BOD POD Gold Standard
Body Composition

The world's gold standard for fast, efficient and repeatable body composition assessment



COSMED
The Metabolic Company

"BOD POD is a highly reliable and valid method for determining %FAT in adult humans. This new method is quick, relatively simple to operate and may be able to accommodate special populations[(1)]"

- Gold Standard accuracy using whole-body densitometry
- Excellent test-to-test repeatability
- Fat and Fat-Free Measurements
- Fast test time (2 minutes inside BOD POD and about 5 minutes total test time)
- Safe, non-invasive, and ideally suited for frequent testing
- Flexibility in testing special populations, including young children with Pediatric Option™



The BOD POD is the world's only Air Displacement Plethysmography (ADP) system using whole body densitometric principles to determine body composition (Fat and Fat-Free Mass) in adults and children.

In comparison to other body composition assessment methods, the BOD POD's air displacement plethysmography has eliminated the invasiveness of Dual Energy X-Ray Absorptiometry (DXA) as well as the difficulties associated with underwater submersion in hydrostatic weighing. A full test requires only about 5 minutes, and provides highly accurate, safe, comfortable, and fast test results. This is why the BOD POD is considered the practical Gold Standard for body composition assessment.

The BOD POD is ideal for assessing the body composition of special populations such as children (young children from 2 to 6 years with Pediatric Option™), the elderly, the disabled and subjects weighing more than 200 kg. It is also completely non-invasive, making it especially suitable for frequent, longitudinal tracking of body composition and metabolic changes over time.

Applications

The BOD POD is used in a wide variety of segments:

- Academic and Medical Research
- Clinical Examination
- Elite Athletic Training
- Military and Public Safety
- Nutrition Counseling
- Bariatric Clinics
- University Fitness

Proven Accuracy

Each BOD POD is a complete turnkey system based on the same Gold Standard operating principle as hydrostatic (underwater) weighing.

The BOD POD uses the principles of whole-body densitometry to determine body composition. This technique relies on a mass measurement from a highly accurate scale (provided) and a volume measurement from the BOD POD chamber.

Once body density is determined (Density = Mass/Volume), the BOD POD measures or predicts Thoracic Gas Volume (TGV) and then uses known (or user-customized) densitometric equations to calculate percent Fat and Fat-Free Mass.



Accomodates a wide range of subjects up to a maximum weight of 250kg



Simple and easy for both subject and operator

(1) McCrory MA, et al. "Evaluation of a new air displacement plethysmograph for measuring human body composition." Med Sci Sports Exerc. 1995 Dec;27(12):1686-91.

The accuracy of the BOD POD has been shown to be very high against reference techniques in a number of research publications.

The BOD POD also provides flexibility in testing special populations - something other techniques are unable to offer.

Test Sequence

The BOD POD is extremely simple to use and does not require a license to operate. A full test requires only about 5 minutes:

- Basic subject information is entered into the specially configured computer system
- The BOD POD is calibrated
- The subject's mass is measured using the integrated digital scale (accuracy is assured by scale calibrations at regular intervals utilizing provided calibration weights)
- The subject's body volume is measured while sitting inside the BOD POD (2 minutes)
- Thoracic Gas Volume (TGV) is measured or predicted
- Test results are displayed and printed

Software Features

- Longitudinal reports of body composition changes
- Customizable body composition ranges
- Customizable density models based on ethnicity, gender and body type (athletic, obese, etc.)
- Data export capability
- Automatic estimates of Resting Metabolic Rate (RMR) and Total Energy Expenditure (TEE)

Maintenance

The BOD POD is designed for durability over time. Should the need arise, each BOD POD has an internal diagnostic test function to analyze system performance and provide feedback to service personnel. Extended service agreements are available to insure optimal performance for long term use.

