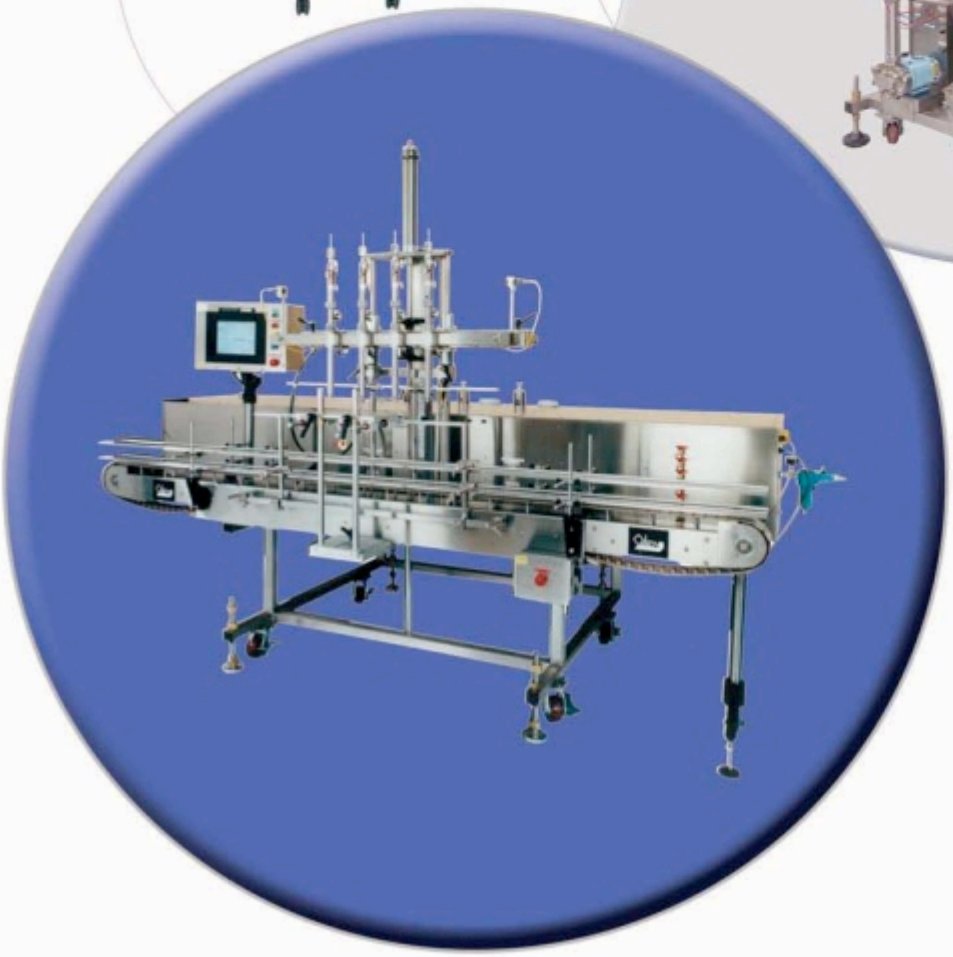
ODEN MACHINERY

Innovators in Advanced Liquid Filling and Blending Technologies



Product Catalog

ODEN MACHINERY

WHO WE ARE

Since 1980 Oden Corporation has partnered with customers worldwide as:

- A technology pioneer in the field of liquid filling.
- A custom engineering house that solves problems for customers.
- A trusted and valued technology resource for customers.
- A company that continues to raise the bar in terms of technology.

WHAT WE DO

Oden Corporation manufactures net weight and volumetric liquid filling systems that span the entire spectrum of liquids applications, pioneer a constant stream of "cutting-edge" innovations that include:

- The first "rotary pump + servo" liquid filling methodology, in 1980.
- The first "Coriolis mass meter based" net weight liquid filler "family", in 1996.
- NET/MASS® and MEGA/FILL® Coriolis mass flow meter based net weight liquid filling systems.
- PRO/FILL®, SERVO/FILL® and PRO/MATIC® volumetric rotary motion positive displacement liquid filling systems.
- GRAV/TRONIC® volumetric gravity liquid filling systems.
- MASS/BLEND® continuous stream digital blending systems.
- MICRO/DOSE® late addition dosing system.

