

# ZOOM

JULY 2022



**Sealing Solutions for  
Gas Springs**



**Investment in Future:  
Kastaş Academy**



**Our vision is:  
“Being the first choice  
sealing technology  
partner of industries  
worldwide.”**



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### ZOOM

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*Our growth and development journey will continue with the focus of delivering quality outcomes in all our processes that are expected from us.*



**Dear Partners,**

**W**e experienced the excitement and joy of the 40th anniversary of our distinguished institution which had been founded by our Chairman Mr. Haydar Atılğan.

With the strength and responsibility of the 40 years of experience, we continue working with our best efforts, at every level of our company. To be able to achieve stability and sustainability, in a strong corporate governance model, we plan our short- and long-term future of Kastaş by considering the basic facts of today's world while taking our strategic steps.

We are pleased to see that, despite the epidemic, many of our targets in different activities we have planned, together with our growing and developing organization, have been materialized. Undoubtedly, the contribution of all our stakeholders, especially the valued employees of our company, is undeniable.

Even when we consider our last year's production capacity, alone, we see that we have achieved a significant growth in our production figures with the increasing number of our human resources and our investments in equipment and machines during the epidemic. The applications we are trying to develop in our business models, allow us to better observe the importance of systematic approach, in terms of quality and process stability, especially in customer projects and projects for giant equipment manufacturers (OEMs) of the world. Continuing the improvement works without any interruption, without making any compromises in quality in all our processes, which is associated with our reputable brand name, is among our most valuable principles.

The new and huge customer potential we are about to materialize, particularly in export markets, is the main indicator that makes us know that we are taking the proper course of action and how close we are to seizing that chance. We keep on working on our plans and actions to carry out our efforts of strengthening our organizational structure and our methods of doing and managing the business in a manner that it shall make our company stronger and sustainable in the international arena. At the same time, we take and implement all measures that will eliminate all risks within the organization, especially to protect our health, which is the most important agenda, and to ensure the continuation of our business.

In achieving our future strategies, we continue to expand our entire organization and enrich our Human Resources Policies to create a sustainable human resource, with the awareness that the culture from the past and our most important source is human beings.

In this manner, we established Kastas Academy, an organization within the company with a strategys to consolidate all internal and external training programs. Moreover we will keep investing in Kastas Academy which will have an essential role in our HR development as well as supplier and customer alignment.

One of the most significant principles we need to abide by for our targeted strategies is to minimize personal mistakes we encounter, through the digital solutions that we shall create, with a systematic approach and changing technology.

On the other hand, pandemic proved to us all, one more time, that we can neither control nor foresee everything and that we cannot exist in the world only as a member of society we lived in. It is a fact that after this pandemic end, we shall keep up with the global process and all together, we shall create a better world. For the sake of continuity of the world and life, all of us, as human beings, enterprises, and societies shall have to spare a part of our resources for social responsibilities.

It is critically important for the sustainability of our company to accurately identify risk factors in our company management processes that we carry out in line with strategies, plans and actions and to include all worst- and best-case scenarios in our plans to minimize them if not all together eliminate them.

Particularly, knowing that the butterfly effect of any fluctuations we face in global competition may have an impact on the entire world, including risk management factors within our strategies and developing appropriate working models, is now an inevitable sub-disciplinary issue.

To become a player of global competition within the scope of changing business models, establishing an agile organizational structure that covers all these elements and focusing more on the preparation of the same, will be the first item on our agenda while we are gradually implementing the normalization process.

We, as every member of our organization, shall continue to make all the investments we foresee that shall become necessary in the upcoming period and provide quality services that shall meet the needs of our customers.

**Birol Aslantaş**  
General Manager



In-h  
corr.  
inve

19  
1981

Kastas  
established



First distributor agreements and market entry to Asia and North America



Kastas Europe GmbH established



TS/16949:2002 certified, implementation of automotive industry standards



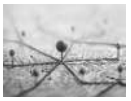
New global OEM customer acquisitions



Kastas Europe moved to new expanded sales warehouse inv

2000 2002 2006 2009 2012 2013 2014

Establishment of distribution network in Europe



First hydraulic test bench investment



Establishment of SmartSeal production



New R&D investments modern, dynamic and static test equipments



Enhancing design and development capabilities with Finite Element Analysis software investment (FEA)





House compounding plant



Production of first elastomer hydraulic seal



Moved to Pınarbaşı factory



The very first export shipment, realized to France.



Established itself as the market leader in Turkish domestic market



First quality laboratory established with modern equipment investments

1985 1986 1992 1994 1998

1991 1993 1996 1997

Production of first thermoplastic seal



Introduction to European market



Moved to Çiğli factory, first modern production facility



ISO 9001 Certified



GmbH location with sales team and investment



First pneumatic test bench investment



Moved to new HQ and modern production facilities in Menemen, İzmir



**KASTAŞ**  
New corporate logo & branding



SAP launched



**seal-Link**  
Seal-Link B2B sales portal launched



**KASTAŞ akademi**  
Kastas Academy established

2015

Overnight global deliveries from Kastan Europe Sales and Distribution Center warehouse



2017

45% capacity increase following new machine, compounding line and automation investments



2018

Approval of R&D Center



2019

5 years digital transform strategy established



2021

40th anniversary of Kastan



# KASTAŞ IS 40 YEARS OLD

## VISION:

# BEING THE FIRST CHOICE SEALING TECHNOLOGY PARTNER OF INDUSTRIES WORLDWIDE

**K**astaş has celebrated its 40th year, being a leader in Turkey and one of the prominent manufacturers of Europe in terms of sealing technologies.

Kastaş, founded in 1981, is a global player in sealing industry has a domestic market share over 80%, is a growing organization with more than 700 employees, a wide product range and our R&D team dedicated to material and product development in its production facilities located in İzmir, Turkey.

Following the developments in its sector closely since the day it was founded and has achieved sustainable growth with its continuous investments in technology, information, and education, Kastaş continues to increase productivity and efficiency with an understanding of offering solutions above expectations in product and service quality.

Allocating significant resources for R&D and Innovation studies every year, Kastaş develops materials for the sealing technologies of the future with its experience, advanced level of engineering knowledge, developed production technology, trained, and qualified human sources.

Kastaş strives to create designs beyond this era, using the most advanced production technologies and engineering solutions. Working with the goal of operational excellence in all processes is geared toward progress driven by investments in digital infrastructure, production technology, and machinery. A successful, innovative, and human-focused "Human Resources Management Policy" is implemented for employees, who are seen as the company's greatest asset. Established to protect, share, preserve, and transfer the possessed knowledge to future generations, Kastaş Academy undertakes an important task in this regard.

**FORMULA OF SUCCESS**

**EXPERIENCE**  
40 years of experience in the fluid power and sealing technologies

**SALES**  
Delivery and global availability in 80 countries worldwide

**R&D**  
Developing product and generating solution with testing devices and FEA

**HUMAN**  
Customer-oriented, young, dynamic, and expert team

**MATERIAL**  
Developing material for sealing technologies of future

**QUALITY**  
Sustainable quality with 360-degree quality system

**PRODUCTION**  
Efficient production through the machinery with the most developed manufacturing technologies and large-sized production lines

Summarizing the 40-year success story of the company, Kastaş Chairman Haydar Atılğan stated that Kastas is a leading producer of sealing technologies that are essential for the fluid power industry and a competent and experienced team is vital for the development and sustainability. Atılğan said that "We remain committed to support the world's leading manufacturers in mobile hydraulics, construction, agriculture, and production industries with our forward-looking solutions as well as focusing sustainability by touching people lives, protecting nature and the world."

### **KASTAŞ EUROPE - OPERATING SINCE 2009**

Kastas is a leading producer of sealing technologies that are essential for the fluid power industry and a competent and experienced team is vital for the development and sustainability.

He also underlined that "since the beginning of our journey, innovations based on effective and efficient research and development are important growth engines for Kastas. That's why we work in interdisciplinary teams on innovative products and materials. In line with this strategy the Kastaş Test Center successfully conducts detailed R&D testing activities on sealing technologies for advanced design and material solutions. As Kastaş we believe that knowledge and experience are vital for the long-term performance and application engineering of sealing elements. That's why more than 40 engineers and a dedicated R&D department at Kastas focus on new and innovative sealing solutions for various industries every day. By examining the requirements of each application, creating simulations, testing systems in-house and in-field, our aim is to offer our customers the most efficient and reliable sealing solutions." ■

# TO SUSTAIN OUR GROWTH

*It is my greatest wish that all key stakeholders, management, and all employees experience the same pride with continued success for many years to come.*



It's been 40 years since Kastas established in a small workshop in March of 1981. It feels just like yesterday. Since beginning, we have focused on development and growth and kept investing in our business and technology as well as our organization. The progress Kastas made in the last 40 years is impressive and promising for the next decade. Creating a company which have become a reputable, reliable brand, well-known all around the world, a supplier of global brands, employer of hundreds of employees is a great progress in our history. Thinking of everything we managed, I would say, it is worth all the challenges we faced and the beautiful moments we had, stand out.

