

Discovering Termovent SC



Company Portrait & Production Range

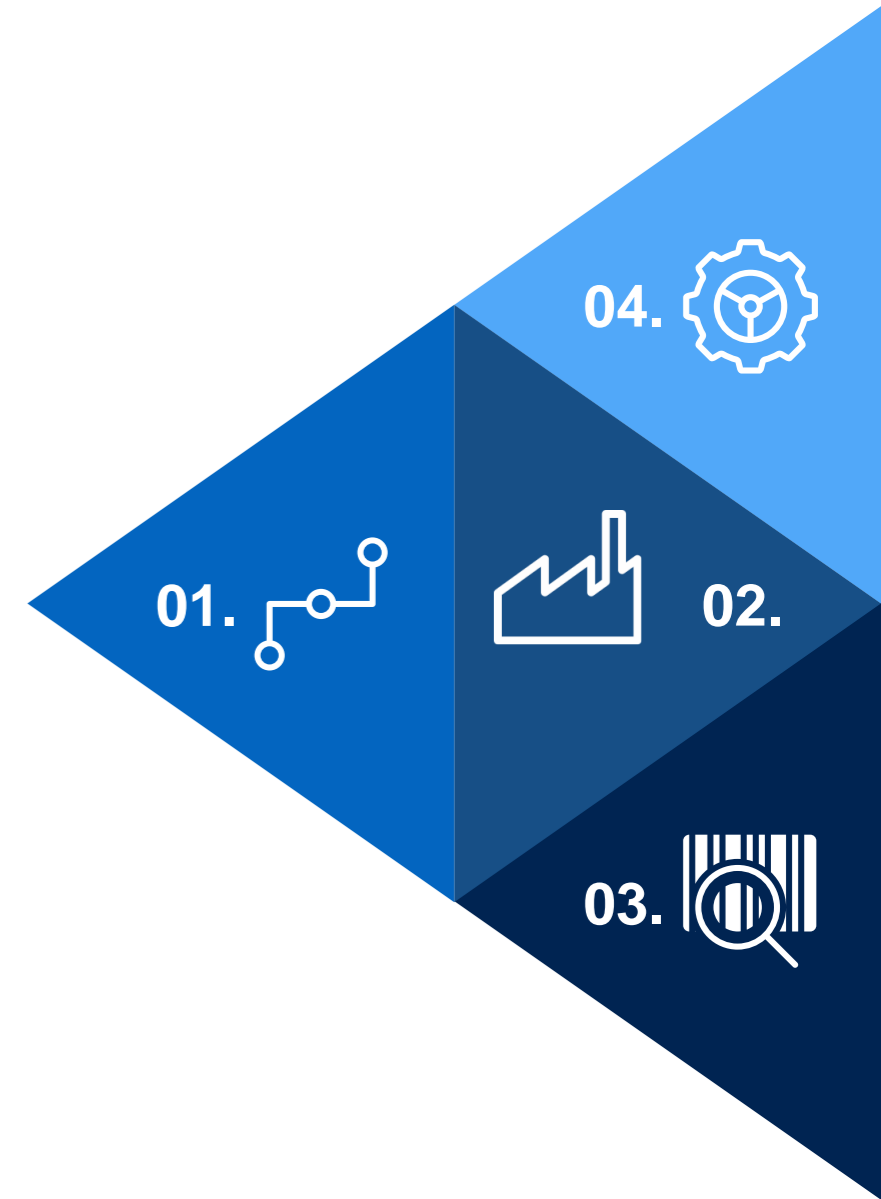
Let Us Introduce Termovent SC

01. Our Story

02. Production Capacities

03. Quality System

04. Production Range





Our Story

We are TERMOVENT SC Company, a regional leader in production of industrial valves for process industry and thermo energetics.

We remained until today a company in private ownership and management structure, as for the past 50 years of presence.



Timeline



1963

The company was founded by
Mr. Slobodan Crnogorac



1987

First certification of Quality
Management System



1996

Start of production at the newly
built factory in Temerin, Serbia

Next generation -
Mr. Aleksandar Crnogorac
becomes the new CEO of
Termovent SC



2002

Certified according to European
Directive 97/23 EC, since
Termovent SC products carry
CE-0035



2003

Steel Foundry in 2003 has
become a member of
Termovent SC



2004

The first investment in Steel
Foundry - Induction Furnaces



Next important investment in the
Foundry - Alfaset process
moulding technology



2010

The American Petroleum
Institute certifies Termovent SC
and awarded The API
Monograms



2013

50 Years Anniversary

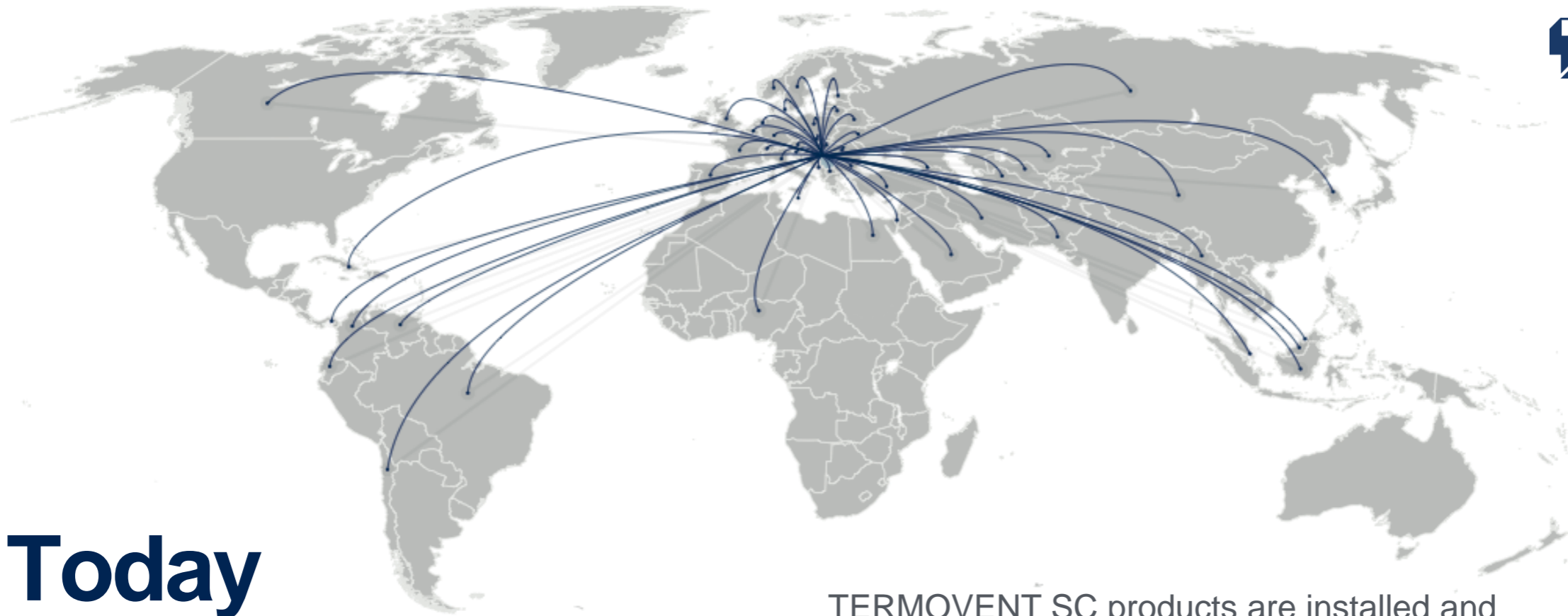


2016

New investments in
Termovent SC 5-axis CNC
Machining Center / GT Trevisan
DS 600

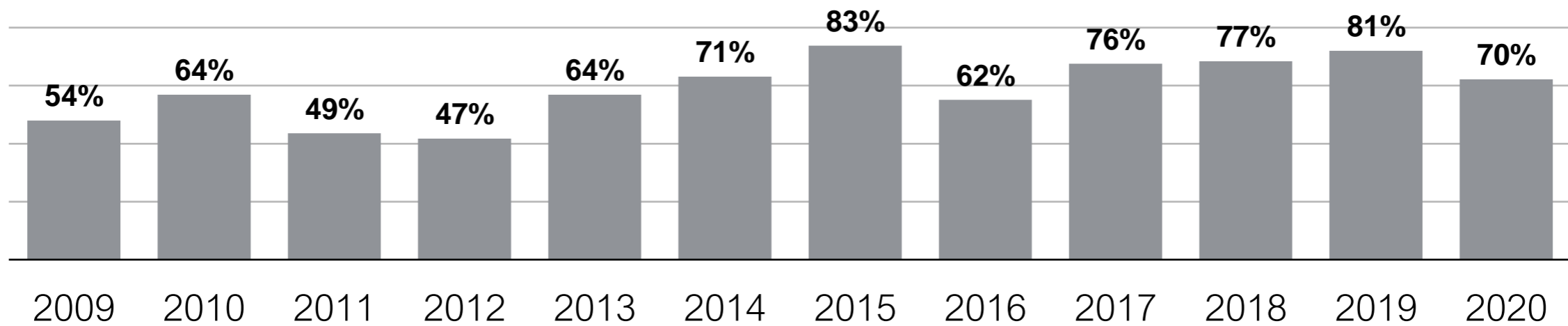


Today



TERMOVENT SC products are installed and functioning at many plants in more than 60 countries worldwide.

