm	1 1/2"	1.100-16.200 Nm
Smart Socket 100 mm	1 1/2"	1.100-16.200 Nm
Smart Socket 110 mm	1 1/2"	1.100-16.200 Nm



## Inspection Kits

- ✓ Test Systems
- ✓ Roughness tester
- ✓ Flange gap gauge
- ✓ RTJ Gauges
- ✓ Labels

# Test Systems

Tool Testing & Calibration Systems Customised to the customer's needs

More info



## TEST BENCHES



Torque



Mixed

## CALIBRATION BENCHES



Tensioning



Torque



Torque & Load

/02

# Roughness Tester

Surface Roughness Comparator Set



**Features**

- + Color: Silver
- + Material: Stainless Steel
- + Dimensions: 130x55 mm
- + Package contents:
  - 1 Chart (Surface Roughness Comparator).
  - 1 Instructions with gasket description and surface Finish



>> More info

/03

# Flange Gap Gauge

Measure Gaps from 1 mm to 25 mm (1/16" to 1")



>> More info

**Features**

- + Designed to allow quick, simple and consistent measurement of the gap between raised faces or flange outside diameter. Flange gap closure measurement is required for joints both during initial assembly and final passes in accordance with **ASME PCC-1**.
- + These gauges allow quick and consistent measurement of the gap at multiple points around any flange. The significant advantage of these gauges over standard taper gauges is that they are much shorter than standard taper gauges and so are able to measure larger gaps without interference between the gauge and the gasket or raised faces occurring.
- + The gauges measure gaps from 1 mm to 25 mm.
- + Each gauge has 30% overlap in measurement to ensure use of the best gauge is possible.
- + The gauges are available in either US units or SI units and are supplied with a laminated set of instructions.



/04

# RTJ Gauges

Inspection for Compliance



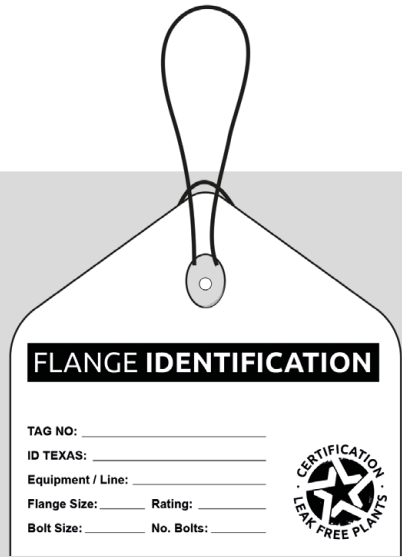
>> More info

**Features**

- + Designed to allow on-site and post-machining inspection for compliance of Ring-Type Joint (RTJ) grooves.
- + The gauges are designed to cover all standard **ASME B16.5** flange groove dimensions and allow inspection of both the groove seating surface condition (post assembly) in accordance with **ASME PCC-1 Appendix D** and the groove dimensional compliance (post machining) in accordance with ASME B16.5.
- + The gauge set includes full laminated instructions for use of the gauges.



# Flange ID Labels



### TEMPORARY

Identify the condition of flanged joints:

- TESTED
- TIGHTENED
- ASSEMBLED
- OPEN



**Leak**  
Free  
Plants



### PERMANENT

Unique Permanent label.  
Identify the tag and connect  
the data with Flange Pilot@.



## TEMPORARY LABELS

### Tightening State Tags

- + Each flanged joint with the tag attached will be 'labelled'.
- + In each tag, the responsible person fills the information on the tag and returns it to the Supervisor. And the Supervisor records the information in the database.

