



**DrumQuik® PRO/DrumQuik PUR**  
Dispensing System for  
Professional Chemical Management

# Make a *safer* connection with DrumQuik® PRO

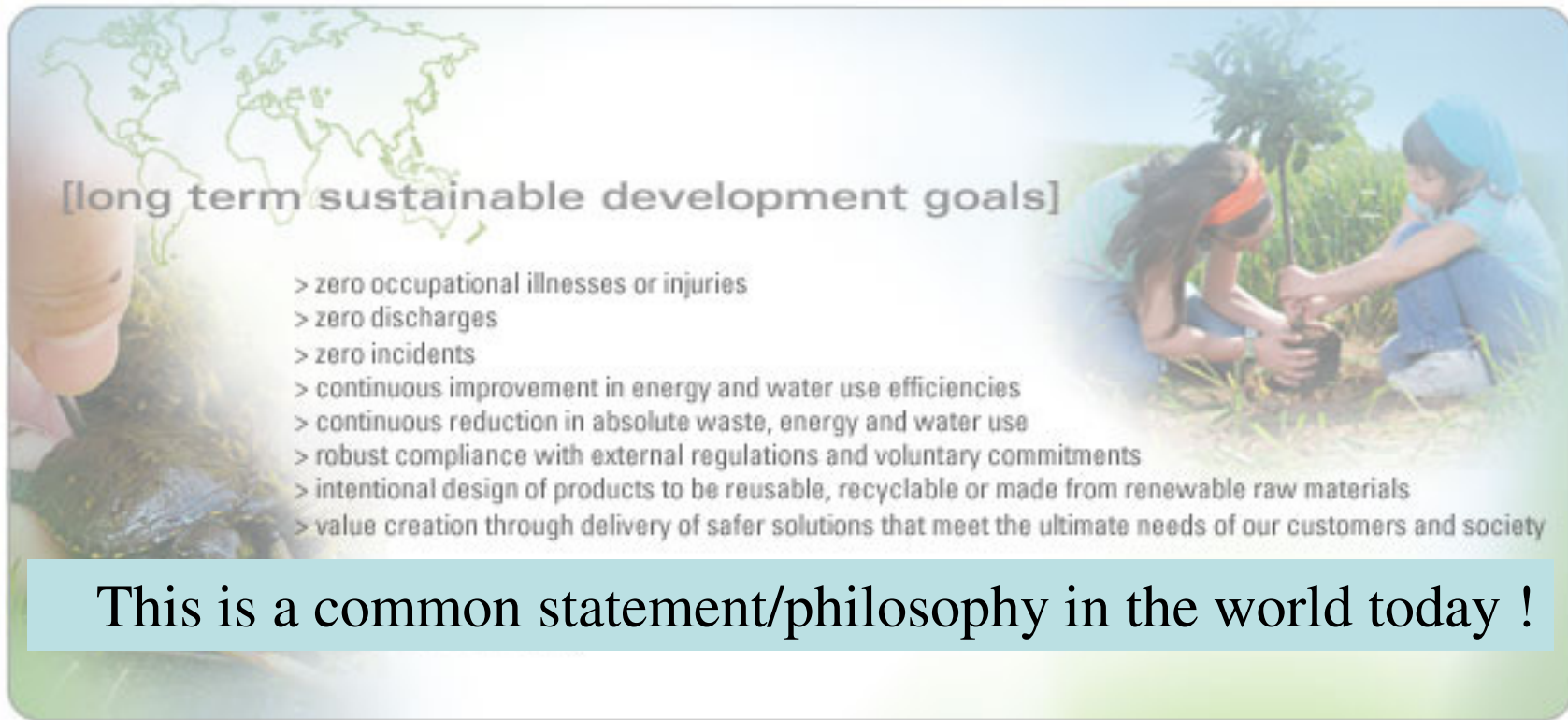


# DrumQuik® PRO: Overview

- Easy-to-use dip-tube based quick connect dispensing system for extracting chemicals from rigid containers in a “Closed” manner
- Materials:
  - Virgin, unfilled & no re-grind
  - FDA approved and “Animal Free” for pharmaceutical and food applications
- Rugged construction to meet demands of harsh environments
- Ideally suited to cost-sensitive, one-way/single-use container app's
- UN/D.O.T. approvable with most containers (Jerrycans, drums, IBC's)
- Fits most containers, many size bung threads
  - 2" Buttress (Plastic drums & Schuetz IBC's in North America)
  - BCS 56x4 (Plastic drums in Europe)
  - 2"NPS / BCS G2 (Steel drums & IBC's in NA & Europe)
- The “Green” way to dispense
  - Closed system design minimizes worker chemical exposure
  - Less wasted chemical/product, up to 99% container evacuation
    - Reduced HAZMAT clean up costs
  - Supports “Sustainable” packaging initiatives

# DrumQuik® PRO: “Sustainability”

(Corporate Statement Example)



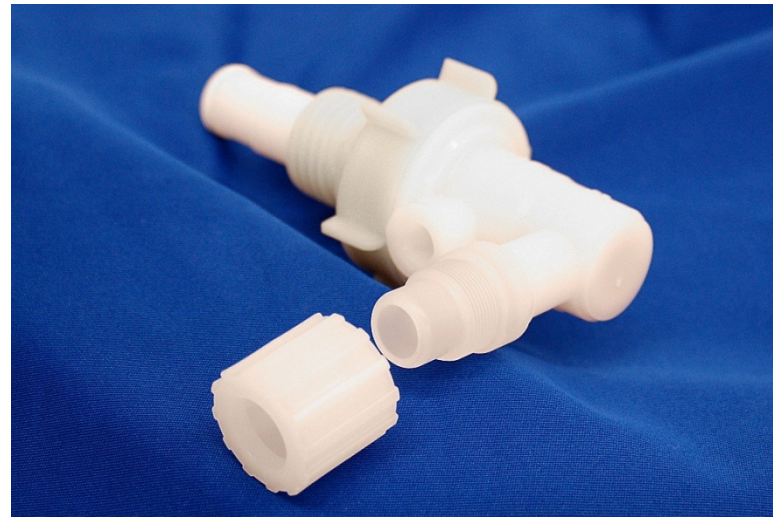
DQ PRO facilitates meeting the objectives of sustainable packaging initiatives!

