



Tube Design, Bending and End Forming



STAUFF Hose Production



Repair and Calibration Services



Engineered Hydraulic Solutions,  
Fluid System Design,  
Manufacturing and Fabrication



Products and Services Overview  
**STAUFF Technology Centre**



## STAUFF Technology Centre

STAUFF Technology Centre is a leading edge, specialised fluid power technology facility comprising world-class resources and services to complement STAUFF's range of precision hydraulic components and accessories.

STAUFF Technology Centre services include ultra-high accuracy, repeatable manipulated tube and pipe development, hydraulic hose kitting, reverse engineering, scanning, tube end forming, certified test and calibration of hydraulic equipment and measuring devices, engineered fluid solutions and manufacture and fabrication of hydraulic power and filtration systems.

Incorporating modern production facilities, STAUFF Technology Centre combines qualified, experienced engineering and trades staff to produce specially-designed, cost-effective systems according to customers' specific requirements.

All services are quality assured according to ISO 9001:2015 and traceable to related standards.

### Tube Design, Bending and End Forming

#### Tube reverse engineering and scanning

- Hexagon Absolute Arm
- VTube Laser software
- Microscribe scanner and design software

#### Computerised bending

- UNISON BREEZE 50

#### End forming - assembly machines / tools / devices

- STAUFF Form
- STAUFF Press

#### Tube finishing

- End capping (screw type or heat shrink seal)
- Labelling (pin stamping, decals, engraving)
- Specialised packaging and crating
- Custom kitting, sub-assembling or production boards

### STAUFF Hose Production

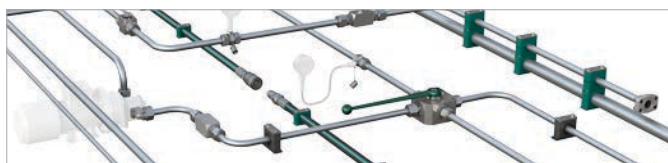
- Hose production
- Hose accessories
- Hose testing

### Repair and calibration services

- Service and calibration test centre
- Pressure gauge calibration service

### Engineered hydraulic solutions, fluid system design, manufacturing and fabrication

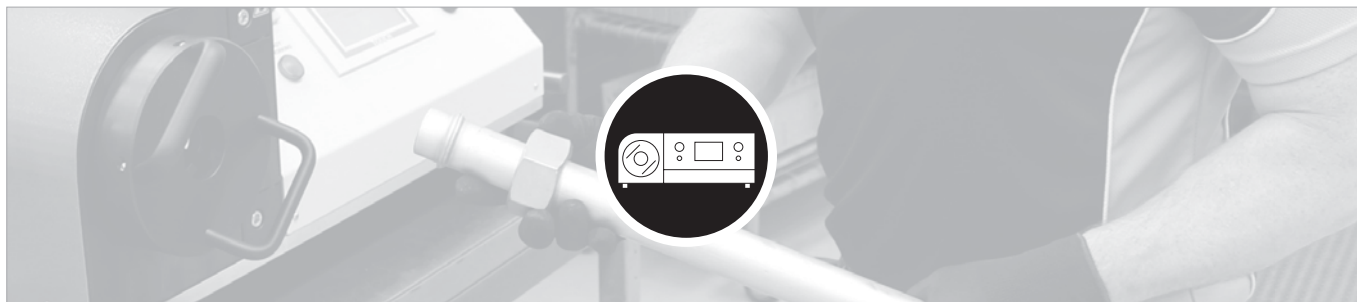
- Engineered hydraulic solutions
- Fluid system design
- Manufacturing and light fabrication



## STAUFF Line

STAUFF Technology Centre provides OEM-original equipment manufacturers, custom-designed and ready-to-install connection hydraulic lines and components as well as supplemental services.





## Tube Design, Bending and End Forming



### Tube reverse engineering and scanning

#### Hexagon Absolute Arm

The Absolute Arm 7-Axis delivers tactile probing and non-contact laser scanning for high-end portable measurement applications. With usability central to its design, the articulating measuring arm combines ease of movement and ease of measurement to a capacity of 6 m length track system, allowing STAUFF to deliver a fast high-accuracy 3D scanning and digitisation of tube assemblies - as well as reverse engineering capabilities to create absolute measurement results from a sample.

#### VTube Laser software

Combining with the Hexagon Absolute Arm, VTube laser software uses tactile plus laser scanning technology to collect point clouds of surface data to create generic shapes then build them in SOLIDWORKS. With an accuracy of  $\pm 0.001$  mm, STAUFF is capable of creating highly accurate tube designs and modelling.

#### Microscribe scanner and design software

Microscribe is a portable system that can be taken on-site to accurately measure and plot geometric tube data from a sample pipe during design or prototyping by the customer, which can then be reverse engineered at STAUFF Technology Centre - accurate to exact customer specifications.

