

Request for Reconsideration after Final Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	79078661
LAW OFFICE ASSIGNED	LAW OFFICE 102
MARK SECTION	
MARK	http://tsdr.uspto.gov/img/79078661/large
LITERAL ELEMENT	OMEGA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	
<p>The examiner has refused registration of the OMEGA mark (Application Serial No. 79/078,661) on the basis that it is confusingly similar several to the OMEGA.COM U.S. Trademark Registration No. 2,412,722. Reconsideration is respectfully requested.</p> <p>Applicant makes the following arguments:</p> <p>A. Goods Travel in Different Channels of Trade</p> <p>Applicant's goods are in different channels of trade than the products and services of the Registrant. Stated simply, Applicant's goods are rotary lobe blowers which are suitable for a variety of applications such as pneumatic conveying, waste water treatment, air knives, vacuum, and soil remediation. In contrast, the products and services of the Registrant are used in to measure, control, and/or regulate a variety of components (including temperature, humidity, pressure, etc.). These goods and services are offered to consumers who are entirely different than the consumers who would purchase Applicant's products and services. This difference in consumers alone is enough to distinguish the goods of the parties. Moreover, Applicant's goods and services are not related to the products and services of the registrants.</p> <p>The examiner has indicated that the products are related because the Registrant's goods consist of "air blowers" in Class 7, as well as "blowers, namely, floor and ceiling heater units with blowers" in Class 11. It is respectfully submitted that Applicant provides rotary lobe blowers. Rotary lobe blowers,</p>	

or roots type superchargers, are positive displacement lobe pumps which operate by pumping a fluid with a pair of meshing lobes (see Attachment A - Wikipedia Article Roots Type Superchargers). The term “blower” is often interchangeable with the term “supercharger” and specifically rotary lobe blowers are used in high vacuum applications. These items are not just machines that blow air, but are highly specialized and specific and are not sold to the same consumers or are found in the same channels of trade as a typical “air blower.” Furthermore, the Applicant’s products do not provide heat through blown or forced air.

In addition, in order to show that the products of the Applicant and Registrant are the same, the examiner has provided a print-out from Equipnet.com which allegedly shows a rotary lobe blower offered by the Registrant. It is respectfully submitted that the product found on the Equipnet.com website actually shows a rotary lobe blower offered by the Applicant. Specifically, the picture shows a blower of the compact series (type DB 130 C) on which the Applicant’s house marks have been eliminated (see Attachment B - KAESER Rotary Blowers.pdf, Attachment C - KAESER COMPACT SERIES.pdf, Attachment D - Screenshot of DB130C.pdf, Attachment E - Print-outs from Equipnet.pdf, and Attachment F - Larger Pictures from Equipnet.pdf). Furthermore, a search of the term “blowers” on the Registrant’s website reveals eight items which are completely unrelated to the Applicant’s products (see Attachment G - Print-out Search Results.pdf). The only products found on the Registrant’s website that are even remotely similar are “pumps,” however, the detailed information regarding these items also shows that the products are unrelated (see Attachment H - Print-out Pumps.pdf).

Merely being classified in the same international class of goods and/or having something superficial to do with the same subject matter are not sufficient bases for an Examiner to refuse registration. Examples abound in many areas:

1) In the case *In re American Olean Tile Co., Inc.*, 1 USPQ2d 1823 (TTAB 1986), the Trademark Trial and Appeal Board found that there was no likelihood of confusion between ceramic tile and wood doors for exterior and interior use. Despite the fact that both these materials could be used during construction of a building, they were products that were so dissimilar that they were not considered commercially related.

2) In the case *In re W.W. Henry Co.*, 82 USPQ2d 1213 (TTAB 2007), the Trademark Trial and Appeal Board held that Applicant’s PATCH & GO mark used in connection with a cement-based product used in repairing or smoothing wall and floor surfaces is not likely to cause confusion with the Registrant’s PATCH ‘N GO mark used in connection with chemical filler preparations used in cosmetic repair of polyolefin surfaces. Even though the marks are virtually identical, Applicant’s product is of a type offered to do-it-yourselfers and contractors through home improvement hardware stores, and the Registrant’s products are purchased by plastics manufacturers.

3) There is no per se rule that all computer-related items are related. In *Reynolds & Reynolds v. I.E. Systems, Inc.*, 5 USPQ2d 1749 (TTAB 1987), the Board found no likelihood of confusion between "ACCULINK" and a family of "ACCU" marks because computer software used to make microcomputers "dumb terminals" were unrelated to application software for tax programs. The Board stated:

In view of the fact that computers are useful and/or are used in almost every facet of the world of business, commerce, medicine, law, etc., it is obvious that distinctions must be made.

In the case *In re Quadrum Corp.*, 228 USPQ 863 (TTAB 1985), the Board held that there was no

likelihood of confusion between "MICROFASER" for peripheral computer hardware and "FASER" for applications software in the field of energy conservation and management.

4) No likelihood of confusion was found between the M2 mark for use on CD-ROMS for healthcare and the M2 COMMUNICATIONS mark for use on CD-ROMS for film and music. *M2 Software Inc. v. M2 Communications, Inc.*, 78 USPQ2d 1944 (CAFC 2006).

Similarly, in *In re Box Solutions Corp.*, 79 USPQ2d 1953 (TTAB 2006), the Board reversed the examiner's likelihood of confusion refusal on the basis that the phrase BOX SOLUTIONS used with computer communications servers was not likely to cause confusion with registrant's BOX + Design mark for use with computers and computer peripherals.

5) No likelihood of confusion was found between the ASTRA mark for use on pharmaceutical preparations and syringes and the ASTRA mark for use on blood analysis machines. *Astra Pharmaceutical Products, Inc. v. Beckman Instruments, Inc.*, 220 USPQ 786 (1st Cir. 1983). Specifically, the Court noted that "[t]he 'hospital community' is not a homogeneous whole, but is composed of separate departments with diverse purchasing requirements, which, in effect, constitute different markets for the parties' respective products." *Astra Pharmaceutical Products, Inc.*, 220 USPQ at 791. This decision was later cited in *Hewlett-Packard Co. v. Human Performance Measurement Inc.* in which the Board determined that "the fact that both parties sell their goods to hospitals, and thus share a common channel of trade, does not necessarily mandate a finding that the products are related and that confusion is likely." *Hewlett-Packard Co. v. Human Performance Measurement Inc.*, 23 USPQ2d 1390, 1395 (TTAB 1991)(holding that there was no likelihood of confusion between HPM + Design for medical instruments for clinical measurement of human performance functions and HP + Design for use on a wide variety of medical and computer equipment).

6) No likelihood of confusion was found between the marks PURITAN for laundry and dry cleaning services and PURITAN for commercial dry cleaning machine filters. *In re Shipp*, 4 USPQ2d 1174 (TTAB 1987). The following reasons were given by the TTAB:

1. The services were offered to the general public, while the goods were used by owners or operators of the business establishments.

2. The goods were not ordinarily sold to the general public.

3. It was unlikely that customers of the cleaning business would come in contact with the goods used by those businesses.

4. The only class of purchaser who would encounter both the services and the goods were dry cleaning professionals who were aware of practices in the trade.

7) No likelihood of confusion was found between the marks DIAMOND ESSENCE for jewelry and ESSENCE for a magazine advertising jewelry. *Essence Communications, Inc. v. Singh Industries, Inc.*, 10 USPQ2d 1036 (S.D.N.Y. 1988).

8) In *Glen Raven Cotton Mills, Inc. v. Jayvee Brand, Inc.*, 165 USPQ 791 (TTAB 1970), a distinction was drawn between products that seemed at first glance to be commercially related. The mark CANDEE CANE was used in connection with infant's garments. The mark CANDY CANE was used for a variety of fabrics sold in the piece for fabrication into upholstery fabrics, awnings, draperies,

wearing apparel and various accessories. Although cases have held that fabrics and clothing items are related, in this case, the TTAB found no likelihood of confusion because the fabrics were not the type used in the manufacture of infant's garments.

9) No likelihood of confusion was found between the marks ONE FAB FIT for use on women's undergarments and ONE TRUE FIT for use on clothing including jeans, pants, shirts and skirts. *H.D. Lee Co. v. Maidenform Inc.*, 87 USPQ2d 1715 (TTAB 2008). The Board determined that the fact that the parties' products are sold in different sections of department stores underscores their differences, even though the goods were sold in the same channels of trade and to the same consumers.

10) There is no per se rule that all food-related products are related. See *Steve's Ice Cream v. Steve's Famous Hot Dogs*, 3 USPQ2d 1477 (TTAB 1987) (ice cream not related to restaurants featuring hot dogs); *Jacobs v. International Multifoods, Corp.*, 212 USPQ 641, 642 (CCPA 1982) (restaurant services unrelated to tea); *The Nestle Company, Inc., v. Nash-Finch Co.*, 4 USPQ2d 1085 (TTAB 1987) (delicatessen not related to chocolate milk powders); *Hi-Country Foods Corp. v. Hi Country Beef Jerky*, 4 USPQ 1169 (TTAB 1987) (fruit juices not related to beef snack food).

The essence of all these cases is that merely having something to do with food does not establish that products or services are commercially related. The Examiner must provide more proof.

11) In the case *In re White Rock Distilleries Inc.*, 92 UPSQ2d 1282 (TTAB 2009), the Board held that there was no likelihood of confusion between VOLTA for use on vodka infused with caffeine and TERZA VOLTA + Design for use on wine. Even though the goods in question travel in the same channels of trade to the same class of purchasers, the Board determined that the marks were dissimilar and vodka and wine are not related goods. The Board specifically noted that "there is no per se rule that holds that all alcoholic beverages are related." *Id.* at 1285.

12) See *Andy Warhol v. Time*, 9 USPQ2d 1455 (S.D.N.Y. 1988) (no likelihood of confusion between two magazines with the title INTERVIEW); *American Cyanamid Corp. v. Connaught Laboratories, Inc.*, 800 F.2d 306, 231 USPQ2d 128 (2d Cir. 1986), (no likelihood of confusion between HIBBVAX and HIBIMUNE); *Lang v. Retirement Living Publishing Co.*, 21 USPQ2d 1041 (2d Cir. 1991) (no likelihood of confusion between NEW CHOICES FOR THE BEST YEARS and NEW CHOICES PRESS, both used for magazines, because the intended markets of each magazine was different).

13) No likelihood of confusion was found between the MORGAN CREEK mark used on motion pictures, videos, and audio products, and the MORGAN CREEK OUTFITTERS mark used on clothing. *Morgan Creek Productions Inc. v. Foria International Inc.*, 91 USPQ2d 1134 (TTAB 2009). The Board determined that the goods cannot be considered related simply because establishments offering Applicant's clothing and those offering Opposer's products can be located in the same shopping mall. The Board noted that "It has been long held that the mere fact that two different items can be found in a supermarket, department store, drugstore or mass merchandiser store is not a sufficient bases for a finding that the goods are related." *Morgan Creek Products*, 91 USPQ2d at 1042.

14) In the case *In re Giovanni Food Co.*, 97 USPQ2d 1990 (TTAB 2011), the Board determined that there was no likelihood of confusion between JUMPIN' JACKS on barbeque sauce and JUMPIN JACK'S for catering services. The Board noted "the relatedness of food services and food items in not to be assumed and that evidence sufficient to meet the 'something more' standard is necessary." *Id.* at 1992. In this case, the Board held that the mere fact that some restaurants that specialize in barbeque also provide catering services and sell barbeque sauce is not sufficient to establish a relationship

between catering services in general and barbeque sauce.

The situation here presents goods that are even more disparate. Applicant's goods and the Registrant's goods and services would not be encountered by the same people in any level of production or marketing. Accordingly, the goods of the Applicant should not be considered commercially related with the goods and services of the Registrant and there would be no likelihood of confusion.

In addition, even if the Registrant's goods were arguably components of Applicant's goods and services, or vice versa, this does not mean that there is a likelihood of confusion. Examples abound in many areas:

1) In the case *In re Albert Trostel & Sons Co.*, 29 USPQ2d 1783 (TTAB 1993), the Trademark Trial and Appeal Board determined that there was no likelihood of confusion between PHOENIX for leather sold in bulk, and the identical mark PHOENIX registered for use on all-purpose sports bags, luggage, attache cases, briefcases, and handbags. The application covered raw materials while the registration covered finished leather products, and even the registrant admitted that there was no likelihood of confusion.

2) In *The Ritz Hotel Limited v. Ritz Closet Seat Corp.*, 17 USPQ2d 1466 (TTAB 1990), the Trademark Trial and Appeal Board determined that the RIT-Z (Stylized) mark used on toilet seats was not confusingly similar to the well known RITZ marks owned by the Ritz Hotel chain. The Board stated:

True, no hotel room could exist without such an item [a toilet seat]. But, a toilet seat is a fixture of the hotel just as the closets, bathtubs and chandeliers are. Guests would not expect to be able to purchase a toilet seat to take home with them as a memento or souvenir of their visit to a fashionable hotel as they might purchase a robe or a towel bearing the hotel's name and emblem. For these reasons, we do not believe that anyone would expect toilet seats to be within the natural expansion of opposer's business.

3) In *Electronic Design & Sales Inc. v. Electronic Data Systems Corp.*, 21 USPQ2d 1388 (CAFC 1992), the Court of Appeals for the Federal Circuit overruled the Trademark Trial and Appeal Board and held that there was no likelihood of confusion between the E.D.S. mark used on power supplies and battery chargers, and the EDS mark used on computer services. The Court held that the Board failed to assess properly the differences in purchasers, channels of trade, and what each company sold, and overlooked the sophistication of the purchasers.

4) In the case *In re Coors Brewing Co.*, 68 USPQ2d 1059 (CAFC 2003), the Court of Appeals for the Federal Circuit held that beer and restaurant services are not sufficiently related that the use of similar BLUE MOON marks for each would suggest to consumers that the goods and services share a common source. While it is a fact that restaurants sell food and beverages, this is not alone sufficient to show that beverages and restaurant services are related for purposes of likelihood of confusion analysis. In addition, the fact that some restaurants brew or serve their own private label beer does not support the conclusion that consumers are likely to assume common source for beer and restaurant services with similar marks.

5) Applicant also respectfully reiterates that in the case *In re Shipp*, 4 USPQ2d 1174 (TTAB 1987), no likelihood of confusion was found between the marks PURITAN for laundry and dry cleaning

services and PURITAN for commercial dry cleaning machine filters. The TTAB determined that the services were offered to the general public, while the goods were used by owners or operators of the business establishments; the goods were not ordinarily sold to the general public; it was unlikely that customers of the cleaning business would come in contact with the goods used by those businesses; and the only class of purchaser who would encounter both the services and the goods were dry cleaning professionals who were aware of practices in the trade.

On the basis of these cases, even if the Registrant's goods and services were components of Applicant's goods, or vice versa, this does not mean that there is a likelihood of confusion between the goods of the parties. The goods of the parties are different, are sold in different channels of trade, and are purchased by different consumers. Thus, there is no likelihood of confusion.

B. The Term "OMEGA" is Diluted

Applicant's mark is OMEGA and the cited mark is for OMEGA.COM. The use of the term "OMEGA" is incredibly weak. There are a large number of applications and registration filed at the Trademark Office that use the term "OMEGA." A quick search of the U.S. Patent and Trademark Office Online Database reveals nearly 2,300 "hits" for marks that use the term "OMEGA." When narrowed down to registrations only, there are still over 1,200 registrations containing the term "OMEGA," and over 50 of which have goods found in Class 7 (see Attachment I - TESS Search Results.pdf and Attachment J - Registered OMEGA Marks.pdf). As part of the decision-making process, an examiner must consider the strength of the mark cited as a bar to registration. Marks that are commonly used are diluted and weak. Their scope of protection is extremely narrow. As stated by Trademark Trial and Appeal Board member Saul Lefkowitz in *Baf Industries, v. Pro-Specialties, Inc.*, 206 USPQ 166, 175 (TTAB 1980), third party registrations containing similar marks,

. . . are relevant to show that a particular mark has been adopted and registered by so many different products embraced by said field that a registration of the mark in that trade is entitled to a narrow or restricted scope of protection.

Also See *Puma v. Superaga, S.p.a.*, 204 USPQ 688, 691 (TTAB 1980) (narrow scope of protection for sneaker designs due to common usage).

