

Application of solvent extraction equipment in uranium hydrometallurgy process in China

There are many kinds of solvent extraction equipment, each of which has its own characteristics and is applied to different occasions. Extraction equipment can be classified according to different methods, such as: step by step contact and continuous contact according to two-phase contact mode; gravity type, mechanical stirring type, pulse type and centrifugal force type according to the power of phase dispersion.

The structure of the equipment can be divided into [microwave drying machinery](#) and equipment, tower (or column) type and trough type according to the characteristics of materials can be divided into clear liquid type and slurry type and so on.

[Solvent extraction equipment](#) has been widely used in uranium hydrometallurgy process. There are mixed clarifier and tower extractor. In addition, pipe extractors and centrifugal extractors have also been applied. The following is a brief introduction.

1. Solvent extraction device has high efficiency: On the basis of the original single vertebral and oblique vertebral structures, the device optimizes the product structure, integrates the concentrating equipment, and has the functions of extraction, concentration and organic solvent recovery.

2. mixer settler

Its advantages are: high efficiency, mixed clarifier stage efficiency of industrial scale can generally reach 90-95, or even higher; strong adaptability, greater operational flexibility, can adapt to large flow ratio changes; simple manufacturing, easy operation, after temporary parking in operation, restart does not affect the material balance at all levels; enlarged design; Easy and reliable, it can be used for large capacity occasions.

The disadvantages of mixer clarifier are: large solvent retention, resulting in a high one-time investment; large area; each stage requires a mixer, power consumption is high.

The mixer settler is the most widely used and the earliest extraction equipment. At present, many types of such equipment have been applied in industry.