# DrumQuik® PRO & PUR: Differences

## **DrumQuik® PRO** (General Industrial Applications)



## **DrumQuik® PUR** (High Purity Applications)



# DrumQuik® PRO & PUR: Differences

## DrumQuik® PRO

- **Coupler:**  
Polypropylene, gray color Lock Ring,  
1/2 NPT standard
- **Insert & Dip-tube:**  
HDPE
- **Spring:**  
316 SS or Hastelloy C Coupler shut off
- **Coupler Seals:** EPDM or FKM
- **Drum Insert Seals:**
  - Shipping Plug: EPDM or FKM
  - Bung: EPDM or FKM
- Interchangeable with DQ PUR

## DrumQuik® PUR:

- **Coupler:**  
PVDF, natural color Lock Ring, 3/4  
Flare standard
- **Drum Insert & Dip-tube** (special high  
purity handling) HDPE
- **Spring:**  
PEEK, PPS or Teflon Encapsulated  
(TES) 316 SS
- **Coupler Seals:** FKM or Simriz FFKM  
Perfluoroelastomer
- **Drum Insert Seals:**
  - Shipping Plug: EPDM, FKM, POE
  - Bung: Polyolefin (POE)
- Built in clean room
- Interchangeable with DQ PRO



# Common Thread Types

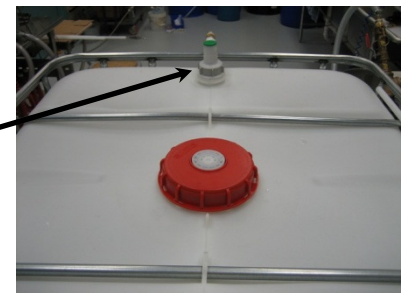
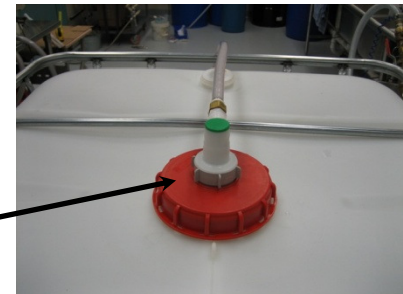
- Plastic Containers, North America:

- **Drums:**

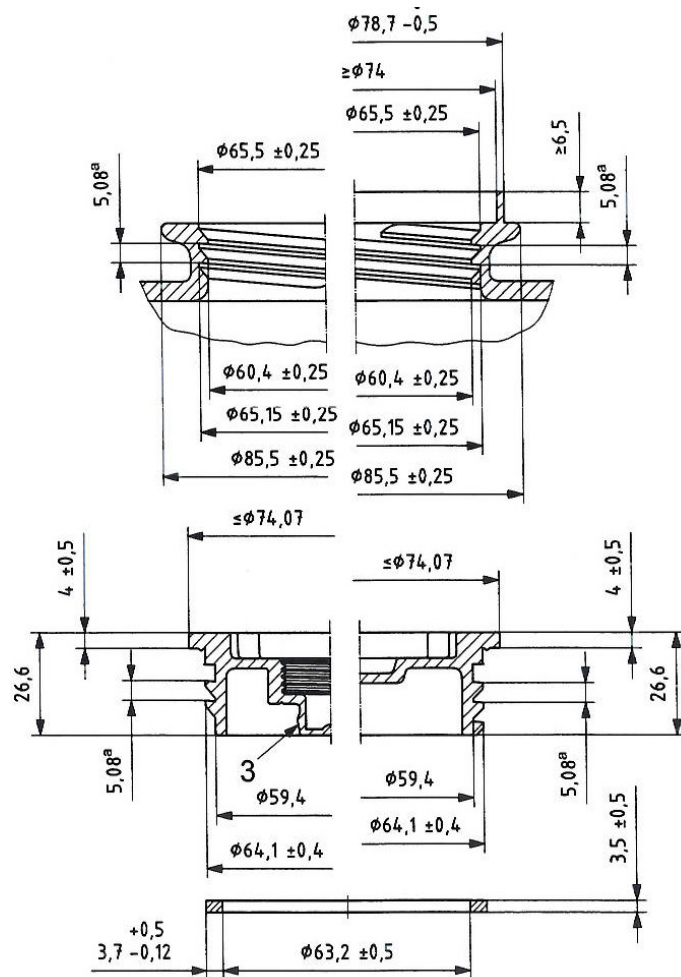
- 2" American Buttress (coarse thread),
      - A.k.a. BCS G2 x 5 & BCS 64 x 5
    - 2" NPS (fine thread),
      - A.k.a. BCS G2 x 11.5

- **IBC's:**

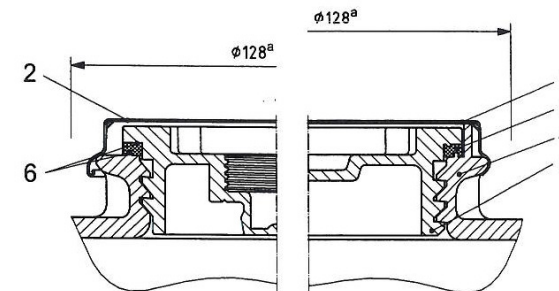
- 2" NPS (fine thread)
      - A.k.a BCS G2 x 11.5
      - Typical in most IBC center caps
    - 2" American Buttress (coarse thread),
      - A.k.a. BCS G2 x 5 & BCS 64 x 5
      - Typical in IBC's that feature a molded in port for top dispense



# 2" Buttress (American Buttress, ISO G2x5, BCS 64x5)



Dimensions in millimetres



NOTE Two types are illustrated.

