



Industrial Range

MODELS

550C
580C 106



- ▶ Model 550C Pneumatic Comparator for pressures up to 120 bar
- ▶ Model 106 Hydraulic Comparator for pressures up to 600 bar

Pneumatic
and
Hydraulic
Comparators

- ▶ Model 580C Hydraulic Comparator for pressures up to 1200 bar
- ▶ Ergonomic layout ideal for Laboratory use



DH·Budenberg

Industrial Range

MODELS

550C

580C 106

Pneumatic and Hydraulic Comparators

The superior manufacturer of Pressure Calibration equipment

Budenberg created their tradition of manufacturing quality, precision instruments in 1849 with the patented Schaffer diaphragm gauge.

Joining forces in 1994 with Desgranges & Huot, the established market leader in the field of supply and service of Pressure Calibration equipment to meet primary standards, has provided a joint portfolio of products and services to satisfy the requirements of clients in industry, in quality control and in accredited laboratories.



550C SERIES PNEUMATIC COMPARATOR

For generation of pressures up to 120 bar (1600 lb/in²).
Two union connectors: one for a test instrument and one for the instrument to be calibrated.
Aluminium base with ABS cover.
Four adjustable feet for levelling.
One pressure entry at back screwed internally 1/4" BSP. Also supplied with 1/4" BSP male to 1/4" NPT female adaptor.
One Soft Seat valve admits air into system from inlet and the other vents the system to atmosphere.
Volume adjuster fitted to make fine adjustments of pressure with great ease.
Safety pattern gauge fitted to adjuster block to indicate approximate pressure.
Complete with tool roll and manual.



580C SERIES HYDRAULIC COMPARATOR

For generation of pressures up to 1200 bar (16,000 lb/in²).
Two union connectors: one for a test instrument and one for the instrument to be calibrated.
Twin area screw pump with needle thrust and axially located handwheel for easy operation at higher pressure.
Aluminium base with ABS cover.
Four adjustable feet for levelling.
Two Valves: Valve 'A' open to prime with large diameter ram, Valve 'B' open to fill pump or vent large diameter ram to reservoir.
Instruction plate with diagram.
Complete with tool roll and manual.



106 SERIES HYDRAULIC COMPARATOR

Model 106 pressure gauge tester for pressures up to 600 bar or 8,500lb/in², finished in black, with holes for bench mounting, oil reservoir with shut-off valve, two 1/2" BSP gauge connections, connections for 3/8" and 1/2" BSP, two spanners.
The tester is designed for use with most mineral based hydraulic and lubricating oils.
A version is available for use on de-mineralised water.

For further information on Accessories, Repairs & Recertification contact DH-Budenberg and ask for a Data sheet.



DH-Budenberg

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Industrial Range

MODEL

PPS4I



- ▶ Pneumatic integral pressure generation vacuum to 40bar
- ▶ Hydraulic integral pressure generation to 700bar
- ▶ Up to two user selectable integral sensors
- ▶ Easy to use menu with soft-key operation

Portable Multifunction Pressure Calibrator

- ▶ Audible over-pressure alarm
- ▶ Accuracy to 0.025% for up to 12 months
- ▶ Windows-based user software as standard
- ▶ Audible low-battery warning



DH-Budenberg
The Pressure Reference

Industrial Range

MODEL

PPS41

Portable Multifunction Pressure Calibrator

THE PPS41 FAMILY

The PPS41 family is the latest offering from DH-Budenberg's range of portable electronic pressure calibrators. The PPS41 includes all of the embedded benefits included in the PPS40, such as pressure and temperature calibration, leak testing, pressure switch testing and data logging, but now comes with the option of two integral sensors allowing for calibration in both pneumatic and hydraulic mediums using just one calibrator. Complete with an IP65 case, re-chargeable batteries and Windows based software as standard, the PPS41 is a truly portable all-round mini calibration laboratory.



PHYSICAL SPECIFICATIONS

Rechargeable battery operation, supplied with battery charger. Typical operation of battery 10 hours.
Large (60mm x 44mm) graphic LCD with backlight.
5kg, 400mm x 250mm x 190mm ABS enclosure.
Sealing IP65.
Operating temperature 0 to 40°C,
Humidity 90% non condensing.

SPECIFICATION

Pressure Range (bar)	Media	Accuracy* % fsd	Resolution mbar
Vac** to 2.5	Pneumatic	0.025	0.01
Vac** to 7	Pneumatic	0.025	0.01
Vac** to 10	Pneumatic	0.025	0.1
Vac** to 20	Pneumatic	0.025	0.1
Vac** to 40	Pneumatic	0.025	0.1
0 to 100	Hydraulic	0.025	1
0 to 250	Hydraulic	0.025	1
0 to 400	Hydraulic	0.025	1
0 to 700	Hydraulic	0.05	1

* Accuracy includes, Linearity, Hysteresis, Repeatability and temperature compensation. ** Accuracy on vacuum part of the range is 0.005 bar

ELECTRICAL INPUTS

Input	Range	Accuracy	Resolution
Millivolts	0 to 200mV	0.02% fsd	0.001mV
Volts	0 to 10V	0.02% fsd	0.050mV
Volts	0 to 50V	0.02% fsd	1mV
Current	0 to 25mA	0.03% fsd	0.001mA
PT100	-50 to 100degC	0.2degC	0.1degC

ELECTRICAL OUTPUTS

Output	Accuracy	Limits	Notes
24V	+/-10%	25mA max	Transmitter Supply only
10V	+/-1%	10mA max	Transducer Supply only

PPS41 SERIES PORTABLE PRESSURE CALIBRATOR

OPERATING FEATURES

TWO SELECTABLE SENSORS. The PPS41 allows the user the option of selecting either one or two integral pressure ranges at the time of purchase. This flexibility is enhanced in that one range can be hydraulic, whilst the other can be pneumatic (alternatively, both may either be hydraulic or pneumatic). If both ranges use the same medium, pressure generation is also integral.