#### TESTED

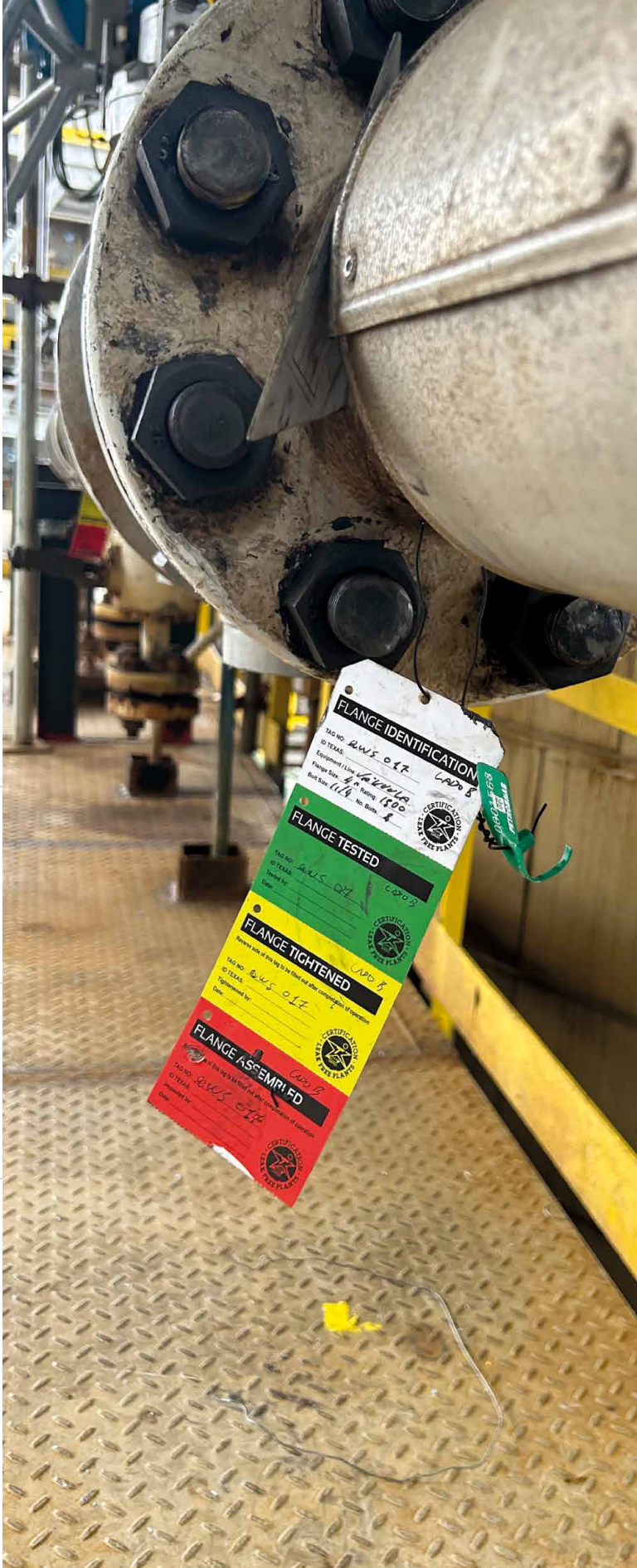
#### TIGHTENED

#### ASSEMBLED

#### OPEN



>> More info



The coloured sections are perforated so that they can be easily torn off

**FLANGE IDENTIFICATION**

TAG NO: \_\_\_\_\_  
 ID TEXAS: \_\_\_\_\_  
 Equipment / Line: \_\_\_\_\_  
 Flange Size: \_\_\_\_\_ Rating: \_\_\_\_\_  
 Bolt Size: \_\_\_\_\_ No. Bolts: \_\_\_\_\_

**CERTIFICATION**  
LEAK FREE PLANTS

---

**FLANGE TESTED**

TAG NO: \_\_\_\_\_  
 ID TEXAS: \_\_\_\_\_  
 Tested by: \_\_\_\_\_  
 Date: \_\_\_\_\_

**CERTIFICATION**  
LEAK FREE PLANTS

---

**FLANGE TIGHTENED**

Reverse side of this tag to be filled out after completion of operation

TAG NO: \_\_\_\_\_  
 ID TEXAS: \_\_\_\_\_  
 Tightened by: \_\_\_\_\_  
 Date: \_\_\_\_\_

**CERTIFICATION**  
LEAK FREE PLANTS

---

**FLANGE ASSEMBLED**

Reverse side of this tag to be filled out after completion of operation

TAG NO: \_\_\_\_\_  
 ID TEXAS: \_\_\_\_\_  
 Inspected by: \_\_\_\_\_  
 Date: \_\_\_\_\_

**CERTIFICATION**  
LEAK FREE PLANTS

---

**FLANGE BROKEN**

Reverse side of this tag to be filled out after completion of operation

TAG NO: \_\_\_\_\_  
 ID TEXAS: \_\_\_\_\_  
 Broken by: \_\_\_\_\_  
 Date: \_\_\_\_\_

**CERTIFICATION**  
LEAK FREE PLANTS

**Flange Broken**  
Removal of blue tag indicates joint has been broken or disturbed. Joint should NOT be regarded as being pressure retaining or be returned to service.

**Flange Assembled**  
Removal of red tag indicates joint is in good condition, has been assembled by a competent person but has NOT been tightened fully. Joint should NOT be regarded as being pressure retaining or be returned to service.

**Flange Tightened**  
Removal of yellow tag indicates joint is in good condition, has been appropriately tightened by a competent person but has NOT been tested. Joint should NOT be regarded as being pressure retaining or be returned to service.

**Flange Tested**  
Removal of green tag indicated joint has undergone satisfactory pressure or witnessed service test. Joint can be returned to service and monitored.

Witnessed Joints / Service Test?  
 YES  NO

**RETURN TO SUPERVISOR**

---

Method used:  Torqued  Tensioned  
 Lubricant Applied: \_\_\_\_\_  
 Torqued / Tensioned to: \_\_\_\_\_  
 Test / Breaking Pressure (Tensioned Only): \_\_\_\_\_  
 Notes: \_\_\_\_\_

**RETURN TO SUPERVISOR**

---

Flange Faces Condition:  OK  NO OK  
 Alignment:  OK  NO OK  
 Bolt Length:  OK  NO OK  
 Bolt Material:  OK  NO OK  
 Gasket Size:  OK  NO OK  
 Gasket Material:  OK  NO OK

**RETURN TO SUPERVISOR**

---

Tool used: \_\_\_\_\_  
 Break-Out Pressure (Pump): \_\_\_\_\_  
 Notes: \_\_\_\_\_

**RETURN TO SUPERVISOR**

#### White Label

The White Label will remain on the joint to show that all of the working stages and operations have been completed.

#### Green Label

Removal of the green tag indicates: **the joint has been satisfactorily pressurised or has undergone a service test.**

*The joint can be put back into service and monitored.*

#### Yellow Label

Removal of the yellow tag indicates: **the joint is in good condition, has been properly adjusted by a skilled person, but has NOT been approved.**

*The joint should NOT be considered to be pressurised or put back into service.*

#### Red Label

Removal of the red tag indicates: **the joint is in good condition, has been assembled by a competent person but has NOT been fully tightened.**

*The joint should NOT be considered to be pressurised or be put back into service.*

