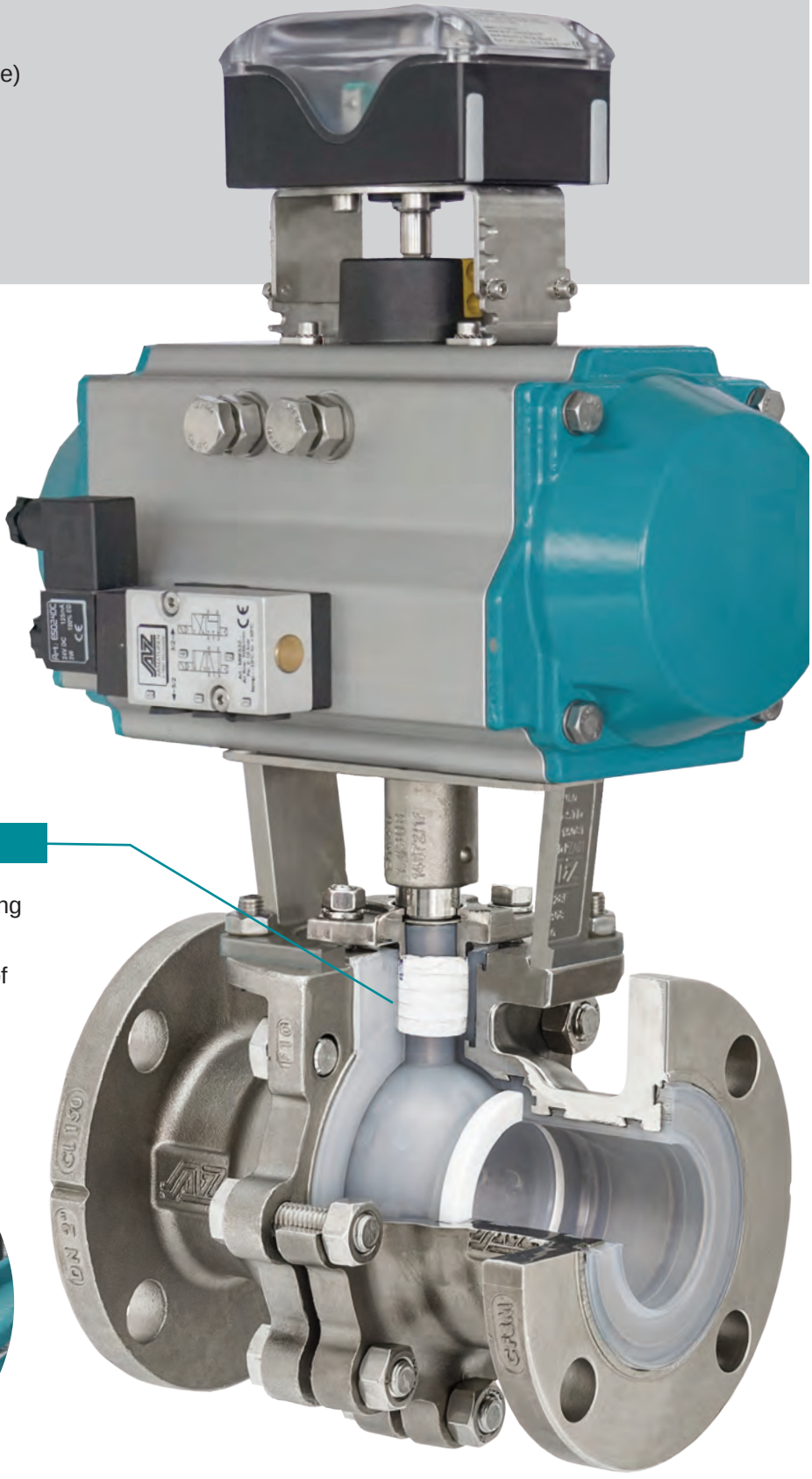
Product range AZ ball valves
Design overview and options

