



CONTROLLED BOLTING SOLUTIONS

Mechanical Joint Integrity

- ECITB UK & ASME MJI Training
- Flange Management JIT Software
- Hydraulic Torque Wrenches
- Hydraulic Tensioning
- Portable Machines



Due to continuous product development all dimensions and specifications listed below may be subject to alteration without prior notice. LAPP UK accepts no responsibility for any circumstance arising due to any changes that may result.

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EQUIPMENT UK

LAPP Equipment USA

Contents

- 3 ECITB UK MJI and TIMJI Accredited Training
- 6 ASME PCC-1 MJI BSQP Accredited Training
- 7 INTEGRITY-PRO Flange Management Joint Integrity Software
- 12 MILLBOLT METER Bolt Tension Monitor
- 14 TS Transducer Torque Socket
- 15 TORQTAG® Numbering Magnets & Flange Tagging Solutions
- 16 AWS Hydraulic Torque Tool Calibration Test Equipment
- 17 LSQ Square Drive Hydraulic Torque Wrench
- 18 LFT Low Profile Hydraulic Torque Wrench
- 19 LFT-AB Ring and Open End Hydraulic Torque Spanners
- 20 LAPP3 and LAPP4 Hydraulic Torque Pumps
- 21 LAPP5 Twin Pneumatic Heavy Duty Hydraulic Torque Pump
- 22 LBW Magnetic BACKUP Wrench
- 23 LSR Spring Return Bolt Tensioner
- 25 LMS Sub-sea Hydraulic Bolt Tensioner
- 27 HBP150 High Pressure Air/Electrical/Hand Tensioning Pumps
- 28 LPSW - Single speed Pneumatic Torque Gun
- 29 LETW-S & -A Electric 2 speed Straight & Angled Torque Gun
- 30 MK Lithium Battery Torque Gun
- 31 GMH & DH Adjustable Manual Torque Wrenches
- 34 LEJ Electronic Adjustable Clicker Torque Wrenches
- 35 LFSM & LFSH Flange Spreaders
- 35 NC & LNS Hydraulic Nut Splitters
- 36 LFA Flange Alignment Tooling
- 37 FWT Flange Weld Testers
- 39 LAP Flange Facing Machines
- 42 SB & AB Pipe Cold Cutting and Beveling Machines
- 47 LRSM, LRCS, LRC, LRCH, LCLP, LCLRG Hydraulic Cylinders
- 51 LPE & LP Series Hydraulic Cylinder Pumps



THE LAPP "THREE T" PILLARS OF JOINT INTEGRITY ASSURANCE



CORRECTLY SELECTED, MAINTAINED AND CALIBRATED TOOLS

FLANGE MANAGEMENT SOFTWARE AND DATA COLLECTION DEVICES



Tooling



Training

APPROPRIATELY TRAINED AND CERTIFIED TECHNICIANS



Traceability



ECITB UK TRAINING STANDARD MECHANICAL JOINT INTEGRITY MJI & TIMJI Courses

The Engineering Construction Industry Training Board (ECITB) is a UK based statutory organisation, national training provider and awarding body with responsibility for training and development. Acting on behalf of the industry, the ECITB works closely with the UK government and global employers to attract, develop and qualify engineering construction personnel in hundreds of skills and disciplines.

ECITB UK MJI Courses

LAPP Equipment, as part of our 3 pillars initiative to Global Joint Integrity Assurance Program, is proud to work in conjunction with ECITB to provide the MJI and TIMJI courses to our customers. We now have approved MJI and TIMJI venues in Singapore, Malaysia, Brunei, Indonesia, Thailand, South Korea, Australia, Philippines, China and Trinidad and Tobago and the Caribbean.

The Mechanical Joint Integrity course is a 2.5 days lecture come practical course comprising of the following:-

MJI 10 Hand Torque Bolted Connection Techniques

This course covers specifications, methods, processes, techniques, and procedures for using hand torque wrenches. It will explain how to remove components from hand torque bolted connection systems, how to replace and reassemble securely and verify the integrity of assembled joints.

MJI 18 Hydraulically Tensioned Bolted Connection Techniques

This course covers specifications, methods, processes, techniques, and procedures for using hydraulic tensioning equipment. It will explain how to remove components from hydraulic tensioned bolted connection systems, how to replace and reassemble securely and verify the integrity of assembled joints.

MJI 19 Hydraulic Torque Bolted Connection Techniques

This course covers specifications, methods, processes, techniques, and procedures for using hydraulic torque wrenches. It will explain how to remove components from hydraulic torque bolted connection systems, how to replace and reassemble securely and verify the integrity of assembled joints.

MJI 23 Powered Torque Gun Bolted Connections (Optional)

This 4hr course covers specifications, methods, processes, techniques, and procedures for using powered torque guns for bolted connections. It will explain how to remove components from powered torque gun bolted connection systems, how to replace and reassemble securely and verify the integrity of assembled joints.

MJI10

MJI18

MJI19



ECITB UK TIMJI Courses

The TIMJI (Technical Mechanical Joint Integrity) course is 1 day of technical competence validation tests. The tests are standards based consisting of a bank of on line knowledge questions and a practical task to validate the candidate's skills, knowledge and ability. Successful candidates will be presented with a TIMJI Certificate which is valid for 3 years.

TIMJI10 Dismantle, Assemble and Hand Torque Flanged Joints

Knowledge test and practical activity test to validate candidate's knowledge and competency to dismantle, assemble and hand torque flanged joints.

TIMJI11 Dismantle, Assemble and Hand Torque Clamp Connectors

Knowledge test and practical activity test to validate candidate's knowledge and competency to dismantle, assemble and hand torque clamp connectors.

TIMJI18 Dismantle, Assemble and Tensioning Bolted Connections

Knowledge test and practical activity test to validate candidate's knowledge and competency to dismantle, assemble and hydraulically tension flanged joints.

TIMJI19 Dismantle, Assemble and Hydraulically Torque Flanged Joints

Knowledge test and practical activity test to validate candidate's knowledge and competency to dismantle, assemble and hydraulically torque flanged joints.

TIMJI20 Dismantle, Assemble and Hydraulically Torque Clamp Connector Joints Knowledge test and practical activity test to validate candidate's knowledge and competency to dismantle, assemble and hydraulically torque clamp connector joints.



Overview of ASME Qualified Bolting Specialist Program

The ASME Bolting Specialist Qualification Program introduces you to the principles and practices of bolted joint assembly. It improves your ability to inspect, troubleshoot, assemble, disassemble, and tighten bolted joints safely.

Through training and testing, you will demonstrate your understanding of the principles and practices of bolted joint assembly, as outlined in Appendix A of ASME PCC-1: *Guidelines for Pressure Boundary Bolted Flange Joint Assembly*.

This program consists of two sections:

- 1. Online – Bolting Principles and Procedures:** This training and assessment is designed to improve your knowledge of the principles and procedures of bolting. It is delivered in four online courses with multiple-choice reviews and an online final examination. The four parts included in the online training are:
 - Part 1 – Principles of the Bolted Joint and ASME PCC-1
 - Part 2 – Flanges, Fasteners, and Gaskets
 - Part 3 – Putting It Together/Taking It Apart
 - Part 4 – Bolting Safety and Tool Handling
- 2. On-Site – Hands-On Tool Demonstration and Testing:** This training and assessment is delivered in a one-day session in which you will review, observe, and demonstrate actual tool handling and safety principles. During this training day, you will demonstrate that you can safely and effectively operate bolting tools and assemble functioning joints. It is designed to test and improve your skills. This training can only be taken after successful completion of all four online courses and the final examination. Initially, this training will be available at various locations around the U.S.

Successful candidates who submit verification of at least 6 months of bolted joint assembly experience, complete the online courses, pass the online examinations, and pass the on-site instructor's evaluation will receive the ASME Certificate for the Qualified Bolting Specialist. Please note the following:

Individuals who successfully complete this program will be familiar with the general principles and best practices of bolted joint assembly as outlined in the current edition of ASME PCC-1, and shall have demonstrated their knowledge at the level required by Appendix A of the ASME PCC-1 Guidelines.

Here is the process for applying and completing the qualification program:

Bolting Specialist Customer Application Process

1. Complete the 4 online courses and pass each exam
2. Complete the ASME application form
3. Pass the online Bolting Principles and Procedures Final Exam, scoring 100%
4. Contact an Authorized Training Provider to take the On-Site – Hands-On Tool Demonstration and Testing training
5. Submit the completed evaluation from the On-Site training
6. Receive the ASME Bolting Specialist Qualification certificate and card



INTEGRITY-PRO

Flange Management Joint Integrity Software

INTEGRITY-PRO Joint Monitoring software is a bespoke database system specifically developed to plan, monitor, control and provide traceability of flanged joints and connections. The database calculation engine uses the Baseline Standard ASME PCC-1 2013 Appendix O Section O-4.1 and Appendix H Table H-1 to define the residual bolt load/stress, and is compared with tabled values in the SHELL ES/090 Rev 2 Specification. INTEGRITY-PRO runs on the standard Windows operating system and can be used as stand alone or networked. It has been adopted by major plant operators as an essential management system due to its simplicity and comprehensive covering of the plant and related maintenance.

Offering data gathered from years of industry experience, Integrity-Pro can provide bolt tightening data including bolting patterns, torque and tensioning figures, procedures, techniques and recommended controlled bolting equipment. Based on the information entered, the Integrity-Pro software will analyze all of the data and produce a complete calculation sheet along with the required torque or tension figures to ensure an accurate and correctly bolted joint is achieved.

Integrity-Pro can also create a specific tightening procedure for each bolted joint, which can include specific information such as any special remarks all of which can be easily entered into the software by the user. It also includes basic information for standard flanges, wafer check valves, spade and spacers, and swivel flange assemblies.

Integrity-Pro joint integrity database management system is used to support bolted joint inspection and maintenance and/or leak testing activities raising safety levels across the industry in which it applies.



MADE IN THE UK

INTEGRITY-PRO

Flange Management Joint Integrity Software

FUNCTIONALITY

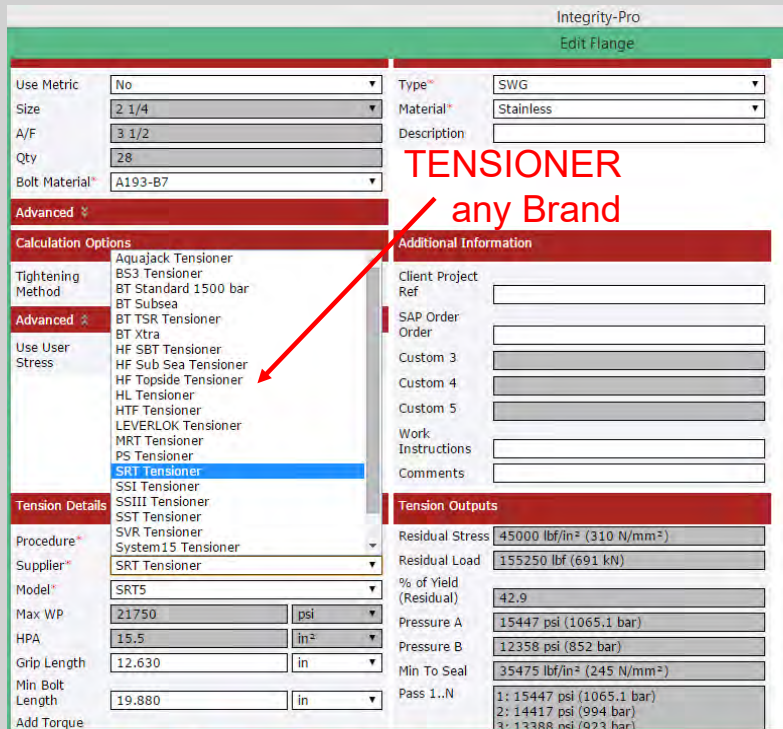
Full traceability and control of all activities associated with the joint/connection including:

- Joint disassembly/breakout
- Machining/re-facing
- Joint assembly
- Bolt tightening
- Testing (Hydrostatic, Pneumatic, Nitrogen or Helium)
- Leak history and incidents

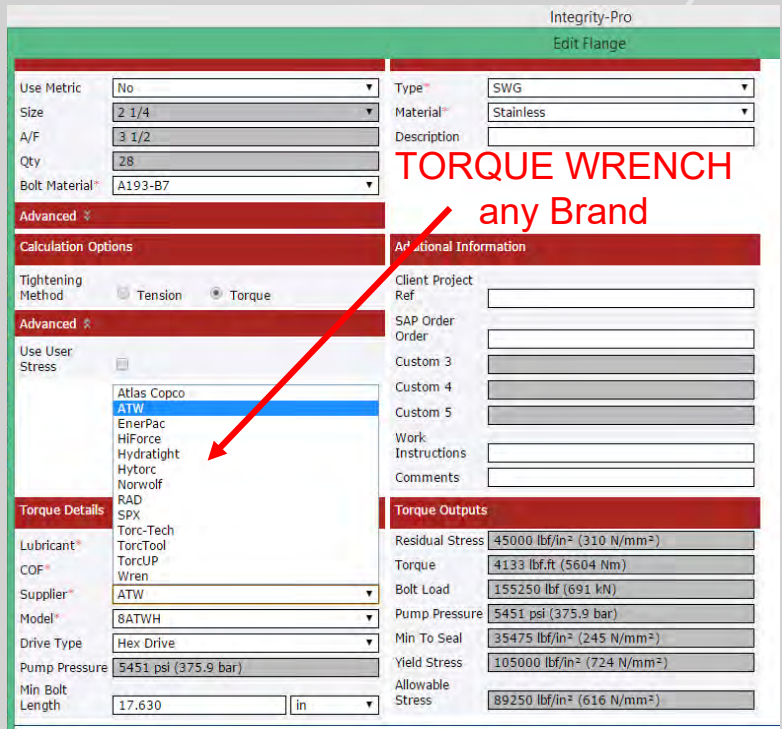
Integrity-Pro Flange Management Joint Integrity Controlled Bolting software provides bolting calculations and data for :

- BS1560/ANSI B16.5 standard flanges
- MSS SP44 standard flanges
- API 6A and 17D standard flanges
- Clamp type connectors (Techlok, Grayloc, Galperti and Destec)
- Non-standard joints, i.e. pressure vessels, heat exchangers, compact flanges, etc..

- Project control and review by visual status display of each joint.
- Performs as a central source for documentation and records associated with each activity or task.
- Provides joint tightening procedures and methods.
- Generates tooling lists.
- Provides and maintains historical data for each joint.
- Search engine to find and display specific flanges/records.
- Embedded equipment database providing access to service records, tool calibration, etc.
- Embedded personnel database providing access to individual training, competence, qualifications, etc..
- Completed joint databases can be viewed and interrogated by a freeware viewer which can be freely distributed throughout the organization.



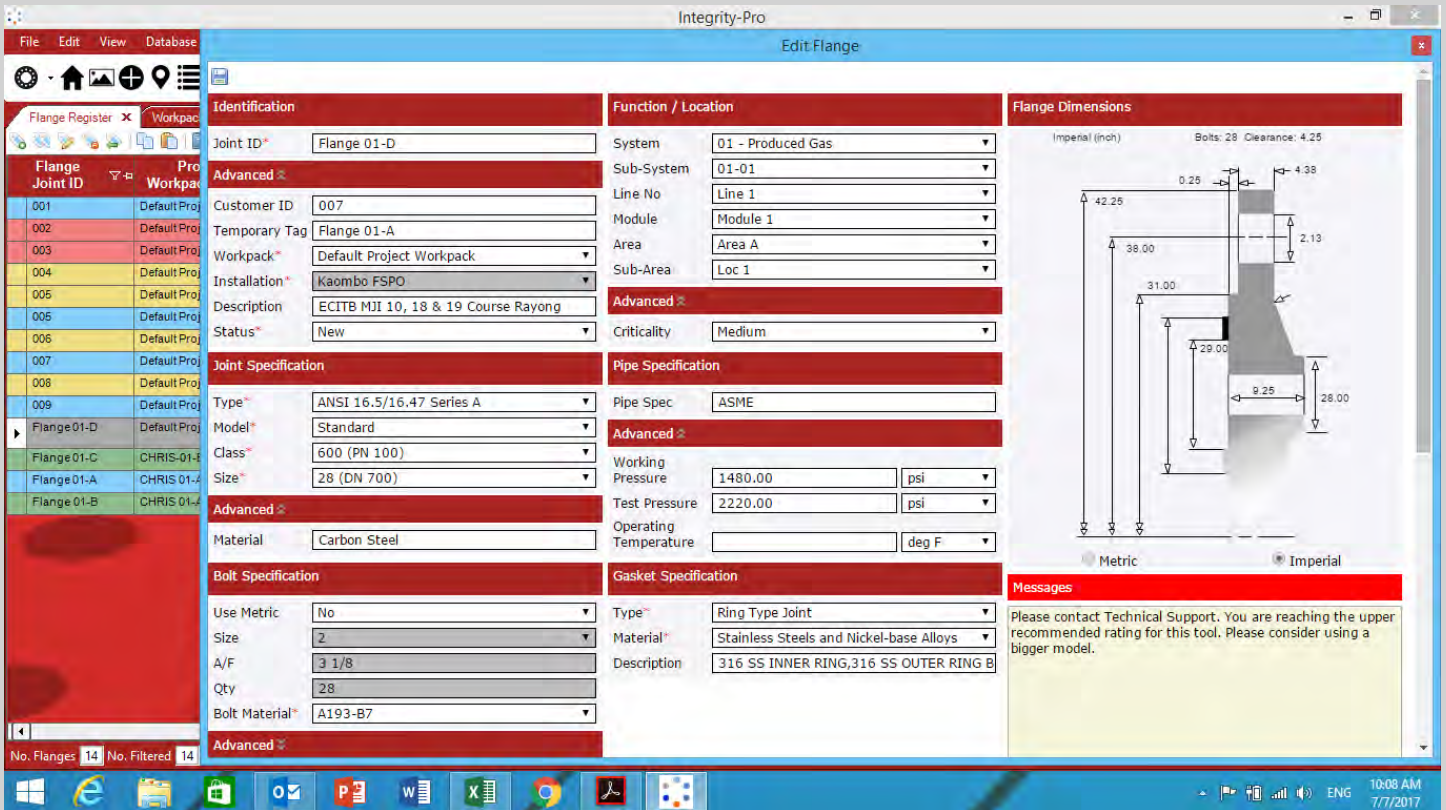
TENSIONER
any Brand



TORQUE WRENCH
any Brand

1. Key Feature – Rapid Flange Data Entry

- Import data from Excel (Data Migration) or Copy existing Flanges.
- Allows for Pre-Engineering project work to commence, saved as a .sdf file.



2. Key Feature – Completion & Work Instruction Certificate

- Once all drawings are in the system and all specifications are added, Work Instructions can be generated to support the field work.
- Completion certificates can be created as part of any documentation handover.