#### Blue Label

Removal of the blue tag indicates: **the joint has been opened or altered.**

*The joint should NOT be considered to be pressurised or put back into service.*

# PERMANENT LABELS

## Flange Inspection Tag



Each flange inspection tag is unique

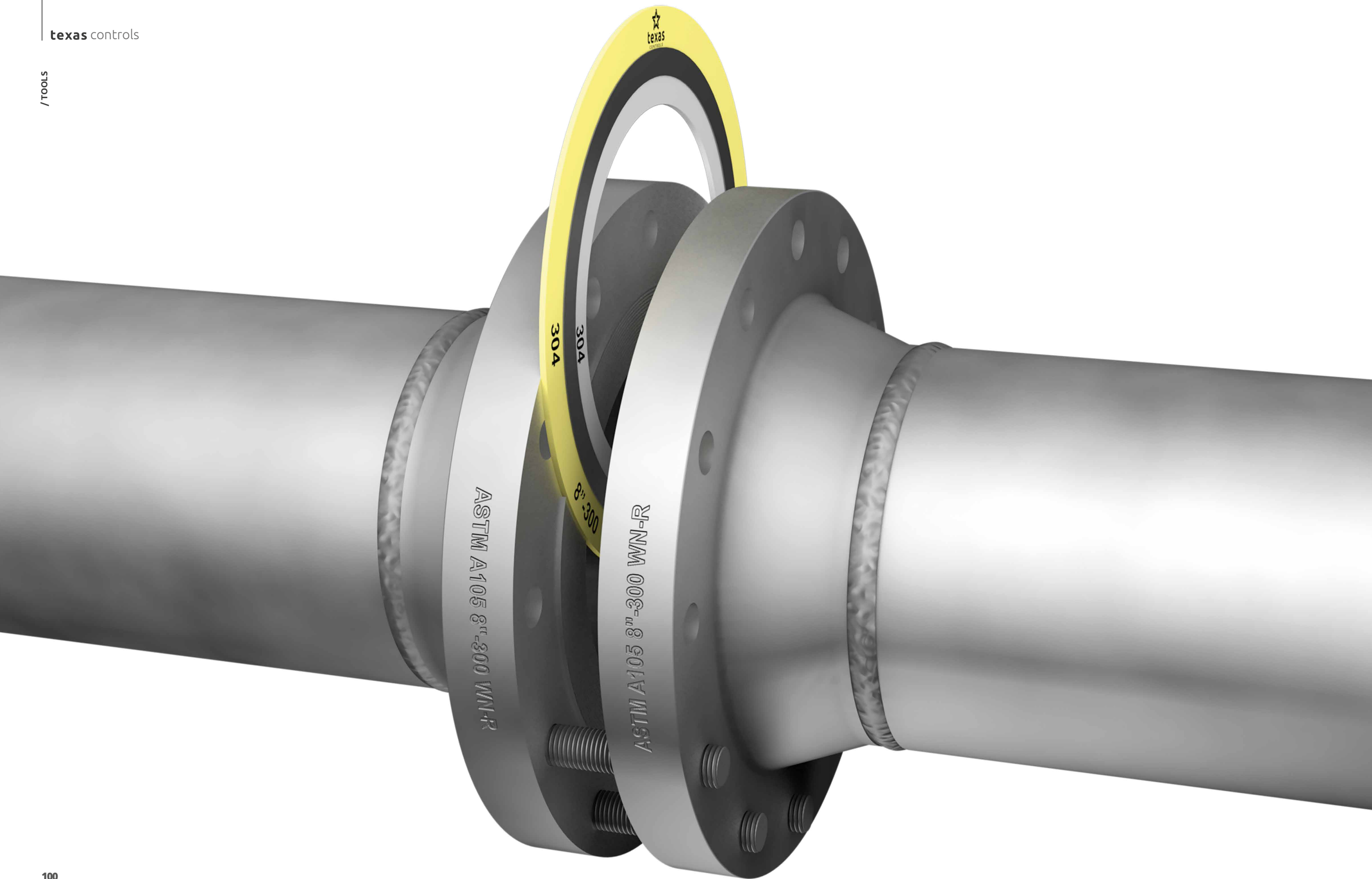


>> More info



Flange Pilot®  
All data of the joint



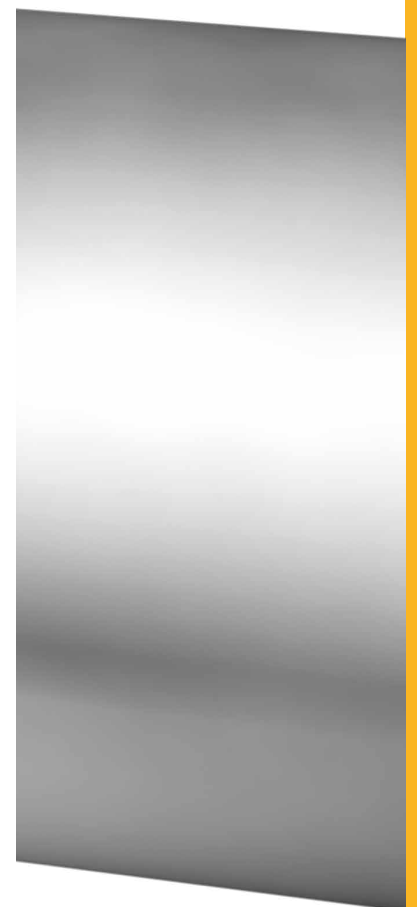


## Gaskets

- ✓ Non-metallic
- ✓ Semi-metallic
- ✓ Metallic
- ✓ Special Gaskets



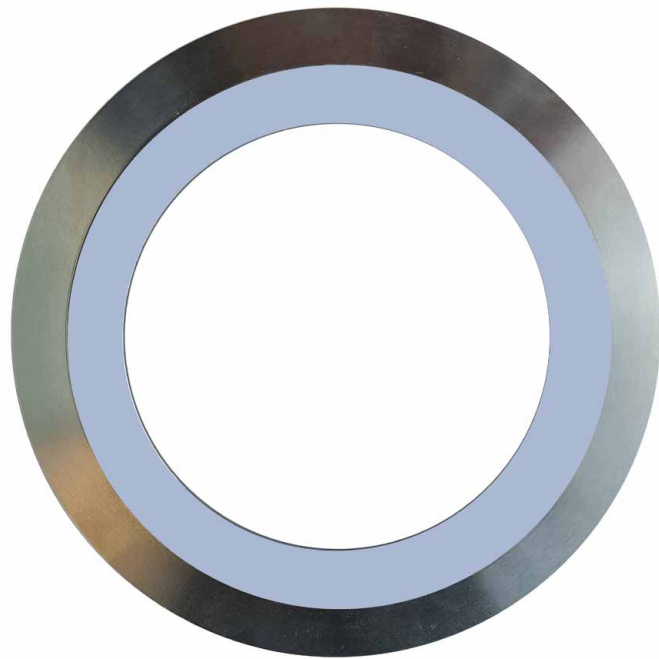
>> More info



SEMI-METALLIC

KAMMTEX®

THE VERSATILE GASKET



**Compressibility, Low Stress & Convenience**

The compressibility of a sheet gasket; the sealability of a spiral wound gasket and the ease of handling of a solid metal gasket



**Low Seating Stress**

Ideal for light flanges with limited bolt load, as well as highly loaded flanges



**Easy to Install**

The rigid and stable core of the gasket facilitates easy handling and installation, with reduced risk of damage to the gasket



**Wide Range of Pressures**

Suitable for use on all standard flange pressure classes and norms



**High Temperatures**

Suitable for use in cryogenic service up to 1000°C



**Fire-Safe**

API 6FB

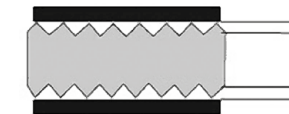
**Main features**

- + Kammtex® gaskets are the ideal product choice for standard pipeline and heat exchanger applications.
- + They provide a high level of sealing integrity but with the ability to seal at seating stresses normally associated with sheet materials.
- + Kammtex® are able to cope with high temperatures and pressures making them suitable for heat exchanger service. The product can also be used time and again when correctly re-furbished.
- + Custom shapes.
- + Comfortable sealing surfaces: More tolerant to smooth and or damaged flange sealing faces.
- + Re-usable: They can be re-faced and re-used.
- + Kammtex® gaskets are a direct replacement for double jacketed gaskets.
- + Space limitations: Can be manufactured with narrow seal land widths.
- + Longer service life, less maintenance, reduced emissions.



