

**Flowtec**

Verbindungen, die bleiben.



# Valves Pulp and Paper

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## Flowtec - About Us

We are general agent and partner of leading international manufacturers and specialists in the fields of industrial valves, and systems and components for the pulp and paper industry.

We have already been offering our international customers an extensive product range for many years. Our expertise is based on many years of experience, in-depth know-how and the possibility to offer solution-oriented concepts at a good price-service ratio.



### Flowtec - Industrial Valves

Our wide product range covers industrial valves manufactured by internationally leading companies for almost all applications and requests. We will be pleased to advise you and act as your competent partner from the planning phase through product selection to the initial operation. Our employees have more than 30 years of experience within the pulp and paper industry, as well as the general industry.

With Flowtec you have an experienced partner by your side. We are specialized on handling projects of any size professionally and reliably for our customers.

### Flowtec - Systems and Components

Our product range covers investment, replacement and wear and tear components for the pulp and paper production.

We work together with renowned and leading manufacturers within the pulp and paper industry.

Next to our wide product range, we will be pleased to support you further by conducting on-site audits of your systems and subsequently presenting you improvement possibilities and methods to increase your efficiency.

Let us be the strong and reliable partner on your side.



## Contact Details

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## Overview of our Services

Flowtec operates mainly in Europe. The sales regions include Austria, with Flowtec's head office, and the Eastern European region.

Apart from Slovakia and the Czech Republic, Flowtec serves customers in Poland, Hungary, Romania, Slovenia, Croatia, Bosnia Herzegovina, Serbia, Bulgaria, etc. You can always count on our competent sales team in the respective country.

We would be glad to assist you! Please contact us.



## Consulting and Training

- Advice and assistance from the planning phase through product selection to start-up
- Individual trainings at your site or at one of our offices in Graz or Vienna



## Planning and Projects

- Professional partner for small and large sized projects
- Ensuring a smooth progress from the project start to the finalization of the project



## Warehouse and Assembly

- Modernly equipped workshop allows customized assembly and testing of the valves according to applicable standards and guidelines
- Extensive warehouse in Graz
- Delivery of standard valves within one working day in Austria



## Service and Maintenance

- Professional repair and maintenance work on time



## Wafer / Lug Butterfly Valves (TTV Valves)

<b>DN (mm):</b>	32 - 600 (up to 1400 on request)	<ul style="list-style-type: none"> <li>▪ Replaceable seat</li> <li>▪ Coating Rilsan 250-300 µm (C5M on request)</li> <li>▪ Extended body neck</li> <li>▪ Full crossing stem</li> </ul>
<b>PN (bar) / ANSI:</b>	10 - 16 / CL 150	
<b>Body materials:</b>	GGG-50, G-SC 25, 1.4301 (AISI 304), 1.4408 (AISI 316), bronze C352, aluminium bronze C415, 1.4462	
<b>Seat materials:</b>	EPDM, NBR, Viton®, silicone (food, steam), EPDM-HT, EPDM white, NBR gas, NR (natural rubber), Hypalon	
<b>Disc:</b>	GGG-50, 1.4301 (AISI 304), 1.4408 (AISI 316), bronze C352, aluminium bronze C415, 1.4462, 1.4408 + Halar®, Hastelloy® C, Uranus® B6	
<b>Connections:</b> <b>Face-to-face:</b>	Lug type, wafer EN 558-R20, API 609 Table 1	
<b>Options:</b>	Vulcanized, vacuum, special coatings, stainless steel lever, IP68 gearbox, polished disc, gear with locking device	
<b>Applications:</b>	Water, seawater, waste water with low concentration of chemicals, process water with low fiber consistency, air, gas, oil, bulk material, vacuum	
<b>Approvals:</b>	ATEX, WRAS (on request), ACS (on request), CERTI GAS (on request), FDA (on request), SIL, AD2000 W0/A4	



**Flanged / Double Flanged Centric Butterfly Valves (TTV Valves)**

<b>DN (mm):</b>	50 - 3000	<ul style="list-style-type: none"> <li>▪ Flanged design: Replaceable seat</li> <li>▪ Double flanged design: Vulcanized seat</li> <li>▪ Coating Rilsan 250-300 µm (C5M on request)</li> <li>▪ One-piece body with flanges</li> <li>▪ Full crossing stem</li> </ul>
<b>PN (bar) / ANSI:</b>	10 - 16 / CL 150	
<b>Body materials:</b>	GGG-50, GS-C 25, 1.4301 (AISI 304), 1.4408 (AISI 316), bronze C352, aluminium bronze C415, 1.4462	
<b>Seat materials:</b>	EPDM, NBR, Viton®, silicone (food, steam), EPDM-HT, EPDM white, NBR gas, NR (natural rubber), Hypalon	
<b>Disc:</b>	GGG-50, 1.4301 (AISI 304), 1.4408 (AISI 316), bronze C352, aluminium bronze C415, 1.4462, 1.4408 + Halar®, Hastelloy® C, Uranus® B6	
<b>Connections:</b>	Flanged, double flanged	
<b>Face-to-face:</b>	Flanged: EN 558-R20, API 609 Table 1 Double flanged: EN 558-R13, API 609 Table 2C	
<b>Options:</b>	Vulcanized (flanged design), vacuum, special coatings, stainless steel lever, IP68 gearbox, polished disc, gear with locking device	
<b>Applications:</b>	Water, seawater, waste water with low concentration of chemicals, process water with low fiber consistency, air, gas, oil, bulk material, vacuum	
<b>Approvals:</b>	ATEX, WRAS (on request), ACS (on request), CERTI GAS (on request), FDA (on request), SIL, AD2000 W0/A4	



**Double Eccentric Double Flanged Butterfly Valves (TTV Valves)**

<b>DN (mm):</b>	50 - 2000	<ul style="list-style-type: none"> <li>▪ Two-pieces shaft</li> <li>▪ Double eccentric disc in maintenance-free bushings</li> <li>▪ Wetted screws made of stainless steel A4</li> <li>▪ Gear standard IP67 (40-60µ epoxy coating / color black)</li> </ul>
<b>PN (bar) / ANSI:</b>	10/16/25 / CL 150	
<b>Body materials:</b>	GGG50, 1.0619, 1.4408	
<b>Seat materials:</b>	EPDM, NBR	
<b>Disc:</b>	GGG50, 1.4408, aluminium bronze, duplex	
<b>Stem:</b>	made of stainless steel, material 1.4021	
<b>Corrosion protection body:</b>	Epoxy coating inside and outside 250-300µ / RAL5012	
<b>Corrosion protection disc:</b>	Epoxy coating 250-300µ / RAL5012	
<b>Connections:</b>	Double flanged	
<b>Face-to-face:</b>	EN 558, series 13 and 14	
<b>Applications:</b>	Water, waste water, cooling water, drinking water, desalination plants, gas	
<b>Approvals:</b>	ATEX, WRAS (on request), CERTI GAS (on request)	





## Butterfly Valves, Type CST, PTFE-, TFM-, UHMPE lined (ChemValve-Schmid)

<b>DN (mm):</b>	50 - 1050	<ul style="list-style-type: none"> <li>▪ To shut off and control corrosive and abrasive liquids or gases</li> <li>▪ Design of pressure package ensures long-term zero leakage to the atmosphere</li> <li>▪ Ball-shaped disc and liner lead to longer lifetime and tightest shut-off</li> <li>▪ Special elastomer backups provide gas tightness</li> </ul>
<b>PN (bar):</b>	10 (DN 50 - 600) 6 (DN 650 - 1050)	
<b>Temperature (°C):</b>	-20 up to +200	
<b>Body materials:</b>	GGG40.3 epoxy, carbon steel, stainless steel, thermoset polymer	
<b>Seat materials:</b>	PTFE, TFM, UHMPE, electrically conductive	
<b>Disc:</b>	PFA, PFA cond., 1.4404, 1.4408, 1.4409, 1.4581, polished stainless steel, titanium, Hastelloy®	
<b>Connections:</b>	Lug type, wafer	
<b>Options:</b>	Flexible shaft connection (2-flat parallel, square diagonal or parallel)	
<b>Applications:</b>	Corrosive and aggressive liquids and gases, food	
<b>Approvals:</b>	ATEX, FDA, SIL, TA Luft	

ChemValve-Schmid  
Valve Technology



## Double Offset High Performance Butterfly Valves, Type Colossus (TTV Valves)

<b>DN (mm):</b>	50 - 600	<ul style="list-style-type: none"> <li>▪ Replaceable / exchangeable seat design</li> <li>▪ R-PTFE: Class VI tightness, 0% leakage, PN 10/16/25,</li> <li>▪ Metal: Class V tightness, PN 10/16/25</li> <li>▪ Bidirectional</li> </ul>
<b>PN (bar) / ANSI:</b>	10/16/25, CL 150	
<b>Body materials:</b>	1.0619 (A216WCB), 1.4408 (CF8M)	
<b>Seat materials:</b>	R-PTFE (-50°C up to +220°C), F316L (-100°C up to +350°C)	
<b>Disc:</b>	R-PTFE seat: CF8M (polishing), Metal seat: CF8M + hard chrome (polished)	
<b>Connections:</b>	Wafer, lug type, flanged	
<b>Options:</b>	Seat materials R-PTFE fire-safe, PTFE	
<b>Applications:</b>	Steam, air, oil, gas, bitumen, chemicals	
<b>Approvals:</b>	ATEX, fire-safe (on request), FDA (on request), SIL (on request), AD2000 W0/A4	

