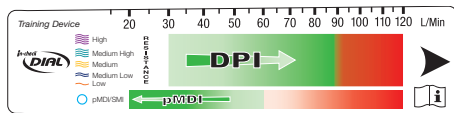


# Updating In-check DIAL 2018



**G16**



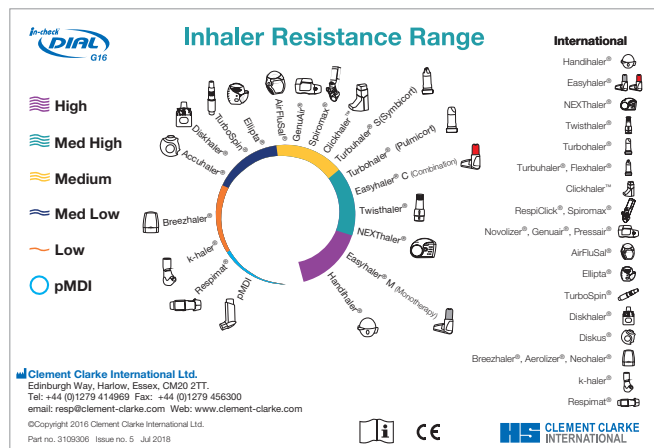
## Why does In-Check DIAL need to change?

Since the last update of In-Check DIAL in 2010 new inhaler devices have been introduced and the measurement of inspiratory flow as a fundamental part of inhaler technique training has been increasingly recognised in expert guidance. To provide the best possible information In-Check has had to evolve. That evolution has been reviewed with expert users and resulted in the new format.

## What changes?

The key change is that In-Check DIAL G16 now groups inhalers as a function of their internal airflow resistance, in order to accommodate information on the new devices. So now there are six resistance groups, five of which relate to dry powder inhalers (DPIs) and one of which to pressurised metered dose inhalers (pMDIs). A guide to identify the resistance group for each inhaler is provided on the In-Check DIAL and on the associated guide. The ability to use In-Check DIAL to measure specific flow rate of a particular inhaler can still be achieved through the use of a specific restrictive adapter. An example adapter is now included in the pack.

## The new Information card



## Which devices are now included?

In addition to the pMDIs, the following devices are included:

- Accuhaler® / Diskus®
- AirFluSal®
- Breezhaler®
- Clickhaler™
- Diskhaler®
- Easyhaler® M (Monotherapy)
- Easyhaler® C (Combination)
- Ellipta®
- Genuair® / Novolizer® / PressAir®
- HandiHaler®
- k-haler®
- NEXThaler®
- Respimat®
- Spiromax® / Respiclick®
- Turbohaler® (Symbicort) / Flexhaler®
- Turbohaler® MK II (Pulmicort)
- TurboSpin®
- Twisthaler®

☞ denotes specific restrictive adapters available

## Please Note:

All trademarks and product names are the property of their respective owners.

In order to be included each device has been profiled in accordance with CCI flow and pressure testing protocol. As further devices are tested they will be included.

## Further information on inspiratory flow measurement

Good inhaler use depends on inspiratory flow in an important way. For good drug delivery, dry powder inhalers (DPI) depend particularly on the adequacy of the flows generated at the start of inhalation, whereas pressurized metered dose inhalers (pMDI) depend on not exceeding a certain flow rate.

Inspiratory flow measurement and In-Check DIAL have been extensively studied, there are many references available, but a selection of recent references are cited on the information card.

## Show me how it works

Visit [the Clement Clarke YouTube channel](#)

Icon	Product	Icon	Product	Device Resistance
	*Handihaler®		AirFluSal®	
	*Easyhaler®		Ellipta®	
	NEXThaler®		TurboSpin®	
	*Twisthaler®		*Diskhaler®(4)	
	*Turbohaler® P		*Accuhaler®	
	*Turbohaler® S		*Breezhaler®	
	*Clickhaler™		k-haler®	
	Spiromax®		Respimat®	
	*GenuAir®			

**Please Note:**  
All trademarks and product names are the property of their respective owners, see IFU booklet for details.  
\*Indicates device specific adaptor is available, see IFU booklet.

**Assessing inspiratory flow rate for clinical efficacy:**  
Select appropriate resistance setting, inhale through meter, assess achieved flow rate.  
For DPIs values between 30-50 L/min are generally associated with clinical efficacy.  
For pMDIs values between 20-60 L/min are preferred.  
For Handihaler 20 L/min is associated with clinical efficacy.

**Bibliography:**

1. Pedersen S, Dubus JC, Crompton G. 5) Inhaler selection in children with asthma. *Prim Care Respir J* 2010;19(3):209-16
2. Lavoini F, Levy ML, Corrigan C, Crompton G. 6) Training tools for inhalation devices. *Prim Care Respir J* 2010;19(4):335-41
3. Caspatick T.G., & Clifton, I. J. (2014). Inhaler technique and training in people with chronic obstructive pulmonary disease and asthma. *Expert review of respiratory medicine*.
4. Sanders, M. J. (2017). Guiding Inspiratory Flow: Development of the In-Check DIAL G16, a Tool for Improving Inhaler Technique. *Pulmonary medicine*, 2017.
5. Mahler, D. A. (2017). Peak inspiratory flow rate as a criterion for dry powder inhaler use in chronic obstructive pulmonary disease. *Annals of the American Thoracic Society*, 14(7), 1103-1107.
6. Laube, B. L., Jarassens, H.M., de Jongh, F.H., Devadason, S.G., Dhand, R., Diot, P., ... & Chrystyfi, H. (2011). What the pulmonary specialist should know about the new inhalation therapies. *European Respiratory Journal* 37 (8) 1308-1417.