WHAT SETS US APART

Oden's innovative liquid filling systems have become industry standards:

- The "world standard" for filling machine versatility.
- The "world standard" for filling machine flexibility.
- Modular machine construction - expandable by design.
- Electronic machine configuration: the software is the machine.
- Unrivaled product range - we sell to all technical and market segments.
- Technology, technology, technology.

Innovators in Advanced Liquid Filling and Blending Technologies

OUR PRODUCT LINE

Volumetric Liquid Filling Systems

- SERVO/FILL® Low Cost High Quality Liquid Filling Systems 4
- PRO/FILL® Precision Liquid Filling Systems. 6
- PRO/MATIC® Low Cost Fully Automatic Liquid Filling Systems 8
- GRAV/TRONIC® Volumetric Gravity Liquid Filling Systems 9

Net Weight Liquid Filling Systems

- NET/MASS® Coriolis Mass Meter Based Liquid Filling Systems 10
- MEGA/FILL® Coriolis Mass Meter Based Bulk Liquid Filling Systems 11

Continuous Stream Digital Blending Systems For Late Addition of Liquid Ingredients

- MASS/BLEND® Continuous Stream Digital Blending Systems for late addition of differentiating ingredients into product just before filling 12

Ultra High Speed Late Addition Dosing System

- MICRO/DOSE® Systems for ultra high speed dosing of ingredients into product just before sealing, or capping 14

GEN2 Positive Shut-Off Nozzle

- For drip free filling, quick job change capabilities, easy cleaning, and the versatility to handle a wide range of products 15

Servo/Fill®

SERVO/FILL® liquid fillers offer the perfect mix of quality and value. These high quality fillers are equipped with a uniquely designed stainless steel gear pump and provide low cost filling for limited budget applications.

Applications include free flowing liquids to extremely viscous products. **SERVO/FILL** systems are available as benchtop fillers, fully automatic modular systems for the automation of new or previously purchased benchtops, and fully automatic integrated base systems.

Whatever your liquid filling application, the **SERVO/FILL** offers unparalleled flexibility and versatility to meet your needs today and tomorrow.

The Perfect Mix of Quality and Value

Better by design

It's smart

It's better by design

- Rugged, compact and portable
- "State of the art" servo electronics and controls
- Oden–designed CleanGear® stainless steel gear pump (patent pending)
  - Only two moving parts – it's simple and durable
  - Tool-less design for easy pump installation, removal and cleaning/teardown when necessary
- 316L stainless steel positive shut-off nozzle for clean, no-drip product cut-off
- Quick clean-up and no-tool changeover
- Precision, fast filling and superior accuracy
- Built-in expansion capability, up to four fill positions on the fully automatic modular system and up to ten on the fully automatic integrated base system

It's versatile

- Fills a wide range of products at volumes from 1/3 ounce to 5 gallons
- Fills free flowing to viscous products
- Fill extremely viscous products with the heavy duty SERVO/FILL®HD package, available for all configurations
- Wide range of optional features to meet your needs including Waukesha Universal Series sanitary lobe type pumps
- Benchtop and fully automatic systems are available in Class 1, Division 1 Group D explosion-proof configuration
- Patented NET/MASS®net weight filling capability

Fast changeover

Automatic touch screen

It's the pump that makes the difference

Ideal for all your product applications

- Personal Care
- General Industrial
- Household Products
- Chemical Processing
- Food Processing
- Pharmaceutical
- Biomedical
- Petroleum

Pro/Fill®

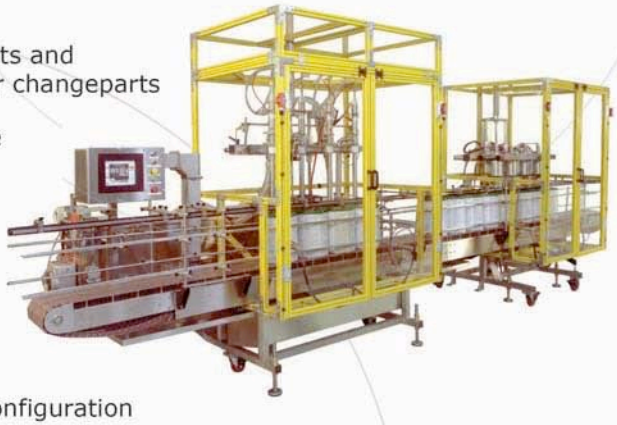
Intentionally Over-Engineered to Maximize Performance

PRO/FILL® liquid filling systems eliminate costly product waste and allow for fast/easy recipe driven set-up and no-tool changeover. These "state of the art" fillers are designed to the strictest engineering and manufacturing standards and offer the most advanced technology available in today's marketplace.