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## Triple Eccentric High Performance Butterfly Valves, Type MTV (Somas)

<p><b>DN (mm):</b> 80 - 500</p> <p><b>PN (bar) / ANSI:</b> 10 - 25 / CL 150</p> <p><b>Temperature (°C):</b> up to +500</p> <p><b>Body materials:</b> 1.4408, special materials</p> <p><b>Seat materials:</b> Solid stainless steel, R-PTFE reinforced</p> <p><b>Connections:</b> Wafer, double flanged, lug type</p>	<ul style="list-style-type: none"> <li>▪ Solid stainless steel seat due to special geometry</li> <li>▪ Suitable for high flow rates and media containing solids</li> <li>▪ Ideal shut-off and control valve</li> <li>▪ Bi-directional tightness</li> <li>▪ Friction and torque minimized design</li> </ul>
<p><b>Options:</b> Oil and gas applications</p> <p><b>Applications:</b> Hot water and pulp stock up to min. 1%, pulp liquor applications, solids, steam, oil, gas</p> <p><b>Approvals:</b> ATEX, TA Luft (on request), Fire-safe (on request), FDA (on request), SIL</p>	



## Triple Eccentric High Performance Butterfly Valves, Type VSS (Somas)

<p><b>DN (mm):</b> 80 - 1600</p> <p><b>PN (bar) / ANSI:</b> 10 - 100 / CL 150 - 600</p> <p><b>Temperature (°C):</b> -196 up to +600</p> <p><b>Body materials:</b> 1.4408, special materials</p> <p><b>Seat materials:</b> Solid stainless steel, R-PTFE reinforced</p> <p><b>Connections:</b> Wafer, lug type</p>	<ul style="list-style-type: none"> <li>▪ Solid stainless steel seat due to special geometry</li> <li>▪ Suitable for high flow rates and media containing solids</li> <li>▪ Ideal shut-off and control valve</li> <li>▪ Bi-directional tightness</li> <li>▪ Friction and torque minimized design</li> </ul>
<p><b>Options:</b> Low-noise design, oil and gas applications, high temperature design, cryogenic design, combustion gas applications</p> <p><b>Applications:</b> Hot water and pulp stock up to min. 1%, pulp liquor applications, steam turbine applications, solids, steam, oil, gas</p> <p><b>Approvals:</b> ATEX, TA Luft (on request), Fire-safe (on request), FDA (on request), SIL</p>	



# Shut-off and Control Butterfly Valves

## Four Offset High Performance Butterfly Valves (Quadax®)

<p><b>DN (mm):</b> 50 - 1800</p> <p><b>PN (bar) / ANSI:</b> 10 - 160 / CL 150 - 900</p> <p><b>Temperature (°C):</b> -270 up to +800</p> <p><b>Body materials:</b> Carbon steel, stainless steel, special materials</p> <p><b>Valve seat materials:</b> Inconel®, Stellite, other materials on request</p> <p><b>Seal ring materials:</b> Graphite/stainless steel lamella, all metal lamella, Inconel® O-ring, other materials on request</p> <p><b>Connections:</b> Lug type, wafer, double flanged, butt weld ends, top entry</p>	<ul style="list-style-type: none"> <li>▪ Shut-off and control butterfly valve for highest requirements in four offset design</li> <li>▪ Absolute tightness even at extreme temperatures and pressures</li> </ul>
<p><b>Options:</b> High temperature and cryogenic design, special materials, safety shut-off function, special face-to-face dimensions</p> <p><b>Applications:</b> Technical gases, power generation, thermosolar, oxygen, LNG/LPG, cryogenic, heating district, pulp and paper, refineries/petrochemicals, tank storage, steel plants</p> <p><b>Approvals:</b> PED 2014/68EU, ASME 16.34, ATEX, TA Luft, ISO 15848, NACE, SIL3, Fire-safe, AD2000 A4, BAM</p>	



## Four Offset High Performance Butterfly Valves, Gate Valve Replacement (Quadax®)

<p><b>DN (mm):</b> 50 - 1800</p> <p><b>PN (bar) / ANSI:</b> 10 - 160 / CL 150 - 900</p> <p><b>Temperature (°C):</b> -270 up to +800</p> <p><b>Body materials:</b> Carbon steel, stainless steel, special materials</p> <p><b>Valve seat materials:</b> Inconel®, Stellite, other materials on request</p> <p><b>Seal ring materials:</b> Graphite/stainless steel lamella, all metal lamella, Inconel® O-ring, other materials on request</p> <p><b>Connections:</b> Flanged/gate valve replacement</p>	<ul style="list-style-type: none"> <li>▪ Shut-off and control butterfly valve for highest requirements in four offset design</li> <li>▪ Slide replacement without modification of the pipeline</li> </ul>
<p><b>Options:</b> High temperature and cryogenic design, special materials, safety shut-off function, special face-to-face dimensions</p> <p><b>Applications:</b> Technical gases, power generation, thermosolar, oxygen, LNG/LPG, cryogenic, heating district, pulp and paper, refineries/petrochemicals, tank storage, steel plants</p> <p><b>Approvals:</b> PED 2014/68EU, ASME 16.34, ATEX, TA Luft, ISO 15848, NACE, SIL3, Fire-safe, AD2000 A4, BAM</p>	



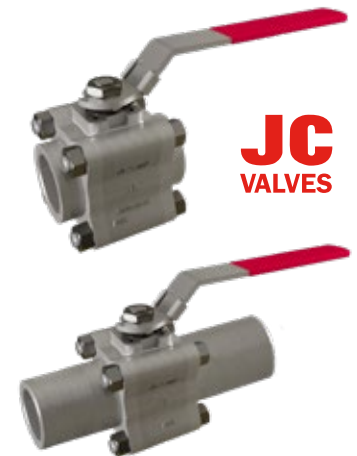
**3-Piece Ball Valves (ICP Valves)**

DN (mm):	8 - 100 / 1/4" - 4"	<ul style="list-style-type: none"> <li>▪ 3-piece design</li> <li>▪ Full bore</li> <li>▪ Locking device as standard</li> </ul>
PN (bar):	63 (to DN50) / 25 (DN65-100)	
Body materials:	1.4408	
Seat materials:	PTFE	
Connections:	BSP threads, NPT threads, socket weld ends, butt weld ends, long butt weld ends	
Designs:	BSP: Fig. 140/140 ISO, NPT: Fig. 141/141 ISO, SW: Fig. 142/142 ISO, BW: Fig. 143/143 ISO, acc. ASME B16.25 & DIN3239 part 1, Long BW: Fig. 143L-ISO, acc. ASME B16.25 & DIN3239 part 1, cavity balancing hole	
Applications:	Water, oil, gas, chemicals	
Approvals:	ATEX	



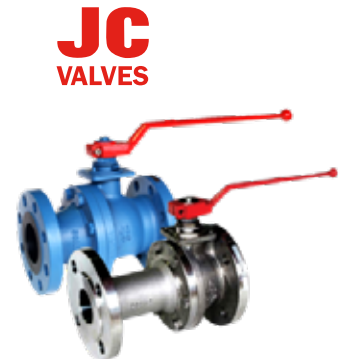
**3-Piece Ball Valves, Series 800 (JC Valves)**

DN (mm):	10 - 50 / 3/8" - 2"	<ul style="list-style-type: none"> <li>▪ 3-piece body</li> <li>▪ Cavity balancing hole</li> <li>▪ Blow out proof stem</li> <li>▪ Full bore</li> <li>▪ Floating ball</li> </ul>
PN (bar):	PN63 DIN EN butt weld ends long (short on request) / PN130	
Body materials:	A105N / F316L / LF2 and Duplex on request	
Seat materials:	RPTFE, STANSIT (PTFE-SS), A479 Tp. 316 + TCC	
Connections:	Type 800 BSP - CL800 Type 803 DIN EN butt weld ends - PN63 (on request) Type 803L DIN EN butt weld ends long - PN63	
Applications:	Water, oil, gas, chemicals, seawater, low pressure steam	
Approvals:	ATEX, SIL, TA Luft, Fire-safe, AD2000 W0/A4	