Termovent SC - Export by the years (in %)



North and South America

Canada

SIEMENS - Biomass power plants in fort St. James and Merritt
SIEMENS - Canfor

Colombia

DOOSAN - Termotasajero II

Chile

DOOSAN - Combined-cycle power plant Kelar

Cuba

DOOSAN - Boca de Jaruco, Condensation Steam Turbine

Panama

DOOSAN - Paco Panama

Peru

DOOSAN - Tecnicas Reunidas - Talara I & Talara II

USA

DOOSAN - Lansing, Michigan

Europe

Austria

Voestalpine Stahl Linz

Belarus

Mozyr
Naftan

Belgium

Borealis Kallo

Bulgaria

Lukoil

Croatia

Đuro Đaković - Glina 1 i 2, St. Gradiška, Di Slavonija Đakovo, Slatina, Županja

Czech Republic

SES Tlmače-Synthesia
Planá nad Lužnicí Power Plant
Horní Planá
Unipetrol

Denmark

DOOSAN - BIO4-Hofor

Germany

Mainz - Wiesbaden Gas Power Plant
DOOSAN - LICHTERFELDE Power Plant
TOTAL Refinery

Hungary

MOL OIL Refinery
JSR MOL, Synthetic rubber plant
MOL Petrolkémia (TVK)
BORSODCHEM

Italy

Macchiareddu Renewable Energy Complex, Calgiari

Poland

DOOSAN - Zeran
Opole Power Plant
Lotos
Grupa Azoty
Tauron
Anwil

Russian Federation

Gazprom
Rosneft
Antipinsky Refinery
NLMK
Rusal
EuroChem
PhosAgro
Metafrax
TER-Teploenergoremont
Mosenergo
TAIF-NK Nizhnekamsk

Serbia

NIS-GAZPROM NEFT
CB&I Construction of Deep Conversion Complex in Pančevo Oil Refinery

Slovakia

Slovnaft

Spain

ANDASOL 3 - Solar Power Plant
REPSOL
TAMOIN
SABIC
DOOSAN - Huelva
DOOSAN - Curtis
DOOSAN - Cubillos

Sweden

DOOSAN - Lund
SIEMENS - Brista and Jönköping

Turkey

SIEMENS - Hatay
TETA KAZAN-Projects Acersoy & SATEM, Biomass PP

Ukraine

Metinvest / Zaporizhstal

United Kingdom

Hitachi - Ferrybridge EfW plant
DOOSAN - TeesREP
SIEMENS - Sleaford

Africa and Middle East

Egypt

Abou Zaabal Fertilizers and Chemicals
Al Nouran Sugar project, Al Salhiya
Al Jadida

Israel

IEC-Hagit, Ramat & Eshkol
DOOSAN - Mishor
DOOSAN - SOREK

Jordan

DOOSAN - Zarqa

Nigeria

DOOSAN - Okpai

Saudi Arabia

DOOSAN - Fadhili

UAE

Hassyan Clean Coal Power Plant, Dubai
ADNOC - TAKREER Refinery

Qatar

Qatar Petrochemical Company (QAPCO) QSC

Asia and Oceania

Brunei

ThyssenKrupp IS - Fertilizer plant

China

Gulei Petrochemical Complex

Indonesia

DOOSAN - Grati
DOOSAN - Muara Tawar
LOMBOK - Power Plant

Japan

DOOSAN - Sodegaura

Kazakhstan

Pavlodar Oil Chemistry Refinery
SIEMENS - Chinarevskoe Oil Field

Malaysia

Petronas

Pakistan

DOOSAN - Balloka and Muridke
K-Electric

South Korea

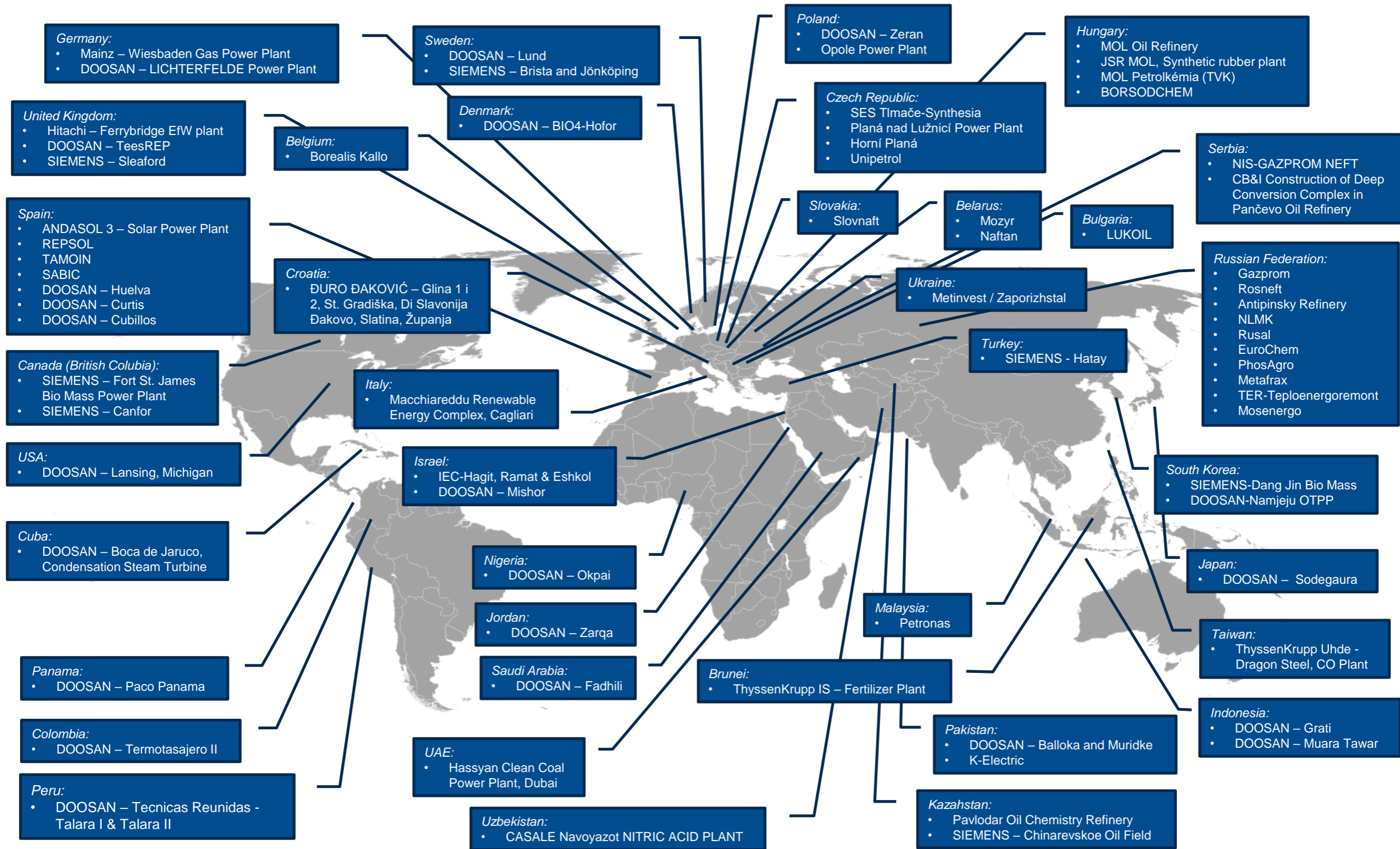
SIEMENS - Dang Jin Bio Mass
DOOSAN - Namjeju OTPP

Taiwan

ThyssenKrupp Uhde - Dragon Steel, CO Plant

Uzbekistan

CASALE Navoyazot NITRIC ACID PLANT



European Origin
Global Presence
termoventsc.rs

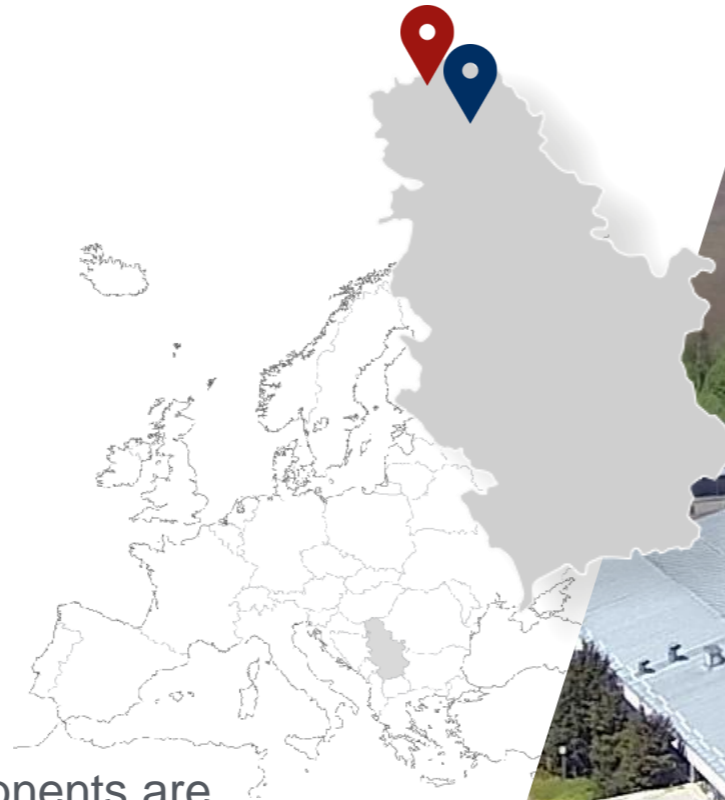
Reference Projects 2008-2019

Approval's List

1	Doosan Škoda Power	2010
2	Hitachi	2017
3	CB&I - McDermott	2017
4	Siemens	2017
5	ADNOC, UAE	2018
6	ThyssenKrupp - ThyssenKrupp Industrial Solutions, Germany	2018
7	Djuro Djaković, Croatia	2017
8	Gazpromneft - NIS a.d. Serbia	2008
9	NLMK, Lipetsk, Russia	2018
10	Arcelor Mittal	2018
11	HBIS - Hesteel, Serbia	2016
12	Repsol, Spain	2018
13	Orlen group, Poland	2016
14	MOL, Hungary	2002
15	TER - TeploEnergoRemont, Russia	2018
16	SLOVNAFT, Slovakia	2017
17	UNIPETROL, Czech Republic	2018



