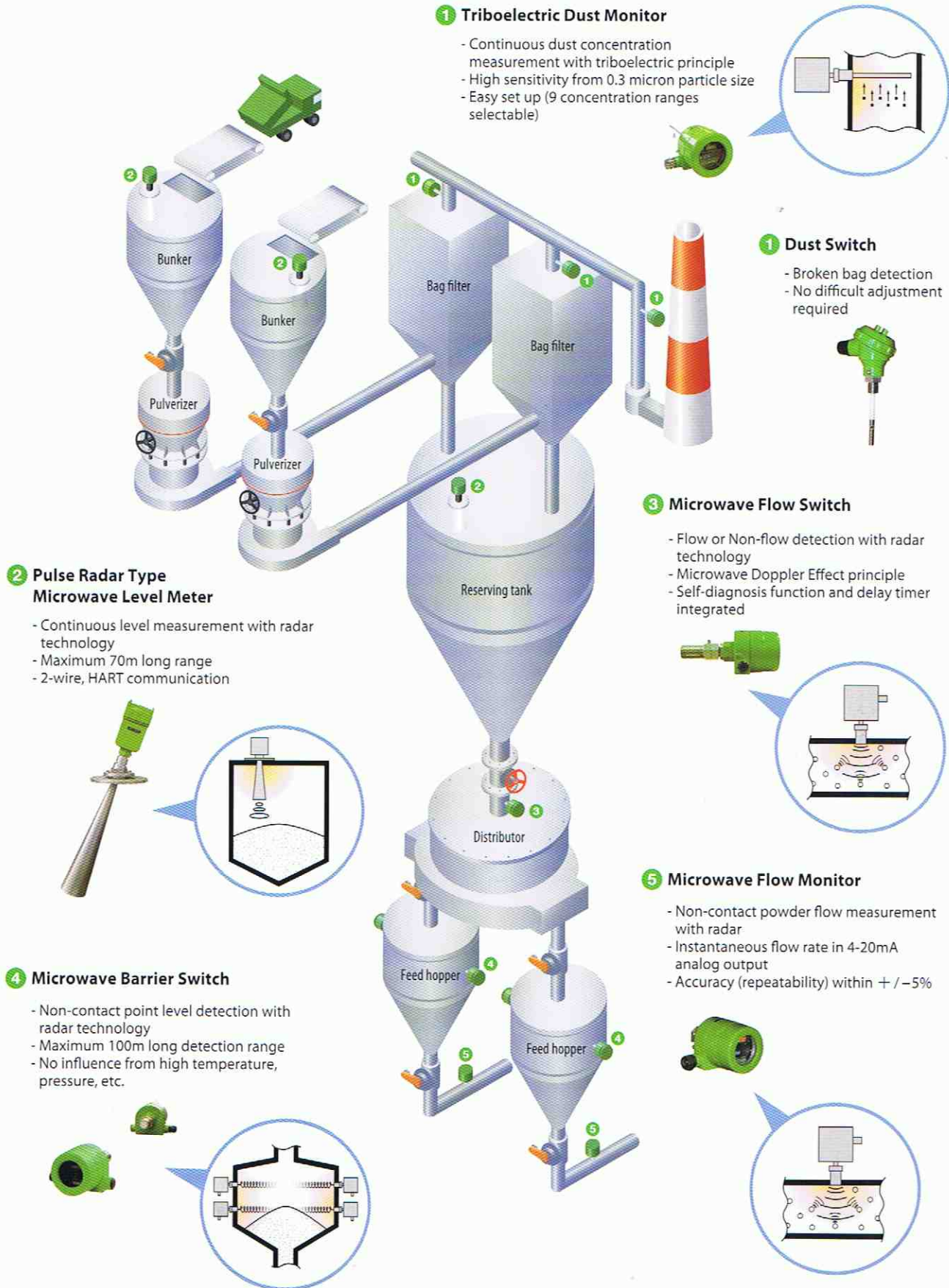
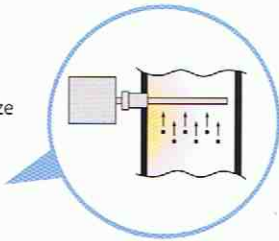


# Measurement on Powder Handling Process



**1 Triboelectric Dust Monitor**

- Continuous dust concentration measurement with triboelectric principle
- High sensitivity from 0.3 micron particle size
- Easy set up (9 concentration ranges selectable)



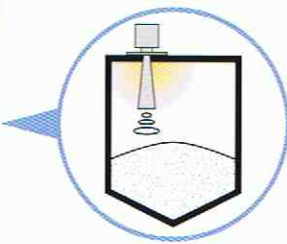
**1 Dust Switch**

- Broken bag detection
- No difficult adjustment required



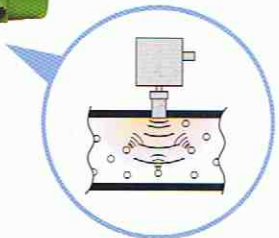
**2 Pulse Radar Type Microwave Level Meter**

- Continuous level measurement with radar technology
- Maximum 70m long range
- 2-wire, HART communication



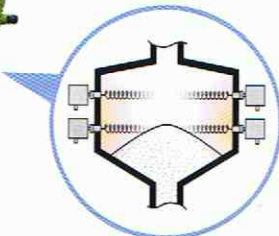
**3 Microwave Flow Switch**

- Flow or Non-flow detection with radar technology
- Microwave Doppler Effect principle
- Self-diagnosis function and delay timer integrated



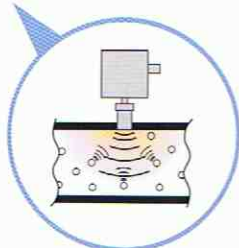
**4 Microwave Barrier Switch**

- Non-contact point level detection with radar technology
- Maximum 100m long detection range
- No influence from high temperature, pressure, etc.



**5 Microwave Flow Monitor**

- Non-contact powder flow measurement with radar
- Instantaneous flow rate in 4-20mA analog output
- Accuracy (repeatability) within + / -5%





# MATSUSHIMA Bulk Handling Solutions

## Level, Flow and Automation

### Bulk Material Level Measurement

Sounding V  
at storage silo



Ultrasonic transmitter  
for stacker-reclaimer



Pulse radar level meter  
at chemical powder silo



### Measurement on Powder Handling Process

Dust Monitor (compact type)  
at bag filter outlet



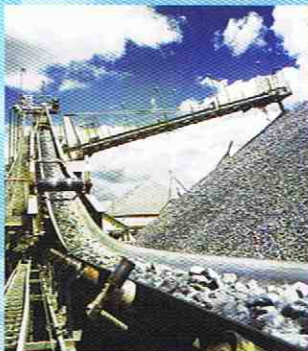
Microwave Barrier Switch  
for lower limit detection at dust hopper



Microwave Flow Switch  
for screw feeder



### Belt Conveyor Protection & Automation



Pull Cord Switch



Speed Relay



Belt Sway Switch



Conveyor Starting Indicator



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