## DIN Flanged Ball Valves, Floating, Short Pattern Series 516/540, Long Pattern Series 316/340 (JC Valves)

DN (mm):	15 - 200	<ul style="list-style-type: none"> <li>▪ 2-piece design</li> <li>▪ Full bore</li> <li>▪ Floating ball</li> <li>▪ Face to face dimensions: EN 558 Series 1 / Series 27</li> <li>▪ Cavity balancing hole</li> </ul>
PN (bar):	16 (to DN200) / 40 (to DN150)	
Body materials:	1.0619, 1.4408, other materials on request	
Seat materials:	PTFE, R-PTFE, PTFE glass, DEVLON, STANSIT (PTFE-SS), PEEK, nylon	
Connections:	Flanged	
Options:	V-port regulation ball, cryogenic construction to -196°C, oil- and grease-free, cavity fillers, cavity relief seats, double packing, oval handwheel (up to 2"), vacuum design up to 10 <sup>-4</sup> bar, PN63/PN100	
Applications:	Water, seawater, oil, gas, chemicals, low pressure steam	
Approvals:	ATEX, SIL, TA Luft, Fire-safe, AD2000 W0/A4, FDA (on request)	



## DIN Flanged Ball Valves, Semi Trunnion, Short Pattern Series 1516/1540, Long Pattern Series 1316/1340 (JC Valves)

DN (mm):	200 - 300	<ul style="list-style-type: none"> <li>▪ 2-piece design</li> <li>▪ Full bore</li> <li>▪ Semi trunnion ball</li> <li>▪ Face to face dimensions: EN 558 Series 27 / Series 1</li> <li>▪ Cavity balancing hole</li> </ul>
PN (bar):	16 (DN250-300) / 40 (DN200-300)	
Body materials:	1.0619, 1.4408, other materials on request	
Seat materials:	PTFE, R-PTFE, PTFE glass, DEVLON, STANSIT (PTFE-SS), PEEK, nylon	
Connections:	Flanged	
Options:	Oil- and grease-free, double packing, vacuum design up to 10 <sup>-4</sup> bar	
Applications:	Water, seawater, oil, gas, chemicals, low pressure steam	
Approvals:	ATEX, SIL, TA Luft, Fire-safe, AD2000 W0/A4	





**DIN Metal Seated Flanged Ball Valves, Floating, Short Pattern Series 3516/3540 / Long Pattern Series 3316/3340 (JC Valves)**

DN (mm):	15 - 150	<ul style="list-style-type: none"> <li>▪ 2-piece design</li> <li>▪ Full bore</li> <li>▪ Floating ball</li> <li>▪ Face to face dimensions: EN 558 Series 1 / EN 558 Series 27</li> <li>▪ Cavity balancing hole</li> </ul>
PN (bar):	16 (up to DN150) / 40 (up to DN100)	
Body materials:	1.0619, 1.4408, LCC and other materials on request	
Ball materials:	316 + TCC coating, other treatments on request	
Seat materials:	316 + TCC coating, other treatments on request	
O-rings:	FKM, Aflas (up to 250°C), FFKM-Kalrez (up to 327°C), Graphite above 327°C	
Temperature (°C):	up to +500 (depending on material and treatment!)	
Connections:	Flanged	
Leakage rate:	Class A with Aflas, FKM, FFKM; Class D (B on request) with Graphite	
Options:	Special seats, double packing, oval handwheel (up to 2"), PN63/PN100	
Applications:	Oil, gas, chemicals, steam, mining	
Approvals:	ATEX, SIL, TA Luft, Fire-safe, AD2000 W0/A4	



**DIN Flanged 3-Way Ball Valves, Floating, Series 916N (JC Valves)**

DN (mm):	25 - 200	<ul style="list-style-type: none"> <li>▪ 5-piece design (body + 3 connectors + cover)</li> <li>▪ Full bore</li> <li>▪ Floating ball</li> <li>▪ Face to face dimensions: Manufacturer standard</li> <li>▪ Cavity balancing hole</li> </ul>
PN (bar):	16	
Body materials:	1.0619, 1.4408, other materials on request	
Seat materials:	PTFE, R-PTFE, PTFE glass, STANSIT (PTFE-SS)	
Port combinations:	L-port, T-port	
Connections:	Flanged	
Options:	Oil- and grease-free	
Applications:	Water, seawater, oil, gas, chemicals, low pressure steam	
Approvals:	ATEX, AD2000 W0/A4	



## DIN & ANSI Forged Trunnion Design Flanged Ball Valves, Soft / Metal Seated, Series 6000FB / 7000RB (JC Valves)

<b>DN (mm):</b>	40 - 1050 / 1½" - 42"	<ul style="list-style-type: none"> <li>▪ 3-piece design</li> <li>▪ Full bore - series 6000FB</li> <li>▪ Reduced bore - series 7000RB</li> <li>▪ Trunnion ball</li> <li>▪ Spring loaded seats</li> <li>▪ API 6D</li> </ul>
<b>PN (bar) / ANSI:</b>	16 - 420 / CL 150 - 2500 (depending on sizes)	
<b>Body materials:</b>	A105, F316, LF2, Duplex and other materials on request	
<b>Soft seat:</b>	PTFE, R-PTFE, PEEK, DEVLON, nylon, other materials on request	
<b>Metal seat:</b>	316 + TCC coating, other treatments on request	
<b>Connections:</b>	Flanged	
<b>Leakage rate:</b>	Class A up to 327° (FFKM-Kalrez O-rings); Class D (B only on request) for temperatures above 327°C	
<b>Options:</b>	Construction to -196°C, heating jacket, oil- and grease-free, cavity fillers, double packing, special face-to-face dimensions, special flanges	
<b>Applications:</b>	Liquors, water, oil, chemicals, low pressure steam	
<b>Approvals:</b>	ATEX, SIL, TA Luft, Fire-safe, AD2000 W0/A4, NACE, API 6D	



## Ball Valves, Type SKV (Somas)

<b>DN (mm):</b>	25 - 500	<ul style="list-style-type: none"> <li>▪ Manual, shut-off and control valve</li> <li>▪ Full bore</li> <li>▪ Easy to replace seats without removing the actuator</li> <li>▪ Tightness acc. to ANSI Class V to VI</li> </ul>
<b>PN (bar) / ANSI:</b>	25, 50 / CL 150, 300	
<b>Temperature (°C):</b>	-196 up to +550	
<b>Body materials:</b>	1.4408, special materials	
<b>Seat materials:</b>	HiCo or PTFE/stainless steel (PTFE 53)	
<b>Connections:</b>	Flanged	
<b>Applications:</b>	Fibrous stock, pulp and pulp liquor applications	
<b>Approvals:</b>	ATEX (on request), SIL (on request), FDA (on request), TA Luft (on request)	



**Compact Ball Valves, Type FA1/FB1/FC1/FA2/FB2/FC2 (Adler)**

<b>DN (mm):</b>	10 - 50	<ul style="list-style-type: none"> <li>▪ One- or two-piece body</li> <li>▪ Cast or forged steel</li> <li>▪ Full bore</li> </ul>
<b>PN (bar) / ANSI:</b>	10 - 160 / CL 150 - 1500	
<b>Body materials:</b>	Carbon steel, stainless steel, titanium, Hastelloy®, Monel®	
<b>Seat materials:</b>	PTFE, R-PTFE (PTFE glass, PTFE metal mixture), PEEK	
<b>Connections:</b>	Flanged	
<b>Options:</b>	Heating jacket, oil- and grease-free, cryogenic design, pressure equalizing hole, oval hand lever, cavity filling in PTFE / metal	
<b>Applications:</b>	High pressure shower pipes, white water, water, oil, gases, chemicals, low pressure steam	
<b>Approvals:</b>	ATEX, FDA, SIL3, TA Luft, Fire-safe	



**3-Way Ball Valves, Type FT4/FZ4 and FT6/FZ6 (Adler)**

<b>DN (mm):</b>	15 - 150	<ul style="list-style-type: none"> <li>▪ „L“ or „T“ shaped</li> <li>▪ Type FT6/FZ6 for higher pressures</li> </ul>
<b>PN (bar) / ANSI:</b>	10 - 40 / CL 150 - 300 (up to DN 50: PN 63)	
<b>Body materials:</b>	Carbon steel, stainless steel, titanium, Monel®, Hastelloy®	
<b>Seat materials:</b>	PTFE, R-PTFE (PTFE glass, PTFE metal mixture)	
<b>Connections:</b>	Threaded, block flanges	
<b>Options:</b>	Heating jacket, oil- and grease-free, cryogenic design, pressure equalizing hole, oval hand lever, cavity filling in PTFE	
<b>Applications:</b>	Water, oil, gas, chemicals	
<b>Approvals:</b>	ATEX, FDA, SIL3, TA Luft, Fire-safe	



## Sample Ball Valves (ICP Valves)

DN (mm):	25, 50 / 1", 2"	<ul style="list-style-type: none"> <li>▪ 3-piece design</li> <li>▪ Full bore</li> <li>▪ Locking device as standard</li> <li>▪ For various pipe diameters</li> </ul>
PN (bar):	63	
Body materials:	1.4408	
Seat materials:	R-PTFE	
Connections:	Weld-on ends / pipe elbows 90°	
Options:	Other diameters on request	
Applications:	Sampling, e.g. pulp	
Approvals:	ATEX	