All in One Place



All of the product components are manufactured in Temerin Serbia, at our own manufacturing plant. The casting product components are made in our own TERMOVENT SC Steel Foundry in Backa Topola, Serbia.

Thus we can guarantee high quality of TERMOVENT SC valves.



Valve Plant



TERMOVENT SC Temerin, production site with a comprehensive infrastructure, all necessary equipment for long-range future activities and with modern work environment, in which the production started in 1996. Production of Industrial valves for power plants, pipelines, refineries and industrial plants of any kind.



 **140**
EMPLOYEES

 **9.000 m²**
OF PRODUCTION SPACE

**Production of
INDUSTRIAL VALVES**

Steel Foundry



All casting product components are made in our own TERMOVENT SC Steel Foundry in Backa Topola, Serbia. Our long-standing supplier of castings Steel Foundry has become a member of our company since 2003.



 **175**
EMPLOYEES

 **8.500 m²**
OF PRODUCTION SPACE

**Production of
STEEL CASTINGS**

Valves Production Capacities

TERMOVENT SC's ongoing investments into the latest machines and process technology is the key factor for continuously increasing productivity ensuring accurate, efficient and high quality production of valve components.





5-axis CNC Machining Center // 2 pcs.

CNC - Lathes // 8 pcs.

CNC Horizontal Machining Centers // 2 pcs.

CNC Metal Saw // 3 pcs.

Automatic Welding Machines // 4 pcs.

Vertical Lathes (Carousel) // 2 pcs.

Universal Lathes // 24 pcs.

Drilling Machines // 9 pcs.

Milling Machines // 7 pcs.

**Horizontal Boring / Milling / Turning
Machine (Borwerk) // 4 pcs.**

Grinding Machines // 3 pcs.

Lapping Machines // 3 pcs.

Automatic Painting Lines / 2 pcs.

Thread Rolling Machine

Machinery

We feature highly developed production capacities. TERMOVENT SC is continuously investing in latest machines and process technologies, every year. This way we can increase our productivity and achieve a successful and good quality production.

Reliable Quality

Design, process planning, casting, machining, assembly, testing, surface treatment, logistic and quality management integrated in our own plants is crucial for ensuring the constant high quality of TERMOVENT SC products.



100% Testing

In keeping with the pertinent standard, every single product is tested. A unique identification number on each product allows a full traceability of all activities and material consumption.

The control process is a permanent activity in our company, including: reception, process (between stages) and final control.





Test bench up to 1600 bar (up to 6 bar with air)

Test bench up to 650 bar (up to 6 bar with air)

Test bench up to 500 bar (up to 6 bar with air)

Test bench for hydraulic testing up to 1000 bar

Spectrometers for chemical analysis of materials (PMI)

Equipment for ultrasonic examination

Equipment for magnetic particle examination

Equipment for wall thickness measuring

Hardness testing equipment

Equipment for coating thickness measuring

Equipment for liquid penetrant examination

Measuring & Control Equipment

Reliable Quality Maintenance and on-going improvement of products quality are a commitment and responsibility of all company employees. A reliable and quality product is our priority, and a satisfied customer - our objective in continuity.

Quality System

We pay special attention to the application of current international rules and standards in quality system development. We keep improving and maintaining a high level of the quality system through active education.

We have the following valid certificates:

Valve Plant



TP TC 032/2013
TP TC 010/2011
TP TC 012/2011



TÜV InterCert
ISO 9001-2015

EN ISO 3834

AD-2000 Merkblatt HP 0

PED 2014/68/EU – Module H1



API Certificates

API 6A - 1129
API 6D - 1049
API 600 - 0096
API 602 - 0019

Steel Foundry



ISO 14001:2004
OHSAS 18001:2007

AD-2000 Merkblatt W 0





Fields of Application

Valves



Energetics

- Thermal Power Plants
- Hydroelectric Power Plants
- Heating Stations
- Boilers Production

Oil & Gas

- Oil & Gas Exploitation
- Oil & Gas Pipelines
- Oil Refineries & Oil Processing
- Pumping Stations & Tanks

Process Industry

- Ironworks
- Smeltery
- Cement Industry
- Paper Industry
- Heating and Cooling Systems
- Production of Agricultural Fertilizers
- Sugar Refineries
- Chemical Plants
- Petrochemical Plants

Fields of Application



Castings

- Thermal Power Plants
- Production of Machines and Tools
- Cement Industry
- Mines and Ironworks
- Construction (Building) Industry
- Railways
- Automotive Industry
- Agricultural Mechanization
- Shipbuilding
- Valves Industry

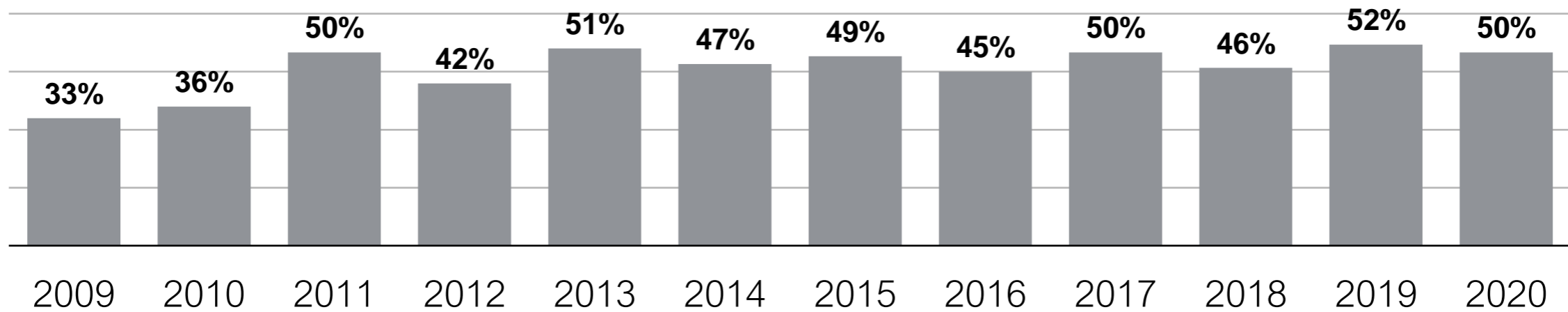


Foundry Capacity

cca. 3.000 ton yearly



Termovent SC Steel Foundry - Export by the years (in %)



