ADMIX

Advanced Mixing Technologies

SANITARY

INTANK BATCH MIXING
INLINE MIXING & MILLING
POWDER INDUCTION INTO LIQUIDS

Admix®

We are Committed to Adding Value to Your Production Process

Our mission at Admix is to be your best resource for sanitary mixing and milling equipment for liquids and powders into liquids. As a food process company, whether you are making salad dressings, beverage emulsions, sugar slurries, poultry marinades, cereal coatings, tomato sauce, cheese products, fruit fillings or many other applications, Admix can improve your production process. As a supplier to the Pharmaceutical and Personal Care industry, we can provide higher quality oral suspensions, tablet coatings, antacid formulations, sugar and saline solutions, shampoos, lotions, detergents and fragrances.

We provide results and solutions through our application expertise

Having a full range of highly effective mixing and milling equipment provides the foundation, but the true measure of our capability is providing a 100% guaranteed solution to your specific need. We are results oriented, with the reputation, resources and installation base to insure that our mixers exceed the performance you expect. Our focus within the industries that require the strictest sanitary practices has provided Admix an opportunity to supply over 5,000 mixers operating within over 2,000 production plants. Chances are, we have already had several opportunities to work with the ingredients which are crucial to the success of your product, including Xanthan and other gums, soy and whey proteins, aspartame, sucralose and sweeteners, Carbopol®, Methocel® and various viscosity enhancers, plus additional ingredients listed throughout this brochure.



Mixers for Sanitary Applications

Intank Batch Mixing **Page**

BenchMix Laboratory Emulsifiers..... 3
Rotosolver High Intensity Dispersers..... 4
Rotostat High Shear Emulsifiers..... 5
Rotomixx Low Speed, High Efficiency Mixers..... 6
Rotomaxx High Torque, High Flow Mixers..... 7

Inline Mixing and Milling

DynaShear High Shear Mixers..... 8
Admixer Static Mixers & Blenders for Low Shear..... 9
Boston Shearpump High Viscosity Emulsifiers..... 10
Boston Shearmill Wet Mills and Particle Reduction..... 11

Powder Conveying and Induction

VacuShear Vacuum Liqui-Processors..... 12
Optifeed / Fastfeed Atmospheric Powder Induction... 13

Lift Stands, Skids & Pilot Plants..... 14
Seal Technology & Control Documentation..... 15
Customer Service, Parts & Testing..... 16

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Carbopol® is a trademark of Noveon, Inc.
Opadry® is a trademark of BPSI
Methocel® is a trademark of Dow Chemical Company

BenchMix™

Programmable High Shear Lab Mixers

Ideal for product development and formula optimization

Our BenchMix Model OPLB-300 laboratory mixer has a fully integrated touch panel allowing the user to select a digital readout of mixer speed (RPM) and run time for up to seven (7) separate mix head combinations. Performance characteristics including tip speed, pumping rate and mixing intensity are also displayed based on the selected mix head and operating conditions. This takes the guesswork out of scaling from small to large volumes. Once satisfactory results are obtained with the BenchMix at any volume from 1 to 8 liters, the critical scaling parameters are indicated to proceed to much larger production size volumes.

Pilot plant models (XP-02 and RS-02) operate at 3600 RPM with larger mix heads providing the ideal tip speed and shear rate for most applications. Pilot plant models are ideal for batch sizes from 3 to 10 gallons depending upon the product viscosity, density and solids level.

Benefits for your lab and process

- All results can be accurately scaled to production volumes
- Digital display for all critical mixing characteristics and scale up
- Push button electric lift or optional spring assisted manual lift
- Variable speed 1/2 Hp, 10,000 RPM constant torque DC brushless drive
- Computer interface for remote data logging and printing
- Available with an option of three different high shear heads and four lower speed props



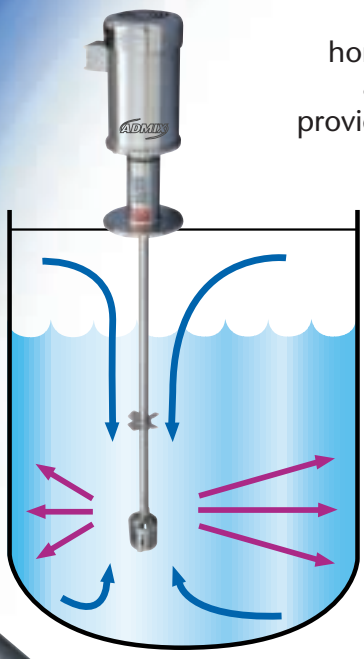
Rotosolver RS-02 for pilot plant and small production runs