Joint Completion Certificate **PROFAB**

Client	Workpack Number	Tag No	
PRO FAB	WP-012345	TG_007	
Project Number	Project Name	Location	Client Tag No
IN 1176	Ichthys	Batam, Indonesia	TG_007_ab
Workpack Details			
Line No	L-80-790_FW347-JF-002	C2SA Propane Tank	C2SA-790_FW347-1GA3-K-N
Joint Details			
Joint Type	ANSI Standard	Gasket Type	SWG
Joint Size	20	Gasket Material	Stainless
Joint Class/Rating	300	Bolt Qty	24
Flange Material	ANSI B16.5	Nut A/F	2
Bolt Material	A320-L7	Grip Length	5.13 in
Bolt Size/Length	1 1/4" / 8.46 in	Bolt Coating	Black Oxide
Lubricant Name	MOLYKOTE 1000	Co-efficient of Friction (μ)	0.11
Residual Bolt Stress	40000 lbf/in ²	Bolt Load	37760 lbf
Recommended Equipment			
Tension		Torque	
Tool Recommended		Tool Recommended	3ATWS
Tool Cover	100% / 50% / 25%	Torque (Stages/Pass)	30% 60% 100%
1st Pass Pressure		Torque Value	177 lbf.ft 353 lbf.ft 589 lbf.ft
2nd Pass Pressure		Pump Pressure	547 psi 1094 psi 1824 psi
Check Pass			
Customer Specified Values?			
Equipment Information			
Tool Used	3ATWS	Serial No	W6005
Pump Type	R8P55-85	Serial No	0234577
Note: Record serial numbers for equipment used on final/check pass only			
Flange Checks			
Flange Face	Clean	<input checked="" type="checkbox"/> Aligned	<input checked="" type="checkbox"/> X
Bolts	Correct Length	<input checked="" type="checkbox"/> Correct Material	<input checked="" type="checkbox"/> X
Gasket	Correct Size	<input checked="" type="checkbox"/> Correct Material	<input checked="" type="checkbox"/> X
Comments: Passed 3,000psi integrity testing			
Assembled By	Johnny Prasitoye	Company	PT Advent Prakasa
Tightened By	John Smith	Company	PT Advent Prakasa
Date	06/10/2016	Date	07/10/2016
PT ADVENT		PROFAB	
Print Name	JOHN SMITH – EGTB TECHNICIAN CERT NO. 1988325	Firman Wahyu Iatmiko	Mr Yama Kitahara
Signature	<i>J. Smith</i>	<i>F. Iatmiko</i>	<i>Y. Kitahara</i>
Date	9 th FEBRUARY 2016	10 th FEBRUARY 2016	12 th FEBRUARY 2016

LAPP EQUIPMENT UK
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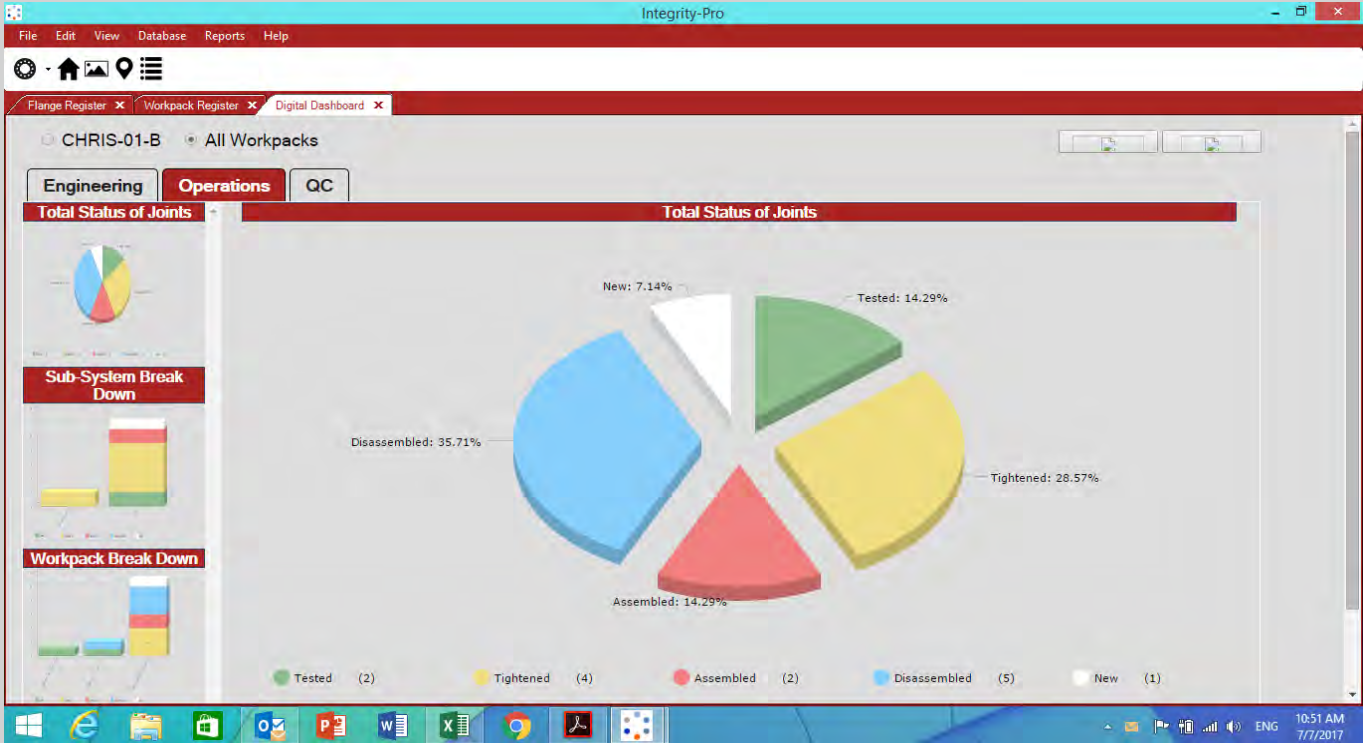
Work Instruction **BAKER HUGHES**

Client	Workpack Number	Tag No	
BP	WP-012345	TG_007	
Project Number	Location	Client Tag No	
IN 1176	Ulsan, South Korea	TG_007_ab	
Workpack Details			
System	C2SA-790_FW347-1GA3-K-N	Sub-System	N/A
Line No	L-80-790_FW347-JF-002		
Instruction			
(xvii) Flange make up method shall be followed as per below for hydrocarbon / hydraulic oil / water injection systems:			
For all line classes below 1500# flange joints, manual wrench shall be used for bolt up to 1" dia. For over 1" to 1 1/2" bolt dia., manual torque wrench shall be used. For bolt over 1 1/2" to 2" bolt dia., hydraulic bolt torque shall be used. For over 2" bolt dia., bolt tensioning should be applied.			
For all line classes 1500# & above, manual torque wrench shall be used for bolts up to 1" bolt dia. For over 1" to 2" bolt dia., hydraulic bolt torque shall be applied.			
Joint Details			
Joint Type	ANSI Standard	Gasket Type	SWG
Joint Size	20	Gasket Material	Stainless
Joint Class/Rating	300	Bolt Qty	24
Flange Material	ANSI B16.5	Nut A/F	2
Bolt Material	A320-L7	Grip Length	5.13 in
Bolt Size/Length	1 1/4" / 8.46 in	Bolt Coating	Black Oxide
Lubricant Name	MOLYKOTE 1000	Co-efficient of Friction (μ)	0.11
Residual Bolt Stress	40000 lbf/in ²	Bolt Load	37760 lbf
Recommended Equipment			
Tension		Torque	
Tool Recommended		Tool Recommended	HTL-053
Tool Cover	100% / 50% / 25%	Torque (Stages/Pass)	30% 60% 100%
1st Pass Pressure		Torque Value	177 lbf.ft 353 lbf.ft 589 lbf.ft
2nd Pass Pressure		Pump Pressure	547 psi 1094 psi 1824 psi
Check Pass			
Equipment Information			
Tool Used	3ATW	Serial No	W6005
Pump Type	LAPP5	Serial No	123456
Note: Record serial numbers for equipment used on final/check pass only			
Flange Checks			
Flange Face	Clean	<input checked="" type="checkbox"/> Aligned	<input checked="" type="checkbox"/> X
Bolts	Correct Length	<input checked="" type="checkbox"/> Correct Material	<input checked="" type="checkbox"/> X
Gasket	Correct Size	<input checked="" type="checkbox"/> Correct Material	<input checked="" type="checkbox"/> X
Comments: All good in good condition!			
Print Name			
Supervisor	JOHN SMITH	<i>J. Smith</i>	9 th OCTOBER 2015
Client Acceptance	SEAN KIM	<i>보민사람</i>	9 th OCTOBER 2015

Baker Hughes | Process and Pipeline Services
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http://www.bakerhughes.com

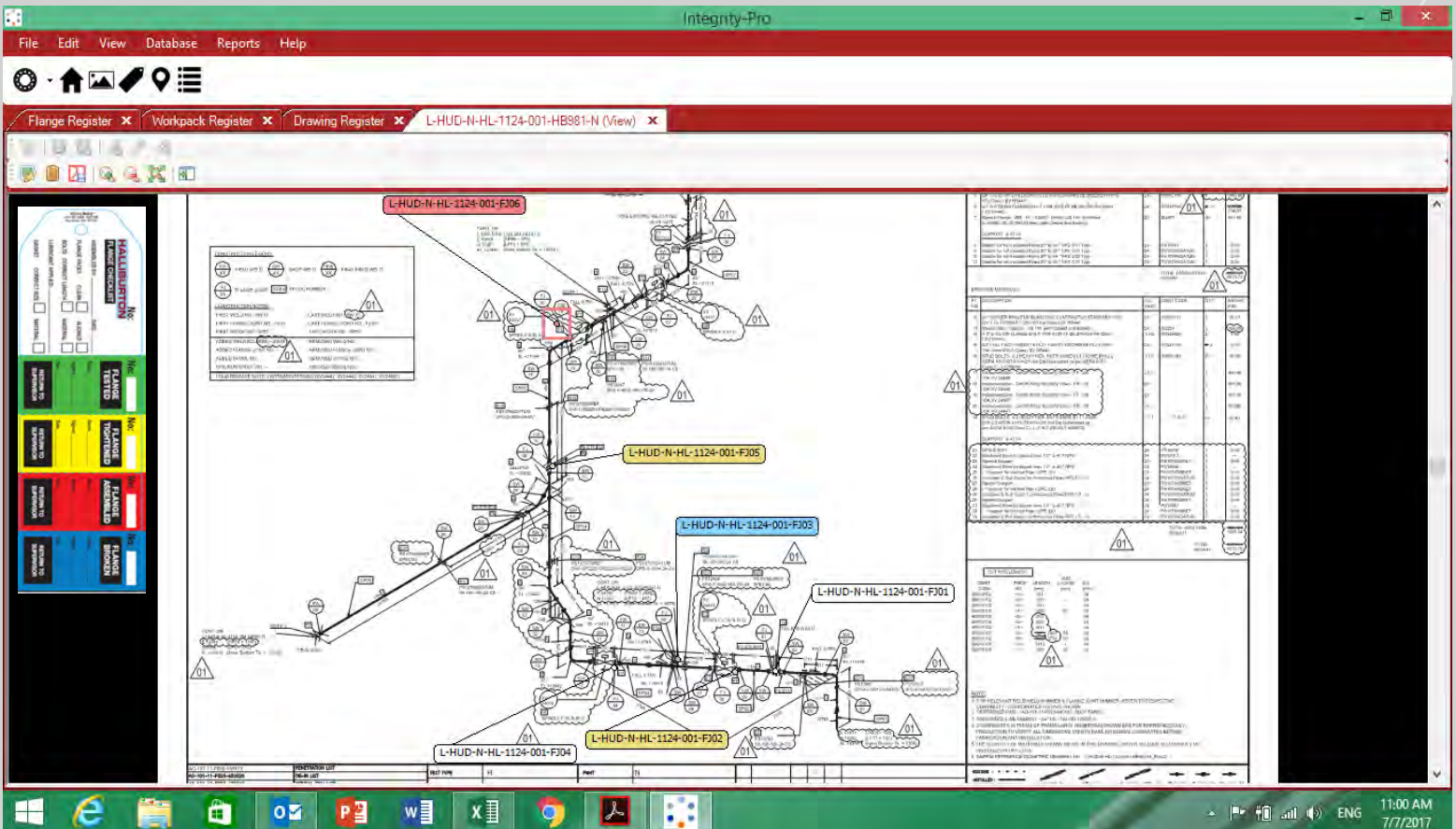
3. Key Feature – Digital Dashboard

- Dashboard for Engineering, QC and Operations.



4. Key Feature – Drawing Overlay & Mark-up

- Drawing overlay feature allows Flange Management tags and visual status to be layered on top of leak test mark-up route.
- Mark-up drawings allow detailing information on valves within the test envelope.



5. Key Feature – AEGEX tablet

- Intrinsically safe Zone 1/21 & DIV. 1 AEGEX tablet running INTEGRITY-PRO (Flange Management) FM JIT software, and Windows 10 as standard.
- The AEGEX tablet can directly scan the Flange Tag Bar Code, thereby locating the Flange Joint ID immediately in the Flange Register where the Flange status can be updated in real time.



FLANGE REGISTER



DRAWING OVERLAY MARK-UP



FLANGE TAG BAR CODE SCANNING



ADD FLANGE ACTIVITIES



Data upload to local server/cloud hosted DB



ADD WORK INSTRUCTION

BOLT**PREP**

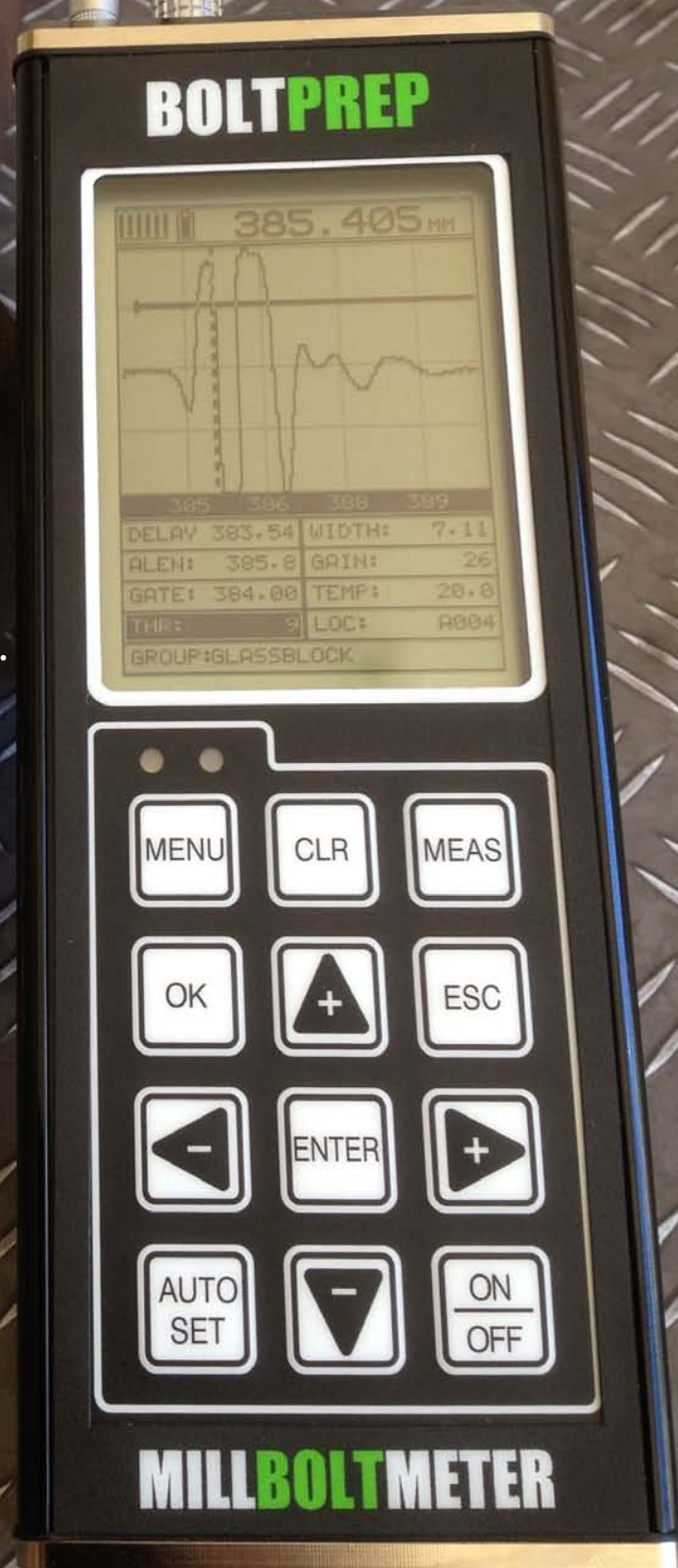
MILL**BOLT**METER

Bolt Tension Monitor

Ultrasonically measures the actual elongation produced by tightening a threaded fastener.

The most advanced ultrasonic solution available on the market.

- ▶ EFFECTIVELY monitor your bolts during periodic shutdowns over the service life of the fastener.
- ▶ VISUALLY compare the unloaded to the loaded waveform.
- ▶ MEASUREMENT QUANTITIES
Time (nanoseconds), Elongation, Load, Stress, and %Strain.
- ▶ DISPLAY OPTIONS — RF, Rectified, Large Digits with Limits Bar.
- ▶ DISPLAY RESOLUTION
1/8 inch VGA 240 x 160 pixels.
- ▶ STORES 8000 readings and waveforms in multiple groups.
- ▶ BUILT-IN linear regression or vector for optimizing load measurements.
- ▶ AUTO SET feature automatically optimizes detection and adjusts display.
- ▶ HI/LO ALARM tolerance limits work in conjunction with the data port and external pump shut-off device.



MILLBOLT METER SPECIFICATIONS

Physical

Weight:

13.5 ounces (with batteries).

Size:

Width (2.5 in/63.5 mm)

Height (6.5 in/165 mm)

Depth (1.24 in/31.5 mm)

Operating Temperature:

-14° to 140°F (-10° to 60°C).

Keyboard:

Membrane switch with twelve tactile keys.

Case:

Extruded aluminum body with nickel plated aluminum end caps (gasket sealed).

Data Output:

Bi-directional RS232 serial port; Windows® PC interface software.

Display:

1/8in VGA grayscale display (240 x 160 pixels); viewable area 2.4 x 1.8in (62 x 45.7mm); EL backlit (on/off/auto invert).

Ultrasonic Specifications

Measurement Modes:

Pulse-Echo (flaws, pits).

Pulse-Echo w/Gate (fine adjust).

Pulser:

Square wave pulser with adjustable pulse width (spike, thin, wide).

Receiver:

Manual or AGC gain control with 40dB range.

Timing:

10 bit 250 MHz digitizer.

Transducer

Transducer Types:

Dual Element (1 to 10 MHz).

Locking quick disconnect "00" LEMO connectors.

Standard 4 foot cable.

Custom transducers and cable lengths available for special applications.

& Thickness Gauge

Measuring

Range:

From 1 to 96 inches (25.4 to 244 cm).

Quantities:

Time - Nanoseconds.

Elongation - Change in length (inches/millimeters).

Load - Force load applied (pounds KIP or megapascals MPa).

Stress - Force for unit area stress applied (inches per inch or millimeters per millimeter).

%Strain - Ratio of elongation to effective length.

Resolution:

+/- 0.00001 inch (0.0001 mm).

Velocity Range:

0.0492 to .3937 inches/microsecond (in/μs) (1250 to 9,999 meters/sec).

Fixed, Single, and Two-point zero calibration options.

Select bolt material types from a preset or custom list.

Units:

English & Metric / Fahrenheit & Centigrade.

Display

A-Scan: Rectified +/- (half wave view), or RF (full waveform view).

Large Digits: Display and toggle between nanoseconds, elongation, load, stress, and strain; Digit Height: 0.400 inch (10mm).

Limits Bar (alarm limits): Set Hi & Lo alarm limits for displaying an acceptable tolerance range.

Repeatability Bar Graph: Bar graph indicates stability of measurement.

Data Logger

Total of 8,000 bolts in multiple bolt groups. Stores both waveform views, nanoseconds, elongation, load, stress, strain and all gauge settings for each reading.

Memory:

16 megabit non-volatile ram.

Transducer

Transducer types:

Single element (1 MHz to 10 MHz & 1/8 to 1 inch diameters). Magnetic & Non-Magnetic options.

Glue-on transducers available for short bolts with minimal elongations to eliminate transducer placement errors.

Locking quick disconnect "00" LEMO connectors. Standard 10 foot cable.

Custom transducers available for special applications.

Temperature probe for automatic temperature compensation.

Features

Setups:

64 custom user defined setups; Factory setups can also be edited by the user.

Gate:

Gate used to fine adjust where the detection point occurs.

Alarm Limits:

Set Hi and Lo tolerances with audible beeper, viewable scan bar, and visual LEDs.

Auto Set:

Locates the detection signal, optimizes the gain setting, and adjusts the overall display to show the waveform and detection point automatically.

Field Calibration:

Vector & linear regression.

Certification

Factory calibration traceable to NIST & MIL-STD-45662A.