Steel Foundry Materials



Carbon Steels

GE300

GP240GH

WCB

LCB

20L

Heat Resistant Steels

GX40CrNiSi27-4

GX40CrNiSi 25-20

GX130CrSi29

Stainless Steels

GX5CrNi19-10

GX5CrNiMo19-11-2

GX5CrNiMoNb19-11-2

GX5CrNiNb19 11

GX12Cr12

CF8

CF8M

CF8C

12X18H9T

12X18H12M3T

Wear Resistant Steel

G20Mn5

GX120Mn13

GX120Mn18-2

Abrasive Resistant Steels

GX300CrMo15 3

GX300CrMo27 1

Alloy Steels

G20Mo5

G17CrMo5-5

G17CrMo9-10

G24CrMo4

4A

4C

WC1

WC6

WC9

C5

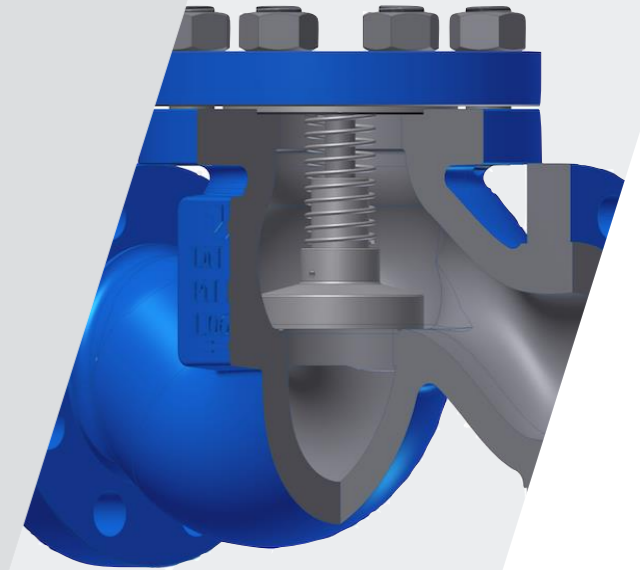
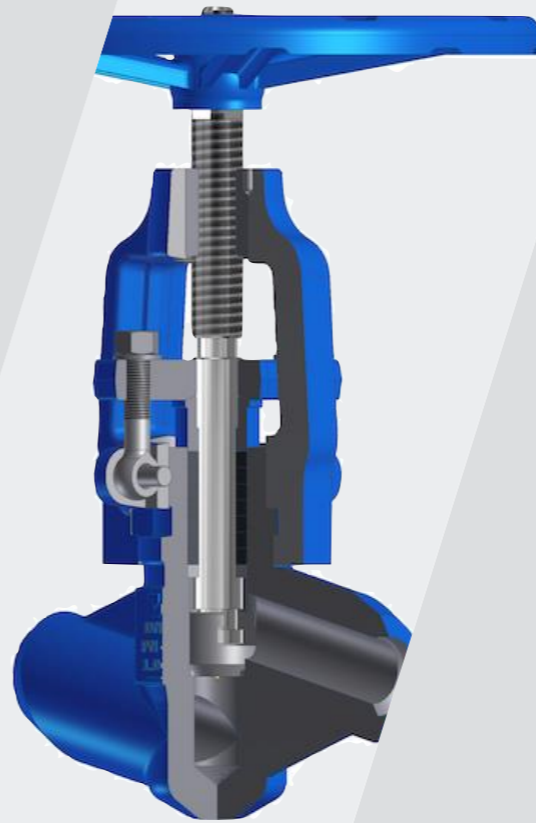
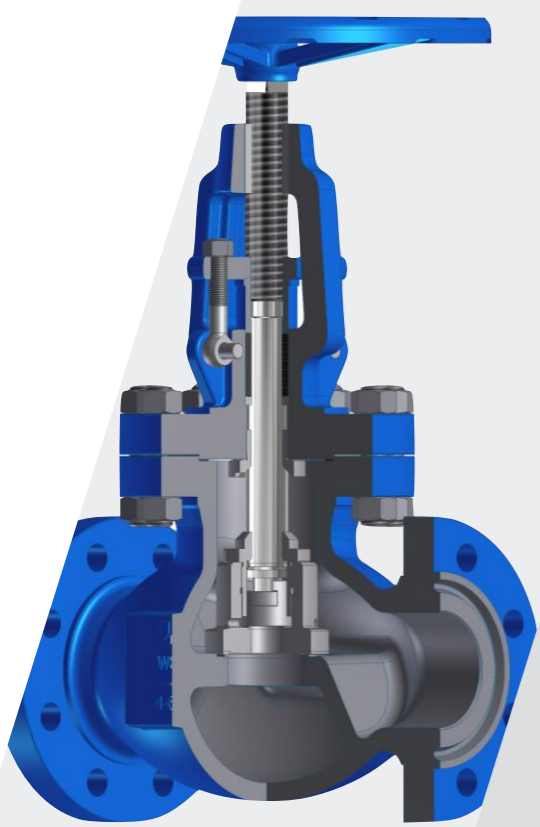
C12A

CA15

G35CrNiMo6-6

G32NiCrMo8-5-4

Other materials acc. to EN or ASTM Standards



Production Range

Gate/Globe/Check Valves and Strainers acc. to EN Standards

Gate/Globe/Check/Plug Valves and Strainers acc. to API Std.

Forged Gate/Globe/Check Valves and Strainers acc. to API 602

High Pressure Globe/Gate and Swing Check Valves

Control Valves

Oil & Gas Exploitation Products

Other Types of Products

Gate/Globe/Check Valves and Strainers according to European Norms (EN)

BASIC FEATURES

	Forged Materials		Casted Materials	
	EN	GOST	EN	GOST
Carbon Steels	1.0460	20	1.0619	20Л
Low Temperature Carbon Steel	1.0565	09Г2С	1.1131	20ГЛ
Low Temperature Alloy Steel			1.6220	20ГМЛ
Low Alloy Steel	1.5415	15М	1.5419	
Heat Resistant Alloy Steels	1.7335, 1.7383, 1.7366, 1.4903	15ХМ, 10Х2М, 15Х5М, 10Х9МФБ	1.7357, 1.7379, 1.7365, 1.4955	20ХМЛ, 20Х2М1Л, 20Х5МЛ
Stainless Steel	1.4301/1.4307, 1.4401/1.4404, 1.4541, 1.4550, 1.4571	08Х18Н10/03Х18Н11, 08Х16Н11М3/03Х17Н14М3, 08Х18Н10Т, 10Х17Н13М2Т	1.4308, 1.4552, 1.4408, 1.4581	07Х18Н9Л, 12Х18Н9ТЛ, 12Х18Н12М3ТЛ
Pressures-temperatures ratings:	EN 12516-1			
Installation lengths:	EN 558-1 and EN 12982			
Flange type and size conform to standard:	EN 1092-1			
Butt Welding Ends (BW) type and size conform to standard:	EN 12627			
Inspection and Testing conform to Standard:	EN 12266, Part 1 and part 2			

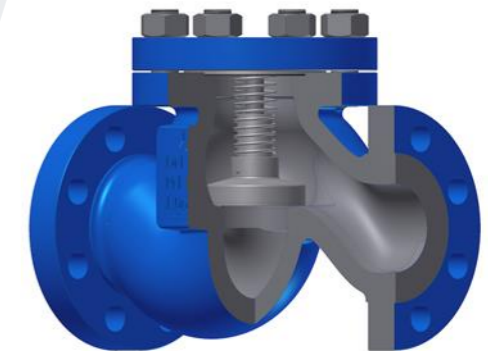
Materials

Gate/Globe/Check Valves and Strainers according to European Norms (EN)

Lift Type Check Valves acc. to EN 13709

Type: CLEN

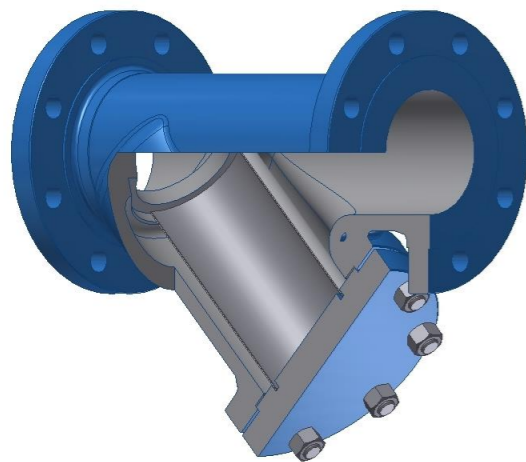
Material type	Forged Materials					Casted Materials											
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
Nominal Pressure	PN 40	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	PN 63	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	PN 100	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	PN 160	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	PN 250	•	•	•	•	•											



Y type Strainers

Type: SENY

Material type	Forged Materials					Casted Materials							
	DN	15	20	25	32	40	50	65	80	100	125	150	200
Nominal Pressure	PN 16	•	•	•		•	•		•	•	•	•	•
	PN 25	•	•	•		•	•		•	•	•	•	•
	PN 40	•	•	•		•	•		•	•	•	•	•
	PN 63	•	•	•	•	•	•	•	•	•	•	•	•
	PN 100	•	•	•	•	•	•	•	•	•	•	•	•
	PN 160	•	•	•	•	•	•	•	•	•	•	•	•
	PN 250	•	•	•	•	•							



Gate/Globe/Check/Plug Valves and Strainers according to API Standards

BASIC FEATURES

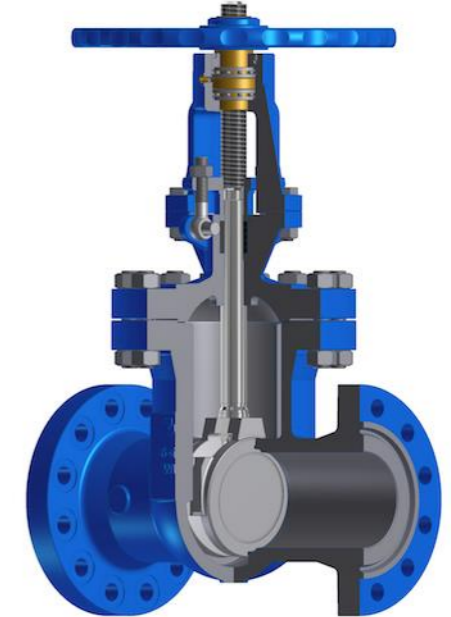
	Carbon Steels	WCB
M a t e r i a l s	Low Temperature Carbon Steel	LC1, LCB, LCC
	Low Temperature Alloy Steel	LC2
	Low Alloy Steel	WC1
	Heat Resistant Alloy Steels	WC6, WC9, C5, C12, C12A
	Stainless Steel	CF8, CF8M, CF8C
Pressures-temperatures ratings:		ASME B16.34
Installation lengths:		ANSI B16.10
Flange type and size conform to standard:		ANSI B16.5
Butt Welding Ends (BW) type and size conform to standard:		ANSI B16.25
Inspection and Testing conform to Standard:		API 598