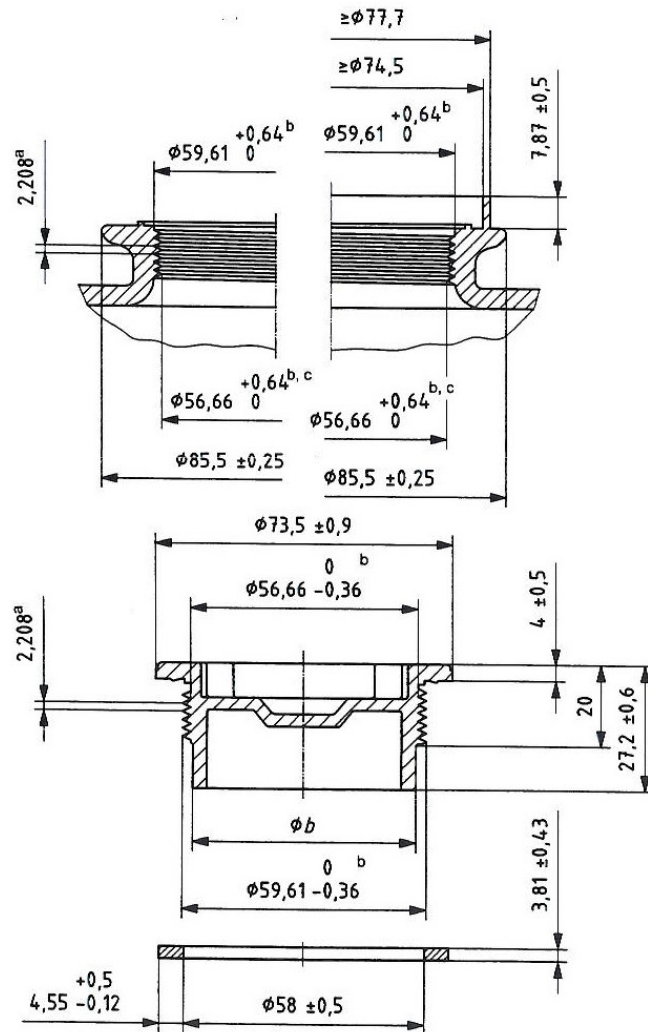
## Key

- 1 metal capseal
- 2 metal/plastics capseal
- 3 gasket
- 4 plug/bung housing
- 5 plug/bung
- 6 gasket sealing faces

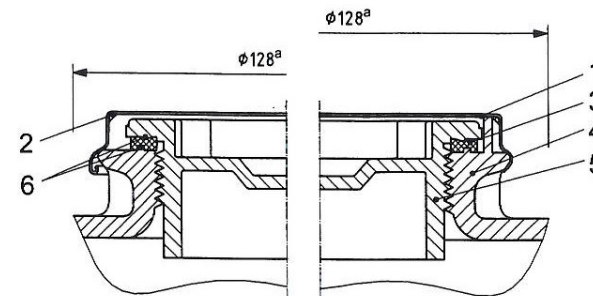
<sup>a</sup> Minimum clearance for crimping tool.



# 2" NPS (ISO G2x11.5, "G2")



Dimensions in millimetres



NOTE Two types are illustrated.

## Key

- 1 metal capseal
- 2 metal/plastics capseal
- 3 gasket
- 4 plug/bung housing
- 5 plug/bung
- 6 gasket sealing faces

# Common Thread Types

- Plastic Containers Europe:

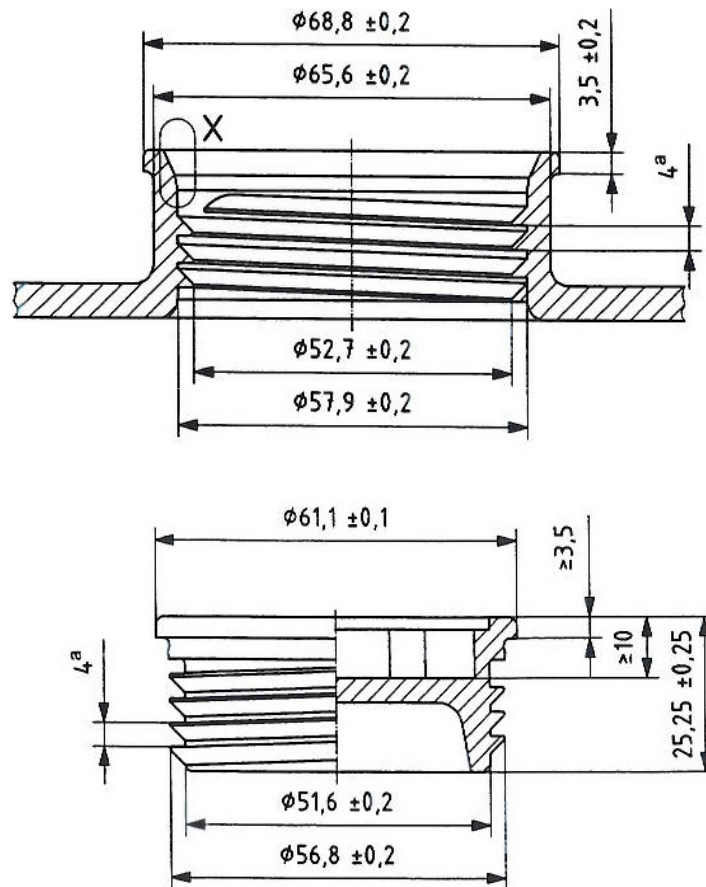
- **Drums:**

- BCS 56x4
    - BCS 62x5
      - A.k.a European Buttruss
      - Often used in high purity drums, e.g. Rikutek, Honeywell, Entegris
      - Very similar to American buttruss but major & minor thread diameter is 2mm smaller, 5mm pitch is the same
    - BCS 70x6
      - Becoming less popular
      - Often used in higher pressure rated drums
      - **NOTE: A common ASIAN drum is the KODAMA which features a 70x5 thread. It looks virtually identical to the 70x6 but has a 5 pitch vs. 6**

