



**Liquids Processing  
& Powder Dispersion  
Expertise**

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**PRODUCT LINE CARD**

Quadro<sup>®</sup> HV-Emulsifier  
The Quadro Ytron<sup>®</sup> Z  
The Quadro Ytron<sup>®</sup> ZC  
Quadro Ytron<sup>®</sup> Jet Mixer



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## **Quadro® HV-Emulsifier – High Shear Homogenizer & Wet Mill** **SUBMICRON HOMOGENIZING, HIGH SHEAR WET MILLING, MICRONIZATION**

The Quadro® HV-Emulsifier and Wet Mill offers high shear results without the need for high-pressure processing. Benefit from submicron processing or suspension micronization with the lowest cost per kg-hr in the industry.



### **Higher Shear Energy**

Produces more than 55x the high shear energy of a conventional rotor-stator mill, resulting in finer size reduction and less processing time

### **Cost Savings**

Lower capital investment than alternative technologies; in some cases, the HV accomplishes with one machine what previously required multiple pieces of equipment

### **Production Capacity & Efficiency Improvement**

When used for inline continuous operations, the HV offers a significant increase in production capacity, with a compact footprint that can easily retrofit into existing facilities

### **Less Maintenance Required**

Reliable and robust machine design, featuring easy-to-clean, sanitary construction

### **Time Savings**

Reduced process time with single-pass, on-target results

### **Wet Mill Benefits vs. Valve Homogenizer**

- ◆ Increased capacity
- ◆ Less energy required
- ◆ 10% of the maintenance
- ◆ 30% of the cost

### **Wet Mill Benefits vs. Colloid or Media Mill**

- ◆ Easier to clean and validate
- ◆ Highly sanitary design
- ◆ Shortened processing time
- ◆ Increased output value per shift (in dollars)

**> 55x the high shear  
energy of a conventional  
rotor-stator mill**

## The Quadro Ytron® Z – Inline Emulsifier Mixer SINGLE-PASS EMULSION AND HOMOGENIZATION



The Ytron® Z Emulsifier high speed, high shear emulsifying mixer delivers unparalleled consistency and control of high shear process applications such as emulsifying, wet milling or grinding, suspension deagglomeration, texturizing and fine-particle dispersion.

### Improved Performance

Multiple-row, toothed rotor-stator tooling improves high shear emulsifying mixer performance and eliminates product bypassing

### Versatility

The variety of available tooling enables a unique solution for each mixing application

### Increased Capacity

Toothed-style rotor-stator tooling offers increased capacity over colloid mills and many other inline milling technologies

### Time Savings

An equal application of shear energy avoids over-processing, and often achieves targeted results in a single pass

### Enhanced Product Quality

Improved “sheen” and product texture

### Precise Scalability

Use of the Ytron® Z Emulsifier mixer allows a greater degree of precision in scaling any process from lab to pilot to production capacity

### Cleanability

Designed to meet 3-A® Sanitary Standards for easy cleaning

**Unparalleled consistency  
& control of high shear  
process applications**

## **The Quadro Ytron® ZC – High Speed Dispenser** **SINGLE-PASS AND CONTINUOUS HIGH SPEED POWDER DISPERSION**

Expertly designed for the incorporation of difficult-to-disperse ingredients in personal care & cosmetics, food & beverage, pharmaceutical and chemical applications. Achieves a solids dispersion of up to 70% by weight.



### **Intense Powder Shearing Action**

High speed inline disperser used for both inline single-pass and recirculating powder dispersion applications

### **Continuous Dispersion System**

The Quadro® Uniform Film Interface (UFI) technology allows a high degree of control accuracy in continuous mixing applications, with achievable inline concentrations of 50% by weight or higher, depending on the application

### **Sanitary Design**

Meets 3-A® Sanitary Standards

### **Process Simplification**

Eliminate the need for dispersion aids such as preheating the liquid phase, or pre-dispersing ingredients

### **Time Savings**

High speed dispersion and hydration performance result in batch time reductions of up to 90%

### **Superior Product Quality**

Powder is completely hydrated and free and results are completely free of lumps and “fish eyes,” and batch-to-batch product consistency is improved

**Minimal air entrainment  
greatly reduces product  
deaeration time**

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## Quadro Ytron® Jet Mixer – Advanced, single-pass fluid mixing LIQUID BLENDING, SOLIDS SUSPENSION & DISSOLVING APPLICATIONS

The Quadro Ytron® low shear industrial tank mixer is highly efficient for in-tank liquid blending, solids suspension and dissolving applications.