Gate Valves acc. to API 600

Type: GAC

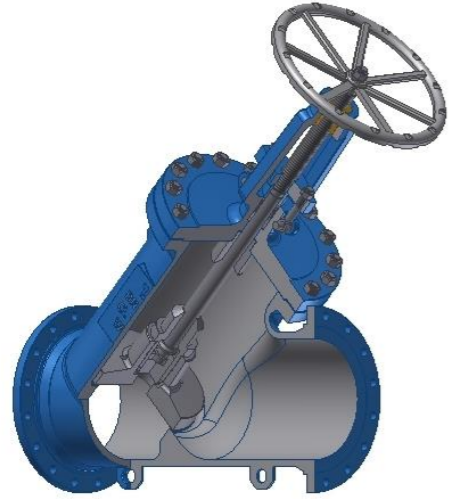
Material type:		Casted Materials													
NPS (DN)		2" (50)	2 1/2"(65)	3"(80)	4"(100)	6"(150)	8"(200)	10"(250)	12"(300)	14"(350)	16"(400)	18"(450)	20"(500)	24"(600)	26"(650)
Pressure Class	Class 150	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Class 300	•	•	•	•	•	•	•	•	•	•	•	•	•	
	Class 600	•	•	•	•	•	•	•	•	•	•	•	•	•	
	Class 900	•	•	•	•	•	•	•	•						
	Class 1500	•	•	•	•	•									



Globe Valves acc. to API 623/BS 1873

Type: VBS

Material type:		Casted Materials									
NPS (DN)		2" (50)	2 1/2"(65)	3"(80)	4"(100)	6"(150)	8"(200)	10"(250)	12"(300)	14"(350)	16"(400)
Pressure Class	Class 150	•	•	•	•	•	•	•	•		
	Class 300	•	•	•	•	•	•	•	•	•	•
	Class 600	•	•	•	•	•	•	•	•		
	Class 900	•	•	•	•	•	•	•			



Y type Globe Valves acc.to API 623/BS 1873

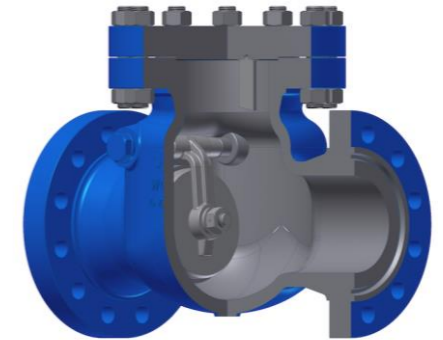
Type: **VBSY**

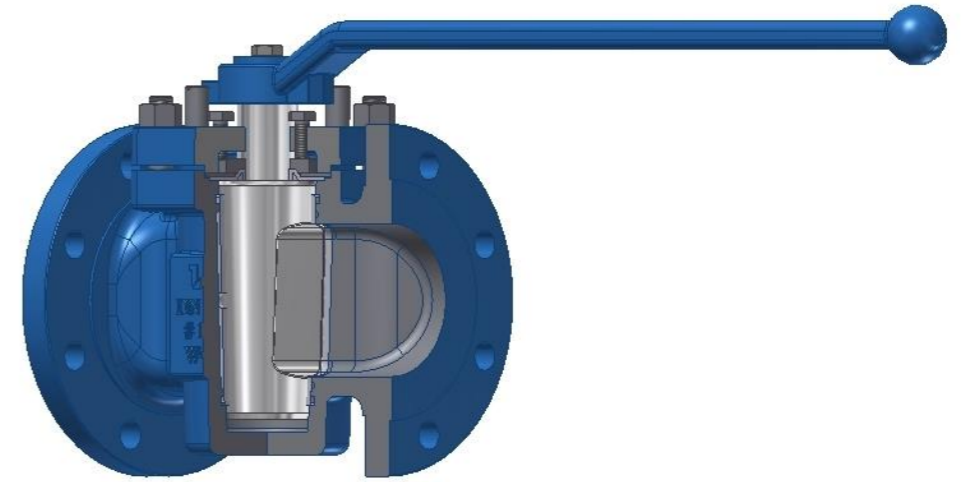
Material type:		Casted Materials											
NPS (DN)		2" (50)	2 1/2"(65)	3"(80)	4"(100)	5"(125)	6"(150)	8"(200)	10"(250)	12"(300)	14"(350)	16"(400)	20"(500)
Pressure Class	Class 150	•		•	•	•	•	•	•	•	•	•	•
	Class 300	•		•	•		•	•	•				
	Class 600	•	•	•	•		•	•					
	Class 900						•						
	Class 1500	•											

Swing Check Valves acc. to API 6D/BS 1868

Type: **CSBS**

Material type:		Casted Materials											
NPS (DN)		2" (50)	2 1/2"(65)	3"(80)	4"(100)	5"(125)	6"(150)	8"(200)	10"(250)	12"(300)	14"(350)	16"(400)	24"(600)
Pressure Class	Class 150	•	•	•	•	•	•	•	•	•	•	•	•
	Class 300	•	•	•	•	•	•	•	•	•	•	•	
	Class 600	•	•	•	•		•	•	•				
	Class 900	•	•	•	•	•	•	•	•				
	Class 1500	•	•	•	•								



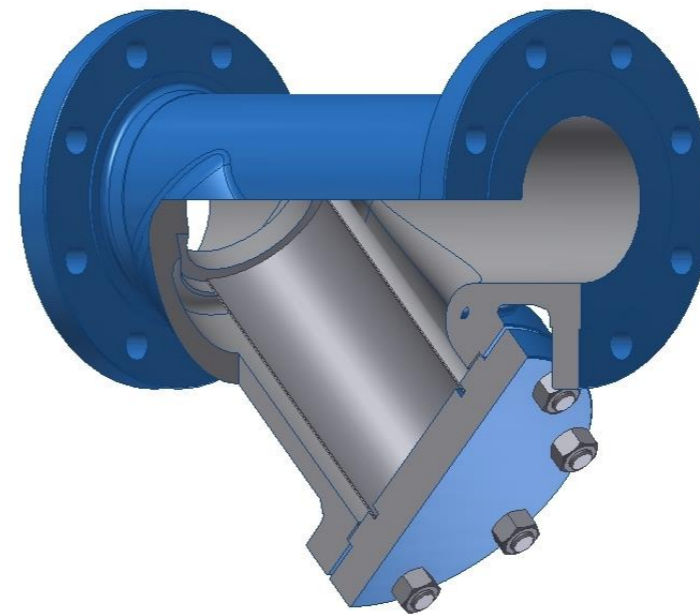


Plug Valves acc.to API 6D/API 599

Type: CPV

NPS (DN)		1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)	1 1/2" (40)	2" (50)	2 1/2" (65)	3" (80)	4" (100)	5" (125)	6" (150)	8" (200)	10" (250)	12" (300)	14" (350)	
Material type:		Forged Materials					Casted Materials										
Pressure Class	Class 150	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Class 300	•	•	•	•	•	•	•	•	•	•	•	•				
	Class 600	•	•	•	•	•						•	•				





Y type Strainers

Type: SBSY

NPS (DN)		1/2"(15)	3/4"(20)	1"(25)	1 1/4"(32)	1 1/2"(40)	2" (50)	2 1/2"(65)	3"(80)	4"(100)	5"(125)	6"(150)	8"(200)	10"(250)	12"(300)	14"(350)	16"(400)	20"(500)	
Material type:		Forged Materials				Casted Materials													
Pressure Class	Class 150	•	•	•		•	•		•	•	•	•	•	•	•	•	•	•	•
	Class 300	•	•	•		•	•		•	•		•	•	•					
	Class 600	•	•	•	•	•	•	•	•	•	•		•	•					
	Class 900	•	•	•									•						
	Class 1500	•	•	•			•												



Forged Gate/Globe/Check Valves and Strainers according to API 602 Standard

BASIC FEATURES

Valve type	Gate Valves	GAF
	Globe Valve	VAP
	Control Valve	VAPR
	Lift Type Check Valves	CAPL
	Swing Type Check Valves	CAPS
	Strainers	SAP

Dimensions:	NPS(DN) 3/8"(10) ÷ 2" (50)
Pressure Class:	Class 150 ÷ Class 1500

Materials	Carbon Steels	A105
	Low Temperature Carbon Steel	LF2
	Low Alloy Steel	F1
	Heat Resistant Alloy Steels	F12Cl.2, F22 Cl.3, F5, F9, F91
	Stainless Steel	F304/304L, F316/316L, F316H, F316Ti, F321/321H, F347/347H

Pressures-temperatures ratings:	API 602 and ASME B16.34
Installation lengths:	ANSI B16.10 and Standard Mnf.
Flange type and size conform to standard:	ANSI B16.5
Socket Welding Ends (SW) type and size conform to standard:	ANSI B16.11
Butt Welding Ends (BW) type and size conform to standard:	ANSI B16.25
Threaded Ends (NPT) type and size conform to standard:	ANSI B1.20.1