- **IBC's:**

- BCS 56x4
      - Most common in both the center cap or molded in port

# BCS 56x4

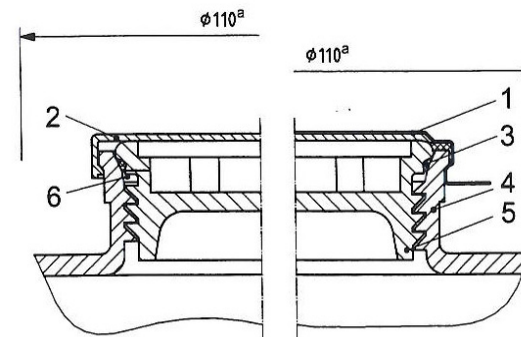


## Key

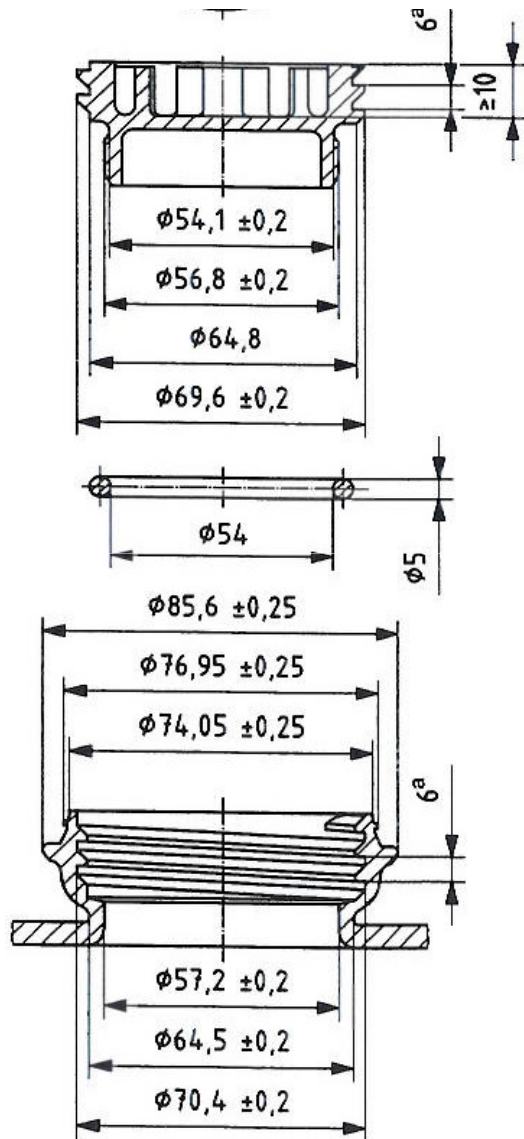
- 1 metal capseal
- 2 plastics capseal
- 3 gasket
- 4 plug/bung housing
- 5 plug/bung
- 6 gasket sealing faces



Dimensions in millimetres



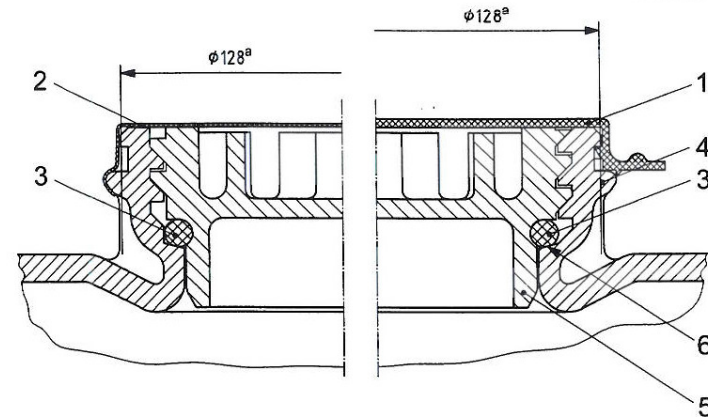
# BCS 70x6



Note: picture is shown with a DQ PRO 2" NPS Drum Insert partially installed in a BCS 70x6 – 2" NPS adapter



Dimensions in millimetres



## Key

- 1 plastics capseal
- 2 metal/plastics capseal
- 3 gasket
- 4 plug/bung housing
- 5 plug/bung
- 6 gasket sealing faces

# Common Thread Types

- **Steel Containers North America:**
  - Drums
    - 2" NPS (a.k.a. BCS G2x11.5), fine thread
- **Steel Containers Europe & RoW:**
  - Drums
    - BCS G2x11.5 (a.k.a. 2" NPS)
- *They are the same*
  - *Note: Plastic & Steel drums have the same thread but use different bung gaskets due to different seal surface geometry*
    - *Use a flat gasket for plastic drums ("PL" at end of DQ PRO part number)*
    - *Use an O-Ring for steel drums ("ST" at end of DQ PRO part number)*



# Common Thread Types

- **2" NPS for Steel Containers:**

- Note smaller flange diameter which is designed to fit inside of steel drum ring profile
- Note O-ring seal
- Part #: DQPRO 20 G2NPS **ST**



- **2" NPS for Plastic Containers:**

- Note larger flange diameter which is designed to sit on top of plastic drum flat profile
- Note flat gasket seal
- Part #: DQPRO 20 G2NPS **PL**





# DrumQuik® PRO - Installation

- The Drum Insert assembly replaces one of the bung plugs and is torqued and shipped as part of the drum package
- Installation Steps:
  1. Fully press dip-tube into drum insert socket (make sure to bottom dip-tube all the way to stop in Drum Insert)



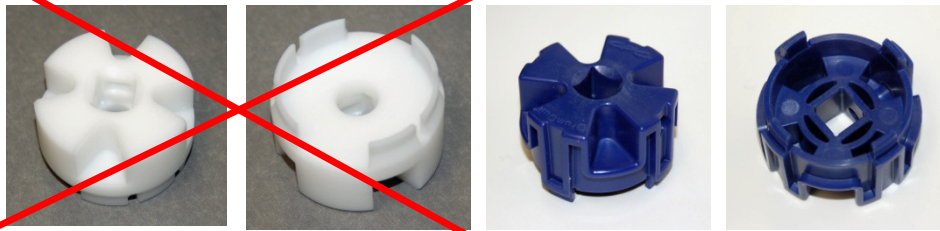
## Drum Insert Pt # Includes

- Drum Insert
- Shipping Plug
- Bung Seal

# DrumQuik® PRO - Installation

2. Place the drum insert assembly in drum (**Note: Dip-tube is intentionally left ~ 4" (100mm) long so that it bends when installed. This assures maximum evacuation of contents**)