### Quadro Ytron® Jet Mixer

Provides efficient mixing and blending of liquids and suspended solids. The Y-Jet mixing pattern does not create a radial flow pattern or liquid vortex. Thus, this low shear industrial mixer does not require difficult-to-clean tank baffles, which means that air entrainment is virtually eliminated

### Uniform Velocity Profile

Produces a uniform velocity profile throughout the product mix, with no stratification or dead areas. This feature improves heat transfer rates and reduces batch blending times by as much as 80%. This makes the Y-Jet in-tank mixer the ideal low shear industrial tank mixer for suspension and re-suspension of high-settling-rate solids

### Quadro Ytron® C-Type Jet Mixer

This side-entry variant offers all the benefits of our standard in-tank jet mixer with enhanced sanitary features that offer more reliable CIP operation. Easy-to-clean line-of-sight access to all product contact areas and compliance with 3-A® Sanitary Standards make the C-Type our best sanitary, low shear tank mixer for food processing & beverage applications

### In-Tank Mixer Principles

Incorporates a specially designed rotor/stator mixing head to create a pure axial flow pattern. An axial flow impeller within a unique, finned stator eliminates radial flow to deliver a strong axial discharge

### Dust-Free Powder Handling for In-Tank Mixing

Maximize in-tank mixing performance, reduces health and safety concerns, minimizes cross-contamination, and eliminates the need for expensive material conveyors

### Axial Flow Pattern

Vortexing, air entrainment and hard-to-clean tank baffles are eliminated

### Improved Performance

Eliminates problems with stratification and dead mixing areas throughout the vessel, improving heat transfer rates versus other low shear industrial mixers

Reduces batch  
blending times  
up to 80%



**Quadro® HV-Emulsifier – High  
Shear Homogenizer & Wet Mill**  
SUBMICRON HOMOGENIZING,  
HIGH SHEAR WET MILLING,  
MICRONIZATION



Models:

- 🔥 HV0
- 🔥 HV1
- 🔥 HV3

**The Quadro Ytron® Z – Inline  
Emulsifier Mixer**  
SINGLE-PASS EMULSION AND  
HOMOGENIZATION



Models:

- 🔥 Z1
- 🔥 Z3
- 🔥 Z5

**The Quadro Ytron® ZC – High  
Speed Dispenser**  
SINGLE-PASS AND CONTINUOUS  
HIGH SPEED POWDER  
DISPERSION



Models:

- 🔥 ZC0
- 🔥 ZC1
- 🔥 ZC3
- 🔥 ZC5

**Quadro Ytron® Jet Mixer –  
Advanced, single-pass  
fluid mixing**  
LIQUID BLENDING, SOLIDS  
SUSPENSION & DISSOLVING  
APPLICATIONS



Models:

- 🔥 Y-Jet
- 🔥 C-Type

**Quadro® HV-Emulsifier – High Shear Homogenizer & Wet Mill**  
SUBMICRON HOMOGENIZING, HIGH SHEAR WET MILLING, MICRONIZATION

		HV MODEL		
		HV0	HV1	HV3
MOTOR SIZE*	HP (Kw)	7.5 (5.5)	25 (18.6)	60 (44.7)
CAPACITY	gpm (lpm)	0.3-2.5 (1-9.5)	5-25 (20-95)	30-75 (110-285)

**The Quadro Ytron® Z – Inline Emulsifier Mixer**  
SINGLE-PASS EMULSION AND HOMOGENIZATION

		Z MODEL		
		Z1	Z3	Z5
MOTOR SIZE*	HP (Kw)	10 (7.5)	25 (18.5)	60 (45)
CAPACITY	gpm (lpm)	30 (115)	100 (380)	300 (1150)

**The Quadro Ytron® ZC – High Speed Dispenser**  
SINGLE-PASS AND CONTINUOUS HIGH SPEED POWDER DISPERSION

		ZC MODEL			
		ZC0	ZC1	ZC3	ZC5
MOTOR SIZE*	HP (Kw)	3 (2.2)	7.5 (5.5)	20 (15)	60 (45)
LIQUID CAPACITY	gpm (lpm)	3-12 (11-45)	15-40 (57-150)	40-120 (150-450)	150-400 (568-1500)
POWDER CAPACITY	lbs/min (kg/min)	30 (14)	60 (27)	120 (55)	1000 (453)

**Quadro Ytron® Jet Mixer – Advanced, single-pass fluid mixing**  
LIQUID BLENDING, SOLIDS SUSPENSION & DISSOLVING APPLICATIONS

		JET MIXER MODEL				
		Y0	Y2	Y3	Y4	Y5
MOTOR SIZE*	HP (Kw)	0.33 (0.25)	3 (2.2)	10 (7.5)	30 (22.4)	75 (56)
CAPACITY	gpm (lpm)	75 (285)	600 (2,280)	6000 (22,800)	20,000 (76,000)	60,000 (228,000)

\*Max. Size – Other motor sizes available.



Quadro® is a high shear mixer manufacturer that designs and manufactures single-pass, inline high shear mixing equipment for powder incorporation and dispersion into liquids, in addition to liquid-into-liquid mixing and homogenizing.

For further technical information please visit:  
[www.quadroliquids.com](http://www.quadroliquids.com)



Personal Care &  
Cosmetics



Pharmaceutical



Food



Chemical

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Material Processing Technologies