High Pressure Globe Valve

High Pressure Globe Valves acc. to Mnf. Standard
 Pressure Seal Globe Valves acc. to ANSI B16.34

BASIC FEATURES

	Forged Steels	Cast Steels
Materials		
Carbon Steels	A105/1.0460	WCB/1.0619
Low Temperature Carbon Steel	LF2/1.0565	LC1, LCB, LCC
Low Temperature Alloy Steel		LC2
Low Alloy Steel	F1/1.5415	WC1
Heat Resistant Alloy Steels	F12Cl.2/1.7335, F22 Cl.3/1.7383, F5/1.7366, F9, F91/1.4903	WC6/1.7357, WC9/1.7379, C5/1.7365, C12, C12A/1.4955
Stainless Steel	F304/304L(1.4301/1.4307), F316/316L(1.4401/1.4404), F316H, F316Ti /1.4571, F321/321H(1.4541), F347/347H(1.4550)	CF8/1.4308, CF8M/1.4408, CF8C/1.4552
Pressures-temperatures ratings:	ASME A1:G13 or EN 12516-1	
Installation lengths:	ANSI B16.10 or EN 558-1 and EN 12982	
Flange type and size conform to standard:	ANSI B16.5 or EN 1091-1	
Butt Welding Ends (BW) type and size conform to standard:	ANSI B16.25 or EN 12627	
Inspection and Testing conform to Standard:	API 598 or EN 12266	

High Pressure Globe Valves acc. to Mnf. Standard

Type: VHP

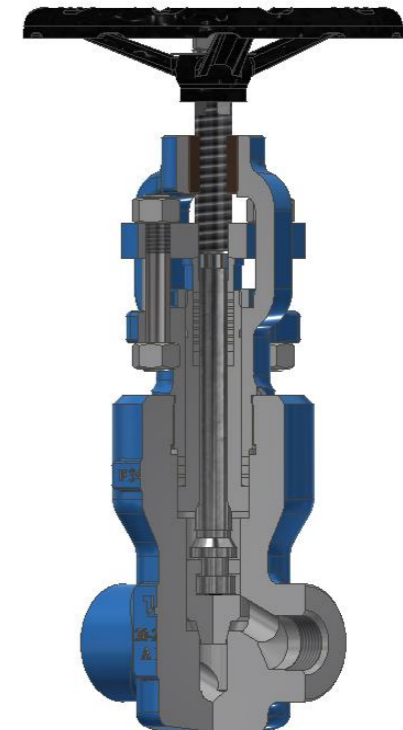
Material type		Forged Materials							
DN		10	15	20	25	32	40	50	65
Nominal Pressure	PN 250	•	•	•	•	•	•	•	•
	PN 400	•	•	•	•	•	•	•	•
	PN 500	•	•	•	•	•	•	•	•



Pressure Seal Globe Valves acc. to ANSI B16.34

Type: VHP_PS

Material type		Forged Materials			Casted Materials			
NPS (DN)		1/2"(15)	3/4"(20)	1"(25)	3"(80)	4"(100)	6"(150)	8"(200)
Pressure Class (Nominal Pressure)	Class 1500 (PN 250)	•	•		•		•	•
	Class 2500 (PN 400)	•	•	•	•	•	•	

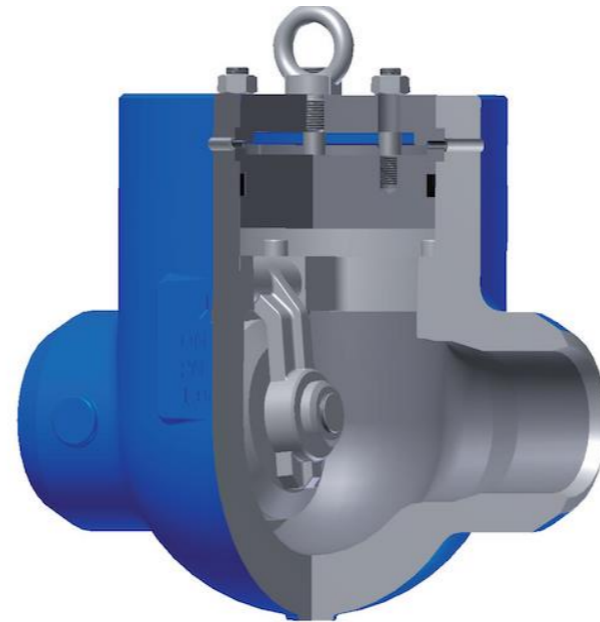


High Pressure Swing Check Valve and Needle Valve

High Pressure Swing Check Valve

Type	CHPS
DN (NPS)	10 (3/8") ÷ 200 (8")
Rating	PN 250 CI 1500
Standard Materials	

1.0619, 1.6220, 1.7357, 1.7379, C12A, 1.4308, 1.4408	WCB, WC1, WC6, WC9, C12A, CF8, CF8C, CF8M
1.0460, 1.5415, 1.7335, 1.7383, 1.4903, 1.4301, 1.4541, 1.4404,	A105, F1, F12 Cl.2, F22 Cl.3, F91, F304, F321, F316,



Needle Valve

Type	VNS
DN	6 ÷ 15
Rating	PN 16 ÷ 500
Standard Materials	

1.0460, 1.0565, 1.5415,
1.7335, 1.7383, 1.4903, 1.4301,
1.4541, 1.4404



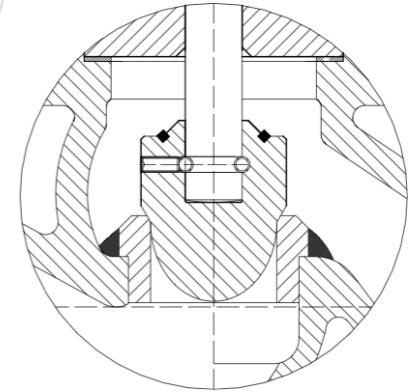
Other materials acc. to EN or ASTM Standards



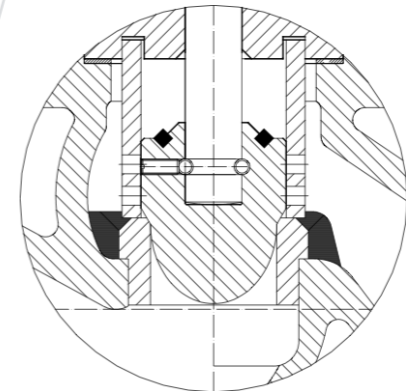
Control Valves

With equal percentage or linear flow characteristic

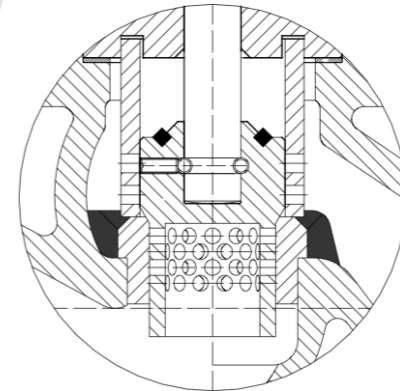
1 Stage design
with Parabolic Plug



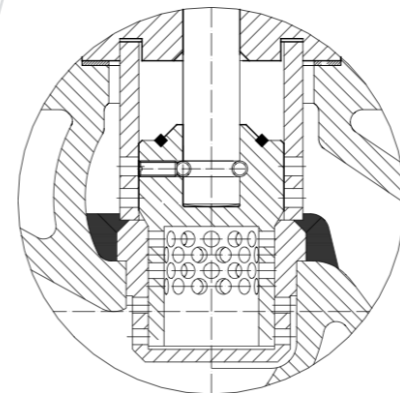
2 Stage design
with Parabolic Plug
and Anti-Cavitation Cage



2 Stage design
with Perforated Plug
and Silencer



3 Stage design
with Perforated Plug, Seat
and Anti-Cavitation Cage



Control Valves acc. to EN 1349 / EN 60534

BASIC FEATURES

	Forgings		Castings	
	EN	GOST	EN	GOST
M a t e r i a l s	Carbon Steels	1.0460	20	1.0619 20Л
	Low Temperature Carbon Steel	1.0565	09Г2С	1.1131 20ГЛ
	Low Temperature Alloy Steel			1.6220 20ГМЛ
	Low Alloy Steel	1.5415	15М	1.5419
	Heat Resistant Alloy Steels	1.7335, 1.7383, 1.7366, 1.4903	15ХМ, 10Х2М, 15Х5М, 10Х9МФБ	1.7357, 1.7379, 1.7365, 1.4955 20ХМЛ, 20Х2М1Л, 20Х5МЛ
	Stainless Steel	1.4301/1.4307, 1.4401/1.4404, 1.4541, 1.4550, 1.4571	08Х18Н10/03Х18Н11, 08Х16Н11М3/03Х17Н14М3, 08Х18Н10Т, 10Х17Н13М2Т	1.4308, 1.4552, 1.4408, 1.4581 07Х18Н9Л, 12Х18Н9ТЛ, 12Х18Н12М3ТЛ
Pressures-temperatures ratings:	EN 12516-1			
Installation lengths:	EN 558-1 and EN 12982			
Flange type and size conform to standard:	EN 1092-1			
Butt Welding Ends (BW) type and size conform to standard:	EN 12627			
Inspection and Testing conform to Standard:	ANSI/FCI 70-2, EN 12266, and EN 60534			