Rotosolver®

The Ultimate Clean Design High Shear Mixer

Improve your process

A truly multifunctional mix head for perfect dispersions, emulsions, powder dissolution, and gum hydration. Complete 100% homogeneity within a viscosity range up to 25,000 cps (Newtonian) and 250,000 cps (Non-Newtonian). Disperse, deagglomerate and provide uniform emulsion droplets down to 3 microns or less. Superior vortex control and tank circulation over conventional rotor-stator type mixers.



Flow pattern:
Blue arrows = flow into the mixing head

Purple arrows = expulsion from the mixing head

Exceptional mechanical design

- Absolutely no wearing parts in the product zone
- Single shaft design with optional sanitary couplings
- Superior clean-in-place capability
- 3-A® (#73-00) and USDA (AMS & Dairy) compliant
- All wetted parts polished to 30Ra or better
- Choice of quick disconnect or welded mix head
- Wet out and disperse Carbopol®, Methocel®, Opadry®, Avicel®, CMC, Xanthan and guar gum, soy proteins, starches, pectin, carrageenan and other “tough” hydrocolloids and ingredients



Rotostat®

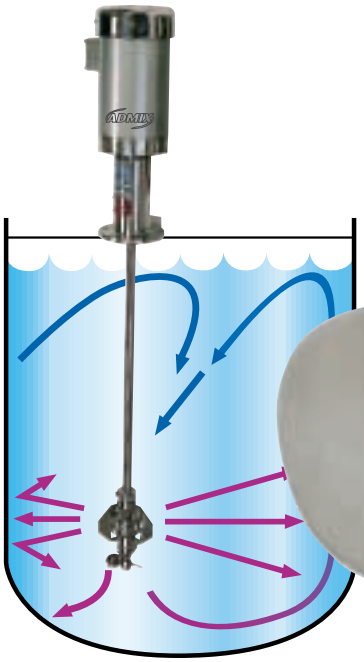
The Unconventional Rotor-Stator High Shear Mixer

Unmatched performance and efficiency

No other rotor-stator mixer provides the optimum shear and pumping rates of the Rotostat. The multi action of the high speed rotor, unique revolving stator and the large lower prop dramatically reduces dispersion and overall mix time to less than 10 minutes for many applications. This combination of mix heads results in lower power consumption and 100% product uniformity throughout the batch. Process viscosity can range from waterlike to over 50,000 cps without requiring auxiliary agitation.

Give your process a boost

- 100% lump free dispersion, hydration and emulsification
- Superb emulsion stability for extended shelf life
- Deagglomerate soft and hard particles within 60 seconds
- Easy and accurate scale up from benchtop to any production size model with our exclusive Mighty Mix™ parameters





Flow pattern:
Blue arrows = flow into the mixing head

Purple arrows = expulsion from the mixing head

Rotomixx®

Cost Effective and Reliable "Total Stainless" Batch Mixers

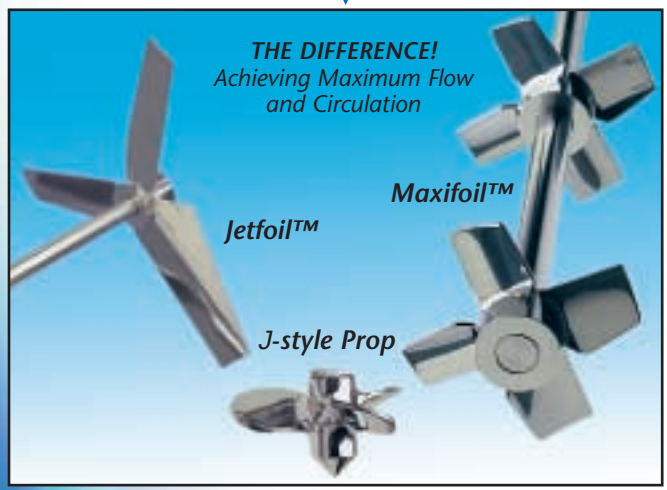
High efficiency impellers and all SS construction

Rotomixx impellers combine 20 years of "hydrofoil" blade technology into three distinct, high performance designs, including our 3-blade Jetfoil, our ultra sanitary J Prop, and our unique wide blade Maxifoil. All are designed to provide up to 200% more flow per horsepower over conventional impellers. Our gearbox, bearing frame, shaft and impeller are all 316SS, with a choice of either Food or Pharmaceutical grade, all SS motors. Available as a direct drive at 1750 RPM or gear drive at 350 rpm.