2. Torque insert with drum wrench or 1/2" drive torque wrench and a Colder torque socket tool (Note: Pt # 2290301 has been replaced by the molded Torque tool # 2408900 )



Note: Torque Drum Insert to 20 ft-lb (~27 N-m)  
Torque Shipping Plug to 15 in-lb (~1.7 N-m)

# DrumQuik® PRO - Dispensing

- DrumQuik® PRO coupler threads into the shipping plug thread, locking it into place (2 full turns to reach stop & shut off valve fully open)
- There are 4 vapor management options:
  1. OPEN: Vent port left open to atmosphere
  2. REMOTE: Vent port routed to fume hood, scrubber or vapor recovery system
  3. CHECKED: Connect check valve (PN 2324300) to allow make-up air in, without allowing fumes to escape
  4. BLANKET GAS: Connect a CPC quick disconnect coupling for blanket gas ( $N_2$ ,  $CO_2$ )

Checked



Blanket Gas



# DrumQuik® PRO - Dispensing

## Dispensing Instructions:

1. Turn shipping plug counterclockwise to remove (Use a large, flat blade, #4 Phillips screw driver or even a coin)
2. Keep plug for resealing when drum is empty (Plug is shown removed from drum)
3. Connect coupler to drum insert assembly
  - I. Key must be engaged 1<sup>st</sup> (if using the keying system)
  - II. Then turn ½ rotation c.w. to engage lock ring before shut off valve begins to open
  - III. Rotate another 1 ½ turns c.w. to completely open shut off valve and seal vent path



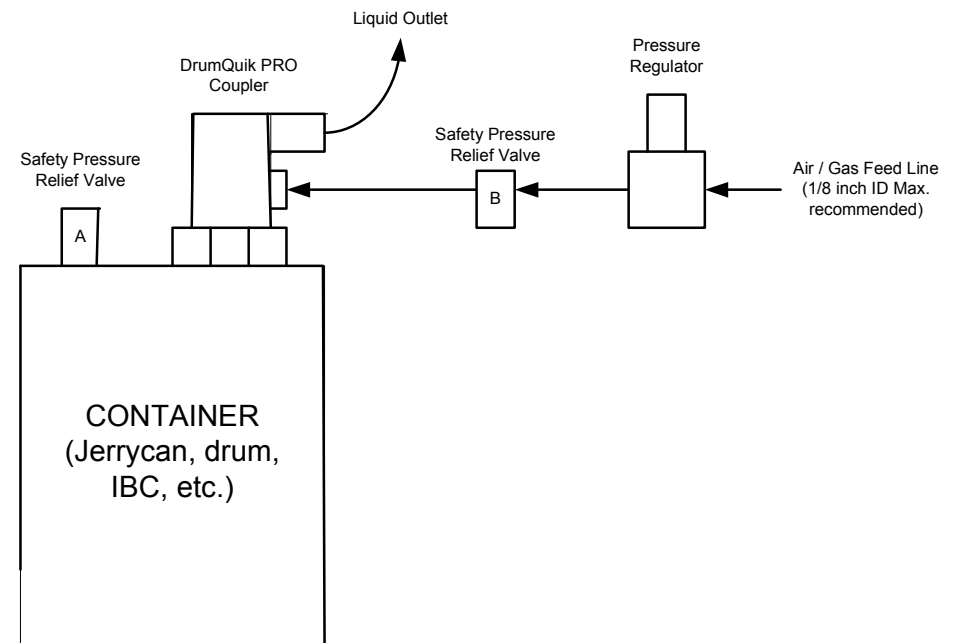
# DrumQuik® PRO - Dispensing

4. Actuate the valve by turning coupler locking ring clockwise until stop is reached (approximately 2 full turns). *Hold Lock Ring to prevent loosening while locating system tubing to it's final position.*
4. Vent port may be left open to vent, or be outfitted with Colder check valve or be installed with a CPC quick disconnect Coupling for blanket gas application (see below)
5. Connect system lines to pump and begin dispensing (Coupler shown with Colder quick disconnect coupling for blanket gas connection)



# Blanket Gas or Priming a pump

- If applying a blanket gas or if a pump needs to be primed:
  - Protect container with a safety valve!
  - Using a precision regulator adjust pressure supply to vent port. **(Always consult the mfg.s recommendations for acceptable pressure limits!)**
    - A standard CPC Coupling is ideal for blanket gas connection
    - A regulated air line or even a bicycle pump will do to prime with air





# DrumQuik® PRO: Backflow prevention

## ➤ Back Flow Prevention:

- Prevents the liquid from returning into drum when pump is turned off

### ➤ 2 Methods:

- Back Flow Check Valve

- Located downstream of (after) DQ PRO Coupler

- “Foot Valve”

- Located at the bottom of the DQ PRO Dip-tube

- In-line Check Valve

- Inserted between the Drum Insert and the Dip-tube

# DrumQuik® PRO: Backflow Check Valve

- Advantages:
  - Does not add cost to Drum assembly
  - Better flow capacity
- Disadvantages:
  - None



# DrumQuik® PRO: Foot Valve

## ➤ Advantages:

- May be desired in End User reusable applications where Drum Insert is reused and moved from drum to drum as it helps minimize drippage during transfer

## ➤ Disadvantages:

- Adds cost in to drum in one-way disposable applications
- Restricts flow capacity



# DrumQuik® PRO: In-line Check Valve

## ➤ Advantages:

- Prevents liquid backflow
- Prevents tampering in the form of personnel from pouring liquid back into drum
- Has higher flow capacity than “Foot valve” does not restrict flow

