Dyhydromatics®

Your Partner For High Pressure Homogenizers

DYHYDROMATICS® – PROVIDING PROCESS SOLUTIONS THAT EXCEED YOUR EXPECTATIONS!

ASK US FOR A FREE DAY OF TESTING!
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www.dyhydromatics.com

Dyhydromatics®

Your Partner For High Pressure Homogenizers

SOLUTIONS FOR HIGH PRESSURE HOMOGENIZATION COMBINING SCIENCE AND ENGINEERING.

Equipment, Process Development and Service from one Source

YOUR PARTNER FOR PERFECT PROCESSING FROM THE BEGINNING:

Equipment, Process Development and Service from one Source

Over 65 years
EXPERIENCE
combined on high pressure equipment

For
Pharmaceutical
Biotechnology
Biopharmaceutical
Chemical
Personal Care
Food

Nanoemulsions
Nanodispersions
Nanosuspensions
Liposomes
Polysaccharides
De-Agglomeration
Microencapsulation
Cell rupture

Single source offer:
PARTS & SERVICE
on Microfluidics, APV, Avestin, Niro, Beei, Constant Systems and others

PROCESS DEVELOPMENT

Dyhydromatics® and Delphi Scientific are working together to bring you over 65 years of combined experience in high pressure processing and applications.

In one location you can evaluate the benefits of Dyhydromatics technology on your product, develop advanced formulations and optimize your process with respect to efficiency, manufacturability and cost.

Dyhydromatics provides equipment expertise and service, while Delphi Scientific provides formulation development, GMP processes development, and scale up. Throughout our collaboration, we support our clients in every aspect of development: selection and servicing of equipment suitable for pharmaceutical manufacturing, formulation development and characterization, and GMP process development, integration and scale up.

With experience in over 1200 formulations over the years, including well known market drugs, we can address even the most challenging applications.

If you want to learn how your current product will be processed and/or improved by Dyhydromatics technology, you are welcome to a FREE DAY of testing on our ShearJet PL300 or our ShearJet HP350-30 in our laboratory, located in Maynard, MA.

We will process your product and evaluate it with particle size analyzers and/or microscopy to determine just how your product responds to Dyhydromatics technology. You will receive a complimentary report of our testing with suggestions for process or equipment improvement to help you achieve your goals.

If you prefer us to bring a ShearJet HL60 or a ShearJet PL300 to your facility we can arrange to visit you for a FREE DAY of testing and experimentation. Call +1 978 461 0200 to schedule an on-site demonstration or visit to Dyhydromatics!

If you want to learn more about Delphi Scientific capabilities, please call +1 617 669 910

YOUR PARTNER FOR PERFECT PROCESSING FROM THE BEGINNING:

Equipment, Process Development and Service from one Source

SERVICE

If you are looking for fast and reliable reconditioning of your laboratory and production equipment to peak operating condition, Dyhydromatics has no equal at making it hassle free, convenient and cost effective. Service can be performed at your location or at our manufacturing site with equal efficiency. We offer the most comprehensive preventive maintenance service available: single visit, two year and three year **Preventive Maintenance Service Agreements** or **Equipment Service Agreements** for convenient on-site equipment maintenance. Each visit is documented with a thorough report on our work and the condition of your equipment.

Additional Services Offered by Dyhydromatics include:

- Emergency On-site repair for the unexpected
- Engineering (document your machine or installation)
- Maintenance Training programs customized to your needs
- Equipment Evaluation

REPLACEMENT PARTS

Dyhydromatics manufactures our own replacement parts such as:

- High pressure check valves
- high pressure seals,
- bushings, bearings, back-up rings
- low, medium and high pressure piping,
- adapters and fittings.

All product contact parts are available in standard and pharmaceutical grade with documentation provided.

Reaction Chambers®

All Dyhydromatics Reaction Chambers® are designed and manufactured in-house for standard and specialized processes. Dyhydromatics Reaction Chambers® are available in many sizes and types from laboratory to production size machines and are direct replacements for interaction chambers and other stationary opening chambers for piping connections and flow rates. The Reaction Chamber® is available in pharmaceutical grade finish and includes all documentation to meet FDA validation requirements. The Reaction Chamber® includes diamond wear surfaces for the greatest life expectancy!

Custom Designed Parts

We offer custom designed parts to fit your unique needs. If you need a part made we will work with you to get it done to your specifications.

SHEARJET® FOR SMALL VOLUMES STARTING AT 2 ML AND CERTIFIED PROCESSES

NEW! ShearJet® HL60
Electric Hydraulic High Shear Homogenizer
Simplicity at your fingertips

The Dyhydromatics ShearJet HL60 is a first-of-its-kind unit that allows the operator to process multiple samples with ease.