The Rotomixx design advantage

- Total washdown capability with 3-A® (#73-00) compliance
- Superb corrosion resistance compared to other "paint-free" mixers
- Mounting options range from heavy duty clamps to sanitary ferrules/clamps
- Available from 1/2 to 2 Hp for 50 to 3,000 gallon tanks
- Replaces outdated painted portable mixers

Gear driven models utilize Jetfoil™ blades which offer a 200% increase in flow per horsepower over conventional pitch blade turbines. Direct drive models are available with special wide blade, high volume Maxifoil™ blades, or with custom, machined and threaded J-style props, which are polished and sealed against contamination, but removable when necessary for inspection.



Rotomaxx™

High Torque, High Flow, Right Angle Mixers

Built to sanitary standards at a competitive price

For larger tank volumes requiring rapid turnover & high efficiency agitation, but also designed to meet stringent CIP washdown, pressure washing and steam cleaning conditions. The Rotomaxx is available in both a Pharmaceutical or a Food grade, all stainless configuration, with multiple output speeds and seal combinations. Our Jetfoil impeller technology provides 200% of the pumping rate found on conventional axial blade impellers.

Big performance in a compact package

- Tank Volumes to 10,000 gallons
- Pumping Rates to 20,000 GPM
- 1/2 to 3 Hp, 30-350 RPM output speeds
- Right angle design for low headroom space
- Available with direct readout of shaft speed through internal or external proximity sensors
- Validation documentation and factory acceptance testing (FAT) for GMP requirements



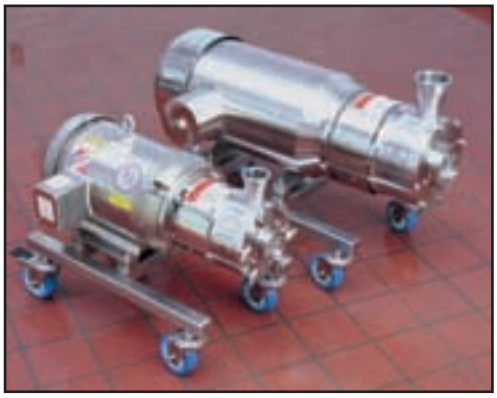
With a small footprint and low headroom design, the Rotomaxx™ is ideal where space is critical on large tanks

DynaShear®

Inline Dual Stage High Shear Mixers and Dispersers

Designed for continuous processing on a 24/7 basis

The DynaShear represents the latest technology for sanitary inline continuous processing, or batch processing with recirculation. The DynaShear will blend, dissolve, deagglomerate, disperse, and emulsify a wide range of fluids and semifluids, and is particularly effective for wetting out powders into a liquid. It is the first inline mixer featuring a tandem head design combining the benefits of both an axial and a radial stage…creating excellent shear and flow characteristics. The result is a processing unit with droplet size reduction capability of 2-3 microns and a very narrow distribution, while providing flow capacities that are substantially higher than existing inline mixers.



Two models are available to process from 10 to 175 gpm

The DynaShear advantages – making your job easier and faster!

- Total washdown and CIP capability with 3-A® (#35-00) compliance
- Low maintenance design for minimum downtime – no bushings, wear sleeves, shims or bearing supports to wear out
- Disassemble and reassemble for inspection and cleaning in less than 5 minutes!
- Single mechanical seal with flush and quench far exceeds reliability of standard seals

Admixer™

Inline Static Mixers and Blenders for Low Shear Processing

100% product uniformity and distribution at any viscosity level

The Admixer excels at processing any combination of miscible fluids regardless of flow rates, viscosity or density profiles. Where laminar flow conditions exist for thick fluids, complete homogeneity is achieved through geometrically precise flow division. In turbulent flow, the Admixer utilizes radial momentum and inertia reversal to eliminate stratification of flow, temperature and all processed materials. Ideal for instant dilution of juice concentrates, flavors and colorants, tomato paste cutting, and chocolate syrups. Its low shear characteristics will gently blend fruit pieces in yogurt, and evenly distribute jelly within molten peanut butter.

