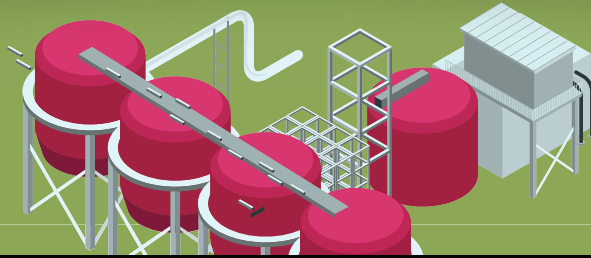
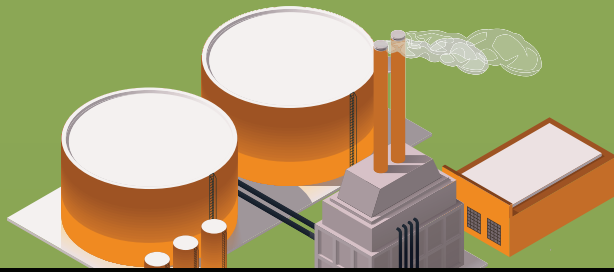


THE BENEFITS OF PHOSPHATE OPTIMIZATION FROM MINE TO MARKET



BENEFITS OF PHOSPHATE OPTIMIZATION DURING MINERAL PROCESSING

- \$\$\$ Higher phosphate recovery → extended mine life, delayed capital expense, improved throughput
- \$\$ Better phosphate rock grade → higher value rock



BENEFITS OF PHOSPHATE OPTIMIZATION DURING PHOSPHORIC ACID PRODUCTION

- \$\$ Improved filtration process → increased throughput, lower capital investment, higher recoveries
- \$\$ Less foam → increased throughput, higher recoveries
- \$\$ Faster settling → improved throughput, better impurity removal in clarification, reduced capital expenditures
- \$ Higher acid concentration → reduced energy costs for evaporation

EXTENDED BENEFITS FOR GRANULATION / SHIPPING

- \$\$ Lower magnesium in acid → improved production rates & physical characteristics of finished fertilizer
- \$\$ Reduced acid impurities → increased ammoniation, improved nutrient content of finished fertilizer

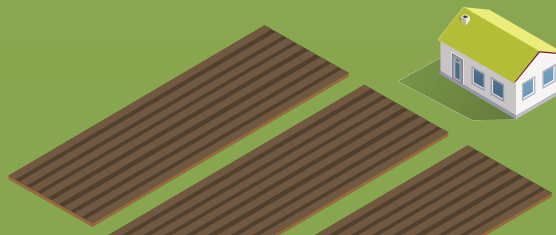


BENEFITS OF PHOSPHATE OPTIMIZATION DURING GRANULATION / SHIPPING

- \$\$ Improved scrubber performance → regulatory compliance, reduced phosphate losses
- \$ Improved granulation → better product quality, improved rates
- \$ Reduced dust → regulatory compliance, improved work conditions, faster loading rates
- \$ Reduced caking → improved work safety, faster fertilizer loading rates

EXTENDED BENEFITS FOR DISTRIBUTION / BLENDING / FIELD APPLICATION

- \$\$ Reduced caking → improved work safety, faster fertilizer loading rates
- \$\$ Differentiated fertilizer → increased customer loyalty, consistent customer experience
- \$ Reduced dust → regulatory compliance, improved work conditions, faster loading rates



BENEFITS OF PHOSPHATE OPTIMIZATION DURING DISTRIBUTION / BLENDING / FIELD APPLICATION

- \$\$ Differentiated fertilizer → increased customer loyalty, consistent customer experience
- \$\$ Improved fertilizer flow characteristics → consistent nutrient placement in field
- \$ Reduced dust → regulatory compliance, improved work conditions, faster loading rates
- \$ Reduced dust & caking → regulatory compliance, improved work conditions, faster loading rates

EXTENDED BENEFITS FOR PHOSPHORIC ACID PRODUCTION

- \$\$\$ Lower magnesium in phosphate rock → higher phosphate production rates & recoveries
- \$\$\$ Higher silica rejection → lower filtration area needed per ton of phosphate, extended gypsum stack life
- \$\$ Higher phosphate concentration in rock → lower sulfuric acid consumption, decreased gypsum production per ton of finished phosphate
- \$\$ Reduced phosphate rock impurities → reduced equipment scale, lower maintenance costs, reduced production interruptions

EXTENDED BENEFITS FOR GRANULATION / SHIPPING

- \$\$ Reduced acid impurities → increased ammoniation, improved nutrient content
- \$ Higher acid concentration → improved water & energy balance

LEGEND

BENEFITS OF OPTIMIZING WITH ARRMaz PRODUCTS:

- BENEFITS AT LOCATION WHERE PRODUCTS ARE APPLIED
- EXTENDED BENEFITS AT DOWNSTREAM LOCATION
- \$\$\$ \$\$ \$ BENEFIT VALUE