

KREBS® molded urethane cyclones



**Longevity and finer separation
in a corrosion resistant design**

KREBS® molded urethane gMAX® cyclones

gMAX® performance

- Finer, sharper particle separations at high capacities
- Fewer cyclones needed for optimal performance
- Easy maintenance

Urethane Cyclone Applications

- Water Treatment
- Minerals processing
- Coal processing
- Industrial

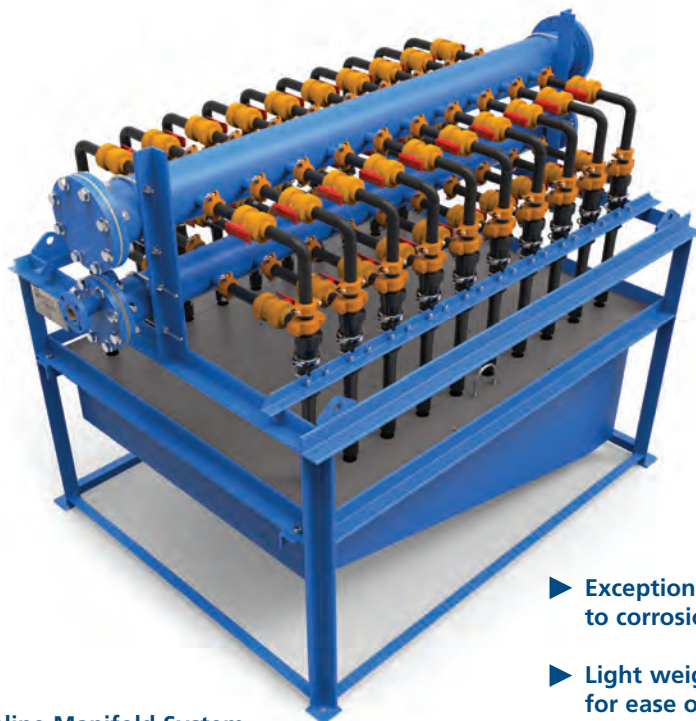
The molded urethane gMAX® cyclone is an entirely new breed of Krebs cyclone — re-engineered from apex to vortex finder. The molded urethane gMAX® cyclone has the capability to produce finer and sharper particle separations, using larger, high capacity cyclones.

The gMAX cyclone performance level was formerly only achievable using many small diameter hydrocyclones, at a much higher capital cost.

The gMAX cyclone design includes new modern apex and cone designs that feature performance enhancing benefits. The cyclone inlet and cylindrical sections have been modified to minimize turbulence and wear, but still have the capability to operate at much higher capacities than other hydrocyclones of the same diameter.

Urethane gMAX® cyclone design features and benefits include the following:

- 25 - 40% finer, sharper separation than standard cyclones.
- Fewer cyclones are needed for optimal performance.
- Available in sizes ranging from 1" to 15" in diameter.
- The U2-gMAX cyclone can achieve separation as fine as 10 microns, comparable to competitors' 1" cyclones but at much higher capacity.
- For high process capacities, numerous cyclones can be manifolded together in many radial or inline configurations in a tight space.
- Easily retrofit into existing processes.
- The gMAX 10U consists of 2-component molded urethane construction that provides maximum strength and wear life.



Inline Manifold System

- ▶ Exceptional resistance to corrosion
- ▶ Light weight construction for ease of handling and installation.



Urethane sizes and performance



The performance of hydrocyclones in many applications can be accurately predicted using FLSmidth Krebs' proprietary computer modeling program.

If a new, unique potential application for hydrocyclones is identified, actual testing in FLSmidth Krebs' hydrocyclone test laboratory can be conducted on customer samples to validate the performance.

Krebs urethane cyclone performance table (10-30 psi)

Cyclone Dia. (inches)	Urethane Cyclone Models	Capacity	
		GPM	m ³ /hr
0.5"	U0.5	0.7 - 1.2	.2 - .3
1"	gMAX1U	2.9 - 4.9	.7 - 1.1
2"	U2-gMAX	7.4 - 24	1.7 - 5.5
3"	U3-gMAX	14 - 55	3.2 - 12.5
4"	gMAX4U	24 - 76	5.4 - 17.3
6"	gMAX6U	57 - 147	13 - 33
10"	gMAX10U	96 - 500	22 - 114
15"	gMAX15U	500 - 1200	114 - 273



Radial Canister Manifold System

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Pod System shown above and Spider Manifold System shown on front cover

The required cyclone size is determined by the separation requirements. When process flows exceed the capacity of an individual cyclone, multiple cyclones can be operated in parallel on a common manifold to achieve the needed process capacity. Cyclone manifolds come in a variety of configurations and are custom tailored to your application. The following manifold options are available:

Spider Manifold A radial manifold design that is commonly used with small diameter (i.e. <6") cyclones. The primary advantage is a very small footprint and reduced underflow launder size. More suited to process low concentration, relatively non-abrasive slurries.

Inline Manifold Inline manifolds are generally appropriate only when fine solids that do not readily segregate in the pipe are being processed. Benefits are lower cost and a geometry that sometimes is more conducive to connecting to plant piping.

Canister Manifold: A radial manifold with integral overflow /underflow launders sharing a common wall. Typically they are rubber lined. Generally offer better access to isolation valves for operational flexibility and for maintenance purposes.

Pod System: Where 1" or 2" diameter cyclones are required for the desired separation and process flows are very large, pod style manifolds combine several standard size cyclone "pods" onto a radial manifold system. This provides very high capacity while offering some turndown capability, spare capacity, and fewer valves to maintain.

World-class Service & Hydrocyclone Test Facilities

FLSmidth Krebs has provided superior classification and separation solutions using hydrocyclone technology since 1952. Our unparalleled technical staff of experienced engineers will quickly and thoroughly evaluate your potential applications and provide detailed recommendations and performance estimates. In the event you have an application that requires testing for validation, our hydrocyclone test lab is equipped and staffed to provide prompt testing at low cost. Arrangements can be also be made to run test cyclones at your site.



For more information on any of our products please contact one of our Regional Sales Offices below.

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