What have we done right by achieving this success?

I believe our values and principles are the main drivers of our success. We have always kept customer in our focus by understanding their needs and doing our best to exceed their expectations by means of product and service. Developing innovative products and producing at the highest quality were also one of our main principles since beginning. Most importantly, our passion for continuous development is the key for our progress in the last 40 years. Following every new investment or achievement, we have set new goals for our company in every aspect. Parallel to our ambitious vision for our company, we always desire the best for our company and organization.

It has always been our priority to establish fair relations with our employees, customers, and suppliers. We have always tried to look out for mutual interests. To put it more clearly, our priority was to do our job right. Companies are established to make a profit, but if profit is the first priority, if the necessary organizational and technological investments are not made on time, the company begins to lag behind the competition in the long run, which brings failure. But if the priority is to do your job well, if all these investments are made on time, success and profit will come.

Another important factor in Kastaş's success was our organization. We were a team since day one when the company was employing several people and still a team today, a bigger one, employing more than 700 staff.

Besides our principles and organization, investments were always in our focus. In order to meet the market demand in terms of capacity, quality and infrastructure, we have continuously invested in our production facilities, machinery, equipment and IT. 5 years ago, we have moved to our new production facility and HQ, which we have target to be our home for the next decades that would allow us to keep growing our capacity and quality.

In Kastas, we value the sustainability of success and growth more than daily achievements. In the respect having an stable and developing organization is one of our main strategies. Moreover establish a dynamic corporate structure and strong organization is the key for sustaining the market share or growth.

By keeping our human resources strong, following the technological developments in the world closely, offering products and services above the expectations of the world markets, working harder than our competitors, we will increase Kastaş's market share. I heartily say that we remain committed to supporting the world's leading manufacturers in mobile hydraulics, construction, agriculture, and production industries with our forward-looking solutions.

As the founder of the company, it is a source of great pride and happiness for me, to write such an article on the 40th anniversary of Kastaş, which has come to this day after a 40-year adventure and gained the trust of industries all over the world.

It is my greatest wish that the shareholders, management, and all employees experience the same pride with continued success for many years to come.

**Haydar Atilgan**  
Chairman

# WE BELIEVE WE CAN...

## **Nihat Öziri** Board Member

Celebrating the 40th anniversary of our company; It is the best indicator that you are constantly developing and growing in this process, following the innovations in the sector closely and making the necessary investments and studies doing better. We are very proud and happy. We all take firm steps towards our future goals by offering products, services, and quality beyond expectations.

## **Ahmet Pınarlı** Sale Director

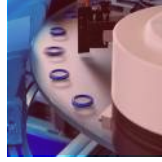
It is a great pleasure and pride for me to celebrate the 40th anniversary of a company that creates added value for its country, and to have worked in this company for almost half of these years. I sincerely believe that ten years from now, our company will be the most preferred sealing manufacturer worldwide. With each passing year, we believe that we can do this with our passion and energy. We have everything that we need to achieve the goals we set.

## **Seçkin Semiz** System Technologies Executive

I was able to be a partner in 10 years of our company, which is celebrating its 40th anniversary. We grew up with Kastaş. This is a great honour and pride. In the light of the technology and experience that our company has accumulated for 40 years, I believe that it will be the biggest stakeholder in the sealing elements industry in the future.

## **Hande Taşık** Method Senior Engineer

It is a great success to be founded with totally domestic capital and continue to produce for 40 years. I have been working for five years in Kastaş and have gained crucial experiences during this period. I assume that Kastaş will convey its existing place to higher levels in the future.



## **Zeki Özmen** Board Member

I am very proud of the position our company has reached today, as someone who has closely witnessed the 40-year development journey of Kastaş, where I have been working since 1981 and took part in this journey. I wholeheartedly believe that we will achieve even more by succeeding in all the goals we set for the future.

## **Hüseyin Gedik** Post Process

I have been working for Kastaş for most of these years, and I believe this is a significant achievement. Kastaş has spent an incredible effort to make it happen. With more than 25 years of presence, I am grateful for being a member of this community and feel very confident being able to work for it. As Kastaş, we are fully committed to achieving the goals set and sustaining the quality that is expected by our customers.

## **Cem Tanyeri** Simulation Technologies Executive

For me, it is an honour to work in Kastaş, which builds its reputation with hard work and success, and to contribute to it. I think our company that has left 40 years full of success behind will take firm steps towards its goal by protecting its brand value and reaching the top in the global market in its sector.

## **Arsen Yıldırım** Mould Production Design Method Director

Since its establishment, our company have been investing in Turkish industry, economy, and society continuously. I am proud of contributing to this development and being a part of this family. I foresee that Kastaş, which has been developing rapidly for 40 years, as well as guiding its sector in the future in line with its goals.



**Serap Manisalı**  
**Human Resources Manager**

We experience great happiness with the sense of pride and confidence that comes from being a part of a permanent company with a history full of achievements. I dream of a company that delivers its sales network locally and globally even more. Besides that, establishing partnerships, making investments globally with the know-how and possessed values, folding its efficiency and achievements through innovative applications in favour of the skilled, agile, and great place to work.

**Erkan Demirel**  
**Domestic Sales Director**

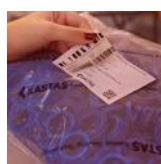
When I look where we are now, I understand that Kastaş took the right actions, put in place the strategic initiatives in the last 40 years and was very well managed. With its vision and commitment, I am fully confident that we all can achieve our strategy with confidence, for many more years. This trust enables us to work with an increased sense of inspiration and enthusiasm. I heartily believe that we will be the world's first preferred manufacturer of sealing elements worldwide.

**Özgür Bahadır**  
**Ankara Branch Manager**

It is a very proud feeling for us to be working in a 40-year-old company. The power of confidence coming from an experience of 40-years gives an excitement for future outcomes. Soon, I believe our company will be the world's first preferred sealing technologies manufacturer with its continuous investments in R&D and technology.

**Özge Tural**  
**Quality Senior Engineer**

I am very grateful to witness our company's growth in each and every single year and the prompt actions taken. It is also exciting to know our roots are getting stronger. I believe that Kastaş will continue to produce, invest in its talent pipeline rapidly in the future and embrace a structure that changes and develops day by day.



**Ozan Devlen**  
**Technology Director**

We feel the accumulation of 40 years behind us in every work done, and we experience the value of being a well built and reputable brand. Adding value to a 40-year-old sycamore every day provides greater job satisfaction. I see our company as the world's first preferred brand of its sector in the future.

**Hakan Topaç**  
**Domestic Sales Regional Manager**

Working in a 40-year-old company makes us feel confident while increasing our consistencies of power, trust and respect for the work we carry out. Being a part of these years, contributing to the process in one's way, receiving positive feedback from both employees and customers... it is difficult to explain... However, it feels so good to experience.

**Volkan İlhan**  
**İzmir Branch Manager**

40 years is a long life for a company and great pride to experience for us. When I first stepped into working life in 1998, I used to say that I wanted to work in Kastaş one day. Now, I have been working in Kastaş for 14 years, with the same passion and energy as on the first day. In the future, I see Kastaş as a manufacturer that will lead in fluid power sectors globally.

**Seçkin Cengiz Aksu**  
**Bursa Branch Manager**

I believe we will be successful in any case with our 40 years of experience. We also give this confidence to our customers. We are fully capable to transfer our experience and maximizing our energy to our work. We make a difference with our quality and ability. Developing our company and achieving objectives toward our vision is a sign that we are getting closer to our goals.



## WE ARE ALL COMMITTED TO SUSTAINING OUR SUCCESS AND OUR DEVELOPMENT JOURNEY

*I strongly believe that Kastas will keep its development and progress with the current and planned investments, our developing corporate structure and organization, our agile adaptation to changing trends...*



**I** believe, the success and development that Kastas has achieved since day one is more important than celebrating its 40th anniversary.

