

METERED DOSE INHALER VALVE AND ACTUATOR

Bespak by Recipharm delivers market leading design, development, and manufacturing services for drug delivery devices to the global pharmaceutical market. Our portfolio includes inhalers, nasal technologies, and auto-injectors as well as development and manufacturing services.



As a world leader in metered dose inhaler (MDI) valves, actuators, dose counters and dry powder inhaler (DPI) devices, we have more than 60 years' experience in improving the lives of people with respiratory conditions.

Our BK357 MDI valve is well established as one of the leading HFA valves across the world, forming a critical component in several FDA approved products. As the most technically complex element in an MDI, the valve is critical to delivering a consistent and precise metered dose of medication to patients. Developed to work with a wide range of formulations with low levels of extractables and leachables to ensure versatility and cleanliness.

Our range of MDI valves are manufactured using only regulatory approved plastic, metal, and elastomeric materials. Devices are developed using a proprietary elastomer formulation and produced via our in-house manufacturing facilities. We manufacture our valves with the end-user in mind, and therefore all of our products are fine tuned to meet specific customer requirements, are leakage free, lightweight and are set to emit a specific dose level.

OUR MDI VALVES HAVE THE FOLLOWING CUSTOMISATION FEATURES:

- ▶ Suitable for ethanol and non-ethanol formulations
- ▶ Inverted or upright use with diptube
- ▶ Standard dose size ranges from 25-100µl
- ▶ Design fine tuneable to meet specific customer requirements:
 - Leakage
 - Shot weight
 - Emitted dose
 - Compatibility with active
- ▶ Usable with HFA propellant 134a and 227
- ▶ Compatible with cut edge & roll neck aluminium or stainless steel canisters
- ▶ Complimentary press & breathe or dose counting actuators available to optimise valve performance



EASIFILL MDI VALVE

Our Easifill MDI valves help improve patient adherence and are engineered with a 'fast fill' and drain design that ensures complete filling of the metering chamber after use and actuation.

KEY FEATURES INCLUDE:

- ▶ No need for priming
- ▶ Simply invert and shake for use
- ▶ Suitability to infrequent medication regimes
- ▶ Sleek economic design that is ideal for suspensions with high deposition
- ▶ Minimised loss of dose due to adhesion in the chamber

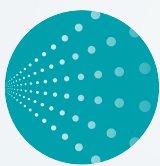


ACTUATORS

Our range of actuators are optimised to work alongside our MDI valves. These devices are 100% airflow tested and supplied ready for immediate use.

KEY FEATURES INCLUDE:

- ▶ Available in 2 body lengths to accommodate 14ml and 19ml canisters
- ▶ Supplied with dust cap to keep mouthpiece clean
- ▶ Range of exit orifice diameters and lengths available to suit end application
- ▶ Orifice diameters range from 0.22mm to 0.58mm
- ▶ Fully customisable sump geometry available
- ▶ Available in standard range of colours or customisable to Pantone reference
- ▶ Actuator and dust cap can be provided with embossed detail or plain
- ▶ Polypropylene construction with 21 CFR material compliance



**Recipharm
Inhalation
Solutions™**

Bespak by Recipharm's inhaler and nasal technologies expertise forms part of Recipharm Inhalation Solutions™, an integrated service spanning early phase development to commercial manufacture of both inhalation drug product and device. For more information about Recipharm Inhalation Solutions™ please visit recipharm.com

About Bespak by Recipharm: Bespak by Recipharm delivers market leading design, development and manufacture of drug delivery devices to the global pharmaceutical market. This includes inhaler, nasal technologies and auto-injectors as well as development and manufacturing services. Recipharm is at the leading edge of drug delivery device innovation. Driven by customer and patient demand, our innovations have the potential to create new treatments and opportunities across the globe as well as accelerating routes to market.