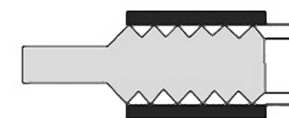
**PRODUCT RANGE**

**STANDARD KAMMTEX**



**Serrated profile used in confined locations e.g. heat exchanges**

**KAMMTEX OR**



**Serrated profile with integral outer ring**

**CUSTOM SHAPES**



**Wide range of non-circular shapes and sizes**

These are particularly useful for applications that need the narrow sealing element and low-stress seating of a kammprofile but traditionally have had to use lower-grade products such as jacketed or metal-reinforced gaskets. Applications include oval, obround, and square manway, and boiler floor joints, and large rectangle gaskets for fin-fan header boxes.



## KAMMTEX® AERO

EFFECTIVE SEALING SOLUTIONS FOR INCREASINGLY DEMANDING APPLICATIONS







### Main features

- +The KAMMTEX® AERO gasket consists of a concentrically machined metal core and a soft, formable sealing material bonded to each face. This soft material allows the gasket to seat at low loads, while the machined geometry of the metal core intensifies the sealing capability by concentrating load on the sealing surfaces. The machined grooves minimize lateral movement of the sealing material, while the metal core provides the gasket with rigidity and resistance to leakage.
- + Excellent compressibility and recovery characteristics ensure joint tightness under temperature and pressure fluctuations, differential temperatures across the flange face, bolt relaxation, and creep.
- + They are suitable for use in vacuum conditions up to extreme pressures.



## Excellent Compressibility & Recovery Features

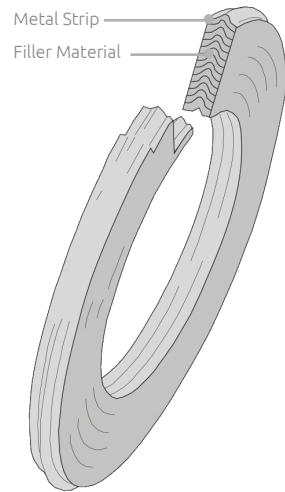
### 4 MAIN ADVANTAGES

- 
**Compressibility**  
 They have the compressibility of a soft cut gasket.
- 
**Sealability**  
 The sealability of a spiral wound gasket
- 
**Ease to Install**  
 The ease of handling of a metal gasket
- 
**Extreme Pressures**  
 They are valid from vacuum to extreme pressures

SEMI-METALLIC

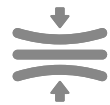
# SPIRAL WOUND GASKETS

EFFECTIVE SEALING SOLUTIONS FOR INCREASINGLY DEMANDING APPLICATIONS



## Flexibility & Recovery An Unique Ability

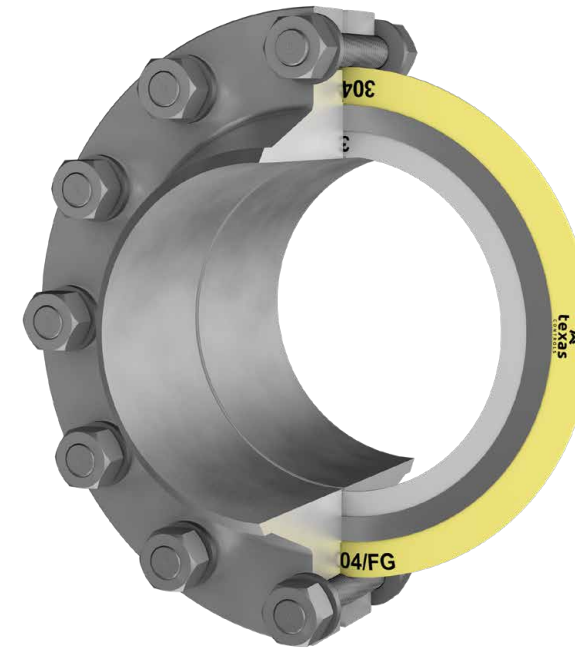
To cope with the effects of high pressure, wide temperature fluctuations and bolt relaxation



**Flexible**  
Adaptable Sealing Solutions

### Main features

- + Thermiculite® is often used as a filler material to provide resistance to temperature, chemical attack and corrosion.
- + 24/7 manufacturing capability for specialist requirements.
- + Significant stock holding of standard gaskets.
- + Flexibility to manufacture and supply gaskets with a combination of inner and / or outer guide rings.
- + Wide range of machinery that enables us to manufacture any size gasket.
- + Custom designs available.
- + World-class testing and development centre.
- + Spiral wound gaskets are found in a host of applications across the world, from small diameter turbine gaskets, to HP heat exchangers.



### PRODUCT RANGE

#### STYLE CG



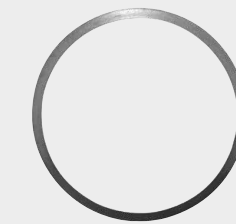
- + Style CG gaskets: Sealing element + outer metal ring.
- + Outer ring: Positions gasket, prevents excessive compression.
- + Design ensures optimal sealing performance.
- + Suitable for raised and flat faced flanged connections.
- + Appropriate for mild to moderate service conditions.

#### STYLE CGI



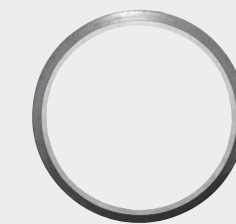
- + The CGI style gasket consists of an outer metal ring and an inner metal ring.
- + The inner metal ring prevents the sealing element from buckling and acts as an additional compression stop.
- + It also acts as a barrier between the sealing element and the process stream, protecting it from heat, media, and erosion.
- + CGI gaskets can be used on raised and flat faced flanged connections.
- + They are suitable for moderate to severe service conditions.