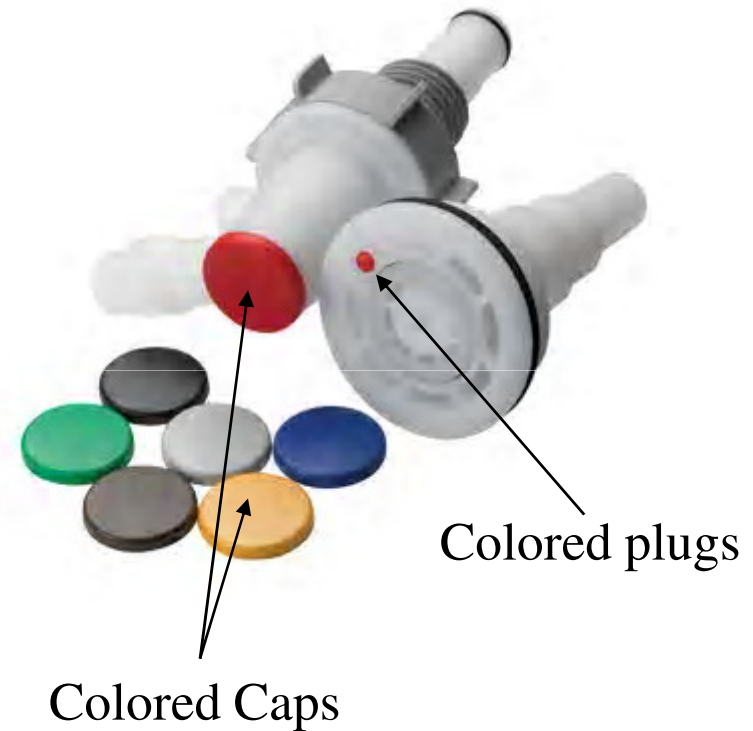
## ➤ Disadvantages:

- Adds cost in to drum in one-way disposable applications



# DrumQuik® PRO: Color Coding

- Lowest cost way to identify/Differentiate between chemical lines
- 7 Colors available
  - Consists of a colored Cap for the Coupler and colored plug for the Drum insert
  - Can be field installed, simply snap into place





# DrumQuik® PRO: Physical Keying

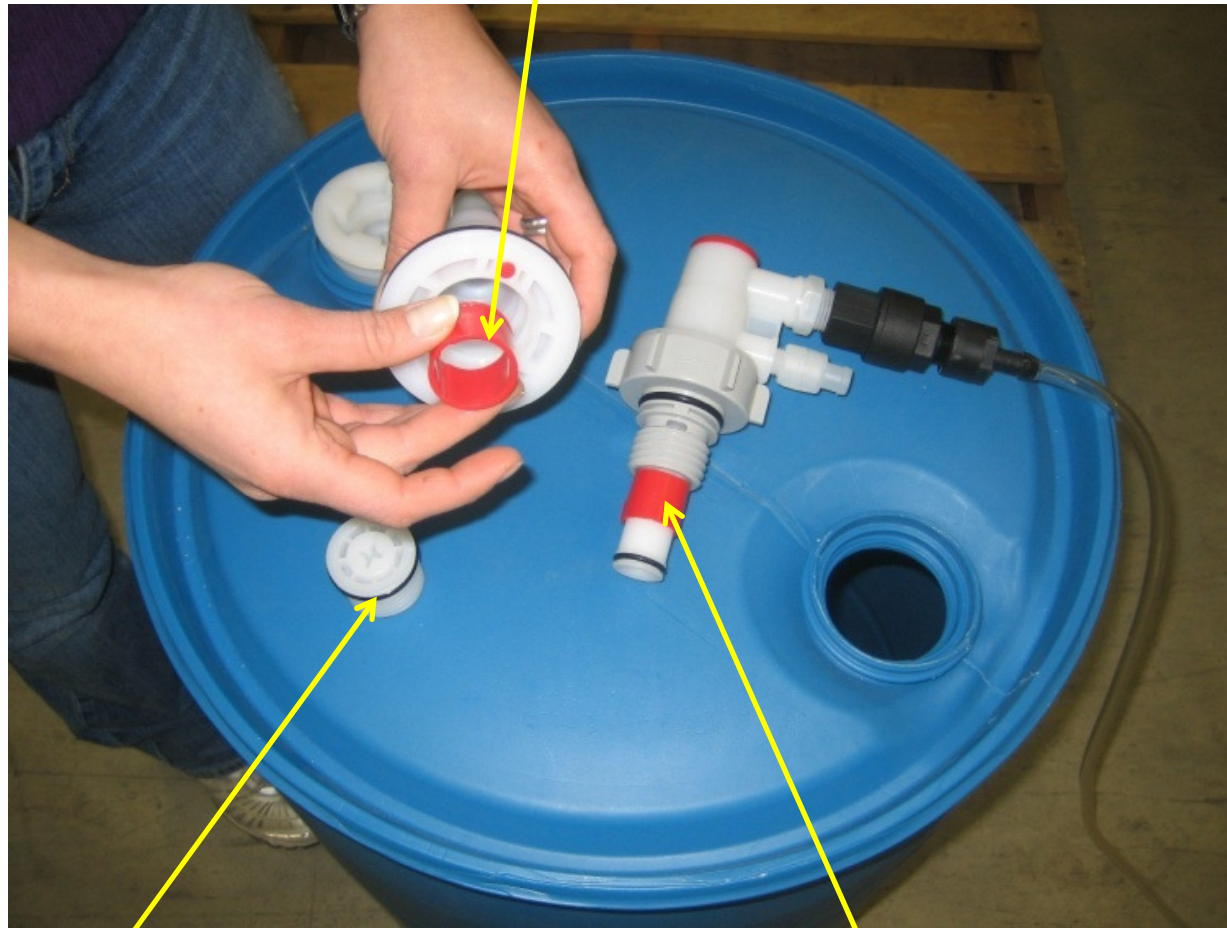
- Prevent misconnects
  - 6 Keys available
    - Can be field installed, simply snap in place (use key tool)
    - Sold in kit form
  - Drum Insert kit includes:
    - Colored Key Ring (Female)
    - Colored Button Plug
  - Coupler kit includes:
    - Colored Key Ring (Male)
    - Colored Cap