RESOLUTION. User selectable between 3 and 6 digits

DAMPING. User selectable up to 5 seconds.

PRESSURE UNITS. 11 Pre-programmed units, plus one user-defined unit available.

INTERNAL MEMORY. 128kB.

PRESSURE CALIBRATION. Including full alphanumeric test, instrument and user i.d., with full time and date stamping as standard.

PRESSURE GENERATION. Hydraulic pressure generation available in 3 ranges for improved fine control, 200/400/700bar.

AUDIBLE WARNING. For over-pressure and low battery voltage.

DATA LOGGING. The PPS41 may be used as an automatic data-logger for test running up to 100 hours.

SOFTWARE. Windows based automatic calibration software supplied as standard.

PEAK. Integral peak-hold facility.

HOLD. Integral 'freeze-frame' facility.

TARE. Integral tare facility for pressure, or pressure and electrical values.

LEAK. The leak test function calculates leak rates over a user defined period, and records the pressure change and the test temperature (with an external PT100 DIN).

SWITCH TEST. The unit will record opening and closing pressures for a pressure switch.

BACKLIGHT. Integral user-selectable backlight.

For further information on Accessories, Repairs & Recertification contact DH-Budenberg and ask for a Data sheet.

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Industrial Range

MODEL

H541



Hydraulic Comparator for Pressure Calibration

- ▶ Ranges up to 2500 bar
- ▶ Up to two user-selectable integral sensors
- ▶ Accuracy to 0.025% for up to 12 months

- ▶ Windows-based user software as standard
- ▶ Dual area screwpress for easy priming and pressure control
- ▶ Power, read and store data from test instruments



DH-Budenberg
The Pressure Reference

Industrial Range

MODEL

H541

Hydraulic Comparator for Pressure Calibration

Standard Accuracy to 0.025%.
Available with UKAS
Pressure Calibration Certificate.

RANGES

0-100bar 0-160bar 0-250bar
0-400bar 0-700bar
0-1200bar 0-2000bar 0-2500bar

The 541 family of Calibrators is a powerful range of instruments providing optimum features for industrial users whilst being user friendly and rugged enough for industrial environments. The instruments include high accuracy measurement of pressure along with means of raising and adjusting pressure. In addition to measuring pressure, the units have a range of electrical inputs to enable the calibration of a variety of instruments.

The H541 features a dual area hydraulic screw press which enables rapid priming at low pressure as well as fine adjustment at high pressure, without the need for additional priming pumps. The unit is fitted with a safety valve which prevents overpressure being generated. The base has two loose union instrument connections which allow for the simultaneous calibration of two instruments if required.



PHYSICAL SPECIFICATIONS

Rechargeable battery operation, supplied with battery charger. Typical operation of battery 10 hours.
Large (60mm x 44mm) graphic LCD with backlight.
5kg, 400mm x 250mm x 190mm ABS enclosure.
Sealing IP65.
Operating temperature 0 to 40°C,
Humidity 90% non condensing.

SPECIFICATION

Pressure Range (bar)	Media	Accuracy* % fsd	Resolution mbar
0 to 100	Hydraulic	0.025	1
0 to 160	Hydraulic	0.025	1
0 to 250	Hydraulic	0.025	1
0 to 400	Hydraulic	0.025	1
0 to 700	Hydraulic	0.05	1
0 to 1200	Hydraulic	0.05	10
0 to 2000	Hydraulic	0.1	10
0 to 2600	Hydraulic	0.1	10

* Accuracy includes, Linearity, Hysteresis, Repeatability and temperature compensation. ** Accuracy on vacuum part of the range is 0.005 bar

H541 SERIES PORTABLE PRESSURE CALIBRATOR

OPERATING FEATURES

TWO SELECTABLE SENSORS. The H541 allows the user the option of selecting either one or two integral pressure ranges at the time of purchase. This flexibility is enhanced in that one range can be hydraulic, whilst the other can be pneumatic (alternatively, both may either be hydraulic or pneumatic). If both ranges use the same medium, pressure generation is also integral.

RESOLUTION. User selectable between 3 and 6 digits

DAMPING. User selectable up to 5 seconds.

PRESSURE UNITS. 11 Pre-programmed units, plus one user-defined unit available.

INTERNAL MEMORY. 128kB.

PRESSURE CALIBRATION. Including full alphanumeric test, instrument and user i.d., with full time and date stamping as standard.

PRESSURE GENERATION. Hydraulic pressure generation available in 2 ranges for improved fine control: up to 1200, and 1200bar to 2500bar.

AUDIBLE WARNING. For over-pressure and low battery voltage.

DATA LOGGING. The H541 may be used as an automatic data-logger for test running up to 100 hours.

SOFTWARE. Windows based automatic calibration software supplied as standard.

PEAK. Integral peak-hold facility.

HOLD. Integral 'freeze-frame' facility.

TARE. Integral tare facility for pressure, or pressure and electrical values.

LEAK. The leak test function calculates leak rates over a user defined period, and records the pressure change and the test temperature (with an external PT100 DIN).

SWITCH TEST. The unit will record opening and closing pressures for a pressure switch.

BACKLIGHT. Integral user-selectable backlight.

