

DLG Test Report 6319

UMETA GmbH & Co. KG

Lever operated grease guns 77 PKV and 70 PKT

Grease flow,
Operating force



UMETA LEVER OPERATED
GREASE GUNS 77 PKV AND 70 PKT

- ✓ Grease flow
- ✓ Operating force

DLG Test Report 6319



Test Center
Technology and Farm Inputs

www.DLG-Test.de

Overview

DLG APPROVED on Individual Test Criteria

The DLG APPROVED quality mark on Individual Test Criteria is awarded to technical products that have passed a less comprehensive DLG usability test which is carried out and evaluated to independent and approved criteria. The purpose of the test is to highlight a product's specific innovations and key features. It either focusses on those criteria specified by the DLG Full Test framework or on other features and properties that make up the specific value of the product. A DLG group of experts defines the minimum standards to be applied to the product and describes the

test conditions and procedures as well as the criteria by which the test results are to be evaluated. These parameters reflect the acknowledged state of the art as well as scientific findings and agricultural insights and requirements. After a product has passed the test, a test report is produced and published and the quality mark is awarded to the product and will retain its validity for five years from the date of award.

The DLG APPROVED Test on Individual Criteria measures the grease flow and operating force on the



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DLG test stands. The test comprised measurements of the grease flow and the operating force that had to be applied at various feed pressures. In addition, a long-term test according to DIN 1283 standards was carried out. The test was based on the DLG test framework for manually operated grease guns dated October 1997.

No further criteria were tested.

The Product

Manufacturer and applicant

Umeta GmbH & Co. KG
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Germany

Product:
Umeta 77 PKV, 70 PKT grease guns

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Description and specifications

77 PKV Variostar

Dark blue painted steel gun body.
Suitable for 400 g cartridges.

70 PKT

Dark blue painted steel gun body.
Suitable for 400g cartridges or
500 g of bulk grease.

Grease gun for two-handed operation

- comprising a grease reservoir (77 PKV: 56 mm diameter body and 1 mm wall thickness; 70 PKV: 60 mm diameter body, 3 mm wall thickness)
- High-pressure cast steel body with a manually operated lever (with plastic coat handle)
- M 10 x 1 or R 1/8" threaded connection.

Suitable for grease cartridge or filling device loading.

The grease guns are supplied with a standard filling nipple or an optional air release valve.

Optional accessories are available

(not tested)

Choice of rigid or flexible armoured tubes with hydraulic four jaw connector.

Tabelle 1: Weight and main dimensions

Grease gun model	Umeta 77 PKV	Umeta 70 PKT
Length		
without delivery tube	362 mm	405 mm
with rigid delivery tube	523 mm	586 mm
with flexible armoured tube	702 mm	744 mm
Width		
lever is operated	145 mm	143 mm
Diameter		
delivery piston diameter	10 mm	10 mm
Unladen weight		
with rigid tube	1,202 g	1,173 g
with flexible armoured tube	1,218 g	1,190 g

Assessment – Brief Summary

The functionality of the Umeta 77 PKV and 70 PKT grease gun models was tested on test stands in accordance with the DLG APPROVED test standards.

The criteria tested were grease flow and operating forces as various feed pressures were applied. The long-term test was carried out to DIN 1283 standards. It was

found that especially the flow rate both on the gun in mint condition and after the long-term test was better than average.

Table 2: Overview of results

Test criterion	Result	Assessment*
Grease flow	servicing bearings that require generous lubrication is satisfactorily short	○
in new condition	grease flow at 400 bar counter pressure: 1,60 cm ³	+
after the long-term test	grease flow at 400 bar counter pressure: 1,47 cm ³	+
Operating force	85 N to 480 N at feed pressures of 50 to 400 bar	○

* Evaluation range: ++ / + / ○ / - / -- (○ = standard, N/E = not evaluated)

The Method



Picture 2: The DIN 1283 test stand

Measuring grease flow

The grease rate delivered by operating the lever once is measured on a test stand both by applying no pressure and by applying a counter pressure of 400 bar.

A long-term lab test is carried out to DIN 1283 standards in which the lever is operated 5,000 times while a counter pressure of 300 bar is

applied. The pressure stroke time is 2 seconds.

Operating force

The force that is required to operate the lever once is measured on a test stand where counter pressures of 50 bar to 400 bar are applied by a spring balance, with pressure increasing in 50 bar increments.

The Test Results in Detail

The grease flow

The flow rate delivered by operating the lever once through a flexible armoured tube was 1.69 cm³ when no counter pressure was applied and 1.60 cm³ when a counter pressure of 400 bar was applied. This volume is sufficient to service bearings that require generous lubrication within a satisfactorily short time.

The attained feed pressure of about 400 bar is high enough to lubricate grease points in awkward locations.

The grease gun was subjected to a long-term lab test to DIN 1283 standards. The lever was operated 5,000 times at a counter pressure of 300 bar. The pressure stroke time was 2 seconds. At the end of the long-term lab test the grease gun with flexible armoured tube supplied 1.47 cm³ of grease per lever operation and at a counter pressure of 400 bar (assessment see table 2).

Operating force

An operating force of 90 N is required to lubricate regular bear-

ings. The feed pressure of 400 bar is attained by operating the lever at a force of 480 N (see table 3).

Table 3: Operating force relative to counter pressure

Counter pressure	Operating force
50 bar	85 N
100 bar	160 N
150 bar	225 N
200 bar	280 N
250 bar	335 N
300 bar	390 N
350 bar	440 N
400 bar	480 N

Summary

This DLG APPROVED Test on Individual Criteria tested individual criteria regarding the functionality of the Umeta 77 PKV,

70 PKT grease guns. The tested criteria met the requirements as laid down in the DLG test framework.

Further Information

More DLG grease gun tests can be downloaded at:
www.dlg-test.de/hofwirtschaft

DLG Testing Framework

DLG APPROVED Test of
"manually operated grease guns"
Date of issue 10/1997

Test execution

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Field

Indoor operations

Project manager

Dipl.-Ing. agr. Susanne Gäckler

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The DLG

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As an EU-notified test laboratory with multiple accreditations, the DLG Test Center Technology and Farm Inputs provides farmers and practitioners with important information and decision-making aids, in the form of its recognised technology tests and DLG tests, to assist in the planning of investments in agricultural technologies and farm inputs.

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