

Dry Commodities for Air-Ejector Colour Sorting

28 commodity groups | Pneumatic nozzle ejection | Dry-process scope

Scope: For a machine that is not waterproof or water-resistant, feed must be surface-dry, free-flowing and free of released liquid or condensation. All entries below refer to dry forms. Dry feed does not mean zero internal moisture.

01 Grains, pulses and seeds

#	Commodity group	Dry commodities and required feed form
01	Rice and paddy	Paddy; raw, white and brown rice; basmati; non-basmati; jasmine; other aromatic rice; red and black rice; glutinous rice; long-, medium- and short-grain rice; broken rice; dried parboiled and dried steamed rice. [2] Parboiled/steamed products must be dried and cooled before feeding.
02	Other cereal grains	Hard and soft wheat; durum wheat; yellow and white maize/corn; popcorn kernels; barley; oats; rye; sorghum/jowar; suitable groats and coarse grits. [3] Whole particles or coarse pieces, not flour.
03	Millets	Pearl millet (bajra/kambu); finger millet (ragi); foxtail millet (thinai); little millet (samai); kodo millet (varagu); barnyard millet (kuthiraivali). [3] Dried hulled or unhulled grain; confirm small-particle capability.
04	Specialty grains	Buckwheat; white, red and black quinoa. [3] [15] Dry, loose grain only.
05	Indian pulses and dals	Toor/arhar/pigeon pea; chana/Bengal gram; kabuli and desi chickpeas; moong/green gram; urad/black gram; masoor/lentils; horse gram; moth bean; cowpea. [4] [11] Dry whole, split, skin-on or dehulled forms.
06	Dry beans, lentils and peas	Red and white kidney beans; black, navy, pinto, cannellini and borlotti beans; adzuki; broad/fava beans; lima beans; black-eyed peas; dry green/yellow peas; split peas; red, green, brown and black lentils. [4] Dried pulses only, not fresh pods or cooked products.
07	Sesame and edible seeds	White, black and brown sesame; hulled and unhulled sesame; sunflower seeds/kernels; pumpkin seeds/kernels; watermelon seeds/kernels; muskmelon seeds/magaj; mustard seeds. [5] [9] [11] Dry, free-flowing seed or kernel grades.
08	Other oilseeds	Soybeans; flaxseed/linseed; niger seeds; rapeseed. [5] Dry whole seeds, not pressed cake, paste or oil.
09	Small specialty seeds	Chia seeds; poppy seeds. [21] Use a validated small-seed feeder, camera resolution and nozzle pitch.
10	Seeds for sowing	Rice/paddy; wheat; maize; pulse and soybean seed; sunflower seed; selected vegetable seed such as carrot, onion and lettuce; selected grass and forage seeds. [5] [11] Dry lots; keep treated-seed handling segregated from food production.

Nuts, spices and dried ingredients

Only the dry product forms shown below are included.

#	Commodity group	Dry commodities and required feed form
11	Groundnuts and nut kernels	Peanuts/groundnuts; blanched peanuts; peanut splits; cashew, almond, walnut, pistachio, hazelnut, macadamia, pecan and pine-nut kernels. [7] Dry kernels/pieces; use gentle feeding and validated ejection.
12	Seed spices	Cumin/jeera; coriander/dhania; fennel/saunf; fenugreek/methi; ajwain/carom; nigella/kalonji; anise; caraway; dill seed; celery seed; mustard seed. [6] Whole dry seed spices, not ground powder.
13	Whole dried spices	Black and white pepper; dried green peppercorns; green and black cardamom; dried red/green chilli; cloves; cinnamon/cassia pieces; nutmeg; mace; star anise; turmeric fingers; dried ginger pieces. [6] [9] Dry, suitably sized pieces; irregular products may need belt feeding.
14	Dried herbs	Dried curry leaves, mint, rosemary, basil, oregano and thyme. [9] Dedicated light-product feeding and air-jet settings; remove excessive dust.
15	Coffee	Dried green coffee beans and cooled roasted coffee beans; Arabica and Robusta. [8] No fresh coffee cherries, wet beans or hot product.
16	Dried tea	Black, green, white and oolong tea; orthodox/CTC tea; dry herbal-tea pieces. [10] Finished dry tea only; use a tea-specific feeding configuration.
17	Cocoa	Dried cocoa/cacao beans. [9] Dried, cooled beans only; no pulp, liquor or paste.
18	Dry raisins and dried fruit	Raisins/kismis and sultanas; suitably dried apricot, fig and cranberry pieces. [7] [9] Only surface-dry, loose, non-sticky lots; belt or dedicated feed trials required.
19	Dehydrated vegetables	Dried onion flakes; dried garlic flakes/pieces; dried carrot pieces; dried leeks; dried green beans; dehydrated peas; dehydrated sweetcorn. [2] [11] Fully dehydrated, non-sticky pieces; not fresh, washed or frozen feed.
20	Other dry agricultural pieces	Copra/dried coconut pieces; dried areca/betel-nut pieces; tamarind seeds. [9] [13] Use dry, sized pieces within the feeder and ejector capability.