ELECTRICAL INPUTS

Input	Range	Accuracy	Resolution
Millivolts	0 to 200mV	0.02% fsd	0.001mV
Volts	0 to 10V	0.02% fsd	0.050mV
Volts	0 to 50V	0.02% fsd	1mV
Current	0 to 25mA	0.03% fsd	0.001mA
PT100	-50 to 100degC	0.2degC	0.1degC

ELECTRICAL OUTPUTS

Output	Accuracy	Limits	Notes
24V	+/-10%	25mA max	Transmitter Supply only
10V	+/-1%	10mA max	Transducer Supply only

PACKING DETAILS

1 carton containing complete Tester: 59 x 49 x 38cm. 0.110m³. Nett 25kg, Gross 27kg.

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Industrial Range

MODEL

580DX

DUAL RANGE TESTER



Hydraulic
Dead-Weight
Testers.

Primary standards
for Pressure
Calibration

▶ Range from
1 - 700 bar

▶ Supplied with
software

▶ Standard Accuracy
to 0.015%

▶ Class 'A' Accuracy
to 0.008%



DH·Budenberg

Industrial Range

MODEL

580DX DUAL RANGE TESTER

Hydraulic
Dead-Weight
Testers.

Primary standards
for Pressure
Calibration

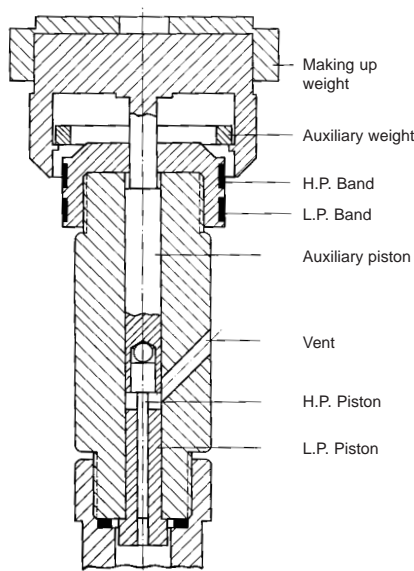
Standard Accuracy to 0.015%
Class A with UKAS
Calibration Certificate 0.008%

RANGES:

700 bar 10000 lb/in²
70000 kPa 700 kg/cm²

ACCURACY

All certificates issued for DH-Budenberg Dead-weight Testers are fully traceable to national standards via equipment with UKAS calibration certificates. A standard accuracy of 0.015% is achieved from 10% of range using software supplied to compensate for the effects of gravity, temperature and the actual area of piston unit. Standard accuracy without any corrections for actual area is 0.02% from 6 to 700 bar, 0.025% from 1 to 6 bar. Higher accuracy Class 'A' testers are available (supplied with UKAS Calibration certificates for area and mass) allowing an accuracy of 0.008% to be achieved.



580 SERIES BASE

The 580 series base can be used with any of the 580 series pistons to give ranges 1 - 120 bar with a 580L, 2 - 300 bar with a 580M, 1 - 700 bar with a 580DX, and 1 - 1200 with a 580HX.

All units are top loading for ease of use and weight sets are fully interchangeable. This means that weight sets in alternative pressures are readily available and customers with more than one 580 series tester can interchange weight sets between tester of the same range.

The base features a dual area screwpress which allows low pressure priming and high pressure control.

The 580DX is a dual area piston / cylinder unit with 1/8in² and 1/80in² areas. Changing between ranges is fully automated meaning that users have an extremely flexible instrument covering the range with one piston / cylinder assembly and one weight set. The low pressure piston / high pressure cylinder is tungsten carbide, other parts are fully hardened and stabilised tool steel.

Please note: Due to DH-Budenberg's policy of continuous improvements, specifications may be subject to change without notice.

WEIGHTS SUPPLIED

bar or kg/cm ²	kPa	lb/in ²
Low range 1-60	Low range 100-6000	Low range 10-800
High range 10-700	High range 1000-70000	High range 100-10000
Piston 1 or 10 1 wt 9 or 90 5 wts 10 or 100 1 wt 5 or 50 2 wts 2 or 20 1 wt 1 or 10 1 wt 0.5 or 5	Piston 100 or 1000 1 wt 900 or 9000 5 wts 1000 or 10000 1wt 500 or 5000 2 wts 200 or 2000 1wt 100 or 1000 1wt 50 or 500	Piston 10 or 100 1 wt 90 or 900 8 wts 100 or 1000 1 wt 50 or 500 2 wts 20 or 200 1 wt 10 or 100 1 wt 5 or 50
Optional fine increment weights 2 wts 0.2 or 2 1 wt 0.1 or 1 1 wt 0.05 or 0.5 2 wts 0.02 or 0.2 1 wt 0.01 or 0.1	2 wts 20 or 200 1wt 10 or 100 1wt 5 or 50 2 wts 2 or 20 1wt 1 or 10	2 wts 2 or 20 1 wt 1 or 10 1 wt 0.5 or 5 2 wts 0.2 or 2 1 wt 0.1 or 1

SOFTWARE

For maximum ease of use, computer software is supplied with all units. There are two software packages, one for standard accuracy, one for Class 'A'. The software allows the users to correct for the effects of environmental factors such as gravity and temperature and to determine the precise pressure generated by the Dead-weight testers.

ACCESSORIES

There are many accessories which can be supplied for use with the Dead-weight testers. These include liquid / liquid seals, two gauge stands, power rotation unit and many others. DH-Budenberg have extensive experience in the use of Dead-weight testers and can supply accessories for many applications. A separate data sheet of accessories is available.

