# DISCAL DIRTMAG®
# magnetic air and dirt separator

## NA546AM ASME Steel series: 8, 10, 12 and 14 inch

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### Application

The Caleffi DISCALDIRTMAG® magnetic air and dirt separator incorporates three important functions for hydronic systems: air separation, dirt separation and ferrous impurity separation. An internal screen element facilitates the coalescing and capture of micro-bubbles to facilitate high performance automatic air removal, while concurrently causing the capture of non-ferrous debris particles down to 5 micron size. A powerful magnetic field induced by rare-earth neodymium magnets facilitates the capture of ferrous impurities such as iron oxide down to microscopic size thus delivering 2½ times the ferrous impurity removal performance of standard air and dirt separators.

### Typical Specification

Furnish and install on the plans and described herein, a Caleffi DISCAL DIRTMAG® magnetic air and dirt separator as manufactured by Caleffi. Each separator must be designed with a side drain valve, blowdown drain valve, and automatic air vent. The separator design must include a large internal volume, and a stainless steel internal element to automatically remove all dirt present in the system with particle separating capacity to 5µm (0.2 mil), and a stack of neodymium rare-earth magnets inside a brass dry-well, removable for purging, with up to 100% ferrous impurities, including magnetite, separation efficiency. The separator must be ASME Registered, see below, and shall be a Caleffi model NA546AM or approved equal. (See product instructions for specific installation information.)

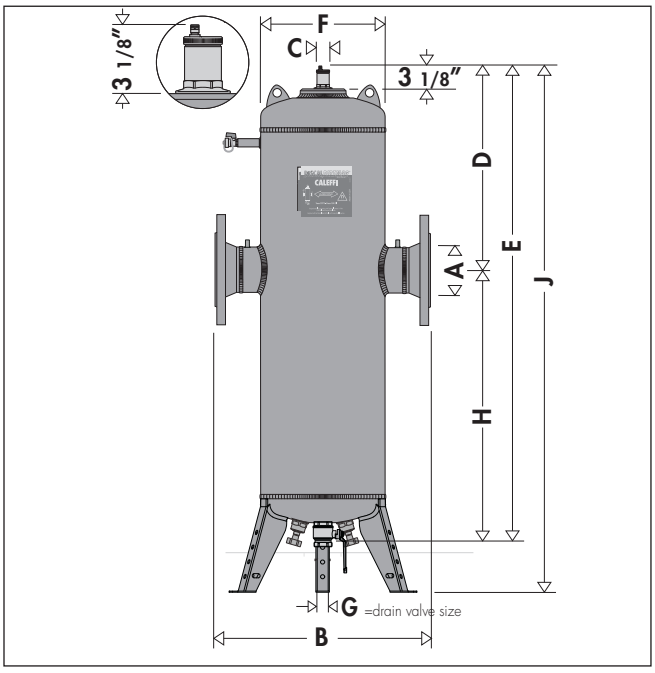
### Technical Data

| | |
|---|---|
| **Materials** - body: | epoxy resin coated steel |
| - air vent body: | brass |
| - internal element: | stainless steel |
| - air vent float: | PP |
| - air vent float guide pin: | stainless steel |
| - air vent float linkages: | stainless steel |
| - spring: | stainless steel |
| - seals: | EPDM |
| - bottom drain shut-off valve: | brass |
| - side drain shut-off valve: | brass |
| - magnet: | neodymium rare-earth |
| - magnet probe drywell: | brass |

**Performance**

| | |
|---|---|
| Suitable fluids: | water, glycol solution |
| Max. percentage of glycol: | 50% |
| Max. working pressure: | 150 psi (10 bar) |
| Flow rate: | |
| - 4 ft/sec: | |
| size 8 inch: | 625 gpm (40 l/s) |
| size 10 inch: | 980 gpm (62 l/s) |
| size 12 inch: | 1,410 gpm (89 l/s) |
| size 14 inch: | 1,920 gpm (121 l/s) |
| - 10 ft/sec: | |
| size 8 inch: | 1,570 gpm (99 l/s) |
| size 10 inch: | 2,450 gpm (154 l/s) |
| size 12 inch: | 3,525 gpm (222 l/s) |
| size 14 inch: | 4,550 gpm (287 l/s) |

### Dimensions




**NOTE:** Drawing may not reflect the actual size of the separator.

| Code | A | B | C | D | E | F | G | H | J | Cap. (gal) | Wt. (lb) | Wt. (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NA546**200AM | 8" | 35½" | $2\frac{3}{16}$" | $35\frac{3}{16}$" | $82\frac{7}{8}$" | 20" | 2" | 47¾" | 94¾" | 95 | 365 | 165 |
| **NA546**250AM | 10" | 41¾" | $2\frac{3}{16}$" | $39\frac{1}{8}$" | $91\frac{11}{16}$" | 26" | 2" | $52\frac{9}{16}$" | $103\frac{5}{8}$" | 175 | 565 | 256 |
| **NA546**300AM | 12" | 46½" | $2\frac{3}{16}$" | $41\frac{11}{16}$" | $98\frac{9}{16}$" | 30" | 2" | $56\frac{7}{8}$" | 110½" | 255 | 835 | 379 |
| **NA546**350AM | 14" | 48" | $2\frac{3}{16}$" | $46\frac{7}{8}$" | 112" | 36" | 2" | $65\frac{5}{32}$" | $123\frac{7}{8}$" | 420 | 960 | 435 |

| | |
|---|---|
| Temperature range (vessel): | 32–270° F (0–132° C) |
| Air separation efficiency: | 100% removal to microbubble level |
| Particle separation capacity: | to 5 µm (0.2 mil) |
| Ferrous impurities separation efficiency: | up to 100% removal |

| | | |
|---|---|---|
| Connections | - flanged: | 8", 10", 12", 14" ANSI B16.5 150 CLASS RF |
| | - bottom drain valve: | 2" NPT female |
| | - side drain shut-off valve: | ¾" GHT |
| | - thermo well tap, inlet/outlet flanges: | ½" NPT female |

### Agency approval

NA546_M series designed and built in accordance with Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code and tagged, registered with the National Board of Boiler and Pressure Vessel Inspector, and CRN registered, stamped for 150 psi (10 bar) working pressure, with ASME U stamp. 10"-14" is CRN pending, consult Caleffi.

**REFERENCE DOCUMENTATION:** Technical Brochure 1287



Job name _____ Size _____
Job location _____ Quantity _____
Engineer _____ Approval _____
Mechanical contractor _____ Service _____
Contractor's P.O. No. _____ Tag No. _____
Representative _____ Notes _____

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