Warranty

2 year limited



MADE IN THE USA

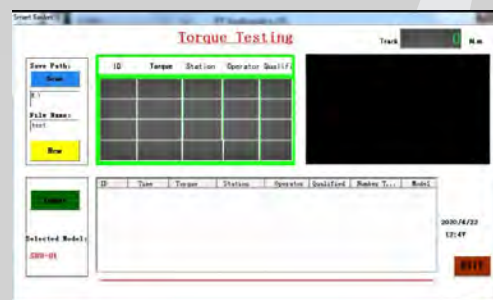
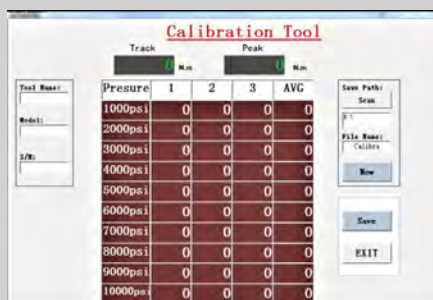


TS Transducer Socket

- TS Transducer Torque Socket with Blue tooth and software included
- Peak and Continuous Torque measurement option
- Can be used with a Hand Clicker Style or Hydraulic Torque Wrench
- Black anodizing coating for corrosion protection
- Comes as a Plug & Play system
- Accuracy $\pm 3\%$, Consistency $\pm 1\%$
- Comes complete with carry case
- Piezoelectric transducer torque control system with LCD display



Description	Torque (Nm)	SQD Size
TS-033mm	150~1,500 ft lbs	3/4"
TS-036mm	150~1,500 ft lbs	3/4"
TS-041mm	150~1,500 ft lbs	3/4"
TS-046mm	150~1,500 ft lbs	3/4"
TS-050mm	300~3,000 ft lbs	1"
TS-055mm	300~3,000 ft lbs	1"
TS-060mm	300~3,000 ft lbs	1"
TS-065mm	800~8,000 ft lbs,	1-1/2"
TS-070mm	800~8,000 ft lbs,	1-1/2"
TS-080mm	800~8,000 ft lbs,	1-1/2"
TS-090mm	1,200~12,000 ft lbs	1-1/2"
TS-100mm	1,200~12,000 ft lbs	1-1/2"





Bolt Sequential Numbering Magnetic Discs

- TorqTag® are durable strong Magnetic Numbering Discs available in three colours, Red, Yellow and Green.
- All are numbered from 1 to 28 or 1 to 56 to signify the correct bolting sequence.
- Designed to be attached anywhere around the flange or on top of the stud bolt itself on larger applications.
- All TorqTag's are 100% reusable and are used for ECITB UK & ASME MJI training.
- They include an individual bar code which can be read and used with data collection devices.
- Also available with heavy duty, long life adhesive backing for applications where they are required to remain.
- A Higher Powered Neodymium magnetic version is also available for applications with thick paint etc.



Durable Flange Tagging Solutions for Leak Testing

- Material Prism Polypropylene
- UV Protection additive
- Melting point approx. 140°C
- For use in extreme environments
- Both onshore and offshore use
- Proven in oil & gas environments
- Resistant to most chemicals & oils
- 100% Recyclable material





DESCRIPTION:

LAPP Equipment UK LTD have a fully equipped Laboratory to be able to calibrate all brands of Hydraulic torque wrenches to the International NIST Standard, but understand also that some clients have enough High Torque Wrenches in their fleet to warrant having their own equipment for service and calibration.

Being a specialist in all things torque LAPP UK are pleased to be able to offer a wide range of Torque Testing Equipment, that is certified to the NIST International Standard and enables users to be able to certify their own equipment, and ensure full traceability for themselves and their customers.

LIST OF HYDRAULIC TOOL TEST STAND MODELS:

Part Number	Imperial	Intl System (SI)	Metric
AWS-QCF-750	75-750 Ft.lbs	101-1012 Nm	10-105 Kgf.m
41011-1K	100-1000 Ft.lbs	135-1350 Nm	14-138 Kgf.m
41012-2.5K	250-2500 Ft.lbs	340-3400 Nm	35-346 Kgf.m
41013-5K	500-5000 Ft.lbs	680-6800 Nm	69-961 Kgf.m
41015-10K	1000-10000 Ft.lbs	1350-13500 Nm	138-1383 Kgf.m
41025-25K	2500-25000 Ft.lbs	3400-34000 Nm	346-3456 Kgf.m
41016-50K	5000-50000 Ft.lbs	6800-68000 Nm	691-6913 Kgf.m



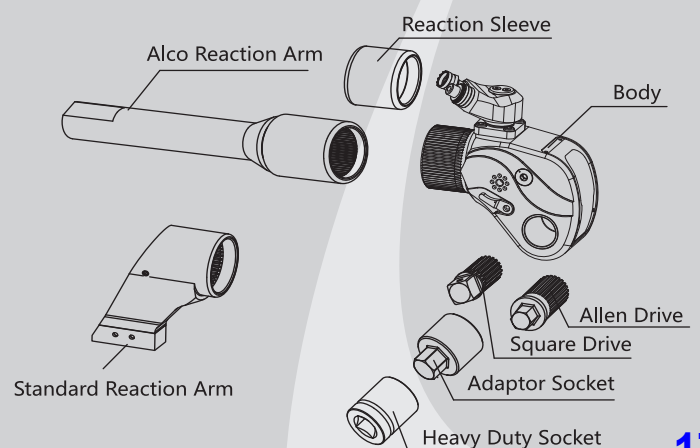
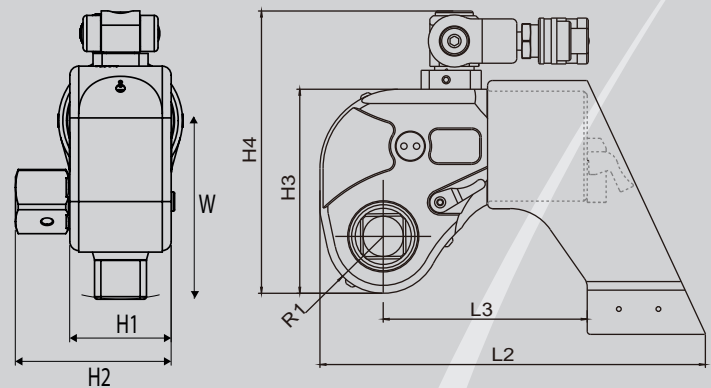
MADE IN THE USA



- Easy replaceable square and hexagon drive adaptors
- Body shroud engraved with torque pressure chart
- Suitable for continuous operation at 85% of maximum pressure
- Heavy duty aluminum-titanium composite light body
- 360° adjustable reaction arm with safety lock feature

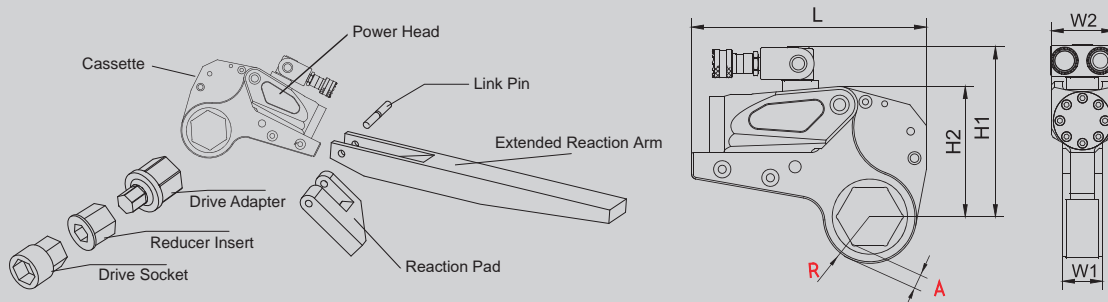
- Working pressure 10,000 psi max.
- Designed to tighten and loosen fasteners requiring very high torque
- Models from 81 ft-lbs up to 53,064 ft-lbs
- Constantly repeatable accuracy of $\pm 3\%$
- 360°x185° uni-swivel with quick release couplings

Type	Torque (ft.lbs)		Square Drive (lbs)	Weight (lbs)	Dimension (inch)							
	Min	Max			L2	L3	H1	H2	H3	H4	W	R1
LSQ-0.7	81	~ 814	3/4"	3	4.37	4.47	1.65	2.60	2.99	4.25	2.83	0.88
LSQ-1	135	~ 1,357	3/4"	5	6.80	4.59	1.97	2.88	3.77	4.97	3.45	1.04
LSQ-3	318	~ 3,183	1"	11	8.16	5.34	2.63	3.72	4.88	6.46	4.49	1.31
LSQ-5	564	~ 5,639	1-1/2"	18	9.73	6.41	3.16	4.93	5.97	7.71	5.39	1.63
LSQ-8	775	~ 7,753	1-1/2"	24	10.74	7.54	3.54	5.28	6.57	8.54	6.05	1.82
LSQ-10	1,127	~ 11,272	1-1/2"	32	12.22	8.02	3.95	5.57	7.35	9.04	6.73	2.03
LSQ-15	1,570	~ 15,704	2-1/2"	42	12.66	8.52	4.12	5.80	8.16	10.03	7.02	2.95
LSQ-20	2,010	~ 20,101	2-1/2"	62	13.13	9.12	4.72	6.20	8.66	10.63	7.32	3.32
LSQ-25	2,548	~ 25,481	2-1/2"	77	14.72	10.79	5.39	7.87	9.72	11.69	8.60	4.83
LSQ-35	3,607	~ 36,076	2-1/2"	104	15.69	11.33	6.02	8.50	10.10	12.07	9.10	5.49
LSQ-50	5,306	~ 53,064	2-1/2"	192	16.75	12.31	7.30	9.78	11.46	13.43	10.2	6.20



Low Profile Hexagon Hydraulic Torque Wrench

- Constantly repeatable accuracy of $\pm 3\%$
- Working pressure 10,000 psi max
- 10 different models from 169 ft.lbs to 61,875 ft.lbs
- Designed to tighten and loosen nuts requiring very high torque
- $360^\circ \times 185^\circ$ uni-swivel assembly
- Quick release couplings
- Maximum torque power with minimum cassette wall thickness
- Various cassettes, adapters and reducers are available as below
- Durable structure, aluminum-titanium alloy drive cylinder
- Suitable for continuous operation at 85% of maximum pressure
- Safety pressure relief valve prevents over pressurisation



Type	A/F (inch)	Torque (ft.lbs)		Drive Cylinder (lbs)	Cassettes (lbs)	Dimension (inch)						
		Min	Max			L	H1	H2	W1	W2	A	R
LFT-2	7/8" ~ 2-3/16"	169	~ 1,691	2.20	3.52	7.69	4.96	4.03	1.26	2.01	0.39-0.63	1.06-1.69
	2-3/8"	177	~ 1,770	2.20	3.74	7.69	5.06	4.14	1.26	2.01	0.43	1.81
LFT-3	1-3/8" ~ 2-3/8"	250	~ 2,503	3.20	3.75	8.69	6.06	4.64	1.36	2.30	0.48	1.85
LFT-4	1-1/4" ~ 2-9/16"	470	~ 4,703	4.40	9.68	10.15	6.97	5.35	1.65	2.60	0.55-0.63	1.42-2.09
	2-3/4" ~ 3-1/8"	476	~ 4,775	4.40	10.12	10.35	7.37	5.74	1.65	2.60	0.59	2.2-2.4
LFT-8	1-7/16" ~ 3-11/16"	795	~ 7,948	7.26	17.60	11.96	8.16	6.66	2.09	3.27	0.63-0.87	1.81-2.36
	3-7/8" ~ 4-1/4"	867	~ 8,864	7.26	18.48	11.96	8.51	7.01	2.09	3.27	0.67	2.95-3.07
LFT-14	2" ~ 4-5/8"	1,346	~ 13,456	12.10	25.52	14.25	9.42	8.04	2.52	3.90	0.75-1.22	2.36-3.43
LFT-18	3-1/2" ~ 4-3/4"	1,804	~ 18,031	17.86	42.55	15.90	9.52	10.04	2.68	4.13	0.85-1.26	2.66-3.93
LFT-20	3-1/2" ~ 5"	2,139	~ 21,389	23.15	49.16	16.81	9.54	10.43	2.76	4.33	0.88-1.28	2.68-3.96
LFT-30	2-3/8" ~ 6-1/8"	3,043	~ 30,426	25.08	63.80	16.57	11.94	10.72	3.35	5.16	0.98-1.14	3.03-4.53
	6-1/2" ~ 6-7/8"	3,282	~ 32,819	25.08	66.00	17.05	12.41	11.23	3.35	5.16	1.06-1.42	4.8-5.04
LFT-45	5" ~ 6-1/8"	4,454	~ 44,534	35.94	129.41	19.13	12.24	13.86	4.13	6.30	1.16-1.52	4.9-5.14
LFT-60	5-3/8" ~ 6-7/8"	6,187	~ 61,875	50.71	165.35	20.24	13.23	14.76	4.60	6.98	1.26-1.62	5.1-5.24

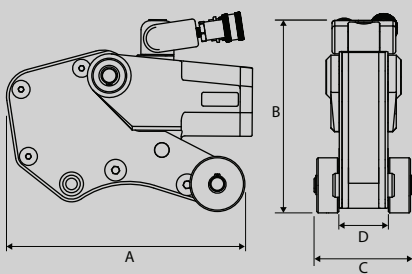
LFT-AB SERIES

Ring and Open End Hydraulic Torque Spanners

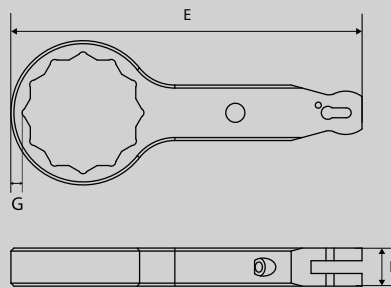
Technical Information



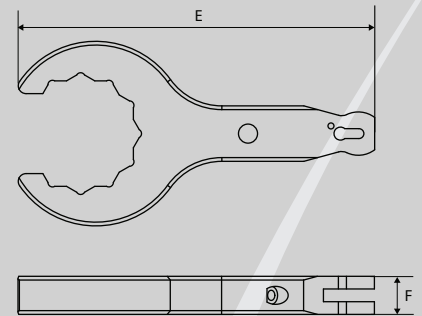
Model		LFT2-AB	LFT4-AB	LFT8-AB	LFT14-AB
Min Torque	lb.ft	170	431	808	1364
	Nm	230	584	1095	1848
Max Torque	lb.ft	1770	4775	8864	13644
	Nm	2398	6470	12010	18488
Weight	Kg	2.2	3	3.3	8.2
A	mm	155	208	260	349
B	mm	129	168	209	239
C	mm	66	87	108	132
D	mm	32	42	53	64
E	mm	Dependent on A/F	Dependent on A/F	Dependent on A/F	Dependent on A/F
F	mm	19	25.4	31.75	39
G	mm	7.5	7.5	13	17.5
A/F	mm	19 - 60	36 - 75	55 - 90	80 -
A	Inch	6.1	8.1	10.2	13.7
B	Inch	5.1	6.6	8.2	9.4
C	Inch	2.6	3.4	4.3	5.1
D	Inch	1.2	1.7	2.1	2.52
E	Inch	Dependent on A/F	Dependent	Dependent on	Dependent on A/F
F	Inch	0.7	1	1.25	1.5
G	Inch	0.3	0.3	0.5	0.7



Tool Body



Ring End Spanner



Open End Spanner



LAPP SERIES

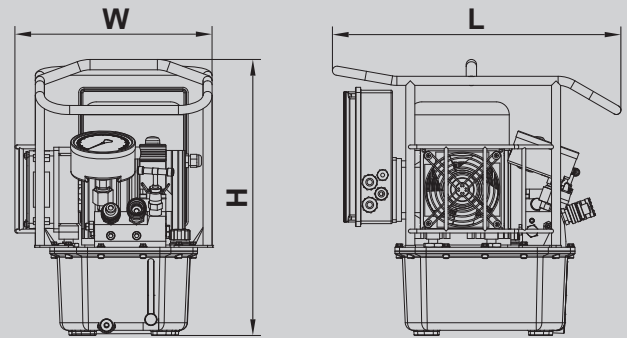
Hydraulic Torque Wrench Pumps

LAPP3 Electric Pump

- Compact three-stage pump
- The Single valve block can be replaced by component FP-4, thereby allowing 4 Tools to be driven simultaneously
- Three stage induction motor driven so brush-less
- Oil cooler, supporting continuous operation with steel frame
- 4" diameter gauge, aluminum oil tank with oil level indicator
- Variable pressure adjustment between 1,000 to 10,000 psi
- Designed for continuous operation



Model	LAPP3-2	LAPP3-4
Working pressure	10000 Psi	10000 Psi
Drive	Electric	Electric
Voltage	220~230 V / 50 Hz	220~230 V / 50 Hz
Power (HP)	1.5	1.5
Tank capacity (Gallon)	1.45	1.45
Flow rate (cu.in/min)	335.5/85.4/42.7	335.5/85.4/42.7
Oil cooler	Yes	Yes
Weight (lbs)	59	62
Oil outputs	4 x 1/4" NPT 17.52	8 x 1/4" NPT
LxWxH (inch)	X 11.97X 16.77	18.15 X 11.97 X 16.77

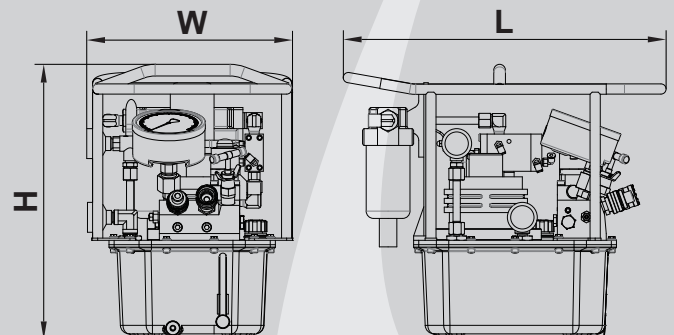


LAPP4 Pneumatic Pump

- Compact three-stage pump
- The Single valve block can be replaced by component FP-4, thereby allowing 4 Tools to be driven simultaneously
- Three stage air motor driven
- Oil cooler, supporting continuous operation with steel frame
- 4" diameter gauge, aluminum oil tank with oil level indicator
- Variable pressure adjustment between 1,000 to 10,000 psi
- Designed for continuous operation



Model	LAPP4-2	LAPP4-4
Working pressure	10000 Psi	10000 Psi
Drive	Air	Air
Air Pressure	58~116 Psi	58~116 Psi
Power (HP)	4.0	4.0
Tank capacity (Gallon)	1.45	1.45
Flow rate (cu.in/min)	610/134/67	610/134/67
Oil cooler	N/A	N/A
Weight (lbs)	39	44
Oil outputs	4 x 1/4" NPT	8 x 1/4" NPT
LxWxH (inch)	17.40 X 11.10 X 14.84	18.11 X 11.10 X 14.84



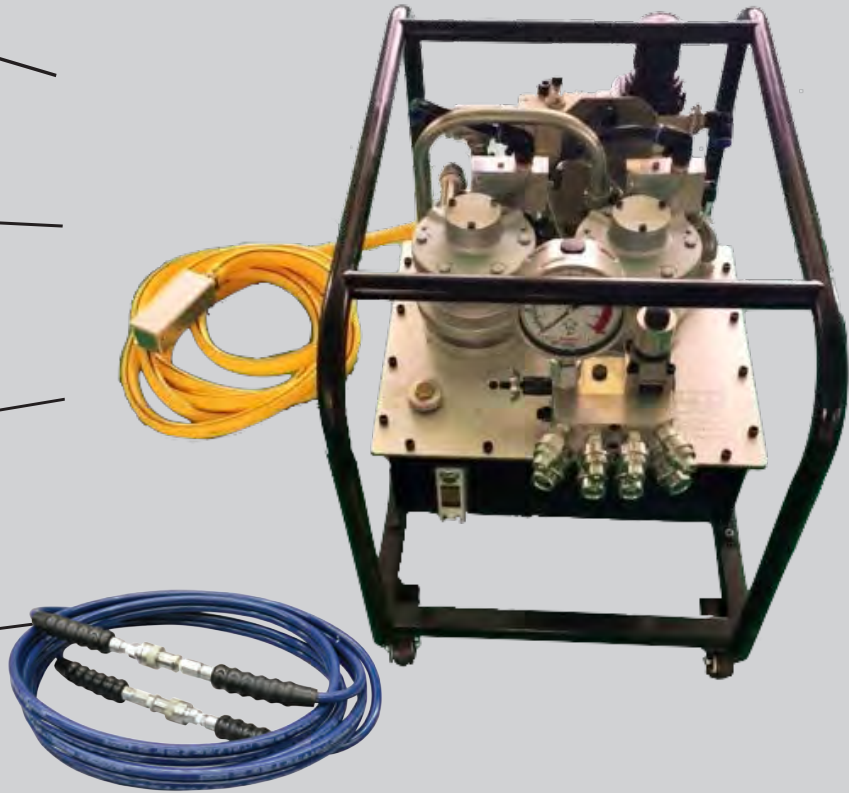
LAPP5 *Twin Pneumatic Heavy Duty Pump*

Steel frame for ease of carrying and protecting the components

Pressure Adjuster Relief valve (inside the tank)