## Sampling Valves, Type TP (Orbinox)

DN (mm):	25/40	<ul style="list-style-type: none"> <li>▪ DN 25 for consistency of 0-5%</li> <li>▪ DN 40 for consistency of &gt; 3-5% in case of high reject content or long fiber pulp (without flush connection)</li> <li>▪ DN 40 for consistency of &gt; 5-8% (with flush connection)</li> </ul>
PN (bar):	10	
Temperature (°C):	up to +120	
Body materials:	1.4408	
Seat materials:	Soft seat (O-ring NBR), others on request	
Connections:	Welding connection, screw connection	
Options:	Pneumatic actuator, flush connections	
Applications:	Sampling for pulp stock	
Approvals:	ATEX (on request)	



**Knife Gate Valves, Type EB (Orbinox)**

DN (mm):	50 - 1200 (higher on request)	<ul style="list-style-type: none"> <li>▪ Bi-directional sealing with exchangeable profile seal</li> <li>▪ Integrated flange seal ring</li> </ul>
PN (bar) / ANSI:	up to 10 / CL 150	
Body materials:	GGG40 (DN 50 - 300), GG25 (DN 350 - 1200), epoxy-coated	
Seat materials:	EPDM, NBR, Viton®	
Connections:	Wafer	
Applications:	Especially suitable for water and waste water applications, sludge, clean pulp stock up to 6% consistency	
Approvals:	ATEX (on request)	



**Pulp Knife Gate Valves, Type HK/EX (Orbinox)**

DN (mm):	50 - 1200 (higher on request)	<ul style="list-style-type: none"> <li>▪ One-piece body</li> <li>▪ Type HK: Seal ring flange-mounted from the outside</li> <li>▪ Type EX: Seal ring integrated into the body</li> <li>▪ Uni-directional sealing</li> </ul>
PN (bar) / ANSI:	up to 10 / CL 150	
Body materials:	GG25, GGG40, 1.4408, special materials	
Seat materials:	PTFE, EPDM, NBR, Viton®, metal	
Connections:	Wafer	
Options:	Bonnet design, V-port for regulation, flush connections, type EX with FDA approval available (on request)	
Applications:	Pulp < 5%, recycled paper pulp, water, waste water, bulk material, sludge	
Approvals:	ATEX (on request)	



**Knife Gate Valve as End-Of-Line Valve, Type ET (Orbinox)**

DN (mm):	50 - 750 (higher on request)	<ul style="list-style-type: none"> <li>▪ Acc. to TAPPI Standard</li> <li>▪ Drillings acc. to DIN available</li> <li>▪ Seal ring integrated into body</li> <li>▪ Uni-directional sealing</li> </ul>
PN (bar) / ANSI:	up to 10 / CL 150	
Body materials:	1.4408, cast iron	
Seat materials:	EPDM, Viton®, NBR, metal, PTFE	
Connections:	Lug type	
Options:	Bonnet design, V-port for regulation, flush connections	
Applications:	Pulp < 5%, liquids containing solids, recycled paper pulp, water, waste water, bulk material, sludge	
Approvals:	ATEX (on request)	





## Pulp Knife Gate Valve, Type TK/TH/TL (Orbinox)

DN (mm):	50 - 1600	<ul style="list-style-type: none"> <li>▪ Through-going valve plate</li> <li>▪ Bi-directional sealing</li> <li>▪ TK: Seal ring flange-mounted from the outside</li> <li>▪ TL: Seal ring integrated into body</li> <li>▪ TH: reinforced construction up to 25 bar</li> </ul>
PN (bar) / ANSI:	up to 25 / CL 300	
Body materials:	GG25, 1.4408, special materials	
Seat materials:	Metal, PTFE, EPDM, NBR, Viton®, special materials	
Connections:	Wafer	
Options:	V-port for regulation, flush connections	
Applications:	Pulp < 18%, liquids containing solids, recycled paper pulp, waste water, bulk material, sludge, rejects, syrup (seed magma)	
Approvals:	ATEX (on request)	



## Reject Valve, Type CR (Orbinox)

DN (mm):	100 - 600 (higher on request)	<ul style="list-style-type: none"> <li>▪ Round inlet and larger rectangular outlet</li> <li>▪ Hardened gates</li> </ul>
PN (bar) / ANSI:	up to 10 / CL 150	
Body materials:	GG25, 1.4408	
Seat materials:	Polyurethane, metal	
Connections:	Wafer	
Options:	Transition pieces square/round, bonnet design	
Applications:	Especially in recycled paper processing, heavy rejects, glass, clamps, sand, junk traps	
Approvals:	ATEX (on request)	



## Reject Valve, Type DT (Orbinox)

DN (mm):	100 - 600 (higher on request)	<ul style="list-style-type: none"> <li>▪ Double plate knife gate valve enables short opening and closing times and avoids jamming</li> <li>▪ UHMW polyethylene body liner</li> </ul>
PN (bar) / ANSI:	up to 10 / CL 150	
Body materials:	Steel, stainless steel	
Seat materials:	Metal	
Connections:	Wafer	
Applications:	Heavy rejects, glass, metal parts, junk traps, especially in recycled paper processing and pulper applications	
Approvals:	ATEX (on request)	



**Silo Outlet Valves, Type XC (Orbinox)**

DN (mm):	50 - 600	<ul style="list-style-type: none"> <li>▪ Special design of the body</li> <li>▪ Ideal for use as silo outlet valve</li> <li>▪ Uni-directional sealing</li> </ul>
PN (bar) / ANSI:	up to 10 / CL 150	
Body materials:	GG25, 1.4408	
Seat materials:	EPDM, PTFE, Viton®, silicone, metal	
Connections:	Wafer	
Options:	Bonnet design	
Applications:	As silo outlet valve, bulk material applications, bentonite, starch, powder	
Approvals:	ATEX (on request), FDA (on request)	



**Square Port Knife Gate Valves, Type BC (Orbinox)**

DN (mm):	150x150 - 600x600 (higher on request)	<ul style="list-style-type: none"> <li>▪ Rectangular / square port low-pressure knife gate valve in welded construction</li> </ul>
PN (bar):	1 (higher on request)	
Body materials:	Carbon steel, stainless steel	
Seat materials:	EPDM, Viton®, silicone, metal	
Connections:	Flanged	
Applications:	Powdery media	
Approvals:	ATEX (on request)	



## DIN Gate Valves, Cast Design (RT Valves)

<b>DN (mm):</b>	50 - 1000	<ul style="list-style-type: none"><li>▪ Different face-to-face acc. DIN EN</li><li>▪ Bolted bonnet or pressure sealed</li><li>▪ Double plate, flexible or solid wedge</li></ul>
<b>PN (bar):</b>	6 - 320	
<b>Body materials:</b>	1.0619, 1.4408, LCC, other materials on request	
<b>Temperature (°C):</b>	-196 up to +650	
<b>Connections:</b>	Flanged, welded ends	
<b>Design standards:</b>	EN12516	
<b>Options:</b>	Bellows seal, ISO top flange (convertible), live loaded packing, packing extraction system, stem and/or cryogenic extensions, position indicator, position indicator with limit switches, locking device, drain plug, bypass, pressure relief valve	
<b>Applications:</b>	Water, oil, gas, chemicals, steam	
<b>Approvals:</b>	ATEX, TA Luft (on request), AD2000 W0/A4 (on request)	



**DIN High Pressure Double Plate Wedge Gate Valves (Wakmet)**

<b>DN (mm):</b>	50 - 600	<ul style="list-style-type: none"> <li>▪ 2-plate design</li> <li>▪ With cover flange: up to PN100</li> <li>▪ With self pressure cover lock: PN160 and higher</li> <li>▪ Forged body and bonnet</li> <li>▪ Sealing faces up to PN100 made of Cr-Ni-steel or Stellite; PN160 and higher: Stellite</li> </ul>
<b>PN (bar):</b>	40 - 630	
<b>Body materials:</b>	Forged steel	
<b>Connections:</b>	Flanged, welded ends	
<b>Design standards:</b>	EN12516	
<b>Options:</b>	Live loaded packing, position indicator, position indicator with limit switches, locking device, drain plug, bypass, pressure relief valve	
<b>Applications:</b>	Steam, water, gas, oil, condensate	
<b>Approvals:</b>	ATEX, TA Luft (on request), AD2000 A4/HPO (on request)	