The main success to celebrate is that a company which has established as a small workshop, became a global player in sealing industry by exceeding its targets in every single era in the last 40 years. Moreover, achieving this growth and success in a highly competitive industry with many historical and strong competitor is important. From a corporate perspective, as a family owned and managed company, evolving the organization and structure while enjoying a sustainable growth was another challenge.

Naturally, as my family business, being a part of this company, witnessing the last 35 years and contributing its success for 20 years, is very valued.

I believe that being a part of Kastas gives the same feelings for 40 years for the team. Since 1981, we are company that sets new goals every year and preserves its values and principles despite the growing organization. We still keep our enthusiasm and excitement as we were a newly established company and till keep our customer focus as it is our first customer.

I strongly believe that Kastas will keep its development and progress with the current and planned investments, our developing corporate structure and organization, our agile adaptation to changing trends. All the investments realized in the last 10 years, will be the backbone of our progress in the next decade and I am very enthusiastic about Kastas position in the next years.

**Bircan Atilgan**  
Vice President



# THE YEAR OF GROWTH: 2021

## RAPID GROWTH, ORGANIZATIONAL DEVELOPMENT, TECHNOLOGY AND INNOVATION

**K**astaş, has started the first quarter of 2020, with a modest growth aligned to targets, while news from all over the world about Covid was rising. Expectedly, starting from March, parallel to the well-known global circumstances, although we managed to keep the company and production active, we had a challenging era with decreasing orders, cancellations, transportation problems and low sales volume. On Q3 and Q4 of 2020, parallel to the restart of the global business activities, sales and orders recovered and we have managed to keep the whole company open during the year despite all difficulties and absences. Despite the very low figures in the first two quarters, we have managed to close the year on par with 2019's figures. In such a challenging year, we did not deviate from our corporate development targets and keep strengthening our organization and infrastructure.

In the beginning of 2021, we had modest growth plans in the light of uncertainties due to progress of the pandemic. Moreover, we were targeting to focus on our investments for IT and automation, renewals in our production lines, and of course strengthening our inventories in order to minimize risks of potential shortages and supply chain problems.

Far beyond the expectations, starting from the first days of the new year, in parallel with the strong economic recovery globally, we have faced with a strong increase in demand initially from Europe followed by our domestic market and Asia. In those days, as a family-owned company, we have chosen a path by changing all sales targets and budget and started immediately investing in additional machinery in order to satisfy the growing demand from the market. Thanks to that agility, we were successful to easily acquire the sources that we need from our suppliers ready from their inventories.

Additionally, we have revised our workforce planning, and began to hire new teammates in order to increase the production capacity.

Moreover, we have estimated a potential supply problems and shortages in all raw materials due to high demand and low supply and strengthen our inventory for the whole year contracts.

Although we have managed to achieve a 20% capacity increase just in 2 months, the demand boom in April and May, forced us to revise our investment plans with additions.

Besides the increase in daily business and regular supplied customers, we acquired numerous new businesses from our competitors during these months. Finally, we have managed to balance the demand and improve our decreased stock levels in Q3 of 2021.

In such a challenging year, we are very glad to overcome many difficulties and enjoy an unmatched growth in the history of our company. We had a 48% growth in sales, by increasing our market share globally, continuously supplying our customers with minor delays but without any interruptions, acquiring new customers. Strong team and organization, agile investment planning were the key factors in this success. Total machinery and equipment investment of 2021 exceeded 25% of the turnover was the highest in the company history.

Following such a challenging but successful year, we are planning further investments and growth for 2022. As we plan to add new materials and products to our range, we target to increase our technical competitiveness within the fluid power applications. We will also keep on investing in R&D for new business segments and products for various industries. Besides these development plans and targets, we will definitely focus on customer expectations by shortening delivery times, strengthening our inventory and improve our processes. ■

**Bircan Atılgan**  
Vice President

# "SUSTAINABLE GROWTH" INVESTMENTS IN EVERY STAGE OF ORGANIZATION



**K**astaş is taking important steps towards the future for the expectations of employees, customers, all internal and external stakeholders like suppliers by assessing global trends, possible effects of environmental, social, and administrative tendencies in the sector. Continuing its investment and development studies in the critical fields to perform its strategic goals. Kastaş organization is growing up day by day for its strategic targets.

## INCREASE IN PRODUCTION CAPACITY & NEW MACHINE INVESTMENTS

In Kastaş, which uses the installed capacity in the existing situation, customer requests stand out as the first factor in shaping the manufacturing processes like planning, investment, and use of the resource. When the last 24 months of the process is assessed, the necessary investment decisions have been taken with the demand exceeding the installed capacity, and these decisions have started to be implemented.

The sudden demand increase on a global scale as of 2021 has directly affected the sealing elements sector as a supplier, in parallel with the growth in

the machinery and equipment market in many sectors. In addition to the demand increase, supply problems in the global supply chain, as in the supply of raw materials, have put the sealing elements sector in a difficult process in terms of raw materials and capacity.

In 21 months of process within the scope of performed investments, Plastic Injection, Vacuum Press machine investment, and capacity utilization increased by approximately 50%. Managing to take investment decisions in a very short time as of December 2020, in which the demand increase started, Kastaş reached the production capacity to meet increasing demand with the capacity increase carried out in a short time like 6 months.

Along with these investments; by expanding the machine park of the Post-Processes department, necessary machinery, equipment and automation investments were made, and the capacity was increased at the same scale.

### INCREASE IN SALES & NEW MARKETS

Taking part with high technology products in every sector that needs sealing elements, Kastaş aims for performance enhancement in the existing products along with standard hydraulic and pneumatic sealing elements, with new generation designs. In addition to this, Kastaş, which takes steps to standardize the products it produces in special product groups other than fluid power, particularly in the food industry, takes important initiatives in this field. Performing its studies for

every sector in which it manufactures within the framework of its goals, Kastaş maintains its R&D activities towards new sectors. Kastaş, which achieved an increase of 45% compared to the previous year in its turnover in 2021, accelerated its growth with new OEM collaborations as well as the volume in existing projects. The markets that focused on the growth recorded in 2021 were Europe and Asia but were also supported by new collaborations in South America, China, and Russia.



### INCREASE IN THE NUMBER OF R&D PROJECTS AND NEW PRODUCTS DEVELOPED

In Kastaş, a total of 22 projects were carried out by R&D Centre as approved by the Ministry since 2018, 17 of them have been completed and 5 of them are continuing, as well 8 R&D Projects were realized in total, as 3 completed and 5 ongoing, in 2021. TUBITAK projects on "Improving the Working Performance of Sealing Elements and Developing High-Performance Hydraulic & Pneumatic Guiding Elements with the Development Project and Test Method" was carried out in the company, where significant increases were achieved in the number of products developed compared to the previous year.

### NEW QUALITY GOALS AND CERTIFICATION ACTIVITIES

At Kastaş, with the principle of 360-degree quality management, "quality on-site" is aimed at all units within the company. The studies continue with an understanding of quality in which processes that will support growth are reviewed, new policies and procedures are introduced, and the organization's talents and competencies are supported and strengthened.

Depending on our sustainability strategy; we have included the 14001:2015 Environmental Management System and 45001:2018 Occupational Health and Safety Management System documents, which are our goals for 2021, into our Quality Management System as a result of our hard work. Thus, we strengthened our determination regarding the more systematic and professional management of processes, such as a green company and a reliable workforce.

### ABILITY AND COMPETENCE BASED HUMAN RESOURCES MANAGEMENT

Kastaş also continues its investments in Human Resources for its future goals. In the company where the number of employees increased compared to the previous year and exceeded 700; important steps were taken last year within the scope of institutionalization utilizing newly created units and structures.

Within the scope of studies carried out in this field; the Internal Audit department has been strengthened, while re-organization studies were performed in departments of production, quality, purchasing, and planning. Kastaş Academy was established to enable the company to achieve its long-term goals.

The IT department was also strengthened, the ERP infrastructure and process improvements were built on-site, and the relevant software was made and put into use. The hours of training held in 2021 within the company, which attaches great importance to the professional and personal development of the company's employees, increased by 128 percent compared to the previous year.

In line with the main strategies of Kastaş, the Digital-HR Transformation and On-Boarding projects were commissioned within the scope of the development of competent human resources and the digitalization of processes. ■

# DIGITAL TRANSFORMATION AGENDA AT KASTAŞ



**Selen Onarici**  
Project Executive

**K**astaş spent 2021 by fully adapting the technological transformation steps it took in the last two years to all business processes.