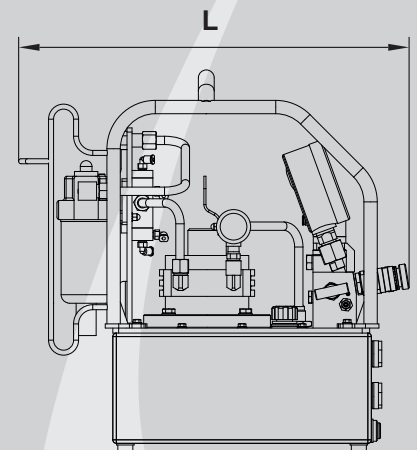
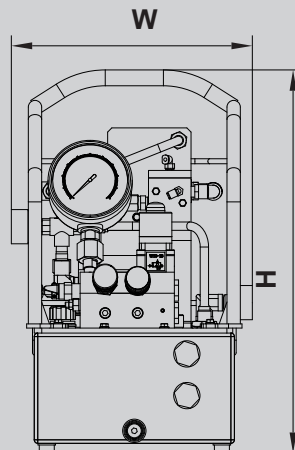
Pressure Relief Button can release the pressure in the system in-case the pump stops

Light weight design thereby reducing the total tool and pump weight package



Model	LAPP5-2	LAPP5-4
Working pressure	10000 psi	10000 psi
Drive	Air	Air
Supply	100psi air pressure	100psi air pressure
Power (HP)	4.0	4.0
Tank capacity (Gallon)	2.90	2.90
Max. Oil Flow:	1200 cu.in/min	1200 cu.in/min
Oil cooler	Inter-Cooler	Inter-Cooler
Weight (lbs)	96	97
Oil outputs	4 x 1/4" NPT	8 x 1/4" NPT
LxWxH (inch)	22.00 X 17.00 X 19.00	22.00 X 17.00 X 19.00

- Use with input air from 80 to 100 Psi
- Three stage, compact design
- Applicable for both one or four wrenches
- Aluminum oil tank with oil level gauge
- 4" diameter pressure gauge
- Variable pressure adjustment between 1,000 to 10,000 psi
- The Single valve block can be replaced by component FP-4, thereby allowing 4 Tools to be driven simultaneously



LBW SERIES

BackUp Wrenches



HANDS FREE



SPARK FREE



NO TRAPPED FINGERS



NO FLOGGING HAMMER REQUIRED



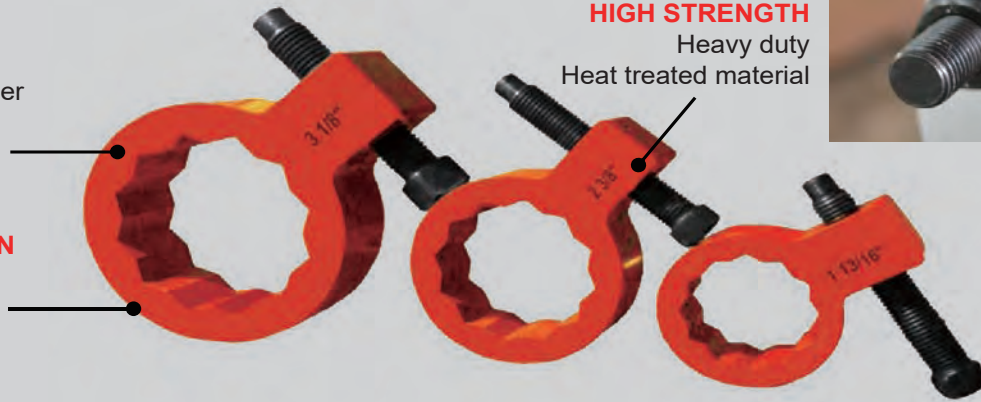
WON'T LOCK ON

THE LBW-SERIES MAGNETIC BACKUP WRENCH, THE SIMPLEST WAY TO STOP A NUT FROM ROTATING. EASY TO USE AND VERSATILE

MAGNETS EMBEDDED creates a magnetic field force that attracts it to other ferromagnetic materials.

BI-HEXAGONAL DESIGN provides the ultimate mixture of versatility and durability

HIGH STRENGTH
Heavy duty
Heat treated material



Model	Across Flat (mm)	Across Flat (in)	Load Limits (Ft.lbs)	Load Limits (Nm)
LBW104	30	1-1/4"	2400	3254
LBW107	36	1-7/16"	2500	3390
LBW110	41	1-5/8"	3500	4745
LBW113	46	1-13/16"	3500	4745
LBW200	50	2"	4100	5559
LBW203	55	2-3/16"	4200	5694
LBW204	57	2-1/4"	4300	5830
LBW206	60	2-3/8"	4300	5830
LBW209	65	2-9/16"	4550	6169
LBW212	70	2-3/4"	5600	7592
LBW215	75	2-15/16"	6300	8542
LBW302	80	3-1/8"	7000	9491
LBW308	85	3-1/2"	7200	9762
LBW311	90	3-11/16"	7300	9897
LBW314	95	3-7/8"	9000	12202
LBW400	100	4"	24000	32539
LBW402	105	4-1/8"	24000	32539
LBW404	110	4-1/4"	24000	32539
LBW408	115	4-1/2"	25000	33895
LBW410	120	4-5/8"	27000	36607
LBW500	130	5"	27000	36607
LBW506	135	5-3/8"	27000	36607
LBW512	145	5-3/4"	28000	37962

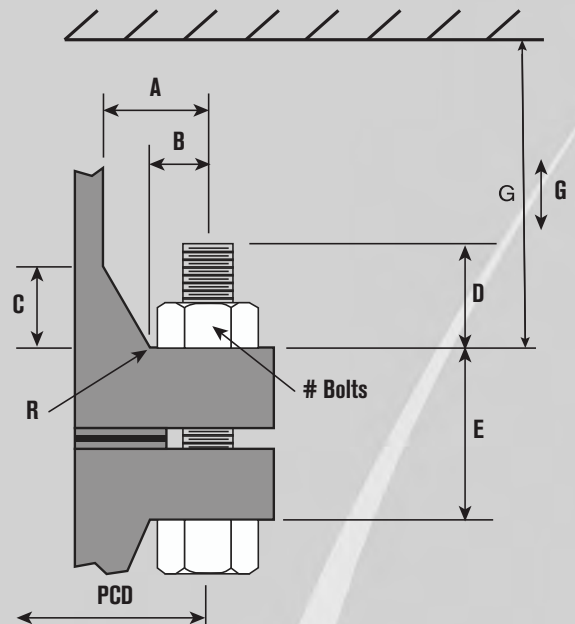
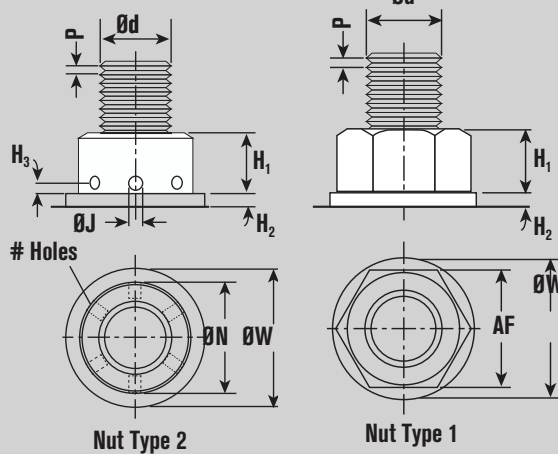


LSR BOLT TENSIONER Spring Return Bolt Tensioner

- Unique quick release bridge adaptation
- Piston over-stroke prevention
- Piston stroke indication
- Piston / cylinder misalignment compensation
- Bolt coverage from 1" to 3 1/2"
- Designed to fit BS1560 / ANSI B16.5 / API flanges
- Fully enclosed load cell design eliminates entry of debris into piston retraction mechanism

The Spring Return design dramatically increases productivity and safety on the job site when compared to older technology manual return tensioners.

topside.



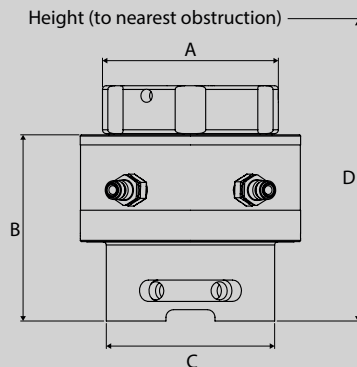
LSR SPRING RETURN BOLT TENSIONER

Our spring return bolt tensioner reduces operator fatigue, saving time and improving safety and productivity.



Order a load cell and an adaptor kit to make a complete tensioner, each are sold separately.

Specifications and Dimensional Data

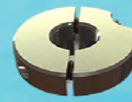


- Piston stroke - 10mm except for LSR 0 - 8mm
- Max tool pressure - 21,750 psi (1,500 bar)
- Bolt protrusion above nut = 1 x bolt diameter
- 'D' includes an allowance for tool removal after bolt tightening with 10mm tool stroke
- Weight excludes puller sleeve
- Product development is constantly taking place and dimensions may change without notice

Load Cell	Stud Diameter		Tool Load		Hydraulic Area		A		B		C		D			
	Imp	Metric	lbs	kN	in ²	mm ²	in	mm	in	mm	in	mm	Imperial	Metric		
LSR 0	3/4"	M20	35,500	160	1.65	1,067	2.6	66	3.7	93	2.5	63	5.4	136	5.5	142
	7/8"	M22											5.6	142	5.6	144
LSR 1	1"	M24	61,950	280	2.89	1,867	3.4	87	4.6	117	2.7	68	6.9	175	6.9	175
	1-1/8"	M27														
LSR 2	1"	M24	99,700	450	4.65	3,001	4.1	103	4.7	120	3.0	75	6.9	175	6.9	175
	1-1/8"	M30														
LSR 3	1-1/4"	M33	145,950	660	6.82	4,401	4.7	118	4.8	123	3.5	88	7.5	190	7.6	192
	1-3/8"	M36														
LSR 4	1-1/2"	M39	223,550	1,000	10.34	6,668	5.5	140.5	5.0	126	3.8	96	8.0	203	8.0	204
	1-3/4"	M42														
LSR 5	1-7/8"	M48	331,400	1,500	15.50	10,003	6.9	175.5	5.1	130	3.8	96	8.0	203	8.3	211
	2"	M52														
LSR 6	2"	M52	553,200	2,500	25.84	16,671	8.6	219	5.2	132	4.4	112	8.3	211	8.4	212
	2-1/4"	M56														
LSR 7	2-1/2"	M64	708,200	3,200	33.06	21,339	9.9	252	5.3	135	4.5	114	8.5	217	8.6	218
	2-3/4"	M68														
LSR 8	3"	M76	708,200	3,200	33.06	21,339	9.9	252	5.5	139	4.7	118	8.8	223	8.9	225
	3-1/4"	M80														
LSR 9	3-1/2"	M85	708,200	3,200	33.06	21,339	9.9	252	5.6	142	4.5	114	9.1	230	9.1	231
	3-1/2"	M90														
LSR 10	3-1/2"	M90	708,200	3,200	33.06	21,339	9.9	252	5.7	145	4.7	120	9.3	236	9.3	236
	3-3/4"	M95														
LSR 11	4"	M100	708,200	3,200	33.06	21,339	9.9	252	5.8	148	4.7	120	9.7	246	9.8	248
	4"	M100														
LSR 12	4"	M100	708,200	3,200	33.06	21,339	9.9	252	6.1	154	5.4	138	10.2	259	10.2	258
	4"	M100														
LSR 13	4"	M100	708,200	3,200	33.06	21,339	9.9	252	6.3	161	5.4	138	10.2	259	10.3	262
	4"	M100														
LSR 14	4"	M100	708,200	3,200	33.06	21,339	9.9	252	6.3	161	6.0	153	10.7	272	10.8	273
	4"	M100														
LSR 15	4"	M100	708,200	3,200	33.06	21,339	9.9	252	6.6	167	6.1	156	11.2	284	11.1	283
	4"	M100														
LSR 16	4"	M100	708,200	3,200	33.06	21,339	9.9	252	6.6	167	6.2	157	11.6	294	11.7	297
	4"	M100														
LSR 17	4"	M100	708,200	3,200	33.06	21,339	9.9	252	6.9	171	7.2	182	12.1	307	12.1	308
	4"	M100														
LSR 18	4"	M100	708,200	3,200	33.06	21,339	9.9	252	7.1	180	7.5	190	12.6	320	12.7	323
	4"	M100														
LSR 19	4"	M100	708,200	3,200	33.06	21,339	9.9	252	7.1	180	7.5	190	12.6	320	12.7	323
	4"	M100														
LSR 20	4"	M100	708,200	3,200	33.06	21,339	9.9	252	7.3	186	8.1	205	13.1	332	13.2	334
	4"	M100														
LSR 21	4"	M100	708,200	3,200	33.06	21,339	9.9	252	7.3	186	7.9	200	13.2	339	13.3	341
	4"	M100														
LSR 22	4"	M100	708,200	3,200	33.06	21,339	9.9	252	7.3	186	7.9	200	13.2	339	13.3	341
	4"	M100														
LSR 23	4"	M100	708,200	3,200	33.06	21,339	9.9	252	7.6	192	7.9	200	13.7	352	13.9	356
	4"	M100														
LSR 24	4"	M100	708,200	3,200	33.06	21,339	9.9	252	7.8	199	8.3	210	14.2	363	14.2	363
	4"	M100														

LMS SERIES

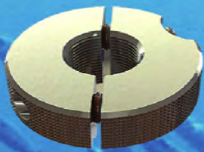
Sub-sea Hydraulic Tensioner



Subsea Only

Split Nut

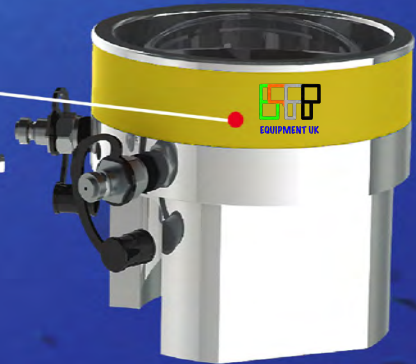
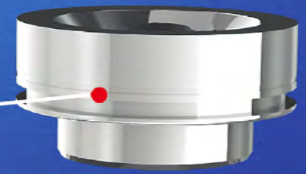
- Unique design
- Quick Installation
- Suit for long bolt,damage bolt
- Max piston stroke is 30mm
- Working Pressure:21750 psi (1500 bar)



Split Nut

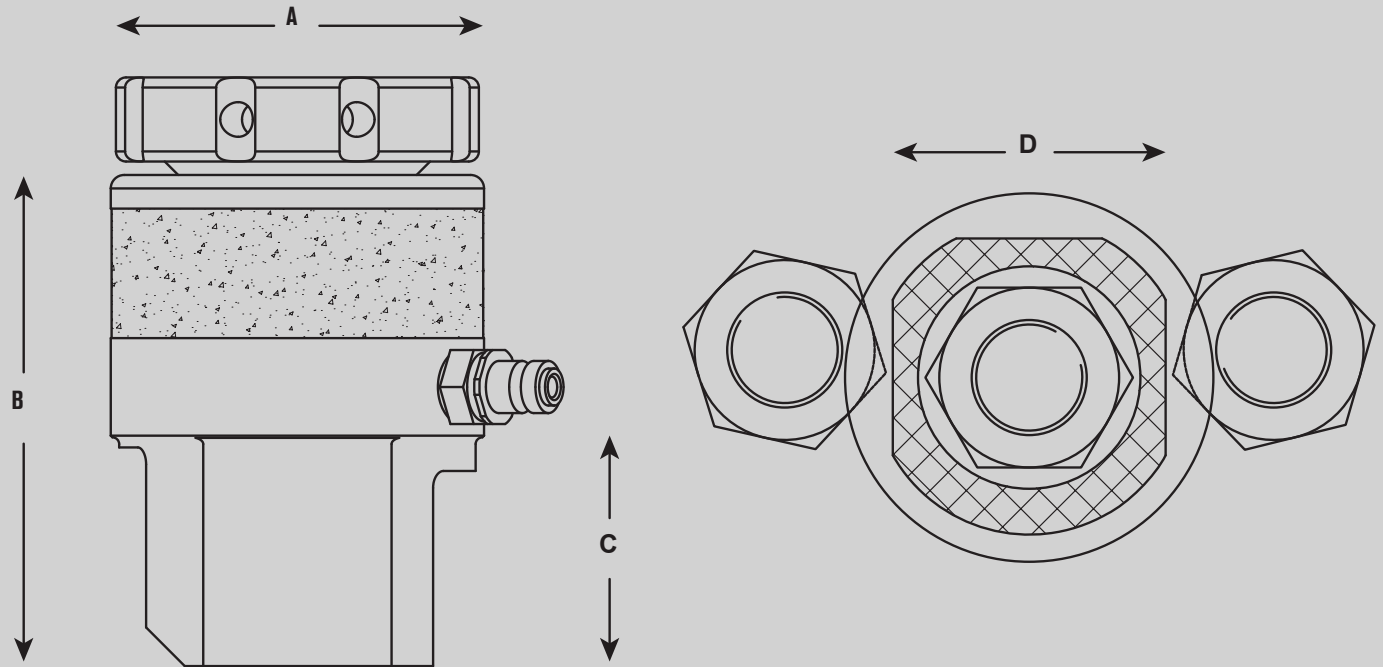
Piston

Cylinder

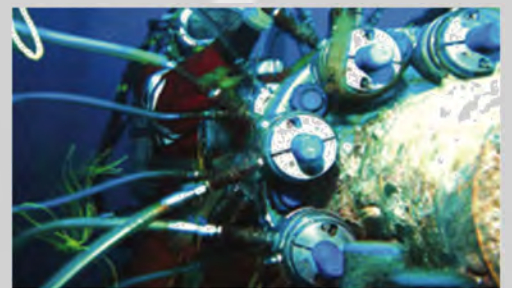


LMS SERIES

Sub-sea Hydraulic Tensioner



Type	Bolt Diameter		Load	Hydraulic Area		A in/mm	B in/mm	C in/mm	Minimum Bolt Height		D in/mm	Stroke in/mm
	Imp	Metric		in ²	mm ²				in	mm		
LMS1	3/4"	M20	141	1.96	943	2.60/66	3.82/97	1.89/48	4.09	107	8.98/228	0.79/20
	7/8"	M22							3.98	105		
LMS2	1"	M24	237	2.45	1585	3.23/82	5.02/127.5	2.36/60	5.24	139	11.65/296	1.82/30
	1-1/8"	M27							5.12	136		
		M30								134		
LMS3	1-1/4"	M33	379	3.92	2532	3.82/97	5.39/137	3.03/77	5.35	142	12.17/309	1.82/30
	1-3/8"	M36							5.24	139		
LMS4	1-1/2"	M39	551	5.69	3676	4.37/111	5.75/146	3.54/90	5.51	147	12.58/322	1.82/30
	1-5/8"	M42							5.35	144		
LMS5	1-3/4"	M45	880	9.10	5868	5.35/136	6.22/158	4.49/114	5.94	160	13.46/342	1.82/30
	1-7/8"	M48							5.83	158		
		2"							M52	5.71		
LMS6	2-1/4"	M56	1564	16.17	10433	6.97/177	7.11/180.5	5.51/140	6.54	178	14.72/374	1.82/30
	2-1/2"	M60							6.30	175		
	2-3/4"	M64							6.08	172		
		M68								169		
	M70								165			
LMS7	3"	M76	2419	26.63	16128	8.54/217	7.95/202	7.09/180	7.13	195	15.10/409	1.82/30
	3-1/4"	M80							6.89	192		
		3-1/2"							M85	6.65		
	M90									184		



HBP150-2 SERIES

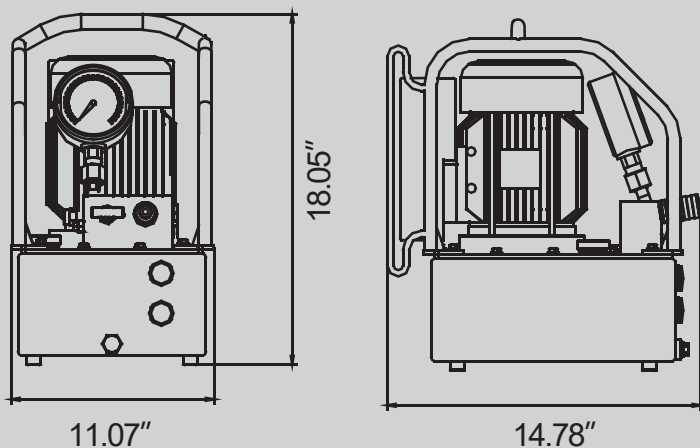
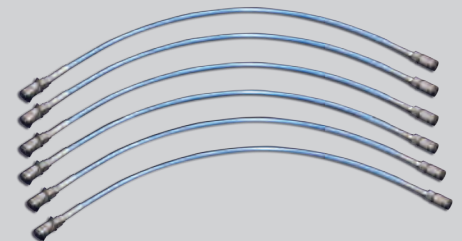
High Pressure Air/Electrical Tensioning Pump

Technical Data

SUPPLY Air/Electric	90 psi @ 45 cfm	220~230V/50Hz	220~230V/50Hz
Oil Capacity (Gallon)	2.11	2.11	2.11
Flow Rate (cu.in/min)	122/1.95	122/1.95	122/1.22
Output Pressure	22750 Psi	29000 Psi	36250 Psi
Output Port Size	1/4" BSP	1/4" BSP	1/4" BSP
Power (HP)	1.2	1.2	1.2
Weight (lbs)	38.30	58.30	58.30



- Single-Acting High performance
- Can be used for bolt tensioning and other HP equipment in the shipping vessel and wind power industry
- Convenient adjustable high pressure regulator with precision 4" gauge
- Easy to adjust the pressure in the range of 10,150 to 36,250 psi
- Simple and quick operation with high performance quick connect couplings
- Very user friendly for site work due to its light weight compact design



High Pressure Hand Tensioning Pump

16P80



Equipped with a pressure regulating valve, to adjust the output pressure for Max. 40,600 Psi)

Aluminum titanium alloy corrosion resistance, high strength, light weight, impact resistant, durable in a variety of harsh environments.