No moving parts, no electrical requirements and easy installation

- Standard 304 and 316SS construction with 3A® (#35-00) compliance
- Quick disconnect TriClamp® type ferrules for ease of assembly
- Standard design includes a 15Ra or better finish for elements and housing, with all welds completely ground, blended and polished
- Element assemblies are quickly removable for inspection and COP
- Off-the-shelf stock availability from 1" through 4" diameter
- Also available in PTFE with elements machined from virgin solid bar



Static Mixers in solid PTFE or 304/316 SS

TriClamp® is a registered trademark of Tri-Clover/Alfa Laval

Boston Shearpump®

Inline, High Volume Mixing and Texturizing of Viscous Slurries

The only shearpump with high throughput & adjustable shear capability

The Boston Shearpump is comparable to other shearpumps with the distinct advantage of substantially higher throughput and moderate to high shear rates, all provided within a 3-A® (#36-00) compliant, easy to clean-in-place design. The Admix Boston Shearpump is ideal for mixing solids or powders into viscous liquids that typical high shear mixers cannot handle. The Admix Boston Shearpump also has an excellent history of solving special mixing requirements where "texturizing" of high solids is required, such as refried beans, cream cheese, salsa, processed cheese slices, and even mashed potatoes. Where conventional shearpumps are only capable of 30 GPM, the Boston Shearpump is available in two models for a flow range from 15 to 150 GPM.



Multiple specific purpose shear heads provide ultimate flexibility

- Standard shear head grades include coarse, medium, and fine
- Special purpose heads available for texturizing and blending without damaging or altering solids and desired consistency
- Model BSP24C standard with 7.5 Hp motor, a 2" inlet and outlet, 5 to 50 GPM flow range, and our exclusive single mechanical quench seal rated for 700 psi
- Model 60C standard with a 25 Hp motor, a 3" inlet / 2" outlet, 50 to 150 GPM flow range, and our exclusive single mechanical quench seal rated for 700 psi



Shearpumps available with coarse, medium, fine or several special purpose heads.

Shear head grades for the Shearmill include coarse, medium, fine, very fine and ultra fine.

Boston Shearmill™

High Intensity Wet Milling, Homogenizing and Particle Reduction

Outperforms inline mixers, conventional shearpumps and colloid mills

The Boston Shearmill is our ultimate machine for providing high to extreme shear rates and tip speeds for maximum droplet and particle size reduction. If your process requires milling of soft particles to under 1 micron, or hard particles down to 1-2 microns, the Boston Shearmill will meet this criteria, often with just a single pass at high production rates! The Boston Shearmill has replaced colloid mills and homogenizers where submicron processing was not necessary. Existing installations include tomato paste enhancement and standardization, ketchup and mustard production, salad dressing and mayonnaise, pet foods and treats, soups and sauces, and flavor emulsions. All Boston Shearmills are standard with three sets of shear heads (rotor/stator); with each head having two distinct stages for a total of six work zones. This increase in residence time between the stages allows the Boston Shearmill to create tremendous mechanical and hydraulic energy for applying maximum shear forces into the product.

The best built, heavy duty, all purpose inline milling machine on the market

- All units supported by a super heavy duty bearing frame with precision ABEC-7 bearings
- Wire cut radii rotors and stators have closed cylinder construction for maximum durability (no exposed open teeth)
- Shearmill models available from 15 to 125 Hp, providing product throughput from 5 to 250 gallons depending upon feed rate and viscosity
- All Shearmill models feature our exclusive single mechanical quench seal rated for 700 psi, and comply with 3A® (#36-00) standards

