

## \_Control Ball Valves



**\_Made in Germany**



With more than 25 years of experience, TEC artec GmbH established a sophisticated Control Ball Valve Product Line, known as variTEC, with a special focus on optimized material selections as well as customized control characteristics.

TEC artec's variTEC - product line is engineer-ed for unique operational requirements and involves a strong collaboration between engineering, operations, maintenance and manufacturing.

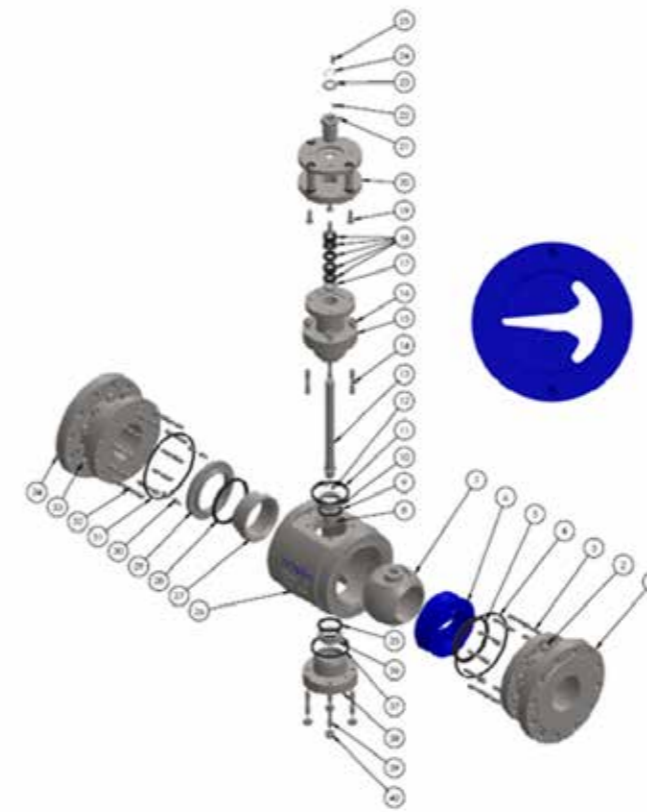
**VARITEC IS PRIMARILY USED IN FOLLOWING INDUSTRIAL APPLICATIONS WITH A FOCUS ON SEVERE CONDITIONS:**



**\_VARITEC CONTROL BALL VALVE APPLICATIONS ARE PROVIDING VARIOUS TECHNICAL ADVANTAGES TO GLOBE- AND GATE VALVES:**

_variTEC	Globe Valve	Gate Valve
<b>Pressure assisted sealing</b>	Relies on vertical thrust by the stem to drive the sealing plug into seat	Torque seated to activate seal – thermal cycling relaxes stem seat
<b>Recessed seats are protected from continual exposure to the process flow</b>	Sealing components facing the flow directly, which leads to erosion	Erosion of sealings due to exposure when the valve is in open position
<b>Seat rings wiping and cleaning the ball with every operation</b>	Exposed sealing surface causes a loss of tightness with every operation	Sealing captures flow particles which are causing the development of erosion
<b>Minimal operation torque due to rotary operation movement</b>	Lifting operation movement causes higher operation torques which lead to more expensive as well as space requesting actuation requirements.	
<b>Non rising stem meets packing leakage standards for greater number of cycles</b>	A sliding stem valve will not provide the length of life expectation as well as number of operations	