#### STYLE R



- + The gasket is made up of a sealing element and additional plies of metal at the beginning and end of the winding process.
- + The extra metal layers enhance stability and sealing performance.
- + Unlike other spiral wound gasket styles, compression of the sealing element is regulated by the appropriate flange face configuration.
- + Style R gaskets can be used on tongue and groove, male and female, and flat to groove flanged connections.

#### STYLE RIR



- + The gasket consists of a sealing element and an inner metal ring.
- + The inner ring serves as a compression stop and forms a physical barrier between the sealing element and the media stream.
- + It also reduces turbulent flow, preventing flange erosion and the accumulation of debris in the annular space.
- + Style RIR gaskets are appropriate for male and female (spigot and recess) flanged connections.

METALLIC

RTJ

RING TYPE JOINTS



The metallic RTJ is used in the **Petroleum Industry**

When high-pressure applications require a high-integrity seal



Oval and octagonal section



High pressures

PRODUCT RANGE

STYLE R – OVAL/OCTAGONAL TO API/ASME



- + Today this product range can also be found on valves and pipework assemblies, along with some high integrity pressure vessel joints.
- + Available in both oval and octagonal configurations, both types are interchangeable on the modern octagonal type grooved flanges.

STYLE RX



- + The RX is designed to fit the same groove design as a standard Style R, making the joints interchangeable, however consideration should be given to the difference in finished make up distance.
- + The geometry of this modified design induces a pressure energising effect when the assembly is pressurised, improving the efficiency of the seal.

STYLE BX



- + The Style BX are designed for use on API 6BX flanges on pressure systems rated up to 20,000 psi.
- + When correctly fitted, the style BX gasket allows virtual face to face contact of the flange faces.
- + All BX gaskets incorporate a pressure balance hole to ensure equalization of pressure which may be generated in the grooves. Designs are also available for subsea applications.

SPECIAL DESIGNS



- + Upon request

Main features

- + Protective Coating: In accordance with API specifications, soft iron and low carbon steel Ring Type Joints are electroplated with zinc to a maximum thickness of 0.013 mm or 13 µm. Alternative material coatings can be provided upon request.
- + The gasket material should be chosen to match the service conditions. It is always recommended that the gasket material be softer than the mating flanges.

The more popular Ring Type Joint materials, with the stated maximum hardness and identification as specified in API 6A and ASME B16.20, are shown in the table below:

Material	Maximum Hardness	
	BRINELL (BHN)	ROCKWELL (RB)
Soft Iron	90	56
Low Carbon Steel*	120	68
4-6% Chrome 1/2% Moly (F5)	130	75
St. St. AISI 304	160	83
St. St. AISI 316	160	83
St. St. AISI 347	160	83
St. St. AISI 410	170	86
Alloy 600	200	92
Alloy 625	200	92
Alloy 800	200	92
Alloy 825	200	92
Alloy C276	240	92
SMO 254 (F44)	240	89
Duplex (F51)	250	-
Super Duplex	200	92
Monel® 400 (A400)	200	92
Titanium Gr.2	215	94

\* The maximum hardness values applied to Soft Iron may be required or Low Carbon Steel



NON-METALLIC

SIGMA®

BIAXIALLY ORIENTATED PTFE MATERIALS



For applications where Chemical Resistance

is paramount, SIGMA® is the only option

Main features

- + The latest generation of biaxially orientated PTFE materials.
- + The chemical resistance and dimensional stability of the material ensures total sealing reliability and minimises fugitive emissions.
- + Suitable for sealing virtually every chemical medium across the entire pH range (0-14), SIGMA® pairs the outstanding chemical resistance of PTFE with enhanced dimensional stability to improve overall material stress retention.
- + The non-stick properties of the SIGMA® range of materials offer excellent removal after usage to dramatically reduce the downtime on shutdown.
- + Suitable for low bolt load applications.
- + Materials available in a range of different sheet sizes and thicknesses.
- + Available for oxygen service.
- + Easy to handle and cut.



Chemical Resistant

SIGMA® provides enhanced levels of sealing performance when compared to conventional materials



FDA Compliance

Ideal for Food industry, pharmaceuticals or electronics



Cryogenic up to 260°C (500°F)

PRODUCT RANGE

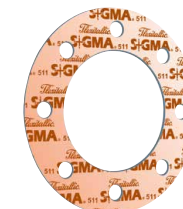
SIGMA® 500



- Enhanced compressibility for low bolt loads
- Improved flexibility over conventional calendared and graphite sheets.

- Suitable for use in alkali, acid and chlorine service.
- Can be used for all concentrations of sulphuric acid.
- WRAS approved for hot and cold potable water services.

SIGMA® 511



- Standard compressibility.
- Strong acids (except hydrofluoric) to general chemicals.

- Can be used for all concentrations of sulphuric acid.
- WRAS approved for hot and cold potable water services.
- Suitable for oxygen & peroxide service.

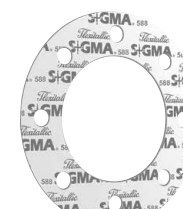
SIGMA® 533



- Standard compressibility.
- Ideal for sealing food, pharmaceutical and non-contamination applications.
- Strong alkalis and other general chemicals.

- Aqueous hydrofluoric acid below 49%.
- Not suited for sealing molten alkali metals or fluorine gas.

SIGMA® 588



- Unique cellular structure – low load sealing for damaged contact surfaces.
- Layered structure enhances dimensional stability and assists installation of larger gaskets.

- Layers bonded by direct sintering – no adhesive layer or potential leak paths.
- Suitable for use in both concentrated acid and alkali service.
- Ease of use – Eliminate jacket 'fold over' associated with large envelope gaskets.

SIGMA® 600



- High compressibility for ultra-low bolt loads; plastic and glass lined equipment.
- Suitable for use across a wide range of chemical media; acids, alkalis, halogens and hydrocarbons.

- Universal – minimises inventory requirements and eliminates 'mis-application'.
- Easy to cut, handle, install and remove.
- Pigment and filler free – suitable for 'contamination sensitive' applications.