While an examiner should not allow a mark on the basis of dilution alone, the proliferation of registered marks containing the term "OMEGA" tends to indicate that at some point in time different entities have selected and used these two elements together in connection with many different goods. This conclusion about selection and use is accurate despite the TTAB's frequent holdings that third party registrations are not "probative of use." While registrations may not prove the extent of use, or if there is current use, the filing of applications and Section 8 affidavits does establish that the marks were in use at those times and to a degree more than mere token use. Also See *Spraying Systems Co. v. Delavan, Inc.*, 19 USPQ2d 1121, 1125 (N.D.Ill. 1991) and *In re Dayco Products-Eagle Motive, Inc.*, 9 USPQ2d 1910, 1911 (TTAB 1988). See *Red Carpet Corp. v. Johnstown American Enterprises, Inc.*, 7 USPQ 1404, 1406 (TTAB 1988), where the TTAB acknowledged that third party registrations were not determinative of likelihood of confusion, but went on to state the following:

Third party registrations are, however, . . . competent to establish that a portion common to the marks involved in a proceeding has a normally understood and well-known meaning; that this has been recognized by the U.S. Patent and Trademark Office by registering marks containing such a common feature for the same or closely related goods where the remaining portions of the marks are sufficient to distinguish the marks as a whole; and that therefore the inclusion of the (common element) in each mark may be an insufficient basis upon which to predicate a holding of confusing similarity.

In the Red Carpet opposition proceeding, the issue was whether a likelihood of confusion existed between two marks which contained five-sided designs of a house. The applicant made of record several registrations for five-sided designs. The TTAB deemed these registrations relevant to show common usage in the real estate trade. The presence of that common element in the marks of the opposer and applicant were insufficient to support a finding of likelihood of confusion because the remaining features of the marks were sufficiently different.

There would be no likelihood of consumer confusion between the OMEGA and the OMEGA.COM marks.

C. Register Should Reflect Actual Use

Despite the unjust harm that will result if Applicant cannot obtain a federal registration, the reality is that Applicant will continue to use its mark. Dilution in the field will preclude serious challenges to Applicant's use. The Examiner should consider the words of the Court of Appeals for the Federal Circuit in *Bongrain International v. Delice de France*, 1 USPQ 2d 1775 (Fed. Cir. 1987):

The primary purpose of the Trademark Act of 1946 is to give Federal procedural augmentation to the common law rights of trademark owners -- which is to say legitimate users of trademarks. One of the policies sought to be implemented by the Act was to encourage the presence on the register of trademarks of as many as possible of the marks in actual use so that they are available for search purposes (emphasis added).

Applicant's mark will be used and should be registered.

In sum, Applicant respectfully requests that the examiner withdraw the likelihood of confusion refusal because Applicant's mark is used on different goods in an entirely different channel of trade; the term "OMEGA" is diluted; and the Register should reflect actual use.

EVIDENCE SECTION

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SIGNATORY'S NAME	Sara M. Dorchak
SIGNATORY'S POSITION	Attorney
SIGNATORY'S PHONE NUMBER	5163659802
DATE SIGNED	07/09/2015
AUTHORIZED SIGNATORY	YES
CONCURRENT APPEAL NOTICE FILED	YES
FILING INFORMATION SECTION	
SUBMIT DATE	Thu Jul 09 10:20:29 EDT 2015
	USPTO/RFR-47.23.42.154-20

TEAS STAMP

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PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action To the Commissioner for Trademarks:

Application serial no. **79078661** OMEGA(Standard Characters, see <http://tsdr.uspto.gov/img/79078661/large>) has been amended as follows:

ARGUMENT(S)

In response to the substantive refusal(s), please note the following:

The examiner has refused registration of the OMEGA mark (Application Serial No. 79/078,661) on the basis that it is confusingly similar several to the OMEGA.COM U.S. Trademark Registration No. 2,412,722. Reconsideration is respectfully requested.

Applicant makes the following arguments:

A. Goods Travel in Different Channels of Trade

Applicant's goods are in different channels of trade than the products and services of the Registrant. Stated simply, Applicant's goods are rotary lobe blowers which are suitable for a variety of applications such as pneumatic conveying, waste water treatment, air knives, vacuum, and soil remediation. In contrast, the products and services of the Registrant are used in to measure, control, and/or regulate a variety of components (including temperature, humidity, pressure, etc.). These goods and services are offered to consumers who are entirely different than the consumers who would purchase Applicant's products and services. This difference in consumers alone is enough to distinguish the goods of the parties. Moreover, Applicant's goods and services are not related to the products and services of the registrants.

The examiner has indicated that the products are related because the Registrant's goods consist of "air blowers" in Class 7, as well as "blowers, namely, floor and ceiling heater units with blowers" in Class 11. It is respectfully submitted that Applicant provides rotary lobe blowers. Rotary lobe blowers, or roots type superchargers, are positive displacement lobe pumps which operate by pumping a fluid with a pair of meshing lobes (see Attachment A - Wikipedia Article Roots Type Superchargers). The term "blower" is often interchangeable with the term "supercharger" and specifically rotary lobe blowers are used in high vacuum applications. These items are not just machines that blow air, but are highly specialized and specific and are not sold to the same consumers or are found in the same channels of trade as a typical "air blower." Furthermore, the Applicant's products do not provide heat through blown or forced air.

In addition, in order to show that the products of the Applicant and Registrant are the same, the examiner has provided a print-out from Equipnet.com which allegedly shows a rotary lobe blower offered by the Registrant. It is respectfully submitted that the product found on the Equipnet.com website actually shows a rotary lobe blower offered by the Applicant. Specifically, the picture shows a blower of the compact series (type DB 130 C) on which the Applicant's house marks have been eliminated (see Attachment B - KAESER Rotary Blowers.pdf, Attachment C - KAESER COMPACT SERIES.pdf, Attachment D - Screenshot of DB130C.pdf, Attachment E - Print-outs from Equipnet.pdf, and Attachment F - Larger Pictures from Equipnet.pdf). Furthermore, a search of the term "blowers" on the Registrant's website reveals eight items which are completely unrelated to the Applicant's products (see Attachment G - Print-out Search Results.pdf). The only products found on the Registrant's website that are even remotely similar are "pumps," however, the detailed information regarding these items also shows that the products are unrelated (see Attachment H - Print-out Pumps.pdf).

Merely being classified in the same international class of goods and/or having something superficial to do with the same subject matter are not sufficient bases for an Examiner to refuse registration. Examples abound in many areas:

1) In the case *In re American Olean Tile Co., Inc.*, 1 USPQ2d 1823 (TTAB 1986), the Trademark Trial and Appeal Board found that there was no likelihood of confusion between ceramic tile and wood doors for exterior and interior use. Despite the fact that both these materials could be used during construction of a building, they were products that were so dissimilar that they were not considered commercially related.

2) In the case *In re W.W. Henry Co.*, 82 USPQ2d 1213 (TTAB 2007), the Trademark Trial and Appeal Board held that Applicant's PATCH & GO mark used in connection with a cement-based product used in repairing or smoothing wall and floor surfaces is not likely to cause confusion with the Registrant's PATCH 'N GO mark used in connection with chemical filler preparations used in cosmetic repair of polyolefin surfaces. Even though the marks are virtually identical, Applicant's product is of a type offered to do-it-yourselfers and contractors through home improvement hardware stores, and the Registrant's products are purchased by plastics manufacturers.

3) There is no per se rule that all computer-related items are related. In *Reynolds & Reynolds v. I.E. Systems, Inc.*, 5 USPQ2d 1749 (TTAB 1987), the Board found no likelihood of confusion between "ACCULINK" and a family of "ACCU" marks because computer software used to make microcomputers "dumb terminals" were unrelated to application software for tax programs. The Board stated:

In view of the fact that computers are useful and/or are used in almost every facet of the world of business, commerce, medicine, law, etc., it is obvious that distinctions must be made.

In the case *In re Quadrum Corp.*, 228 USPQ 863 (TTAB 1985), the Board held that there was no likelihood of confusion between "MICROFASER" for peripheral computer hardware and "FASER" for applications software in the field of energy conservation and management.

4) No likelihood of confusion was found between the M2 mark for use on CD-ROMS for healthcare and the M2 COMMUNICATIONS mark for use on CD-ROMS for film and music. *M2 Software Inc. v. M2 Communications, Inc.*, 78 USPQ2d 1944 (CAFC 2006).

Similarly, in *In re Box Solutions Corp.*, 79 USPQ2d 1953 (TTAB 2006), the Board reversed the examiner's likelihood of confusion refusal on the basis that the phrase BOX SOLUTIONS used with

computer communications servers was not likely to cause confusion with registrant's BOX + Design mark for use with computers and computer peripherals.

5) No likelihood of confusion was found between the ASTRA mark for use on pharmaceutical preparations and syringes and the ASTRA mark for use on blood analysis machines. *Astra Pharmaceutical Products, Inc. v. Beckman Instruments, Inc.*, 220 USPQ 786 (1st Cir. 1983). Specifically, the Court noted that "[t]he 'hospital community' is not a homogeneous whole, but is composed of separate departments with diverse purchasing requirements, which, in effect, constitute different markets for the parties' respective products." *Astra Pharmaceutical Products, Inc.*, 220 USPQ at 791. This decision was later cited in *Hewlett-Packard Co. v. Human Performance Measurement Inc.* in which the Board determined that "the fact that both parties sell their goods to hospitals, and thus share a common channel of trade, does not necessarily mandate a finding that the products are related and that confusion is likely." *Hewlett-Packard Co. v. Human Performance Measurement Inc.*, 23 USPQ2d 1390, 1395 (TTAB 1991)(holding that there was no likelihood of confusion between HPM + Design for medical instruments for clinical measurement of human performance functions and HP + Design for use on a wide variety of medical and computer equipment).

6) No likelihood of confusion was found between the marks PURITAN for laundry and dry cleaning services and PURITAN for commercial dry cleaning machine filters. *In re Shipp*, 4 USPQ2d 1174 (TTAB 1987). The following reasons were given by the TTAB:

1. The services were offered to the general public, while the goods were used by owners or operators of the business establishments.
2. The goods were not ordinarily sold to the general public.
3. It was unlikely that customers of the cleaning business would come in contact with the goods used by those businesses.
4. The only class of purchaser who would encounter both the services and the goods were dry cleaning professionals who were aware of practices in the trade.

7) No likelihood of confusion was found between the marks DIAMOND ESSENCE for jewelry and ESSENCE for a magazine advertising jewelry. *Essence Communications, Inc. v. Singh Industries, Inc.*, 10 USPQ2d 1036 (S.D.N.Y. 1988).

8) In *Glen Raven Cotton Mills, Inc. v. Jayvee Brand, Inc.*, 165 USPQ 791 (TTAB 1970), a distinction was drawn between products that seemed at first glance to be commercially related. The mark CANDEE CANE was used in connection with infant's garments. The mark CANDY CANE was used for a variety of fabrics sold in the piece for fabrication into upholstery fabrics, awnings, draperies, wearing apparel and various accessories. Although cases have held that fabrics and clothing items are related, in this case, the TTAB found no likelihood of confusion because the fabrics were not the type used in the manufacture of infant's garments.

9) No likelihood of confusion was found between the marks ONE FAB FIT for use on women's undergarments and ONE TRUE FIT for use on clothing including jeans, pants, shirts and skirts. *H.D. Lee Co. v. Maidenform Inc.*, 87 USPQ2d 1715 (TTAB 2008). The Board determined that the fact that the parties' products are sold in different sections of department stores underscores their differences, even though the goods were sold in the same channels of trade and to the same consumers.

10) There is no per se rule that all food-related products are related. See *Steve's Ice Cream v. Steve's Famous Hot Dogs*, 3 USPQ2d 1477 (TTAB 1987) (ice cream not related to restaurants featuring hot dogs); *Jacobs v. International Multifoods, Corp.*, 212 USPQ 641, 642 (CCPA 1982) (restaurant services unrelated to tea); *The Nestle Company, Inc., v. Nash-Finch Co.*, 4 USPQ2d 1085 (TTAB 1987) (delicatessen not related to chocolate milk powders); *Hi-Country Foods Corp. v. Hi Country Beef Jerky*, 4 USPQ 1169 (TTAB 1987) (fruit juices not related to beef snack food).

The essence of all these cases is that merely having something to do with food does not establish that products or services are commercially related. The Examiner must provide more proof.

11) In the case *In re White Rock Distilleries Inc.*, 92 USPQ2d 1282 (TTAB 2009), the Board held that there was no likelihood of confusion between VOLTA for use on vodka infused with caffeine and TERZA VOLTA + Design for use on wine. Even though the goods in question travel in the same channels of trade to the same class of purchasers, the Board determined that the marks were dissimilar and vodka and wine are not related goods. The Board specifically noted that “there is no per se rule that holds that all alcoholic beverages are related.” *Id.* at 1285.

12) See *Andy Warhol v. Time*, 9 USPQ2d 1455 (S.D.N.Y. 1988) (no likelihood of confusion between two magazines with the title INTERVIEW); *American Cyanamid Corp. v. Connaught Laboratories, Inc.*, 800 F.2d 306, 231 USPQ2d 128 (2nd Cir. 1986), (no likelihood of confusion between HIBBVAX and HIBIMUNE); *Lang v. Retirement Living Publishing Co.*, 21 USPQ2d 1041 (2d Cir. 1991) (no likelihood of confusion between NEW CHOICES FOR THE BEST YEARS and NEW CHOICES PRESS, both used for magazines, because the intended markets of each magazine was different).

13) No likelihood of confusion was found between the MORGAN CREEK mark used on motion pictures, videos, and audio products, and the MORGAN CREEK OUTFITTERS mark used on clothing. *Morgan Creek Productions Inc. v. Foria International Inc.*, 91 USPQ2d 1134 (TTAB 2009). The Board determined that the goods cannot be considered related simply because establishments offering Applicant's clothing and those offering Opposer's products can be located in the same shopping mall. The Board noted that “It has been long held that the mere fact that two different items can be found in a supermarket, department store, drugstore or mass merchandiser store is not a sufficient bases for a finding that the goods are related.” *Morgan Creek Products*, 91 USPQ2d at 1042.

14) In the case *In re Giovanni Food Co.*, 97 USPQ2d 1990 (TTAB 2011), the Board determined that there was no likelihood of confusion between JUMPIN' JACKS on barbeque sauce and JUMPIN JACK'S for catering services. The Board noted “the relatedness of food services and food items in not to be assumed and that evidence sufficient to meet the ‘something more’ standard is necessary.” *Id.* at 1992. In this case, the Board held that the mere fact that some restaurants that specialize in barbeque also provide catering services and sell barbeque sauce is not sufficient to establish a relationship between catering services in general and barbeque sauce.

The situation here presents goods that are even more disparate. Applicant's goods and the Registrant's goods and services would not be encountered by the same people in any level of production or marketing. Accordingly, the goods of the Applicant should not be considered commercially related with the goods and services of the Registrant and there would be no likelihood of confusion.

In addition, even if the Registrant's goods were arguably components of Applicant's goods and services, or vice versa, this does not mean that there is a likelihood of confusion. Examples abound in many areas:

1) In the case *In re Albert Trostel & Sons Co.*, 29 USPQ2d 1783 (TTAB 1993), the Trademark Trial and Appeal Board determined that there was no likelihood of confusion between PHOENIX for leather sold in bulk, and the identical mark PHOENIX registered for use on all-purpose sports bags, luggage, attache cases, briefcases, and handbags. The application covered raw materials while the registration covered finished leather products, and even the registrant admitted that there was no likelihood of confusion.

2) In *The Ritz Hotel Limited v. Ritz Closet Seat Corp.*, 17 USPQ2d 1466 (TTAB 1990), the Trademark Trial and Appeal Board determined that the RIT-Z (Stylized) mark used on toilet seats was not confusingly similar to the well known RITZ marks owned by the Ritz Hotel chain. The Board stated:

True, no hotel room could exist without such an item [a toilet seat]. But, a toilet seat is a fixture of the hotel just as the closets, bathtubs and chandeliers are. Guests would not expect to be able to purchase a toilet seat to take home with them as a memento or souvenir of their visit to a fashionable hotel as they might purchase a robe or a towel bearing the hotel's name and emblem. For these reasons, we do not believe that anyone would expect toilet seats to be within the natural expansion of opposer's business.

