Up to two questions “Funnel the Spec” to one product type.

Start at the top, follow the path down, end on the recommendation. Designed for distributors to send a customer ahead of a quote call.

QUESTION 1

Is the job picking and placing parts, or is this workholding / sheet handling on a fixed table?

PICK-AND-PLACE · ROBOT OR GANTRY MOVES THE CUP TO THE PART

QUESTION 2A

What's the part surface, flat-rigid, curved/compliant, porous, or textured/oily?

IF FLAT RIGID · GLASS, PCB, SHEET METAL

RECOMMEND

Vacuum Cup (flat or shallow-bellows)

SMC ZP flat or shallow-bellows cup, NBR or silicone. Pair with SMC ZH ejector at the end-effector for distributed vacuum, and SMC ZSE sensor on the line for pick confirmation.

IF CURVED · COMPLIANT · THERMOFORMED

RECOMMEND

Vacuum Cup (deep-bellows)

Deep-bellows SMC ZP cup conforms to curved or compliant surfaces: the bellows compress to seal what a flat cup can't. Same ejector + sensor pairing.

IF POROUS · MDF, CARDBOARD, FOAM

RECOMMEND

High-Flow Vacuum Ejector

Porous parts leak vacuum continuously through the material: spec a multi-stage SMC ZH ejector with high flow capacity that can stay ahead of the leak. Cup geometry matters less; flow rate matters most.

IF TEXTURED · OILY · PRINTED SURFACES

RECOMMEND

Vacuum Cup (FKM or fluorosilicone)

Oil-resistant elastomers (FKM, fluorosilicone) on a shallow or flat cup geometry. Avoid NBR: it swells and tears on continuous oil contact.

WORKHOLDING · PART SITS ON A VACUUM TABLE OR CHUCK

The decision tree picks the lead product, but **the spec is always the four-product set**: ejector + cup + replacement cup allowance + sensor. The cycle gating is also worth flagging: **high-speed cycling above 60 picks/min** wants a multi-stage ejector with a vacuum release valve for fast cup detach; **holding-mode work** (long hold, infrequent release) can run a single-stage ejector with no release valve and save the air. Match cup material to the surface the customer's machine is actually touching: wrong elastomer destroys the cup in days.

"Vacuum is what picks the part no gripper can touch. Spec the four products together: ejector, cup, spare cup, sensor, and the cycle works. Quote them piecemeal and one of them takes the line down."