### Computerised bending

#### UNISON BREEZE 50

The Unison Pinball bending machine is a hi-tech fully automated electric CNC mandrel bender suitable for bending highly complex shapes utilising its multi-head function which minimises collisions during bending - all controlled by Unibend programming, OPT2SIM simulation software and Hexagon Absolute Arm.

- Capacity to 50.8 mm (2") O.D. tube minimum wall thickness 0.9 mm
- Tube length 6100 mm or expanded to 7300 mm
- Accuracy and repeatability between bends 0.1 mm / 0.05 mm
- Accuracy and repeatability degree of bend 0.1 deg / 0.05 deg
- Dual head left and right for collision avoidance
- Left and right hand bending for complex shapes
- All moving components are servo driven for accuracy and precision
- Multi stack head for multiple tube sizes

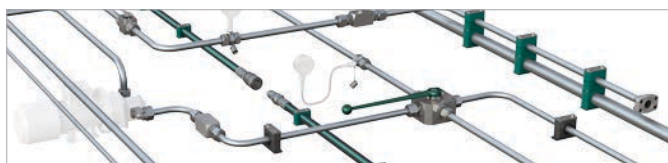
#### Additional bender equipment:

- Tracto-Technik Tubotronic 6-50.8 (2" O.D.) fully automatic PLC controlled 3-axis bender
- Tracto-Technik Tubobend 4-16 (5/8" O.D.) PLC controlled 1-axis bender
- Various manual benders and tube-bending jigs

#### Tooling

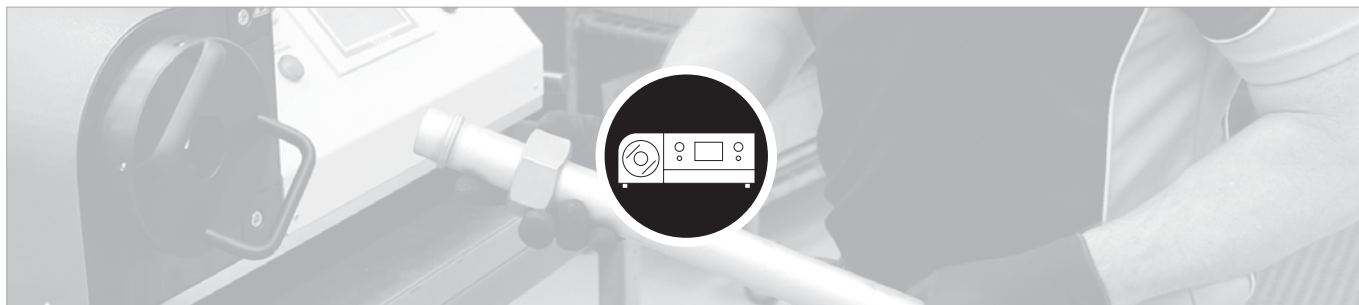
A comprehensive range of 2 x D, 2.5 x D and 3 x D bend tools, ball and solid mandrels, wiper dies, custom-made tools, and bending jigs to suit metric and imperial O.D. tube and nominal bore NB pipe in various materials.

Storage of prototypes is available for OEM customers.



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## Tube Design, Bending and End Forming - Continued



### End forming - assembly machines / tools / devices

STAUFF Technology Centre offers various end forming options for the preparation of O.D. tubes

- Cold forming (STAUFF Form)
- Assembly of cutting ring (STAUFF Press)
- Flaring (metric O.D. and imperial JIC)
- Bead forming
- Brazing & soldering
- TIG & MIG welding

#### STAUFF Form

This high production machine is a weldless system which cold forms metric DIN tubes 6-42 mm O.D. in steel and stainless steel, forming or shaping the tube end to DIN 2353 system - adapting to the STAUFF Connect range of DIN fittings.

#### STAUFF Press

Two versions of machines suitable for low and high production capacity which aids in the assembly of STAUFF Connect cutting rings onto metric DIN tubes 6-42 mm O.D. steel and stainless steel.

Low production version STAUFF Press combines flaring to 37° JIC or metric flare and pre-assembly of cutting rings.

