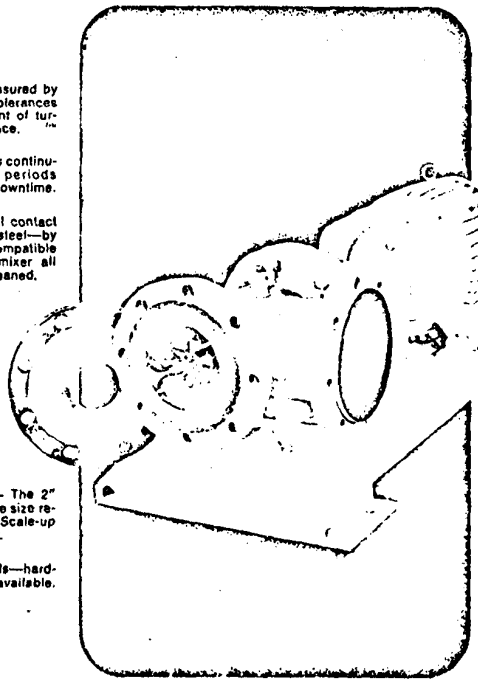
Pipeline Homogenizer-Mixers



Uniform Blends—assured by close manufacturing tolerances and precise adjustment of turbine and stator clearance.

Reliability—operates continuously over extended periods without maintenance downtime.

Easy Cleaning—all contact metals are stainless steel—by running a product-compatible solvent through the mixer all mixing parts can be cleaned.

Laboratory Units — The 2" pipeline bears a definite size relation to larger units. Scale-up can be easily achieved.

For Abrasive Materials—hard-faced wear parts are available.

No Vibration—the motor is isolated from the mixer — is connected through a flexible coupling.

Motors — drip-proof, totally enclosed and explosion-proof.

Belt Drive—for higher turbine speeds.

Versatility — standard units are designed with discharge to the right on a horizontal plane when facing the inlet or feed end. The discharge can, when specified, be placed to the left or vertical when facing the inlet.

Protected Bearings — specially designed bearing housing is isolated from the mixer body.

PIPELINE HOMOGENIZER-MIXERS specially designed for in-line continuous high-speed, high-shear homogenizing-mixing, emulsifying and rapid dispersing—The Gifford-Wood continuous-processing pipeline mixer offers five mixing heads, each having the ability to handle a broad range of mixing applications.

Standard Pipeline Mixers. The basic unit employs a single high-speed turbine-stator. The smaller diameter inlet pipe and the patented skewed turbine act as a pump developing multiple changes of directional flow within the homogenizing head, and forcing the mixture through the restricted openings in the stator where velocity increases. Discharge from the stator ports flashes the product, producing further after-mixing. Intense impact, mechanical and hydraulic shear, break down agglomerates and produce thorough wetting of dispersed substances resulting in completely uniform product.

The pressure developed in the mixing chamber is equal to the discharge head when utilizing gravity feed. An auxiliary-feed pump upstream of the pipeline mixer can be used where necessary, and in standard units this feed pressure should not exceed 150 psig. Special units can be supplied for operating pressures up to 300 psig. Controlled feed can be achieved by using metering pumps for each liquid-feed component when more than one material is necessary.

Pipeline mixers may be connected in series to produce the desired end product.

Greater mechanical and hydraulic shear can be obtained by replacing the standard stator with a multiport design, and or adding a shear blade located directly behind the stator.

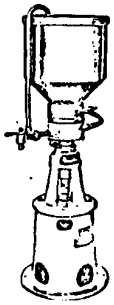
A feed pipe supported in a tee is used to introduce a catalyst into a resin where polymerization begins immediately, and the dispersed product is discharged from the mixer before the resin hardens.

A similar feed arrangement can be employed to introduce a small additive into the main stream. In this manner, in-line continuous neutralization, ammoniation, sulfonation and chlorination operations can be performed under controlled conditions.

MONS 039082

Colloid Mills

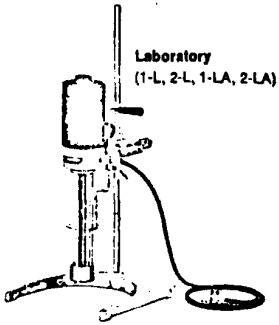
Model	H.P.	R.P.M.	Hopper Capacity	Peripheral Velocity ft/sec
Laboratory	¼-1½	7200-9500	2-5 gal	60-90
Intermediate Prod.	1½	7200-9500	5-10 gal	75-110
Heavy Duty Prod.	3-50	3550	10-30 gal	60-130
Belt Driven	3-50	7200-9500	5-20 gal	75-230



Laboratory
(QV 6, 6-1, 6-2, 6-3)

Homogenizer-Mixers

Model	H.P.	R.P.M.	Vessel Capacity	Peripheral Velocity ft/sec
Laboratory	½-1½	7200-9500	¼-15 gal	55-75
Intermediate	1-7½	3550-7200	5-100 gal	45-60
Large Scale Prod.	10-50	1750-3550	200-2000 gal	65-85

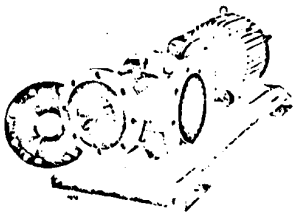


Laboratory
(1-L, 2-L, 1-LA, 2-LA)

Pipeline Mixers

Mixer Size	H.P.	R.P.M.	Capacity In G.P.M.*
2"	1-2	7000-10,000	10
3"	3-7½	3550	30
4"	7½-15	3550	100
5"	15-30	3550	225
6"	25-40	3550	275
10"	30-60	1750	1300
10"	75-100	3550	2200

*Capacities shown are for water against 10 ft. discharge head.



An extremely effective high-speed, high-shear homogenizer-mixer for inline installation. Creates stable emulsions and suspensions in a variety of production processes—petroleum, chemicals, paints, etc. Employs high speed, close tolerance turbine-stator assembly.

MONS 039083