3) In *Electronic Design & Sales Inc. v. Electronic Data Systems Corp.*, 21 USPQ2d 1388 (CAFC 1992), the Court of Appeals for the Federal Circuit overruled the Trademark Trial and Appeal Board and held that there was no likelihood of confusion between the E.D.S. mark used on power supplies and battery chargers, and the EDS mark used on computer services. The Court held that the Board failed to assess properly the differences in purchasers, channels of trade, and what each company sold, and overlooked the sophistication of the purchasers.

4) In the case *In re Coors Brewing Co.*, 68 USPQ2d 1059 (CAFC 2003), the Court of Appeals for the Federal Circuit held that beer and restaurant services are not sufficiently related that the use of similar BLUE MOON marks for each would suggest to consumers that the goods and services share a common source. While it is a fact that restaurants sell food and beverages, this is not alone sufficient to show that beverages and restaurant services are related for purposes of likelihood of confusion analysis. In addition, the fact that some restaurants brew or serve their own private label beer does not support the conclusion that consumers are likely to assume common source for beer and restaurant services with similar marks.

5) Applicant also respectfully reiterates that in the case *In re Shipp*, 4 USPQ2d 1174 (TTAB 1987), no likelihood of confusion was found between the marks PURITAN for laundry and dry cleaning services and PURITAN for commercial dry cleaning machine filters. The TTAB determined that the services were offered to the general public, while the goods were used by owners or operators of the business establishments; the goods were not ordinarily sold to the general public; it was unlikely that customers of the cleaning business would come in contact with the goods used by those businesses; and the only class of purchaser who would encounter both the services and the goods were dry cleaning professionals who were aware of practices in the trade.

On the basis of these cases, even if the Registrant's goods and services were components of Applicant's goods, or vice versa, this does not mean that there is a likelihood of confusion between the goods of the parties. The goods of the parties are different, are sold in different channels of trade, and are purchased by different consumers. Thus, there is no likelihood of confusion.

B. The Term "OMEGA" is Diluted

Applicant's mark is OMEGA and the cited mark is for OMEGA.COM. The use of the term

“OMEGA” is incredibly weak. There are a large number of applications and registration filed at the Trademark Office that use the term “OMEGA.” A quick search of the U.S. Patent and Trademark Office Online Database reveals nearly 2,300 “hits” for marks that use the term “OMEGA.” When narrowed down to registrations only, there are still over 1,200 registrations containing the term “OMEGA,” and over 50 of which have goods found in Class 7 (see Attachment I - TESS Search Results.pdf and Attachment J - Registered OMEGA Marks.pdf). As part of the decision-making process, an examiner must consider the strength of the mark cited as a bar to registration. Marks that are commonly used are diluted and weak. Their scope of protection is extremely narrow. As stated by Trademark Trial and Appeal Board member Saul Lefkowitz in *Baf Industries, v. Pro-Specialties, Inc.*, 206 USPQ 166, 175 (TTAB 1980), third party registrations containing similar marks,

. . . are relevant to show that a particular mark has been adopted and registered by so many different products embraced by said field that a registration of the mark in that trade is entitled to a narrow or restricted scope of protection.

Also See *Puma v. Superaga, S.p.a.*, 204 USPQ 688, 691 (TTAB 1980) (narrow scope of protection for sneaker designs due to common usage).

While an examiner should not allow a mark on the basis of dilution alone, the proliferation of registered marks containing the term “OMEGA” tends to indicate that at some point in time different entities have selected and used these two elements together in connection with many different goods. This conclusion about selection and use is accurate despite the TTAB's frequent holdings that third party registrations are not "probative of use." While registrations may not prove the extent of use, or if there is current use, the filing of applications and Section 8 affidavits does establish that the marks were in use at those times and to a degree more than mere token use. Also See *Spraying Systems Co. v. Delavan, Inc.*, 19 USPQ2d 1121, 1125 (N.D.Ill. 1991) and *In re Dayco Products-Eagle Motive, Inc.*, 9 USPQ2d 1910, 1911 (TTAB 1988). See *Red Carpet Corp. v. Johnstown American Enterprises, Inc.*, 7 USPQ 1404, 1406 (TTAB 1988), where the TTAB acknowledged that third party registrations were not determinative of likelihood of confusion, but went on to state the following:

Third party registrations are, however, . . . competent to establish that a portion common to the marks involved in a proceeding has a normally understood and well-known meaning; that this has been recognized by the U.S. Patent and Trademark Office by registering marks containing such a common feature for the same or closely related goods where the remaining portions of the marks are sufficient to distinguish the marks as a whole; and that therefore the inclusion of the (common element) in each mark may be an insufficient basis upon which to predicate a holding of confusing similarity. In the *Red Carpet* opposition proceeding, the issue was whether a likelihood of confusion existed between two marks which contained five-sided designs of a house. The applicant made of record several registrations for five-sided designs. The TTAB deemed these registrations relevant to show common usage in the real estate trade. The presence of that common element in the marks of the opposer and applicant were insufficient to support a finding of likelihood of confusion because the remaining features of the marks were sufficiently different.

There would be no likelihood of consumer confusion between the OMEGA and the OMEGA.COM marks.

C. Register Should Reflect Actual Use

Despite the unjust harm that will result if Applicant cannot obtain a federal registration, the reality is that Applicant will continue to use its mark. Dilution in the field will preclude serious challenges to Applicant's use. The Examiner should consider the words of the Court of Appeals for the Federal Circuit

in *Bongrain International v. Delice de France*, 1 USPQ 2d 1775 (Fed. Cir. 1987):

The primary purpose of the Trademark Act of 1946 is to give Federal procedural augmentation to the common law rights of trademark owners -- which is to say legitimate users of trademarks. One of the policies sought to be implemented by the Act was to encourage the presence on the register of trademarks of as many as possible of the marks in actual use so that they are available for search purposes (emphasis added).

Applicant's mark will be used and should be registered.

In sum, Applicant respectfully requests that the examiner withdraw the likelihood of confusion refusal because Applicant's mark is used on different goods in an entirely different channel of trade; the term "OMEGA" is diluted; and the Register should reflect actual use.

EVIDENCE

Evidence in the nature of A - Wikipedia Article; B - Brochure Containing Applicant's Products; C - Brochure Containing Applicant's Products; D - Close-up Image of Applicant's Product; E - Print-outs from Equipnet; F - Larger Pictures from Equipnet; G - Search Results from Registrant's Website; H - Screenshot from Registrant's Website; I - TESS Search Results; and J - OMEGA Registrations has been attached.

Original PDF file:

[evi_472342154-20150709094601379362_. Attachment A - Wikipedia Article Roots Type Superchargers.pdf](#)

Converted PDF file(s) (5 pages)

[Evidence-1](#)

[Evidence-2](#)

[Evidence-3](#)

[Evidence-4](#)

[Evidence-5](#)

Original PDF file:

[evi_472342154-20150709094601379362_. Attachment B - KAESER Rotary Blowers.pdf](#)

Converted PDF file(s) (20 pages)

[Evidence-1](#)

[Evidence-2](#)

[Evidence-3](#)

[Evidence-4](#)

[Evidence-5](#)

[Evidence-6](#)

[Evidence-7](#)

[Evidence-8](#)

[Evidence-9](#)

[Evidence-10](#)

[Evidence-11](#)

[Evidence-12](#)

[Evidence-13](#)

[Evidence-14](#)

[Evidence-15](#)

[Evidence-16](#)

[Evidence-17](#)

[Evidence-18](#)

[Evidence-19](#)

[Evidence-20](#)

Original PDF file:

[evi_472342154-20150709094601379362_ . Attachment C - KAESER COMPACT SERIES.pdf](#)

Converted PDF file(s) (3 pages)

[Evidence-1](#)

[Evidence-2](#)

[Evidence-3](#)

Original PDF file:

[evi_472342154-20150709094601379362_ . Attachment D - Screenshot of DB130C.pdf](#)

Converted PDF file(s) (1 page)

[Evidence-1](#)

Original PDF file:

[evi_472342154-20150709094601379362_ . Attachment E - Print-outs from Equipnet.pdf](#)

Converted PDF file(s) (1 page)

[Evidence-1](#)

Original PDF file:

[evi_472342154-20150709094601379362_ . Attachment F - Larger Pictures from Equipnet.pdf](#)

Converted PDF file(s) (3 pages)

[Evidence-1](#)

[Evidence-2](#)

[Evidence-3](#)

Original PDF file:

[evi_472342154-20150709094601379362_ . Attachment G - Print-out Search Results.pdf](#)

Converted PDF file(s) (1 page)

[Evidence-1](#)

Original PDF file:

[evi_472342154-20150709094601379362_ . Attachment H - Print-out Pumps.pdf](#)

Converted PDF file(s) (1 page)

[Evidence-1](#)

Original PDF file:

[evi_472342154-20150709094601379362_ . Attachment I - TESS Search Results.pdf](#)

Converted PDF file(s) (8 pages)

[Evidence-1](#)

[Evidence-2](#)

[Evidence-3](#)

[Evidence-4](#)

[Evidence-5](#)

[Evidence-6](#)

[Evidence-7](#)

[Evidence-8](#)

Original PDF file:

[evi_472342154-20150709094601379362_ . Attachment J - Registered OMEGA Marks.pdf](#)

Converted PDF file(s) (16 pages)

[Evidence-1](#)

[Evidence-2](#)
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[Evidence-5](#)
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[Evidence-11](#)
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[Evidence-14](#)
[Evidence-15](#)
[Evidence-16](#)

SIGNATURE(S)

Request for Reconsideration Signature

Signature: /smd/ Date: 07/09/2015

Signatory's Name: Sara M. Dorchak

Signatory's Position: Attorney

Signatory's Phone Number: 5163659802

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

The applicant is filing a Notice of Appeal in conjunction with this Request for Reconsideration.

Serial Number: 79078661

Internet Transmission Date: Thu Jul 09 10:20:29 EDT 2015

TEAS Stamp: USPTO/RFR-47.23.42.154-20150709102029289

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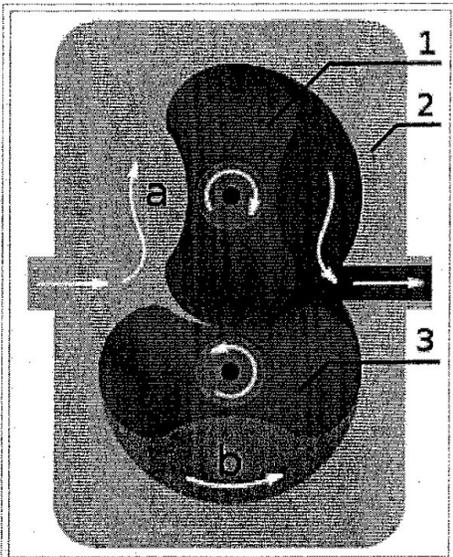
A-N/A-20150709094601379362

Roots-type supercharger

From Wikipedia, the free encyclopedia

The **Roots type supercharger** or **Roots blower** is a positive displacement lobe pump which operates by pumping a fluid with a pair of meshing lobes not unlike a set of stretched gears. Fluid is trapped in pockets surrounding the lobes and carried from the intake side to the exhaust. It is frequently used as a supercharger in engines, where it is driven directly from the engine's crankshaft via a belt or, in a two-stroke diesel engine, by spur gears.

It is named for the American inventors and brothers Philander and Francis Marion Roots, founders of the Roots Blower Company, Connersville, Indiana, who first patented the basic design in 1860 as an air pump for use in blast furnaces and other industrial applications. In 1900, Gottlieb Daimler included a Roots-style supercharger in a patented engine design, making the Roots-type supercharger the oldest of the various designs now available. Roots blowers are commonly referred to as air blowers or PD (positive displacement) blowers.^[1]



A Roots blower with two-lobed rotors. Most real Roots blowers' rotors have three or four lobes.

- Key:
- 1 Rotary vane 1
 - 2. Pump body
 - 3. Rotary vane 2
 - a. Intake
 - b. Pumping
 - c. Forced air or air-fuel mixture into intake manifold

Contents

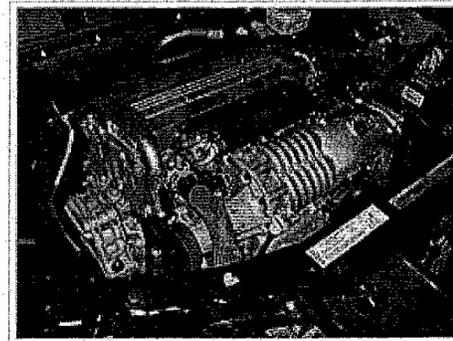
- 1 Applications
- 2 Technical considerations
- 3 Roots Efficiency map
- 4 Comparative advantages
- 5 Related terms
- 6 See also
- 7 References
- 8 External links

Applications

Of the three basic supercharger types, the Roots design historically possessed the worst thermal efficiency, especially at high pressure ratios.^[2] Unlike the basic illustration, most modern Roots-type superchargers incorporate three-lobe or four-lobe rotors.

The Roots-type supercharger is simple and widely used. It can also be more effective than alternative superchargers at developing positive intake manifold pressure (i.e., above atmospheric pressure) at low engine speeds, making it a popular choice for passenger automobile applications. Peak torque can be achieved by about 2000 rpm.

Accumulated heat is an important consideration in the operation of a compressor in an internal combustion engine. In accordance with the ideal gas law, a compression operation will raise the temperature of the compressed output. Additionally, the operation of the compressor itself requires energy input, which is converted to heat and can be transferred to the gas through the compressor housing, heating it more. Although intercoolers are more commonly known for their use on turbochargers, superchargers may also benefit from the use of an intercooler. Internal combustion is based upon a thermodynamic cycle, and a cooler temperature of the intake charge results in a greater thermodynamic expansion and vice versa. A hot intake charge robs the engine of efficiency and produces diminishing returns from the compression process, while an intercooling stage adds complexity but can improve the efficiency by releasing some of the unneeded heat. Above about 5 psi (0.3 bar) the intercooling improvement can become dramatic.^[*citation needed*] With a Roots-type supercharger, one method successfully employed is the addition of a thin heat exchanger placed between the blower and the engine. Water is circulated through it to a second unit placed near the front of the vehicle where a fan and the ambient air-stream can dissipate the collected heat.



An Eaton M62 Roots-type supercharger is visible at the front of this Ecotec LSJ engine in a 2006 Saturn Ion Red Line

The Roots design was commonly used on two-stroke diesel engines (popularized by the Detroit Diesel [truck and bus] and Electro-Motive [railroad] divisions of General Motors), which require some form of forced induction, as there is no separate intake stroke. The *Rootes* Co. two-stroke diesel engine, used in *Commer* and *Karrier* vehicles, had a Roots-type blower but the two names are not connected.

The superchargers used on top fuel engines, funny cars, and other dragsters, as well as hot rods, are in fact derivatives of *General Motors Coach Division* blowers for their industrial diesel engines, which were adapted for automotive use in the early days of the sport of drag racing. The model name of these units delineates their size; i.e. the once commonly used "4-71" and "6-71" blowers were designed for *General Motors* diesels having four or six cylinders of 71 cubic inches each. Current competition dragsters use aftermarket GMC variants similar in design to the -71 series, but with the rotor and case length increased for added pumping capacity, identified as the 8-71, 10-71, 14-71 etc.

Roots blowers are typically used in applications where a large volume of air must be moved across a relatively small pressure differential. This includes low vacuum applications, with the Roots blower acting alone, or use as part of a high vacuum system, in combination with other pumps.

Some civil defense sirens used Roots blowers to pump air to the rotor (chopper). The most well known are the Federal Signal Thunderbolt Series, and ACA (now American Signal Corporation) Hurricane. These sirens are known as "supercharged sirens".

Roots blowers are also used in reverse to measure the flow of gases or liquids, for example, in gas meters.

Technical considerations

The simplest form of a Roots blower has cycloidal rotors, constructed of alternating tangential sections of hypocycloidal and epicycloidal curves. For a two-lobed rotor, the smaller generating circles are

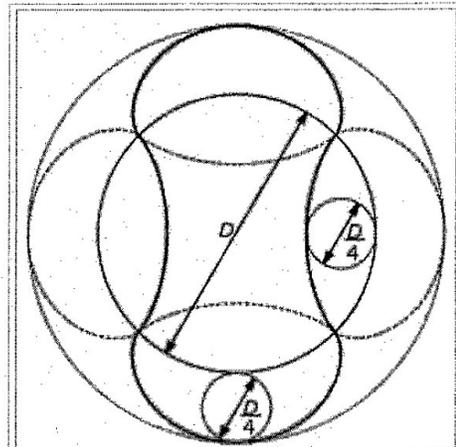
one-quarter the diameter of the larger. Real Roots blowers may have more complex profiles for increased efficiency.