Whatever your liquid filling application, free flowing liquids to extremely viscous, particulated, molten, and/or abrasive products, there is a PRO/FILL liquid filler to meet your needs.

PRO/FILL® Volumetric Liquid Filling Systems

- PLC controlled, rotary motion, positive displacement operation
- Superior versatility and flexibility
- Precision volumetric filling of a wide range of products and containers on a single machine, without the need for changeparts
- Fast/easy set-up and changeover, precision drip-free filling-can be programmed to monitor and operate the entire filling operation
- Fill free flowing to extremely viscous products
- Fill volumes from ounces to 55 gallons
- Expandable by design
- Available in Oden's patented high speed dual lane configuration
- Designed for future addition of Oden's NET/MASS® systems



Pro/Matic®

PRO/MATIC® systems are turnkey low cost, high quality volumetric systems equipped with everything required to automatically fill a wide range of products and containers.

Applications include free flowing liquids to viscous, particulated, molten, and abrasive products, in all liquid product markets.

PRO/MATIC fillers are equipped with 6 filling nozzles and utilize Oden's patented "step-fill" design. The container stops and is filled at each head to achieve the desired fill volume. With only a single pump to program, the PRO/MATIC meets limited budget applications.

Proven **Technology** at
an Unbelievable **Price**

PRO/MATIC® Volumetric Liquid Filling Systems

- PLC controlled, rotary motion positive displacement operation
- "State of the art" electronics and controls
- Comes complete with rugged machine frame, conveyor, indexing package, nozzle rack and level controlled reservoir
- Fast/easy set-up and changeover
- Precision drip-free filling
- Can be programmed to maintain and operate entire filling line
- Fill a wide range of container shapes in volumes from 15 mL to 2.5 gallons at speeds to 100 containers per minute



PRO/FILL® Benchtop Fillers

PRO/FILL 1000®.. for free flowing to low viscosity products, fill volumes from 0.5 ml. to 5 liters at flow rates to 3.0 GPM

PRO/FILL 3000®.. for free flowing to very viscous, chunky, particulated and abrasive products; fill volumes from 15 ml. to 55 gallons at flow rates to 30 GPM

PRO/FILL 6000®.. for high speed filling of free flowing to extremely viscous products, and products with large chunks or particulates; fill volumes from 8 oz. to 55 gallons at flow rates to 100 GPM

PRO/FILL® Fully Automatic High Speed Fillers

PRO/FILL 1000®... for free flowing to low viscosity and hot products; fill volumes from .5 mL to 5 liters; speeds to 300 containers per minute

PRO/FILL 3000®... for free flowing to very viscous, particulated, hot and abrasive products; fill volumes from 15 ml. to 5 gallons; speeds to 250 containers per minute

PRO/FILL® Liquid Filling Systems can also be configured

- To meet Class 1, Division 1, Group D explosion-proof standards
- For form-fill-seal applications, BIB, Cubitainer®, and pail filling applications
- To meet 3-A Sanitary, USDA-Dairy, and Wisconsin Dairy standards

Grav/Tronic®

Volumetric Gravity Liquid Filling System

The Ultimate in Sanitary
High Precision Filling

GRAV/TRONIC® fillers use precision electronics to exactly control fill volume based on timed flow: the filler electronically controls flow for a precise and repeatable time interval, establishing a precise and repeatable fill dose or volume. The flow rate can be easily and precisely varied by changing the elevation of the liquid reservoir above the filling nozzle.

