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# QUALITYGUARD™ CALIBRATION CONTRACTS AND EXTENDED WARRANTIES FOR INHALATION PHARMACEUTICAL EQUIPMENT

You need consistent, reliable, and accurate data from your high-standard inhalation pharmaceutical equipment. Protect your investment with regular cleaning and calibrations performed by MSP, a Division of TSI.

## Why is regular mensuration & calibration important?

Mensuration is recommended by the United States Pharmacopeia (USP) prior to first use and periodically thereafter to make sure the equipment continues to operate within the proper in-use margins. Likewise, Good Manufacturing Practices (GMP) recommends periodic mensuration for any equipment being used to generate data, and encourages creating established procedures to ensure the equipment remains in proper operation.

There are many benefits that come with regular and consistent mensuration/calibration. Not only does it conform to FDA, USP, and GMP standards, but it also reduces the risk of inaccuracies, incorrect data, and equipment drift. Mensuration helps to extend the life of your equipment, and avoid costly and time-consuming bridging studies (or other validation methods) if the equipment is out of tolerance.

MSP is your destination for mensuration/calibration. As the original builder, we have replacement parts on-hand and can trouble-shoot potential problems.

## What is a Calibration Contract?

The MSP/TSI Calibration Contracts are a convenient way to plan ahead while going easy on your budget. The contracts provide calibration services at a fixed, upfront cost and are available for new and pre-owned instruments. Additionally, at time of sale, it is also possible to purchase an extended warranty in parallel with a calibration contract. This provides an additional year of warranty coverage for a nominal fee.

	Standard with Purchase	Extended Warranty Option	Calibration Contract Option	B2B (Bumper to Bumper) Option
<b>Warranty Period</b>	1 year	2 years	1 year	2 years
<b>Calibrations</b>	Purchased separately	Purchased separately	2 standard calibrations	2 standard calibrations
<b>What is it?</b>	Unlimited repair of defects in material and workmanship for 1 year	Unlimited repair of defects in material and workmanship for 2 years	2 calibrations to be used during a 2 year period Unlimited repair of defects in material and workmanship for 1 year (10% savings over 2 years)	2 calibrations to be used during a 2 year period <b>and</b> extended warranty coverage of unlimited repair of defects in material and workmanship for 2 years (20% savings over 2 years)

## What's done during a calibration?

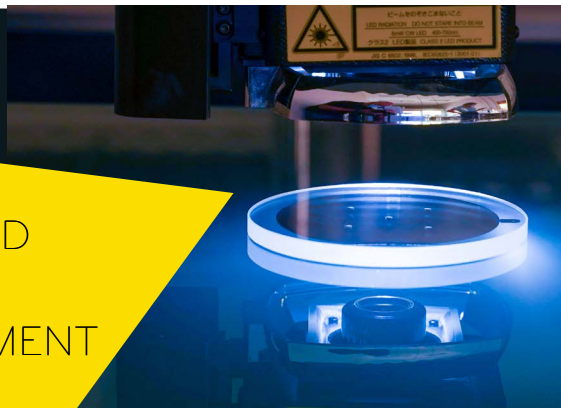
The content of the calibration service varies by instrument model. Find the details for each instrument on the back.

GENERALLY, EACH CALIBRATION SERVICE INCLUDES:

- + As found exam
- + In case of failure, cease activity, contact for clarification/instruction
- + Minor repair, replacement, and cleaning
- + As left exam
- + ISO 9001:2015 certified
- + Tweaks to calibrate to better tolerance for in-use margins
- + As found/as left calibration report and certificate

CALIBRATION SERVICES DO NOT INCLUDE:

- + Large consequential repairs and replacements
- + Deep cleaning cost



# ELIGIBLE MSP EQUIPMENT

Part No.	Description	2-year Calibration Contract Availability (10% discounted price)	Ext War/B2B Availability
<b>Next Generation Impactor (NGI) &amp; Next Generation Impactor Plus (NGI+)</b>			
0170-01-5016	Next Generation Impactor (NGI) (Includes visual inspection, optical inspection of every nozzle of stages 1-7, leak test, flow resistance and stage protrusion measurement for every stage)	Yes	Yes
0170-01-5014	NGI Induction Port (Surface roughness measurement)	Yes	Yes
0170-01-5019	NGI Pre-Separator (Includes visual inspection of the entire pre-separator assembly and pin-gauge inspection of all insert nozzle diameters)	Yes	Yes
0170-01-5018	Standard mensuration of the NGI plus optical inspection of every nozzle of the micro-orifice collector (MOC)		
0170-01-5013	Full dimensional inspection of the NGI Induction Port		
0170-01-5017	Flow resistance measurement of the NGI		
0001-01-9716	Alberta Idealized Throat Mensuration	Yes	Yes
0170-01-5025	Cleaning and re-mensuration of NGI stages, NTE \$1,000 per impactor		
<b>Andersen-Type Impactor (ACI)</b>			
0001-01-9972	Standard 28.3 L/min Andersen Cascade Impactor (ACI) (Includes visual inspection, optical inspection of every nozzle of stages 0-7, leak test and flow resistance measurement)	Yes	Yes
0001-01-9980	ACI Induction Port (Surface roughness measurement)	Yes	Yes
0001-01-9969	ACI Pre-Separator (Includes visual inspection of the entire pre-separator assembly, surface roughness measurement and pin-gauge inspection of the nozzle diameter)	Yes	Yes
0001-01-9981	Full dimensional inspection of the ACI Induction Port		
0001-01-9979	Full dimensional inspection of the ACI Pre-Separator		
0001-01-9971	Flow resistance measurement of the Andersen Impactor		
0001-01-9970	ACI Conversion Kit (60 L/min or 90 L/min) (Includes visual inspection, optical inspection of every nozzle of stages -2, -1 and -0)		
0001-01-9945	Cleaning and re-mensuration of ACI stages, NTE \$1,000 per impactor		
<b>Fast-Screening Impactor (FSI)</b>			
0185-01-5019	FSI Insert qualification; including pin-gauge inspection of all insert nozzles		
<b>Multi-Stage Liquid Impinger</b>			
0001-01-9924	Mensuration of the MSLI; includes visual inspection and measurement of all critical dimensions of every stage	\$1,560	Yes
<b>Leak Testing And Flow Control/Measurement Equipment</b>			
0001-01-9948	Critical flow controller calibration (Copley model TPK, TPK-R, TPK2000, TPK2000-R, TPK2100, TPK2100-R, BAC2000, BAC2000-R, BAC2100, BAC2100-R); includes visual inspection, leak test, calibration of the differential and absolute pressure transducers, timer calibration and functional verification	\$1,030	Yes
0001-01-9991	Flow meter calibration (Copley model DFM3, DFM4, DFM2000)	\$550	
0001-01-9989	Flow meter calibration (TSI model 4143/4043)	\$535	Yes
0001-01-9990	Flow meter calibration (TSI model 4040)	\$550	
0001-01-9929	Leak tester (Copley model LTK) calibration; includes visual inspection, leak test, calibration of the differential pressure transducer and display	\$700	
0001-01-9944	Leak tester (MSP model 171) calibration; includes visual inspection, leak test and calibration of the differential pressure gauge	\$700	
0001-01-9908	Spray force tester (Copley model SFT) inspection/calibration	\$905	
0001-01-9827	Re-calibration of BRS Qualification Kit (Flow Verifier, stop watch, inclinometer, temp/%RH sensor)	\$1,850	Yes

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