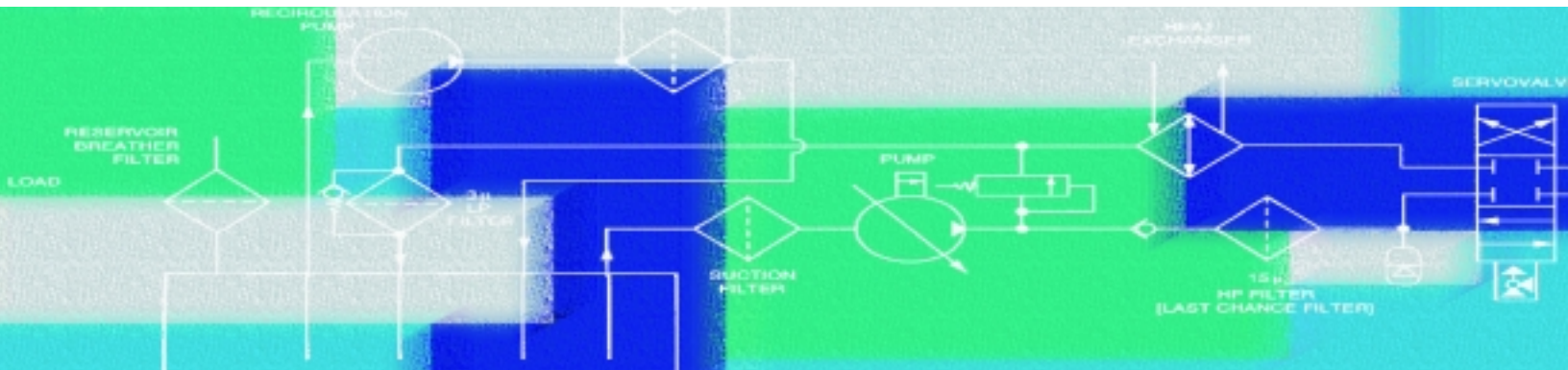


Hydraulic System Filters New ISO Fluid and Cleanliness Rating Standards



MOOG FILTRATION PRODUCTS

Moog is committed to helping our customers avoid contamination concerns by providing high quality filters compatible with our products. We are proud of our reputation for manufacturing hydraulic valves with the highest reliability and performance and want to ensure that our customers have filtration consistent with long service-life.

In order to provide the best pricing and delivery for our customers we have now authorized two suppliers for our filtration products. Each successfully passes Moog's stringent evaluations to confirm reliable performance and correct fit for our products. Consequently, Moog part numbers have not changed even though filter designs may look slightly different. Our customers can be confident that all filters ordered from Moog provide the needed protection, fit and performance.

NEW FILTER RATINGS

Filter RATINGS Have Changed - Your Filter Has NOT. The filter industry's recent changes in ratings for filter products have created some confusion for end-users. The important fact is that the filter elements have not changed and perform as effectively as before. It is the same filter and your system will perform identically and stay as clean as in the past. The only thing that has changed is the filtration rating based on the recent adoption of new test standards based on sophisticated, modern technology.

The Change

Under the new ISO rating standards, filters formerly rated at 3 microns will now be rated at 5.1 microns, 15-micron filters at 13.6 microns and 20-micron filters at 17.5 microns. This is only a change in the method of testing and reporting element characteristics. It does not affect the efficiency and performance of the filters.

How it Works

The new standard defines particle size more accurately than in the past. For testing, particle size is the diameter of a circle equal in area to the cross-section of the particle. Formerly, size was defined as the longest dimension, regardless of the width. As a result of new more accurate testing methods, large particles, bigger than 10 microns, have gotten smaller while those smaller than 10 microns have gotten bigger resulting in the new filtration ratings. New, certified Beta ratio values are shown as $B_{X(c)} \geq 200$ (the old way - $B_X \geq 200$). The 'X' represents the filtration rating in micrometers (microns) and the (c) represents the use of the new NIST certified test dust material and calibration procedures. When comparing data values, make sure all data is certified (c) or else none of the data is certified.

Why this change?

General Motors (GM) traditionally produced the AC Fine Test Dust used to test filters. GM's decision to discontinue production of test dust led to new test dust and calibration standards, established by the National Institute of Standards and Technology (NIST), that define particle sizes more accurately. The result impacts filtration reported values only. The efficiency and performance of existing filtration products remain the same as in the past.

Conclusion

- > The capability of Moog filters to protect hydraulic systems remains unchanged
- > The Moog filter media and elements remain unchanged
- > System cleanliness levels achieved with Moog elements remain the same
- > Moog's filters have the same performance, quality and long lasting service life

MOOG AUTHENTIC REPAIR SERVICES

Moog's hydraulic valve products are legendary for long service life, and when a repair or maintenance services are needed, Moog is the only one that can restore performance. Our repair seal is your guarantee of a Moog Authentic Repair and renewal of your warranty protection.

Moog Parts. Moog Specs. Moog Specialists.

- > **Moog Parts:** You can be confident that when new bushings, torque motors, or other components are needed, they will be original equipment parts from the manufacturer who knows how to design and build the valve.
- > **Moog Specs:** Only Moog's repair facilities have the current specifications needed to ensure accurate performance, warranty protection, and reliability for continued long service life.
- > **Moog Specialists:** As a premier designer and manufacturer of hydraulic valves, Moog's professionals understand the products and applications of our customers like no other repair providers.
- > **Minimize Downtime:** Moog's valve repairs have a standard turnaround for most models with options for 24 hours and same day when needed.

REVISED STANDARD FOR ISO CLEANLINESS LEVELS

ISO fluid cleanliness reports have also changed to reflect the more precise measurements of particle size.

The Change

Under the ISO 4406 Solid Contamination Code, size four (4) micron(c) particles correspond to the old 1 micron size, $6\mu(c)$ to 5μ and $14\mu(c)$ to the 15μ size. A system cleanliness of ISO Code 16/13 will now be reported as 19/16/13(c) under the 1999 revised standard. Military fluid cleanliness documents are also being updated to comply with the new particle counting standards.

How it Works

Previously, the ISO 4406 Solid Contamination Code for Fluid Cleanliness was reported as a two digit code representing the number of particles ≥ 5 microns and ≥ 15 microns. The revised standard uses a 3 digit code representing the number of particles ≥ 4 micron(c), ≥ 6 micron(c), and ≥ 14 micron(c).



Ask for Moog.

Contact Moog or your nearest authorized distributor and insist on Moog Authentic Repairs.

For more information, visit our website at:

www.moog.com/industrialrepairs.

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