Dry does not mean one universal configuration. Irregular, light or delicate materials may need a belt, a specialised feeder, different nozzle spacing or gentler air settings. Confirm with representative product samples. [1, 7, 18]

Other dry products and materials

Specialty dry foods and separately engineered industrial applications.

#	Commodity group	Dry commodities and required feed form
21	Makhana, sago and tapioca	Makhana/fox nuts; dry sago pearls; dry tapioca pearls/sabudana. [14] [15] Gentle handling for makhana; pearls must be dry and uncooked.
22	Guar-processing material	Guar seeds and dry guar splits. [12] Confirm the actual feed form by trial; fine guar-gum powder is excluded.
23	Dry pasta	Suitable short-cut dried pasta and macaroni pieces. [2] Fully dried, cooled pieces within the machine size range.
24	Sugar crystals	Dry white sugar crystals in a validated particle-size range. [16] Dedicated dust-control review; exclude syrup, damp lumps and fine powdered sugar.
25	Salt crystals	Dry coarse salt crystals and sized rock-salt pieces. [18] [19] Dedicated material-contact/corrosion review; no wet salt or brine.
26	Dry plastic particles	PET, HDPE and PP flakes; PVC/uPVC regrind; ABS and PS regrind; suitable virgin or recycled plastic pellets. [17] [20] Fully dried after washing. Colour grading only unless suitable material sensors are installed.
27	Dry glass cullet	Dry, size-graded crushed glass and cullet for colour separation. [18] Dedicated glass-rated equipment with abrasion and dust protection.
28	Dry mineral particles	Sized quartz/silica particles; feldspar; calcite/limestone; magnesite. [13] [18] [19] Dedicated mineral-rated air-ejector equipment; only separations detectable by its sensors.

Machine-compatibility boundary

Rows 24-28 are conditional, dedicated applications. Dryness and air-jet ejection alone do not make sugar, salt, plastic, glass or minerals suitable for an existing agricultural sorter. Dust, abrasion, corrosion, static, product size, particle mass and cleanability must be assessed. Keep food and industrial-material equipment segregated unless an approved cleaning and contamination-control process is in place.

Not included: wet, freshly washed, fresh/juicy, frozen or thawing materials; liquids, pastes, sticky feed and fine powders. No water-based cleaning or washdown is assumed for this machine.

Before an application is advertised: confirm stable feeding, detection of the actual defect, successful nozzle ejection, acceptable breakage and satisfactory results at the proposed throughput. This is an industry application reference, not a performance certificate for a particular MARK model. [1, 18]

Reference notes and sources

Source numbers in the tables identify manufacturer application information.

How this list was screened. The source ranges include equipment with different handling and sensor options. Only their dry-feed applications have been retained here. Manufacturer listings establish an application family; they do not establish the moisture tolerance, hygiene rating or performance of your machine.

Detection and rejection are different. Air-ejector nozzles perform the physical separation. An RGB camera can only act on detectable visual differences; same-colour polymer or mineral identification may require additional sensors. No hidden-defect or chemical-identification capability is assumed. [1, 17, 18]

- [1] Satake USA**
Optical sorting: inspection and timed ejector nozzles
- [2] Bühler**
Optical sorting: rice, dry foods and product applications
- [3] Bühler**
Grain sorting: cereals, millet and buckwheat
- [4] Bühler**
Pulse sorting: chickpeas, lentils, beans and dry peas
- [5] Bühler**
Agricultural seed sorting
- [6] Bühler**
Whole-spice and seed-spice sorting
- [7] TOMRA**
Nuts and dried-fruit sorting applications
- [8] Bühler**
Green and roasted coffee sorting
- [9] Orange Sorting Machines**
Dry spices, herbs, cocoa, copra and other applications
- [10] Orange Sorting Machines**
Tea sorting applications

- [11] Spectrum Industries**
Pneumatic sorters; dehydrated ingredients and seeds
- [12] GENN**
Guar-processing colour sorter
- [13] Amirthaa Sorters**
Tamarind-seed and other commodity applications
- [14] Pugos Technologies**
Makhana conveyor colour sorter
- [15] Amirthaa Sorters**
Sago and quinoa colour sorters
- [16] Color Sorter Group (CSG)**
White-sugar colour sorter
- [17] Bühler**
Plastic flakes, regrind and pellet sorting
- [18] Cimbria**
Optical sorting for food and industrial materials
- [19] TOMRA**
Industrial minerals, including rock salt
- [20] Satake**
Plastic pellets: high-speed ejector-valve sorting
- [21] Orange Sorting Machines**
Seed applications, including chia and poppy

Application sources reviewed 01 October 2026. Wet-process variants on the linked pages are outside the scope of this document.