GRAV/TRONIC systems are ideal for small batches as well as production runs and can be cleaned-in-place or steamed-in-place. Unique Oden innovations are at the heart of this filler, a product reservoir system that precisely controls liquid level and minimizes system volume, and non-invasive cassette load pinch valves, or patented Oden MicroDose filling valves, that provide precision filling.

GRAV/TRONIC® Liquid Filling Systems

- PLC controlled, volumetric gravity operation
- "State of the art" electronics and controls
- High precision drip-free filling
- Fill sterile and non-sterile free flowing liquids to low viscosity and molten products
- Fill volumes from 20 microliters to liters
- Requires minimal system volume
- Semi-automatic and fully automatic systems available
- Available with Oden's exclusive digital pressure control system for superior control of product feed and flow

Net/Mass®

Maximize Filling Performance
Maximize Proof

Patented **NET/MASS®** systems provide net weight filling accuracy without sacrificing flexibility or versatility. They eliminate fill weight problems caused by variations in product during the filling run, without sacrificing the flexibility of the machine to run virtually any type of liquid, and the versatility of the machine to handle a vast range of containers.

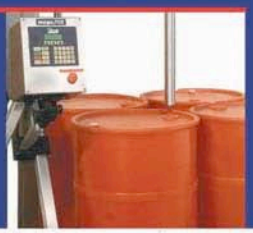
Applications include free flowing to viscous products that change in viscosity or density over the filling run, or from batch to batch, and for products that must be labeled by weight content or internally tracked and accounted for by weight.

NET/MASS fillers combine the "state of the art" performance characteristics of the PRO/FILL series fillers, with net weight technology utilizing Coriolis mass flow meters that measure the mass flow, as opposed to the volumetric flow, of virtually any liquid.

NET/MASS® Liquid Filling Systems

- PLC controlled, Coriolis mass meter based operation
- Statistical process control - record every fill weight
- Net weight filling accuracy without sacrificing versatility or flexibility
- Precision drip-free filling
- Fast/easy set-up and changeover
- Fill free flowing to extremely viscous products in volumes from ounces to 55 gallons
- Can be programmed to maintain and operate entire filling line
- Available as single head/benchtop fillers, fully automatic in-line systems, and form/fill/seal, BIB, Cubitainer®, pail, and Class 1, Division 1, Group D explosion-proof configurations, and other custom applications

Mega/Fill®



Net Weight Filling
No Scales

MEGA/FILL® systems deliver true net weight fills for drums, totes, and IBC's without using cumbersome scales. These systems are Coriolis mass meter based fillers that provide net weight filling accuracy by automatically compensating for products that change in density over the filling run.

Applications include free flowing to viscous products that change in density or in viscosity due to temperature variation or other variance, or products that are accounted for by weight.

MEGA/FILL systems can be used with an existing product feed system or with an Oden supplied servo driven rotary pump unit.

MEGA/FILL® Bulk Liquid Filling Systems

- PLC controlled, Coriolis mass meter based operation
- Precision drip-free filling
- Fast set-up with "on the fly" product weight adjustments and PLC storage of products
- Fill 5 gallon to 55 gallon drums, and IBCs and totes up to 500 gallons
- Use for direct on-pallet filling, free-standing container filling or on-conveyor filling
- Available in Class 1, Division 1, Group D, explosion-proof configuration

Mass/Blend®

A QUANTUM LEAP FORWARD IN LIQUID BLENDING SYSTEM DESIGN

GEN2 MASS/BLEND® systems eliminate large liquid batch preparation and holding tanks, provide real-time formulation of your liquid products, give you more compounding flexibility, faster product turnaround and a superior product … every time!

Applications include pilot plant to production scale blending of low to high viscosity liquids in every segment of the liquid product markets.

GEN2 MASS/BLEND systems yield superior product quality with complete validation and continuous verification. Each liquid component flow channel consists of an Oden PRO/FIL® high precision dosing unit and an appropriately sized Coriolis mass meter. Together these define a NET/MASS® dosing channel.