PACKING DETAILS

1 carton containing base, tool roll and piston unit:
51 x 49 x 30cm. 0.075m³, Nett 20kg, Gross 22kg.
1 carton containing weights:
32 x 32 x 38cm. 0.04m³, Nett 60kg, Gross 64kg.

SPARES, REPAIR AND RE-CERTIFICATION

Comprehensive service and Calibration capability of both DH-Budenberg and non DH-Budenberg test equipment:

Dead-weight Testers (working service or full overhaul).

Gauges (all types, all manufacturers).

Portable calibrators (DH-Budenberg & non-DH-Budenberg).

Comparators.

All accuracy ranges can be supplied with UKAS Calibration Certificates.

Certification traceable to national standards.

Rapid turn-around times and hire items available as a temporary replacement for strategically important plant.

For further information on Accessories, and other product information contact DH-Budenberg and ask for a Data sheet.



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Industrial Range

MODEL

580EHX

DUAL RANGE TESTER



Hydraulic Dead-Weight Testers

Primary standards
for Pressure
Calibration

- ▶ Range from 1 - 2600 bar
- ▶ Supplied with software

- ▶ Standard Accuracy to 0.02%
- ▶ Class 'A' Accuracy to 0.012%



DH·Budenberg

Industrial Range

MODEL

580EHX

DUAL RANGE TESTER

Hydraulic Dead-Weight Testers

Primary standards for Pressure Calibration

Standard Accuracy to 0.02%
Class A with UKAS
Calibration Certificate 0.012%

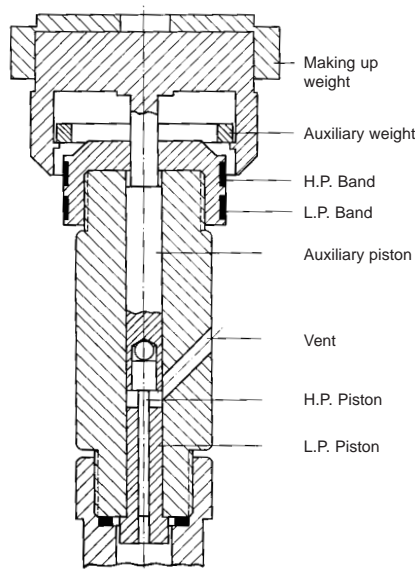
RANGES:

2,600 bar 40,000 psi
2,600 kg/cm² 260 MPa

ACCURACY

All certificates issued for DH-Budenberg Dead Weight Testers are fully traceable to national standards via equipment with UKAS calibration certificates. The standard accuracy of 0.02% is achieved between 6 and 1200 bar using software supplied to allow the user to compensate for the effects of gravity and temperature. In other parts of the pressure range, the standard accuracy is 0.025% from 1 to 6 bar, 0.03% from 1200 to 1800 bar and 0.04% from 1800 to 2600 bar.

Higher accuracy Class A testers are available supplied with detailed Area and Mass certificate of calibration allowing an accuracy of 0.012% to be achieved from 6 to 2600 bar.



580EHX SERIES BASE

The base features a high pressure dual area screw-press which allows for low pressure priming and high pressure control. The base incorporates high pressure hydraulic connections and pipework, connected to a gauge stand which uses DH-Budenberg's standard high pressure cone-joint connections. The piston stand is elevated from the base to allow an overhang weight set to be used, giving extra stability at higher pressures. Additional support is provided in the base by means of five adjustable feet, one of which directly supports the piston and mass set. The 580EHX uses a well-proven patented design in its dual area piston/cylinder unit with 1/8in² and 1/160in² areas. Changing between ranges is fully automated, meaning that users have an extremely flexible instrument covering the range with one piston/cylinder assembly and one weight set. The low pressure piston/high pressure cylinder is tungsten carbide, other parts are fully hardened and stabilised tool steel.

Please note: Due to DH-Budenberg's policy of continuous improvements, specifications may be subject to change without notice.

WEIGHTS SUPPLIED

bar or kg/cm ²	MPa	lb/in ²
Low range (**)	Low range (**)	Low range (**)
1 - 50	0.1 - 5	10 - 600
High range	High range	High range
20 - 2600	2 - 260	200 - 40000
Piston 1 or 20 top loading	Piston 0.1 or 2 top loading	Piston 10 or 200 top loading
1 wt 9 or 180 top loading	1 wt 0.9 or 18 top loading	1 wt 90 or 1800 top loading
3 wts 10 or 200 top loading	3 wts 1 or 20 top loading	4 wts 100 or 2000 top loading
1 wt 5 or 100 top loading	1 wt 0.5 or 10 top loading	1 wt 50 or 1000 top loading
2 wts 2 or 40 top loading	2 wts 0.2 or 4 top loading	2 wts 20 or 400 top loading
1 wt 1 or 20 top loading	1 wt 0.1 or 2 top loading	1 wt 10 or 200 top loading
2 wts 0.5 or 10 top loading	2 wts 0.05 or 1 top loading	1 wts 5 or 100 top loading
Overhang & m.u.wt 10 or 200	Overhang & m.u.wt 1 or 20	Overhang & m.u.wt 100 or 2000
7 wts 10 or 200 annular	7 wts 1 or 20 annular	14 wts 100 or 2000 annular

** Use Top Loading weights on low range only

SOFTWARE

For maximum ease of use, computer software is supplied with all units. There are two software packages, one for standard accuracy, one for Class A. The software allows the users to correct for the effects of environmental factors such as gravity and temperature and to determine the precise pressure generated by the Dead-weight testers.

ACCESSORIES

There are many accessories which can be supplied for use with the Dead-weight testers. DH-Budenberg have extensive experience in the use of Dead-weight testers and can supply accessories for many applications.