Sample size: 3 ml to 100 ml
Pressure: 5 -30 Kpsi (345 - 2,068 bar)
Stroke: 1 ml
Output: 65 ml/min at 30 Kpsi (345 - 2,068 bar)
HMI: Touch screen
Power: Electric hydraulic 220VAC
Dimensions: 28" x 16" x 24" (71,1 x 40,6 x 61,0 cm)
Application: Nanoemulsions, nanodispersions, nanosuspensions, liposomes, polysaccharides, de-agglomeration, encapsulation, cell rupture

For more information contact your local representative for a demo or data sheets.

Dyhydromatics
Diamond Reaction Chamber®

Long lasting technology (3 times over ceramic)
Repeatable results
Fine uniform particle size
Greater wear resistance, longer service life
Suitable for abrasive materials
Avoiding impurities or cross-contamination

First choice for pharmaceutical applications and for precious raw materials

Nanoemulsions
Nanodispersions
Nanosuspensions
Liposomes
Polysaccharides
De-Agglomeration
Microencapsulation
Cell rupture

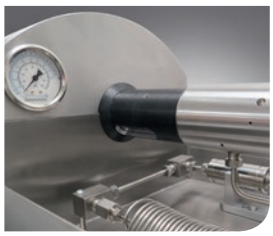
DYHYDROMATICS® – YOUR PARTNER FOR HIGH PRESSURE HOMOGENIZERS

Providing process solutions that exceed your expectations!

SHEARJETS® FOR MEDIUM VOLUMES

ShearJet® PL300 Processor

Sample size: 50 ml up to >2 L
Pressure: 1 - 23 Kpsi (69 - 1586 bar)
Stroke: 6 ml
Output: 350 - 400 ml/min at 23 Kpsi (subject to Reaction Chamber® type)
Power: Pneumatic air motor (15hp compressor, 120psi, 57scfm, and/or air tanks required)
Dimensions: 17" x 32.3" x 16.7" (43,2 x 82,0 x 42,4 cm)
Application: Nanoemulsions, nanodispersions, nanosuspensions, liposomes, polysaccharides, de-agglomeration, encapsulation, cell rupture



Dyhydromatics Diamond Reaction Chamber®

ShearJet® PL300PH Processor

Sample size: 70 ml
Pressure: 1 - 23 Kpsi (69 - 1586 bar)
Stroke: 6 ml
Output: 350 - 400 ml/min at 23 Kpsi
Power: Pneumatic air motor (15hp compressor, 120psi, 57scfm, and/or air tanks required)
Dimensions: 18" x 37" x 17" (45,7 x 94,0 x 43,2 cm)
Application: Nanoemulsions, nanodispersions, nanosuspensions, liposomes, polysaccharides, de-agglomeration, encapsulation, cell rupture
Features: **Pharma grade parts:** pharma heat exchanger, dual gauge for air and product pressure, USP class 6 seals, O-rings, gaskets, EP and passivation of high pressure connections, pressure transducer, display with retransmission and more

Dyhydromatics Diamond Reaction Chamber®

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SHEARJETS® FOR PILOT SCALE PROCESSING

ShearJet® HP Series Processors

ShearJet®	HP350-30	HP1200-30	HP1200-20	HP1200-30PH	HP1200-20PH
Sample size	60 ml	120 ml	180 ml	120 ml	300 ml
Pressure	3 - 30 Kpsi (2069 bar)	3 - 30 Kpsi (2069 bar)	3 - 20 Kpsi (1379 bar)	3 - 30 Kpsi (2069 bar)	3 - 20 Kpsi (1379 bar)
Stroke	5.5 ml	11 ml	24 ml	11 ml	24 ml
Output*	300 - 400 ml/min	600 - 700 ml/min	1.4 - 1.6 L/min	600 - 700 ml/min	1.4 - 1.6 L/min
Power	electric hydraulic				
Dimensions WxLxH (inch)	25.6" x 35.4" x 44.3"				
Dimensions WxLxH (cm)	60,0 x 90,0 x 112,6 cm				
Applications	Nanoemulsions, nanodispersions, nanosuspensions, liposomes, polysaccharides, de-agglomeration, encapsulation, cell rupture				
Pharma grade standard	-	-	-	yes	yes

** Reaction Chamber® dependant*

DYHYDROMATICS® – YOUR PARTNER FOR HIGH PRESSURE HOMOGENIZERS

Providing process solutions that exceed your expectations!

FEED AND SKID SYSTEMS

Are you ready for a completely integrated solution?
Let us design a complete skid system to improve your upstream and downstream process that will improve your results, reduce your maintenance costs and extend your machine's usable life.

Dyhydromatics will assist you with integration of your existing high pressure processor into an optimized processing system with product tanks, premixing systems, feed pumps, flow monitoring and all necessary sensors. Control methods can be completely manual, semi-automatic or fully automated controls with touchscreen HMI. Upstream and downstream processing equipment available.

ACCESSORIES

Customized accessories are available on all Dyhydromatics equipment.
Ask us about the possibilities!

Ask us for a FREE DAY of testing! Phone +1 978 461 0200