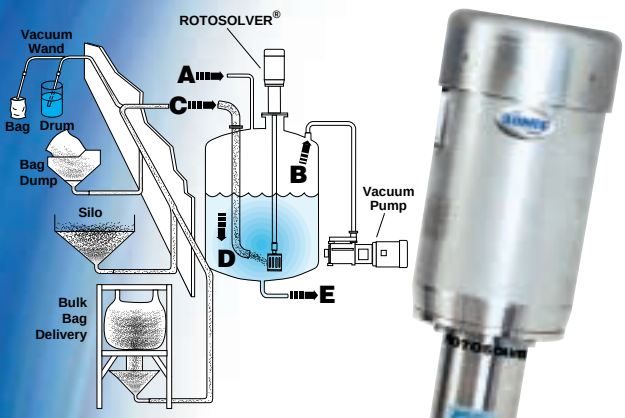


VacuShear®

Vacuum Conveying and Mixing from Bulk Source to Mix Station

A fully integrated, full-featured pilot or production scale liqui-processor combining rapid conveying and blending of powders

The Admix VacuShear Liqui-processor, developed in 1996, is specifically designed to convey granular to fine powders at high flow rates into a vacuum rated, CIP capable mix station. Using our Rotosolver dispersion technology combined with a heavy-duty liquid ring vacuum pump, powder conveying rates up to 400 lbs/min are possible. Mix station volumes range from 20-gallon pilot plant to 1500-gallon production modules. This unique technology provides the most ergonomic, efficient and sanitary method of moving large amounts of powder quickly and safely. Dusting, bag dumping, entrained air and foaming are all eliminated, while the high intensity mixer insures 100% powder incorporation with no bypass or hang-up within the mix station. The partnership of Admix with A&B Process Systems, one of the leading systems integrators, ensures the highest level of quality combined with project and process design expertise.



Numerous models and system options designed to fit any project and budget

- Powder drop tube with isolation valves for subsurface powder addition
- All 316SS tank construction, suited for 14.5 psig to full vacuum, all internal welds blended, #4 polish inside, 2B outside and with many options available for specific needs
- Fully integrated powder source options include bulk bag delivery, bag dump, or vacuum wand for drums and bags
- Rotosolver high shear disperser is 3-A® (#73-00) compliant for easy CIP and maintenance
- Process automation with load cell batching or loss-in-weight controls available upon request



Optifeed™

Eductor Technology for Atmospheric Conveying & Mixing

A fully integrated, inline powder induction system using Venturi technology for rapid introduction and wetting out of granular, free flowing powders



- Standard system includes a 3.5 CF powder hopper and stand, sanitary eductor, transfer/recirculation pump, and all necessary fittings, valves & piping
- All 304/316SS construction with CIP capability throughout
- Powder feed capacity up to 200 lbs/min depending upon powder characteristics
- Complete systems including holding tanks, mixers and controls available as an option
- Available with washdown nozzles within the hopper to improve suction flow, prevent bridging and reduce aeration and foaming
- Pre-engineered models for quick shipment

FastFeed™

Eductor Conveying Technology Combined with Inline High Shear Dispersion Equipment for Rapid Powder Incorporation

An integrated, skid mounted inline powder induction system using Venturi and high shear technology for rapid introduction and wetting out of difficult powders



- Standard system includes a powder hopper and stand, sanitary eductor, high shear inline mixer, transfer/recirculation pump and all necessary fittings, valves & piping
- All 304/316SS construction with CIP capability throughout
- Powder feed capacity up to 100 lbs/min depending upon powder characteristics
- Complete systems including holding tanks, mixers and controls available as an option
- Wand attachment to introduce powder available
- Pre-engineered models for quick shipment

Lift Stands

Mobile or Fixed Stands with Pneumatic or Hydraulic Operation

A complete line of lift stands for mounting smaller mixers for mobile tank to tank mixing, or wall mounted for using mobile totes and portable tanks



- Standard mobile lift stands available in two models for versatility in clearing tank height while maintaining proper mix head position, maximum lift height of 100”
- Wall stands available in two sizes with a maximum stroke differential of 50”
- Instant height adjustment with pneumatic controls mounted on the stand, or manual slower adjustment with a hydraulic cylinder lift
- All stands constructed in 304SS or carbon steel with white epoxy washdown paint. Lift cylinders are white epoxy, with paint-free and 304SS alternatives in some sizes
- Optional mounting brackets, swivel mounts, controls and materials of construction

Pilot Plants

Standard or Custom Turnkey Mixing Systems

Fully integrated mix stations and skids for marinades, salad dressing, beverage premixes and other specific applications to suit your needs