Because rotary lobe pumps need to maintain a clearance between the lobes, a single stage Roots blower can pump gas across only a limited pressure differential. If the pump is used outside its specification, the compression of the gas generates so much heat that the lobes expand to the point that they jam, damaging the pump.

Roots pumps are capable of pumping large volumes but as they only achieve moderate compression, it is not uncommon to see multiple Roots blower stages, frequently with heat exchangers (intercoolers) in between to cool the gas. The lack of oil on the pumping surfaces allows the pumps to work in environments where contamination control is important. The high pumping rate for hydrocarbons also allows the Roots pump to provide an effective isolation between oiled pumps, such as rotary compression pumps, and the vacuum chamber.

A variant uses claw-shaped rotors for higher compression.

The Roots-type blower may achieve an efficiency of around 70% while achieving a maximum pressure ratio of two. Because a Roots type blower pumps air in discrete pulses (unlike a screw compressor), pulsation noise and turbulence may be transmitted downstream. If not properly managed (through outlet piping geometry) or accounted for (by structural reinforcement of downstream components), the resulting pulsations can cause fluid cavitation and/or damage to components downstream of the blower.

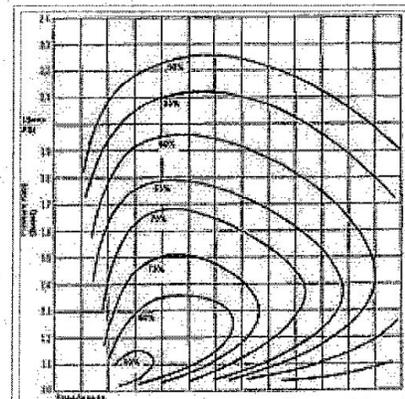


Construction of a two-lobed cycloidal rotor. The red curve is a hypocycloid and the blue curve is an epicycloid. The smaller generating circles (red and blue) are one quarter the diameter of the larger generating circle (black). The rotor profile is the thick line.

Roots Efficiency map

For any given Roots blower running under given conditions, a single point will fall on the map. This point will rise with increasing boost and will move to the right with increasing blower speed. It can be seen that, at moderate speed and low boost, the efficiency can be over 90%. This is the area in which Roots blowers were originally intended to operate, and they are very good at it.

Boost is given in terms of pressure ratio, which is the ratio of absolute air pressure before the blower to the absolute air pressure after compression by the blower. If no boost is present, the pressure ratio will be 1.0 (meaning 1:1), as the outlet pressure equals the inlet pressure. Fifteen psi boost is marked for reference (slightly above a pressure ratio of 2.0 compared to atmospheric pressure). At 15 psi (1.0 bar) boost, Roots blowers hover between 50% and 58%. Replacing a smaller blower with a larger blower moves the point to the left. In most cases, as the map shows, this will move it into higher efficiency areas on the left as the smaller blower likely will have been running fast



Roots Supercharger Efficiency Map. Generalized blower efficiency map shows how a blower's efficiency varies with speed and boost.

on the right of the chart. Usually, using a larger blower and running it slower to achieve the same boost will give an increase in compressor efficiency.

The volumetric efficiency of the Roots-type blower is very good, usually staying above 90% at all but the lowest blower speeds. Because of this, even a blower running at low efficiency will still mechanically deliver the intended volume of air to the engine, but that air will be hotter. In drag racing applications where large volumes of fuel are injected with that hot air, vaporizing the fuel absorbs the heat. This functions as a kind of liquid aftercooler system and goes a long way to negating the inefficiency of the Roots design in that application.

Comparative advantages

Rotary lobe blowers, commonly called boosters in high vacuum application, are not used as a stand alone pump. In high vacuum applications, the boosters pumping speed can be used towards reducing the end pressure and increasing the pumping speed.

Related terms

The term "blower" is commonly used to define a device placed on engines with a functional need for additional airflow using a direct mechanical link as its energy source. The term blower is used to describe different types of superchargers. A screw type supercharger, Roots type supercharger, and a centrifugal supercharger are all types of blowers. Conversely, a turbocharger, using exhaust compression to spin its turbine, and not a direct mechanical link, is not generally regarded as a "blower" but simply a "turbo".

See also

- TVS Supercharger

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- [^] [1] (<http://www.airblowerservices.com>), Air Blower Services
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External links

- Flash Animation of Roots Pump (<http://www.mekanizmalar.com/roots3.html>)
- <http://www.everestblowers.com/technical-articles/understandin-blowers.pdf>
- <http://www.pdblowers.com/t17-positive-displacement-blower-calculations.php>

- <http://roystongroup.com/history.htm>

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Categories: Superchargers | Two-stroke diesel engines

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Rotary Blowers and Packages

BB - HB Series

EBS - FBS Series

Flow Capacities to: 5650 cfm

Pressures up to 15 psig, vacuums to 15" Hg



Built-for-a-lifetime™ Products

A family tradition of quality

Kaeser has been designing and manufacturing superior industrial machinery since 1919. With over 90 years of manufacturing experience, we pride ourselves on upholding our traditions of quality and craftsmanship. Our reputation for reliability, energy efficiency, and excellent service has helped us grow into a global leader in blower and compressed air technology.

Integrated engineering

Kaeser blower packages offer the best possible combination of quality construction, reliable performance and ease of ownership. Our standard package design features a full scope of supply that is unmatched in the industry. A complete package design reduces time spent specifying and purchasing blower systems components, and after the sale there is only one supplier to call for technical or other support on any part of the blower package.

Low Life Cycle Costs

In addition to reducing engineering and installation costs, our blowers are very energy efficient. They are also designed for easy maintenance, and the few maintenance points are all accessible through one cabinet panel. Of course, the rugged reliability of Kaeser blowers means fewer lifetime repairs. In fact, Kaeser is so confident in the benefits of our design that we offer an unbeatable warranty on our blower blocks sold as part of our standard packages.

Easy installation

Our complete packages are designed with a unique component layout to minimize floor space and allow side-by-side placement. Kaeser's design combined with a full six-sided enclosure (standard), results in a blower package with the least noise and vibration. No additional soundproofing is needed. Further, all integrated models arrive pre-assembled, offering major time and labor savings during installation.

Superior connectivity

Kaeser blowers feature the integrated Sigma Control 2™ to monitor and control the blower package. Versatile communication modules also enable these packages to connect with master controllers, like Sigma Air Manager (SAM) or other centralized control systems for enhanced reliability, energy optimization, and plant automation.

Today, Kaeser employs over 4,800 people and our growing distribution network provides reliable and sustainable compressed air system solutions in 100 nations throughout the world.



State-of-the-art Manufacturing

Kaeser blowers are manufactured in our extensive facility in Gera, Germany. State-of-the-art CNC lathes, milling machines, and grinding machines produce our high quality timing gears, proprietary rotors, housings, and other components to very precise tolerances.

Continuous research and development keep Kaeser products at the forefront of technology and give our blowers a reputation for efficient operation, easy maintenance, and unparalleled reliability. Highly skilled technicians assemble each unit according to our ISO 9001/14001 procedures. The finished products must meet strict quality standards and pass through a rigorous inspection and testing program before shipping to our customers and stocking centers around the world.



Gera Plant

Covering an area of almost 15 acres, our blower plant in Gera, Germany produces Kaeser's wide range of rotary blowers. This location features state-of-the-art technology for Kaeser's engineering, R&D, production, and testing facilities.

Precision milling and grinding

Rotor profiles and critical components are precision machined and then finished on a CNC grinder.



Continuous quality control

All critical components such as rotors and casings are measured and verified using the latest in 3D computer technology and coordinate measuring machines.



Advanced machining centers

State-of-the-art machining centers in climate controlled rooms produce the blower components.

Environmentally friendly powder coating system

Sound attenuating enclosure panels are given their super-fine finish by a powder coating process where epoxy finish is baked on at 350°F. The corrosion and scratch resistant finish meets the highest quality standards.



Meticulous blower assembly

Highly trained specialists assemble each blower and complete package according to our strict ISO 9001 standards.

Comprehensive unit testing

Each and every blower undergoes a run-test under maximum load conditions to verify mechanical integrity as well as a slip-test to verify performance. The test data is recorded in the machine documentation. Every package is shipped in set-up condition, fluid-filled, and ready for operation.



Advanced Blower Design

Rugged Reliability

All Kaeser Omega lobe blowers share a durable design that includes rigid casings, cast bearing supports, and one-piece rotors. The substantial casing construction and proprietary port design ensure smooth, quiet operation at all speeds. The precision machined, case-hardened, spur-type timing gears and oversized cylindrical roller bearings provide years of reliable service. Piston-ring seals ensure optimum internal sealing and oil-free air.

Versatility

Omega lobe blowers can be mounted horizontally or vertically to suit the specific application. They are also available as complete blower packages.

Superior Warranty Protection

Kaeser blowers are backed by our 24-month warranty against defects in material and workmanship. The blowers in our Com-paK Plus packages carry 5-year warranties.

Furthermore, Kaeser guarantees shipment of any standard part required for emergency breakdown repairs on any standard blower within one working day of order receipt, or the parts are free.





One-piece rotors and sealing strips

One-piece, ductile iron rotors are balanced to the closest tolerances for smooth, efficient operation at all speeds and pressures. Our over-sized shaft diameters and rigid construction minimize shaft deflection. Specially designed rotor sealing strips reduce sensitivity to contamination and intermittent thermal overloading.



Superior casing

The distinctive ribbed housing ensures strength, rigidity and aids in proper cooling. Integral bearing supports and head plates are machined into the castings to provide better strength and to maintain alignment in the most demanding applications. Our unique port design ensures smooth, quiet operation at all speeds.



Straight-cut gears

Spur-type, case-hardened, precision ground timing gears minimize vibration and mechanical noise and ensure optimal rotor timing for improved efficiency. The straight cut gears do not subject the rotors to axial loads, making it possible to use longer lasting roller bearings.



Generously sized bearings

Heavy duty cylindrical bearings absorb the continuously changing radial gas-forces exerted onto the cylinders and last up to ten times longer than axial thrust bearings under the same load conditions.

Oil slingers on both gear and drive ends of the blower provide lubrication to the bearings, gears, and input shaft seal to ensure long service life.

Complete Blower Packages

Com-paK™

Omega lobe blowers are also available as Com-paK units, designed to minimize space requirements and reduce installation costs. The Com-paK is complete with a premium efficiency TEFC motor, silencers, and a gauge cluster. The package arrives ready for installation.

All routine maintenance points are accessible from the front while all utility connections are located in the back. All pipe connections and cooling air apertures are located at the rear of the unit, which makes side-by-side installation possible.



Innovative cabinet design

Com-paK models are fully enclosed in powder coated and insulated steel cabinets. They all feature positive ventilation with dedicated fans to remove latent heat even when the main motor is off — making Kaeser blower packages more reliable in a wide range of climates and uses. The process air circuit is separate from the ventilating air for improved efficiency.



High efficiency motors

Premium efficiency TEFC/IP-55 motors are conservatively sized to ensure reliable operation and overcome changes in system pressure.



V-belt drive with guard

V-belt drive provides flexible pressure/flow combinations and dependable performance. Kaeser packages are standard with our automatic v-belt tensioner. Our fully-enclosed belt guard offers complete protection and is easily removed for convenient maintenance access.



8" blower package. Enclosure field assembled.



Inlet silencer with integral filter

Our silencers are designed for our blower noise frequencies. Absorptive material reduces pulsation noise and the reusable polyester filter protects the blower from harmful particulates and minimizes pressure drop.



Instrumentation

Standard instrumentation includes pressure/vacuum gauges, discharge temperature gauge with shut-down switch, and inlet filter differential monitoring or vacuum filter switch.



Pre-mounted valves

Check plate and relief valves are standard. Unloaded start valve is optional. All come pre-mounted to save on installation costs.

Package Cooling and Enclosure Design

Parallel Cooling Concept

Kaeser's integrated package design separates airflows for the blower, motor, and electrical cabinet. This ensures air is not preheated before entering the blower, which keeps the overall efficiency higher. It also ensures the coolest possible air is being channeled across the drive motor. A dedicated fan ensures that regardless of the operating speed of the package, cooling air is flowing through the enclosure.



Extremely low sound and vibration

All integrated packages feature a standard enclosure that is built for exceptional noise reduction and easy access to maintenance points. Heavy gauge construction and powder coat finish make it suitable for both indoor and outdoor installation. Heavy duty dampers absorb vibrations before they reach the base of the unit or sound enclosure. They also reduce stress on plumbing and wiring.



Service-Friendly Design

Kaeser has been a leader in creating fully packaged blowers that are reliable, durable, energy efficient, and simple to maintain. Our blower packages set the standard in the blower industry. In addition to a full scope of supply, these models feature an open package design to simplify routine maintenance. When you consider all the benefits of owning a *built for a lifetime™* machine, it's clear that a Kaeser integrated blower package will save you money, year after year.



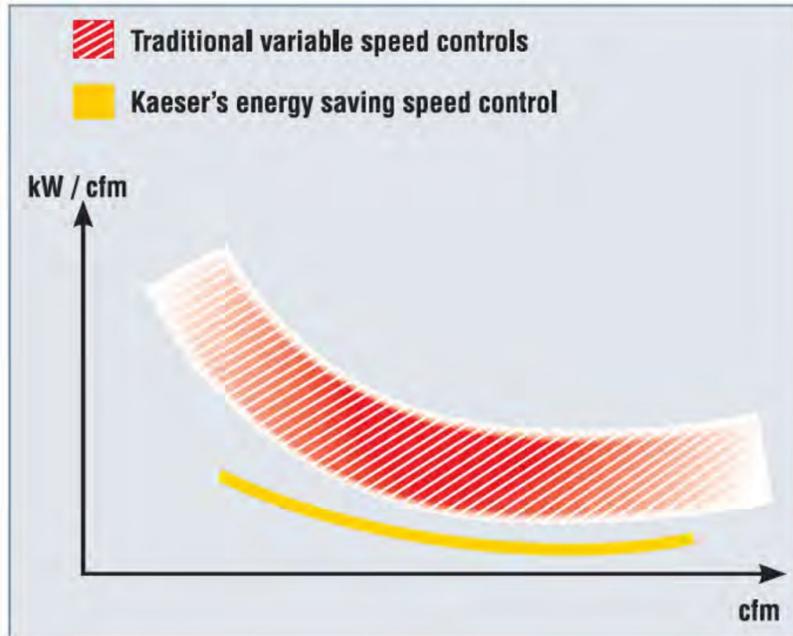
Many features make our blower packages easy to service, including:

- A single front panel removes for complete easy access to all major components
- Inlet filter requires no tools for servicing
- Drain valves with gasketed caps simplify fluid changes
- High visibility sight glasses allow the fluid levels to be checked at a glance from the front of the package
- V-belt guard is easily removed, but provides full protection
- Automatic belt tensioner maintains drive efficiency and eliminates frequent adjustments. Tension status is easy to see at a glance and adjustments only take a few minutes.
- Easy-to-read instrumentation
- Easily accessible motor grease fittings

Integrated Packages

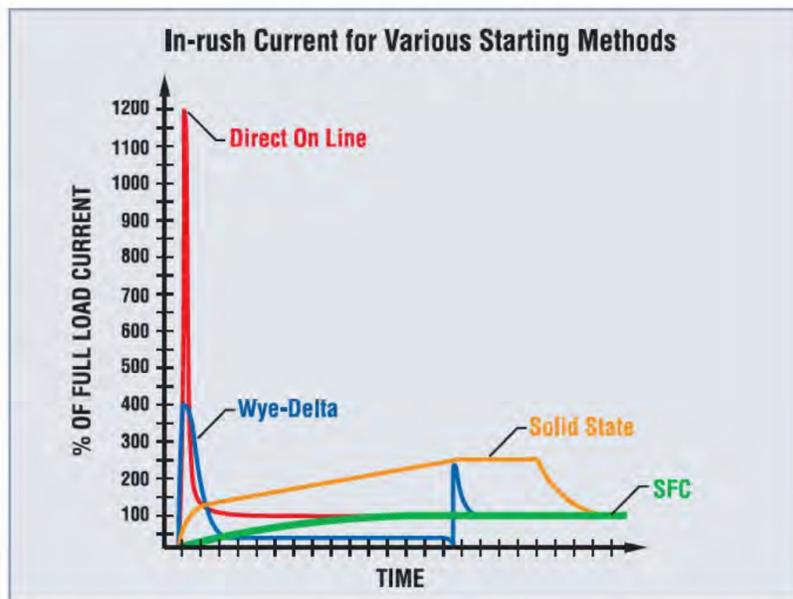
Superior Efficiency Options

Kaeser blower packages are available with reduced voltage wye-delta starter or variable speed drive.