**\_variTec Control Ball valves**



COMPONENTS	STANDARD MATERIALS	
	EN	ASTM
1 Body Flange	1.5415 / 16Mo3	ASTMA182F1
2 Nut	1.7264 / 20CrMo5	
3 Stud Bolt	1.7709 / 21CrMoV5-7	ASTMA193-B7
4 Seal Ring	Graphite	Graphite
5 Seal Ring	Graphite	Graphite
6 Regulation Disk	1.4122 / X39CrMo17-1	ASTMA276-420
7 Ball	1.4122 (1.4027) / X39CrMo17-1	ASTMA276-420
8 Bearing Bush	1.4541 / X6CrNiTi18-10	ASTM321
9 Stem Seal Ring	Graphite	Graphite
10 Stem Bearing	1.4641 / X6CrNiTi18-10	ASTM321
11 Seal Ring	Graphite	Graphite
12 Federkey	1.4641 / X6CrNiTi18-10	ASTM321
13 Stern	1.4122 / X39CrMo17-1	ASTMA276-420
14 Stud Bolt	1.7709 / 21CrMoV5-7	ASTMA193-B7
15 Pecking Housing	1.5415 / 16Mo3	ASTMA182F1
16 Nut	1.7264 / 20CrMo5	
17 Base Ring	1.4641 / X6CrNiTi18-10	ASTM321
18 Seal Ring	Graphite	Graphite
19 Hexagonal Bolt	A2-80	ASTM304
20 Mounting Bracket	1.0037 / S235JR (St37-2)	
21 Thrust Piece	1.4641 / X6CrNiTi18-10	
22 Pointer	10050 / E292	
23 Washer	1.4571 / X6CrNiMoTi17-12-2	
24 Safety Ring	Spring Steel	
25 Federkey	1.0050 / E295	
26 Housing	1.5415 / 16Mo3	ASTMA182F1
27 Seal Ring	Graphite	Graphite
28 Seal Ring	Graphite	Graphite
29 Thrust Ring	1.4122 (1.4027) / X39CrMo17-1	ASTMA276-420
30 Hex Socket Bolt	A2-80	
31 Seal Ring	Graphite	Graphite
32 Stud Bolt	1.7709 / 21CrMoV5-7	ASTMA193-B7
33 Nut	1.7264 / 20CrMo5	
34 Body Flange	1.5415 / 16Mo3	ASTMA182F1
35 Seal Ring	Graphite	Graphite
36 Trunnion Bushing	1.4641 / X6CrNiTi18-10	ASTMA182F1
37 Seal Ring	Graphite	Graphite
38 Trunnion Flange	1.5415 / 16Mo3	ASTMA182F1
39 Stud Bolt	1.7709 / 21CrMoV5-7	ASTMA193-B7
40 Nut	1.7264 / 20CrMo5	

**GENERAL CHARACTERISTICS OF VARITEC PRODUCT LINE:**

CHARACTERISTICS		OPTIONAL:	
	Shut-off Valve	Control Valve	
<b>Size</b>	NPS 4" – 56" DN 100 – 1400	NPS 1" – 56" DN 25 – 1400	<b>Design options</b> Split Body design Three Piece Design / Two Piece Design  - material selection according to medium (e.g. stainless steel, Halar®, ceramic components, tungsten carbide coating, plasma nitriding)  Sealing system - Metal-Metal / Soft / PMSS (primary metal secondary soft) - single- or double-piston effect - double-block-and-bleed  - bypass system according to customer requirements - additional air vent - additional drain  - unidirectional or bidirectional flow analysis  - emergency shut-off design
<b>Pressure</b>	Class 600 – 2500 PN 100 – PN420	Class 300 – 2500 PN 63 – PN420	
<b>Temperature range</b>	°F 14 – 788 °C -10 – 420		
<b>Work principle</b>	Shut-off function Control function Linear Control / Equal Percentage Control 1-step / 2-step pressure regulation		
<b>General design</b>	- Multi-piece-body design - Trunnion mounted - forged steel for pressure carrying components - design according to EN or ASME standards - Anti-Blowout Stem - variable interface according to ISO 5210		<b>Actuator options</b> - bare stem - pneumatic actuation - electric actuation - hydraulic actuation - hand wheel + gearing

# \_Geared For the Future



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## MEET OUR CUSTOMERS

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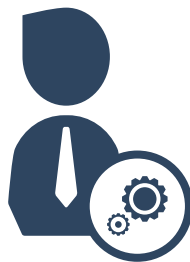
SAMSUNG SAMSUNG ENGINEERING

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