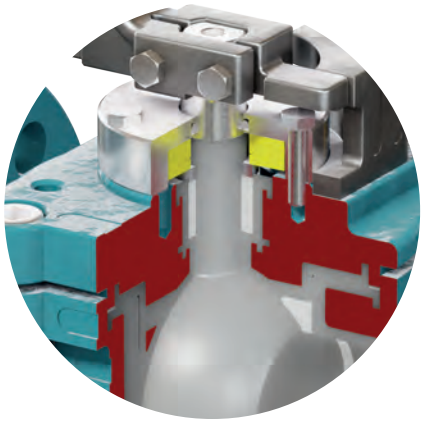
Type NVN-EXTRA

- split body design
- cavity minimized
- full bore design (optional with reduced bore desigen availible)



Sealing systems

- adjustable triple packing (sealing system CAS)
- disc springs for initial tension of packing “live-loaded” (sealing system CAS-SL)



other types

Type NEO-VAL

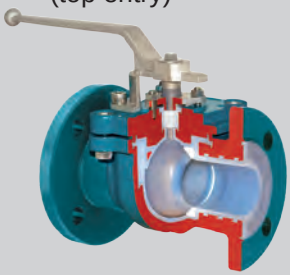
- split body design (short face to face dimensions)

Type KA

- split body design
- vessel bottom outlet valve

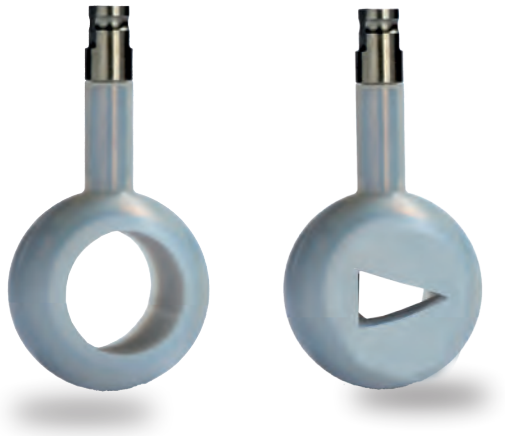
Type Monobloc

- one-piece body design (top entry)



one-piece ball

- anti blow-out design in case of high pressure or disassembly
- no risk of wear and tear between ball and shaft
- no danger for the lining
- constant torque
- optional: precise control with linear or equal percentage characteristics (type RH)
- customized solutions



safe lining

- chemical resistant PFA/FEP lining
- minimum 3mm FEP/PFA lining
- locked in lining
- suitable for toxic and aggressive chemicals

Standard materials

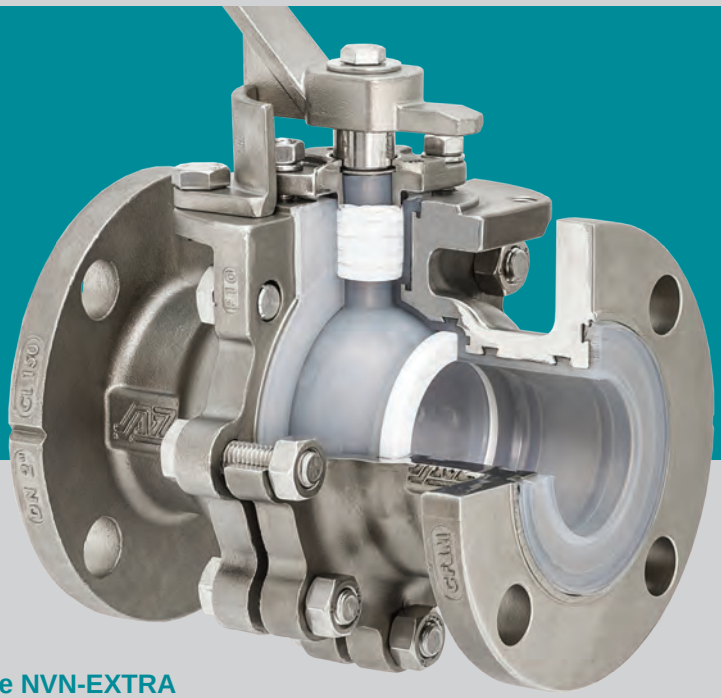
Body:

- Stainless Steel 1.4408 / A351/CF8M
- Ductile Iron EN-GJS-400-18 / ASTM A395 (DN ≥ 8")
- Carbon Steel 1.0619 / ASTM A216 WCB

Ball:

- ASTM A995 - CD4MCUN (DN ≤ 4")
- Carbon Steel 1.0619 / ASTM A216 WCB (DN ≥ 6")

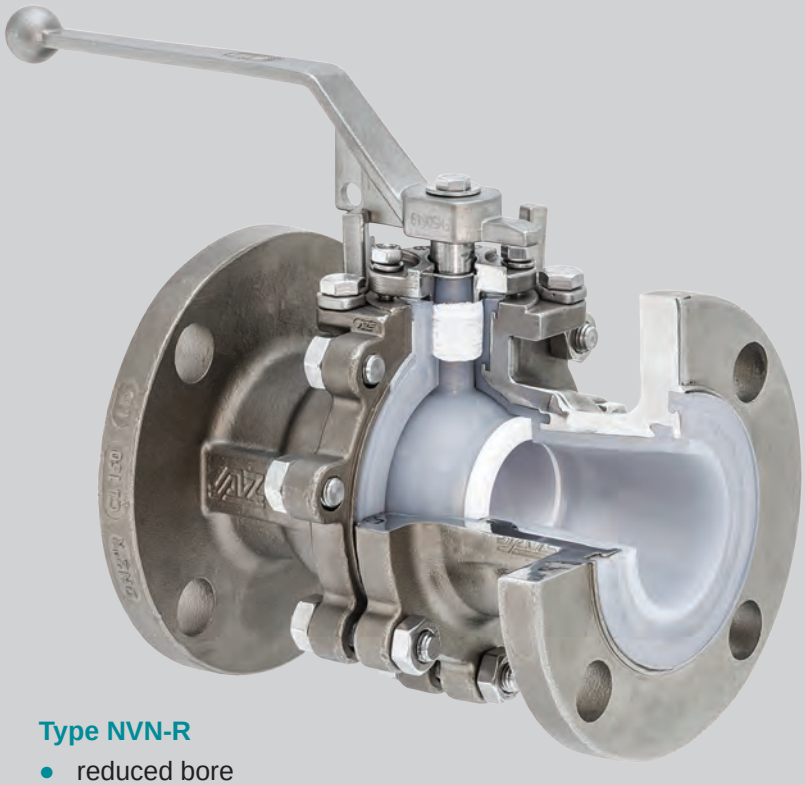
Type NVN-EXTRA / NVN-R
Fully lined ball valve



- **NVN-EXTRA**
  DN 15 - 250 / PN 10 - 40
  NPS ½ - 10 / Class 150- 300
- **NVN-R**
  DN 40 - 250 / PN 10 - 40
  NPS 1½ - 10 / Class 150

Range of application:
-10 < T < 150/210°C

Type NVN-EXTRA
- full bore design
- maxium flow rates - no pressure loss



Type NVN-R
- reduced bore
- less torque = smaller actuator

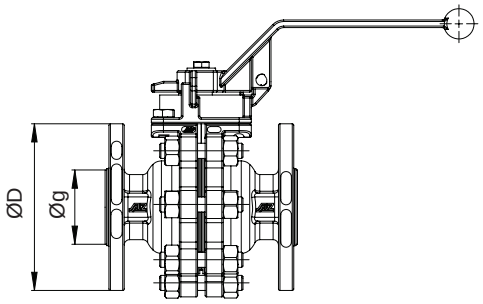
Design characteristics
- cavity minimized
- ball and ball shaft one-piece no blow-out, robust!
- body material optional
  - Carbon Steel 1.0619, ASTM A216 WCB
  - Stainless Steel 1.4308, ASTM A341 CF8
- mounting-flange for actuators acc. to ISO 5211
- closing-off with double-sided sealing
- adjustable shaft sealing
- antistatic-ring
- minimum 3 mm lining