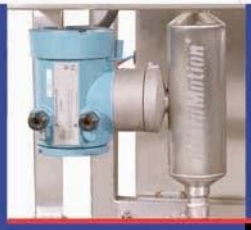
MASS/BLEND® Systems

- Pre-engineered liquid stream "modules"
- No PID loops (proportioning-integrating-derivative feedback control loop)
- No start/stop problems or penalties
- Exceptionally low system volume
- Up to 0.15% to 0.25% accuracy, dependent upon liquid properties
- No filler starvation or startup problems
- Greater product consistency and reproduceability
- Reduced commitment of plant floor space
- Real time blending – no batch aging effects
- Faster changeover
- Yields superior product quality with complete validation and continuous verification

Continuous Stream Digital Blending Systems

MASS/BLEND® Continuous Stream Digital Blending Systems can be built to meet Class1, Division 1, Group D explosion proof standards, heated liquids processing, and other specialized application needs.

Oden has the expert engineering capabilities to help solve your toughest liquid processing challenges. We offer over two decades of industry-leading innovation in design and engineering solutions. You can count on Oden for high quality machinery backed by high quality responsive service.



With the MASS/BLEND® continuous stream blending system "flexibility" takes on a new meaning.

- Operates with all types of liquids, low viscosity to high
- No forced changes in present batch formula streams
- 0-250 GPM continuous stream capability
- Make only what you need – no waste
- Shorter runs become practical
- Real time formulation of your liquid products allows tighter response to consumer demand
- Inherent and fast CIP
- Reduced component waste
- Capable of component stream blend ratios of better that 1000:1
- Maximum flexibility for "future FOG," including expansion capability

Micro/Dose®

Adding Crucial Product Brand Value Using Variation at the Filler Provides the Ultimate in Manufacturing Agility

Oden's patent-pending **Micro/Dose®** ultra-fast continuous motion in-line fillers precisely add critical late addition ingredients like minerals, seasonings, flavors, colors, vitamins, nutraceuticals, and other differentiators to liquid products.

Micro/Dose systems enable high speed liquid packaging lines to produce "last stop" product differentiation without speed loss. The system is designed to fit up to existing packaging lines eliminating the need for equipment replacement.

Oden Micro/Dose Continuous Motion Fillers

- State-of-the-art PC/PLC controls
- Lightning speed – up to 1200 containers per minute
- Dosing capability per container from microliters to milliliters
- Compact design and rugged all stainless steel construction
- Supremely accurate and validatable
- Equipped with Oden Microdose filling valves
- Clean-in-place and true 100% dose verification are standard
- Custom configurations are available for all of your high speed dosing and product differentiation requirements
- Straight line continuous motion assures easy installation with no container handling problems

Gen2 Positive Shut-off Nozzle

The **GEN2 PSN SYSTEM** , an exclusive positive shut-off nozzle designed and patented by Oden, assures no-drip filling and provides for quick job change capability, easy cleaning, and the versatility to handle a wide range of products. The GEN2 PSN Nozzle System is the preferred choice for Oden liquid filling systems and it can also be retrofitted to non-Oden fillers.

The PSN can operate as an inward or outward opening unit. By simply reversing the operator air lines and repositioning the nozzle plug rod, the unit can be converted in seconds. This means enormous versatility across a remarkably broad range of liquids.

No Drip-Filling
No Kidding

EASIER TO USE

Oden's PSN is an air actuated sanitary nozzle designed for quick assembly and disassembly. All fluid contact parts are 316L stainless steel and there are no threads in the fluid contact pathway. The system has an O-ring sealed circumferential bottom shut-off. This technique improves laminar collimation across a broader flow range and provides leak free shut- off without a high force face to face seal surface.

GEN2 PSN System

- All 316L stainless steel contact parts
- Quick no-tool assembly and disassembly
- Fast/easy clean-up, clean-in-place capability
- Standard o-ring sizes in a wide variety of elastomers
- Interchangeable fill tube sizes for same nozzle body
- Fill tube can be 6", 12" or 18" long
- Available in virtually any alloy

Innovators In Advanced Liquid Filling and Blending Technology

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Our Product Testing and Machine Performance Guarantee

We take the "risk" out of buying a liquid filler or blending system by providing written performance guarantees for each product tested, free of charge, in our product testing laboratory.

After the positive conclusion of testing done with your product and containers, we will provide a guarantee that incorporates speed, accuracy, and machine performance.

Call today to make arrangements:
716-874-3000,
toll free (U.S. and Canada)
800-658-3622.