PACKING DETAILS

1 carton containing base, tool roll and piston unit:
51 x 49 x 30cm, 0.075m³, Nett 20kg, Gross 22kg.
2 cartons containing weights:
32 x 32 x 38cm, 0.04m³, Nett 55kg, Gross 60kg.

SPARES, REPAIR AND RE-CERTIFICATION

Comprehensive service and calibration capability of both DH-Budenberg and non DH-Budenberg test equipment:

Dead-weight Testers (working service or full overhaul).

Gauges (all types, all manufacturers).

Portable calibrators (DH-Budenberg & non-DH-Budenberg).

Comparators.

All accuracy ranges can be supplied with UKAS Calibration Certificates.

Certification traceable to national standards.

Rapid turn-around times and hire items available as a temporary replacement for strategically important plant.

For further information on Accessories, and other product information contact DH-Budenberg and ask for a Data sheet.



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Industrial Range

Model 580VHX
Dual Range
Tester



- * Range from 1-1400 bar
- * Supplied with Software

**Hydraulic
Dead-weight
Testers**

**Primary Standards
for
Pressure
Calibration**

- * Standard Accuracy to 0.02%
- * Class 'A' Accuracy to 0.01%



DH·Budenberg



Model 580VHX

Standard Accuracy to 0.02%
Class A with NAMAS
Calibration Certificate 0.01%

RANGES

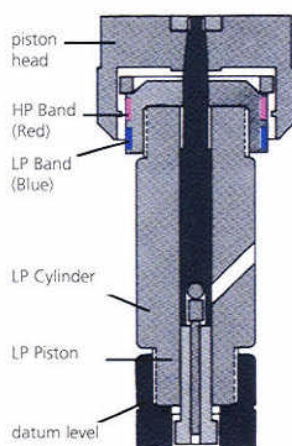
1400 bar 20 000 lb/in²
140 000 kPa 1400 kg/cm²

The 580 series base can be used with any of the 580 series pistons to give ranges 1-120 bar with a 580L, 2-300 bar with a 580M, 1-700 bar with a 580DX and 1-1200 bar with a 580HX.

All units are top loading for ease of use and weight sets are fully interchangeable. This means that weight sets in alternative pressures are readily available and customers with more than one 580 series tester can interchange weight sets between tester of the same range.

The base features a dual area screwpress which allows low pressure priming and high pressure control.

The 580VHX is a dual area piston/cylinder unit with 1/8in² and 1/160in² areas. Changing between ranges is fully automated meaning that users have an extremely flexible instrument covering the range with one piston/cylinder assembly and one weight set. The low pressure piston/high pressure cylinder is tungsten carbide, other parts are fully hardened and stabilised tool steel.



Weights Supplied

bar or kg/cm ²	kPa	lb/in ²
Low range 1-60	Low range 100-6000	Low range 10-800
High Range 20-1400	High Range 2000-140 000	High Range 200-20 000
piston 1 or 20 1 wt 9 or 180 5 wts 10 or 200 1 wt 5 or 100 2 wts 2 or 40 1 wt 1 or 20 1 wt 0.5 or 10	piston 100 or 2000 1 wt 900 or 18 000 5 wts 1000 or 20 000 1 wt 500 or 10 000 2 wts 200 or 4000 1 wt 100 or 2000 1 wt 50 or 1000	piston 10 or 200 1 wt 90 or 1800 8 wts 100 or 2000 1 wt 50 or 1000 2 wts 20 or 400 1 wt 10 or 200 1 wt 5 or 100
Optional fine increment weights		
2 wts 0.2 or 4 1 wt 0.1 or 2 1 wt 0.05 or 1 2 wts 0.02 or 0.4 1 wt 0.01 or 0.2	2 wts 20 or 400 1 wt 10 or 200 1 wt 5 or 100 2 wts 2 or 40 1 wt 1 or 20	2 wts 2 or 40 1 wt 1 or 20 1 wt 0.5 or 10 2 wts 0.2 or 4 1 wt 0.1 or 2

Note: Due to DH-Budenberg's policy of continuous improvement, specifications are subject to change without notice.

Accuracy

All certificates issued for Budenberg Dead-weight Testers are fully traceable to National Standards via equipment with NAMAS Calibration Certificates. A standard accuracy of 0.02% is achieved from 10% of range using software supplied to compensate for the effects of Gravity, Temperature and the actual area of piston unit. Standard accuracy without any corrections for actual area is 0.025% from 6 to 1400 bar, 0.025% from 1 to 6 bar. Higher accuracy Class A Testers are available (supplied with NAMAS Calibration Certificates for area and mass) allowing an accuracy of 0.01% to be achieved.

Software

For maximum ease of use, computer software is supplied with all units. There are two software packages, one for standard accuracy, one for Class A. The software packages allow the users to correct for the effects of environmental factors such as gravity and temperature and to determine the precise pressure generated by the dead-weight testers.

Accessories

There are many accessories which can be supplied for use with the Dead-weight Testers. These include liquid/liquid seals, two gauge stands and many others. DH-Budenberg have extensive experience in the use of Dead-weight Testers and can supply accessories for many applications. A separate catalogue sheet of accessories is available.

Spares, Repair & Recertification

Comprehensive service and calibration capability of both Budenberg and non-Budenberg test equipment:

- * Dead-weight Testers (working service or full overhaul)
- * Gauges (all types, all manufacturers)
- * Portable calibrators (Budenberg, Druck, Beamex etc)
- * Comparators
- * All accuracy ranges can be supplied with NAMAS Calibration Certificates.
- * Certification traceable to National Standards.
- * Rapid turn-around times and hire items available as a temporary replacement for strategically important plant.