**DIN Forged Steel Shut-off and Control Globe Valves with Gland Seal or Bellows Seal (Wakmet)**

<b>DN (mm):</b>	15 - 300	<ul style="list-style-type: none"> <li>▪ Graphite packing or bellows seal</li> <li>▪ Straight pattern or Y-type</li> <li>▪ Shut-off or throttling plug</li> <li>▪ With cover flange: up to PN160</li> <li>▪ As bayonet lock without cover: PN250 (DN15-50) and higher</li> <li>▪ With self pressure cover lock: PN250 (DN65) and higher</li> <li>▪ Sealing faces up to PN160: Cr-Ni-steel or Stellite; PN250 and higher: Stellite</li> </ul>
<b>PN (bar):</b>	40 - 630 (bellows seal up to PN160)	
<b>Body materials:</b>	Forged steel	
<b>Connections:</b>	Flanged, socket weld ends, butt weld ends, threaded	
<b>Design standards:</b>	DIN	
<b>Applications:</b>	Steam, water, gas, oil, condensate	
<b>Approvals:</b>	ATEX, TA Luft on request, AD2000 A4/HPO on request	



## DIN Forged Piston Check and Piston Closing Check Valves (Wakmet)

DN (mm):	15 - 300	<ul style="list-style-type: none"> <li>▪ With cover flange: up to PN160</li> <li>▪ With screwed cover: PN250 (DN15-25) and higher</li> <li>▪ Self pressure cover lock: PN250 (DN32) and higher</li> <li>▪ Check disc with closing spring</li> <li>▪ Sealing faces up to PN160 made of Cr-Ni-steel or Stellite; PN250 and higher: Stellite</li> </ul>
PN (bar):	40 - 630	
Body materials:	Forged steel	
Connections:	Flanged, socket weld ends, butt weld ends, threaded	
Design standards:	DIN	
Applications:	Steam, water, gas, oil, condensate	
Approvals:	ATEX, TA Luft on request, AD2000 A4/HPO on request	



## DIN Swing Check Valves in Forged Design (Wakmet)

DN (mm):	50 - 600	<ul style="list-style-type: none"> <li>▪ With cover flange: up to PN100</li> <li>▪ With self pressure cover lock: PN160 and higher</li> <li>▪ Sealing faces up to PN100 made of Cr-Ni-steel or Stellite; PN160 and higher: Stellite</li> </ul>
PN (bar):	40 - 630	
Body materials:	Various forged materials	
Connections:	Flanged, socket weld ends, butt weld ends	
Design standards:	DIN	
Applications:	Water, steam, gas, oil, condensate	
Approvals:	ATEX, TA Luft on request, AD2000 A4/HPO on request	





**DIN Shut-off and Control Globe Valves with Gland Seal or Bellows Seal (LDM Valves)**

DN (mm):	15 - 400	<ul style="list-style-type: none"> <li>▪ Gland seal: Series UV226-S &amp; UV236-S</li> <li>▪ Bellows seal: Series UV226-R &amp; UV236-R</li> <li>▪ Straight through</li> <li>▪ Pressure balanced plug from DN200</li> <li>▪ Flow characteristic: on/off, linear</li> <li>▪ Position indicator</li> </ul>
PN (bar):	16 - 40	
Temperature (°C):	-60 up to +400	
Body materials:	1.0619 (Type UV226) / 1.4581 (Type UV236), LCB, other materials on request	
Gland seal:	Graphite packing equipped with backseat - Type S	
Bellows seal:	Stainless steel bellows with safety graphite packing - Type R	
Trim material:	Stainless steel	
Connections:	Flanged	
Design standards:	DIN	
Options:	Control plug, oil- and grease-free, ASTM body/bonnet material, non explosive execution	
Applications:	Water, oil, gas, chemicals, low pressure steam	
Approvals:	ATEX on request, TA Luft on request, AD2000 A4/W5 on request	



**DIN Shut-off and Control Globe Valves „Stellite Version“ with Gland Seal or Bellows Seal (LDM Valves)**

DN (mm):	15 - 400	<ul style="list-style-type: none"> <li>▪ Gland seal: Series UV227-S &amp; UV237-S</li> <li>▪ Bellows seal: Series UV227-R &amp; UV237-R</li> <li>▪ Straight through, with hard metal overlay seat and spiral-wound cover gasket</li> <li>▪ Pressure balanced plug from DN200</li> <li>▪ Flow characteristic: on/off, linear</li> <li>▪ Position indicator</li> </ul>
PN (bar):	16 - 40	
Temperature (°C):	-60 up to +550	
Body materials:	1.0619 (Type UV227) / 1.4581 (Type UV237), LCB, other materials on request	
Gland seal:	Graphite packing equipped with backseat	
Bellows seal:	Stainless steel bellows with safety graphite packing	
Plug/seat hard overlay executions:	CrNiMoTi/CrNiMn, CrNiMoTi/Stellite 6, Stellite 6/Stellite 6, 13Cr/Stellite 6	
Connections:	Flanged	
Design standards:	DIN	
Applications:	Steam, water, gas, oil, condensate	
Approvals:	ATEX on request, TA Luft on request, AD2000 A4/W5 on request	



# Ball Segment and Globe Control Valves

## Ball Segment Valves, Wafer Design, Centric / Eccentric, Type KVTW-A (Somas)

DN (mm):	25/2 - 250	<ul style="list-style-type: none"> <li>▪ Somas standard face-to-face dimensions</li> <li>▪ Centric (type KVTW) or eccentric (type K VXW) design</li> <li>▪ Low-Noise: noise reduction for high differential pressures</li> <li>▪ V-groove (type KVMW) for high consistency pulp</li> <li>▪ Particularly high Kv-values</li> </ul>
PN (bar) / ANSI:	10 - 100 / CL 150 - 300	
Temperature (°C):	-196 up to +550	
Body materials:	1.4408, Hastelloy® C, titanium, special materials	
Seat materials:	PTFE (10% carbon), PTFE 53 (50% 1.4435), HiCo, PEEK (high temperature resistant plastic), without seat (hard chromed cover plate)	
Connections:	Wafer	
Options:	Manual override, safety interlock at the actuator	
Applications:	Pulp stock up to 10%, steam, water, solid-containing gases, rejects	
Approvals:	ATEX, FDA (on request), SIL, TA Luft (on request)	



SOMAS®

## Ball Segment Valves, Wafer Design, Short Face-to-Face Dimension, Centric / Eccentric, Type KVTW-D (Somas)

DN (mm):	25/2 - 250	<ul style="list-style-type: none"> <li>▪ Short face-to-face dimension</li> <li>▪ Centric (Type KVTW) or eccentric (Type K VXW) design</li> <li>▪ Low-Noise: noise reduction for high differential pressures</li> <li>▪ V-groove (type KVMW) for high consistency pulp</li> <li>▪ Particularly high Kv-values</li> </ul>
PN (bar) / ANSI:	up to 25 / CL 150	
Temperature (°C):	-196 up to +550	
Body materials:	1.4408, Hastelloy® C, titanium, special materials	
Seat materials:	PTFE (10% carbon), PTFE 53 (50% 1.4435), HiCo, PEEK (high temperature resistant plastic), without seat (hard chromed cover plate)	
Connections:	Wafer	
Options:	Manual override, safety interlock at the actuator	
Applications:	Pulp stock up to 10%, steam, water, solid-containing gases, rejects	
Approvals:	ATEX, FDA (on request), SIL, TA Luft (on request)	



SOMAS®

## Ball Segment Valves, Flanged Design, Centric / Eccentric, Type KVTF-L / KVTF-B (Somas)

<b>DN (mm):</b>	25/2 - 65 (KVTF-L), 80-700 (KVTF-B)	<ul style="list-style-type: none"> <li>▪ Face-to-face dimension acc. to EN 558, series 15</li> <li>▪ Full bore</li> <li>▪ Centric (Type KVTW) or eccentric (Type KVXW) design</li> <li>▪ Low-Noise: noise reduction for high differential pressures</li> <li>▪ V-groove (type KVMW) for high consistency pulp</li> <li>▪ Particularly high Kv-values</li> </ul>
<b>PN (bar) / ANSI:</b>	up to 50 / CL 150 - 300	
<b>Temperature (°C):</b>	-196 up to +550	
<b>Body materials:</b>	1.4408, Hastelloy® C, titanium, special materials	
<b>Seat materials:</b>	PTFE (10% carbon), PTFE 53 (50% 1.4435), HiCo, PEEK (high temperature resistant plastic), without seat (hard chromed cover plate)	
<b>Connections:</b>	Flanged	
<b>Options:</b>	Manual override, safety interlock at the actuator	
<b>Applications:</b>	Pulp stock up to 10%, steam, water, solid-containing gases, rejects	
<b>Approvals:</b>	ATEX, FDA (on request), SIL, TA Luft (on request)	