The digital transformation journey that started with the transition to SAP in the field of ERP in 2019 was followed by improvements made on the on-line B2B portal seal-Link.com, Microsoft Dynamics CRM, and Microsoft Power BI projects.

The effects of the pandemic have been experienced as remote offices, online meetings, as well as the development of the ability to manage all business processes remotely in the last two years. In this process, organizations that can keep up with the change and manage the current conditions in the best way have succeeded in not disrupting their processes and even making them more efficient.

Teams, Microsoft's most popular communication platform, started to be used in the Microsoft world, which was included with the CRM project in Kastaş. Without being physical, all meetings and discussions, customer visits, training, and projects began to be managed online by moving many activities to this platform. In this way, time and physical opportunities began to be used more efficiently.

The importance of the on-line B2B platform seal-Link.com has increased during this period in which it has become a habit to perform every action online in business processes. Improvement points were determined and projected on the platform,

where customers were allowed to purchase all standard products and customer-specific products. The option of paying with a credit card was put into use in Turkey.

In in-house processes, importance was given to increasing reporting and analytical capabilities as much as access capabilities in operational processes. Six new reports were published on Microsoft Power BI. The reports on Microsoft Power BI, which has also been used in the production planning department, ensured quick access up-to-date analyses in all processes.



Power BI

2021 was a year in which there were improvements in the ability to measure and evaluate customer feedback. Customer surveys, in which the customers' opinions about all Kastaş experiences were taken, were transferred to Microsoft CRM infrastructure. All surveys restructured on Customer Voice, Microsoft's latest product, became manageable from within the CRM system. In this way, the measurement and evaluation processes were included in the corporate memory.

Surveys aiming for more efficient results by working on categories related to focused target groups were intended to take Kastaş one step further in measuring the perception of the customer. ■

# THE GOAL FOR THE QUALITY: “TO PROVIDE QUALITY ON-SITE”

**A**t Kastaş, which performs the production of products and services at the world's standards and quality, is managed by adopting it as an important part of the organizational culture. Integrating the standards in the quality certifications to all the systems, the company aims at “Quality On-Site” with the participation of all employees.

As of the date of its establishment, Kastaş continues to achieve great success in the sector by providing the highest level of effectiveness in all business processes of the quality system with the steps it has taken on quality and the comprehensive internal audit processes it has carried out in this regard. Professionals who have proven their expertise in quality are employed at Kastaş, which has restructured the quality unit to enable the quality to be a culture adopted by the entire organization in the future where there are bigger goals.

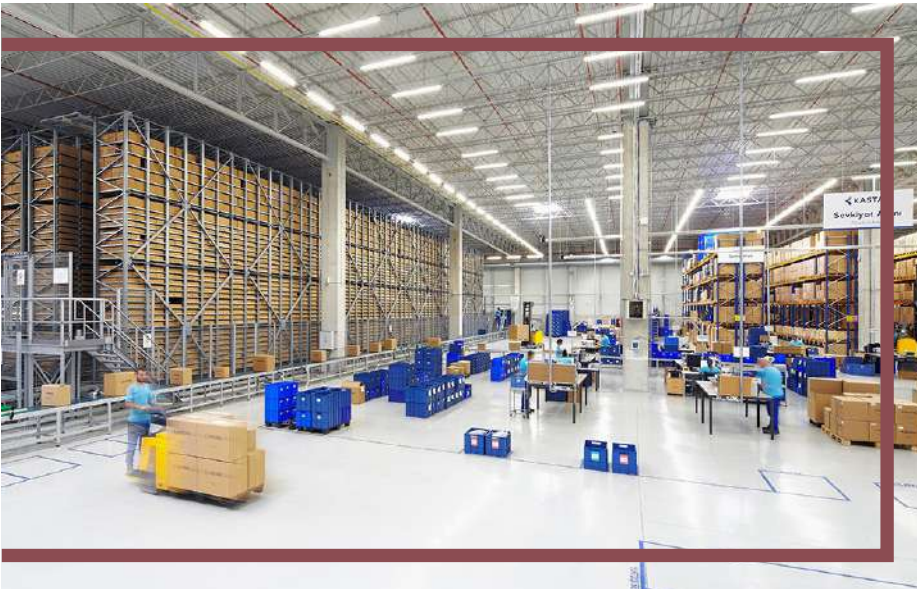
Having ISO 9001 IATF 16949 and ISO 27001:2013 quality certificates, Kastaş, this year, renewed ISO 27001 Information Security Management System Certificate by completing information and internal audit training, while it was including ISO 14001:2015 Environment Management System and ISO 45001:2018 Occupational Health Safety Management System certificates into Quality Management System.

Adapting the organization structure in the quality department and job definitions to the product life cycle, a more professional approach was planned in this issue. In all business processes of the company; the quality unit must be included in the process as a support/service provider at every point until the product reaches the customer. For this purpose, the quality unit communicates with all departments in the company and provides continuous support to all units on the perfection of business processes.

Running meticulous studies on the training of personnel that directly affects product quality, Kastaş aims to give its employees the awareness of being responsible for the quality of the work they produce and the added value they create. At this point, the quality unit, in partnership with the Human Resources Unit, works meticulously on the content of the training that should be given to all relevant units.

With the theoretical and practical training, the employees of the company are gaining competence in quality, it is aimed for the employees to personally feel closer to the concept of total quality.

It is planned that all processes in the company operate simply, in short, free from 7 basic wastes, and for this purpose, Quality Assurance / Quality Control projects are carried out to have the work integrated with the SAP system. ■



## CONTINUOUS IMPROVEMENT GOES ON

Through the integration of different problem-solving techniques (5 Cause Analysis, Fishbone, etc.) managed separately by the Supply Chain / Customer Quality organizational unit with each other within the scope of continuous improvement projects, a new problem-solving technique that contains the strengths of different approaches was put into use.

Within the scope of the projects carried out to eliminate waste, 90 hours have been saved monthly by automating the tasks by speeding up the digital transformation projects by the Control Planning organizational unit. The goal of the control planning organization unit is to provide maximum benefit by taking part in more projects.

# R&D SUCCESS OF KASTAŞ

*Rising to the 247th rank among the leading R&D companies of Turkey, Kastaş became the 4th company that spends the most finance on R&D in the plastics industry in Turkey...*

Leading the sealing technologies sector in Turkey and the world with its R&D studies, Kastaş Sealing Technologies, in 2020, was ranked 247th in the list of "250 Companies with the Highest R&D Expenditure in Turkey", rising 27 steps compared to the previous year. Kastaş ranks fourth among the companies that made the highest expenditure in the plastics industry in Turkey.

Kastaş Sealing technologies continue to take strategic steps towards its future goals by strictly adhering to the principles of quality, innovation, customer focus, and continuous development, and allocates at least 3 percent of its turnover every year to R&D expenditures, and realized an R&D expenditure of 6 million 850 thousand TL in 2020.

Having received the approval of the first R&D Centre in Turkey in the sealing technologies sector, the 2021 R&D expenditure target of Kastaş is 8 million 500 thousand TL. Currently, eight R&D projects are being carried out at Kastaş R&D Centre, where 26 people are working. Planning and implementing material development, product development, system development, and testing processes holistically, Kastaş works today for the needs of tomorrow while developing solutions that meet the current demands of its customers all over the world.

Every product bearing the Kastaş brand can be used directly on the machines without being subjected to any tests or R&D studies by the customers. While this situation increases the responsibilities of everyone assigned at Kastaş, the R&D investments intensify the competitive power of the company in the international arena and its position as a preferred business partner. ■

## WE ARE AMONG THE TOP 250 COMPANIES OF TURKEY!



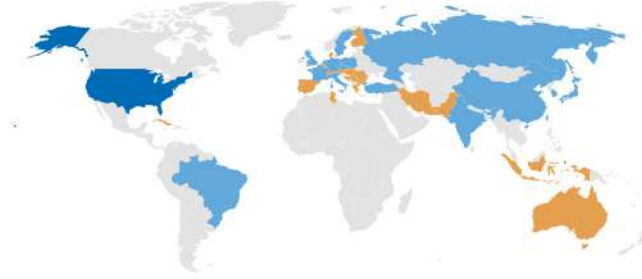
Turkey's 250 Companies with the Highest Expenditure on R&D





# THE NEW NORMAL - DIGITAL MEETINGS

Due to the pandemic, International Standards Organization (ISO) Fluid Power Committee and European Sealing Technologies (ESA) held their meetings through online platforms this year.



Due to the pandemic, International Standards Organization (ISO) Fluid Power Committee and European Sealing Technologies (ESA) held their meetings through online platforms this year.