Control Valves acc. to EN 1349 / EN 60534

Type: VENR

Material type	Forged Materials					Casted Materials											
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
Nominal Pressure	PN 40	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PN 63	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PN 100	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PN 160	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PN 250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●



Control Valves acc. to BS/ANSI

BASIC FEATURES

	Carbon Steels	WCB
M a t e r i a l s	Low Temperature Carbon Steel	LC1, LCB, LCC
	Low Temperature Alloy Steel	LC2
	Low Alloy Steel	WC1
	Heat Resistant Alloy Steels	WC6, WC9, C5, C12, C12A
	Stainless Steel	CF8, CF8M, CF8C
Pressures-temperatures ratings:		ASME B16.34
Installation lengths:		ANSI B16.10
Flange type and size conform to standard:		ANSI B16.5
Butt Welding Ends (BW) type and size conform to standard:		ANSI B16.25
Inspection and Testing conform to Standard:		ANSI/FCI 70-2



Control Valves acc. to BS/ANSI

Type: VBR

Material type:		Casted Materials									
NPS (DN)		2" (50)	2 1/2" (65)	3" (80)	4" (100)	6" (150)	8" (200)	10" (250)	12" (300)	14" (350)	16" (400)
Pressure Class	Class 150	•	•	•	•	•	•	•	•		
	Class 300	•	•	•	•	•	•	•	•	•	•
	Class 600	•	•	•	•	•	•	•			
	Class 900	•	•	•	•	•	•				

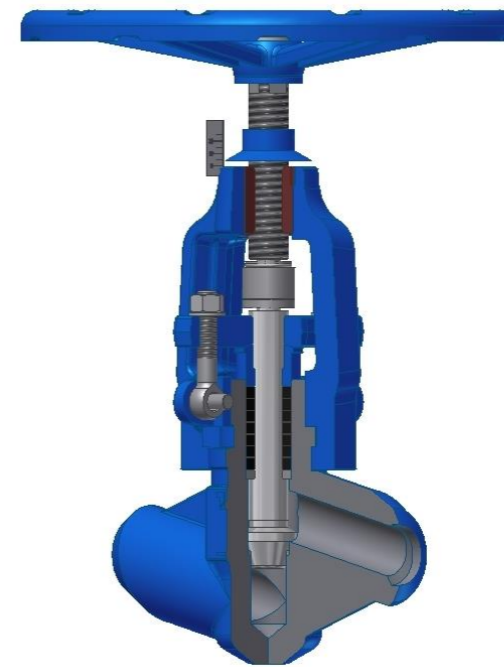


High Pressure Control Valve

High Pressure Control Valve

Type	VHPR
DN (NPS)	10 (3/8") ÷ 200 (8")
Rating	PN 250 ÷ 500 CI 1500 ÷ 2500
Standard Materials	
1.0460, 1.5415, 1.7335, 1.7383, 1.4903, 1.4301, 1.4541, 1.4404	A105, F1, F12 Cl.2, F22 Cl.3, F91, F304, F321, F316

Other materials acc. to EN or ASTM Standards



Oil & Gas Exploitation Products

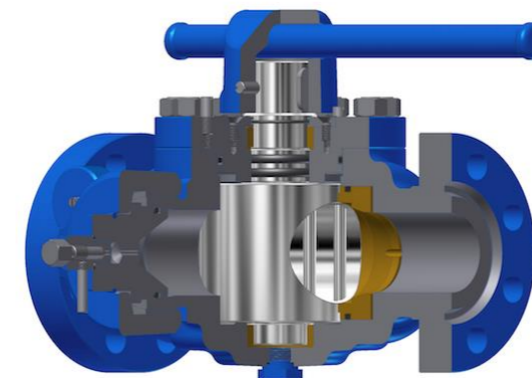
Xmass Tree Gate Valve API 6A

Type	GXT
DN (NPS)	50 (2 1/16") ÷ 100 (4 1/16")
Rating	2000 ÷ 5000 psi
Standard Materials	
4A, CA15	



Pig Valve API 6D

Type	CPVP
DN (NPS)	50 (2") ÷ 150 (6")
Rating	Cl 600 ÷ 1500
Standard Materials	
WCB, LCB, LC1, LC2, CA15, CF8, CF8M	

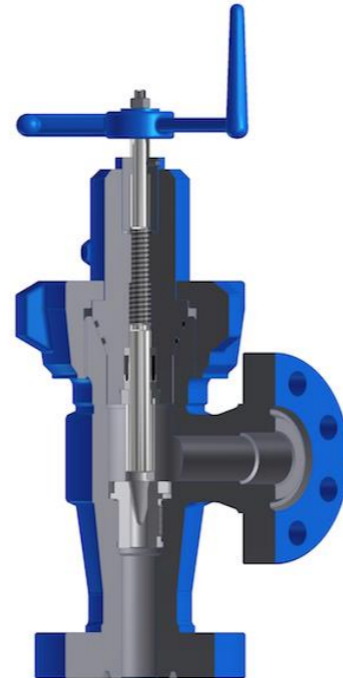


Adjustable Choke API 6A

Type	VAC
DN (NPS)	50 (2 1/16")
Rating	2000 ÷ 5000 psi

Standard Materials

4A, CA15

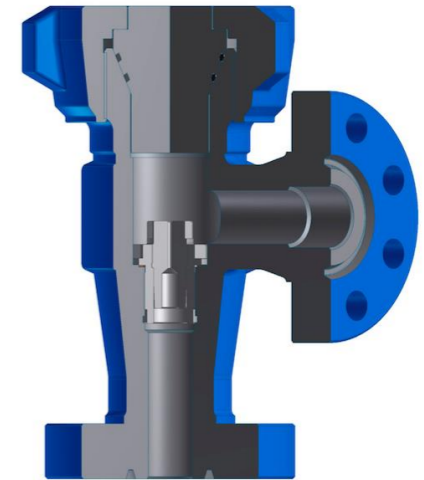


Positive Choke API 6A

Type	VPC
DN (NPS)	50 (2 1/16")
Rating	2000 ÷ 5000 psi

Standard Materials

4A, CA15



Change Over Valve

Type	COV
DN (NPS)	50 (2") ÷ 200 (8")
Rating	Cl 150 ÷ 900

Standard Materials

WCB, LCB, LCC, CF8, CF8M

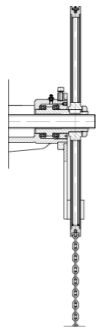


Other materials acc. to EN or ASTM Standards

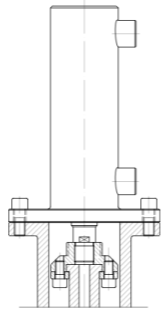


Optional Execution

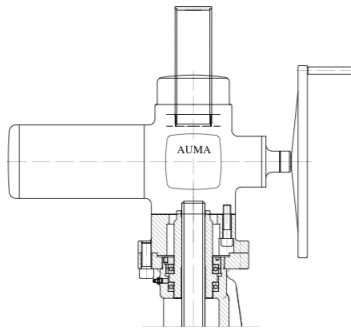
Globe Valves (+)



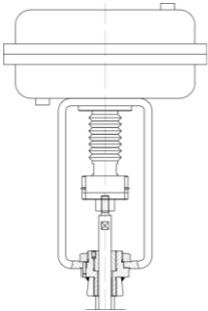
Chain operated



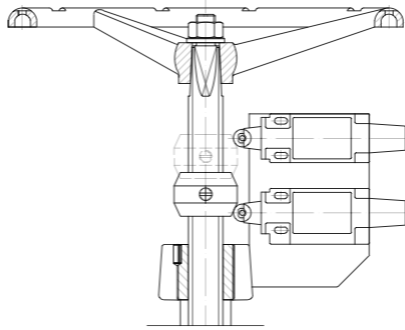
Hydraulic actuator



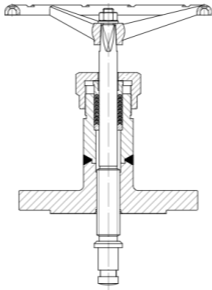
Electric actuator



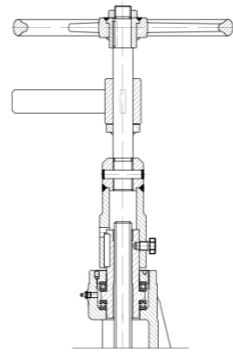
Pneumatic actuator



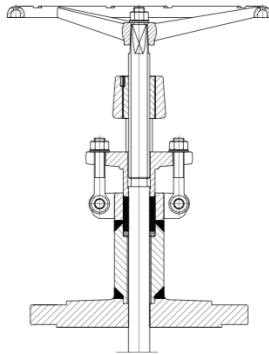
Limit switches



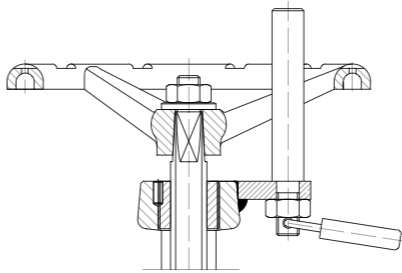
Inside screw rising stem (ISRS)



