



## 13X-APG Molecular Sieve

### Introduction

SNOWPEAK 13X-APG molecular sieve is dedicated to air cryo-separation industry, applicable to any size of air cryo-separation devices. The adsorption capacity of carbon dioxide and moisture was further improved, to avoid frozen tower phenomenon in the distillation process. Good kinetic characteristics can maximize the adsorption effect of the existing adsorption bed, and reduce the size of the newly designed adsorption bed, thus decrease energy consumption.

### Technical Specification

Type	13X-APG			
Nominal Pore Diameter	10 angstroms			
Chemical Formula	$\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 2.45\text{SiO}_2 \cdot 6.0\text{H}_2\text{O}$ ( $\text{SiO}_2 : \text{Al}_2\text{O}_3 \approx 2.6-3.0$ )			
Shape	Bead		Pellet	
Diameter(mm)	1.7-2.5	3.6-4.8	1/16 "	1/8 "
Bulk Density(g/ml)	$\geq 0.65$	$\geq 0.65$	$\geq 0.63$	$\geq 0.63$
Crush Strength(N)	$\geq 26$	$\geq 85$	$\geq 30$	$\geq 65$
Wear Ratio(%)	$\leq 0.1$	$\leq 0.1$	$\leq 0.1$	$\leq 0.2$
Water Content(%)	< 1.0	< 1.0	< 1.0	< 1.0
Static H <sub>2</sub> O Adsorption(%)	$\geq 26.0$	$\geq 26.0$	$\geq 26.0$	$\geq 26.5$
Static CO <sub>2</sub> Adsorption(%)	$\geq 18.15$	$\geq 18.15$	$\geq 18$	$\geq 18$



### Application

Gas purification in air separation, removes carbon dioxide and moisture;  
Drying and desulphurization of natural gas, liquefied petroleum gas and liquid hydrocarbon;  
Deeply drying of general gases

### Packing

Iron drum, net weight 125/135/140kg; or according to customer requirements

### Storage

Room temperature; indoor humidity no more than 90%; avoid water, acid, alkali; isolate air; sealed preservation

### Regeneration

SNOWPEAK 13X-APG molecular sieve can be purged and regenerated by increasing the temperature, regeneration (dehydration) degree depends on the humidity and temperature of the purging gas.

Water removal: Heat dry gas such as nitrogen, air, hydrogen, saturated hydrogen carbide to 150-320°C, then pass it into the molecular sieve bed under the pressure of 0.3-0.5kg/m<sup>2</sup> for 3-4 hours, and then pass the dry cold gas into the adsorber for 2-3 hours, isolate the air and cool it to room temperature.

Organic removal: Replace the adsorbent from the molecular sieve by water vapor, and then heat. Or pass into hot vapor or inert gas at the in 200-350°C, not use gases that produce explosive mixtures by contact with the adsorbent.

Gas removal: reduce the pressure