Affecting the whole world, the Covid-19 pandemic started a new era in international collaboration meetings, as well. With the participation of expert members from all over the world, important issues related to fluid power and sealing technologies were put on the agenda and discussed, and besides providing information on the sectors, the union meetings, where the representatives of the member countries had the opportunity to meet closely, had to be moved to online platforms.

Successfully representing Turkey and Kastaş in ISO and ESA, Kastaş Technology Director Ozan Devlen, in his evaluation of the online meetings, stated that international organizations managed to adapt to the new process very quickly, however, the

members had difficulties in these meetings due to reasons such as time difference and language barrier. Devlen emphasized that although the members know each other, it is not easy to maintain the meetings online, which are largely based on strengthening connections, mutual persuasion, and tough technical discussions. He expressed that the main benefits of international collaborations like making connections, obtaining technical gains, and promotion opportunities have disappeared with online platforms.

Regarding the online meetings held in both international channels; it was accepted as a common view that "main activity studies, regular annual meetings must be carried out face to face". It has been determined that the connections to be established and the synergy to be created here will be more efficient in terms of processes if more frequent and shorter online follow-up and completion meetings (hybrid) are carried out. ■

## **DKT IRC 2021**

At the International Rubber Conference organized by the German Rubber Society, the presentation of "The study of investigating the effects of nano particle additive on the properties of sealing products made of rubber nano composites" run by Kastaş R&D Centre was held.



The International Rubber Conference, which is organized every two years by the German Rubber Society, was held online this year due to the Covid-19 pandemic that affected the whole world.

"The study of investigating the effects of nano particle additive on the properties of sealing products made of rubber nano composites" carried out by Kastaş R&D Director Ozan Devlen, R&D Centre employees Yoncağül Çelik Erez and Barış Çaylak was entitled to be presented verbally on the international platform through the conference. While Yoncağül Çelik Erez was sharing the study with the attendants in the conference held in June, the summary of the presentation was published in the conference book.



# INVESTMENT IN FUTURE

# KASTAŞ academy



*Started to manage learning and continuous development, which are among the biggest supporters of quality, under the umbrella of the Academy, Kastaş continues its activities in this field with the goals of a high-satisfaction working environment, innovation, and customer satisfaction.*

**H**aving left behind forty years of success in the sealing industry, Kastaş Sealing Technologies established Kastaş Academy in order to manage and develop the information correctly, to increase the professional and personal competencies of the employees, and to harmonize the training they receive with the strategic goals of the company.

The goal of the academy, which is considered as one of the main elements of sustainable growth and one of the most important investments of the company to the future: ensuring that the training processes are planned to increase the competencies of the employees by equipping them with the most up-to-date information on their work; to build a design structure that requires students to learn quickly and regularly to keep up with technological developments, global competition, and rapid change. With the formation of the academy, it is aimed to transform the organization into a structure that

grows by learning through increasing the technical and behavioural competencies of the employees in order to enable the company achieve its long-term goals.

While harmonizing the trainings designed for employees with the strategic goals of the company, Kastaş Academy will play an important role in transferring knowledge and experience to all employees and increasing customer satisfaction at the same time. The trainings planned within the academy will be implemented within the programs that include practical information by professionals who are fluent in the company language.

Established with the aim of increasing the benefits provided to employees and achieving excellence in all processes, Kastaş Academy plans to align HR processes with the strategic goals of the company. Employee development and experience activities will be gathered under the umbrella of Kastaş Academy with the principle of "continuous improvement".

Under the umbrella of Kastaş Academy; accurate transfer of information that introduces the company and includes values, particularly prepared for the ones who have just started working at the company, is of great importance. Furthermore, Orientation and Onboarding Training, which will ensure employees adapt to the job in the most efficient and fastest way, are held.

Within the scope of Kastaş Academy studies; with the awareness that the development needs of all employees are different, training programs are created by examining the competencies required by each title and department. It is aimed to perform the competence development of employees to an experience-based dimension with seminars, experience sharing sessions, project groups, case studies, and mentoring programs, while training plans to take place online or in-classroom environments are made through internal and external resources.

At Kastaş, a company that is constantly developing and learning, great importance is attached to the sharing of experience and knowledge among the employees of the company. Within this scope, company employees who want to obtain the responsibility coming from the title are motivated to become Kastaş Academy trainers and are supported with various development programs.

While the cumulative increase in the information, contained in the corporate memory through its expert employees and Academy trainers, serves for progressive and innovative thinking, it also facilitates the sustainable transfer of technical knowledge and usage areas of products to customers.

Along with the training given by universities, relevant institutions, and the sales team for customer needs, the training given by the R&D Team are also being restructured under the umbrella of Kastaş Academy.

The continuance of the training on topics including sectoral information, innovations in sealing technologies, and technical expertise solutions in sealing elements is planned systematically.

In addition to all of those, leadership development programs are designed to support the company leaders, who play an important role in the company's future journey, to increase their knowledge and skills on the way to becoming a "Transformational Leader".

Activities to enable students to go through an internship process full of development are planned for all interns who come across Kastaş in terms of transforming the theoretical knowledge into practical information.

Kastaş Academy aims to be a structure that inspires the lives of everyone the company touches, offers them enjoyable experiences, and supports sustainable success with original techniques and pioneering activities. Started to manage learning and continuous development, which are among the biggest supporters of quality, under the umbrella of the Academy in a well-professional manner, Kastaş continues its activities in this field with the goals of a high-satisfaction working environment, innovation, and customer satisfaction. ■



# NEW GUIDE RING TEST-RING FOR STATIC AND DYNAMIC TESTING OF GUIDING ELEMENTS

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Guiding Element calculation in hydraulic and pneumatic cylinders is immensely crucial. During the design phase, accurate calculations should be made to choose the right product based on the information such as the loads on the cylinder, cylinder working position, and cylinder stroke.

With the help of Static & Dynamic Guiding Element Tester, the operating conditions of cylinders can be simulated and the relationship between the load-carrying capabilities and the amount of deformation due to the load are examined.

By testing the products with realistic operating conditions, accurate and reliable products can be offered. ■

# SMART SEAL MATERIALS DETECTABLE WITH MDSS X-RAY / METAL DETECTOR

**N**o matter how well the sealing element is manufactured, wear and tear will begin eventually. Broken parts of the sealing element can pass through the food processing system and mix with the food product. Searching and finding

the broken parts of the sealing element is a costly, time-consuming, and difficult process that requires expensive X-ray equipment, manual observation, and an extensive maintenance program. However, failure to find missing parts can result in even more costly operations such as product recalls.

Through manufacturing a standard sealing element with a metal-containing compound, the broken part of the sealing element becomes detectable by the metal detector. This ensures that the contaminated product is instantly detected and rejected on the production line. ■

## JPU9410 – 95 Shore A MDS Polyurethane Appropriate For Food

JPU9410 is used in food applications and can be detected with a metal detector.

Operating Temperature Range -20°C / +90°C  
Colour: Light Blue

- ▶ Ability to be detected by X-Ray and metal detector
- ▶ Approved by FDA 21 CFR 177.1680
- ▶ Complies with EU No 1935/2004 and EU No 2023/2006 standards



## JEP8001 – 80 Shore A MDS EPDM Appropriate For Food

JEP8001 is used in food applications and can be detected with a metal detector.

Operating Temperature Range -40°C / +135°C  
Colour: Blue

- ▶ Ability to be detected by X-Ray and metal detector
- ▶ Approved by FDA 21 CFR 177.2600



## JFK8001 – 80 Shore A MDS FKM Appropriate For Food

JFK8001 is used in food applications and can be detected with a metal detector.

Operating Temperature Range -30°C / +200°C  
Colour: Blue

- ▶ Ability to be detected by X-Ray and metal detector
- ▶ Approved by FDA 21 CFR 177.2600



## PT6027 – 58 Shore D MDS PTFE Appropriate For Food

PT6027 is used in food applications and can be detected with a metal detector.