### Tube finishing

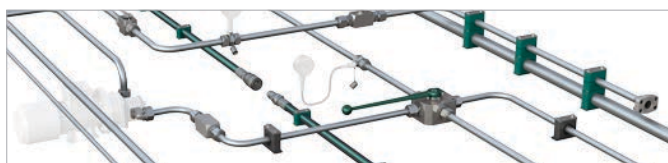
The finishing stage of tube production requires the tube to be finalised, which incorporates several customer-specific options:

- End capping - screw type or heat shrink seal
- Labelling - pin stamping, decals, engraving
- Specialised packaging and crating
- Custom kitting, sub-assembling or production boards

### Tube material capabilities

STAUFF's production capabilities encompass numerous grades of materials:

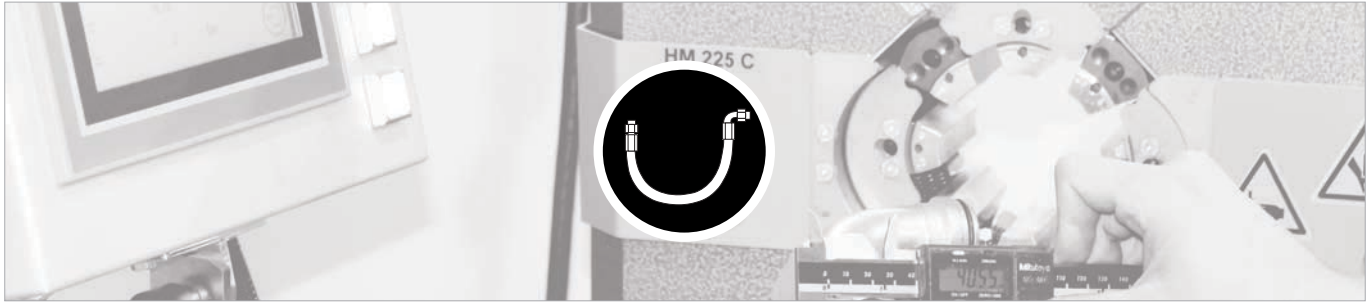
- Dual certified: 316L ASTM A269, ASTM A213, cold drawn seamless, bright annealed & pickled and metric O.D.
- Steel and stainless steel, cold drawn seamless, bright annealed & pickled, imperial O.D.
- ERW (Electric Resistance Welded) steel and stainless steel tubes
- Metric: DIN 2391/c ST 37.4NBK 6 mm to 42 mm
- Nominal bore pipe 3602 CFS 360 up to 1-1/2"
- Copper BS287/C106 and other specialist metal also available to special requirements



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## STAUFF Hose Production



### Hose production

STAUFF Technology Centre provides complete hose production capability for STAUFF Flex hydraulic hose and STAUFF Hose Connectors to meet industry applications per the following scope of capabilities:

- Hose measuring and cutting to DIN 20066 for 2" 6-wire and 3" industrial hose
- Internal and external skiver - internal 5/8" – 2" / externally 3/16" – 2"
- CNC hose crimper - range up to 1-1/4" R15 – 2" industrial hose
- Test bench - to maximum 1600 bar
- Finishing; inspecting, labelling, tagging, end cap protection

Production is carried out by qualified hose technicians using state-of-the-art assembly equipment.

### Hose accessories

A range of hose accessories are also available, e.g., various hose protection options according to MDG41 underground coal mining standard, surface mining and other industry-based standards.

### Hose testing

Static pressure testing and validation certificates of each hose assembly are available according to the customer's specifications.



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## Repair and Calibration Services



### Service and calibration test centre

STAUFF Technology Centre provides the capability to service, test and calibrate equipment and is the region's authorised service centre for STAUFF Diagnostics and WEBTEC's digital and analogue hydraulic measuring and diagnostic equipment in addition to other brands and types of equipment.

STAUFF's Test centre (certified to ISO 9001:2015 with full traceability to British, German and Australian national standards) integrates with the WEBTEC C2000 micro-processor with built-in, high-speed, multi-channel data acquisition system.

#### Hydraulic parameters tested (measurement can be in metric and imperial units):

##### Flow, pressure and temperature parameters

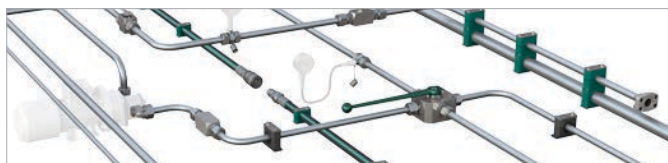
- Flow measurement to 800 LPM / 210 USGPM
- Pressure to 400 bar / 6000 PSI static
- Temperature to 80 °C / 176 °F

### Pressure gauge calibration service

Calibrated and certified to NATA standards, STAUFF's high-accuracy comparator is capable of testing analogue and digital pressure gauges up to 2000 bar static. Recorded data is reported as a workshop certificate, traceable to NATA standards, validating the test data and accuracy.