The built-in high and low pressure switching valve, allows for a low pressure high flow rate output.



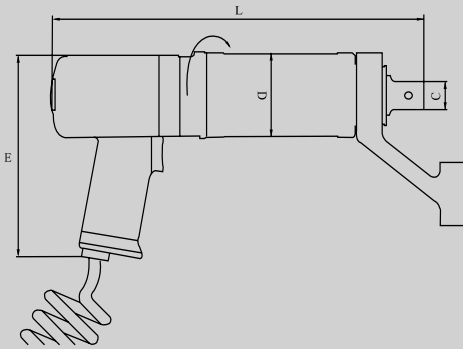
These high pressure hydraulic hand pumps are designed for high pressure hydraulic equipment. Its pressure is adjustable up to 40,600 psi, and customers can order also different size oil tanks for different applications. LAPP UK provides a wide range of accessories for this series, and these products are designed for high accuracy applications, and so are fully TUV certified.



Single Speed Pneumatic Torque Gun



- LPSW-10 & LPSW-15, have ergonomic plastic handles and run at 6bar, 600L/min
- LPSW-21 to LPSW-100, have aluminum alloy handles and run at 7bar, 800L/min
- A Powerful Torque Gun with a low noise output of less than 80dBA
- Free connecting power handle to gear box, so tool can rotate 360°
- Has a single speed gearbox, so its light weight and small size makes it easy for the user to operate
- Very suitable for continuous working conditions eg. in Production, Assembly or Maintenance. Accuracy $\pm 5\%$, Consistency $\pm 3\%$



Description	Torque (Nm)	SQD Size	D (mm)	L (mm)	E (mm)	SPEED (rpm)	WEIGHT (Kg)
LPSW-10	142~939	3/4"	75	324	172	28	4.9
LPSW-15	200~1550	1"	77	358	172	20	5.9
LPSW-21	266~2050	1"	81	393	172	6	7.5
LPSW-28	500~3100	1"	81	393	172	6	7.5
LPSW-39	600~4300	1-1/2"	88	411	172	4.1	8.9
LPSW-58	800~6200	1-1/2"	113	439	172	3.8	14.8
LPSW-80	940~8300	1-1/2"	120	451	172	1.2	16
LPSW-100	1600~10100	1-1/2"	128	463	172	1.4	18.8

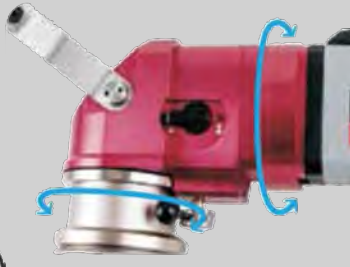
LETW-S Electric 2 Speed Straight Torque Gun



- Supply : 220-230V AC, 50/60Hz
- Preset torque and automatic shutoff when the set torque value has been reached
- High output with an accuracy of $\pm 5\%$ and consistency of $\pm 3\%$
- Single-chip intelligent torque control system with LCD display
- Has manual 2-speed gearbox, high/low speed can be selected easily
- Free connection of power handle & drive unit
- Reliable continuous working rating suitable for production assembly line, installation work and maintenance jobs
- Double insulation design for greater safety

Description	Torque (Nm)	SQD Size	D (mm)	L (mm)	E (mm)	SPEED (rpm)	WEIGHT (Kg)
LETW-08S	100~800	3/4"	65	420	205	30	5
LETW-12S	200~1600	1"	74	460	205	12.2	6.5
LETW-26S	400~2800	1"	78.5	480	205	6.3	8.2
LETW-38S	700~4200	1-1/2"	88	500	205	5.1	9.5
LETW-60S	1000~6000	1-1/2"	113	529	205	2.6	14.9
LETW-80S	1200~8000	1-1/2"	120	539	205	1.8	16.8
LETW-100S	2000~10000	1-1/2"	128	555	205	1.5	18.3
LETW-120S	3000~12000	1-1/2"	128	555	205	1.5	18.3

LETW-A Electric 2 Speed Angled Torque Gun



- Supply : 220-230V AC, 50/60Hz
- Accuracy $\pm 5\%$, Consistency $\pm 3\%$
- Noise Output Level 80dBA
- Single-chip intelligent torque control system with LCD display
- Adjustable Twin Speed motor
- Right Angled drive head design more suitable for a limited working space area
- Main Drive head 360Deg rotation

Description	Torque (Nm)	SQD Size	D (mm)	L (mm)	E (mm)	SPEED (rpm)	WEIGHT (Kg)
LETW-08A	100~800	3/4"	65	249		30	6.6
LETW-12A	200~1600	1"	74	297		12.2	8.1
LETW-26S	400~2800	1"	78.5	317		6.3	9.8
LETW-38A	700~4200	1-1/2"	88	337		5.1	11.4
LETW-60A	1000~6000	1-1/2"	113	366		2.6	16.5
LETW-80A	1200~8000	1-1/2"	120	376		1.8	18.4
LETW-100A	2000~10000	1-1/2"	128	395		1.5	20
LETW-120A	3000~12000	1-1/2"	128	395		1.5	20

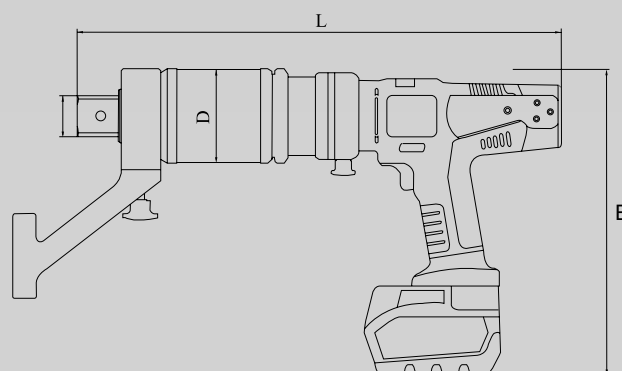
MK Lithium Battery Torque Gun



- MK Lithium Battery Torque Gun with ergonomic plastic handle
- Complete with MK-BAT Set of Charger (x1) and battery (x2)
- Powerful Torque Gun with a low noise output of less than 80dBA
- Free connecting power handle to gear box, so tool can be rotated 360°
- Has a single speed gearbox, so its light weight and small size makes it easy for the user to operate
- Very suitable for continuous working conditions eg. in production assembly or maintenance
- Accuracy $\pm 5\%$, Consistency $\pm 3\%$
- Comes complete with tool box and reaction arm
- Main components are USA made Milwaukee electric driver & German made Planetary gear box



Description	Torque (Nm)	SQD Size	D (mm)	L (mm)	E (mm)	SPEED (rpm)	WEIGHT (Kg)
MK-500	500Nm	3/4"	65	420	205	30	5
MK-1000	1000Nm	3/4"	74	460	205	12.2	6.5
MK-1600	1600Nm	1"	78.5	480	205	6.3	8.2
MK-2000	2000Nm	1"	88	500	205	5.1	9.5
MK-3100	3100Nm	1"	113	529	205	2.6	14.9
MK-4300	4300Nm	1-1/2"	120	539	205	1.8	16.8



GMH & DH SERIES

Micrometer Adjustable Clicker Torque Wrenches

Torque Wrench Body

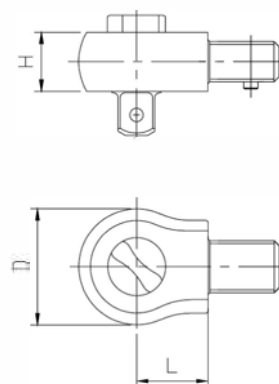
Part#	Shank Size	Torque Range		Length mm	Width mm	Weight kg
		N.m	Lb.ft			
GMH9125	9X12	25-125	20-90	427	38	0.94
GMH14200	14X18	40-200	30-150	460	38	1.06
GMH14335	14X18	65-335	50-250	520	38	1.20
GMH24500	24X32	100-500	80-400	855	56	5.00
GMH24800	24X32	160-800	120-600	1055	56	5.90
GMH241000	24X32	200-1000	150-750	1055	56	5.90
GMH271500	27X36	300-1500	200-1100	1249	64	9.00
GMH272000	27X36	400-2000	300-1500	1249	64	9.00
GMH273000	27X36	600-3000	400-2000	1249	64	10.30

- All-steel construction for extra Durability
- Permanently stamped major and minor scales for precision torque value settings.
- Minor scale with minimum 1/10th resolution.
- Convenient English major reference scale for Metric models and vice versa.
- Rectangular shank head holders: 9x12mm, 14x18mm, 24x32mm and 27x36mm accommodate different types and sizes of heads for varied applications.
- +/-4% Accuracy in clockwise direction from 20% to 100% Max. Torque.
- Pull to unlock lock ring keeps selected torque secure from accidental change.
- Grooved non-slip grip fits comfortably in your hand.



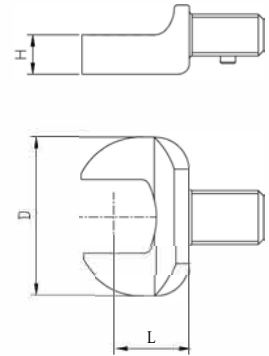
Square Drive Ratchet Head (can reverse for clockwise & counter-clockwise direction)

Part#	Drive	Shank Size	L	H	D	Weight g	Max. Torque N.m
			mm	mm	mm		
DH9120	1/4"	9x12	17.5	15	28	90	20
DH9125	1/4"	9x12	17.5	20	37	135	25
DH92160	3/8"	9x12	17.5	20	38	160	160
DH93160	1/2"	9x12	17.5	20	38	160	160
DH143420	1/2"	14x18	25	20	40	265	420
DH144420	3/4" *	14x18	25	20	40	305	420
DH2441200	3/4"	24x32	35	32	60	1040	1200
DH2451200	1" *	24x32	35	32	60	1140	1200
DH2753000	1"	27x36	50	42	72	1720	3000



Shank Drive Open End (Metric)

	Size	Size	L mm	H mm	D mm	Weight g	Max. Torque Nm
OH94	4	9x12	17.5	4	22	35	2
OH95	5	9x12	17.5	4	22	35	4
OH955	5.5	9x12	17.5	5	22	38	5
OH96	6	9x12	17.5	5	22	38	6
QH97	7	9x12	17.5	5	22	38	9
OH98	8	9x12	17.5	5	22	37	13
OH99	9	9x12	17.5	5.5	26	44	18
OH910	10	9x12	17.5	5.5	26	43	24
OH911	11	9x12	17.5	5.5	26	12	32
OH912	12	9x12	17.5	7	30	48	41
OH913	13	9x12	17.5	7	30	47	51
OH914	14	9x12	17.5	8	35	58	63
OH915	15	9x12	17.5	8	35	57	77
OH916	16	9x12	17.5	8	38	56	92
OH917	17	9x12	17.5	8	38	54	109
OH918	18	9x12	25*	8	42	80	125
OH919	19	9x12	25*	8	42	75	115
OH920	20	9x12	25*	8	48	90	160
OH921	21	9x12	25*	8	50	100	160
OH922	22	9x12	25*	8	50	95	160
OH923	23	9x12	25*	8	53	100	160
OH924	24	9x12	25*	8	53	110	160
OH925	25	9x12	25*	8	53	110	160
OH926	26	9x12	25*	8	53	110	160
OH927	27	9x12	30*	8	64	140	160
OH928	28	9x12	30*	8	68	142	160
OH929	29	9x12	30*	8	68	142	160
OH930	30	9x12	35*	8	70	145	160
OH932	32	9x12	35*	8	70	115	160
OH933	33	9x12	35*	8	75	145	160
OH934	34	9x12	35*	8	80	145	160
OH935	35	9x12	35*	8	80	145	160
OH936	36	9x12	40*	8	80	145	160
OH937	37	9x12	45*	8	81	145	160
OH938	38	9x12	45*	8	82	145	160
OH939	39	9x12	45*	8	83	145	160
OH941	41	9x12	45*	8	85	145	160
OH942	42	9x12	50*	8	90	160	160
OH943	43	9x12	50*	8	100	165	160
OH944	44	9x12	50*	8	100	165	160
OH945	45	9x12	50*	8	100	165	160
OH946	46	9x12	50*	8	100	165	160
OH948	48	9x12	50*	8	104	175	160
OH949	49	9x12	50*	8	106	175	160
OH950	50	9x12	55*	8	106	175	160
OH951	51	9x12	55*	8	106	175	160
OH952	52	9x12	55*	8	110	175	160
OH953	53	9x12	55*	8	112	175	160
OH955	55	9x12	55*	8	116	175	160
OH960	60	9x12	60*	8	121	215	160
OH965	65	9x12	65*	8	126	225	160
OH967	67	9x12	65*	8	128	225	160
QH990	90	9x12	90*	8	165	300	160
OH146	6	14x18	25	7	32	120	6
OH147	7	14x18	25	7	32	120	9
OH148	8	14x18	25	7	32	120	13
OH149	9	14x18	25	7	32	118	18
OH1410	10	14x18	25	7	32	116	24
OH1411	11	14x18	25	7	32	114	32
OH1412	12	14x18	25	7	32	112	41
OH1413	13	14x18	25	7	32	110	51
OH1414	14	14x18	25	8	35	116	63
OH1415	15	14x18	25	8	35	115	77
OH1416	16	14x18	25	9	38	128	92
OH1417	17	14x18	25	9	38	127	109
OH1418	18	14x18	25	10	42	138	125
OH1419	19	14x18	25	10	42	137	145
OH1420	20	14x18	25	11	50	145	160
OH1421	21	14x18	25	11	50	158	190
OH1422	22	14x18	25	11	50	155	220
OH1423	23	14x18	25	13	53	156	250
OH1424	24	14x18	25	13	53	159	280
OH1425	25	14x18	25	13	53	163	320
OH1426	26	14x18	25	13	53	163	360
OH1427	27	14x18	30*	13	64	230	360
OH1428	28	14x18	30*	13	66	255	360
OH1429	29	14x18	30*	13	68	255	360
OH1430	30	14x18	35*	13	70	255	360
OH1431	31	14x18	35*	13	70	255	360
OH1432	32	14x18	35*	13	70	255	360
OH1433	33	14x18	40*	13	75	360	360
OH1434	34	14x18	40*	13	78	360	360
OH1435	35	14x18	40*	13	80	365	360
OH1436	36	14x18	40*	13	80	365	360
OH1437	37	14x18	45*	13	83	440	360
OH1438	38	14x18	45*	13	85	440	360
OH1439	39	14x18	45*	13	85	435	360
OH1440	40	14x18	50*	13	90	430	360
OH1441	41	14x18	50*	13	90	430	360
OH1442	42	14x18	50*	13	93	430	360
OH1443	43	14x18	50*	13	95	480	360
OH1444	44	14x18	50*	13	98	550	360
OH1445	45	14x18	50*	13	100	600	360
OH1446	46	14x18	50*	13	100	595	360
OH1447	47	14x18	50*	13	102	595	360



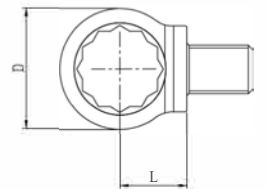
Part#	Open Size	Shank Size	L mm	H mm	D mm	Weight g	Max. Torque Nm
OH1448	48	14x18	50*	13	104	595	360
OH1449	49	14x18	50*	13	106	610	360
OH1450	50	14x18	55*	13	106	610	360
OH1451	51	14x18	55*	13	106	600	360
OH1452	52	14x18	55*	13	110	600	360
OH1453	53	14x18	55*	13	112	600	360
OH1455	55	14x18	55*	13	116	585	360
OH1456	56	14x18	60*	13	120	650	360
OH1457	57	14x18	60*	13	121	650	360
OH1460	60	14x18	60*	13	121	650	360
OH1461	61	14x18	60*	13	121	640	360
OH1462	62	14x18	60*	13	122	640	360
OH1465	65	14x18	65*	13	126	680	360
OH1466	66	14x18	65*	13	128	680	360
OH1468	68	14x18	70*	13	130	690	360
OH1470	70	14x18	70*	13	135	700	360
OH1472	72	14x18	70*	13	135	690	360
OH1475	75	14x18	75*	13	142	720	360
OH1478	78	14x18	75*	13	150	730	360
OH1480	80	14x18	80*	13	155	750	360
OH1485	85	14x18	80*	13	155	750	360
OH1488	88	14x18	90*	13	160	775	360
OH1490	90	14x18	90*	13	165	800	360
OH2417	17	24x32	35	25	62	650	1200
OH2419	19	24x32	35	25	65	680	1200
OH2420	20	24x32	35	25	66	680	1200
OR2422	22	24x32	35	25	68	700	1200
OH2424	24	24x32	35	25	70	715	1200
OH2425	25	24x32	35	25	70	715	1200
OH2426	26	24x32	35	25	70	715	1200
OH2427	27	24x32	35	25	72	718	1200
OH2428	28	24x32	35	25	72	719	1200
OH2430	30	24x32	35	25	75	720	1200
OH2432	32	24x32	35	25	76	725	1200
OH2434	34	24x32	40*	25	78	730	1200
OH2436	36	24x32	40*	25	80	735	1200
OH2438	38	24x32	45*	25	91	809	1200
OH2441	41	24x32	50*	25	95	925	1200
OH2445	45	24x32	50*	25	100	1000	1200
OH2446	46	24x32	50*	25	100	1000	1200
OH2448	48	24x32	50*	25	104	1100	1200
OH2450	50	24x32	55*	25	106	1150	1200
OH2455	55	24x32	55*	25	119	1300	1200
OH2457	57	24x32	55*	25	120	1330	1200
OH2460	60	24x32	60*	25	121	1330	1200
OH2465	65	24x32	65*	25	130	1337	1200
OH2467	67	24x32	70*	25	130	1415	1200
OH2470	70	24x32	70*	25	132	1620	1200
OH2475	75	24x32	75*	25	150	1650	1200
OH2727	27	27x36	50*	28	90	1250	3000
OH2730	30	27x36	50*	28	95	1295	3000
OH2732	32	27x36	50*	28	95	1295	3000
OH2734	34	27x36	50*	28	100	1330	3000
OH2736	36	27x36	50*	28	100	1335	3000
OH2738	38	27x36	50*	28	107	1338	3000
OH2741	41	27x36	50*	28	107	1440	3000
OH2742	42	27x36	50*	28	107	1440	3000
OH2745	45	27x36	50*	28	107	1440	3000
OH2746	46	27x36	50*	28	114	1445	3000
OH2750	50	27x36	55*	28	118	1450	3000
OH2755	55	27x36	55*	28	124	1455	3000
OH2760	60	27x36	60*	28	130	1460	3000
OH2761	61	27x36	65*	28	131	1462	3000
OH2765	65	27x36	65*	28	136	1462	3000
OH2770	70	27x36	70*	28	142	1465	3000
OH2775	75	27x36	75*	28	148	1780	3000
OH2780	80	27x36	80*	28	158	2600	3000
OH2785	85	27x36	85*	28	164	2850	3000
OH2790	90	27x36	90*	28	176	2900	3000
OH2795	95	27x36	95*	28	180	3000	3000



Shank Drive Closed Ring End (Metric)

