MEATLINE 07 O

DETECTION OF ALL TYPES OF METALS
- FERROUS
- STAINLESS STEEL
- ALUMINUM
- COPPER
- BRASS
- .......

RELIABLE DETECTION OF FREE OR ENCAPSULATED CONTAMINANTS.

METAL SEPARATOR FOR VACUUM FILLERS

INDUSTRIES
- FOOD INDUSTRY

APPLICATION
- QUALITY CONTROL
(to meet the requirement of ISO 9000 and HACCP, ...)

www.mesutronic.de

Metal Detection made in Germany
CONVINCING ARGUMENTS

- The separator builds compact and handles high volumes due to a fast acting, powerful pneumatic drive. Combined with the interval (optional) control the separator offers optimum sensitivity and minimal material loss from ejects.
- Metal separators are often damaged during the transport to the cleaning room or during cleaning. The rugged frame aids and protects the separator during transport. The no-tilt chassis sits on 4 height adjustable, steerable casters with locking brakes. A cover protects the faceplate from the high pressure cleaner and seals the electronics cabinet against water intrusion.
- Another practical item is the integrated wash basket. Loose parts are stored in this basket during cleaning of the eject system and cannot be lost! A stainless steel chain secures the mechanical parts in case they fall off during cleaning.
- The metal separator can be installed on almost any vacuum filler with specific adapters. A spindle drive allows for fast and precise operating height adjustment.
- A malfunction in the operating process is no cause of concern: All components are burst proof up to 30 bar (450 PSI)!
- 2 cables connect to the unit and are rapidly and easily disconnected, if required. This means optimum flexibility without annoying wiring.
- One of the principal performance characteristics is reliability. The separator is equipped with "extended system monitoring" to provide this reliability. The system not only controls the basic electronic functions but monitors the movement of the eject valve as well. Faults are immediately and reliably indicated!
- Models without eject system and versions with a gear extension for the drive of linking (twisting) device complete the program. Individual production processes demand tailor-made system solutions!
WORKING PRINCIPLE

Electronic metal separators of the series MEATLINE 07 O remove metallic contaminants from liquids, slurries and highly viscous foods automatically and without interruption of the process. Clean product – without metallic contaminants passes through the detector. Metallic contaminants in the product stream change the high frequency field. In this case the electronic evaluation system generates impulse to activate the solenoid of the eject gate cylinder. Due to the rapid diversion of the product stream, product loss is minimized. Eject time (dwell time of the eject gate) is adjustable. Reject time will be extended by the pre-programmed time interval should several metal particles pass through within the given time frame. After the metal particle has been successfully diverted the gate returns automatically to the normal position.

SENSITIVITY

- Ferrous - sphere: Ø 0.8 - 1.2 mm
- Non-ferrous - sphere: Ø 1.5 - 2.0 mm
- Stainless-steel - sphere: Ø 2.5 - 3.0 mm

The sensitivities have been achieved under production conditions using various sausage recipes. In exceptional cases it is possible that the detector has to be adjusted, resulting in a potential slight loss of sensitivity.

We can establish maximum sensitivity values for your specific product upon receipt of a representative sample.
STANDARD SCOPE OF DELIVERY

■ EJECT GATE INCLUSIVE ALL PNEUMATIC COMPONENTS SUCH AS AIR PRESSURE REGULATOR, COMPRESSED AIR DRYER, ETC. WITH MOVEABLE LOWER FRAME AND OPEN END WRENCH (80 MM)
■ DETECTION COIL WITH INTEGRATED PROCESSING UNIT AND WASH DOWN PROTECTION
■ CONNECTING CABLES
■ USER MANUAL INCL. INSTALLATION INSTRUCTIONS, WIRING DIAGRAM AND SPARE PARTS LIST IN SEVERAL LANGUAGES
■ EG CONFORMITY DECLARATION

OPTIONS

■ OPTICAL SIGNAL UNIT       - BEACON
■ SOFTWARE SOLUTIONS       - mesuNET pro (NETWORK INTEGRATION AND REMOTE MAINTENANCE)
■ WiFi                   - COMMUNICATION MODULE FOR WIRELESS CONNECTION ONTO NETWORKS
■ CONNECTING ADAPTER     - MATERIAL INPUT SIDE
■        - GOOD MATERIAL EXIT SIDE
■ CONTROL ADAPTER  1)    - COORDINATES THE INTERFACING OF FILLER, CLIPPER AND METAL SEPARATOR
■ TEST-PIECE INJECTION DEVICE  2)  - INSTALLS AT THE MATERIAL INLET PORT (FOR REGULAR FUNCTION TESTS)
■ COLLECTING BIN  3)     - LOCKABLE STAINLESS STEEL CONTAINER (CONFORMS TO IFS)

1) SEE RECOMMENDED EQUIPMENT (OPTIONAL)

SPECIAL VERSIONS

■ CUSTOMER SPECIFIC SUPPLY VOLTAGE
■ HIGH TEMPERATURE VERSIONS
■ „NEUTRAL VERSION“ FOR OEM CUSTOMERS
RECOMMENDED EQUIPMENT (OPTIONAL)

The control adapter coordinates the interfacing of filler, clipper and metal detector. We supply adapters for different filler brands and types. We require the following information in order to select the appropriate adapter:

Filler manufacturer, type, brand and the machine and/or serial number.

