

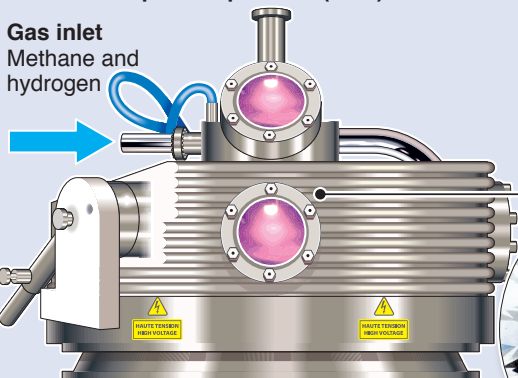
India's lab-made diamonds

India is ramping up sales of laboratory-grown diamonds as global demand surges. Exports could double in the current financial year from \$1.3 billion in 2021-22

Chemical Vapour Deposition (CVD) reactor

Gas inlet

Methane and hydrogen



Plasma chamber

Process starts with “seed” – flat slither of another diamond – in reactor filled with carbon-rich gas, heated to 1,200°C



Diamond growth

Ionized into plasma, carbon atoms from methane gas stick to diamond seed to create diamond crystal

\$1,500

Average retail price of one carat lab-made diamond

\$8,800 Natural diamond of same size and cut

Global lab-grown diamond market volume (million carats, 2020-21)

Value **\$5.9 billion**

Europe and Middle East **≈0.5**

China
≈3.0

India
≈1.5

Singapore
≈1.0

U.S.
≈1.0

India: 25 diamond labs with 2,500 reactors

Russia **≈0.2**