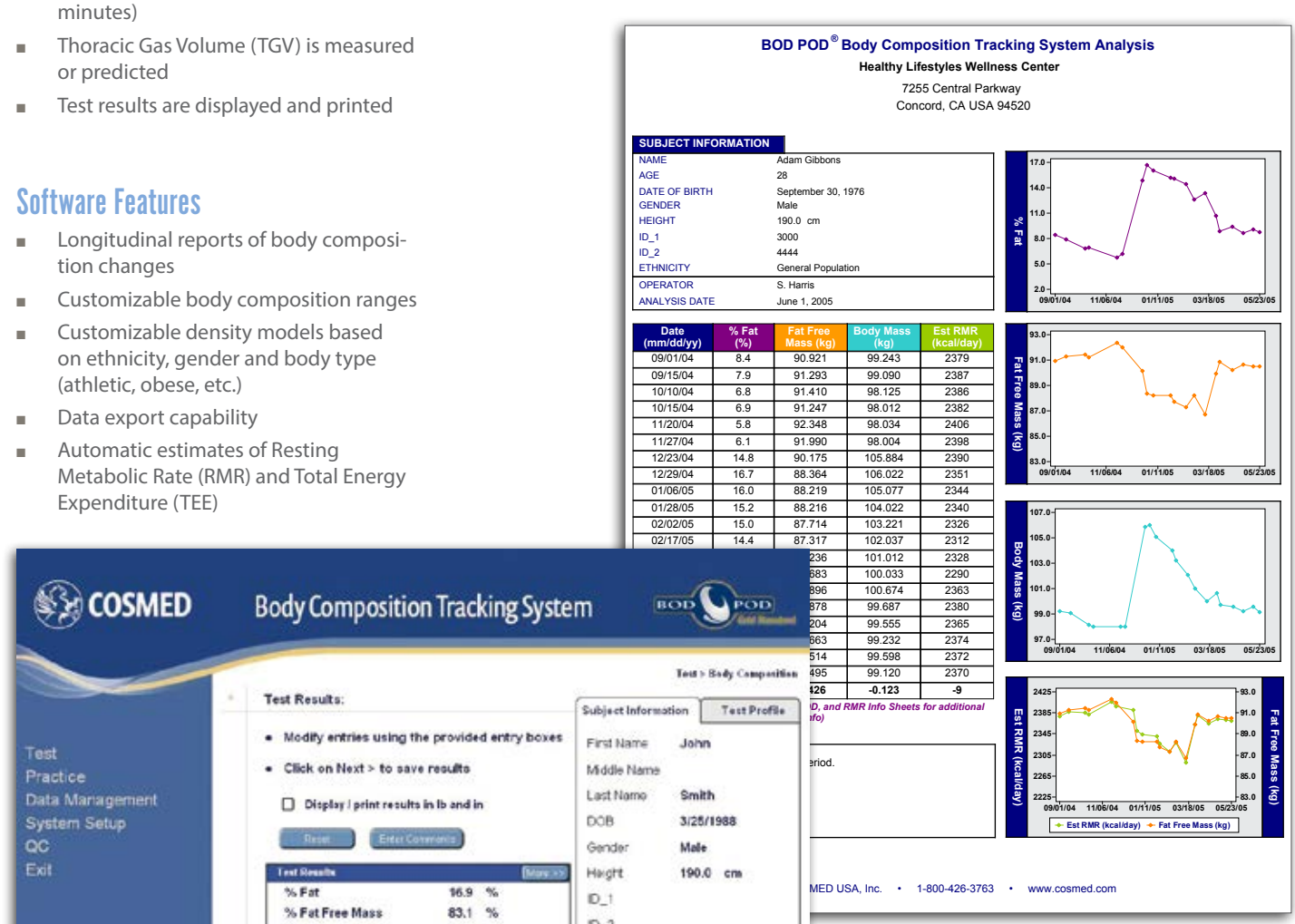
Pediatric Option™ Accessory

The BOD POD with the Pediatric Option™ accessory allows for the assessment of body composition of young children. It includes a customized seat insert to create a safe and comfortable testing environment for subjects between 2 and 6 years of age. A modified Windows®-based software program and calibration standard are part of the testing procedure as well. This option is validated for subjects as young as 2 years of age and as small as 12 kg[2].



The Pediatric Option™ accessory allows for easy body composition assessment of young children

[2] Air-Displacement Plethysmography Pediatric Option in 2–6 Years Old Using the Four-Compartment Model as a Criterion Method [DA Fields, et al. Obesity, 2012 Aug;20(8):1732-7]



BOD POD® Body Composition Tracking System Analysis

Healthy Lifestyles Wellness Center

7255 Central Parkway
Concord, CA USA 94520

SUBJECT INFORMATION

NAME	Adam Gibbons
AGE	28
DATE OF BIRTH	September 30, 1976
GENDER	Male
HEIGHT	190.0 cm
ID_1	3000
ID_2	4444
ETHNICITY	General Population
OPERATOR	S. Harris
ANALYSIS DATE	June 1, 2005

Date (mm/dd/yy)	% Fat (%)	Fat Free Mass (kg)	Body Mass (kg)	Est RMR (kcal/day)
09/01/04	8.4	90.921	99.243	2379
09/15/04	7.9	91.293	99.090	2387
10/10/04	6.8	91.410	98.125	2386
10/15/04	6.9	91.247	98.012	2382
11/20/04	5.8	92.348	98.034	2406
11/27/04	6.1	91.990	98.004	2398
12/23/04	14.8	90.175	105.884	2390
12/29/04	16.7	88.364	106.022	2351
01/06/05	16.0	88.219	105.077	2344
01/28/05	15.2	88.216	104.022	2340
02/02/05	15.0	87.714	103.221	2326
02/17/05	14.4	87.317	102.037	2312
		236	101.012	2328
		883	100.033	2290
		896	100.674	2363
		878	99.687	2380
		204	99.555	2365
		663	99.232	2374
		514	99.598	2372
		495	99.120	2370
		426	-0.123	-9

ID, and RMR Info Sheets for additional info)

eriod.