# DrumQuik® PRO: Physical Keying

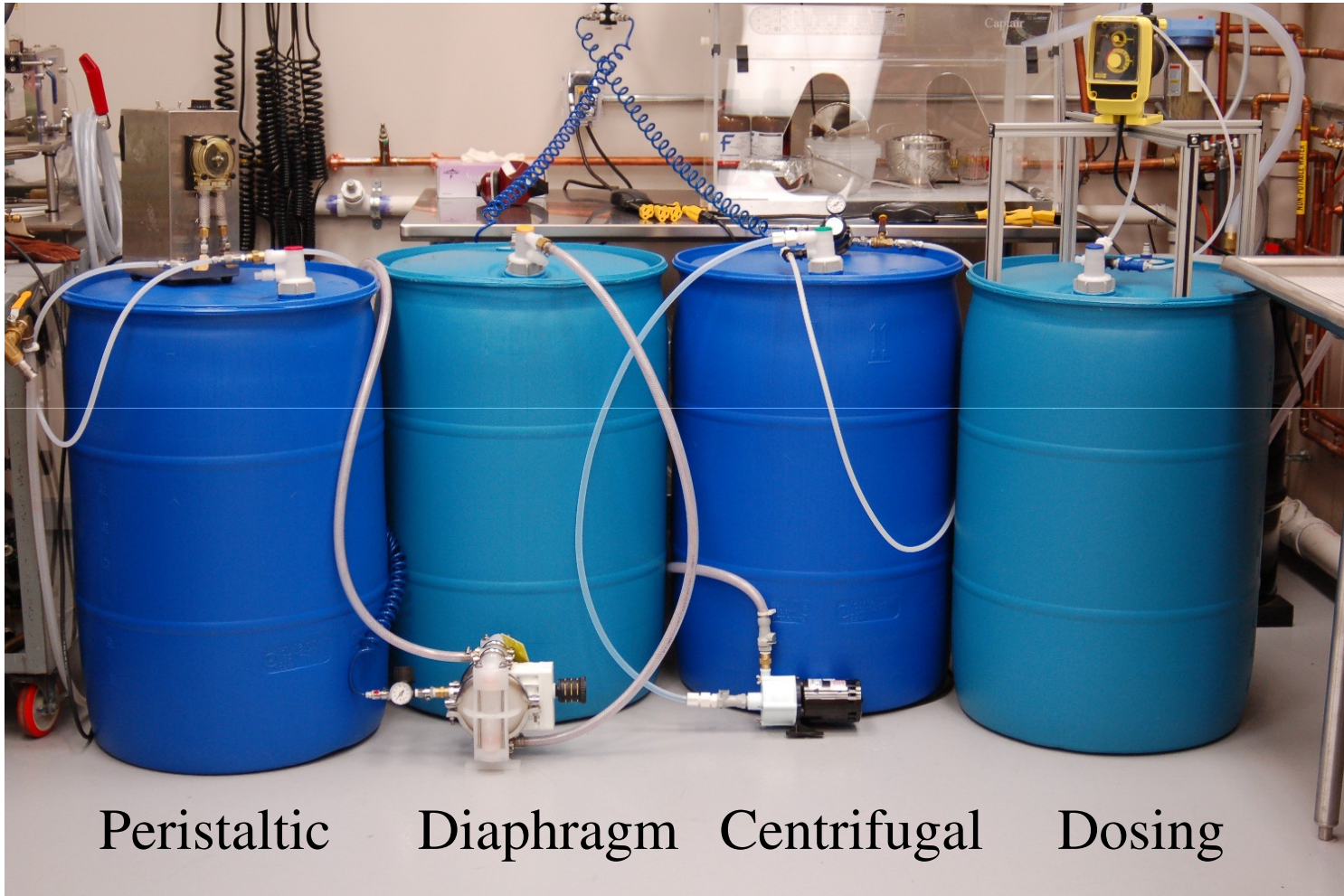
Install with shoulder facing outward. Use key installation tool (2375600) to snap key into place or simply screw in shipping plug all the way to snap key into place.



Shipping plug

Install with key lugs facing O-Ring

# DrumQuik® PRO: Typical Installations



Peristaltic

Diaphragm

Centrifugal

Dosing

# DrumQuik® PRO: Pump Categories

- Applications can be broken into 2 categories:
  - High flow TRANSFER type applications
    - Flow rates >1 gpm – 10+ gpm (4 – 40+ lpm)
    - Precise flow is less important than capacity
  - Low flow DOSING type applications
    - Flow rates from > a few drops /min – 1 gpm (1 cc – 4 lpm)
    - Precise flow is important because only a small amount of chemical is added to a process & concentration is critical

*DrumQuik PRO works with all pump types!*

# DrumQuik® PRO: Pump Categories

- High flow TRANSFER Pump types

- Centrifugal



- Diaphragm



- Lobe/Vane





# DrumQuik® PRO: Pump Categories

## ➤ Low flow DOSING Pump types

### ➤ Peristaltic



### ➤ Metering



### ➤ Proportioning



# DrumQuik® PRO: Pump Types

- Self Priming
  - Peristaltic
  - Diaphragm
  - Gear
  - Gerotor
- Non-Self Priming
  - Centrifugal
- Semi-self priming
  - Dosing, e.g. LMI, Dosamatic, Pulsafeeder, etc.
    - These types of pumps have limited “lift” capability and have a specific priming procedure

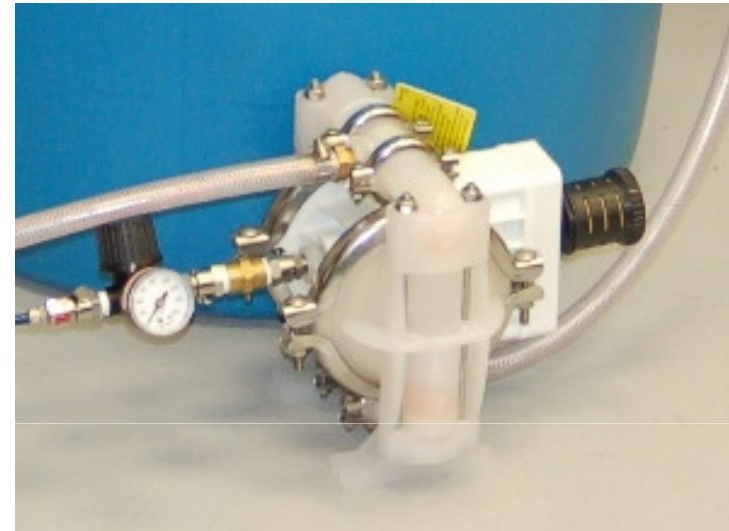


# Typical Installation: Peristaltic



- Connect Coupler outlet to pump inlet
- Connect Vent Port Check Valve to allow air into drum, or connect blanket gas using CPC Coupler