## Ball Segment Valves, Flanged Design, Short Face-to-Face Dimension, Centric / Eccentric, Type KVTF-C (Somas)

<b>DN (mm):</b>	80 - 400	<ul style="list-style-type: none"> <li>▪ Short face-to-face dimension acc. to EN 558:2008 series 36</li> <li>▪ Reduced bore</li> <li>▪ Centric (Type KVTW) or eccentric (Type KVXW) design</li> <li>▪ Low-Noise: noise reduction for high differential pressures</li> <li>▪ V-groove (type KVMW) for high consistency pulp</li> </ul>
<b>PN (bar) / ANSI:</b>	up to 25 / CL 150	
<b>Temperature (°C):</b>	-196 up to +550	
<b>Body materials:</b>	1.4408, Hastelloy® C, titanium, special materials	
<b>Seat materials:</b>	PTFE (10% carbon), PTFE 53 (50% 1.4435), HiCo, PEEK (high temperature resistant plastic), without seat (hard chromed cover plate)	
<b>Connections:</b>	Flanged	
<b>Options:</b>	Manual override, safety interlock at the actuator	
<b>Applications:</b>	Pulp stock up to 10%, steam, water, solid-containing gases, rejects	
<b>Approvals:</b>	ATEX, FDA (on request), SIL, TA Luft (on request)	



# Ball Segment and Globe Control Valves

## Ball Segment Valves, Medium and High Consistency Valves (Somax)

DN (mm):	100/150 - 350/400	<ul style="list-style-type: none"> <li>▪ Smaller nominal inlet to outlet size</li> <li>▪ V-groove</li> </ul>
PN (bar) / ANSI:	25 / CL 150	
Body materials:	1.4408, CF8M	
Seat materials:	PTFE 53 (50% 1.4435), HiCo	
Connections:	Flanged	
Applications:	Specially designed for high stock consistencies > 10%	
Approvals:	ATEX (on request), SIL (on request), FDA (on request), TA Luft (on request)	



## Ball Segment Valves, Basis Weight Valve (Somax)

DN (mm):	50 - 350	<ul style="list-style-type: none"> <li>▪ Based on the Somax ball segment valve</li> <li>▪ Complete unit - with special electric actuators</li> </ul>
PN (bar):	10 - 25	
Temperature (°C):	-196 up to +550	
Body materials:	1.4408, Hastelloy® C, titanium, special materials	
Seat materials:	PTFE (10% carbon), PTFE 53 (50% 1.4435), HiCo	
Connections:	Wafer, flanged	
Applications:	Basis weight regulation, especially constructed to meet the requirements of the paper industry	
Approvals:	ATEX (on request), SIL (on request), FDA (on request), TA Luft (on request)	



## 2- and 3-Way Control Valves

DN (mm):	15 - 300	<ul style="list-style-type: none"> <li>▪ Mixing or diverting function</li> <li>▪ Rangeability 50:1</li> <li>▪ Leakage rate Class III/IV acc. to EN 1349</li> <li>▪ Face to face-dimensions acc. to EN 558-1, series 1</li> </ul>
PN (bar):	16 - 40	
Temperature (°C):	-20 up to +500	
Body materials:	Ductile iron, cast steel, stainless steel	
Seat materials:	1.4028/1.4027, 1.4571/1.4581	
Plug materials:	1.4021/1.4027, 1.4571/1.4581	
Kvs values:	1,6 - 1000 m³/h	
Connections:	Flanges acc. to EN 1092	
Options:	Bellow seal, perforated plug, oxygen and food execution	
Applications:	Hot water, steam, power generation, chemical industry, heating and ventilation	
Approvals:	CE, ATEX, ISO 9001:2015, TRD 100/110/201, TRB 801, ISO 14001:2015, OHSAS	



## Micro Flow Valves (Badger Meter)

DN (mm):	15 - 50 / 1/4" - 2"	<ul style="list-style-type: none"> <li>Variety of combinations of materials, innervalue and other components</li> <li>Globe or angle design</li> </ul>
PN (bar):	up to 340	
Temperature (°C):	-70 up to +530	
Body materials:	Stainless steel	
Seat materials:	Stainless steel, stellited, Hastelloy®, tantalum	
Kvs range:	0.0000015 - 5.1	
Connections:	Flanged, threaded and special connections	
Options:	Bellow seal, cooling fins, extended stem, special packings	
Applications:	General industry, research, development, pilot plants, liquids, gases, steam	
Approvals:	ATEX, SIL, TA Luft, FDA	



## All-Ceramic and Partially Ceramic Modular Ball Valves (Cera System)

Ball valves and sliding disc valves are getting highly wear-resistant due to the strategic use of ceramic components. These valves are mainly used for control and on/off applications for abrasive, corrosive, and solid-containing media like fly ash, lime milk, lime mud, kaolin, titanium dioxide, acids, alkaline solutions, pigments, etc. Due to its modular design, „Cera Valve“ provides numerous different designs for many different application possibilities.

DN (mm): 15 - 300
PN (bar): up to 40 (higher pressures possible)
Temperature (°C): -30 up to +950
Compact or flanged design
Control and on/off valve
Flow rates from 1m <sup>3</sup> /h up to 2,800m <sup>3</sup> /h
Spring-loaded sealing system with trunnion mounted and floating ball, also hardened metal or tungsten carbide ball available
Used ceramics: Aluminium oxide, zirconium oxide, silicon carbide, silicon nitride
Approvals: TA Luft, SIL, ATEX
Applications: where corrosion, temperature and abrasion meet; chemical industry, pulp and paper industry, steel mills, power plants, waste incineration plants, pneumatic conveyor systems, liquors, MgO, fillers, rejects, sand, TiO <sub>2</sub> , corrosive vapours.



## Sliding Disc Valves (Cera System)

The sliding disc valve is dead space-free and gas tight and is particularly suitable for regulation of low volumes as well as dosing tasks. In the case of type SSC, the medium flows solely through ceramic (no metallic contact). Suitable for control and on/off applications.

Key data:

DN (mm): 1 - 200
PN (bar): up to 40
Temperature (°C): up to +450 (higher on request)

Designs:

Design for chemical industry (type SSC)
Light-weight design (type SDL)
4-plate design (type SVC)

Applications:

Where corrosion, temperature and abrasion meet; highly corrosive media, pharmaceutical products, products for microelectronics (pure silicon), liquors, MgO, fillers, TiO <sub>2</sub> , corrosive vapours.
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## Wear Protection of Pipes, Pipe Elbows, T/Y-Pieces, Orifice Plates, Reducers (Cera System)

The pipe elbows made of one-piece cast ceramic are nominal size conform. These pipe elbows are characterized by the use of premium ceramics, low weight, and step-free transition. The components can also be adapted to existing systems, without changing the pipelines.





**Pinch Valves RF VALVE, Type BE / BO (RF Valves)**

<b>DN (mm):</b>	25 - 1500	<ul style="list-style-type: none"> <li>▪ Control and on/off applications</li> <li>▪ Patented non-stretch tube design with expansion arches</li> <li>▪ Wide range of elastomer qualities</li> <li>▪ In-line quick tube change</li> <li>▪ Face-to-face dimensions according to DIN/EN, ISO, ASME</li> <li>▪ Full bore</li> <li>▪ Self-cleaning</li> </ul>
<b>PN (bar):</b>	up to 20	
<b>Temperature (°C):</b>	-50 up to +150	
<b>Body materials:</b>	Cast iron, ductile iron, cast steel, stainless steel, aluminium	
<b>Sleeve materials:</b>	NR, SBR, EPDM, IIR, NBR, CR, FPM, CSM	
<b>Actuation:</b>	Manual, pneumatic, electric, hydraulic	
<b>Connections:</b>	Flanged	
<b>Options:</b>	SMART Valve wear monitoring sensor, opening tags, conical tubes, fail close systems	
<b>Applications:</b>	Abrasive, corrosive, scaling or coating slurries, liquids and powders, liquors in pulp production	
<b>Approvals:</b>	ATEX, PED, ISO 9001, FDA	



**Pinch Valves, Type aiRFlex® (RF Valves)**

<b>DN (mm):</b>	25 - 1500	<ul style="list-style-type: none"> <li>▪ Control and on/off applications</li> <li>▪ Patented non-stretch tube design with expansion arches</li> <li>▪ Wide range of elastomer qualities</li> <li>▪ Simple and cost-effective solution for low pressures</li> <li>▪ In-line quick tube change</li> <li>▪ Face-to-face dimension according to ASME B16.1</li> <li>▪ Full bore</li> <li>▪ Self-cleaning</li> </ul>
<b>PN (bar):</b>	up to 4	
<b>Temperature (°C):</b>	-50 up to +150	
<b>Body materials:</b>	Cast iron, aluminium, stainless steel on request	
<b>Sleeve materials:</b>	NR, SBR, EPDM, IIR, NBR, CR, FPM, CSM	
<b>Actuation:</b>	Compressed air/liquids	
<b>Connections:</b>	Flanged	
<b>Options:</b>	SMART Valve wear monitoring sensor, fail close and quick opening systems	
<b>Applications:</b>	Abrasive, corrosive, scaling or coating slurries, liquids and powders	
<b>Approvals:</b>	ATEX, PED, ISO 9001, FDA	