MED USA, Inc. • 1-800-426-3763 • www.cosmed.com

Longitudinal reports provide detailed information on body composition changes

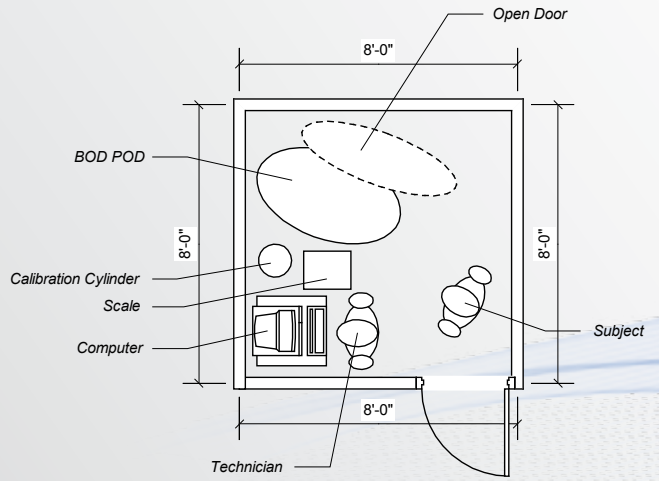
User-friendly and straightforward software interface

Validation articles

- *Fields DA, et al. Air-displacement plethysmography pediatric option in 2-6 years old using the four-compartment model as a criterion method. Obesity (Silver Spring). 2012 Aug;20(8):1732-7.*
- *Ball SD, et al. Interdevice variability in percent fat estimates using the BOD POD. Eur J Clin Nutr. 2005 Sep;59(9):996-1001.*
- *Ginde SR, et al. ADP: validation in overweight and obese subjects. Obes Res. 2005 Jul;13(7):1232-7.*
- *Fields DA, et al. Body-composition assessment via air-displacement plethysmography in adults and children: a review. Am J Clin Nutr. 2002 Mar;75(3):453-67.*
- *McCrory MA, et al. Evaluation of a new air displacement plethysmograph for measuring human body composition. Med Sci Sports Exerc. 1995 Dec;27(12):1686-91.*
- *More scientific studies on*
- *www.cosmed.com/bibliography*

Technical Specifications

Product	Description	REF
BOD POD Gold Standard	Gold Standard body composition tracking system	A-661-230-023
Standard packaging	BOD POD unit; Calibration cylinder; Electronic scale; Computer; Monitor; Power supply; Serial cable; Software CD; 10 Kg. calibration weights (2 pcs.); Nose clip; Window cleaner; Window cleaning cloths (5 pcs.); Quick reference guide; Tube and Filter Kits (1 Box); Body composition posters (1 tube); Transformer assembly; Printer; Printer cable (3 meters); Computer cart; BOD POD Operator's manual.	
Measurements		
Body Composition	Body weight, Body volume, Body density, Body Fat (mass and %), Body Fat-Free (mass and %), Thoracic Gas Volume (TGV), Resting Metabolic Rate (estimated), Total Energy Expenditure (estimated)	
Accuracy	The mean difference of measured body fat percentage is < 1 % when compared to reference techniques (such as hydrostatic weighing)	
Mass Measurement (with high precision digital scale)		
Dimensions & Weight(Scale)	6.4x34x32 cm / 11.3 Kg	
Weight range	up to 250Kg	
Accuracy	±10g	
Calibration	Certified 20Kg weights	
Volume Measurement		
Dimensions & Weight (POD)	165x84x132 cm / 141 Kg	
Chamber volume	450 L	
Accuracy	±100 ml	
Calibration	Certified 50 L cylinder	
Environmental Conditions		
Temperature	21-27°C (operating); 5-38°C (storage)	
Humidity	20-70% (non-condensing)	
Barometric Pressure	75-106 KPa (562-795 mm Hg)	
Software	**BOD POD Suite**	
Available languages	English	
Required PC Configuration (PC included)	Windows XP Pro (32 bit) or Windows 7 (32 bit); 256 MB RAM (XP Pro), 2 GB RAM (Windows 7)	
Accessories & Options	**Description**	**REF**
Pediatric option	for subjects between 2 and 6 years of age (as small as 12 kg)	A-661-923-010
Safety & Quality Standards		
MDD (93/42 EEC); FDA 510(k); EN 60601-1 (safety) / EN 60601-1-2 (EMC)		



CE 0476

COSMED Srl

Via dei Piani di Monte Savello 37
Albano Laziale - Rome 00041, Italy

+39 (06) 931-5492 Phone
+39 (06) 931-4580 Fax

info@cosmed.com | cosmed.com

To know more:

© 2014/09 COSMED E & OE. Subject to alterations without prior notice. REF C03837-02-93