# THERMICULITE®

**Intense Heat  
Extreme Cold  
Aggressive Chemicals**

High & Low Temperatures

Uniformly Strong

Free from Oxidation

Chemical Resistant

Electrical Insulation

Thermal Insulation

Easy to Handle

**Thermiculite®** is specified by name where critical sealing matters



**Cutting-Edge** Material Technology

Simulated structure of exfoliated graphite, with one notable exception: It maintains integrity through a wide range of high temperatures

**UP TO 1000°C (1832°F)**



**Versatile**

High temperatures & Corrosive Environments



**Fire-Safe**

API 6FB



**TA Luft Approved**

Air pollution control

## Why Thermiculite® Series?

- Total freedom from oxidation.
- Broad chemical compatibility range.
- Genuine opportunity for gasket standardisation and inventory consolidation.
- Wide service capability.
- Applications include Petro chemicals, Fertilisers, OEM and Oil & Gas applications, where process conditions are extreme.

### Required Service Life in Years

Required Service Life in Years	Max. Service Temperature		
	Graphite	Thermiculite® 800 Series	Thermiculite® 700 Series
1	366°C	1000°C	550°C
3	332°C	1000°C	550°C
5	321°C	1000°C	550°C
10	304°C	1000°C	550°C

### Main features

- + Our experienced engineers use the versatility of Thermiculite® to create bespoke sealing configurations in equipment and piping systems to increase operational up-time for our customers.
- + This truly remarkable product has proven itself as an effective long-term sealing solution in over 600 of the most demanding industrial sealing applications.
- + Wide availability of styles of gaskets.
- + Free from oxidation.
- + Excellent chemical compatibility (exceeds graphite).
- + Electrical and thermal insulation.
- + Replaces graphite, PTFE, non-asbestos materials.

### Recommended Service Conditions for Thermiculite® Critical Service & Performance Series

	CRITICAL SERVICE SERIES		PERFORMANCE SERIES
	815	835	715
<b>Product Type</b>	815	835	715
<b>T° Range</b>	Tanged Sheet	Spiral Wound Filler	FlexPro (kammprofile) Facing
<b>Pressure</b>	Up to 1000° C	Up to 1000° C	Up to 1000° C
<b>Range</b>	Class 150 to 300	Class 150 to 2500	Class 150 to 2500
<b>Typical Use</b>	High Temperatures, Nominal Pipe Sizes, Non-Standards Gaskets, Problem Applications, Critical Seals		Available in Cut Gasket and 1,5 m x 1,5 m sheet

### PRODUCT RANGE

#### THERMICULITE® 815 TANGED SHEET



- + High temperature sheet reinforced with a 0.1mm (0.004") 316 stainless steel tanged core.
- + Available in thicknesses of 0.8 mm (1/32"), 1.5 mm (1/16") 2.0 mm (5/64") and 3.0 mm (1/8"), in metre (standard) and 1.5 m x 1.5 m (60" x 60") sheet.
- + Cut gaskets also available in all shapes and sizes.

#### THERMICULITE® 835 SPIRAL WOUND FILLER



- + High temperature filler material for spiral wound gaskets.
- + Wide range of metals available.

#### THERMICULITE® 845 FLEXPRO™ (kammprofile) FACING



- + High temperature Filler and Facing material for kammprofile gaskets.
- + Wide range of metallic core materials available.

#### THERMICULITE® 855 CHANGE™



- + High temperature Filler and Facing material for use with the Change™ Gasket.

#### THERMICULITE® 894 PACKING MATERIAL



- + Critical service packing made from expanded vermiculite foil and Inconel wire.



NON-METALLIC

# FLEXICARB®

Material: 98% pure graphite foil



## Flexicarb® RGS1

**HIGH PURITY GRAPHITE LAMINATE REINFORCED WITH A NICKEL FOIL CORE**

Recommended for general sealing applications and can be used for sealing steam and most chemicals with the exception of strong oxidizing media. It is particularly recommended where ease of gasket cutting is important.

- + Reinforcement: 13 micron pure nickel foil.
- + Bond Type: Adhesive.
- + Sheet size: 1.0m x 1.0m / 1.5m x 1.5m.
- + Thickness range: 0.4 – 3.0 mm.
- + Max.recommended temperature: Thermal oxidising media 370°C Inert or reducing media 1000°C.
- + Max. recommended pressure: ASME B16.5 Class rating pressure systems up to and including 600. PN rated pressure systems up to and including PN100.



## Flexicarb® RGS3

**HIGH PURITY GRAPHITE LAMINATE REINFORCED WITH A TANGED STAINLESS STEEL CORE**

Recommended for applications involving high sealing stresses and where high blowout resistance is required. The inclusion of the steel reinforcing layer gives rise to a robust sheet. RGS 3 can be used to seal a wide range of media at moderate combinations of temperature and pressure.

- + Reinforcement: 0.1mm thick tanged stainless steel UNS S31600.
- + Bond Type: Mechanical.
- + Sheet size: 1.0m x 1.0m / 1.5m x 1.5m.
- + Thickness range: 1.0 mm to 3.0 mm
- + Max.recommended temperature: Thermal oxidising media 370°C Inert or reducing media 700°C.
- + Max. recommended pressure: ASME B16.5 Class rating pressure systems up to and including 600. PN rated pressure systems up to and including PN100.

**+ Approvals: BAM Oxygen.**




## Flexicarb® RGS4

**HIGH PURITY GRAPHITE LAMINATE REINFORCED WITH A STAINLESS STEEL CORE**

Can be used to seal a wide range of media at moderate combinations of temperature and pressure.

- + Reinforcement: 0.05mm thick flat stainless steel UNS S31600.
- + Bond Type: Adhesive.
- + Sheet size: 1.0m x 1.0m / 1.5m x 1.5m
- + Thickness range: 0.75mm to 3.0 mm.
- + Max.recommended temperature: Thermal oxidising media 370°C Inert or reducing media 700°C.
- + Max. recommended pressure: ASME B16.5 Class rating pressure systems up to and including 600. PN rated pressure systems up to and including PN100.