Example: Process adapter for Handtmann vacuum filler VF 50, 80, 200 and 300

The test-piece injection device at the inlet facilitates regular testing of the unit. A test body, which contains a metal sphere of known dimensions is pushed into the product. In case of a positive test, the detector will eject the test body together with a small amount of product through the eject port. The full functionality of the metal separator has been proven. Older units can be retrofitted with this feature.

The stainless steel collecting bin is solid and shatter proof. The lockable lid assures that only authorized personnel is able to open / empty the container. Therefore the container complies with all requirements of current quality requirements. Even older units can be retrofitted without problems.
DIMENSIONS (WITHOUT TEST BODY PORT)

ALL DIMENSIONS IN MM.
DIMENSIONS (WITH TEST BODY PORT)

ALL DIMENSIONS IN MM.
UNLIMITED FLEXIBILITY due to network-enabled system components. The metal sensor, the display and the control unit communicate via Ethernet and can be combined as required. Some components may not be required, if the metal detector is integrated in other machinery. Distances are irrelevant. Highest sensitivity and availability are guaranteed.

AUTO-SETUP-Routine with interference signal suppression and automatic sensitivity calibration.

AUTOMATIC PRODUCT-EFFECT CANCELLATION with real-time product parameter measurement capabilities.

DYNAMIC AUTO-TRACKING (product characteristic change tracking) guarantees maximum sensitivity in operation.

MULTI-FILTER SYSTEM using digital filters for maximum stability in harsh environments.

AUTO-BALANCE automatically detects and compensates for any changes in the signal during normal operation. (e.g. temperature variations)

NARROW DETECTION ZONE provides an accurate location of the metallic particle in the detection field allowing precise separation.

TOUCH SCREEN CONTROL PANEL – maximum information, easy and fast operation! The 5.7” backlit VGA color-touch-display is large enough to display such information as parameter data and protocol contents in a legible manner. Input fields and other operating tools have generous dimensions and are ergonomically arranged. Easy to operate with clear menus and selectable operating language. The oscilloscope function makes the signal waves visible by projecting them onto the display!

3 LEVELS OF USER ACCESS (individual pin codes up to 4 levels) guarantee protection against unauthorized access due to intelligent user management. Individual access for authorized personnel with personalized access code (user ID) in addition. 2 free configurable function keys.

METAL COUNTER can be displayed on the LCD screen or interfaced with a printer over a serial interface.

QUALITY SMDs (Surface Mounted Devices) are used in the production of the controls, they not only offer a compact design, but also provide higher quality and more robust performance under harsh conditions. All Mesutronic products conform to the CE standards and are developed according to technical standards and norms such as EN, DIN and UVV.

CONTROL UNIT AMD 07
ADVANTAGES THAT WILL CONVINCE YOU!

SELF MONITORING SYSTEM ensures all important components are functioning properly. In case of a fault, relay outputs are available. Faults are displayed as text in real time.

PRODUCT STORAGE MEMORY BACKUP for up to 1,000 individual products. Each product has a complete set of setup parameters assigned, such as sensitivity, eject time etc. The display of time relevant data is in real-time. Individual product names can be stored as well.

DETECTOR TEST FUNCTION (validation) you may choose between the manual or automatic mode. In the automatic mode the detector will advise automatically, when the detector test is to be performed. The cycle time can be adjusted from 1 minute to 11 hours in real time. The test results are documented in the event log including date and time stamp.

USB DATA MEDIA as mobile data carrier. A USB connection is standard equipment to store data on a commercially available data storage media. Modern data storage devices have sufficient capacity to store all adjustment and product parameter data as well as the results. In addition software updates and additional language files can be uploaded easily and comfortably.

MULTI-MODE-FUNCTION (optional) improves sensitivity if products in standard packaging and metalized foil packing are examined with the same metal detector. The detector selects the optimal frequency automatically during the product parameter measurement. All product specific values can be stored and can be retrieved immediately after a product change.

DATA PORTS for different tasks. The metal detector is equipped with 2 data ports, whereas one of the data points (Ethernet) is reserved for service such as securing data, local software updates and such. The other data point (RS232) is freely available. Bi-directional data communication with clients SPS or PC systems is possible. (Software packages are optional).
**CONTROLS**

EXAMPLE OF AN INPUT DISPLAY (DEPENDING UPON THE SELECTED MENU THE DISPLAY SHOWS DIFFERENT FUNCTIONS !)

5.7" COLOR-TOUCH DISPLAY (320 X 240 PIXEL)

SENSITIVE KEY CONTROL (HERE TO SELECT FOR THE USER LEVELS)

DISPLAY (PRODUCT NAME, BATCH NUMBER, ETC.)

