

Press Release

The Most Versatile Range of Air Motors in the World

Focusing on High Quality Stainless Steel Drives

Machine Tool Constructor DEPRAG Positions Itself as Technology Leader



What do tasty shish kebabs, weather-proof paints and varnishes, delicious fruit juice drinks and newsprint have in common? At first glance, very little. But if we take a look at how they are made, we see the question in a different light. The manufacturing processes of all four of these products utilize stainless steel air vane motors. These high quality drives are the number one choice when high torques are required in confined spaces, or where strict hygiene rules apply in the food processing and medical technology sectors. When deployed in aggressive environments, and even under water, the stainless steel drive proves indestructible.

DEPRAG, the air motor specialist in Germany, is presenting the most comprehensive international range of stainless steel vane motors. The air motors are designed using the latest sophisticated technology and they receive a highly specific finishing treatment at the company's own hardening shop, thus ensuring that they are the very best drive system available. "We have firmly established ourselves as the technology leaders in air motors," stated DEPRAG Product Manager, Dagmar Dübbelde, commenting on the wide variety of stainless steel drives carrying the DEPRAG signature. "And our ADVANCED LINE Air Motors play a key role in this."

Dübbelde stressed, "Quality and flexibility are the major advantages of our stainless steel motors, and they are unsurpassed in the world market." For many decades, DEPRAG SCHULZ GMBH u. CO., the air motor manufacturer based in Amberg, Germany, has been designing and manufacturing high quality rotary drives operating on compressed air. Countless numbers of new products have left the research and development laboratory at this medium-sized engineering construction firm to figure in the company's wide-ranging product portfolio. The specialists in pneumatic motors have become the world market leader in stainless steel air motors.

Stainless steel vane motors with integral planetary gears are compact drives fitted into hand-guided machines and industrial plants. The motor power provided by the DEPRAG ADVANCED LINE Compressed Air Drives supplied in nine power classes, ranges from 20 to 1200 W. Product Manager, Dagmar Dübbele explained the preferred applications areas, "These high-quality stainless steel air motors are ideally suited for the chemical and paper industries, pharmaceutical production, medical technology, and for the food processing industry."

Maximum cleanliness guaranteed

The integral planetary gears are lubricated as standard with USFA-H1 food grade lubricant. Two special seals ensure that the air motor is properly sealed at the drive spindle. This makes them ideally equipped for use in the food processing industry. Vane motors are used with great success to process fruit juice. They tirelessly drive the magnetic stirrers which mix the delicious juices together. It goes without saying that all ADVANCED LINE air motors run on an oil-free operation. This is an important consideration in view of the strict hygiene requirements in force within the food processing and pharmaceutical industries.

Particularly high levels of hygiene are required in the medical technology field. Stainless steel drives deployed in the medical instrumentation sector have to be constantly maintained in a sterile condition, just like the surgical instruments in an operating theatre. For this reason, they are equipped with suitable vanes.



Even under water, the air motor with its robust stainless steel housing cuts a fine figure. When this versatile drive is required to start under water, it is able to operate efficiently and reliably at a water depth of up to five meters. When started in the air and then immersed in water, it produces its full power of up to 20 meters in depth space. For example, paints and varnishes are mixed from a combination of different components. A space-saving air motor with robust external parts made of stainless steel provides excellent power to move the large stirrer, thus ensuring that the materials retain their fluidity.

DEPRAG has developed for such applications high torque motors which provide high nominal torques at low revolution rates. The stall resistant, high torque motors with their high-quality stainless steel housing are distinctive for their power density and compactness. The diameter of each motor in this series of drives touches on an unbeatable 63 millimeters! The 280 W power air motor produces a rated torque of 410 Nm at a revolution rate of 7 rpm. The 850 W power pneumatic vane motor produces a rated torque of 400 Nm at a revolution rate of 20 rpm.

Explosion hazard averted

For operation in potentially explosive areas, the safety of the machine components deployed is checked with painstaking care. Plant engineers know they are safe with ADVANCED LINE Air Motors with integral holding brake. The integral holding brake is actuated either by a separate compressed air line or directly from the motor's exhaust air. If the pressure goes down, the brake is automatically actuated. The brake motor even comes with an ATEX certificate. Its integral planetary gear can be designed to requirements. DEPRAG's Product Manager, Dagmar Dübbele stated, "Plant engineers have access to a complete ATEX-compliant system, saving time and money in design, commissioning and in obtaining permission for the planned plant." There are three power classes available as standard models: 200 W, 300 W and 1.2 kW. Compressed air is an operating fluid which causes no inherent problems. Explosion hazards during production caused by flying sparks are eliminated. Due to its structure, the pneumatic vane motor does not get hot, but is actually cooled by the expanding compressed air under load.

Rugged properties combat effects of acids and aggressive chemicals

Robust stainless steel motors are also required in the paper industry, for example, when preparing the materials used to manufacture paper. Depending on the type of paper, this is where wood and cellular material, along with recycled paper fibers are mixed to a certain ratio and dissolved in water. Chemical filler and auxiliary materials are added as well. This aggressive "slurry mix" has to be stirred constantly. The recommended drive to keep the agitator turning is an air motor with acid-resistant stainless steel housing, which has been specially adapted for use in the paper industry. The POWER LINE with its V4A stainless steel housing has an output of 1.6 kW at a rated speed of 2250 rpm, 2.6 kW at a rated speed of 1750 rpm, and 3.6 kW at a rated speed of 1500 rpm. Equipped with stainless steel gears having a gear ratio of 18.3 or 32.6, and a stainless steel adapter plate, the drives are ideally designed for use in the paper industry. The stainless steel drive spindle also resists aggressive chemicals.

What other drive will tolerate ambient temperatures of 140 degrees Celsius and above? ADVANCED LINE Air Motors also operate robustly and reliably inside a high-temperature chamber without incurring damage. When deployed at high ambient temperatures, they contain special vanes, a special lubricant and special seals which can resist such extreme heat. In addition, special ball bearings are fitted for even higher temperature requirements.

Versatile range for the most varied applications

The flexibility of this product line is quite sensational. "You might say that it's a world champion," smiled Dübbelde. Even in the standard range, every air motor comes combined with various stainless steel planetary gears. "And of course we also comply with other gear requirements," she explained. A very wide range of customer requirements can be implemented. Spindle designs such as key shaft, square or hexagonal spindle, threaded spindle, coned drill chuck, collet chuck or customer-specified spindle variants are all possible. Nor are there any restrictions on customers' requirements of the fastening system for the motor. Individual base and flange connections can be implemented.

"There's no such word as can't" is the motto of the DEPRAG engineers who spend many hours in consultation with their customers. And in the event that no air motor suitable for a planned application is available in the catalogue, they can always turn to the INDIVIDUAL LINE, which means what it says. DEPRAG will find an individual drive solution to meet the user's specifications. As Dagmar Dübbelde emphasizes, "We supply drive components for fitting into customers' own housings. We have even supplied ferrite-free air motors for magnetic resonance treatments."

DEPRAG SCHULZ GMBH u. CO. from Amberg, Germany, is the technology leader in the air motors sector. In addition to its comprehensive range of vane motors, the company also supplies turbines and gear wheel motors. As a complete service provider, the DEPRAG team has an excellent advisory service which kicks in as early as the development stage, as well as a comprehensive after-sales service. Other areas of skills and expertise offered by this SME which specializes in plant engineering, employs 600 people internationally and is represented in over 50 countries, include screwdriving technology, automation solutions and power tools.



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