Wide control range

Kaeser matches the blower block, drive motor, and variable speed controller for optimal performance, which provides better specific performance over a wider range of flows. This ensures maximum efficiency in multi-unit operation while always meeting fluctuating demand.



Kaeser Start Control

The Sigma Start Control (STC) provides reduced current starting (wye-delta) for fixed speed units. The package is also equipped with premium contactors, overload protection, and phase loss monitoring.

Communications Capabilities

Intelligent control and protection



To protect your investment and ensure the most efficient operation possible, we control integrated blower packages with our Sigma Control 2™. This intelligent controller comes standard with multiple pre-programmed control profiles so you can select the one that best fits your application.

Sigma Control 2 monitors a wide range of operating parameters, shuts the unit down to prevent damage, and signals if immediate service is required. It also tracks preventive maintenance intervals and provides notice when PMs are due. An RFID sensor provides secure access and simplifies managing maintenance intervals.

An SD card slot with included SD card enables fast, easy software updates and offers long-term data storage for analyzing energy consumption and blower operation.

Sigma Control 2 has superior communications capabilities. An Ethernet port and built-in web-server enable remote viewing. ModBus, Profinet, Profibus, Devicenet, and other industrial communications interfaces are also available as plug in options for seamless integration into plant control/monitoring systems.

Advanced energy management

Kaeser's Sigma Air Manager (SAM) can control up to 16 blowers and only turns them on when needed to meet air demand. This improves pressure stability, reduces energy use, and equalizes blower run time.

SAM can monitor any 4-20 mA sensor/sensing device for system control. It constantly monitors the system demand and selects the most efficient combination of units to meet it.

Whether a fixed speed or variable speed blower, SAM knows the specific performance of each unit and keeps them running in their optimal operating range to maximize energy efficiency while minimizing drive losses at lower operating speeds.

Sigma Air Manager also provides blower status messages and alarms to help minimize down time. Using SAM's communications capabilities, you can remotely monitor operating status, maintenance schedules, and energy usage.

Sigma Air Control Plus

Sigma Air Control *Plus* is a combination of data storage hardware and analysis software that enables you to continuously record and review your system's function and energy usage.

Sigma Air Control *Plus* can tell you a lot about your plant's operation, including

graphic profiles of system pressure, air flow, machine load/unload, activity, duty cycle, and power consumption. This continuous system data acquisition helps you analyze plant operations and optimize energy efficiency.



Rotary Screw Blower Packages

EBS and FBS Series



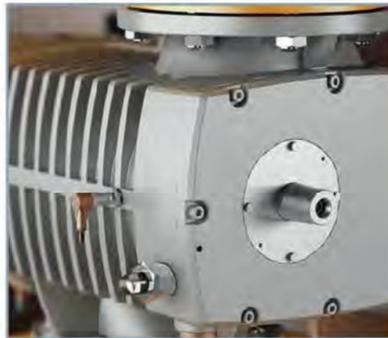
Blower block

Kaeser's advanced blower design offers the best combination of low vibration, energy efficiency, and low noise operation. The ribbed design of the single-piece casing body ensures optimal heat dissipation and torsional rigidity.



Sigma Profile

Our high-efficiency screw blower airends feature the power saving Sigma Profile design. They are precision machined and optimized in size and profile to ensure maximum air delivery while keeping power consumption to an absolute minimum. Superior specific power is maintained across a wide control range.



Dependable seals

The proven sliding ring seal on the blower airend's drive shaft is maintenance-free and provides dependable sealing, even in hot, dusty environments.



Durable bearings

Four heavy-duty cylindrical roller bearings absorb the continuously changing radial forces and are rated to ensure long airend service life. The rollers are encased in oil resistant cages for optimum lubrication at all speeds.



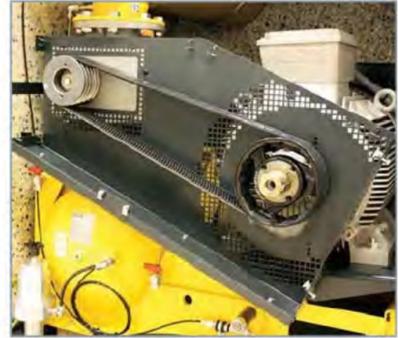
Continuous system monitoring

Oil level and temperature sensors are integrated into the blower air end. The oil chamber is designed to ensure accurate readings even during machine operation when the oil is circulating.



High efficiency motors

Premium efficiency TEFC/IP-55 motors are conservatively sized to ensure reliable operation and overcome changes in system operation.



V-belt drive with guard

V-belt drive provides flexible pressure/flow combinations and dependable performance. Drive efficiency is maintained by our automatic v-belt tensioner. Our fully-enclosed belt guard offers complete protection and is easily removed for convenient maintenance access.



Inlet/Outlet silencers

Inlet and outlet silencers come standard. Washable and reusable polyester inlet filter protects the blower from damaging particulates. Filter media has low flow resistance to minimize pressure drop and the filter differential pressure is displayed on the Sigma Control 2.



Comprehensive sensor options

Options include a wide range of sensors and switches for monitoring pressure, temperature, speed, oil level, and filters to ensure dependable operation and enable remote monitoring of critical operating parameters.



Pre-mounted valves

Check plate and relief valves are standard. Unloaded start valve is optional. All come pre-mounted to save on installation costs.

Blowers for special applications

Kaeser offers a variety of blower designs for your special application

Corrosion resistant construction



Steam blowers (B Series)

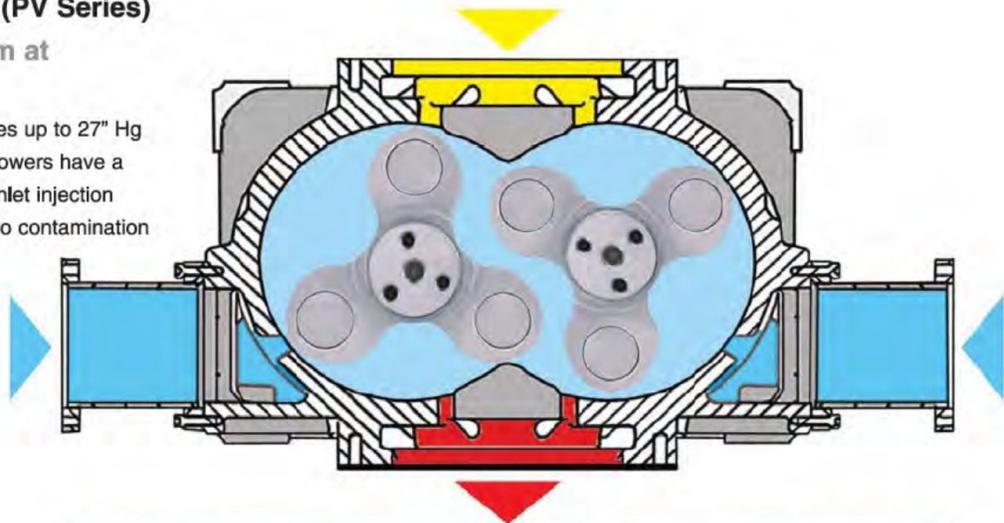
Flows to 2900 lbs./hr.

Kaeser's Omega B series blowers are specifically designed for compression of water vapor with vacuum operation in combination with water injection cooling. They feature Ni-Resist 3 casings, G-X8 CrNi stainless steel rotors, and Teflon® shaft seals with stainless steel shaft sleeves.

Vacuum blowers (PV Series)

Flows to 4300 cfm at 23.5 inches Hg

For use in vacuum ranges up to 27" Hg vacuum. Kaeser's PV blowers have a unique design with pre-inlet injection cooling that is resistant to contamination in the air stream.



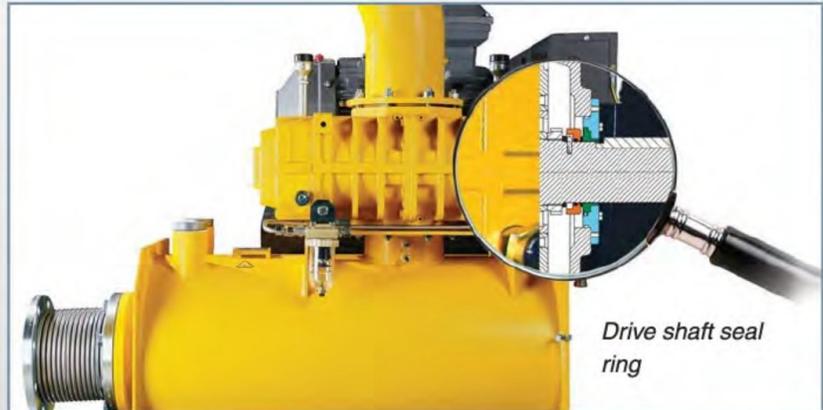
Low pressure air is trapped between the rotors and the casing at the inlet of the blower (yellow). As the rotors turn toward the discharge (red), ambient air enters through the pre-inlet cooling ports (blue). This air provides the cooling needed for continuous process vacuums to 27" Hg in a single stage with no need for contacting seals or liquid injection.

Gas tight blowers (N Series)

Flows to 5350 cfm

Pressures up to 15 psig

For nitrogen and other gas conveying applications, Kaeser's Omega N Series blower is available up to 5350 scfm. Our single-envelope design can be configured into special packages with an input shaft sliding-ring seal.



Vacuum booster (WVC Series)

Flows to 4030 cfm at

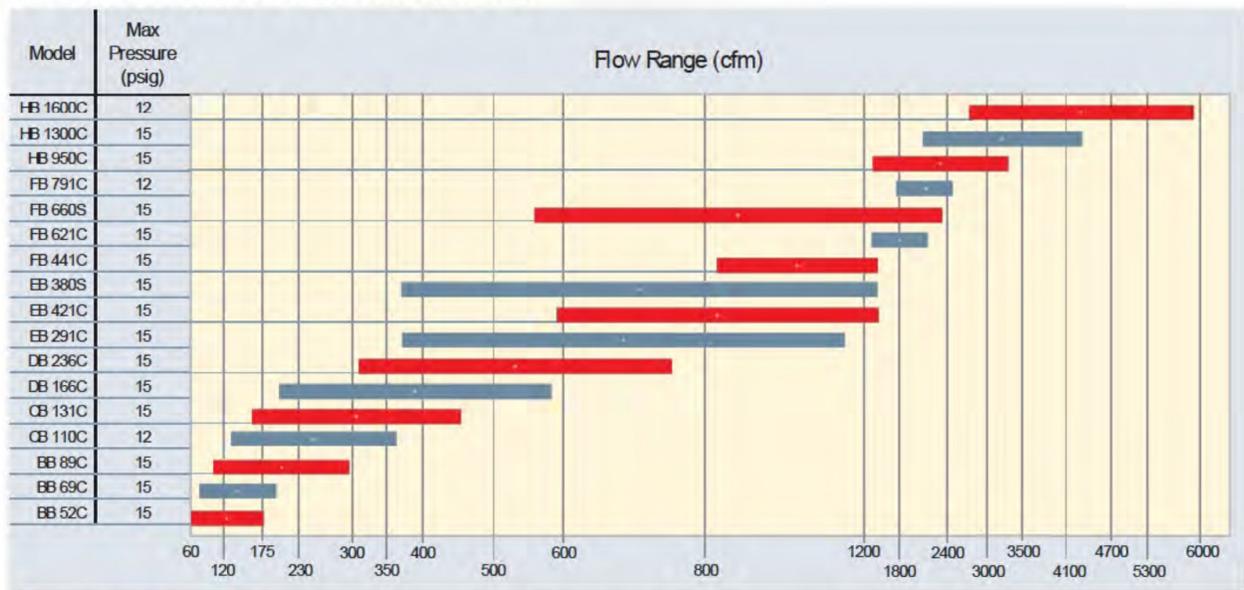
Ultimate vacuum: 0.03 Torr

Used in combination with a primary stage pump, the Omega WVC significantly increases pump suction capacity and vacuum performance. Optional frequency converters enable simultaneous activation of rotary vacuum and backing pumps at atmospheric pressure to significantly reduce pumping time and increase efficiency.

The right blower for every application



Performance Overview



Maximum air delivery @ 4.35 psig in accordance to ISO 1217, Part 1, Annex C.

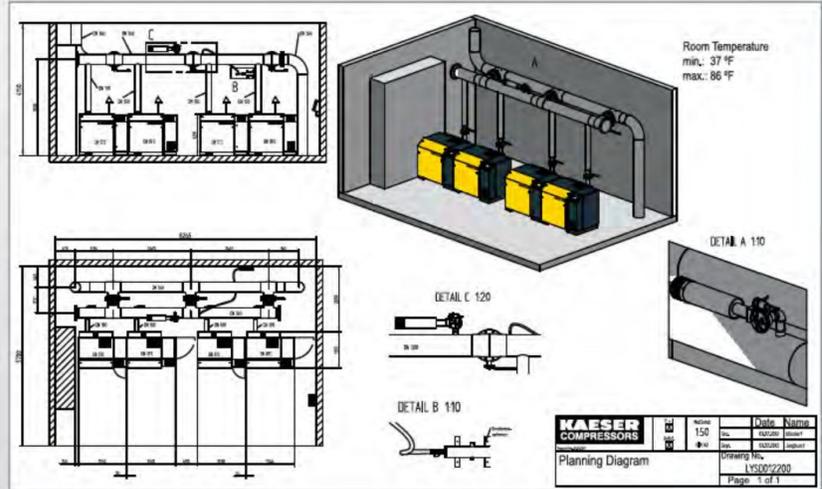
Engineered Solutions

Kaeser is always at your service to help design and optimize your air system. From complex installations to challenging environments to limited space, Kaeser can design a system to meet your specific requirements for performance and reliability.

System design

Kaeser specializes in designing a complete air system that takes into account the numerous variables necessary to ensure optimal system performance. Based on your needs, our engineers can recommend the best layout, ventilation, and cooling fan capacity for your system.

To help make your project planning easier, Kaeser can also produce 2D and 3D drawings of the proposed system. Being able to visualize the new equipment and how it will fit into the building with the existing equipment is a huge asset in facilitating your installation planning.



Kaeser can provide valuable system drawings to simplify your installation planning.

Quick-Ship Series

Available for immediate shipment



Need it Now?

Kaeser stocks a full range of Com-paK blower packages from 5 to 75 hp. Most orders can be shipped within one working day.

Whether it's for a new installation or replacement unit, Kaeser has a solution ready for you.

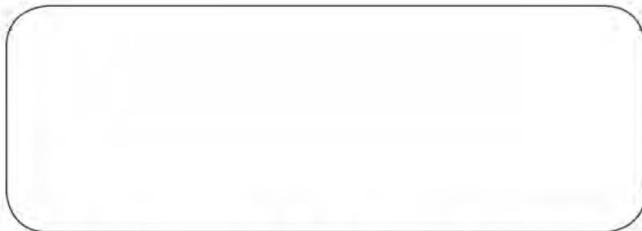
KAESER COMPRESSORS

Built for a lifetime.™

The Air Systems Specialist

We earn our customers' business by supplying superior quality equipment and services. Our products are designed for reliable performance, easy maintenance, and energy efficiency. Prompt and dependable customer service, quality assurance, training, and engineering support contribute to the value our customers have come to expect from Kaeser. Our employees are committed to implementing and maintaining the highest standards of quality to merit customer satisfaction. We aim for excellence in everything we do.

Our engineers continue to refine manufacturing techniques and take full advantage of the newest machining innovations. Extensive commitment to research and development keeps our products on the leading edge of technology to benefit our customers. Our industry-leading controls continue to set the standard for efficient system operation. With over 90 years of experience, Kaeser is the air systems specialist.



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COMPACT Series Deliveries from 1.5 to 74 m³/min
Pressure up to 1000 mbar, vacuum down to 500 mbar



COMPACT blowers

What do you expect from a rotary blower?

Economics play a central role in all blower applications. This presumes lowest possible operating costs achieved with a low specific energy requirement and simple maintenance. Minimum space requirement and installation work also contribute to cost savings.