Operating Temperature Range -200°C / +260°C  
Colour: Blue

- ▶ Ability to be detected by X-Ray and metal detector
- ▶ Approved by FDA and EU 10/2011



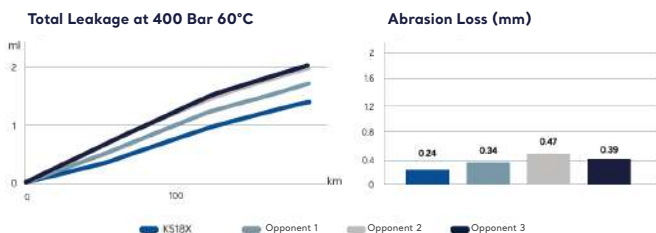
# HIGH-PERFORMANCE COMPACT PISTON SEAL:

# K518X®



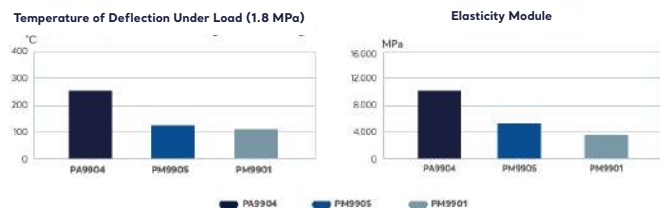
**K**518X, a high-performance compact piston seal comprised of NBR main sealing ring, TPE support rings, and glass fiber reinforced Polyamide guiding element.

Compared to similar double-acting piston seals in different mobile hydraulic applications with variable pressure ranges and peak pressures at the same time, it stands out with its specially formed support rings that increase the flow strength and special PA guide ring with glass fiber additives that provide high strength and guiding against axial loads. ■



## Design Features

- ▶ High static and dynamic sealing performance
- ▶ Superior wear resistance
- ▶ For high pressure and high frequency, etc. challenging applications, high-extrusion resistance
- ▶ Compared to similar compact seals, 45% higher resistance to axial loads
- ▶ Dimensional stability at high temperatures



*With all innovative Design factors and superior material features, K518X stands out as a trusting and long-term solution for many mobile hydraulic applications having compelling factors such as high pressure, high temperature, and long stroke.*

## K53 PNEUMATIC CUSHIONING AND K54 PNEUMATIC PISTON SEALS ARE NOW REDESIGNED



### K53 Pneumatic Cushioning Seal

**F**atigue strength of the K53 pneumatic cushioning seal has been increased with the design renewed through many simulation studies, performance, and life tests. A new design that will replace quickly the previous version will be able to be used in all applications instead of the existing K53 cushioning seals. ■

#### Specifications:

- ▶ Improved cushioning performance
- ▶ Nonstop movement design
- ▶ Increased fatigue strength with renewed design
- ▶ Lower friction
- ▶ Long operating life

### K54 Pneumatic Piston Seal

**K**54 double-acting pneumatic piston seal has been redesigned to have a lower friction and better sealing features.

Following extensive simulations, performance, and life tests, the new generation K54 that went into mass production can be used instead of the previous version in all applications. ■



#### Specifications:

- ▶ Low friction
- ▶ Superior sealing performance in wide pressure range
- ▶ Vibration-free and nonstop movement at low pressure
- ▶ Easy installation

# SUSTAINABILITY AND REFLECTION ON BUSINESS TRANSFORMATION



**Simge Aydın**  
Senior Sustainability  
Consultant, S360

While the resources and the vital ecosystem services are rapidly depleted, transforming existing business models into sustainable ones becomes necessary. The role of the private sector's responsibility in solving global environmental, social, and economic problems is also increasing. Today, the global economy is experiencing a comprehensive transformation, and the conditions for creating a competitive advantage for the private sector are changing. The traditional approach that accepts only financial profitability as the success criterion of the company leaves its place to an understanding in which environmental and social performance and transparency are considered.

The concept of sustainability evolved from the term of sustainable development. Today, sustainable development is at the center of the business world's understanding of sustainability which considers holistically the future and environmental, social, and economic performance development. It means that the company makes improvements by developing its performance in these areas.

The global agenda focuses on solving the world's problems. The development agenda determined by the United Nations, also known as goals of Sustainable Development Goals, lists the problems that must be solved as a priority and guide the practices of business. On the other hand, the World Economic Forum, where the actors leading the global economy come together, highlighted the concept of Stakeholder Capitalism in the 2020 Davos Manifesto.

This concept underlines an economical system in which stakeholders, particularly the society and environment, are considered. Creating value not only for shareholders, but also for customers, suppliers, and all stakeholders, particularly the society, comes to the fore.

In its annual Global Risks Report editions, the World Economic Forum points out the role of the climate crisis within environmental threats which is one of the most critical risks of the future. It became more critical to prevent the deepening of the climate crisis, reduce the greenhouse gas emissions that the industrial economies are responsible for, and develop infrastructure and systems that are resistant to new climate conditions. With the Paris Agreement, entered into force in 2016, an important international step was taken in combating climate change. The countries set targets to reduce their carbon emissions following the agreement, which includes a commitment to limit the global temperature increase by 2 degrees Celsius compared to the pre-industrial revolution.

European Union announced the goal of reaching net-zero emission by 2050 for EU countries and it prepared European Green Deal in December 2019. This call brings new rules for the business and trade actors in terms of managing their environmental impacts. In particular, the additional costs to be set in exports to the EU and developments such as the carbon border adjustment tax and the critical environmental impact of products indicate the importance of the environmental dimension of sustainability. These developments require the business world to take a series of actions, including the management and improvement of environmental performance. The companies must more systematically manage the non-financial sustainability issues that affect their financial performance in the medium and long term. Sustainability became an important topic in investment decisions. Research shows that companies that develop their environmental, social and governance (ESG) performance and integrate it into their growth strategy in the medium and long-term perform financially better. They are resistant to the crises, and manage the risks more effectively and, thus they have a higher sustainable profit.





For this reason, the investments focusing on ESG-focused performance indicators have increased and the capital flow in this area has reached 1.7 trillion dollars.

Sustainability has turned into one of the essential concepts to invest in the business, especially in developing countries which are an important part of the global supply chains and economies. The demands of global customers have also enhanced the issue of sustainability as a condition of being part of global markets.

As a prerequisite for being included in the global system, demands from global B2B customers required companies to work on sustainability. As they are expected to improve and report their social and environmental performance to their business partners. On the B2C side, companies face end-users who become more conscious about sustainability concerns with the increase in communication tools and technology. The change in consumption habits, the expectation of consumers for brands and companies to show their positive impact, and the demand for more transparency put serious pressure on the companies. The sustainability of companies has become an issue that needs to be included in all strategic decision-making mechanisms and processes of the company to manage the increasing social and environmental pressures. There is also significant progress in terms of reporting the performance.

Today, the companies share their performance in sustainability topics as integrated or sustainability (also can be called ESG) reports. The Global Reporting Initiative (GRI), which determines standards for reporting sustainability performance, draws attention to the growing numbers of reports. The number of companies reporting in the world has increased significantly, especially in the last 20 years. 96% of the top 250 companies of the world report on this issue.

With the pandemic, it became more clear that it is important to manage the non-financial risks and get prepared for these risks having an impact on the financial performance and growth. The companies that focus on a stakeholder-oriented growth approach and establish meaningful, purpose-led relationships with their employees, were not seriously affected despite all the challenging conditions of the pandemic that brought the global supply chains to a standstill.

The effective management of ESG is crucial for companies both to survive and for their financial sustainability. In summary, it is necessary to integrate the ESG issues into business models to exist in the global economy, strengthen the competitive advantage, and expand the market for products and services. ■

# HYDRAULIC AND PNEUMATIC GUIDING ELEMENTS

Guiding elements are important system elements that ensure power transmission between the parts carrying loads on hydraulic and pneumatic cylinders. The guiding elements, which are available in different material types, also provide concentricity between the system components and create convenient conditions for the sealing elements to work.

Choosing the right size and number of guiding elements with the appropriate material type is an important factor that has an effect on the performance of the hydraulic and pneumatic cylinders.

Depending on its sections, the guiding elements can be found in L,U,T, and straight forms.

The guiding elements shaped like L and T are generally used in telescopic cylinders. Based on the content of materials, the guiding elements offer different abilities to carry load and wear resistance.

