

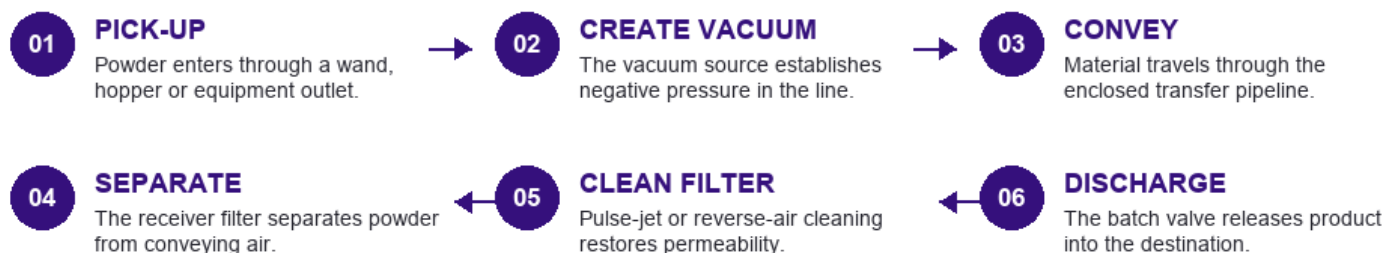
POWDER TRANSFER SYSTEM (PTS)

An enclosed vacuum pneumatic conveying system for transferring powders and granules from bags, drums, bins, sifters or process vessels to downstream equipment. Negative-pressure operation supports clean transfer, low product loss and reduced operator exposure.

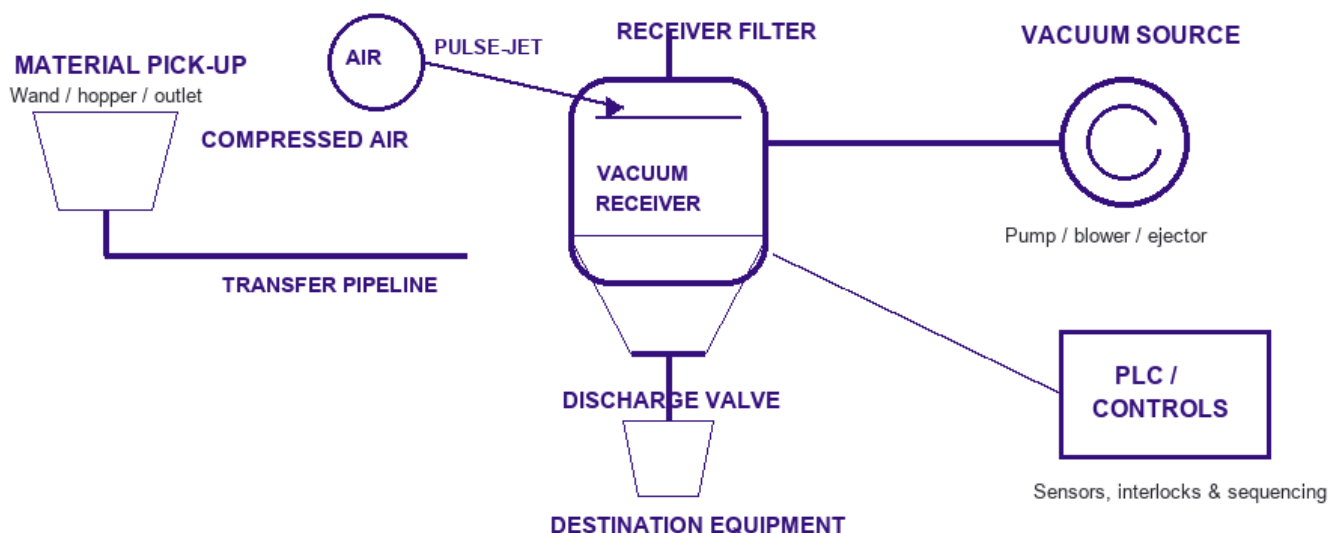
DUST-CONTAINED | HYGIENIC | AUTOMATION-READY



HOW THE PTS WORKS



SYSTEM CONFIGURATION



TYPICAL APPLICATIONS

- Blender / reactor charging
- FBD / sifter feeding
- Tablet press feeding
- Packaging-machine feeding
- Bag / drum / IBC unloading
- Bin / silo transfer

PTS SELECTION DATA SHEET

Enter one value against each criterion. The completed sheet will be used for preliminary sizing of the receiver, pipeline, filter, controls and vacuum source.