### Annual service and calibration reminder service

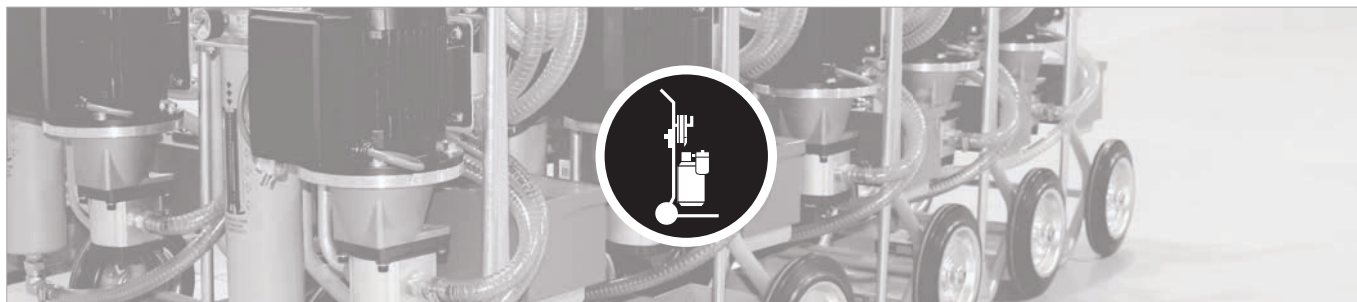
STAUFF Technology Centre sends automated reminders in alignment with customers' quality systems, annual equipment calibration requirements and manufacturers' due dates, thus eliminating costs of accidental oversights in the servicing of valuable equipment.



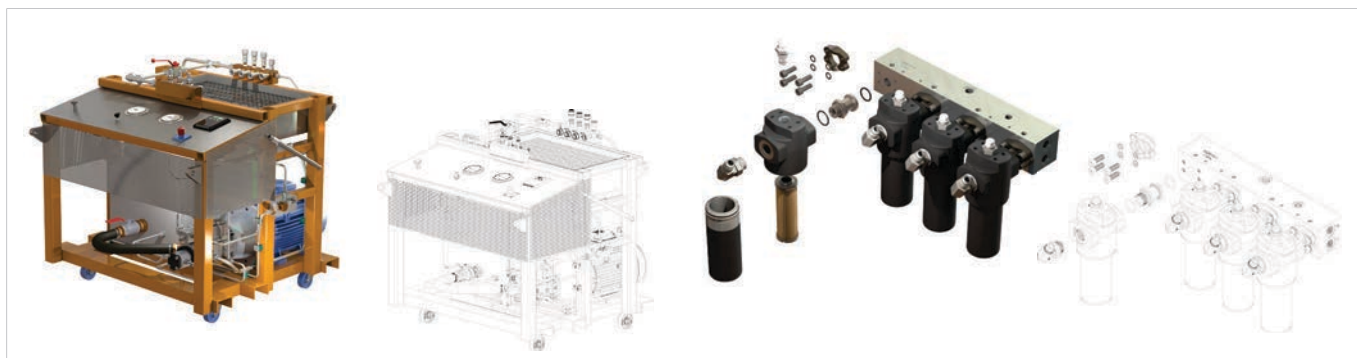
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## Engineered Hydraulic Solutions, Fluid System Design, Manufacturing and Fabrication



### Engineered hydraulic solutions

Utilising STAUFF's Technology Centre's comprehensive range of in-house products and services from design to commissioning & training. STAUFF provides complete solutions for the manufacture of custom-designed hydraulic systems, together with access to;

- Engineering services - mechanical and electrical
- Design and drafting
- Prototyping
- Specialist advice
- Project collaboration - in-house and on-site
- Commissioning
- Training

### Fluid system design

STAUFF and our authorised partners provide a comprehensive range of hydraulic fluid components and accessories integrated into system designs:

- STAUFF Clamps
- STAUFF Connect
- STAUFF Flanges
- STAUFF Hose and Connectors
- STAUFF Quick Release Couplings
- STAUFF Valves
- STAUFF Test
- STAUFF Diagtronics
- STAUFF Filtration Technology
- STAUFF Hydraulic Accessories
- STAUFF Accumulators

### Manufacturing and light fabrication

STAUFF Technology Centre's in-house manufacturing and fabrication capabilities support a full scope of hydraulic production services and systems manufactured to customer-specific requirements.

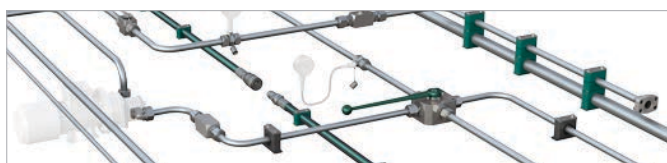
- Accumulator systems and stations
- Portable and stationary filtration systems
- Hydraulic test systems and reservoir systems
- Hydraulic and lubrication power systems
- Additional specialised equipment

### Additional services

- Hydraulic valve refurbishment and test stand (mineral oil and water based oils)
- Testing, commissioning and training

### Industries and applications serviced

- Hydraulic and lubrication - heavy and light industrial
- Manufacturing
- Agriculture
- Mining and construction
- Transportation - automotive, road, rail, marine
- Defence - army, navy, air-ground support



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