## **Guiding Element Materials**

### **Thermoplastic Guiding Elements (K68,K69):**

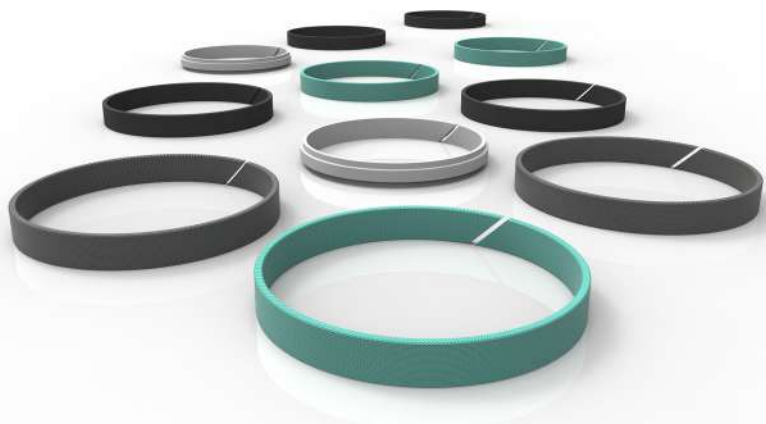
POM or PA guiding elements are generally used as glass fiber reinforced or raw. The fact that POM and PA guiding elements are economical is often the reason why users prefer these products. While using thermoplastic guiding elements, it must be taken into consideration that the surface contact pressure of these materials decreases at temperatures of 60 °C and above, as in other thermoplastics, and the load-carrying capacity decreases. It is appropriate to use in light and medium service applications.

### **PTFE Guiding Elements (KBT, KKT):**

PTFE guiding elements are used in the systems which there is high temperature in the working environment, there are chemicals, and low friction strength is requested. The features of PTFE guiding elements can be made more feasible for the working system by changing the rate of bronze, carbon, and molybdenum disulfate, etc. that are used as additives. In some applications, PTFE guiding elements can be used with other guiding elements that have a higher capacity of carrying the load. In this type of application, PTFE guide rings collect the foreign particulars in the environment and prevents these particulars from harming the cylinder. It is used in light and medium-duty applications due to its low contact pressures.

### **Composite Guiding Elements (K73, K75):**

They are products that can be used in heavy-duty applications with high load carrying capacities, consisting of a combination of fabrics such as cotton, polyester, aramid, and various resins and different filling materials. Composite guiding elements create a much better guiding area with their flexible structures. Thus, they are more successful in meeting the radial forces in the system. Considering the eccentricities that may occur due to high deformations, the distribution of load in the guiding element close to the homogeneous prevents problems caused by dry operation. The friction forces of composite guiding elements can be reduced with additives such as PTFE and graphite. Compared to other guiding element materials, they maintain their stability extremely well in cases where the temperature values of operation vary. se load-carrying capacities of the guiding elements, which are mostly preferred in the sectors where the medium and heavy-duty cylinders are used, subject to change with the effect of temperature and speed. As the heat and speed increase, the load-carrying capacities of guiding elements.

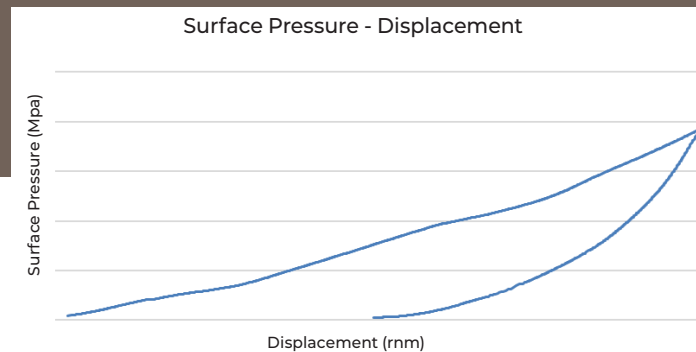


## Selecting Guiding Element

The load carrying capacity calculation of guiding elements in hydraulic and pneumatic cylinders has great importance. Calculations should be made according to information such as the loads on the cylinder, cylinder working position, and cylinder stroke, and the most accurate products should be selected during the design stage. Otherwise, the system might not work safely and mechanic deformations may arise. With the help of the below information, guiding length can be calculated by basing on the force calculation that affects the guiding element.

Groove machining tolerances of guiding elements are given in narrower tolerances compared to sealing element grooves. Measurement mistakes in guiding element grooves can affect the system performance by directly affecting the "S" sealing the clearance.

It is important to make machining and control the dimensions by considering the machining tolerances shared in the catalog. Making the groove corner radii of the guiding elements above the specified value of  $r \leq 0.2$  mm may cause problems during the assembly and operation

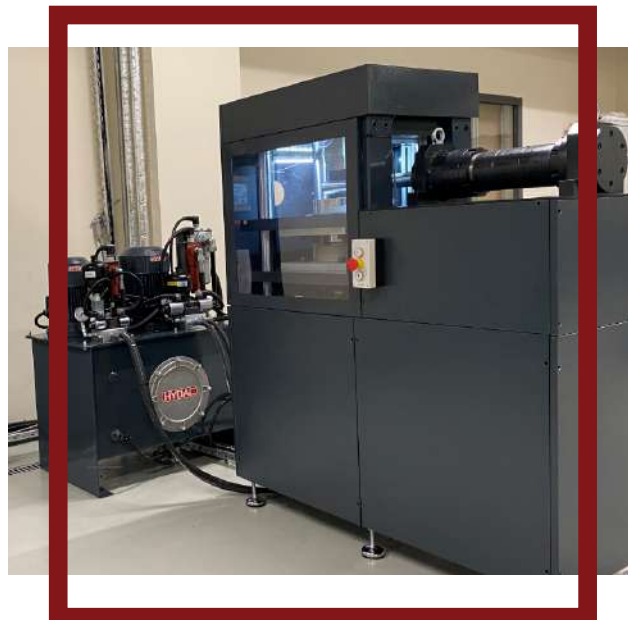


## Static and Dynamic Guiding Element Test Device

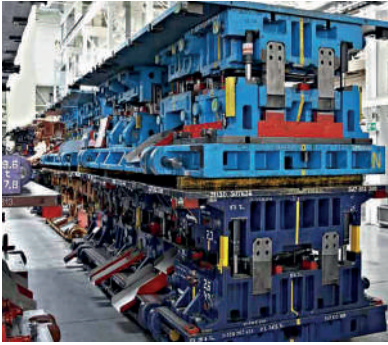
With the Static and Dynamic Guiding Element Test Device available at Kastaş Test Centre, the relation between the abilities to carry the load and the amount of deformation based on the load are investigated by creating the operating conditions inside the cylinders for test products. The test device has two types of testing options as dynamic and static. The static test is carried out by applying a force with a constant rate of increase and establishing a relationship between the resulting displacement after a guiding element is placed in the appropriately machined groove apparatus and the target test temperature is reached.

This testing method is used for the detection of maximum surface pressure given in the information sheets of the guiding elements or the maximum amount of deformation of the product mechanically allowed by the system. The main purpose of the static testing method is to examine only the performance of the product for carrying load under constant conditions. On the other hand, the dynamic test method is carried out by attaching the guiding elements to be tested to the piston and rod guiding element grooves of a test cylinder, and then by continuously moving the test cylinder back and forth under an axial load.

This method enables the product to be tested in a performance closer to field conditions by adding effects such as temperature, lubrication, and wear to the test conditions. ■



# KASTAŞ OFFERS SIGNIFICANT ADVANTAGES IN GAS SPRING SEALING ELEMENTS...



**K**astaş offers significant advantages in terms of product quality and strong stock structure in gas spring sealing elements. Gas springs provide increase industrial productivity and ease of use to promote user comfort. Kastaş, which offers sealing solutions that meet different system requirements at the same time, in comfort product groups where customer expectations are quite high; produces products that technically meet all

expectations with its high wear resistance, low permeability rate, and high endurance in different ambient conditions and temperatures. While making a difference in terms of satisfaction with its ability to produce products tailored to customer needs, the company, which uses its 40 years of know-how and experience in sealing solutions for gas springs, continues its production as one of the most assertive manufacturers in the market with new investments in this field.

***It is important to emphasize the strength of Kastaş and what can be achieved in high-expectation product groups..***

Gas spring sealing elements hold a substantial share in our company's make-to-order production group. As the spring-manufacturing companies in Turkey have undergone significant development and expansion over the last five years, Kastaş's experience and product range are also broadening daily. Gas springs are used in a wide range of areas from furniture to automobiles, marine groups, industrial equipment, agriculture, and industry. As the expectations are high from these parts, the

quality of sealing elements that will ensure the flawless functioning of gas springs is equally crucial. High-quality expectations in the product group mean it is particularly valuable to us. We know what Kastaş can achieve under high expectations by leveraging its experience, engineering know-how, and its prioritization of R&D and innovation.