Part#	Ring Size	Shank Size	L mm	H mm	D mm	Weight g	MaxTorque Nm
QH96	6	9x12	17.5	8	12	43	18
QH97	7	9x12	17.5	8	13	43	25
QH98	8	9x12	17.5	8	14	42	34
QH99	9	9x12	17.5	9	16	45	45
QH910	10	9x12	17.5	9	17	48	58
QH911	11	9x12	17.5	9	18.5	47	72
QH912	12	9x12	17.5	12	20	54	89
QH913	13	9x12	17.5	12	22	53	105
QH914	14	9x12	17.5	12	23	52	125
QH915	15	9x12	17.5	12	24	54	145
QH916	16	9x12	17.5	13	26	56	160
QH917	17	9x12	17.5	13	27	55	160
QH918	18	9x12	17.5	13	28.5	58	160
QH919	19	9x12	17.5	13	30	57	160
QH920	20	9x12	17.5	13	33	68	160
QH921	21	9x12	17.5	13	33	68	160
QH922	22	9x12	17.5	13	34.5	73	160
QH924	24	9x12	25*	13	37.5	80	160
QH927	27	9x12	25*	13	41.5	80	160
QH930	30	9x12	25*	13	45	85	160
QH936	36	9x12	30*	13	52	90	160
QH941	41	9x12	35*	13	61	90	160
QH1410	10	14x18	25	11	16	95	58
QH1411	11	14x18	25	11	18.5	115	75
QH1412	12	14x18	25	11	21.5	125	89
QH1413	13	14x18	25	11	21.5	125	105
QH1414	14	14x18	25	11	23	124	125
QH1415	15	14x18	25	11	24	123	150
QH1416	16	14x18	25	12	26	128	175
QH1417	17	14x18	25	12	27	127	200
QH1418	18	14x18	25	12	28.5	133	230
QH1419	19	14x18	25	12	30.5	138	260
QH1420	20	14x18	25	15	33	148	290
QH1421	21	14x18	25	15	33	148	330
QH1422	22	14x18	25	15	34.5	154	360
QH1424	24	14x18	25	15	37.5	153	360
QH1425	25	14x18	25	15	40	160	360
QH1427	27	14x18	25	16	41.5	160	360

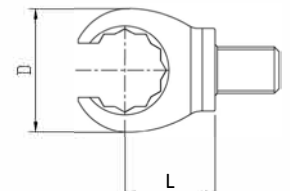
Part#	Ring Size	Shank Size	L mm	H mm	D mm	Weight g	MaxTorque Nm
QH1428	28	14x18	25	16	45	165	360
QH1430	30	14x18	25	16	45	165	360
QH1432	32	14x18	25	16	47.5	168	360
QH1434	34	14x18	30*	16	51	190	360
QH1436	36	14x18	30*	16	54	196	360
QH1438	38	14x18	33*	16	57	210	360
QH1441	41	14 x 18	35*	16	61	215	360
QH1442	42	14 x 18	33*	16	63	215	360
QH1446	46	14x18	40*	16	68	225	360
QH1450	50	14 x 18	40*	16	70	230	360
QH1455	55	14 x 18	45*	16	76	250	360
QH1460	60	14x18	45*	16	84	255	360
QH2424	24	24x32	35	25	65	880	1200
QH2427	27	24x32	35	25	68	910	1200
QH2430	30	24x32	35	25	72	945	1200
QH2432	32	24x32	35	25	74	961	1200
QH2434	34	24x32	35	25	76	977	1200
QH2436	36	24x32	40*	25	80	1075	1200
QH2438	38	24x32	40*	25	80	1053	1200
QH2441	41	24x32	45*	25	80	1059	1200
QH2446	46	24x32	45*	25	84	1074	1200
QH2450	50	24x32	50*	25	98	1315	1200
QH2455	55	24x32	55*	25	105	1533	1200
QH2460	60	24x32	60*	25	110	1642	1200
QH2465	65	24x32	65*	25	128	1900	1200
QH2470	70	24x32	65*	25	128	1915	1200
QH2730	30	27x36	50*	28	70	1190	3000
QH2732	32	27x36	50*	28	70	1213	3000
QH2734	34	27x36	50*	28	75	1235	3000
QH2736	36	27x36	50*	28	75	1225	3000
QH2738	38	27x36	50*	28	80	1263	3000
QH2741	41	27x36	50*	28	80	1265	3000
QH2746	46	27x36	50*	28	86	1270	3000
QH2750	50	27x36	50*	28	98	1603	3000
QH2755	55	27x36	55*	28	105	1771	3000
QH2760	60	27x36	60*	28	110	1874	3000
QH2765	65	27x36	60*	28	118	2050	3000
QH2770	70	27x36	65*	28	128	2322	3000



Shank Drive Open Ring End (Metric)

Part#	Ring Size	Open Size	Shank Size	L mm	H mm	D mm	Weight g	MaxTorque Nm
QOH910	10	7.1	9x12	17.5	12	22	63	12
QOH911	11	8.6	9x12	17.5	12	22	62	16
QOH912	12	9.0	9x12	17.5	12	24	61	25
QOH913	13	10.0	9x12	17.5	12	25	63	28
QOH914	14	11.0	9x12	17.5	13	27	62	31
QOH916	16	13.0	9x12	17.5	13	30	69	46
QOH917	17	14.0	9x12	17.5	13	31.5	68	53
QOH918	18	14.8	9x12	25*	13	33	77	65
QOH919	19	15.8	9x12	25*	13	34.5	82	74
QOH921	21	16.2	9x12	25*	13	35	92	95
QOH922	22	17.0	9x12	25*	13	37	95	105
QOH924	24	18.0	9x12	25*	13	40	97	145
QOH927	27	21.0	9x12	30*	13	44	105	160
QOH930	30	22.0	9x12	35*	13	48	115	160
QOH932	32	24.0	9x12	35*	13	51	120	160
QOH1413	13	10.0	14x18	25	12	25	135	28
QOH1414	14	11.0	14x18	25	13	27	140	31
QOH1415	15	11.5	14x18	25	13	29	145	38
QOH1416	16	13.0	14x18	25	13	30	145	46
QOH1417	17	14.0	14x18	25	13	31.5	145	53
QOH1418	18	14.8	14x18	25	15	33	150	65
QOH1419	19	15.8	14x18	25	15	34.5	150	74
QOH1421	21	16.2	14x18	25	16	35.5	155	100
QOH1422	22	17.0	14x18	25	16	37	155	115

Part#	Ring Size	Open Size	Shank Size	L mm	H mm	D mm	Weight g	MaxTorque Nm
QOH1424	24	18.5	14 x 18	25	16	40	155	145
QOH1427	27	22.0	14x18	30*	16	44	155	160
QOH1430	30	22.0	14x18	35*	16	48	155	180
QOH1432	32	24.0	14x18	35*	16	51	155	200
QOH1434	34	25.0	14x18	40*	16	55	160	260
QOH1436	36	27.0	14x18	40*	16	58	165	260
QOH1438	38	28.0	14x18	45*	16	61	175	260
QOH1439	41	30.0	14x18	50*	16	65	180	260
QOH1446	46	31.0	14x18	50*	16	71	190	260
QOH1450	50	34.0	14x18	55*	16	77	195	260
QOH2419	19	15.8	24x32	35	25	42	627	600
QOH2430	30	22.0	24x32	35	25	67	755	600
QOH2432	32	24.0	24x32	35	25	69	755	600
QOH2434	34	25.0	24x32	40*	25	71	790	600
QOH2436	36	27.0	24x32	40*	25	73.5	830	600
QOH2438	38	28.0	24x32	45*	25	80	922	600
QOH2441	41	30.0	24x32	50*	25	83	980	600
QOH2446	46	32.0	24x32	50*	25	92	970	600
QOH2450	50	34.0	24x32	55*	25	98	1180	600
QOH2455	55	39.0	24x32	55*	25	106	1160	600
QOH2730	30	22.0	27x36	50*	28	75	1250	1200
QOH2732	32	24.0	27x36	50*	28	75	1250	1200
QOH2736	36	27.0	27x36	50*	28	80	1350	1200



Electronic Adjustable Clicker Torque Wrenches



- Accuracy: $\pm 2\%$ from 20% to 100% of capacity.
- Display range: 2% to 110%.
- Units: Lbft, Lbin, Nm, Kgm.
- Modes: Peak Torque mode, Track mode.
- Target torque can be set.
- Led light and buzzer alarming when reaches target torque.
- Torque error percentage display function.
- Optional backlight, good for dark working condition.
- Continuous operate, automatic zero clearing.
- Battery level display.
- Automatically shuts off after 2 minutes of non use.
- Battery replaceable, LR03 AAA x 3 alkaline batteries, easy replacement.

Metric

Item No.	Square Drive	Torque Range		Length mm	Width mm	Weight kg
		N.m	Lb.ft			
LEJM250	3/8"	10-50	88.5-443*	452	38	0.93
LEJM2100	3/8"	20-100	14.8-73.8	482	38	1
LEJM3200	1/2"	40-200	29.5-148	522	40	1.12
LEJM3300	1/2"	60-300	44.3-221	590	40	1.52
LEJM4400	3/4"	80-400	59-295	700	57	3.3
LEJM4600	3/4"	120-600	88.5-443	1050	60	4.6
LEJM4800	3/4"	160-800	118-590	1250	60	5.2
LEJM41000	3/4"	200-1000	147.5-738	1250	60	5.2

*Unit is Lb.in

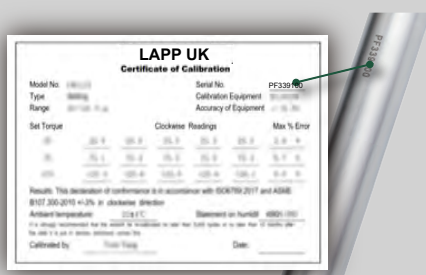
English

Item No.	Square Drive	Torque Range		Length mm	Width mm	Weight kg
		Lb.ft	N.m			
LEJ2250	3/8"	50-250*	5.6-28.2	427	38	0.88
LEJ280	3/8"	16-80	21.7-108	482	38	1
LEJ3150	1/2"	30-150	40.7-203	522	40	1.12
LEJ3250	1/2"	50-250	67.8-339	590	40	1.52

*Unit is Lb.in

100% Calibrated

Unique serial number for each torque wrench, corresponding to the certificate of calibration



Shockproof packaging

Specially designed for all series of "LAPP Equipment UK" torque products

LFSM & LFSH SERIES

Hydraulic Flange Spreaders

OK FOR SUBSEA



Hydraulic Flange Spreaders

For maintenance, commissioning, shutdowns, testing and valve change outs. No need for hammers, chisels, slings or chain blocks. Integrated wedge concept friction-free, smooth and parallel wedge movement eliminates flange damage & risk of spreading arm failure. Unique interlocking wedge design No first step bending risk. Requires very small access gap of only 6mm. LFSH-14 can be used with a bolting tool-pump or in a set including the spreader, hand pump, hose, gauge and adapter.



LFSH-14

Model No.	Max. spreading force (ton)	Tip clearance (mm)	Max. spread (mm)	Type	Oil capacity (cm ³)	Weight (kg)
LFSM-8	8	6	81	Mechanical	N/A	6.5
LFSH-14	14	6	81	Hydraulic	78	9.3
LFSH-25	25	8	81	Hydraulic	89	10.8



LFSM-8

NC & LNS SERIES

Hydraulic Nut Splitters

OK FOR SUBSEA



Separating Hydraulic Nut Splitter (Top Side and Sub-sea)

- For difficult Low Clearance applications
- Unique angled head design
- Heavy Duty cutting blade can be reground



Model Size	Hex Nut A/F	Capacity (T)	Stud Size	Weight (kg)
NC-1019	10-19	5	M6-12	1.2
NC-1924	19-24	10	M12-16	2.6
NC-2432	24-32	15	M16-22	4
NC-3241	32-41	20	M22-27	5.4
NC-4150	41-50	35	M27-33	10
NC-5060	50-60	50	M33-39	17
NC-6075	60-75	90	M39-48	34
LNS-7080	70-80	100	M45-52	39
LNS-7085	70-85	110	M45-56	44
LNS-7095	70-95	120	M45-64	49
LNS-70105	70-105	130	M45-72	54
LNS-110115	110-115	140	M76-80	59
LNS-110130	110-130	150	M76-90	64





LFA Flange Alignment Tooling

- Can be used on virtually all horizontal and vertical flanges including ANSI, API, BS, DIN & SPO
- Operates on most pipe configurations and suitable for offshore / onshore applications
- Robust and environmentally friendly
- The LFA can be used during: Commissioning, Construction, Routine maintenance, Shutdowns/ outages, Testing & valve change-outs
- Saves time, Saves cost and Safer operation than traditional methods
- Precise operation and Lightweight - ideal for remote locations
- Comes complete with Carry case, Ratchet Strap and Instruction Manual
- LFA1TM - A SIMPLE SOLUTION TO SMALL, LOW PRESSURE FLANGE MISALIGNMENT
- LFA4TM - DESIGNED FOR MID RANGE FLANGES
- LFA9TE - DESIGNED FOR HIGH-PRESSURE, LARGE DIAMETER FLANGES
- LMG7TM - MINI-GAP FLANGE SPREADER



Part Number	Aligning Force	Description	Gross Kit Weight
LFA1TM	1T (10kN)	1 Ton, Mechanical	2Kg (4.4 lbs)
LFA4TM	4T (40kN)	4 Ton, Mechanical	13.5 Kg (30 lbs)
LFA9TM	9T (90kN)	9 Ton, Mechanical	18.5Kg (40 lbs)
LFA9TE	9T (90kN)	9 Ton, Hydraulic	27.5Kg (60 lbs)



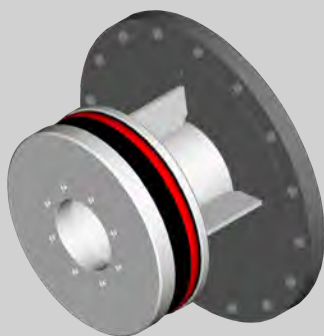
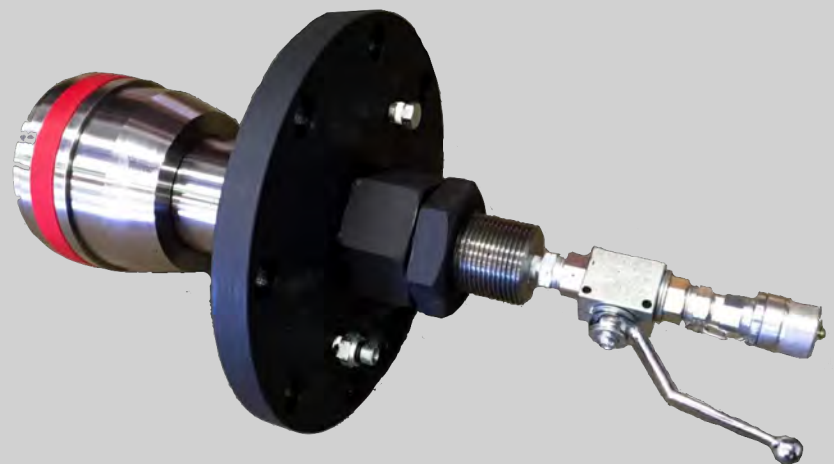


FWT Flange Weld Testers

Flange Weld Testers are designed to pressure test various types of flange connections, including, weld neck, slip-on, Quickflange, lap joint, etc., eliminating the need for a full system test. The tools are inserted into the flange connection and fastened up. The tool is then set and the annulus between the seal and the flange is then filled/ vented with the test medium and pressurised to the flange rating.

The body of the tool is made from high grade carbon steel and the seal is made from special polyurethane which has a low hysteresis. All units are hydro-tested prior to shipment and supplied with full operating instructions and pre delivery inspection report.

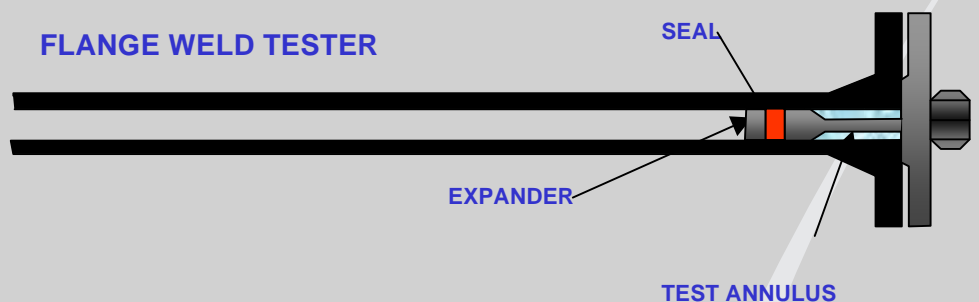
For sizes, pressure ratings and configurations the tools are available, from 1/2" thru to 36" up to ANSI 1500. Special tools can be shortened or lengthened to suit your specific requirements.



CONVENTIONAL METHOD



FLANGE WELD TESTER



When the tool is set the seal is expanded radially against the pipe bore mechanically (up to 4") or hydraulically (6" and above) to seal off the area to be tested. The annulus created is then filled and vented with the test medium and pressurised upto the required test pressure which can be up to ANSI 1500 depending on flange rating.

The tools can be set in both horizontal and vertical piping or inclined if required. Testing is achieved in a fraction of the time (and cost) of a full system test, whilst also reducing the provision and disposal costs associated with large volumes of test medium. Most tools can easily be installed and operated by one man.



FWT Flange Weld Testers

Flange Weld Tester dimension table ANSI 150 up to ANSI 300

Size	Flange Face to seal mm	Flange face to end of hub length	Overall length	Weight kg
0.5"	59	84	150	1
0.75"	59	84	150	1
1"	80	110	170	3
1.25"	80	112	185	3.5
1.5"	80	112	185	5
2"	135	165	255	7
3"	161	199	305	12
4"	156	194	320	25
6"	184	230	400	65
8"	215	260	460	105
10"	234	300	550	195
12"	263	345	620	250
14"	268	360	635	336
16"	270	365	690	350
18"	280	490	690	375
20"	280	490	690	375
24"	280	490	690	375

Flange Weld Tester dimension table ANSI 600 upto ANSI 900 (ANSI 1500 in Red)

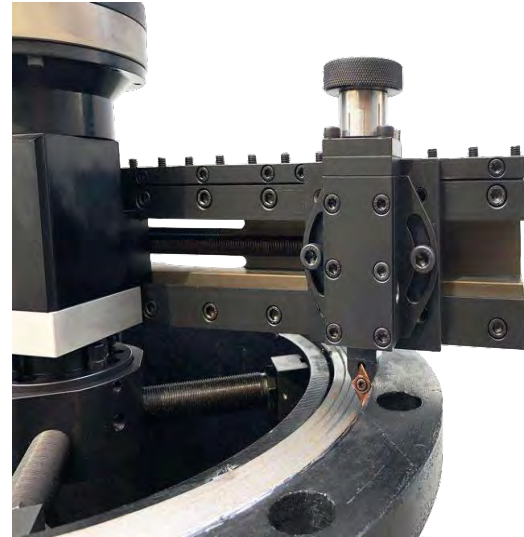
Size	Flange Face to seal mm	Flange face to end of hub length	Overall length	Weight kg	Weight ANSI 600	Weight ANSI 900	Weight ANSI 1500
0.5"	80	100	150	1	1	2	2
0.75"	88	115	170	1	1	3	3
1"	92	130	200	3	3	5	5
1.25"	92	130	200	3.5	3.5	6	6
1.5"	102	138	210	5	5	8	8
2"	135	165	255	7	8	15	15
3"	161	199	305	12	13	18	24
4"	156	194	320	25	32	37	46
6"	184 195	230 236	400 410	65	80	93	116
8"	215 234	260 279	460 480	105	128	159	200
10"	234 276	300 340	550 580	195	235	260	347
12"	263 305	345 387	620 660	250	293	345	486
14"	268 325	360 417	655 710	336	381	436	676
16"	270 340	365 435	690 770	350	425	470	803
18"	280 370	490 570	690 900	375	475	575	1024
20"	280 390	490 590	690 925	420	547	662	1242
24"	320 440	520 690	720 1100	510	697	1040	1820

LAP610 SERIES

Flange Facing Machine 2" - 24" (50 - 610mm)

High Performance Portable Machines

An internally mounted lightweight yet strong flange facing machine for all types of flange facing, seal groove machining, weld prep and counter boring.