Packing Details

1 Carton containing base, tool roll and piston unit: 51 x 49 x 30 cm. 0.075m³, Nett 20 kg, Gross 22 kg
1 Carton containing Weights: 32 x 32 x 38 cm. 0.04m³, Nett 60.5 kg, Gross 65 kg

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Industrial Range

MODEL 558



- ▶ Ranges from 1 to 120 bar
- ▶ Standard Accuracy to 0.015%

Pneumatic Dead-Weight Testers.

Primary standards for Pressure Calibration

- ▶ Class 'A' Accuracy to 0.008%
- ▶ Supplied with Software

Industrial Range

MODEL 558

Pneumatic Dead-Weight Testers.

Primary standards for Pressure Calibration

Standard Accuracy to 0.015%
Class A with UKAS

Calibration Certificate 0.008%

RANGES:

Bar 1 to 120

kPa 100 to 12000

lb/in² 10 to 1600

kg/cm² 1 to 120



ACCURACY

All certificates issued for DH-Budenberg Dead-weight Testers are fully traceable to national standards via equipment with UKAS calibration certificates. A standard accuracy of 0.015% is achieved from 10% of range using software supplied to compensate for the effects of gravity, temperature and the actual area of piston unit. Standard accuracy without any corrections for actual area is 0.02% from 12 to 120 bar, 0.03% from 1 to 12 bar. Higher accuracy Class A testers are available (supplied with UKAS Calibration certificates for area and mass) allowing an accuracy of 0.008% to be achieved.

WEIGHTS SUPPLIED

+ includes making-up weight or screw

1 to 120 bar

1 to 120 kg/cm²

	100 to 12000 kPa	10 to 1600 lb/in ²
Piston+ 1	Piston+ 100	Piston 10
2 wts 1	2 wts 100	2 wts 10
1 wt 18	1 wt 1800	1 wt 180
4 wts 20	4 wts 2000	6 wts 200
1 wt 10	1 wt 1000	1 wt 100
2 wts 4	2 wts 400	2 wts 40
1 wt 2	1 wt 200	1 wt 20
1 wt 0.5	1 wt 50	1 wt 5
Optional fine increment weights		
1 wts 0.4	1 wt 40	1 wt 4
1 wt 0.2	1 wt 20	1 wt 2
1 wt 0.1	1 wt 10	1 wt 1
2 wts 0.04	2 wts 4	2 wts 0.4
1 wt 0.02	1 wt 2	1 wt 0.2

The 550 base can be used with any 550 series pistons, allowing testing from 15 mbar to 120 bar. The base requires a supply of Gas slightly above the test pressure, and has precision inlet/outlet valves and a screwpress to enable easy regulation and adjustment of pressure.

The 558 is an oil lubricated gas operated piston cylinder unit. The design uses a 1/16in² hardened and stabilised tool steel piston/cylinder. If required an inert fluid (such as Fomblin) can be used instead of the oil to provide lubrication without contamination of Gas with hydrocarbon vapour. (Consult DH-Budenberg for more details).

SOFTWARE

For maximum ease of use, computer software is supplied with all units. There are two software packages, one for standard accuracy, one for Class A. The software allows the users to correct for the effects of environmental factors such as gravity and temperature and to determine the precise pressure generated by the Dead-weight testers.

ACCESSORIES

There are many accessories which can be supplied for use with the Dead-weight testers. These include liquid / liquid seals, two gauge stands and many others. DH-Budenberg have extensive experience in the use of Dead-weight testers and can supply accessories for many applications. A separate data sheet of accessories is available.

PACKING DETAILS

1 carton containing base, tool roll and piston unit:

51 x 49 x 30cm. 0.075m³, Nett 18kg, Gross 21kg.

1 carton containing weights:

32 x 32 x 38cm. 0.04m³, Nett 52.5kg, Gross 56kg.

SPARES, REPAIR AND RE-CERTIFICATION

Comprehensive service and calibration capability of both DH-Budenberg and non DH-Budenberg test equipment: Dead-weight Testers (working service or full overhaul).

Portable calibrators (DH-Budenberg & non- DH-Budenberg).

Comparators.

All accuracy ranges can be supplied with UKAS Calibration Certificates.

Certification traceable to national standards.

Rapid turn-around times and hire items available as a temporary replacement for strategically important plant.

For further information on Accessories, Repairs & Recertification contact DH-Budenberg and ask for a Data sheet.



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Industrial Range

PORTABLE DEAD-WEIGHT TESTERS PRODUCT RANGE



- ▶ Ranges from -1 bar to 70 bar
- ▶ Standard Accuracy to 0.02%

Hydraulic and
Pneumatic
Portable
Dead-Weight
Testers.
Primary standards
for Pressure
Calibration

- ▶ Class 'A' Accuracy to 0.008%
- ▶ Software supplied with all models



DH·Budenberg



278 SERIES HYDRAULIC PORTABLE DEAD-WEIGHT TESTER

Ranges 1 to 70 bar.
Supplied with PC Software.
Standard accuracy to 0.05%.
All units supplied with Certification traceable to National standards.
UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

RANGES AVAILABLE

Range 1-70 bar

On 1/8 in² piston. 1 - 9.5 bar x 0.5 bar
On 1/80 in² piston. 10 - 70 bar x 5 bar
Piston with making up
Weight. 1 or 10 bar
3 Weights. 2 or 20 bar
2 Weights. 1 or 10 bar
1 Weight. 0.5 or 5 bar