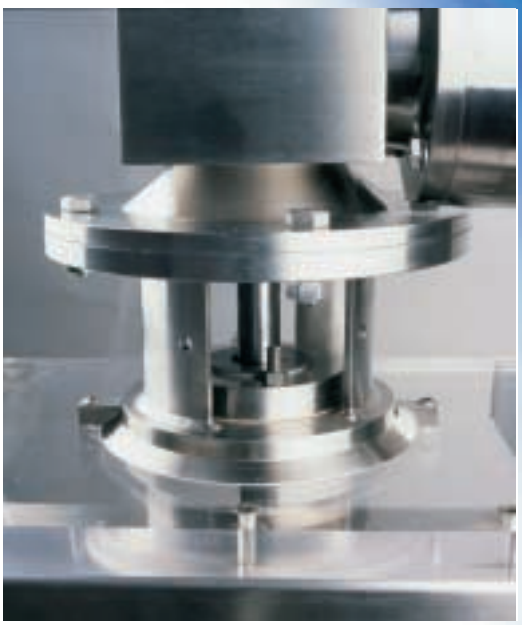


- Standard systems available from 20-gallon pilot plant through 500-gallon production modules. Turnkey systems include tanks, powder feed hopper, batch or inline mixer, transfer/recirculation pump, and all necessary fittings, valves & piping
- All 304/316SS construction with CIP capability throughout
- Turnkey systems can be designed for batch or continuous processing, with manual or fully automatic controls

Seal Technology

A Complete Series of Flush, Dry Running, Vacuum and Gas Seals

- Double mechanical, water flush cartridge seals for 400 psig or full vacuum at 400˚F. Suitable for all Admix mixers.
- Double mechanical, gas charged seals for high purity pharmaceutical applications. Rated for 100 psig and full vacuum at 300˚F.
- Single mechanical, dry running cartridge seals for 200 psig at 400˚F. Suitable for low speed Rotomixx® and Rotomaxx™ only.
- Our exclusive single mechanical, high pressure quench seal can operate up to 700 psi, and allows for over 100 psi back pressure to increase product dwell time. Suitable for Boston Shearpump® and Shearmill™.
- Sanitary clamp mounted lip seals compatible (4" or 6") to existing ferrules (T or I type).
- Solid 316SS Pedestals for 3A compliance of 4" spacing of mixer drive and tank.



Control Documentation

Extra Capacity and Cleanability Built into Every Detail

- The mechanical integrity of our mixers and components are built to exceed your expectations. Oversized shafting, heavy duty precision fit bearing frames, high efficiency motors and easy to disassemble cartridge type seals all contribute to reduced downtime and maintenance.
- All mixing equipment and components are put through multiple inspections and a final operational testing program with full documentation supplied upon request.
- Most of our mixing products are designed in compliance with 3A® standards, insuring ease in cleaning and servicing.
- Outstanding corrosion resistance is built into every component as 316 stainless steel is standard on most product lines, including motors and bearing frames that are typically painted steel with our competitors.



Your Sanitary Mixing Technology Partner

Application Assistance

With over 5,000 mixers in service, we are uniquely qualified to provide you the specific application expertise that you are looking for in a mixing technology partner. Our tech center in Manchester, NH can provide immediate assistance at **1-800-466-2369** during normal business hours. You can access our website 24 hours a day at **www.admix.com** for 80+ pages of product and process guidelines, and several technical papers and primers can be downloaded quickly and conveniently.





Testing and Plant Trials

We can pre-test and simulate your mixing requirements with testing and analysis in our 2,000 square foot laboratory. A large number of inline and batch mixers are also available from our rental pool for trials at your facility. As an option, your local Admix representative listed below may be able to run a 5 to 10 gallon pilot plant trial at your facility.

Process Scale Up

Our scale up techniques from bench top to 10,000 gallon production models are the most comprehensive in the industry and ensure similar performance. Results and methods are fully documented.



Customer Service

Our product lines are backed by a substantial inventory of spare and replacement parts, with all critical components in stock for overnight delivery. Our comprehensive rebuild program can refurbish your existing Admix unit with all new parts within 48 hours from arrival back at our facility. Our field service team is available for installation or rebuild at your facility at competitive rates.



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