Low noise emission from the blower means less expense in soundproofing the room in which it is housed.

Furthermore, the machine is expected to operate in perfect safety and with utmost reliability.

All these requirements are fulfilled by KAESER COMPACT blowers.

Function

Air is drawn in and filtered through the inlet silencer ①, which is equipped with a contamination indicator. The air enters the blower block ② where it is trapped between the lobes of the rotors and the block casing and transported to the discharge port.

The 3-lobe rotors minimize pulsations and the block casing has offset chambers for pressure equalisation. The rotors are driven from an electric motor ⑤ via V-belts ③ with automatic tensioning ④. The discharge silencer ⑥ adsorbs any residual pulsations over a wide frequency. An unloaded start valve ⑦ allows the blower to run up easily and a pressure relief valve ⑧ gives protection from excessive pressure.



- ① Inlet silencer with integrated filter and contamination indicator.
- ② Blower block
- ③ V-belt drive
- ④ Automatic belt tensioner
- ⑤ Electric motor
- ⑥ Discharge silencer with check flap
- ⑦ Unloaded start valve
- ⑧ Pressure relief valve



The innovative concept

Intelligent component layout is the key to the small footprint occupied by the COMPACT blowers, and the arrangement also allows all maintenance to be carried out from one side. Pipe connection and inlet opening are located on the rear of the package, which means that COMPACT blowers can be positioned adjacent to each other.



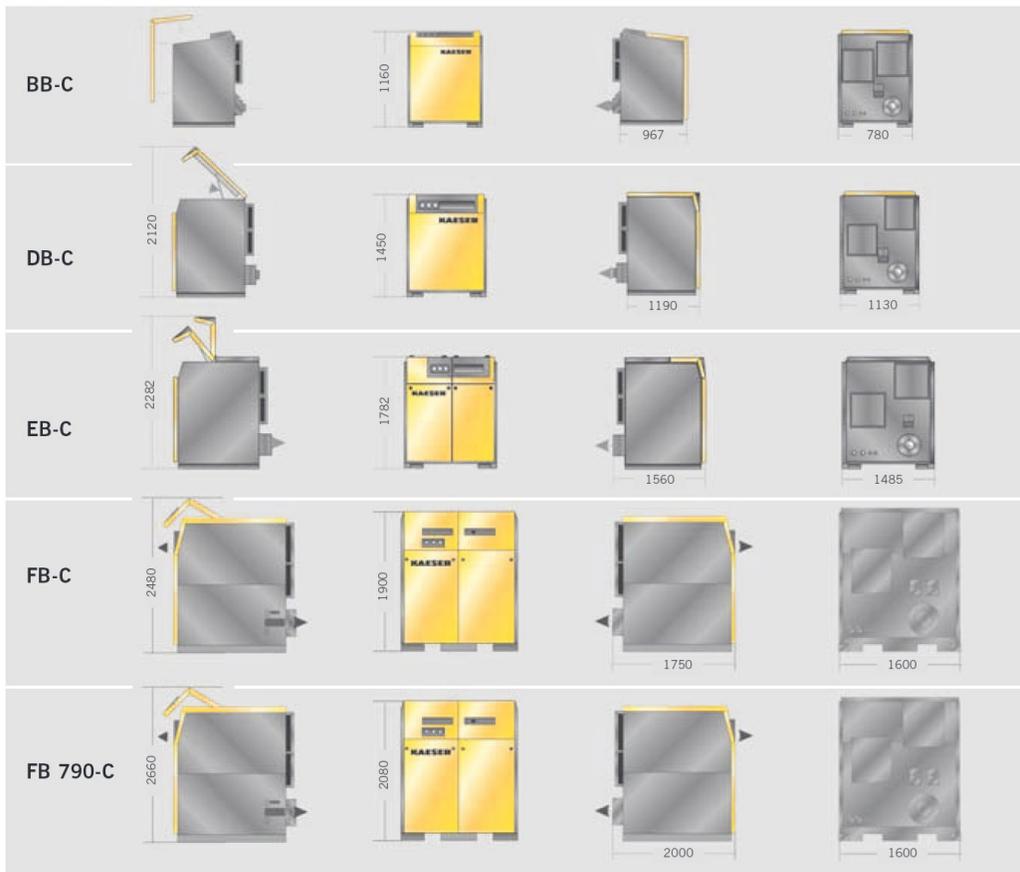
Space
KAESER
space -
suggest
the ene
blower
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maintain

Technical specification

Model	Pressure		Vacuum		Max. motor power kW	Pipe connection DN	Dimensions W x D x H mm
	max. pressure mbar (g)	max. delivery* at 300 mbar(g) m ³ /min	max. vacuum mbar(a)	max. delivery* at 800 mbar(a) m ³ /min			
BB 53 C	1000	4.8	500	4.8	11	50	967 x 780 x 1160
BB 68 C	1000	5.9	500	5.9	15	65	967 x 780 x 1160
BB 88 C	1000	8.2	500	8.3	15	65	967 x 780 x 1160
DB 130 C	1000	12.3	500	12.4	30	80	1190 x 1130 x 1450
DB 165 C	1000	15.6	500	15.7	37	100	1190 x 1130 x 1450
DB 235 C	1000	22.1	500	22.3	45	100	1190 x 1130 x 1450
EB 290 C	1000	28.6	500	28.8	75	150	1560 x 1485 x 1780
EB 420 C	1000	40.2	500	40.5	75	150	1560 x 1485 x 1780
FB 440 C	1000	41.3	500	41.6	90	200	1750 x 1600 x 1900
FB 620 C	1000	58.5	500	58.9	110	200	1750 x 1600 x 1900
FB 790 C	1000	73.7	500	74.2	110	250	2000 x 1600 x 2080

*Air flow in accordance with ISO 1217, 1996, annex C

Dimensions



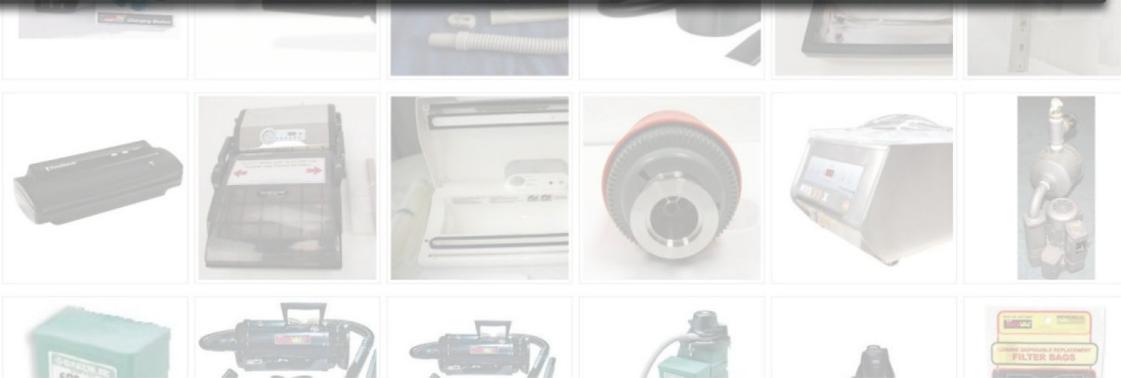
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Air Duct Heaters

... Applications * Sole Heat Source * Booster Heater in Process and Comfort Heating Ducts * Convert existing Forced Air Dryers and Ovens * With Blower and Duct, can be used to ...
http://www.omega.com/pptst/CAB_CABE_HEATER.html - 141K - 7/7/2015



AIR HEATERS

... 20 175 30 275 40 350 50 450 60 525 APPLICATIONS The AHF series maximum flow air heaters are used with blowers or recirculating air in baking, drying, and preheating applications. ...
http://www.omega.com/pptst/AHF_HEATER.html - 120K - 7/7/2015



Flow Switch With Compact Relay Controller

... Direct Actuation of Pumps, Valves and Blowers View related products - Variable Area ... The compact relay controller reliably actuates valves, pumps, or blowers rated up to 1/2 ...
http://www.omega.com/pptst/PST200R_300R.html - 150K - 7/7/2015



Hot Wire Anemometer with Real Time Data Logger

... has multiple features that make it suitable to use in such applications as environmental testing, balancing of fans/motors/ blowers, air conveyors, clean rooms, and flow hoods. ...
<http://www.omega.com/pptst/HWF-SD1.html> - 134K - 7/7/2015



Hot Wire Anemometer with Real-Time Data Logger

... an RS232 computer interface that make it suitable to use in such applications as environmental testing, balancing of fans/motors/blowers, air conveyors, clean rooms and flow hoods. ...
<http://www.omega.com/pptst/HWF2005HW.html> - 131K - 7/7/2015



General Purpose AC Motors, 56C Frame, Three-Phase, Fractional...

... Applications: (Basically, fans and blowers) 5 to 1 speed turndown permitted B. Constant Torque Applications: (Basically, all but fan and blower loads) 2 to 1 speed turndown END ...
http://www.omega.com/pptst/OMAT_SERIES.html - 157K - 7/8/2015



General Purpose AC Motors, Industrial Duty Three-Phase

... Applications: (Basically, fans and blowers) 5 to 1 speed turndown permitted B. Constant Torque Applications: (Basically, all but fan and blower loads) 2 to 1 speed turndown ...
http://www.omega.com/pptst/OME_Series.html - 162K - 7/8/2015



Power Supplies for Stepper Drives

... to 185°F) Storage Humidity: 10 to 95% RH (no dewdrop) Cooling Method: Forced air by blower fan Withstand Voltage: Input - Output: 3.0 kVAc (20 mA) Input - FG: 2.0 kVAc (20 mA) ...
http://www.omega.com/pptst/PS_Series.html - 136K - 7/8/2015



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Chemical Metering Pumps

Manual or automatic operation, variety of designs for easy adjustments and mounting and ranges of duty weight.



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Current Search: S1: (omega)[BI] docs: 2366 occ: 3025

	Serial Number	Reg. Number	Word Mark	Check Status	Live/Dead
1	86680793		PHYOMEGA-3	TSDR	LIVE
2	86596224		OMEGA LABS	TSDR	LIVE
3	86584472		OMEGADROP	TSDR	LIVE
4	86385193		OMEGA	TSDR	LIVE
5	86579924		OMEGA DELTA	TSDR	LIVE
6	86579679		OTEC-OMEGA	TSDR	LIVE
7	86407121		OMEGA Q-GEL	TSDR	LIVE
8	86574332		LAMININE OMEGA+++	TSDR	LIVE
9	86553087		OMEGA EDGE FLAX	TSDR	LIVE
10	86675388		OMEGA	TSDR	LIVE
11	86675376		OMEGA LINKR	TSDR	LIVE
12	86580232		BETA GAMMA OMEGA	TSDR	LIVE
13	86081510		OMEGA	TSDR	LIVE
14	86592744		MORE OF THE OMEGAS YOU NEED	TSDR	LIVE
15	86354730			TSDR	LIVE
16	86573156		OMEGA CHIA	TSDR	LIVE
17	86518710		SISTERHOOD LEADERSHIP SUCCESS GAMMA PHI OMEGA INTERNATIONAL SORORITY INC.	TSDR	LIVE
18	86419698	4759322	STOR ALL ALPHA OMEGA STOR-ALL	TSDR	LIVE
19	86417169	4759278	OMEGA	TSDR	LIVE
20	86350034		OMEGA DELIGHTS	TSDR	DEAD
21	86273875		POKÉMON OMEGA RUBY	TSDR	LIVE
22	86665106		ALPHA & OMEGA	TSDR	LIVE
23	86385229		OMEGA	TSDR	LIVE
24	86365297		OMEGA 3 NUTRACLEANSE	TSDR	LIVE
25	86219871		INGREVITA EPA/DHA OMEGA 3	TSDR	LIVE

26	86663524		OMEGA-BOND	TSDR	LIVE
27	86663518		OMEGA-PLY	TSDR	LIVE
28	86371739		OMEGACHECK	TSDR	LIVE
29	86273889		POKÉMON OMEGA RUBY	TSDR	LIVE
30	86565810		OMEGA FAMILY GLOBAL	TSDR	LIVE
31	86393619		VOYAGE OF THE OMEGAVERSE	TSDR	LIVE
32	86335494		STUDIO OMEGA	TSDR	LIVE
33	86558778		OMEGASTAT	TSDR	LIVE
34	86550846		OMEGA BOUNTY	TSDR	LIVE
35	86556681		OMEGA TOURS	TSDR	LIVE
36	86651929		OMEGA OPHTHALMICS	TSDR	LIVE
37	86651912		OMEGA OPHTHALMICS	TSDR	LIVE
38	86473121		MAXOMEGA	TSDR	LIVE
39	86372957		OMEGA DEVELOPMENT CLOUD	TSDR	DEAD
40	86372955		OMEGA DEVCLOUD	TSDR	DEAD
41	86493072		ALPHA OMEGA MOVING AND STORAGE	TSDR	LIVE
42	86412170	4751378	PERFECT OMEGA	TSDR	LIVE
43	86101779		KRILL OMEGA FUEL	TSDR	LIVE
44	86647167		OMEGA	TSDR	LIVE
45	86386536		PURE FORM OMEGA	TSDR	LIVE
46	86645431		AO ALPHA & OMEGA INTERNATIONAL MINISTRY OF FAITH	TSDR	LIVE
47	86643576		OMEGAXL SPORT	TSDR	LIVE
48	86642270		OMEGA PRO	TSDR	LIVE
49	86499519		H-BAR OMEGA	TSDR	LIVE
50	86468033		ACTIS OMEGA	TSDR	LIVE
51	86419666	4747542	ALPHA OMEGA STOR-ALL	TSDR	LIVE
52	86228164		OMEGA VAPE	TSDR	LIVE
53	86638220		OMEGA REPAIR	TSDR	LIVE
54	86634415		OMEGA CHEWS	TSDR	LIVE
55	86336552		ALPHA OMEGA CONTRACTORS	TSDR	DEAD
56	86393012		CULTURELLE OMEGA EDGE	TSDR	LIVE
57	86219926	4741864	OMEGA D-LUX	TSDR	LIVE
58	86101075	4567071	A O ALPHA OMEGA	TSDR	LIVE
59	86532209		OMEGA THE UNKNOWN	TSDR	LIVE
60	86475535		GAMMA ALPHA OMEGA	TSDR	LIVE
61	86133561		OMEGA ORGANIC	TSDR	DEAD
62	86529043		OMEGA REPAIR & MOISTURE	TSDR	LIVE
63	86324585		INTERNATIONAL VERIFIED OMEGA PROGRAM	TSDR	DEAD
64	86525152		OMEGA JANITORIAL	TSDR	LIVE
65	86613983		SKIN ESSENTIALS OMEGA ADVANTAGE	TSDR	LIVE
66	86610336		ALPHA TAU OMEGA	TSDR	LIVE
67	86609437		OMEGA	TSDR	LIVE
68	86608278		OMEGA SMARTDIAL	TSDR	LIVE
69	86465135		OMEGA	TSDR	LIVE

70	86363360	4730713	WILLOWGROVE HILL OMEGA-3 PORK ENRICHED N	TSDR	LIVE
71	86176017	4732682	OMEGA 88	TSDR	LIVE
72	86607265		OMEGASTIM	TSDR	LIVE
73	86378467		BIGOMEGA	TSDR	LIVE
74	86140189		MEG-3	TSDR	LIVE
75	86604721		ALASKA E-OMEGA 3	TSDR	LIVE
76	86603598		OMEGA SMARTSTRAP	TSDR	LIVE
77	86513461		OMEGA ELITE	TSDR	LIVE
78	86334006		CARDIO PURE OMEGA 7	TSDR	DEAD
79	86600550		OMEGAPET	TSDR	LIVE
80	86315347		OMG! OMEGA THE GREAT	TSDR	DEAD
81	86509375		ALPHA & OMEGA INTERNATIONAL STUDENT ASSOCIATION A.O.I.S.A.	TSDR	LIVE
82	86100106		OMEGA FUEL	TSDR	LIVE
83	86509960		OMEGA MEMORY	TSDR	LIVE
84	86305333		OMEGA STACK	TSDR	DEAD
85	86166577		OMEGAQ	TSDR	LIVE
86	86597328		ALPHA OMEGA APPAREL	TSDR	LIVE
87	86501869		OMEGA	TSDR	LIVE
88	86498338		OMEGA CHESS	TSDR	LIVE
89	86370677	4719713	OMEGA	TSDR	LIVE
90	86580349		OMEGA	TSDR	LIVE
91	86181956	4714758	MEG-3	TSDR	LIVE
92	86177693		HER OMEGAS	TSDR	LIVE
93	86022798		OMEGA BURST	TSDR	LIVE
94	86134470		OMEGA LUM	TSDR	DEAD
95	86421226		OMEGA	TSDR	LIVE
96	86091676	4713407	OMEGA LOW SPEED JUICING SYSTEM	TSDR	LIVE
97	86282090		OMEGA RICOCHET	TSDR	LIVE
98	86282083		OMEGA MANAGEMENT SUITE	TSDR	LIVE
99	86510725		KEYOMEGA	TSDR	LIVE
100	86480983		OMEGA NUTS	TSDR	LIVE