CUSTOMER / PROJECT

Company _____

Project _____

Contact _____

Date _____

A. PRODUCT & PROCESS DATA

Product / material name _____

Industry / application _____

Bulk density [kg/m³] _____

Particle size / distribution [micron or mm] _____

Flow characteristic Free-flowing ☐ Cohesive ☐ Hygroscopic ☐

Moisture / material temperature [% / deg C] Moisture: _____ Temperature: _____

Required conveying capacity [kg/hr] _____

B. DUTY, PICK-UP & CONVEYING ROUTE

Batch quantity / transfer time [kg / min] Batch: _____ Time: _____

Source equipment / pick-up point _____

Destination equipment _____

Horizontal conveying distance [m] _____

Vertical conveying height [m] _____

Number and radius of bends [qty / radius] _____

Headroom / preferred pipe size [mm / NB] Headroom: _____ Pipe: _____

C. CONSTRUCTION, HYGIENE & UTILITIES

Product-contact MOC SS304 ☐ SS316L ☐ Other: _____

Internal surface finish [Ra / finish] Mirror ☐ Matt ☐ Other: _____

Cleaning method required Dry ☐ WIP ☐ CIP ☐ Other: _____

Filter media / filter cleaning Pulse-jet ☐ Reverse-air ☐ Other: _____

Vacuum source / preferred make _____

Compressed air / electrical supply [bar-CFM / V-Ph-Hz] _____

Area classification / control integration _____

SPECIAL REQUIREMENTS / REMARKS

Indicative design data only. Final selection is subject to material evaluation, route confirmation and Adriti engineering approval.

STANDARD CAPACITY & PRELIMINARY SIZING

Reference capacities for a free-flowing powder with bulk density 0.5 kg/L (500 kg/m3). Use this sheet for preliminary model selection before detailed route calculation or material trial.

DESIGN BASIS

- Free-flowing, ambient powder
- Receiver working fill: 65%
- Nominal cycle: 90 seconds
- Operating factor: 75%
- Clean filter and stable feed

STANDARD MODEL SELECTION

STANDARD MODEL	RECEIVER GROSS VOLUME	USEFUL BATCH AT 0.5 kg/L	INDICATIVE CAPACITY	SUGGESTED PIPE SIZE	INDICATIVE VACUUM MOTOR BAND
PTS-25	25 L	8 kg	Up to 200 kg/hr	40 NB	1.5-2.2 kW
PTS-50	50 L	16 kg	Up to 400 kg/hr	50 NB	2.2-3.0 kW
PTS-100	100 L	33 kg	Up to 800 kg/hr	65 NB	4.0-5.5 kW
PTS-200	200 L	65 kg	Up to 1,500 kg/hr	80 NB	5.5-7.5 kW
PTS-300	300 L	98 kg	Up to 2,500 kg/hr	100 NB	7.5-11 kW
PTS-600	600 L	195 kg	Up to 5,000 kg/hr	125 NB	15-18.5 kW

Useful batch = receiver gross volume x 65% fill x 0.5 kg/L bulk density.
Indicative capacity includes approximately 40 cycles/hr with a 75% operating factor.

WHAT CHANGES THE CAPACITY

- MATERIAL

Cohesive, ultrafine, hygroscopic, fragile or abrasive powders may require derating or trials.
- ROUTE

Long horizontal runs, higher vertical lift and additional bends increase vacuum demand and cycle time.
- PICK-UP

Poor feed consistency, air ingress or bridging can reduce the achievable transfer rate.
- FILTER

Finer powder and higher dust loading require more filter area and effective pulse cleaning.
- UTILITIES

Available electrical power, compressed air and hazardous-area classification affect equipment selection.

FINAL ENGINEERING CHECK

- 1

Confirm actual powder data
- 2

Verify complete route
- 3

Calculate pressure drop
- 4

Select filter and vacuum source
- 5

Conduct trial/FAT when required

IMPORTANT: The table is an indicative catalogue guide, not a performance guarantee. Final receiver volume, pipeline diameter, vacuum technology and motor rating must be approved against the actual material, route, elevation, bends, duty cycle and destination conditions.