# Typical Installation: Diaphragm



- Connect Coupler outlet to pump inlet
- Connect Vent Port Check Valve to allow air into drum, or connect blanket gas using CPC Coupler
- Regulate flow with air pressure

# Typical Installation: Centrifugal



- Must prime centrifugal pump



# Typical Installation: Dosing



- Locate pump above Coupler to prevent “false prime” condition (follow manufacturer instructions)
- Connect Coupler liquid outlet line to pump 3-way valve inlet
- Install a ¼ NPT “tee” in Coupler vent port. 1<sup>st</sup> leg of “tee” to pump 3-way valve to re-circulate chemical when priming pump. Install Vent Check Valve in other leg of “tee”



# DrumQuik® PRO Applications:

- Acids, Caustics & Solvents
  - Minimize the possibility of chemical burns (HAZMAT events)
  - Reduce exposure to dangerous fumes with Vent Check Valve
  - Keying system helps prevent misconnects
  - Closed system minimizes potential for chemical contamination



# DrumQuik® PRO Applications:

- Pharmaceutical & Bio
  - Ideal for dispensing
    - e.g. Steris CIP 100 & 200, buffer solutions & other media
  - Eliminate oxidation by connecting a nitrogen blanket to the vent port (use CPC quick connect)
  - Keep chemicals pure with FDA approved “Animal Free” materials

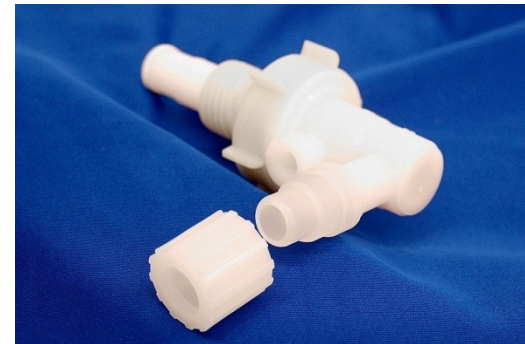




# DrumQuik® PUR Applications:

## High Purity Variants

- All plastic construction
- High purity seals
- Custom length dip-tubes
- Color coding & keying
- Clean room assembly
- Connect N2 blanket gas
- Totally closed system



# DrumQuik® PRO Applications:

## ➤ Institutional cleaning

- Laundry, Car wash, Vehicle & Aircraft, Food & Beverage
- Increase productivity by cutting down on clean-up time due to messy spills
- Safety
  - Eliminate drips, spills & fumes
  - No more dip-tubes to remove/transfer
  - Cost effective
    - Eliminate spill clean up
    - Increase container evacuation
    - Reduce disposal costs
    - Reduce service costs
    - Reduce maintenance

**Before**



**After**



# DrumQuik® PRO Applications:

- Food products
  - Edible oils, beverage concentrates, coffee flavorings, condiments, fragrance ingredients, etc.
    - Reduce oxidation of consumable products by connecting a CO<sub>2</sub> line
    - Reduce noxious fumes
    - FDA approved materials will not contaminate



# DrumQuik® PRO Applications:

- Paints, coatings, etc.
  - Base stocks, solvents, etc.
    - Simplify blending and transfer
    - Reduce fumes
    - Protect ingredients



# DrumQuik® PRO Applications:

## ➤ Dairy

- Teat dips, sterilants, acids for stall cleaning, etc.
  - Protect against chemical burns
  - Help improve up-time
  - Reduce noxious fumes
  - Keying system helps prevent misconnections



# DrumQuik® PRO Applications:

- Agricultural & Pest Control
  - Handle aggressive chemicals in a controlled manner.
  - DQ PRO meets FIFRA requirements for:
    - Insecticides
    - Fungicides
    - Rodenticides
  - Reduce exposure to workers and the environment
  - DrumQuik PRO fits Jerrycans, drums and IBC's





# How does DrumQuik® PRO make financial sense for you?

- Offset cost of standard bung plug (no longer needed)
- Faster connection & change out saves labor time
- Less wasted chemical & HAZMAT clean up costs
  - Unique dip-tube design allows for up to 99% drum evacuation
  - This can often times more than offset cost of DrumQuik PRO
- System results in a safer workplace:
  - Less need for special fume handling equipment
  - Reduction in insurance premiums
  - Fewer Workman's Comp claims
- Unique solution provides "Value-added" sale opportunity
  - Reach new end use customers
  - Retain at risk customers
  - Differentiate yourself from competitors
- ***Allow CPC to provide you with a "Profit Improvement Proposal" based on your specific circumstances... it's a free service!***

# Why use a DrumQuik® PRO ?

- **Safety:** Minimize spills, fumes and environmental impact
- **Safety:** Keying system helps prevent misconnects
- **Safety:** Reliable venting port contains fumes
- **Performance:** High flow capacity
- **Easy to Use:** Intuitive, simple and secure locking ring design
- **Durability:** Tough as nails, built to withstand harsh operating conditions
- **FDA Materials & Animal Free:** Suitable for Food & Pharma.
- **UN/DOT Approvable:** Can be used with most jerry cans, drums and IBC's
- **Economic:** Lowest cost disposable Drum Insert/Dip-tube for high volume, single-trip containers
- **Recyclable Materials:** May be disposed of along with container
- **Service, service, service:** *CPC is the worlds largest manufacturer of plastic quick disconnect couplings and we stand behind every product we make. We will support you through system design, installation and for the long haul!*



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Make a *Safer* Connection with  
DrumQuik® PRO

*Thank you for your interest!*