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	Serial Number	Reg. Number	Word Mark	Check Status	Live/Dead
1	86419698	4759322	STOR ALL ALPHA OMEGA STOR-ALL	TSDR	LIVE
2	86417169	4759278	OMEGA	TSDR	LIVE
3	86412170	4751378	PERFECT OMEGA	TSDR	LIVE
4	86419666	4747542	ALPHA OMEGA STOR-ALL	TSDR	LIVE
5	86219926	4741864	OMEGA D-LUX	TSDR	LIVE
6	86101075	4567071	A O ALPHA OMEGA	TSDR	LIVE
7	86363360	4730713	WILLOWGROVE HILL OMEGA-3 PORK ENRICHED N	TSDR	LIVE
8	86176017	4732682	OMEGA 88	TSDR	LIVE
9	86370677	4719713	OMEGA	TSDR	LIVE
10	86181956	4714758	MEG-3	TSDR	LIVE
11	86091676	4713407	OMEGA LOW SPEED JUICING SYSTEM	TSDR	LIVE
12	86294112	4702818	ALPHA OMEGA ACADEMY PROVERBS 16:20 A VERITAS EX DEO ACADEMY	TSDR	LIVE
13	86041660	4704660	OMEGA ORIGIN	TSDR	LIVE
14	86301256	4698795	A	TSDR	LIVE
15	86122419	4700914	OMEGA WONDERS	TSDR	LIVE
16	86123157	4647953	PROPHET OMEGA	TSDR	LIVE
17	86167753	4683755	OMEGA3+ JOY	TSDR	LIVE
18	86371509	4680195	SUPER OMEGA OIL	TSDR	LIVE
19	86319119	4678924	19 GAMMA PHI OMEGA 91	TSDR	LIVE
20	86258016	4652224	AD OPTIMUM PER OMEGA RHO	TSDR	LIVE
21	86257990	4652222	AD OPTIMUM PER OMEGA RHO	TSDR	LIVE
22	86159761	4654265	OMEGA CAPITAL	TSDR	LIVE
23	86259159	4648900	BETA PHI OMEGA SORORITY INC.	TSDR	LIVE
24	86258051	4644981	OMEGA RHO	TSDR	LIVE
25	86258040	4644980	OMEGA RHO	TSDR	LIVE

26	86196304	4646869	KRILL OMEGA 50+	TSDR	LIVE
27	86241954	4640618	OMEGA CLEAR	TSDR	LIVE
28	86233724	4636630	SIGMA ALPHA OMEGA	TSDR	LIVE
29	86084164	4626147	KRILL OMEGA DEFENSE	TSDR	LIVE
30	86219645	4617497	OMEGA	TSDR	LIVE
31	86175820	4616620	GAMMA PHI OMEGA INTERNATIONAL SORORITY, INCORPORATED	TSDR	LIVE
32	86113000	4594486	CLARICOR OMEGA	TSDR	LIVE
33	86045795	4594309	OMEGA BOOST	TSDR	LIVE
34	86058058	4546797	CRAZY DOGGY OMEGA-3 GUMMY	TSDR	LIVE
35	86099413	4543292	OMEGA	TSDR	LIVE
36	86040345	4494953	OMEGA-3 GOLD	TSDR	LIVE
37	86038037	4536472	OMEGA3	TSDR	LIVE
38	86015110	4504673	ALPHA OMEGA FINANCIAL SYSTEMS	TSDR	LIVE
39	85369560	4766677	OMEGA	TSDR	LIVE
40	85982748	4642733	OMEGA FOODS	TSDR	LIVE
41	85756455	4492121	OMEGA-3 CRÈME DELIGHT	TSDR	LIVE
42	85241374	4031448	OMEGA II	TSDR	LIVE
43	85702952	4323656	ALPHAOMEGA	TSDR	LIVE
44	85815827	4433913	OMEGA-3G	TSDR	LIVE
45	85838775	4570100	OMEGA-Q	TSDR	LIVE
46	85431093	4244552	THE ULTRA-PURE OMEGA-3 SUPPLEMENT	TSDR	LIVE
47	85221015	4706047	OMEGA SPEEDMASTER MARK II	TSDR	LIVE
48	85346327	4136968	BALANCE IT DHA OMEGA-3	TSDR	LIVE
49	85727304	4513315	OMEGA	TSDR	LIVE
50	85164705	4692676	CH CH CH CHIA OMEGA 3	TSDR	LIVE
51	85344819	4296176	OMEGA-3 TWIST FLAX OIL	TSDR	LIVE
52	85434952	4683347	VIVOMEGA	TSDR	LIVE
53	85073266	4673615	OMEGA	TSDR	LIVE
54	85420159	4283676	OMEGA EGG MAKER	TSDR	LIVE
55	85913289	4637923	ALGAE TO OMEGA	TSDR	LIVE
56	85659775	4635051	HONEY SMOKED SALMON	TSDR	LIVE
57	85847586	4614506	OMEGA C	TSDR	LIVE
58	85916977	4599687	AN OMEGA JAZZ THANG	TSDR	LIVE
59	85692763	4601984	ALASKOMEGA	TSDR	LIVE
60	85874305	4430246	OMEGA-3 SLIM	TSDR	LIVE
61	85038340	4030678	OMEGA FUSION	TSDR	LIVE
62	85094941	3937717	OMEGA	TSDR	LIVE
63	85757217	4576561	SIMPLY O	TSDR	LIVE
64	85629245	4369842	OMEGACHECK+	TSDR	LIVE
65	85743482	4556661	GAMMA ALPHA OMEGA	TSDR	LIVE
66	85634533	4560758	NUTRIOLI, EL MEJOR BALANCE DE OMEGAS	TSDR	LIVE
67	85975879	4078272	OMEGA MOVE	TSDR	LIVE
68	85970742	4480694	IDEAL OMEGA	TSDR	LIVE

69	85950367	4534757	NATURALLY OMEGA	TSDR	LIVE
70	85945726	4469919	OMEGA PROTECTIVE SERVICES	TSDR	LIVE
71	85925930	4474163	OMEGA BENEFICIAL ORGANIC BIOPOLYMER	TSDR	LIVE
72	85913650	4450841	OMEGA INSTITUTE OF TRADING	TSDR	LIVE
73	85912776	4477260	OMEGAPRIME	TSDR	LIVE
74	85906017	4479101	OMEGAGENICS MEGA 10	TSDR	LIVE
75	85904670	4461492	T TAU PSI OMEGA	TSDR	LIVE
76	85891871	4432255	SIMPLY OMEGA 3	TSDR	LIVE
77	85889510	4389881	FISH-FREE OMEGA PLANT-BASED OILS	TSDR	LIVE
78	85888233	4425552	OMEGA SENSE	TSDR	LIVE
79	85886476	4546182	OMEGA NU SIGMA	TSDR	LIVE
80	85877912	4520281	OMEGA	TSDR	LIVE
81	85872379	4418333	OMEGA HEAVEN	TSDR	LIVE
82	85862441	4450386	A E	TSDR	LIVE
83	85852678	4414189	OMEGA X RAIL	TSDR	LIVE
84	85852633	4417829	OMEGA RAIL	TSDR	LIVE
85	85852157	4457924	ASCENSION SINCHRONIC SINCE 1972 LOVE CONQUERS ALL SMC ALPHA OMEGA	TSDR	LIVE
86	85829993	4395732	OMEGA ANIMAL REMOVAL	TSDR	LIVE
87	85804663	4503363	OMEGA BERRY	TSDR	LIVE
88	85781043	4476892	OMEGAPHOS	TSDR	LIVE
89	85775333	4367717	OMEGA PUBLICATIONS	TSDR	LIVE
90	85764450	4526532	OMEGA STRONG	TSDR	LIVE
91	85763939	4502620	OMEGA-SURE	TSDR	LIVE
92	85751049	4353416	XIOMEGA3	TSDR	LIVE
93	85750766	4381313	OMEGA SHINE	TSDR	LIVE
94	85745152	4324491	EUROMEGA-3	TSDR	LIVE
95	85739857	4346221	OMEGAGENICS	TSDR	LIVE
96	85738998	4417164	FRESHOMEGA	TSDR	LIVE
97	85738535	4453340	ALPHA + OMEGA	TSDR	LIVE
98	85713976	4323797	OMEGA	TSDR	LIVE
99	85710651	4345818	DAILY OMEGA	TSDR	LIVE
100	85710615	4334120	ARCTIC OMEGA	TSDR	LIVE

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Current Search: S3: (omega)[BI] and `RN > "0" and (007)[ic] docs: 55 occ: 168

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1	86417169	4759278	OMEGA	TSDR	LIVE
2	86091676	4713407	OMEGA LOW SPEED JUICING SYSTEM	TSDR	LIVE
3	86219645	4617497	OMEGA	TSDR	LIVE
4	85688104	4524155	OMEGA	TSDR	LIVE
5	79127085	4531251	OMEGA	TSDR	LIVE
6	79118541	4290794	OMEGA	TSDR	LIVE
7	79116158	4434326	OMEGA	TSDR	LIVE
8	79111730	4333282	Z	TSDR	LIVE
9	79109921	4181559	OMEGA	TSDR	LIVE
10	79109748	4311042	OMEGAZETA	TSDR	LIVE
11	79060214	3696105	LANDIRENZO OMEGAS	TSDR	LIVE
12	78522393	3045796	OMEGA	TSDR	LIVE
13	78327467	3059957	OMEGA-BOLT	TSDR	LIVE
14	77525979	3580143	OMEGA	TSDR	LIVE
15	76677442	3433736	W-FLAPS	TSDR	DEAD
16	76677441	3433735	W-SEPARATOR	TSDR	DEAD
17	76318979	2858379	OMEGA GARDEN	TSDR	LIVE
18	76460102	2982576	OMEGA	TSDR	LIVE
19	76416127	2704399	OMEGA	TSDR	DEAD
20	76416118	2704398	OMEGA	TSDR	DEAD
21	76400882	2677926	OMEGA	TSDR	DEAD
22	76129970	2492476	OMEGA	TSDR	DEAD
23	76114088	2599000	OMEGA	TSDR	DEAD
24	76113466	2475858	OMEGA	TSDR	LIVE
25	75591544	2396957	MEGACOMPOUNDER	TSDR	LIVE
26	75139179	2097245	OMEGA	TSDR	LIVE

27	75070026	2412722	OMEGA.COM	TSDR	LIVE
28	74244910	1848979	OMEGA LIFT EQUIPMENT	TSDR	LIVE
29	74605745	2096291	OMEGA	TSDR	LIVE
30	74591079	1980557	OMEGA	TSDR	LIVE
31	74480757	2276934	E OMEGA	TSDR	LIVE
32	74480756	2022762	OMEGA	TSDR	LIVE
33	74425371	1844118	OMEGA	TSDR	LIVE
34	74244286	1725056	OMEGA	TSDR	DEAD
35	74139686	1692449	OMEGA	TSDR	DEAD
36	74101376	1656011	OMEGA 2	TSDR	DEAD
37	73757913	1582245	OMEGA-PRESSE	TSDR	DEAD
38	73699735	1537923	OMEGA CLEANING SYSTEMS	TSDR	DEAD
39	73692150	1634644	OMEGA	TSDR	DEAD
40	73564622	1399205	CASTOMEGA	TSDR	DEAD
41	73480325	1326578	OMEGA	TSDR	DEAD
42	73477003	1368656	OMEGA	TSDR	DEAD
43	73349352	1274111		TSDR	DEAD
44	73165629	1168039	OMEGA	TSDR	DEAD
45	73165628	1168038	P&H OMEGA	TSDR	DEAD
46	73165627	1168037	OMEGA	TSDR	DEAD
47	73125568	1102539	OMEGA	TSDR	DEAD
48	73118792	1115526	OMEGA DOME	TSDR	DEAD
49	72169158	0766674	OMEGA	TSDR	LIVE
50	72451431	1067920	OMS	TSDR	LIVE
51	72417105	0954878	OMEGA	TSDR	DEAD
52	72323487	0889029	OMEGA	TSDR	DEAD
53	72323486	0888620	OMEGA DRIVES	TSDR	DEAD
54	72279547	0864512	OMEGA	TSDR	DEAD
55	72030010	0725851		TSDR	LIVE

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United States Patent Office

766,674
Registered Mar. 17, 1964

PRINCIPAL REGISTER Trademark

Ser. No. 169,158, filed May 17, 1963

OMEGA

The New York Air Brake Company (New Jersey corporation)
230 Park Ave.
New York 17, N.Y.

For: LIME SLAKERS, BAG OPENING DEVICES, HOPPER AGITATORS, VARIABLE SPEED TRANSMISSIONS, BUCKET ELEVATORS AND MECHANICAL CONTROLLERS, in CLASS 23.

First use in July 1959 on lime slakers; in commerce in July 1959.

Owner of Reg. No. 664,044.

Int. Cl.: 7

Prior U.S. Cl.: 23

United States Patent and Trademark Office

Reg. No. 1,848,979

Registered Aug. 9, 1994

**TRADEMARK
PRINCIPAL REGISTER**

OMEGA LIFT EQUIPMENT

SHINN FU COMPANY OF AMERICA, INC.
(MISSOURI CORPORATION)
10939 NORTH POMONA AVENUE
KANSAS CITY, MO 64153

FOR: AUTOMOBILE AND TRUCK TOOLS;
NAMELY, HYDRAULIC, MECHANICAL, AND
PNEUMATIC JACKS USED BY PROFESSION-
AL MECHANICS AND GARAGEMEN, IN
CLASS 7 (U.S. CL. 23).

FIRST USE 1-13-1994; IN COMMERCE
1-13-1994.

NO CLAIM IS MADE TO THE EXCLUSIVE
RIGHT TO USE "LIFT EQUIPMENT", APART
FROM THE MARK AS SHOWN.

SN 74-244,910, FILED 2-10-1992.

J. CHILDRESS, EXAMINING ATTORNEY

Int. Cl.: 7

Prior U.S. Cl.: 23

United States Patent and Trademark Office

Reg. No. 1,844,118

Registered July 12, 1994

**TRADEMARK
PRINCIPAL REGISTER**

OMEGA

OMEGA PRODUCTS, INC. (PENNSYLVANIA
CORPORATION)
6291 LYTERS LANE
HARRISBURG, PA 17111

FIRST USE 10-1-1985; IN COMMERCE
10-1-1985.

SER. NO. 74-425,371, FILED 8-17-1993.

FOR: ELECTRIC JUICE EXTRACTORS, IN
CLASS 7 (U.S. CL. 23).

MARY C. MACK, EXAMINING ATTORNEY

Int. Cl.: 7

Prior U.S. Cls.: 13, 19, 21, 23, 31, 34 and 35

United States Patent and Trademark Office **Reg. No. 1,980,557**
Registered June 18, 1996

**TRADEMARK
PRINCIPAL REGISTER**

OMEGA

ELECTROTECH EQUIPMENTS LIMITED
(UNITED KINGDOM COMPANY)
THORNBURY LABORATORIES
LITTLETON-UPON-SEVERN
BRISTOL, AVON, BS12 1NP, UNITED KING-
DOM

FOR: MACHINES FOR PLASMA ETCHING,
IN CLASS 7 (U.S. CLS. 13, 19, 21, 23, 31, 34 AND
35).

FIRST USE 0-0-1987; IN COMMERCE
0-0-1987.

OWNER OF U.S. REG. NO. 1,639,537.

SER. NO. 74-591,079, FILED 10-27-1994.