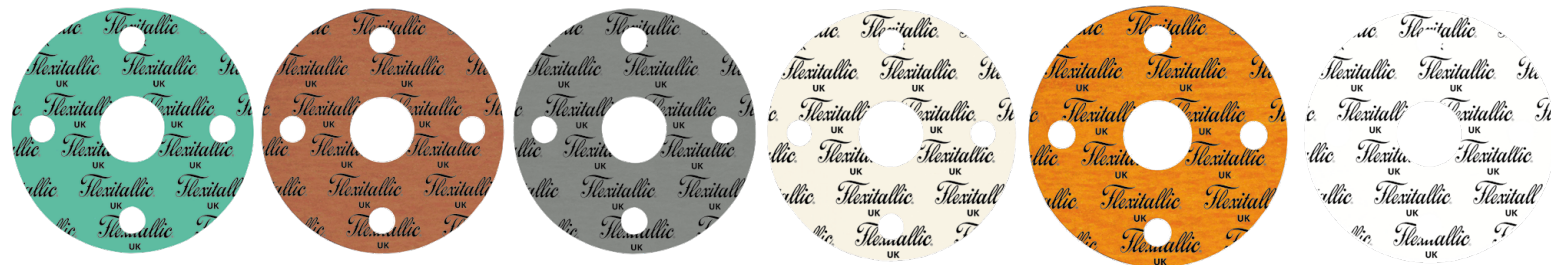
 Use with strong chemical oxidising agents should be avoided

NON-METALLIC



SF®

SHEET JOINTING

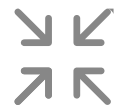


Compressed Fiber & Graphite Sheet

Suitable for a wide range of industrial applications



Wide Chemical Resistance



Good Compressibility & Excellent Stress Retention

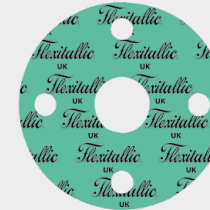


Resistant to Thermal Shock



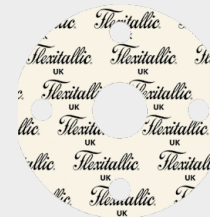
PRODUCT RANGE

SF2800 *Complies with the requirements of the BS 7531 Grade X specification*



- + SF 2800 is an aramid fibre based sheet sealing material bound with a high quality nitrile rubber.
- + Suitable for use across a broad spectrum of industrial applications involving steam (including super-heated steam), water, oils, solvents, fuels, gases, general chemicals, dilute acids and alkalis.
- + Max recommended temperature: 4000C (7500F)
- + Max recommended pressure: 12 MPa (120 bar; 1740 psi)

SF3300 *Complies with the requirements of the BS 7531 Grade X specification*



- + Superior performance aramid/inorganic fibre sheet sealing material bound with a high quality nitrile rubber.
- + Suitable for use across a wide range of media including low and intermediate pressure steam, oils, fuels, solvents and mild chemicals.
- + Max recommended temperature: 4400C (8250F)
- + Max recommended pressure: 14 MPa (140 bar; 2030 psi)

SF 5001



- + An NBR based, asbestos-free sheet sealing material, reinforced with synthetic fibres and graphite flake.
- + Suitable for use in a wide range of industrial applications including oils, fuels, steam, water and dilute acids. Especially suitable for sealing strong caustic liquors.
- + Max recommended temperature: 3500C (6600F)
- + Max recommended pressure: 10 MPa (100 bar; 1450 psi)



# CORRICULITE®

The new industry standard for sealing solutions in corrosive environments



Uniformly Strong



Free from Oxidation



Easy to Handle



## Optimum Sealing & Anticorrosion Properties

### Main features

- + A winning combination of optimum sealing and anti-corrosion properties.
- + When it comes to gasket use in corrosion sensitive environments, there really is no material like Corriculite for cost-effective, flange corrosion management.
- + Comparative tests show Corriculite delivers corrosion protection and sealing properties that far exceed other materials currently available.
- + Fire Safe to API 6FB.
- + Reduced maintenance costs.
- + Reduces costly shutdowns.
- + Maintains seal integrity.
- + Extends equipment life.
- + Eliminates safety & environmental risks.



#### Sealability

EN13555 sealing testing showed Corriculite has superior sealing performance compared to graphite



#### Anti-corrosion

Corriculite is significantly better when compared to graphite under the same conditions



#### Fire-Safe

API 6FB



METALLIC

# LENS RINGS

Metallic gasket design incorporating spherical seating faces



### Main features

- + Designed to suit a specific mating flange profile, providing the user with a high integrity, high pressure/temperature metal to metal seal.
- + Lens ring gasket technology is covered solely by the DIN2696 specification, however, other flange standards can be modified to accept the lens ring.
- + The lens ring material should be specified softer than the flange material, thus ensuring applied compressive load leads to the elastic/plastic deformation of the lens ring and not the flange sealing face.
- + Optimal Load Distribution.
- + Enhanced Sealing Integrity.
- + Resilient and Flexible.
- + Chemical & Temperature Resistance.
- + Easy Installation and Removal.

## Designed & Manufactured By Texas Controls



### High Quality Control

Manufacturing Quality Standards



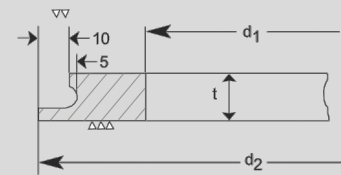
### Ease of Handling

The ease of handling of a metal gasket

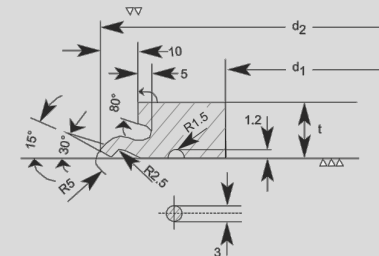
## OTHER STYLES

### WELD RING GASKETS

METALLIC



Style SR



Style SRL

Recommended when there is flange differential radial expansion

For use in any place where a welded seal is necessary, due either to the danger of the medium or the danger presented by a loss of functionality, but where the connection also needs to be detachable to a certain degree.

### RUBBER COATED RTJ



### CARRIER RING (Style CR)

SEMI-METALLIC



Max Temperature 1.000°C  
Max Pressure >500 bar

**Incomparable Elastic Recovery**

### KAM RTJ



**Standard Subsea & Custom Manufactured Seals**

## INSULATING SETS

Essentially used for flange corrosion protection



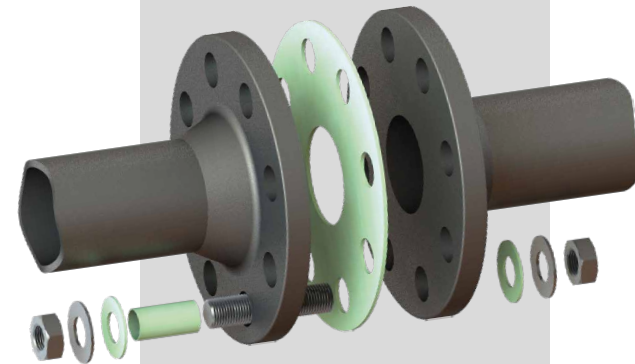
### ISO-FLEX™FS

+ A **fire safe isolation gasket** that is ideal for high pressure and critical service applications, and is aimed at eliminating the concerns and pitfalls of existing market offerings.