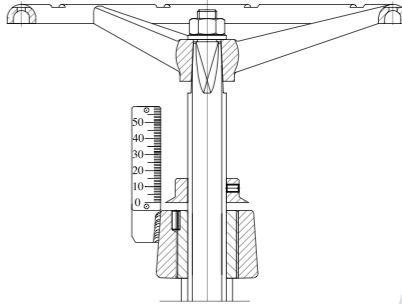
Extended stem



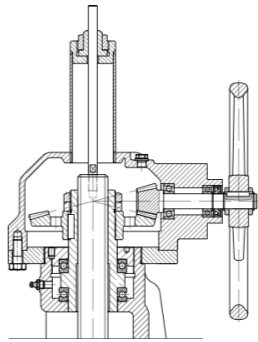
Extended bonnet



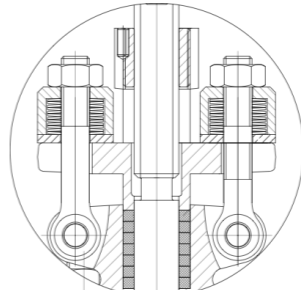
Locking device



Position indicator



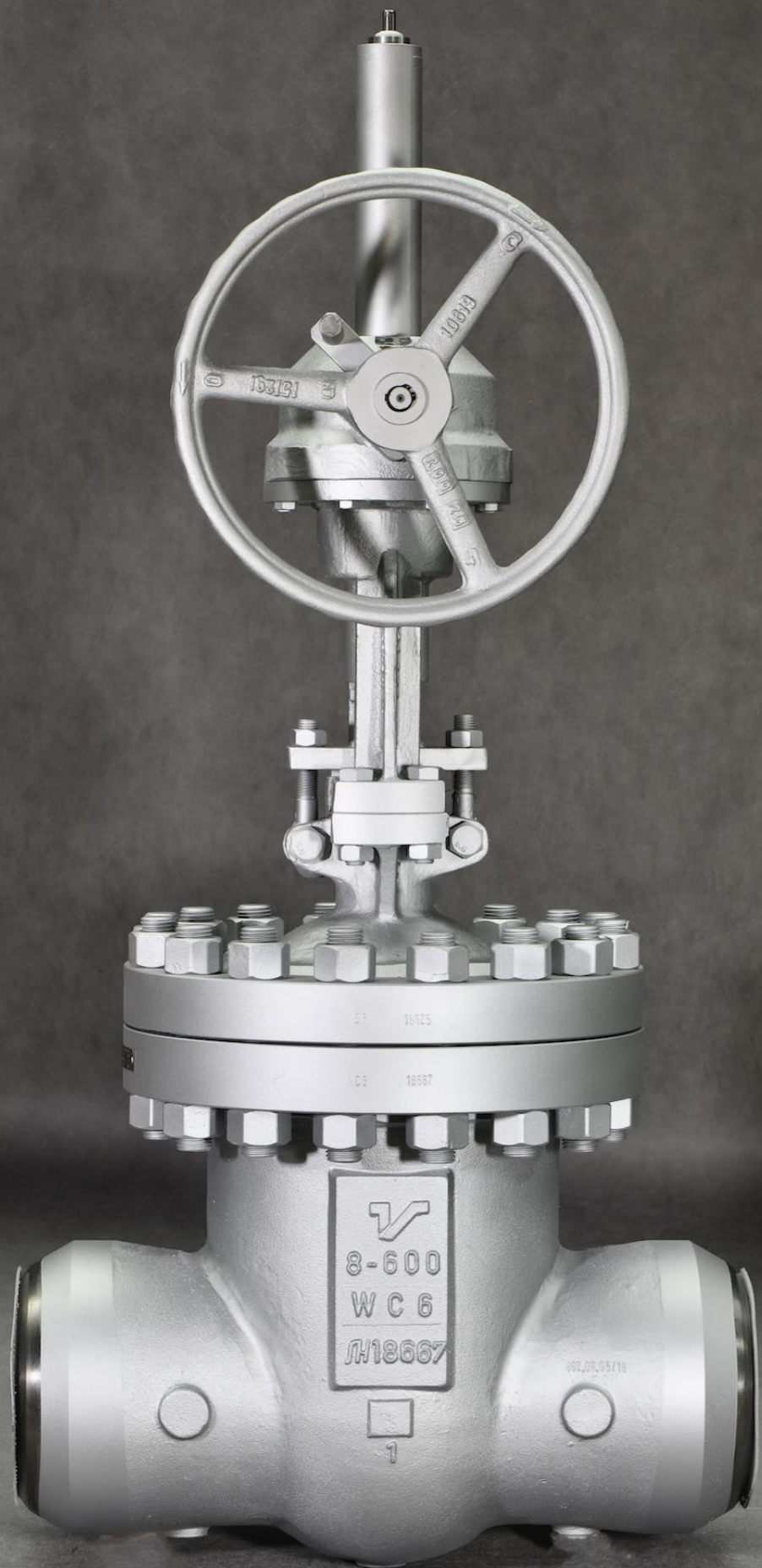
Gear operated



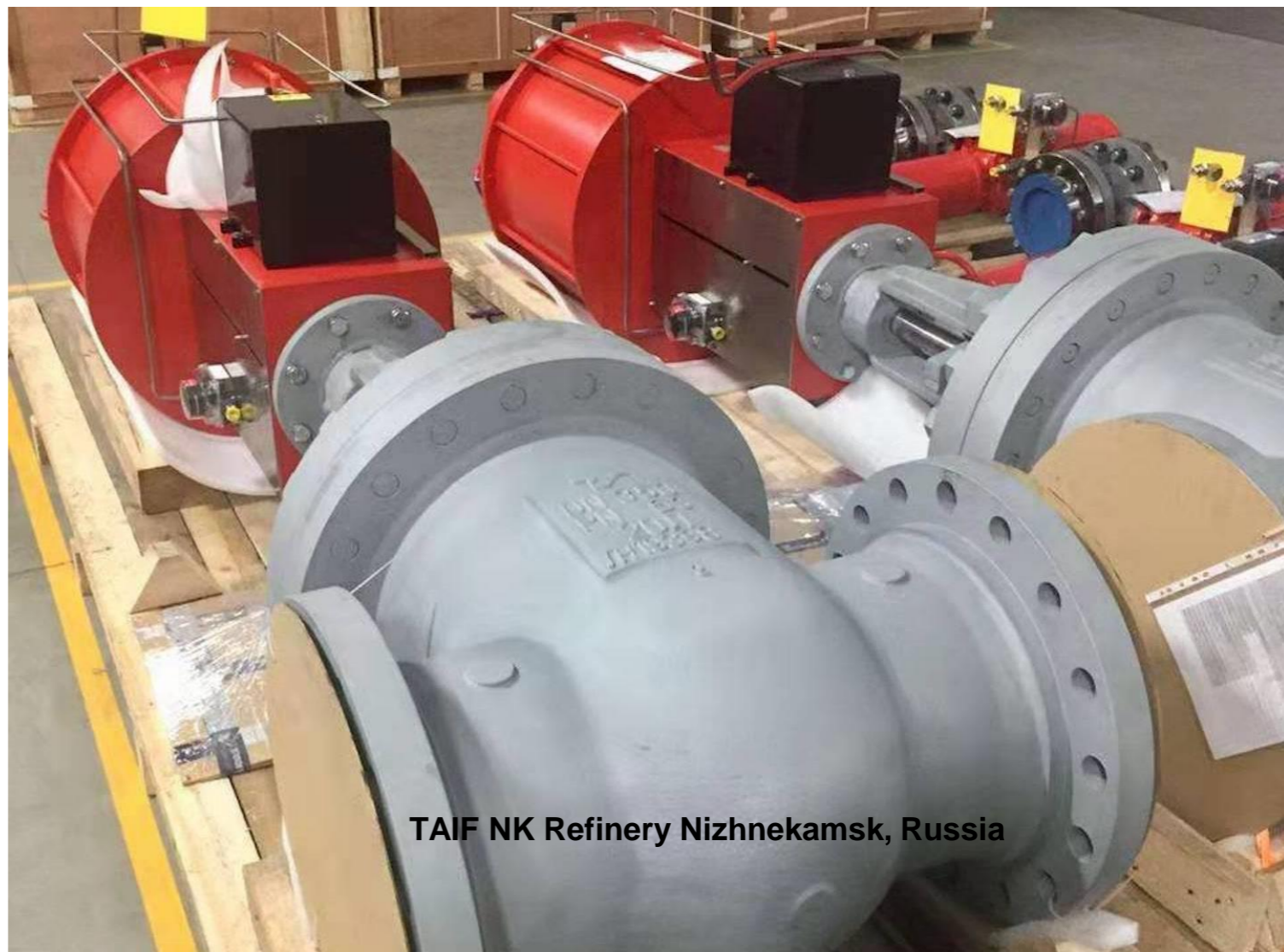
Spring loaded stuffing box







CASALE – Navoiyazot plant Uzbekistan



TAIF NK Refinery Nizhnekamsk, Russia



Voestalpine Stahl Linz, Austria





Brunei Fertilizer Plant



UNIS - NAFTAN, Belarus



Transnafta, Serbia





MSK – Methanol and Acetic Acid Complex, Serbia

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