



HYDRAULIC HOSES AND HOSE KITS



LIEBHERR

LIEBHERR

Liebherr Hydraulic Hoses and Hose Kits

Liebherr-Australia Hose Production has been manufacturing high pressure hose assemblies in the Adelaide Head Office complex since 1999, and is situated in our 12,000m² state-of-the-art National Distribution Centre facility with a dedicated assembly production team.

The facility has dedicated lines for its low/medium and high pressure manufacturing, feeding into the 8 inch diameter, 450 tonne crimp force press; with the additional capability to test hose assemblies up to 1,500 bar in the 5m dual-bed test bench. This testing capability supports stringent Liebherr-Australia and MDG 41 requirements.

Hose Production Capabilities:

- Swage Press up to 8" diameter hose
- Low/medium, high-pressure assemblies
- Assembly testing to 1500 bar
- Assembly testing to 6 metres
- MDG 41 Compliant





Liebherr-Australia Promise

To protect your investment and maintain the performance of your machinery, Liebherr-Australia delivers replacement parts designed to meet the engineering specifications of the equipment.

Liebherr-Australia provides:

- Parts Availability – 24 hour, 7 day support
- Competitive Pricing
- Increased performance with reduced downtime
- Unparalleled Customer Service – Dedicated on-site support available with OEM trained employees
- OEM Peace of Mind – with Genuine Liebherr-Australia parts, you get the right part manufactured to OEM specifications
- Individual Serialisation - each hose has a unique serial number
- Parts Warranty - 6 month / 3,000 hour warranty
- Hose Kits – tailored hose kits for all Liebherr excavator models
- Once a hose is tested and complies to the requirements, a certificate is produced electronically and can be submitted to a customer on request



Design and Testing

Liebherr-Australia designs, develops and carries out rigorous testing in our Adelaide manufacturing facility. Initial designs are developed in-house and then tested at our research facilities, with all fittings designed and developed in accordance with relevant international standards.

Hose assembly designs are tested and accredited to internationally recognised specifications. We test assemblies at up to 1500 bar (14500psi), which far exceed normal operating pressures. The machines test up to 2" 6 wire hose assemblies.

Static testing is carried out on individual hose assemblies prior to supply. These are tested to the relevant pressure specific to the hose type. Test certificates are available upon request.

All hoses are designed and manufactured to suit specified applications; our custom built hoses take into account the following factors:

- Pressure
- Material being transported
- Wear resistance
- Exposure factors such as UV and Ozone
- Product temperature
- Flange orientation
- Chemical resistance



PLC 1,500bar control panel



Liebherr-Australia's dual 5m test bench





QUALITY – ISO 9001 AND MDG41

Liebherr-Mining Operations in Adelaide achieved successful certification by an independent certification body (BSI) to ISO9001:2008 at the end of 2015 and was registered as a certified company in February 2016, which included the hydraulic hose assembly operations. This certification reinforces the Liebherr Core Value of 'Quality in everything we do', and provides added value for our customers.

During the introduction of ISO9001, the hydraulic hose assembly operations also adopted the requirements of MDG41 in a comprehensive, risk-based and systematic manner. The hose assembly operations and associated systems form part of the stringent independent internal process and quality audit process managed by the quality assurance department, with the aim of ensuring technical and work standard compliance.

The Hose Manufacturing Department is structured to have a systematic risk-based approach to the assembly operations, with control points built into ensure the quality at key stages with records to demonstrate. All materials received and used in the assembly operations are supplied by the OEM factories. A rigorous supplier quality management process is in place to ensure Liebherr-Australia receives raw material that comply to the Liebherr, customer and other international technical requirements before being used for assembly operations.

MDG41 3.7.6.5 - Quality Plan

The process of hose manufacture, from raw materials shall comply with ISO Standards 9001, 9002 and shall be batch tested for conformance and recorded. The hose end assembly manufacture should hold third party accreditation.

MDG41 3.7.6.6 - Competence

Persons fabricating hose assemblies shall be competent and trained in the proper use of equipment, materials, assembly procedures and testing. People should be assessed in their competence for hose assembly and the assessment should be recorded.

MDG41 3.7.6.7 - Cleaning & Packaging

Hose assemblies should be supplied free from water, debris, metal shavings, dirt or any other foreign material. A cleaning projectile should be shot through the hose assembly in both directions. End connections should be sealed and capped to maintain cleanliness.

Hose assemblies should be packaged such that external abuse during shipping, handling and storage does not damage the hose or fittings.

- Stringent quality assurance process for raw material used and is fully traceable to the source
- Inspection and Test Plans (ITP) show each step of the assembly process, with the various control points and records for each
- Assembly operations team are OEM factory trained and able to work effectively in all areas of the assembly process
- All hoses are cleaned and packaged to ensure peace of mind

Sample Test Certificate

All Liebherr-Australia documentation follow the MDG41 3.7.7.4 Individual Hose Assembly Test Documentation guideline.

Each test certificate should bear a unique number for traceability. Test certificates should include the following information as required:

- a) Test certificate number
- b) Testing location and name
- c) Test procedure reference number
- d) Assembler's name
- e) Fabrication number
- f) Hose assembly part-number and or serial number(s)
- g) Hose assembly details including length, type of hose and size
- h) Hose assembly standard
- i) End fitting details with types of ferrules and seals used
- j) Test date
- k) Confirmation that the hose assembly consisted of matched hose and hose ends
- l) Hose end information and check for correct matching of hose ends to hose
- m) Test pressure
- n) Pass / fail
- o) Signature of person inspecting



FR LAA 403 203
Revision: 3.0
Date of Revision: 23 June 2015

HOSE ASSEMBLY - HYDROSTATIC TEST CERTIFICATE

Certificate No. <input type="text"/>	Test Location <input type="text"/>
Primary Customer <input type="text"/>	
Assembly Part No. <input type="text"/>	Production Order No. <input type="text"/>
Hose Type <input type="text"/>	Assembly Length <input type="text"/>
Hose Mfg Date Code <input type="text"/>	

Component Details			
Part Number	Part Description	Supplier	Batch

Hose Assembly Standard <input type="text"/>	<input type="text"/>	<input type="text"/>
Hose Assembly Procedure <input type="text"/>	<input type="text"/>	<input type="text"/>
Hose Test Standard <input type="text"/>	<input type="text"/>	<input type="text"/>

Hose Assembly confirmed to have matched Hose and Hose Ends in accordance with the BOM
 Hose Assembly has been confirmed as correct to the requirements (angles, etc) of the hose drawing
 Hose assembly has been inspected and is free of visible defects

TEST RESULTS

Date of Test <input type="text"/>	Test Equipment: <input type="text"/>
Test Pressure: <input type="text"/> Bar	Test Time: <input type="text"/> seconds
Test Res: <input type="text"/> (Pass/Fail)	

Assembler 1 <input type="text"/>	Assembler 2 <input type="text"/>	Tested By (Emp Code) <input type="text"/>
----------------------------------	----------------------------------	---

Unique Hose Serial and Certificate Number

Assembly Part Number

Manufacturing Date Code

Hose Test Standard

Target Pressure Test

Target Result

Time Test Pressure Held

LIEBHERR

www.liebherr.com.au

Contact your local branch to enquire further about our
Hydraulic Hoses and Kits.

Liebherr-Australia Head Office, Adelaide 08 8344 0200

Mackay 07 4952 4994

Mt Thorley 02 6575 1000

Perth 08 9478 8900