Range 10-1000 lb/in²

On 1/8 in² piston. 10 - 100 lb/in² x 1 lb/in²
On 1/80 in² piston. 100 - 1000 lb/in² x 10 lb/in²
Piston. 10 or 100 lb/in²
4 Weights. 20 or 200 lb/in²
1 Weight. 10 or 100 lb/in²
1 Weight. 5 or 50 lb/in²
2 Weights. 2 or 20 lb/in²
1 Weight. 1 or 10 lb/in²

OPTIONAL EXTRAS

Bar

2 Weights. 0.2 or 2 bar
1 Weight. 0.1 or 1 bar
1 Weight. 0.05 or 0.5 bar
2 Weights. 0.02 or 0.1 bar
1 Weight. 0.01 or 0.1 bar

OPTIONAL EXTRAS

lb/in²

2 Weights. 2 or 20 lb/in²
1 Weight. 1 or 10 lb/in²
1 Weight. 0.5 or 5 lb/in²
2 Weights. 0.2 or 2 lb/in²
1 Weight. 0.1 or 1 lb/in²



279 SERIES HYDRAULIC PORTABLE DEAD-WEIGHT TESTER

Ranges 1 to 40 bar.
Supplied with PC Software.
Standard accuracy to 0.03%.
Class 'A' accuracy to 0.008%.
All units supplied with Certification traceable to National standards.
UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

RANGES AVAILABLE

Range 1-15 bar

Piston with making up
Weight. 1 bar
1 Weight. 4 bar
1 Weight. 5 bar
2 Weights. 2 bar
1 Weight. 1 bar
1 Weight. 0.5 bar

Range 10-200 lb/in²

Piston. 10 lb/in²
1 Weight. 40 lb/in²
1 Weight. 50 lb/in²
1 Weight. 20 lb/in²
2 Weights. 10 lb/in²
1 Weight. 5 lb/in²

Range 1-40 bar

As above plus
5 Weights. 5 bar

Range 10-600 lb/in²

As above plus
4 Weights. 100 lb/in²

OPTIONAL EXTRAS

Bar

1 Weight. 0.4 bar
1 Weight. 0.2 bar
1 Weight. 0.1 bar
2 Weights. 0.04 bar
1 Weight. 0.02 bar

OPTIONAL EXTRAS

lb/in²

1 Weight. 4 lb/in²
1 Weight. 2 lb/in²
1 Weight. 1 lb/in²
2 Weights. 0.4 lb/in²
1 Weight. 0.2 lb/in²



439P SERIES PNEUMATIC PORTABLE DEAD-WEIGHT TESTER

Ranges 15 to 1000 mbar.
Supplied with PC Software.
Standard accuracy to 0.02%.
Class 'A' accuracy to 0.008%.
All units supplied with Certification traceable to National standards.
UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

RANGES AVAILABLE

Range 15-1000 mbar

Piston+ 15 mbar
1 Weight. 5 mbar
3 Weights. 20 mbar
2 Weights. 10 mbar
6 Weights. 50 mbar
6 Weights. 100 mbar

Range 5-400 in Water

Piston+ 5in Water
1 Weight. 45in Water
2 Weights. 100in Water
2 Weights. 50in Water
2 Weights. 20in Water
1 Weight. 10in Water
1 Weight. 5in Water
2 Weights. 2in Water
1 Weight. 1in Water



439TP SERIES PNEUMATIC DIFFERENTIAL PORTABLE DEAD-WEIGHT TESTER

Ranges 15 to 1000 mbar.
Supplied with PC Software.
Standard accuracy to 0.02%.
Class 'A' accuracy to 0.008%.
All units supplied with Certification traceable to National standards.
UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

RANGES AVAILABLE

Range 15-1000 mbar

Piston+ 15 mbar
1 Weight. 5 mbar
3 Weights. 20 mbar
2 Weights. 10 mbar
6 Weights. 50 mbar
6 Weights. 100 mbar

Range 5-400 in Water

Piston+ 5in Water
1 Weight. 45in Water
2 Weights. 100in Water
2 Weights. 50in Water
2 Weights. 20in Water
1 Weight. 10in Water
1 Weight. 5in Water
2 Weights. 2in Water
1 Weight. 1in Water

For further information on Accessories, Repairs & Recertification contact DH-Budenberg and ask for a Data sheet.



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Industrial Range

MODELS
283
284



- ▶ Ranges to 8000 bar
- ▶ Accuracy to 0.02%

High Pressure Dead-Weight Testers

- ▶ Fully interchangeable weight sets
- ▶ Software supplied with all models



DH·Budenberg

Industrial Range

MODELS

283

284

High Pressure Dead-Weight Testers

The superior manufacturer of Pressure Calibration equipment

Budenberg created their tradition of manufacturing quality, precision instruments in 1849 with the patented Schaffer diaphragm gauge.

Joining forces in 1994 with Desgranges & Huot, the established market leader in the field of supply and service of Pressure Calibration equipment to meet primary standards, has provided a joint portfolio of products and services to satisfy the requirements of clients in industry, in quality control and in accredited laboratories.



RANGES AVAILABLE

100 - 4000 bar

Piston with overhang and making up weight

Weight.	100 bar
18 Weights.	200 bar
2 Weights.	100 bar
1 Weight.	50 bar
2 Weights.	100 bar
1 Weight.	50 bar

1000 - 60,000 lb/in² x 100 lb/in²

Piston with overhang and making up weight

Weight.	1000 lb/in ²
28 Weights.	2000 lb/in ²
2 Weights.	1000 lb/in ²
1 Weight.	500 lb/in ²
2 Weights.	200 lb/in ²
1 Weight.	100 lb/in ²

283 SERIES HIGH PRESSURE DEAD-WEIGHT TESTER

Ranges 100 to 4000 bar.