### I-Flex LP

+ **Flange Isolation Kit** is comprised of an Insulating gasket, insulating sleeves, insulating washers and metal washers.



Composed by

- ✓ Washer
- ✓ Sleeves
- ✓ Gasket



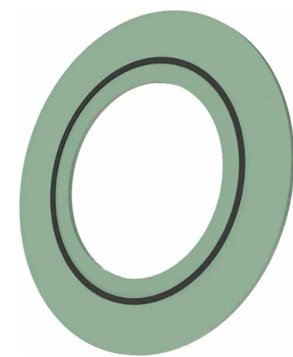
### ISO-FLEX™-LT

+ ISO-FLEX™-LT is a **flange isolation gasket**, which is less susceptible to localised flange damage and seals better than inclined plane style gaskets.



### ISO-FLEX™-HP

+ ISO-FLEX™-HP is an **isolation gasket utilising serrated metallic cores** (Flexpro®) separated by polyimide isolating film and completed with NEMA grade glass reinforced epoxy (GRE) inner and outer rings.



### ISOPRO-IP

+ The ISOPRO-IP is a **flange isolation gasket utilizing NEMA grade glass reinforced epoxy (GRE)**, machine-grooved with a recess and inclined plane & containing a soft sealing element.

## THERMICULITE® COMPRESSION PACKINGS

The choice for valves and pumps

**Thermiculite®**  
innovative. versatile. complete.



### THERMICULITE® TR160

- + Flexitallic TR160 rings have been primarily developed as a component part of a high performance high temperature valve packing. It is also suitable for static sealing applications such as valve bonnet seals. Thermiculite™ possesses excellent chemical resistance, consequently, Flexitallic TR160 rings can be used across a wide range of chemical media including oils, solvents, acids and alkalis. Especially suitable for 'Molten Salt' applications. Not a dynamic seal. Shape and sizes pre-determined by the tooling.
- + Available in ring form, whole (solid) or split in halves.
- + Typical applications: Isolating & Control Valves stem seals and static seat rings.
- + Max temperature: 1000°C to -200°C.



### THERMICULITE® 894

- + Made by over-knitting strips of Thermiculite foil with a fine (0.09 mm diameter) Inconel 600 wire and then braiding a number of those Thermiculite / Inconel strips to produce a square section sealing material available in continuous coil form.
- + Intended for high temperature and / or aggressive media applications where a flexible gasket / packing is required. Such applications include but not limited to oven door seals, very large diameter flanges and in the production of industrial fertilizers.
- + This material can also be used in conventional high temperature valve stem sealing systems for on-off or isolation valves.
- + Max recommended temperature: 1050°C.

# Services

Cover your Complete Total Needs



## RENTAL EQUIPMENT

- + Cover Your Complete Tool Needs.
- + 24/7 Availability.
- + Life Cycle Cost Control.
- + Complete Tool Outsource Program.
- + Pay Per Use Resource.



## REPAIRS & MAINTENANCE

- + Torque and Tension Tool repairs.
- + Maintenance Service.
- + Custom Maintenance Programs.

+ More info



## IMPLEMENTATION OF FLANGE PILOT: INTEGRITY MANAGEMENT SYSTEM

- + In-House Software Development.
- + Years of Experience in Tools Management. applied to the Software.
- + Documentary, Quality and Cost Control.
- + MultiPlatform, MultiUser, MultiTask.

## CALCULATIONS AND PROCEDURES

- + Calculation according to ASME VIII, PVRC and EN1591.
- + Flange Inspection, Assembly, Bolt lubrication, Torque Tightening, Bolt Tensioning, etc.
- + Manuals for each plant respecting internal requirements.

## ROOT CAUSE ANALYSIS - SEALING PROBLEM SOLUTION

- + Diagnose and problem solving.
- + Effective solutions for leaking & bolting problems.
- + More than 6000 pressure vessel & critical pipe flange leaking problems solved during the last 25 years.



## ON-SITE SERVICES

- + Inspection.
- + Supervision.
- + Best practice manuals.

## PERMANENT ON-SITE CONSULTANT SERVICE

- + Senior Supervisors according to PCC-1.
- + Contractor work monitoring.
- + Job log and reports for flanged joint.
- + Integrity management system.

## TECHNICAL ASSISTANCE REMOTELY

- + Worldwide technical assistance.
- + On-line technical support.



## ULTRASONIC MEASUREMENT

- + Ultrasonic bolt load measurement service.
- + Equipment repair and calibration services.

## CALIBRATION SERVICES

- + Calibration of Torque, Pressure, Load.
- + Traceability to ISO/IEC 17025 Standards.

## MODELING, SIMULATION & CUSTOM DESIGNS

- + Tailored Solutions for Your Design Needs.



# The Academy®

Bolting & Sealing training courses

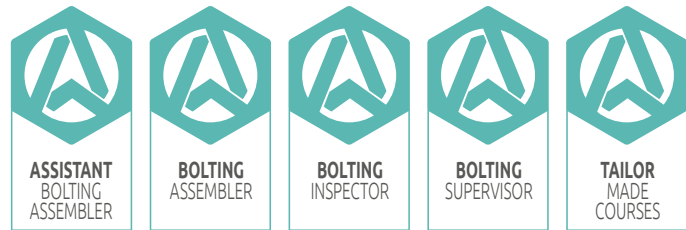


### Knowledge Areas

- + Technical Knowledge
- + Preventive Strategy
- + Data & Traceability
- + Practical Competence
- + Safety & Quality Awareness
- + Experience Assessment

### DIFFERENT TRAINING LEVELS

- + 5 Standardized programs and certifications
- + Hands-on practical sessions
- + Examination and proof of experience
- + On-line and face to face courses
- + Virtual reality courses



/07

+ ON-LINE

+ PRESENTIAL

+ VIRTUAL



Face to face



on-line



Scan the QR Code to access our Platform





## Certified Company

### ASME PCC-1:2022

ISO 9001:2015

ISO 14001: 2015

ISO 45001:2018

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