Celebrating our 40th year in the industry, we combine our experience and know-how with



**Ahmet Pınarlı**  
Sales Director

customer expectations to create our products and continue to offer the best to our customers through continuous technology investments. Sealing elements are key components in the longevity and performance expectations of springs. With products responding to these expectations, Kastaş leads the market in Turkey. We export primarily to Europe while responding to additional requests from Germany, the United States, Spain, and Russia, and we are currently receiving specific inquiries for this product group from other countries. As market expectations are high in this product range, we continuously improve ourselves. We carry out continuous R&D studies, accurately explore customer needs and integrate them into our products and test our products ourselves before offering them to customers. Manufacturing only in four or five dimensions 15 years ago in this product range, we currently manufacture 12 different dimensions. We are still working to further increase our dimension range.

We listen to our customers' expectations concerning long life cycles, low friction loss, resistance to high and low temperatures, and no gas leaks and we apply these concerns to the technical structure of our products.

Over the last two years, we have made significant investments in the molding and manufacturing departments in this regard. Our sales team acts as a bridge, carefully listening to and understanding customer needs and expectations as well as analyzing feedback and informing the company accordingly. This is important as we highly value accurate information processing.

Our R&D Department carried out serious studies for the expectations of the customers and we designed special molds. Flexible, fast, and customer-oriented manufacturing; advanced technology; and strong stock structure of standard dimensions are among the many distinctive advantages we offer in gas springs and all our product range. Our company has both the manufacturing and commercial power to respond to all customer expectations. Our pricing strategies are also aligned with the expectations of our customers.

***We strive to develop the optimum product design that will respond to all expectations in an industry that necessitates an extensive range of use.***

The key to the performance of a sealing element in a gas spring is the low friction value. With low friction, stable, vibration-free, and efficient operation is ensured. Depending on the application, gas springs of different strengths should be used. It is, therefore, crucial that the gas spring sealing elements be manufactured of materials resistant to strong forces and be designed to function with low friction. The automotive industry requires accurate operation and high performance in gas springs. A higher friction value will create more wear and heat. That is why the Kastaş R&D team works to develop designs and materials that will function with low friction even under strong forces.

We strive to develop the optimum product design that will respond to all expectations in an industry that necessitates a wide range of use. We develop all material formulations in-house and use them in product designs.



**Sercan Karakoç**  
R&D Design and  
Project Manager

We model our product designs in 3D programs and perform a finite element analysis. Once we achieve the ideal geometry, we manufacture the product molds at our Kastaş molding facility. The prototypes are tested at our R&D center and the ideal operational values are reported. We then submit the prototypes for customer approval and assess the customer tests and opinions to finalize the product. Finally, we commence mass production and deliver our high-performance sealant elements to be integrated into gas springs all across the world. ■

## SEALING SOLUTIONS FOR GAS SPRINGS

Gas springs are used to increase the comfort of use or/and industrial productivity. Its function in the systems in which it is used is to provide effective cushioning and damping. The sealing elements used in gas springs have great importance since they prevent the gas from leaking from the cylinder and possible performance loss that may occur due to this.

### Sealing Solutions Approach

Kastaş offers sealing solutions that meet different system needs at the same time.

- ▶ High wear resistance
- ▶ Low permeability rate
- ▶ High resistance in different ambient conditions
- ▶ Sealing solutions in powder enamel coated gas springs

### Gas Springs

Kastaş offers sealing solutions for the industrial and comfort type gas spring applications.

#### • Comfort Gas Springs

Tailgates  
Automobile Hoods  
Office Chairs

#### • Industrial Gas Springs

Moulding Technologies  
Automobile Industry  
Injection Benches

### High Level Service

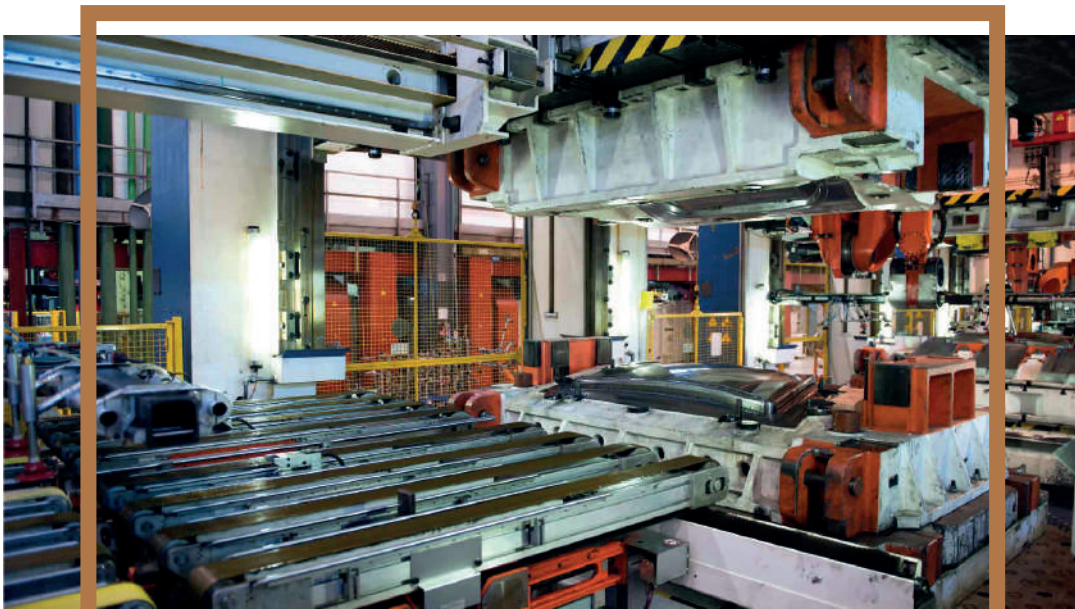
- ▶ High stock capacity for standard products
- ▶ Production and service flexibility specific to customer demands
- ▶ Reliable quality and affordable prices
- ▶ Quickest delivery in special and standard products

### Sealing Solutions For Comfort Gas Springs

Comfort gas springs are the systems that facilitate the movement of use in daily items such as automobile tailgate, motor bonnet (hood), office chair, kitchen cabinets, treadmill, etc. Kastaş offers sealing solutions specially designed, developed, and tested to have a high performance and long life span especially comfort gas springs.

### Sealing Solutions for Industrial Gas Springs

Industrial gas springs are mostly used in cutting, stamping, and forming machines. Gas springs used in this type of heavy-duty application require sealing solutions that offer high performance due to their special design and high pressure. Kastaş manufactures diverse sealing elements that have low friction and minimum gas permeability for this type of industrial gas springs.



## PRODUCT PROGRAM FOR GAS SPRINGS

### GAS SPRING SEALS



#### GAS SPRING SEAL NBR

- Low friction
- Superior wear resistance
- Long-term of use



#### GAS SPRING SEAL PU

- Superior performance at high pressure
- High abrasion and rupture resistance
- Long-term of use

### ROD SEALING ELEMENTS



#### FR200 LOW FRICTION ROD SEAL

- Low friction
- Superior sealing
- Dynamic pressure relief



#### K22 ROD SEAL

- Superior static and dynamic sealing feature
- Wide standard size option
- Easy installation in closed grooves



#### K33 ROD SEAL

- High wear resistance
- Superior sealing with second lip
- Easy installation in closed grooves



#### K38 ROD SEAL

- Superior sealing with second lip
- Suitable design for the use in narrow grooves
- Secondary sealing lip
- Superior sealing feature under low pressures

### WIPER SEALS



#### K06 WIPER SEAL

- Superior stripping feature
- Simple groove design
- Wide standard size option



#### K11 WIPER SEAL

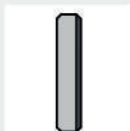
- Superior scrapping effect
- Simple groove design
- Not rotating design in the groove



#### K09 WIPER SEAL

- Superior stripping feature
- Not rotating in the groove
- Preventing the big particulars from entering into the system with its specially designed body

### GUIDING ELEMENTS



#### K780 METAL TEFLON BUSHING

- Capability of operating in oil-free environment
- Resistance to wear
- Protecting mile during operation by forming a film plate



#### K781 BRONZE TEFLON BUSHING

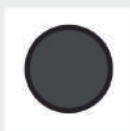
- Distribution of heat through the high thermal conductivity of bronze
- Usage in thin acid and alkali environments through the corrosion resistance of bronze support
- High surface pressure resistance



#### K75 PISTON ROD GUIDING ELEMENT

- Low friction
- High capacity of carrying load
- Operating in dry environment

### STATIC SEALS



#### KO O-RING

- Superior static sealing feature
- Wide standard size option
- Superior sealing feature in low and high pressure



#### K84 STATIC SEALING ELEMENT

- High operating pressures
- Long service life
- Able to be used instead of O-ring and o-ring with supported ring

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the shortest way of sealing

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Engineering for motion

 **KASTAŞ**