Supplied with PC Software.

Standard accuracy to 0.05%.

Class 'A' accuracy to 0.02%.

All units supplied with Certification traceable to National standards.

UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.



RANGES AVAILABLE

bar. 500 - 8000

lb/in². 5000 - 100,000

284 SERIES HIGH PRESSURE DEAD-WEIGHT TESTER

Ranges 500 to 8000 bar.

Standard accuracy to 0.05%.

All units supplied with Certification traceable to National standards.

For further information on Accessories, Repairs & Recertification contact DH-Budenberg and ask for a Data sheet.



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Industrial Range

MODELS
249T
439TP



- ▶ Static Pressure ranges from 15 mbar to 200 bar
- ▶ Differential Pressure ranges from 5 mbar to 4000 mbar

Differential Dead-Weight Testers

- ▶ Accuracy to 0.03%
- ▶ Ergonomic layout ideal for Laboratory use

Industrial Range

MODELS
249T
439TP

Differential Dead-Weight Testers



249T SERIES HIGH PRESSURE DIFFERENTIAL DEAD-WEIGHT TESTER

Ranges to 200 bar static: 4000 mbar differential.
Static pressure accuracy to 0.01%.
Differential pressure accuracy to 0.03% + 0.2 mbar.
All units supplied with Certification traceable to National standards.
UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

PERFORMANCE TABLE

Area of Piston units	0.125 in ²		0.0625 in ²	
	Static pressure lb/in ² X increments bar	200 to 1500 x 100 15 to 100 x 5		400 to 3000 x 200 30 to 200 x10
Differential Pressure in increments of	1 to 800 1 in. water	2.5 to 2000 2.5 mbar	2 to 1600 2 in. water	5 to 4000 5 mbar
Accuracy of differential pressure to	0.03% +0.08 in. water	0.03% +0.2 mbar	0.03% +0.12 in. water	0.03% +0.3 mbar
Typical discrimination	0.02 in water	0.05 mbar	0.05 in water	0.12 mbar
Typical repeatability	0.04 in. water	0.1 mbar	0.05 in. water	0.12 mbar

The superior manufacturer of Pressure Calibration equipment

Budenberg created their tradition of manufacturing quality, precision instruments in 1849 with the patented Schaffer diaphragm gauge.

Joining forces in 1994 with Desgranges & Huot, the established market leader in the field of supply and service of Pressure Calibration equipment to meet primary standards, has provided a joint portfolio of products and services to satisfy the requirements of clients in industry, in quality control and in accredited laboratories.



439TP SERIES LOW PRESSURE DIFFERENTIAL DEAD-WEIGHT TESTER

Ranges 15 to 1000 mbar static:
differential from 5 mbar.
Standard accuracy to 0.015%.
Class 'A' accuracy to 0.008%.
All units supplied with Certification traceable to National standards.
UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

RANGES AVAILABLE

mbar.	15 - 1000
kPa.	1.5 - 100
in. water.	5 - 400
mm water.	150 - 10,000

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Industrial Range

MODELS

80 80L
82



Dead-Weight Pipeline Testers

- ▶ Ranges from 1.5 to 600 bar
- ▶ Accuracy to 0.015%

- ▶ Fully interchangeable weight sets
- ▶ Ergonomic layout ideal for field use



80 SERIES HYDRAULIC PIPE LINE TESTER

Ranges to 600 bar.

Standard accuracy to 0.07 bar.

All units supplied with Certification traceable to National standards.

UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

PERFORMANCE TABLE

Higher pressures

UNITS	bar	lb/in ²
Standard range	30 - 300	500 - 4000
Extended range	30 - 600	500 - 8000
Gauge graduated	0 - 10	0 - 100
Resolution	0.02	0.2

Accuracy

Standard range	0.07	1
Above standard range	0.14	2



80L SERIES HYDRAULIC PIPE LINE TESTER

Ranges to 120 bar.

Standard accuracy to 0.015 bar.

All units supplied with Certification traceable to National standards.

UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

PERFORMANCE TABLE

Lower pressures

UNITS	bar	lb/in ²
Standard range	7 - 60	100 - 800
Extended range	7 - 120	100 - 1600
Gauge graduated	0 - 2	0 - 20
Resolution	0.005	0.5

Accuracy

Standard range	0.015	0.2
Above standard range	0.03	0.4



82 SERIES PNEUMATIC PIPE LINE TESTER

Ranges to 15 bar.

Standard accuracy to 0.005 bar.

All units supplied with Certification traceable to National standards.

UKAS Certificate is available through our Pressure Standards laboratory as an optional extra.

RANGES AVAILABLE

Range 1.5 to 15 bar

Piston with Weight.	1.5 bar
1 Weight.	5 bar
1 Weight.	4 bar
2 Weights.	1 bar
1 Weight.	1 bar
1 Weight.	0.5 bar
1 Weight.	0.4 bar
1 Weight.	0.2 bar
1 Weight.	0.1 bar
2 Weights.	0.04 bar
1 Weight.	0.02 bar

Range 20 to 200 lb/in²

Piston with Weight.	20 lb/in ²
2 Weights.	50 lb/in ²
1 Weight.	40 lb/in ²
2 Weights.	20 lb/in ²
1 Weight.	10 lb/in ²
1 Weight.	5 lb/in ²
2 Weights.	2 lb/in ²
1 Weight.	1 lb/in ²
1 Weight.	0.5 lb/in ²
2 Weights.	0.2 lb/in ²

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