ANTHONY R. MASIELLO, EXAMINING AT-
TORNEY

Int. Cl.: 7

Prior U.S. Cls.: 13, 19, 21, 23, 31, 34 and 35

Reg. No. 1,980,557

United States Patent and Trademark Office Registered June 18, 1996

**TRADEMARK
PRINCIPAL REGISTER**

OMEGA

ELECTROTECH EQUIPMENTS LIMITED
(UNITED KINGDOM COMPANY)
THORNBURY LABORATORIES
LITTLETON-UPON-SEVERN
BRISTOL, AVON, BS12 1NP, UNITED KING-
DOM

FOR: MACHINES FOR PLASMA ETCHING,
IN CLASS 7 (U.S. CLS. 13, 19, 21, 23, 31, 34 AND
35).

FIRST USE 0-0-1987; IN COMMERCE
0-0-1987.

OWNER OF U.S. REG. NO. 1,639,537.

SER. NO. 74-591,079, FILED 10-27-1994.

ANTHONY R. MASIELLO, EXAMINING AT-
TORNEY

Int. Cl.: 7

Prior U.S. Cls.: 13, 19, 21, 23, 31, 34 and 35

Reg. No. 2,096,291

United States Patent and Trademark Office Registered Sep. 16, 1997

**TRADEMARK
PRINCIPAL REGISTER**

OMEGA

AUTOTYPE INTERNATIONAL LIMITED
(UNITED KINGDOM CORPORATION)
GROVE ROAD
WANTAGE, OXFORDSHIRE OX12 7BZ,
UNITED KINGDOM

PRIORITY CLAIMED UNDER SEC. 44(D) ON
UNITED KINGDOM APPLICATION NO.
1574094, FILED 6-3-1994, REG. NO. 1574091,
DATED 6-3-1994, EXPIRES 6-3-2004.

FOR: OFFSET LITHOGRAPHIC PRINTING
PLATES; POLYESTER LITHOGRAPHIC
PRINTING PLATES, IN CLASS 7 (U.S. CLS. 13,
19, 21, 23, 31, 34 AND 35).

SER. NO. 74-605,745, FILED 12-2-1994.

LALITHA MANI, EXAMINING ATTORNEY

Int. Cl.: 7

Prior U.S. Cls.: 13, 19, 21, 23, 31, 34 and 35

Reg. No. 2,097,245

United States Patent and Trademark Office

Registered Sep. 16, 1997

**TRADEMARK
PRINCIPAL REGISTER**

OMEGA

REXNORD CORPORATION (DELAWARE COR-
PORATION)
4701 WEST GREENFIELD AVENUE
MILWAUKEE, WI 53214

FIRST USE 4-24-1978; IN COMMERCE
4-24-1978.

SER. NO. 75-139,179, FILED 7-24-1996.

FOR: ELASTOMERIC FLEXIBLE SHAFT
COUPLINGS, NOT FOR LAND VEHICLES, IN
CLASS 7 (U.S. CLS. 13, 19, 21, 23, 31, 34 AND 35).

SUSAN LESLIE, EXAMINING ATTORNEY

Int. Cl.: 7

Prior U.S. Cls.: 13, 19, 21, 23, 31, 34 and 35

Reg. No. 2,475,858

United States Patent and Trademark Office

Registered Aug. 7, 2001

**TRADEMARK
PRINCIPAL REGISTER**

OMEGA

GOODYEAR TIRE & RUBBER COMPANY, THE
(OHIO CORPORATION)
1144 EAST MARKET STREET
AKRON, OH 443160001

FIRST USE 11-21-1991; IN COMMERCE 11-21-1991.

SER. NO. 76-113,466, FILED 8-21-2000.

FOR: CONVEYOR BELTS, IN CLASS 7 (U.S. CLS.
13, 19, 21, 23, 31, 34 AND 35).

KAREN BRACEY, EXAMINING ATTORNEY

Int. Cl.: 7

Prior U.S. Cls.: 13, 19, 21, 23, 31, 34 and 35

Reg. No. 3,580,143

United States Patent and Trademark Office

Registered Feb. 24, 2009

**TRADEMARK
PRINCIPAL REGISTER**



OMEGA DESIGN CORPORATION (PENNSYLVANIA CORPORATION)
211 PHILLIPS ROAD
EXTON, PA 193421336

THE MARK CONSISTS OF THE WORK "OMEGA" WITH THE IMAGE OF THE GREEK SYMBOL FOR "OMEGA" BEHIND IT.

FOR: PACKAGING MACHINES FOR USE IN MANUFACTURING AND PACKAGING INDUSTRIES, IN CLASS 7 (U.S. CLS. 13, 19, 21, 23, 31, 34 AND 35).

SER. NO. 77-525,979, FILED 7-18-2008.

FIRST USE 12-1-1969; IN COMMERCE 12-1-1969.

PATRICIA EVANKO, EXAMINING ATTORNEY

Int. Cl.: 7

Prior U.S. Cls.: 13, 19, 21, 23, 31, 34 and 35

Reg. No. 3,045,796

United States Patent and Trademark Office

Registered Jan. 17, 2006

**TRADEMARK
PRINCIPAL REGISTER**

OMEGA

NATIONAL PRESORT, INC. (OKLAHOMA CORPORATION)
2535 LONE STAR DRIVE
DALLAS, TX 752126328

THE MARK CONSISTS OF STANDARD CHARACTERS WITHOUT CLAIM TO ANY PARTICULAR FONT, STYLE, SIZE, OR COLOR.

FOR: AUTOMATIC DOCUMENT SORTING MACHINES AND STRUCTURAL PARTS THEREFOR, IN CLASS 7 (U.S. CLS. 13, 19, 21, 23, 31, 34 AND 35).

SER. NO. 78-522,393, FILED 11-24-2004.

FIRST USE 11-9-2004; IN COMMERCE 11-9-2004.

KELLY BOULTON, EXAMINING ATTORNEY

United States of America
United States Patent and Trademark Office

OMEGA

Reg. No. 4,434,326

Registered Nov. 19, 2013

Int. Cl.: 7

TRADEMARK

PRINCIPAL REGISTER

MINERVA OMEGA GROUP S.R.L. (ITALY LIMITED LIABILITY COMPANY)
VIA DEL VETRAIO, 36
I-40100 BOLOGNA, ITALY

FOR: ELECTRIC COFFEE GRINDERS, MEAT MINCERS, NAMELY, ELECTRIC MEAT GRINDERS, STANDARD ELECTRIC FOOD SLICING MACHINES, ELECTRIC MEAT SLICING MACHINES; EXCLUDING AGITATOR MILLS AND ITS PARTS, IN CLASS 7 (U.S. CLS. 13, 19, 21, 23, 31, 34 AND 35).

OWNER OF INTERNATIONAL REGISTRATION 0244172A DATED 6-9-1961, EXPIRES 6-9-2021.

SER. NO. 79-116,158, FILED 7-10-2012.

SUE LAWRENCE, EXAMINING ATTORNEY



Sue Lawrence

Deputy Director of the United States Patent and Trademark Office

**REQUIREMENTS TO MAINTAIN YOUR FEDERAL
TRADEMARK REGISTRATION**

**WARNING: YOUR REGISTRATION WILL BE CANCELLED IF YOU DO NOT FILE THE
DOCUMENTS BELOW DURING THE SPECIFIED TIME PERIODS.**

Requirements in the First Ten Years*

What and When to File:

First Filing Deadline: You must file a Declaration of Use (or Excusable Nonuse) between the 5th and 6th years after the registration date. See 15 U.S.C. §§1058, 1141k. If the declaration is accepted, the registration will continue in force for the remainder of the ten-year period, calculated from the registration date, unless cancelled by an order of the Commissioner for Trademarks or a federal court.

Second Filing Deadline: You must file a Declaration of Use (or Excusable Nonuse) **and** an Application for Renewal between the 9th and 10th years after the registration date.* See 15 U.S.C. §1059.

Requirements in Successive Ten-Year Periods*

What and When to File:

You must file a Declaration of Use (or Excusable Nonuse) **and** an Application for Renewal between every 9th and 10th-year period, calculated from the registration date.*

Grace Period Filings*

The above documents will be accepted as timely if filed within six months after the deadlines listed above with the payment of an additional fee.

**The United States Patent and Trademark Office (USPTO) will NOT send you any future notice or
reminder of these filing requirements.**

***ATTENTION MADRID PROTOCOL REGISTRANTS:** The holder of an international registration with an extension of protection to the United States under the Madrid Protocol must timely file the Declarations of Use (or Excusable Nonuse) referenced above directly with the USPTO. The time periods for filing are based on the U.S. registration date (not the international registration date). The deadlines and grace periods for the Declarations of Use (or Excusable Nonuse) are identical to those for nationally issued registrations. See 15 U.S.C. §§1058, 1141k. However, owners of international registrations do not file renewal applications at the USPTO. Instead, the holder must file a renewal of the underlying international registration at the International Bureau of the World Intellectual Property Organization, under Article 7 of the Madrid Protocol, before the expiration of each ten-year term of protection, calculated from the date of the international registration. See 15 U.S.C. §1141j. For more information and renewal forms for the international registration, see <http://www.wipo.int/madrid/en/>.

NOTE: Fees and requirements for maintaining registrations are subject to change. Please check the USPTO website for further information. With the exception of renewal applications for registered extensions of protection, you can file the registration maintenance documents referenced above online at <http://www.uspto.gov>.

United States of America
United States Patent and Trademark Office

OMEGA

Reg. No. 4,531,251

Registered May 20, 2014

Int. Cl.: 7

TRADEMARK

PRINCIPAL REGISTER

NETZSCH-FEINMAHLTECHNIK GMBH (FED REP GERMANY GMBH (LIMITED LIABILITY CORPORATION))
SEDANSTRASSE 70
95100 SELB
FED REP GERMANY

FOR: MACHINES AND MACHINE ARRANGEMENTS FOR GRINDING, DISPERSING AND EMULSIFYING FOR INDUSTRIAL AND LABORATORY APPLICATIONS, NAMELY, DISPERSION MILLS AND REPLACEMENT PARTS THEREFORE, EXCLUDING SUCH MACHINE PARTS THAT CAN BE USED IN MACHINES AND DEVICES FOR THE PRODUCTION OF COMPRESSED AIR, VACUUM AND AIR FLOW, IN CLASS 7 (U.S. CLS. 13, 19, 21, 23, 31, 34 AND 35).

THE MARK CONSISTS OF STANDARD CHARACTERS WITHOUT CLAIM TO ANY PARTICULAR FONT, STYLE, SIZE, OR COLOR.

PRIORITY DATE OF 10-12-2012 IS CLAIMED.

OWNER OF INTERNATIONAL REGISTRATION 1152454 DATED 1-24-2013, EXPIRES 1-24-2023.

OWNER OF U.S. REG. NO. 4,290,794.

SER. NO. 79-127,085, FILED 1-24-2013.

TINA BROWN, EXAMINING ATTORNEY



Michelle K. Lee

Deputy Director of the United States
Patent and Trademark Office

**REQUIREMENTS TO MAINTAIN YOUR FEDERAL
TRADEMARK REGISTRATION**

**WARNING: YOUR REGISTRATION WILL BE CANCELLED IF YOU DO NOT FILE THE
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Requirements in the First Ten Years*
What and When to File:

First Filing Deadline: You must file a Declaration of Use (or Excusable Nonuse) between the 5th and 6th years after the registration date. See 15 U.S.C. §§1058, 1141k. If the declaration is accepted, the registration will continue in force for the remainder of the ten-year period, calculated from the registration date, unless cancelled by an order of the Commissioner for Trademarks or a federal court.

Second Filing Deadline: You must file a Declaration of Use (or Excusable Nonuse) **and** an Application for Renewal between the 9th and 10th years after the registration date.* See 15 U.S.C. §1059.

Requirements in Successive Ten-Year Periods*
What and When to File:

You must file a Declaration of Use (or Excusable Nonuse) **and** an Application for Renewal between every 9th and 10th-year period, calculated from the registration date.*

Grace Period Filings*

The above documents will be accepted as timely if filed within six months after the deadlines listed above with the payment of an additional fee.

**The United States Patent and Trademark Office (USPTO) will NOT send you any future notice or
reminder of these filing requirements.**

***ATTENTION MADRID PROTOCOL REGISTRANTS:** The holder of an international registration with an extension of protection to the United States under the Madrid Protocol must timely file the Declarations of Use (or Excusable Nonuse) referenced above directly with the USPTO. The time periods for filing are based on the U.S. registration date (not the international registration date). The deadlines and grace periods for the Declarations of Use (or Excusable Nonuse) are identical to those for nationally issued registrations. See 15 U.S.C. §§1058, 1141k. However, owners of international registrations do not file renewal applications at the USPTO. Instead, the holder must file a renewal of the underlying international registration at the International Bureau of the World Intellectual Property Organization, under Article 7 of the Madrid Protocol, before the expiration of each ten-year term of protection, calculated from the date of the international registration. See 15 U.S.C. §1141j. For more information and renewal forms for the international registration, see <http://www.wipo.int/madrid/en/>.

NOTE: Fees and requirements for maintaining registrations are subject to change. Please check the USPTO website for further information. With the exception of renewal applications for registered extensions of protection, you can file the registration maintenance documents referenced above online at <http://www.uspto.gov>.

United States of America
United States Patent and Trademark Office



Reg. No. 4,617,497

Registered Oct. 7, 2014

Int. Cl.: 7

TRADEMARK

PRINCIPAL REGISTER

SANC MATERIALS, INC. (CALIFORNIA CORPORATION)
8833 FLOWER ROAD
RANCHO CUCAMONGA, CA 91730

FOR: DIAMOND SAW BLADES FOR USE WITH POWER SAWS AND GRINDERS; DIAMOND GRINDING WHEELS FOR USE WITH GRINDERS, IN CLASS 7 (U.S. CLS. 13, 19, 21, 23, 31, 34 AND 35).

FIRST USE 7-25-2006; IN COMMERCE 6-26-2008.

THE MARK CONSISTS OF THE STYLIZED WORDING "OMEGA" WITH AN OMEGA SYMBOL ENCLOSING THE LETTER "O" FORMED BY TWO OVERLAPPING CURVED LINES WITH AN ANGLE AT ONE END.

SER. NO. 86-219,645, FILED 3-12-2014.

REBECCA POVARCHUK, EXAMINING ATTORNEY



Michelle K. Lee

Deputy Director of the United States
Patent and Trademark Office

**REQUIREMENTS TO MAINTAIN YOUR FEDERAL
TRADEMARK REGISTRATION**

**WARNING: YOUR REGISTRATION WILL BE CANCELLED IF YOU DO NOT FILE THE
DOCUMENTS BELOW DURING THE SPECIFIED TIME PERIODS.**

Requirements in the First Ten Years*

What and When to File:

First Filing Deadline: You must file a Declaration of Use (or Excusable Nonuse) between the 5th and 6th years after the registration date. See 15 U.S.C. §§1058, 1141k. If the declaration is accepted, the registration will continue in force for the remainder of the ten-year period, calculated from the registration date, unless cancelled by an order of the Commissioner for Trademarks or a federal court.

Second Filing Deadline: You must file a Declaration of Use (or Excusable Nonuse) **and** an Application for Renewal between the 9th and 10th years after the registration date.* See 15 U.S.C. §1059.

Requirements in Successive Ten-Year Periods*

What and When to File:

You must file a Declaration of Use (or Excusable Nonuse) **and** an Application for Renewal between every 9th and 10th-year period, calculated from the registration date.*

Grace Period Filings*

The above documents will be accepted as timely if filed within six months after the deadlines listed above with the payment of an additional fee.

**The United States Patent and Trademark Office (USPTO) will NOT send you any future notice or
reminder of these filing requirements.**

***ATTENTION MADRID PROTOCOL REGISTRANTS:** The holder of an international registration with an extension of protection to the United States under the Madrid Protocol must timely file the Declarations of Use (or Excusable Nonuse) referenced above directly with the USPTO. The time periods for filing are based on the U.S. registration date (not the international registration date). The deadlines and grace periods for the Declarations of Use (or Excusable Nonuse) are identical to those for nationally issued registrations. See 15 U.S.C. §§1058, 1141k. However, owners of international registrations do not file renewal applications at the USPTO. Instead, the holder must file a renewal of the underlying international registration at the International Bureau of the World Intellectual Property Organization, under Article 7 of the Madrid Protocol, before the expiration of each ten-year term of protection, calculated from the date of the international registration. See 15 U.S.C. §1141j. For more information and renewal forms for the international registration, see <http://www.wipo.int/madrid/en/>.

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