ADAPTER PLATE (PROJECT SPECIFIC ASSIGNABLE WITH ADDITIONAL CABLE CONNECTIONS, BUSHINGS AND SUCH)

POWER CONNECTION

POWER CABLE CONNECTION AS NEEDED
1 x M 20 x 1.5 und 2 x M 16 x 1.5
1 x M 25 x 1.5

**TECHNICAL DATA**

POWER SUPPLY: 100 V - 240 V AC, 50 OR 60 HZ
AS SPECIAL VERSION 24 V DC

CURRENT CONSUMPTION: MAX. 75 W

FUSED: 1,25 A (SLOW BLOW), 5 X 20 MM ACCORDING TO DIN

POWER FUSE: MAX. 10 A (PROVIDED BY THE CUSTOMER)

TYPE OF PROTECTION: IP 66 (OPTIONAL IP 69K)

WORKING TEMPERATURE: - 5°C TO + 50°C

STORAGE TEMPERATURE: - 10°C TO + 60°C

RELATIVE HUMIDITY: 0 TO 95 % (WITHOUT CONDENSATION)

CONVEYING SPEED: 1,2 M/SEC.

IMPULSE LENGTH METAL SIGNAL: 0,1 SEC. TO 30 SEC. (ADJUSTABLE)

POWER CABLE: APP. 2,5 M CABLE WITH PLUG (TWO POLE AND EARTHING PIN)
US-VERSION WITH US-STANDARD PLUG

VERSION: STAINLESS STEEL, SANDBLASTED

OTHER VERSIONS AVAILABLE
1 SERIAL PORT RS 232 (OPTIONAL)
2 ETHERNET INTERFACE (USED BY THE MANUFACTURER)
3 ETHERNET INTERFACE FOR NETWORK (SUCH AS mesuNET)
4 ETHERNET CONNECTION FOR THE SENSOR-UNIT (USED BY THE MANUFACTURER)
5 ETHERNET CONNECTION FOR THE DISPLAY-UNIT (USED BY THE MANUFACTURER)
6 EIGHT (8) FREE PROGRAMMABLE INPUTS (24V DC)

INPUTS (STANDARD LAYOUT)
IN 1 - INITIATOR „NORMAL POSITION“ (EJECT GATE)
IN 2 - INITIATOR „EJECT POSITION“ (EJECT GATE)
IN 3 - PRESSURE MONITOR (PRESSURE SWITCH)
IN 4 - FREE
IN 5 - FREE
IN 6 - RESET-BUTTON (EXTERN)
IN 7 - FREE
IN 8 - FREE

ADDITIONAL CONNECTIONS SUCH AS LIGHT TRIGGERS, FILL SENSORS AND SUCH
POSITIONS

7 FOUR (4) FREELY PROGRAMMABLE OUTPUTS (24 V DC)
OUTPUT (STANDARD LAYOUT)
OUT1 - SOLENOID VALVE (EJECT GATE)
OUT2 - UNIT OPERATIONAL INDICATOR
OUT3 - FREE
OUT4 - FREE
ADDITIONAL CONNECTIONS: MAGNET SOLENOID (EJECT MECHANISM),
FAULT INDICATOR, ALARM AND SUCH.

8 RELAY 2 (CONNECT AT FAULT)
FLOATING CHANGE OVER CONTACT
ACTUATED BY SELF MONITORING SYSTEM (NORMAL OPERATION)
MAX. CONTACT LOAD: 250 V/3 A

9 RELAY 1 (CONNECT WHEN METAL)
FLOATING CHANGE OVER CONTACT ACTUATED WHEN METAL IS DETECTED
MAX. CONTACT LOAD: 250 V/3 A
PULSE DURATION (AUTO-RESET): 0.1 SEC. TO 30 SEC. (ADJUSTABLE)
PULSE DURATION (RESET BY HAND): PERMANENT SIGNAL UNTIL RESET-BUTTON IS
PRESSED

IF REQUIRED THE RELAYS MAY BE PROGRAMMED DIFFERENT.

10 POWER CONNECTION
11 24V DC SUPPLY OUTPUT (USED BY THE MANUFACTURER)
12 24V DC SUPPLY INPUT (USED BY THE MANUFACTURER)
MESUTRONIC Gerätebau GmbH

A TEAM OF SPECIALISTS DEDICATED TO DEVELOP, MANUFACTURE AND MARKET THE WORLD’S FINEST ELECTRONIC METAL DETECTION AND SEPARATION EQUIPMENT FOR ALL INDUSTRIES. IT IS OUR GOAL TO PROVIDE THE OPTIMUM SOLUTION TO MEET EVERY CRITERIA. MANY YEARS OF EXPERIENCE PROVIDING HUNDREDS OF DETECTION COILS WITH VARIOUS CONTROLS AS WELL AS A MULTITUDE OF MECHANICAL SEPARATING AND SORTING COMPONENTS ARE AT YOUR DISPOSAL. WE POOL OUR KNOWLEDGE AND EXPERIENCE TO OFFER A SOLUTION TO VIRTUALLY ANY APPLICATION.

„WHEN OTHERS SAY NO, WE SAY LETS GO!”

LET OUR TEAM PROVIDE YOU WITH THE OPTIMUM SOLUTION FOR YOUR METAL CONTAMINATION.