## Tilting Disc Check Valves, Type RM (Orbinox)

DN (mm):	40 - 900	<ul style="list-style-type: none"> <li>▪ Robust design</li> <li>▪ Metal sealing</li> <li>▪ Eccentric design</li> <li>▪ Quick closing reaction due to oblique sealing</li> <li>▪ Short face-to-face dimension</li> <li>▪ Also suitable for low differential pressures</li> </ul>
PN (bar):	10 - 40	
Temperature (°C):	up to +400	
Body materials:	1.4408, special materials	
Seat materials:	Metal	
Connections:	Wafer	
Options:	Auxiliary spring, counterweight, hydraulic damping device	
Applications:	White water, pulp < 5%, sludge, wastewater treatment plants, food and beverage, water, steam, gas, air	
Approvals:	ATEX (on request)	



## Wafer Swing Check Valves, Type CSC / CSCF (ChemValve-Schmid)

DN (mm):	50 - 1000	<ul style="list-style-type: none"> <li>▪ Cast disc with opening limit</li> <li>▪ Tight-closing already in case of low pressure difference by additional spring (DN50-200)</li> <li>▪ Ring screw for mounting (standard)</li> <li>▪ Centering by outer diameter of body</li> <li>▪ Short weight-saving overall length</li> </ul>
PN (bar) / ANSI:	10 - 16 / CL 150	
Body materials:	1.0619, 1.4408, 1.4404, bronze, duplex, super duplex, PP, PTFE + 25% glass	
Seat materials:	Metal, NBR, EPDM, Viton®, PTFE	
Applications:	Liquids, gases, steams	
Approvals:	AD2000 W0, FDA (on request), ATEX	



## Dual Plate Check Valves, Type DDC (ChemValve-Schmid)

DN (mm):	50 - 1000	<ul style="list-style-type: none"> <li>▪ Eccentric disc for low zeta values and a minimum of pressure drop</li> <li>▪ Equipped with special springs for minimal opening pressures and short closing times</li> <li>▪ Favorable for hydraulic installations</li> <li>▪ Available in API overall lengths and according to ASTM materials</li> </ul>
PN (bar) / ANSI:	10 - 100 / CL 150 - 600	
Body materials:	1.4301, 1.0038, 2.1090, 1.4404	
Seat materials:	Metal, NBR, EPDM, Viton®, PTFE	
Applications:	Liquids, gases, steams	
Approvals:	AD2000 W0, FDA (on request), ATEX	



**Check Valves, Type CSD / CVD (ChemValve-Schmid)**

<b>DN (mm):</b>	15 - 350	<ul style="list-style-type: none"> <li>▪ Up to DN100: Cast-on centering collar with wide flange connection faces</li> <li>▪ DN125-350: Centering through body (external diameter) or optionally with centering ring</li> <li>▪ Guiding of valve plate by body ribs</li> <li>▪ Protected spring bearing quality</li> <li>▪ Body made of investment casting</li> <li>▪ Broad connection faces secure optimal holding of the flange sealings</li> </ul>
<b>PN (bar) / ANSI:</b>	6 - 40 / CL 150 - 300	
<b>Body materials:</b>	1.0619, 1.4408, 1.4404, bronze, duplex, super duplex, Hastelloy®, titanium, Uranus®, etc.	
<b>Seat materials:</b>	Metal, NBR, EPDM, Viton®, PTFE	
<b>Options:</b>	Special springs for variable opening pressures	
<b>Applications:</b>	Liquids, gases, steams	
<b>Approvals:</b>	AD2000 W0, FDA (on request), ATEX	



**Check Valves, Forged Design, Type DSF (ChemValve-Schmid)**

<b>DN (mm):</b>	15 - 100	<ul style="list-style-type: none"> <li>▪ From bar material</li> <li>▪ Broad flange connection on both sides</li> <li>▪ Guiding of valve plate by body ribs</li> <li>▪ Centering through body (external diameter)</li> </ul>
<b>PN (bar) / ANSI:</b>	10 - 250 / CL 150 - 2500	
<b>Body materials:</b>	1.0619, 1.4408	
<b>Seat materials:</b>	Metal, NBR, EPDM, Viton®, PTFE	
<b>Applications:</b>	Liquids, gases, steams	
<b>Approvals:</b>	AD2000 W0, FDA (on request), ATEX	



## Non Return Nozzle Check Valves, Type CSL streamLiner (ChemValve-Schmid)

DN (mm):	15 - 100 (DN125-350 made of solid material)	<ul style="list-style-type: none"> <li>▪ Low pressure loss</li> <li>▪ Non-slam closure</li> </ul>
PN (bar) / ANSI:	10 - 250 / CL 150 - 2500	
Body materials:	Stainless steel casting as well as special materials in solid material	
Seat materials:	Metal, NBR, EPDM, Viton®, PTFE	
Applications:	Liquids, gases, steams	
Approvals:	AD2000 W0, FDA (on request), ATEX	



## PTFE Lined Check Valves, Type DTEF (ChemValve-Schmid)

DN (mm):	15 - 150	<ul style="list-style-type: none"> <li>▪ Hastelloy® spring coated with PTFE/PFA tube and welded on the ends</li> </ul>
PN (bar) / ANSI:	10 / CL 150	
Body materials:	PTFE + 25% glass, TFM/PTFE cond. FDA	
Valve plate:	PTFE + 25% glass, TFM/PTFE cond. FDA	
Seat materials:	Without sealing, Viton®, EPDM, NBR	
Connections:	Mounting between flanges acc. to DIN EN 1092-1	
Applications:	Corrosive and aggressive liquids and gases, food	
Approvals:	ATEX, FDA, SIL	



## DIN Piston Check and Piston Closing Check Valves

DN (mm):	15 - 200	<ul style="list-style-type: none"> <li>▪ Different design options available (with spring, without spring, check closing, check closing without spring)</li> </ul>
PN (bar):	16 - 40	
Temperature (°C):	-10 up to +400	
Body materials:	1.0619, 1.4581, LCB, other materials on request	
Plug/seat:	In stainless steel, in hard overlay execution (CrNiMoTi / CrNiMn, CrNiMoTi / Stellite 6, Stellite 6 / Stellite 6, 13Cr / Stellite 6)	
Connections:	Flanged	
Design standards:	DIN	
Options:	Oil- and grease-free, ASTM body/bonnet material	
Applications:	Water, oil, gas, chemicals, low pressure steam	
Approvals:	ATEX on request, TA Luft on request, AD2000 A4/W5 on request	



**DIN Swing Check Valves in Cast Design (RT Valves)**

<b>DN (mm):</b>	50 - 1000	<ul style="list-style-type: none"> <li>▪ Different face to face acc. DIN EN</li> <li>▪ Bolted bonnet or pressure sealed</li> </ul>
<b>PN (bar):</b>	6 - 320	
<b>Body materials:</b>	1.0619, 1.4408, LCC, other materials on request	
<b>Temperature (°C):</b>	-196 up to +650	
<b>Connections:</b>	Flanged, welded ends	
<b>Design standards:</b>	DIN EN12516	
<b>Options:</b>	Position indicator, position indicator with limit switches, hydraulic brake, bypass, pressure relief valve, stop device with handwheel	
<b>Applications:</b>	Water, oil, gas, chemicals, steam	
<b>Approvals:</b>	ATEX, TA Luft (on request), SIL, AD2000 W0/A4	



## DIN Safety Relief Valves, Type 1400 DIN (TOSACA)

DN (mm):	15x25 - 400x500	<ul style="list-style-type: none"> <li>▪ Special materials available on request</li> <li>▪ CR - Cryogenic version</li> <li>▪ LP - Low pressure version</li> </ul>
PN (bar):	16 - 100	
Temperature (°C):	-196 up to +455	
Body materials:	Cast iron, carbon steel, stainless steel, duplex	
Seat materials:	PTFE, Viton®, AISI 316L, AISI 316L+Stellite	
Spring:	1.8159, AISI 302	
Disc:	AISI 316L	
Connections:	Flanged (DIN)	
Design standards:	EN12516-1, EN4126-1/7	
Options:	Lifting device, packed lifting lever, open bonnet, bellow seal, heating jacket, ECTFE coating	
Applications:	Steam, gases, liquids	
Approvals:	CE, ATEX, ISO9001:2008, AD2004 A4 (on request), UV-Stamp (on request)	



## DIN Safety Relief Valves, Threaded, Type 1216 (TOSACA)

DN (Zoll):	1/2"x3/4" - 2"x2"	<ul style="list-style-type: none"> <li>▪ Special materials available on request</li> <li>▪ CR - Cryogenic version</li> <li>▪ C - Clamp version</li> </ul>
PN (bar):	40	
Temperature (°C):	-196 up to +455	
Body materials:	A351 CF3M	
Seat materials:	PTFE, Viton®, AISI 316L	
Spring:	AISI 302, 17-7 PH	
Disc:	AISI 316L	
Connections:	BSP/NPT threads	
Design standards:	EN12516-1, EN4126-1/7	
Options:	Lifting device, packed lifting lever, heating jacket, ECTFE coating	
Applications:	Steam, gases, liquids	
Approvals:	CE, ATEX, ISO9001:2008, AD2004 A4 (on request), UV-Stamp (on request)	





