






Benefits of Reformer Equipment

-  **Accurate**
-  **User-Friendly**
-  **Simple & Fast**
-  **Consistent**
-  **Reliable**



CATALYST HANDLING SPECIALIST

Your one-stop-shop for SAFE and EFFICIENT reformer turnarounds
We have made it our goal to create a name for ourselves that is synonymous with Quality, Safety, Customer Care, and Innovation

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WORLD LEADER IN CATALYST HANDLING

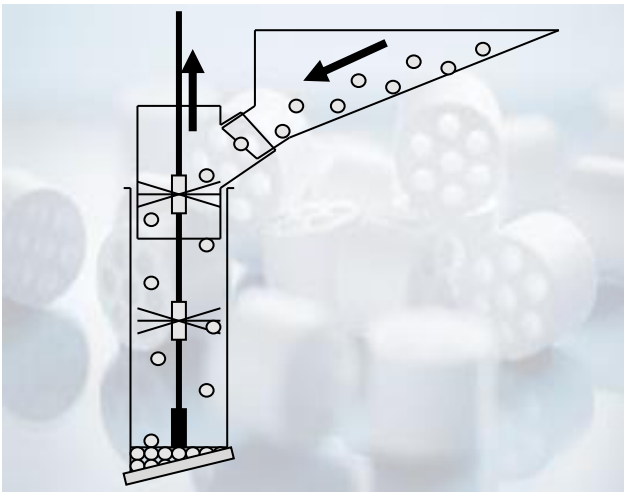
UNIPAC[®] Catalyst Hand Loading
UNIPAC[®] 2.0 Catalyst Machine Loading

Technology for (Primary) Reformer
Technology for Steam Methane Reformer

UNIPAC®

UNIPAC® is a simple and fast loading technology for loading reformer tubes with catalyst, applicable to tube sizes from 3" to 10" internal diameter. UNIPAC® requires no pre-socking of catalyst and no vibration of the reformer tubes. UNIPAC® combines being a high quality and fast loading technology. Reloading of tubes is normally avoided, and less catalyst is wasted.

UNIPAC® principle: Catalyst is loaded into the tube and the loading rope is gradually pulled out of the tube as the catalyst layer builds up. The brushes with flexible springs reduce the speed of the catalyst particles so that breakage is avoided. The catalyst particles are loaded without bridges and unnecessary voids, hence there is no need for vibration.



UNIPAC® technology is used for loading of all common catalyst types and sizes. Reformer tube designs with varying internal diameter, narrow or wide top section, have successively been loaded.

UNIPAC® 2.0

Designed by experienced Loading Experts, who learned and understood the client demands and translated that learning into a new loading

Gentle Loading

This advanced technology ensures a very soft delivery of the catalyst particles from the material storage into the tube while the movement of the loading rope is precisely adjusted on the mass flow of the catalyst particles.

Continuous Loading

Less time is needed as the machine works continuous

Accurate Catalyst Piece Enumeration

This method entails precise enumeration of catalyst particles per tube, replacing the traditional weighing process and thereby saving valuable time and reducing manpower requirements.

dP Equipment

HPA provides an accurate and reliable equipment for reputable accuracy of pressure drop measurement. The dP equipment comes complete with a variety of inflatable bladder to cater the clients reformer tube internal diameter size correctly, restriction orifice to achieve critical air-flow during dP measurement test. The HPA dP Equipment is very user friendly with its light weight design and digital reading up to three (3) decimal points. This increases the accuracy of the measurement and reduces the time consumed without compromising the quality of the data obtained.

Benefits of UNIPAC® & UNIPAC® 2.0

- 01 **Fast reformer loading**
- 02 **No presocking of catalyst**
- 03 **No vibration of the tubes**
- 04 **Uniform pressure drop**
- 05 **Less waste of catalyst**
- 06 **No bridging or extra voids:**
 - Minimises hot spots
 - Reduces catalyst settling
- 07 **High uniform density:**
 - Lower tube wall temperature
 - Prolonged tube life
 - Increase reforming capacity

