

# PRAYON TECHNOLOGIES PROCESS WITH INITIAL DIHYDRATE REACTION



PRAYON

OUR IDEAS  
MAKE  
PROFITABLE  
PLANTS

## *Dihydrate attack - Hemihydrate filtration*

### TWO-CRYSTAL PROCESS OR DA-HF (DI ATTACK AND HEMI FILTRATION)

The Prayon DA-HF process<sup>®</sup> for producing phosphoric acid by sulphuric acid attack of natural phosphate rocks is a modern process leading to high  $P_2O_5$  yield and giving, as a by-product, hemihydrate calcium sulphate. Dihydrate calcium sulphate is produced in the attack section where the phosphate is attacked by sulphuric acid. Then, the gypsum slurry recrystallizes into hemihydrate calcium sulphate in the conversion section before being filtered to produce the phosphoric acid.

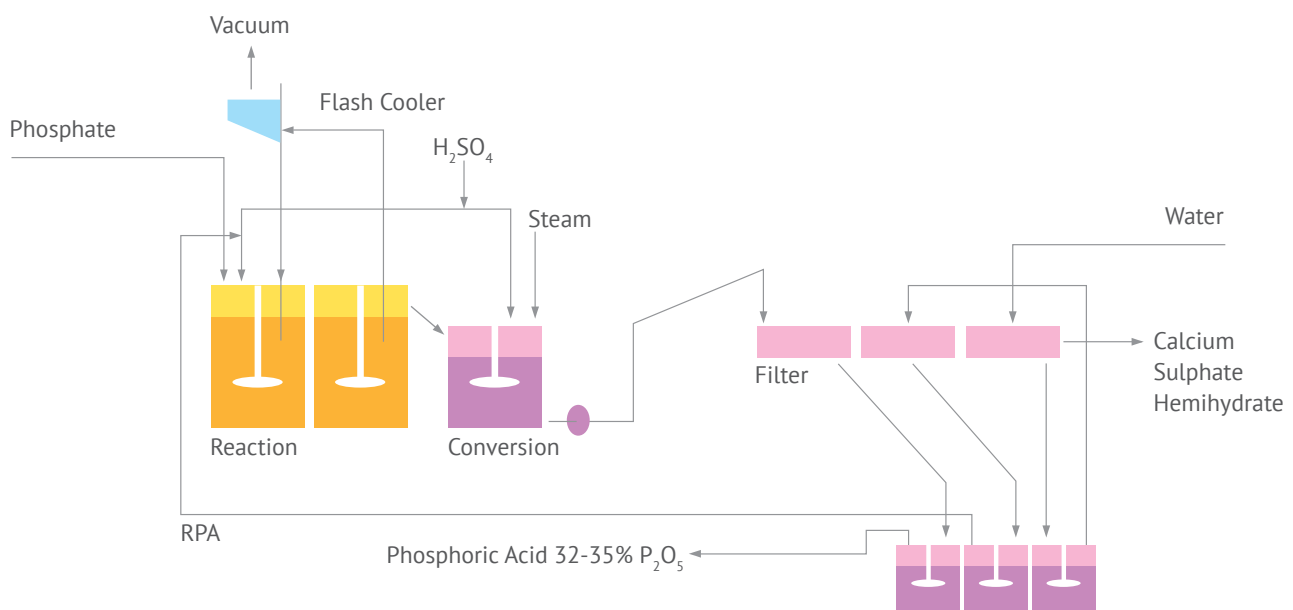
This process has been developed to produce phosphoric acid with a high  $P_2O_5$  content (about 32 - 35%) while only one filtration step is required.

### THE MAIN CHARACTERISTICS OF THE PROCESS ARE

- + high strength phosacid
- + high  $P_2O_5$  recovery (97.5-98%)
- + reduced CAPEX for high efficiency process
- + self-drying gypsum

### RECOMMENDED FOR LOCATIONS

- + to adapt current Dihydrate process plant and improve profitability
- + with medium high-cost rock
- + with potential market for gypsum



DIHYDRATE

HEMIHYDRATE

[www.prayon.com](http://www.prayon.com)

## PROCESS LICENSING

- + Phosphoric acid production
- + Phosphoric acid concentration
- + Fluorine recovery
- + Gas scrubbing
- + Phosphoric acid purification
- + Gypsum purification
- + Uranium extraction from phosphoric acid

## CONSULTING

If requested by the customer, Prayon Technologies can provide the following services:

- + Technical support for existing units
- + Training of operators
- + Phosphate rock evaluation



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