**Pressure Reducing Valves (VALFONTA)**

<b>DN (mm):</b>	8 - 150	<ul style="list-style-type: none"> <li>▪ European manufacturing</li> <li>▪ Short delivery times</li> <li>▪ Special executions according to customer requirements</li> </ul>
<b>PN (bar):</b>	16 - 40	
<b>Temperature (°C):</b>	up to +250	
<b>Body materials:</b>	Ductile iron, cast steel, stainless steel, bronze, special materials	
<b>Connections:</b>	Threaded, flanged (DIN, ANSI), welded ends	
<b>Applications:</b>	Steam, water, other liquids, oil, air, other gases	
<b>Approvals:</b>	CE, ATEX, ISO 9001:2015	



**Excess Pressure Valves (VALFONTA)**

<b>DN (mm):</b>	15 - 150	<ul style="list-style-type: none"> <li>▪ European manufacturing</li> <li>▪ Short delivery times</li> <li>▪ Special executions according to customer requirements</li> </ul>
<b>PN (bar):</b>	16 - 40	
<b>Temperature (°C):</b>	up to +350	
<b>Body materials:</b>	Ductile iron, cast steel, stainless steel, bronze, special materials	
<b>Connections:</b>	Threaded, flanged (DIN, ANSI), welded ends	
<b>Applications:</b>	Steam, water, other liquids, oil, air, other gases	
<b>Approvals:</b>	CE, ATEX, ISO 9001:2015	



## DIN and ANSI Strainers in Cast or Forged Design

<b>DN (mm):</b>	15 - 400 / 1/2" - 36"	<ul style="list-style-type: none"> <li>▪ Y-type</li> <li>▪ Different mesh sizes available</li> <li>▪ Face-to-face length acc. to EN 558-1 Series 1 or ASME B16.34</li> <li>▪ Pressure seal design CL 900 - 2500</li> </ul>
<b>PN (bar):</b>	16 - 40 / CL 150 - 2500	
<b>Body materials:</b>	GG25, GGG40, 1.0619 (A216 WCB), A352 LCB, 1.4408 (A351 CF8M), 1.4581, other materials on request; forged body executions on request	
<b>Mesh screen material:</b>	Stainless steel	
<b>Connections:</b>	Flanged, female thread, socket weld ends, butt weld ends	
<b>Design standards:</b>	DIN / ASME B16.34	
<b>Options:</b>	Oil- and grease-free, drain plug	
<b>Applications:</b>	Water, oil, gas, chemicals, low pressure steam	
<b>Approvals:</b>	ATEX on request, TA Luft on request, AD2000 A4/W5 on request, NACE on request	



**Pneumatic Actuators „Rack-and-pinion“ (Actreg)**

Body materials:	Aluminium	<ul style="list-style-type: none"> <li>▪ Aluminium body is hard anodized (outside and inside)</li> <li>▪ Standard mounted travel stops for valve position adjustment in open and close position (+/- 5° at each end)</li> <li>▪ Multi-function position indicator</li> </ul>
Torques:	up to 6,500 Nm	
Temperature range:	-30°C up to +100°C	
Low temperature version:	-40°C up to +80°C	
Extremely low temperature version:	-60°C up to +80°C	
High temperature version:	-15°C up to +150°C	



**Pneumatic Actuators „Scotch-yoke“ (Somas)**

Body materials:	Aluminium	<ul style="list-style-type: none"> <li>▪ Standard mounted travel stops for valve position adjustment in open and close position (+/- 5° at each end)</li> <li>▪ Patented backlash-free torque transmission</li> <li>▪ Low friction seals</li> <li>▪ Optimized torque curve</li> <li>▪ Mounting block for all accessories acc. to VDI/VDE 3845</li> </ul>
Torques:	up to 19.925 Nm	
Temperature range:	-40°C up to +90°C	
High temperature version:	+120°C	
Options:	Hand operated, locking device, larger air connections	
Approvals:	ATEX	



## Electric Actuators, Fail Safe, Type FS-FSQT (Schiebel)

<b>Voltage:</b> 24 V - 400 V AC/DC <b>Positioning time</b> <b>Fail Safe:</b> 1 - 10 sec. <b>90° turn actuator FSQT (Fail safe quarter turn):</b> up to max. 32,000 Nm <b>Linear actuator FS:</b> up to max. 190 kN	<ul style="list-style-type: none"> <li>▪ For on/off and control functions</li> <li>▪ Easy to change positioning time</li> <li>▪ Modulating operation possible due to decoupled fail-safe unit</li> </ul>
<b>Options:</b> ATEX version, analog position feedback signal 4-20 mA, bus connection, handwheel	



## Electric Actuators, Type CM (Schiebel)

<b>Voltage:</b> 24 V - 400 V AC/DC (special voltages on request) <b>90° turn actuator FSQT (Fail safe quarter turn):</b> up to max. 15,000 Nm (higher for AB series) <b>Rotary actuator:</b> up to max. 500 Nm (higher for AB series) <b>Linear actuator:</b> up to max. 35 kN (higher for AB series)	<ul style="list-style-type: none"> <li>▪ For on/off and control functions</li> <li>▪ Adjustable speed and positioning time</li> <li>▪ Compact, space-saving construction</li> </ul>
<b>Options:</b> Fail-safe, ATEX version, analog position feedback signal 4-20 mA, bus connection	



## Electric Actuators (AUMA)

<b>Voltage:</b> 24 V - 690 V AC/DC <b>90° turn actuator:</b> up to max. 675,000 Nm <b>Rotary actuator:</b> up to max. 32,000 Nm <b>Linear actuator:</b> up to max. 270 kN	<ul style="list-style-type: none"> <li>▪ For on/off and control functions</li> <li>▪ Standardized control technology for DCS</li> </ul>
<b>Options:</b> ATEX version, analog position feedback signal 4-20 mA, bus connection	



## Electric Part-Turn Actuators (J+J)

<b>Torque:</b> 10 - 300 Nm <b>Voltage:</b> 12 V - 230 V AC/DC <b>Ambient temperature (°C):</b> -20 up to +70 <b>Body materials:</b> Polyamide (PA6), polypropylene (PP) <b>Degree of protection:</b> IP65, IP67	<ul style="list-style-type: none"> <li>▪ Construction acc. to ISO 5211 / DIN 3337</li> <li>▪ Design: heating resistor, limit switches, manual override</li> </ul>
<b>Options:</b> Fail-safe with battery, positioning system for control applications	



## Digital Positioners

<b>Design:</b>	Digital	<ul style="list-style-type: none"> <li>▪ Auto-calibration (digital)</li> <li>▪ Modular construction</li> <li>▪ Compact, well-proven, and flexible design</li> <li>▪ Exhaust opening with thread connection</li> </ul>
<b>Supply air pressure:</b>	up to 10 bar High air capacity at minimum air consumption	
<b>Software:</b>	Diagnosis solutions for maintenance, integration into existing diagnostic systems via DTM device	
<b>Options:</b>	HART, profibus, foundation field bus, partial stroke, contactless sensor	
<b>Approvals:</b>	ATEX, SIL2	



## Analog Positioners, Type V200 (VAC)

<b>Design:</b>	Analog	<ul style="list-style-type: none"> <li>▪ Optimized pilot valves for reduced air consumption and better air capacity</li> <li>▪ Feedback units or option modules can be installed easily, even later, in the standard housing</li> <li>▪ Simple calibration, external zero and span adjustment</li> <li>▪ High gain pilot valve and super high gain pilot valve</li> <li>▪ Built in gauge ports</li> <li>▪ Bright visible indicator, flat or Dome style</li> <li>▪ Stainless steel cam</li> </ul>
<b>Supply air pressure:</b>	up to 8 bar	
<b>Options:</b>	Feedback 4-20 mA, mechanical and inductive limit switches, intrinsically safe, potentiometer, nickel coated, TUFRAM® coated	
<b>Approvals:</b>	Nema 4X	



## Limit Switches, Limit Switch Boxes

<b>Portfolio:</b>	Available from all well-known manufacturers
<b>Design:</b>	Mechanical, inductive, etc.
<b>Mounting:</b>	Directly at the actuator/valve or via limit switch box at the actuator



## Solenoid Valves

<b>Portfolio:</b>	Available from all well-known manufacturers
<b>Design:</b>	NAMUR or Inline
<b>Function:</b>	3/2-, 5/2- or 5/3-way
<b>Voltage range:</b>	up to 230 V AC/DC
<b>Options:</b>	ATEX, cryogenic design



## Pneumatic Accessories

Filter regulators
Throttle plates and silencers
Quick exhaust and booster valves
Valve islands



## Mounting Accessories

Mounting kits for automation
Mounting kits for manual valves
Reducing sleeves and adapters
Stem extensions









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