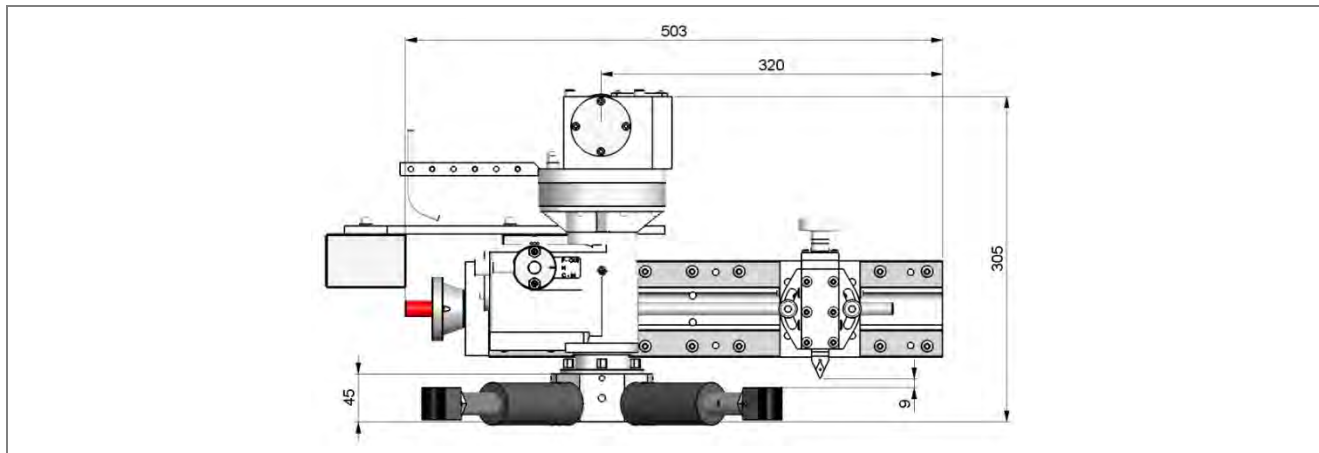


- Helical drive for a superior finish
- Swivel tool post – for a wider range of machining operations
- Geared continuous groove facing feeds, for gramophone finish (ASME Standard)
- Quick set independent base, minimising set up time

The LAP610 machine is supplied complete with toolkit including tools and inserts, air filter lubricator and hose connection, all required mounting base and extensions, storage / shipping box, CE certificate, packing list and manual.

Shipping Dimensions

Length		Width		Height	
mm	inches	mm	inches	mm	inches
650	25.5	450	17.7	430	16.9



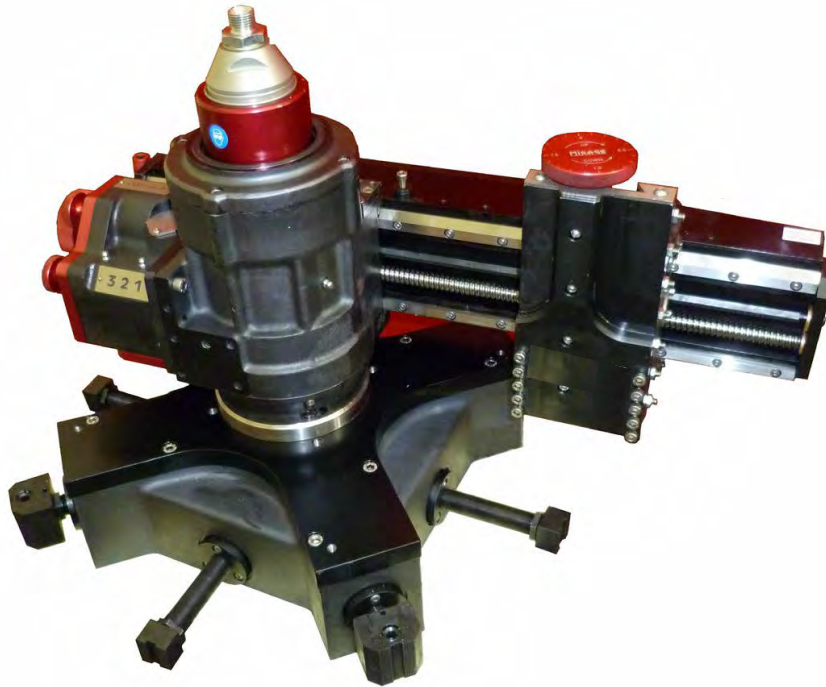
MADE IN THE UK

LAP1000 SERIES

Flange Facing Machine 6" - 40" (153 - 1000mm)

High Performance Portable Machines

An internally mounted flange facing machine for all types of flange facing, seal groove machining, weld preparation and counter boring.

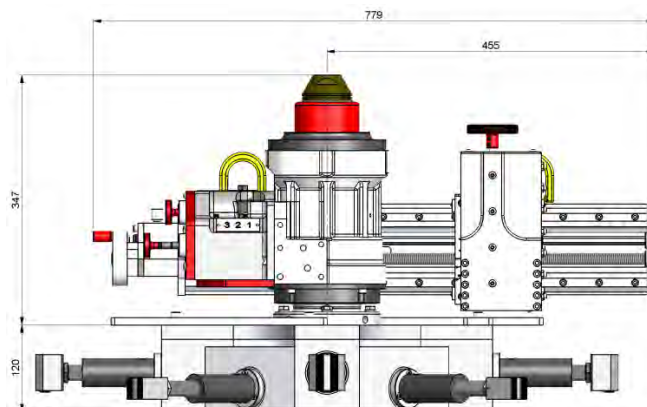


- Latest linear technology – delivering a robust, reliable operation
- Powered 360° tool post – for a wider range of machining operations
- Three speed continuous feed gearbox, for gramophone finish
- Quick set adjustable clamping jaws, minimising set up time

The LAP1000 machine is supplied complete with toolkit including tools and inserts, air filter lubricator and hose connection, all required mounting base and extensions, storage / shipping box, CE certificate, packing list and manual.

Shipping Dimensions

Length		Width		Height	
mm	inches	mm	inches	mm	inches
840	33	600	24	720	28



LAP2000 SERIES

Flange Facing Machine 24" - 80" (610 - 2000mm)

High Performance Portable Machines

An internally mounted flange facing machine for all types of flange facing, seal groove machining, weld preparation, counter boring and heat exchanger repair.

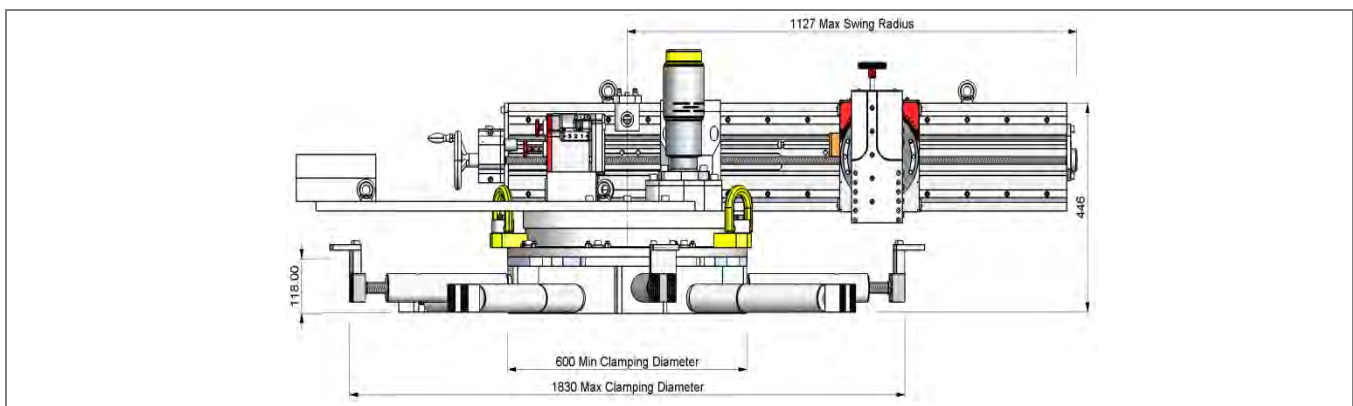


- Latest linear technology, to deliver accurate and repeatable machining
- Three speed continuous feed gearbox, for flexible machine operation
- Quick set adjustable jaws, to minimise set-up time
- Swivel powered tool post which supports a wider range of machining applications

The LAP2000 machine is supplied complete with toolkit including tools and inserts, air filter lubricator and hose connection, all required mounting base and extensions, storage / shipping box, CE certificate, packing list and manual.

Shipping Dimensions

	Length		Width		Height	
	mm	inches	mm	inches	mm	inches
Box 1	1800	71	900	35	720	28
Box 2	1900	75	1250	49	570	22



MADE IN THE UK

SB&AB SERIES

Pipe Cold Cutting and Beveling Machines

- Clamshell -

Steel Body SB



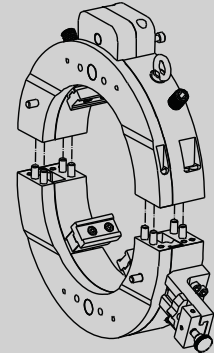
Both Rotary ring and Stationary ring made by steel. This is the traditional UK material. A little heavier for on-site machine.

Aluminum Body AB



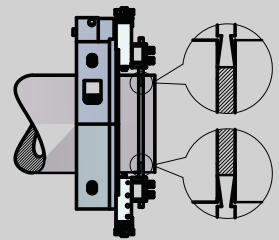
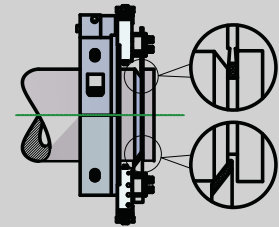
This is our new machine, stationary ring made by aluminum. Steel where strength is needed, aluminum where strength is less critical than weight. Lightweight makes more convenient for operator.

- Split frame -



OD-Mounted Pipe Cutting and Beveling Machine

The series machine is ideal for all types of pipe cutting, beveling and end preparation. The split frame design allows the machine to split in half at the frame and mount around the OD of the in-line pipe or fittings for strong, stable clamping. The equipment performs precision in-line cut or simultaneous cut/bevel, single point, counterbore and flange facing operations, as well as weld end preparation on open ended pipe, Ranging from 3/4 to 56 inches O.D. (DN20-1400), on most wall thicknesses and material.



Optional Accessories



Tracking Tool Slide

O.D. tracking slide compensate for out-of-round pipe

Features

Split frame

Machine quickly split to mount around outside diameter of in-line pipe

Cut or Cut/Bevel simultaneously

Cuts and bevels simultaneously leaving a clean precision prep ready for welding

Cold cut/Bevel

Hot torch cutting requires grinding and produces an undesirable heat affected zone

Cold cutting/beveling also improves safety

Low Axial & Radial Clearance

Tool feed automatically

Cut and bevel pipe of any wall thickness.

Materials include: Carbon steel, alloy, stainless steel as well as other material

Pneumatic, electric and hydraulic type for option

Machining OD of pipe from 3/4" up to 56"



Universal Counter Boring Tool Slide

The tool slide performs boring and inside beveling



Split installation



Split point

SB&AB SERIES

Pipe Cold Cutting and Beveling Machines

Specification

Drive Options: Pneumatic, Hydraulic, and Electric
 Air requirement: 1500L-3000L Per minute @0.6/0.7Mpa
 Hydraulic requirement: 2-60L per minute @12.5Mpa
 Electric requirement: 220-240V 1PH 50/60HZ
 Feed mode: Star wheel, automatically
 Feed rate: Fixed@0.08mm per circle
 Packaging: Plywood case



Air Type ODP Series

Power Supply: 1500-3000L/Min@0.6/0.7Mpa
Advantage
 Explosion Proof
 Stable Performance
 Simple structure makes easy to maintenance
 Occasionally overload no damage



Electric Type ODE Series

(METAOBO Motor is available)
 Power Supply: 220-240V 1PH 50/60HZ
Advantage
 Low Energy
 Power: 1600-2400W
 Self-made, easy to maintenance

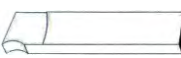
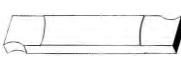




Selection Guide


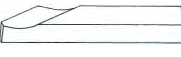


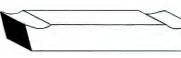
17 sizes machine for options.
 Consult with us for special size.
 For narrow working condition, pay attention to the axial and radial clearance.

Model	Working Range (OD)		Wall Thickness
	Inch	mm	
SB002006	2 - 6	50 - 168	≤30
SB003008	3 - 8	80 - 230	≤30
SB004010	4 - 10	100 - 275	≤30
SB006012	6 - 12	168 - 325	≤30
SB008014	8 - 14	219 - 377	≤30
SB010016	10 - 16	273 - 426	≤30
SB012018	12 - 18	300 - 457	≤30
SB014020	14 - 20	355 - 508	≤30
SB016022	16 - 22	400 - 560	≤30
SB018024	18 - 24	457 - 610	≤30
SB020026	20 - 26	508 - 660	≤30
SB022028	22 - 28	550 - 715	≤30
SB024030	24 - 30	600 - 762	≤30
SB026032	26 - 32	660 - 813	≤30
SB030036	30 - 36	762 - 914	≤30
SB036042	36 - 42	914 - 1066	≤30
SB042048	42 - 48	1066 - 1230	≤30

Tooling Chart

CUTTING TOOLS			
Description	Part Number	Application	Sketch
5x25x100mm M42 Cutting tool	42C-5100	Standard cutting, for most materials up to 30mm	
6x25x200mm M42 Cutting tool	42C-6200	Longer cutting tool, both ends have blade, for most materials up to 60mm	
8x25x200mm M42 Cutting tool	42C-8200	Longer cutting tool, both ends have blade, for most materials up to 60mm	

COUNTERBORING TOOL			
Description	Part Number	Application	Sketch
M42 Counterboring tool	42T	For pipe Counterboring install on the counter boring tool slide	

BEVELING TOOLS			
Description	Part Number	Application	Sketch
12x20x104mm M42 Beveling tool	42B-RH1220-30°	Right Hand Standard beveling tool for most materials up to 30mm	
	42B-RH1220-35°		
	42B-RH1220-37.5°		
12x20x104mm M42 Beveling tool	42B-LH1220-30°	Right Hand Standard beveling tool for most materials up to 30mm	
	42B-LH1220-37.5°		
12x20x150mm M42 Compound Beveling tool	42B-CB1220-10°X30°	Right Hand 10°X30°, for most materials up to 30mm	
	42B-CB1220-10°X37.5°	Right Hand 10°X37.5° as per ASME B(16). 25 for most materials up to 30mm	
25x25x150mm M42 Compound Beveling tool	42B-CB2525-10°X30°	Right Hand 10°X30°, for most materials up to 60mm	
	42B-CB2525-10°X37.5°	Right Hand 10°X37.5° as per ASME B(16). 25 for most materials up to 60mm	
25x25x200mm M42 Beveling tool	42B-2525-10°	Longer beveling tool, both ends have blade, for most materials up to 60mm. Fit the heavy wall tool slide	
	42B-2525-30°		
	42B-2525-37.5°		

VICTORY SERIES

Pipe Beveling Machines

1. Cutter can hold 3 tool bits process in one time Automatic welding require the OD Beveling, facing and internal beveling. Only 3 side processing finish in one time can guarantee the precision of beveling. The cutter can install 3 pcs tool bits, meet the demands.
2. New expanding structure new designed expanding structure makes the fix more stable and low failure rate
3. New-design main shaft fixation there will be smaller gap of the machine. Performs beveling more smooth, less vibration.

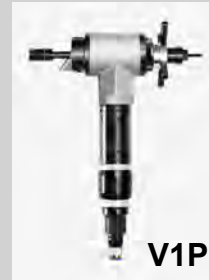


V1

Driven Option:

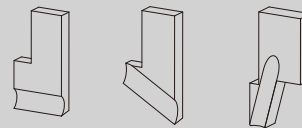
V1P Air Operated
V1E Electric Operated, China Motor
V1B Electric Operated, BOSCH Motor

Clamping Range (ID): 16-25mm
Working Range (OD): 1" (33.4mm)



Specification

Model	V1P	V1E	V1B
Driven	Pneumatic	Electric	Bosch Motor
Power Supply	900L/Min @ 0.6Mpa	220-240V 1PH 50/60HZ	220-240V 1PH 50/60HZ
Motor Power	1 HP	720W	850W
Clamping Range (ID)	16-25	16-25	16-25
Working Range (OD)	1"(33.4mm)	1"(33.4mm)	1"(33.4mm)
Wall Thickness	< 8mm	< 8mm	< 8mm
Rotation Speed	66r/min	52r/min	48r/min
Working Weight	7kg	8kg	8kg
Shipping Weight	14kg	16kg	16kg
Packing Size	540*410*170mm	540*410*170mm	540*410*170mm
Tool Number	2	2	2

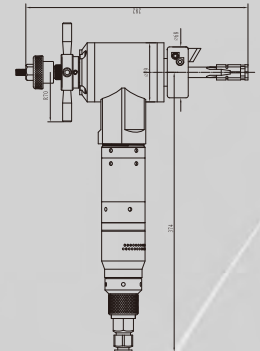


Tool Bits

Standard Tool, V Type Prep. U Type Prep.
Facing, Inside Beveling
*Consult with us for special demand

Standard Supply:

Machine. Driven motor, full set expanding blocks, 3 pcs tool bits.
(1 Facing tool, 1x30deg.
Beveling 1x37.5 deg Beveling)

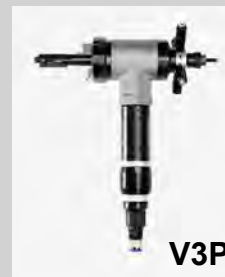


V3

Driven Option:

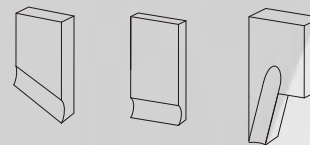
V3P Air Operated
V3E Electric Operated, China Motor
V3B Electric Operated, BOSCH Motor

Clamping Range (ID): 25-76mm
Working Range (OD): 3" (88.9mm)



Specification

Model	V3P	V3E	V3B
Driven	Pneumatic	Electric	Bosch Motor
Power Supply	900L/Min @ 0.6Mpa	220-240V 1PH 50/60HZ	220-240V 1PH 50/60HZ
Motor Power	1 HP	720W	850W
Clamping Range (ID)	25-76	25-76	25-76
Working Range (OD)	3"(88.9mm)	3"(88.9mm)	3"(88.9mm)
Wall Thickness	< 15mm	< 15mm	< 15mm
Rotation Speed	66r/min	52r/min	48r/min
Working Weight	8.5kg	9kg	9kg
Shipping Weight	15kg	16kg	16kg
Packing Size	540*410*170mm	540*410*170mm	540*410*170mm
Tool Number	3	3	3

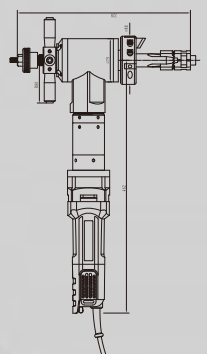


Tool Bits

Standard Tool, V Type Prep. U Type Prep.
Facing, Inside Beveling
*Consult with us for special demand

Standard Supply:

Machine. Driven motor, full set expanding blocks, 3 pcs tool bits.
(1 Facing tool, 1x30deg.
Beveling 1x37.5 deg Beveling)



VICTORY SERIES

Pipe Beveling Machines



V6

Driven Option:

V6P Air Operated
V6E Electric Operated, China Motor
V6B Electric Operated, BOSCH Motor



V6P



V6E



V6B

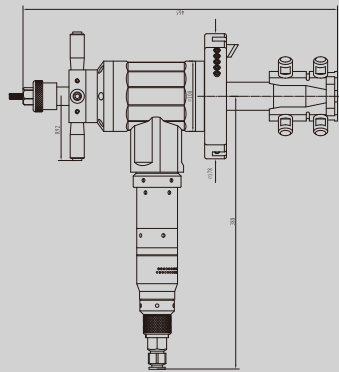
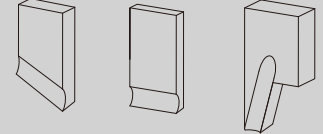
Specification

Clamping Range (ID): 60-159mm
Working Range (OD): 6" (168.28mm)

Model	V6P	V6E	V6B
Driven	Pneumatic	Electric	Bosch Motor
Power Supply	900L/Min @ 0.6Mpa	220-240V 1PH 50/60HZ	220-240V 1PH 50/60HZ
Motor Power	1 HP	1050W	1000W
Clamping Range (ID)	60-159mm	60-159mm	60-159mm
Working Range (OD)	6"(168.28mm)	6"(168.28mm)	6"(168.28mm)
Wall Thickness	< 20mm	< 20mm	< 20mm
Rotation Speed	61r/min	36r/min	38r/min
Working Weight	16kg	17kg	17kg
Shipping Weight	29kg	31kg	31kg
Packing Size	560*550*250mm	560*550*250mm	560*550*250mm
Tool Number	3	3	3

Tool Bits

Standard Tool
V Type Prep.
U Type Prep.



