



Product Service

Mehr Sicherheit.
Mehr Wert.

Technical Report No. 028-71325856-500 Rev. 1
of 12.08.2010

Client:	Lukas Hydraulik GmbH Weinstraße 39 D-91058 Erlangen Herr Bertleff
Manufacturing location:	Lukas Hydraulik GmbH Weinstraße 39 D-91058 Erlangen
Object of evaluation:	Rescue Rams R 410; R 412; R 414 R 411; R 413; R 415 R 420; R 422; R 424; R 430
Test specification:	NFPA 1936:2010 Standard on Powered Rescue Tool Systems
Purpose of the evaluation:	Testing in accordance with the test specification
Test result:	The presented tools meet the demands of the mentioned test specification

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1 Description of the test subject

1.1 Function

A powered rescue tool that has a piston or other type extender that generates extending forces or both extending and retracting forces.

1.2 Technical Data

See attachment 1 till 4

2 Order

2.1 Date of the order, sign of the client

27.07.2007 and 13.01.2010

2.2 Test sample receipt, location

On-site testing

2.3 Date of the testing

2007-09-11 – 2007-09-14

Upgrade testing

2010-02-01 – 2010-02-03

2.4 Location of the testing

LUKAS Hydraulik GmbH

Weinstraße 39

D-91058 Erlangen

2.5 Variation or exemption of the test procedure

none

3 Test results

The presented tools meet the demands of the NFPA 1936:2010

4 Remark

The operating instruction has been checked according to the minimum standards described in the product standard. The producer is responsible for the correctness of all other content as well as the design and the layout.

4.1 Remark for manufacturing

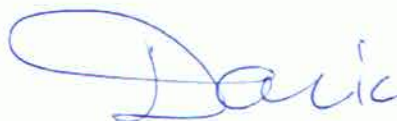
The setup of the tool must correspond with the documentation.
Before safety-relevant changes of the product will be transfer into the current manufacturing, these require a check for evaluation, for the admission in the documentation and if necessary actualization of the certificate.

5 Summary

The presented tools meet the demands of the NFPA 1936:2010

TÜV PRODUCT SERVICE GMBH

Test Engineer



i.A. Gerhard David
VT 3



Checked by



i.A. Manfred Fürgut
VT 3

Attachment 1 Technical data
Order number 028-71325856-500

Parameter

Type:	R 410	R 412	R 414
Art. No.:	114 010 000 174 010 000 114 110 000 174 110 000	114 020 000 174 020 000 114 120 000 174 120 000	114 030 000 174 030 000 114 130 000 174 130 000
Technical data			
Length extended:	750 mm	1180 mm	1600 mm
Length retracted:	450 mm	680 mm	900 mm
Stroke:	300 mm	500 mm	700 mm
Pushing force			
Highest spreading force (HSF)	135,0 KN	135,0 KN	122,0 KN
Dimension:			
Width:	86 mm	86 mm	86 mm
Height:	174 mm	174 mm	174 mm
Total Weight:	13,0 kg	17,7 kg	24,2 kg
Nominal pressure:	70 MPa	70 MPa	70 MPa

Attachment 2 Technical data
Order number 028-71325856-500

Parameter

Type:	R 411	R 413	R 415
Art. No.:	114 011 000 174 011 000 114 111 000 174 111 000	114 021 000 174 021 000 114 121 000 174 121 000	114 031 000 174 031 000 114 131 000 174 131 000
Technical data			
Length extended:	750 mm	1180 mm	1600 mm
Length retracted:	455 mm	685 mm	905 mm
Stroke:	300 mm	500 mm	700 mm
Pushing force			
Highest spreading force (HSF)	135,0 KN	135,0 KN	122,0 KN
Pulling force:			
Highest pulling force (HPF)	25,8 KN	2 5,8 KN	23,5 KN
Dimension:			
Width:	86 mm	86 mm	86 mm
Height:	174 mm	174 mm	174 mm
Total Weight:	13,0 kg	17,7 kg	24,0 kg
Nominal pressure:	70 MPa	70 MPa	70 MPa

Attachment 3 Technical data
Order number 028-71325856-500

Parameter

Type:	R 420	R 422	R 424
Art. No.:	114 040 000 174 040 000	114 050 000 174 050 000	114 060 000 174 060 000

Technical data

Length extended:	1055 mm	1255 mm	1500 mm
Length retracted:	480 mm	550 mm	625 mm
Stroke:	575 mm	705 mm	875 mm

Pushing force

Highest spreading force (HSF) 1 stage	266,0 KN	266,0 KN	266,0 KN
Highest spreading force (HSF) 2 stages	133,0 KN	133,0 KN	133,0 KN

Dimension:

Width:	112 mm	112 mm	112 mm
Height:	221 mm	221 mm	221 mm

Total Weight:	16,8 kg	18,8 kg	21.0 kg
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Nominal pressure:	70 MPa	70 MPa	70 MPa
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Attachment 4 Technical data
Order number 028-71325856-500

Parameter

Type: R 430

Art. No.: 114 070 000
174 070 000

Technical data

Length extended: 1295 mm
Length retracted: 475 mm
Stroke: 820 mm

Pushing force

Highest spreading force (HSF) 266,0 KN
1 stage
Highest spreading force (HSF) 133,0 KN
2 stages
Highest spreading force (HSF) 39,0 KN
3 stages

Dimension:

Width: 112 mm
Height: 221 mm

Total Weight: 17,7 kg

Nominal pressure: 70 MPa