V8

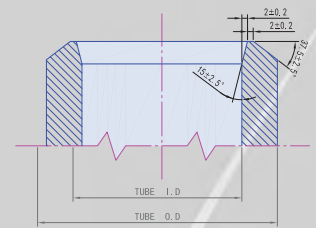
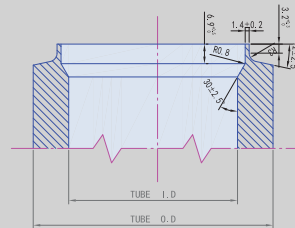
Driven Option:

V8P Air Operated
V8E Electric Operated, China Motor

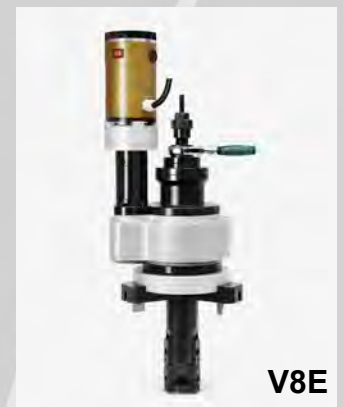
Specification

Clamping Range (ID): 65-210mm
Working Range (OD): 8" (219.08mm)

Model	V8P	V8E
Driven	Pneumatic	Electric
Power Supply	1200L/Min @ 0.6Mpa	220-240V 1PH 50/60HZ
Motor Power	1.5 HP	1200W
Clamping Range (ID)	65-210mm	65-210mm
Working Range (OD)	8"(219.088mm)	8"(219.088mm)
Wall Thickness	< 20mm	< 20mm
Rotation Speed	50r/min	24r/min
Working Weight	26kg	28kg
Shipping Weight	41kg	44kg
Packing Size	650*280*250mm	650*280*250mm
Tool Number	3	3



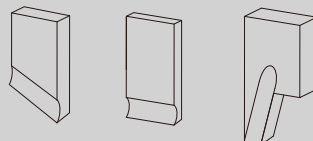
V8P



V8E

Tool Bits

Standard Tool, V Type Prep, U Type Prep.
Facing, Inside Beveling
*Consult with us for special demand



Standard Supply:

Machine, Driven motor, full set expanding blocks, 3 pcs tool bits.
(1 Facing tool, 1x30deg Beveling 1x37.5 deg Beveling)

VICTORY SERIES

Pipe Beveling Machines

V14

Driven Option:

V14P Air Operated
V14E Electric Operated, China Motor

Clamping Range (ID): 145-340mm
Working Range (OD): 14" (355.6mm)

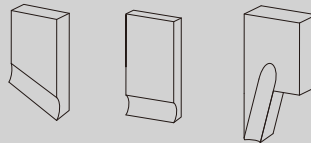
Specification

Model	V14P	V14E
Driven	Pneumatic	Electric
Power Supply	1200L/Min @ 0.6Mpa	220-240V 1PH 50/60HZ
Motor Power	1.5 HP	1500W
Clamping Range (ID)	145-340mm	145-340mm
Working Range (OD)	14"(355.6mm)	14"(355.6mm)
Wall Thickness	< 20mm	< 20mm
Rotation Speed	18r/min	20r/min
Working Weight	46kg	48kg
Shipping Weight	68kg	70kg
Packing Size	800*430*410mm	830*430*410mm
Tool Number	2 or 3	2 or 3



Tool Bits

Standard Tool, V Type Prep. U Type Prep.
Facing, Inside Beveling
*Consult with us for special demand



Standard Supply:

Machine. Driven motor, full set expanding blocks, 3 pcs tool bits.
(1 Facing tool, 1x30deg Beveling 1x37.5 deg Beveling)

AK Series

High-Efficiency Self-Centering
Pipe Cutting and Beveling Machine



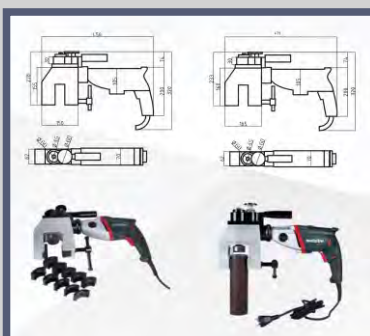
* Only for open end pipe, can not split

Specification

Model	Working range	Thickness	Speed	Net Weight
AK-63	Dia. 14~63mm	< 15mm	30~120r/min	13 kgs
AK-114	Dia. 57~114mm	< 15mm	30~120r/min	16 kgs

HPU

OD-Mounted
Auto-Feed Pipe Beveling Machine



Specification

Model	Working Range OD mm	Wall thickness mm	Clamp Size OD mm
AF-63C	28-63	< 12mm	28, 32, 42, 45, 48, 51, 54, 57, 60, 63.5
AF-76C	42-76	< 12mm	42, 45, 48, 51, 54, 57, 60, 63.5, 68, 76



Hydraulic Cylinders

LRSM-Series Flat Low Height Cylinder

Compact, flat design for use where other cylinders will not fit.
High capacity have handle for easy carrying.
Single acting with spring return.



Model No.	Capacity (T)	Lifting.H (mm)	Min.H (mm)	Cylinder Dia. (mm)	Oil capacity (cm ³)	Piston Dia. (mm)	Weight (kgs)
LRSM-50	5T	6	32	58 ' 41	4	25.4	
LRSM-100	10T	12	42	82 ' 55	18	38.1	1.5
LRSM-200	20T	11	51	101 ' 76	32	50.8	3.2
LRSM-300	30T	13	58	117 ' 95	55	63.4	5
LRSM-500	50T	16	66	140 ' 114	99	69.8	7.5
LRSM-750	75T	16	79	165 ' 139	164	82.6	11.3
LRSM-1000	100T	16	85	178 ' 153	203	92.2	18
LRSM-1500	150T	16	100	215 ' 190	317	114.3	36

LRCS-Series Short Cylinder

Light weight low profile design for use in confined spaces.
Grooved plunger end with threaded holes for mounting tilt saddles.



Model No.	Capacity (T)	Lifting.H (mm)	Min.H (mm)	Cylinder Dia. (mm)	Oil capacity (cm ³)	Piston Dia. (mm)	Weight (kgs)
LRCS-101	10T	38	88	70	55	38	4.1
LRCS-201	20T	45	98	92	127	50	5
LRCS-302	30T	62	117	101	255	65	6.8
LRCS-502	50T	60	112	124	381	70	10.9
LRCS-1002	100T	57	141	165	756	90	22.7
LRCS-1502	150T	51	162	205	1025	138	42.1

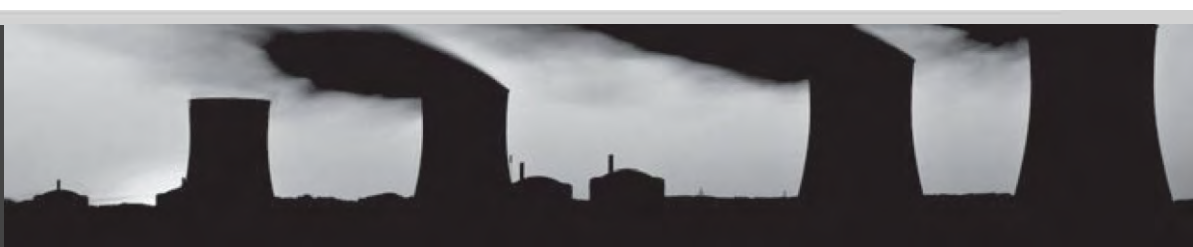


Single-Acting Cylinders

Single acting by a heavy duty spring return. Collar threads, plunger threads and base mounting holes enable easy fixturing (on most models). Designed for use in all positions (Horizontal and Vertical).



Model No.	Capacity (T)	Lifting.H (mm)	Min.H (mm)	Cylinder Dia. (mm)	Oil capacity (cm ³)	Piston Dia. (mm)	Weight (kgs)
LRC-50	5T	16	41	38	10	25.4	1.0
LRC-51	5T	25	110	38	16	25.4	1.0
LRC-53	5T	76	165	38	50	25.4	1.5
LRC-55	5T	127	215	38	83	25.4	1.9
LRC-57	5T	177	273	38	115	25.4	2.4
LRC-59	5T	232	323	38	151	25.4	2.8
LRC-101	10T	26	89	57	38	38.1	1.8
LRC-102	10T	54	121	57	78	38.1	2.3
LRC-104	10T	105	171	57	151	38.1	3.3
LRC-106	10T	156	247	57	225	38.1	4.4
LRC-108	10T	203	298	57	292	38.1	5.4
LRC-1010	10T	257	349	57	370	38.1	6.4
LRC-1012	10T	304	400	57	441	38.1	6.8
LRC-1014	10T	356	450	57	516	38.1	8.2
LRC-151L	15T	25	124	69	51	41.4	3.3
LRC-152	15T	51	149	69	104	41.4	4.1
LRC-154	15T	101	200	69	207	41.4	5.0
LRC-156	15T	152	271	69	309	41.4	6.8
LRC-158	15T	203	322	69	412	41.4	8.2
LRC-1510	15T	254	373	69	516	41.4	9.5
LRC-1512	15T	305	423	69	619	41.4	10.9
LRC-1514	15T	356	474	69	723	41.4	11.8
LRC-251	25T	26	139	85	83	57.2	5.9
LRC-252	25T	50	165	85	169	57.2	6.4
LRC-254	25T	102	215	85	339	57.2	8.2
LRC-256	25T	158	273	85	528	57.2	10.0
LRC-258	25T	210	323	85	697	57.2	12.2
LRC-2510	25T	261	374	85	863	57.2	14.1
LRC-2512	25T	311	425	85	1033	57.2	16.3
LRC-2514	25T	362	476	85	1202	57.2	17.7
LRC-308	30T	209	387	101	880	57.2	18.1
LRC-502	50T	51	176	127	384	79.5	15.0
LRC-504	50T	101	227	127	727	79.5	19.1
LRC-506	50T	159	282	127	1134	79.5	23.1
LRC-5013	50T	337	460	127	2403	79.5	37.6
LRC-756	75T	156	285	146	1601	95.2	29.5
LRC-7513	75T	333	492	146	3427	95.2	59.0
LRC-1006	95T	168	357	177	2239	104.9	59.0
LRC-10010	95T	260	449	177	3466	104.9	72.6



Single Acting Hollow Cylinders

LRCH-Series Single Acting Hollow Cylinder

Hollow plunger design allows for both pull and push forces, single acting spring return. Collar threads for easy fixturing.



Model No.	Capacity (T)	Lifting.H (mm)	Min.H (mm)	Cylinder Dia. (mm)	Oil capacity (cm ³)	Hollow Dia. (mm)	Weight (kgs)
LRCH-120	12T	8	55	69	14	19.6	1.5
LRCH-121	12T	42	120	69	75	19.6	2.8
LRCH-123	12T	76	184	69	136	19.6	4.4
LRCH-202	20T	49	162	98	150	26.9	7.7
LRCH-206	20T	155	306	98	476	26.9	14.1
LRCH-302	30T	64	178	114	298	33.3	10.9
LRCH-306	30T	155	330	114	722	33.3	21.8
LRCH-603	60T	76	247	159	626	53.8	28.1
LRCH-606	60T	153	323	159	1259	53.8	35.4
LRCH-1003	100T	76	254	212	1011	79	63

LCLP-Series Short Pancake Locknut Cylinder

Extremely low height for use in confined areas.

Safety lock nut for mechanical load holding.

Overflow port functions as a stroke limiter.



Model No.	Capacity (T)	Lifting.H (mm)	Min.H (mm)	Cylinder Dia. (mm)	Oil capacity (cm ³)	Weight (kgs)
LCLP-602	60T	50	125	140	432	15
LCLP-1002	100T	50	137	175	734	26
LCLP-1602	160T	45	148	220	1040	44
LCLP-2002	200T	45	155	245	1285	57
LCLP-2502	260T	45	159	275	1650	74
LCLP-4002	400T	45	178	350	2517	134
LCLP-5002	520T	45	192	400	3287	189



Double-Acting High Tonnage Cylinders

Double acting for push and pull. Safety valve in retract side of cylinder helps to prevent damage in case of accidental over-pressurization special bearing design withstands side load forces up to 10% of rated cylinder capacity without scoring.



Model No.	Capacity (T)	Lifting.H (mm)	Min.H (mm)	Cylinder Dia. (mm)	Oil capacity (cm ³)	Piston Dia. (mm)	Weight (kgs)
LCLRG-502	50T	50	162	130	385	70	17
LCLRG-504	50T	100	212	130	770	70	20
LCLRG-506	50T	150	262	130	1155	70	25
LCLRG-508	50T	200	312	130	1540	70	36
LCLRG-5010	50T	250	362	130	1924	70	31
LCLRG-5012	50T	300	412	130	2309	70	34
LCLRG-1002	100T	50	182	165	664	95	19
LCLRG-1004	100T	100	232	165	1327	95	29
LCLRG-1006	100T	150	282	165	1991	95	40
LCLRG-1008	100T	200	332	165	2655	95	50
LCLRG-10010	100T	250	382	165	3318	95	61
LCLRG-10012	100T	300	432	165	3982	95	71
LCLRG-1502	150T	50	196	205	993	114	39
LCLRG-1504	150T	100	246	205	1986	114	52
LCLRG-1506	150T	150	296	205	2978	114	65
LCLRG-1508	150T	200	346	205	3971	114	78
LCLRG-15010	150T	250	396	205	4964	114	92
LCLRG-15012	150T	300	446	205	5957	114	105
LCLRG-2002	200T	50	216	235	1330	133	55
LCLRG-2006	200T	150	316	235	3989	133	91
LCLRG-2008	200T	200	366	235	5000	133	110
LCLRG-20012	200T	300	446	235	7977	133	146
LCLRG-2502	250T	50	235	275	1832	165	89
LCLRG-2506	250T	150	335	275	5497	165	136
LCLRG-2508	250T	200	385	275	7200	165	170
LCLRG-25012	250T	300	485	275	10993	165	207
LCLRG-3002	300T	50	312	310	2281	197	184
LCLRG-3006	300T	150	412	310	6843	197	232
LCLRG-3008	300T	200	462	310	8900	197	270
LCLRG-30012	300T	300	562	310	13685	197	303
LCLRG-4002	400T	50	375	350	2800	216	270
LCLRG-4006	400T	150	475	350	8399	216	330
LCLRG-4008	400T	200	525	350	11500	216	380
LCLRG-40012	400T	300	625	350	16797	216	421
LCLRG-5002	500T	50	419	400	3653	248	401
LCLRG-5006	500T	150	519	400	10959	248	480
LCLRG-5008	500T	200	569	400	15630	248	510
LCLRG-50012	500T	300	669	400	21918	248	599
LCLRG-6002	600T	50	429	430	4276	267	474
LCLRG-6006	600T	150	529	430	12829	267	565
LCLRG-6008	600T	200	579	430	18009	267	620
LCLRG-60012	600T	300	679	430	25659	267	701
LCLRG-8002	800T	50	474	505	5861	317	741
LCLRG-8006	800T	150	574	505	17644	317	868
LCLRG-8008	800T	200	624	505	25000	317	950
LCLRG-80012	800T	300	724	505	35286	317	1058
LCLRG-10002	1000T	50	564	560	7329	343	1062
LCLRG-10006	1000T	150	664	560	21986	343	1213
LCLRG-10008	1000T	200	714	560	32896	343	1300
LCLRG-100012	1000T	300	814	560	43972	343	1439



Hydraulic Cylinder Pumps

LPE-Series Portable Electric Pumps Single Acting



Model No.	Usable Oil Capacity (L)	Pump Type	Pressure Rating (bar)		Oil Flow (l/m)		Power		Weight (kg)
			LP	HP	LP	HP	kw	v	
LPE4	5L	Two-Speed	40	700	3	0.25	0.4	220	13

LPE-Series Portable Electric Pumps Double Acting



Model No.	Usable Oil Capacity (L)	Pump Type	Pressure Rating (bar)		Oil Flow (l/m)		Power		Weight (kg)
			LP	HP	LP	HP	kw	v	
LPE10	28L	Two-Speed	70	700	6.2	1	1.5	380/220	50
LPE15	55L	Two-Speed	70	700	8.4	1.6	2.2	380/220	70
LPE25	55L	Two-Speed	70	700	9	2.2	3.0	380/220	74

LP-Series Single / Double Acting Hand Pump

For operation of single & double-acting cylinders. Max. Pressure : 70Mpa.

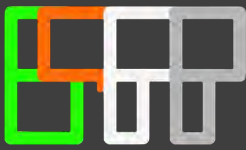


LP77



LP80

Model No.	Usable Oil Capacity (cm³)	Pump Type	Pressure Rating (bar)		Oil Displacement Per Stroke (cm³)		Max. Handle Effort (kg)	Piston Stroke (mm)	Weight (kgs)
			LP	HP	LP	HP			
LP77	655	Two-Speed	14	700	16	2.41	43	25.4	6.8
LP80	3240	Two-Speed	25	700	16.22	2.46	47	25.4	15



EQUIPMENT UK



Sales / Service / Rental / Flange Management / ECITB/ASME/API MJI Training

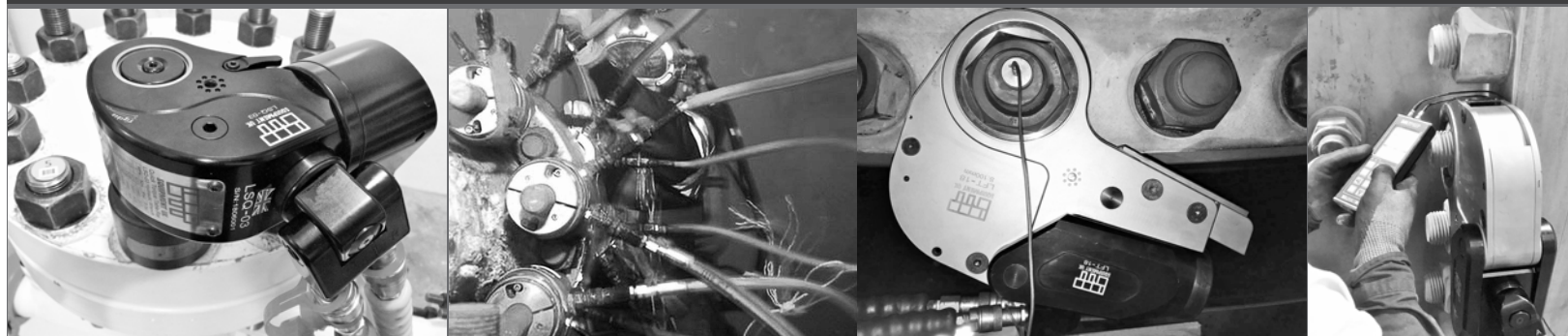
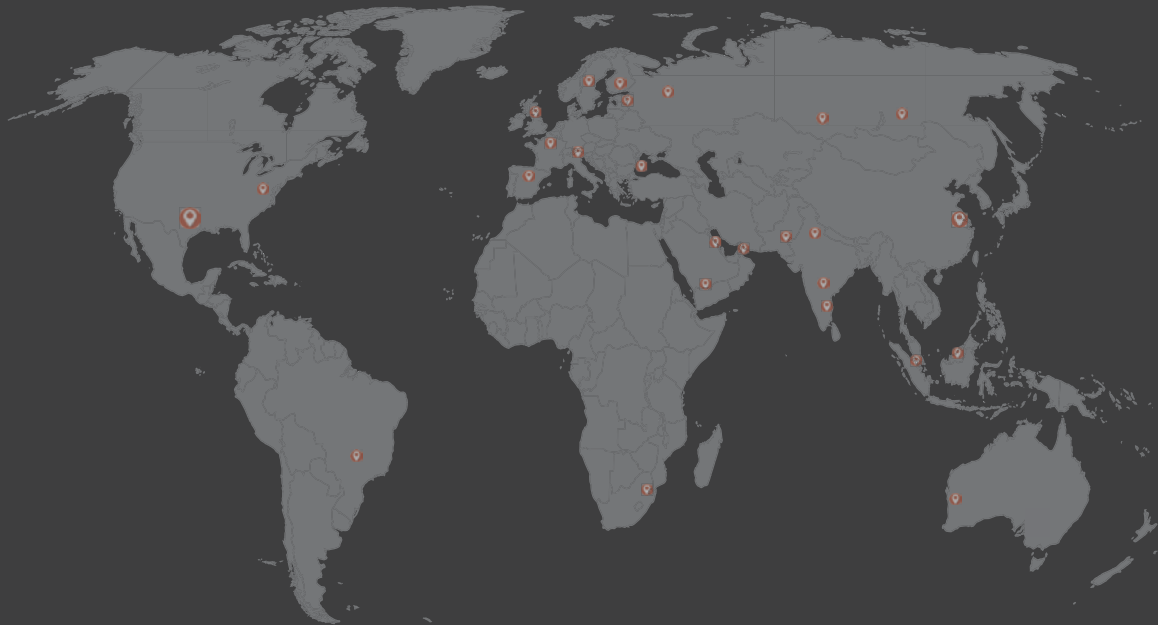
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