Options
- locking device

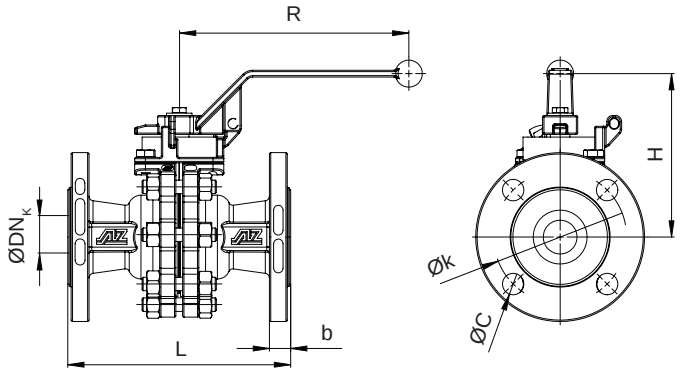
PT diagram, plug types, sealing systems, material selection: see catalogue part ENGINEERING

Type NVN-EXTRA / NVN-R
Technical Information

Type NVN-EXTRA



Type NVN-R



DIN EN 558

Type NVN-EXTRA

DN	PN	L [mm]	R [mm]	H [mm]	ØD [mm]	Øg [mm]	Øk [mm	Øc [mm]	b [mm]	SW [mm]	torque* [Nm]	weight [kg]	K_{VS} [m³/h]	C_V [US.gal/min]
15	10-40	130	170	109	95	45	65	14	16	11	9	3,2	19	22
20	10-40	150	170	114	105	58	75	14	18	11	13	4,1	35	40
25	10-40	160	170	121	115	68	85	14	18	11	18	4,9	59	68
40	10-40	200	170	128	150	88	110	18	18	11	21	7,5	165	191
50	10-40	230	230	143	165	102	125	18	20	14	40	12	267	309
80	10-40	310	320	199	200	138	160	18	24	19	113	27	737	852
100	10-16	350	420	203	220	162	190	18	20	22	150	37	1203	1391
150	10-16	350	600	250	285	218	300	22	22	27	200	82	2930	3387
200	10-16	457	-	-	340	285	375	22	24	36	563	170	5368	6206
250	10	533	-	-	395	345	450	22	26	36	688	245	8582	9921
250	16	533	-	-	405	320	355	26	26	36	688	245	8528	9921

ASME B16.10

NPS	Class	L [mm]	R [mm]	H [mm]	ØD [mm]	Øg [mm]	Øk [mm	Øc [mm]	b [mm]	SW [mm]	torque* [Nm]	weight [kg]	K_{VS} [m³/h]	C_V [US.gal/min]
½	150	108	170	109	90	34,9	60,3	15,7	10,0	11	9	2,3	20	23
¾	150	117	170	114	100	42,9	69,9	15,7	10,9	11	13	2,9	41	47
1	150	127	170	121	110	50,8	79,4	15,7	11,6	11	18	3,8	61	71
1½	150	165	170	128	125	73,0	98,4	15,7	14,7	11	21	5,7	171	198
2	150	178	230	143	150	92,1	120,7	19,1	16,3	14	40	10	280	324
	300	216			165		127,0		22,7			13	270	312
3	150	203	320	184	190	127,0	152,4	19,1	19,5	19	113	23	785	906
	300	282			210		168,3	22,3	29,0			29	746	862
4	150	229	420	203	230	157,2	190,5	19,1	24,3	22	150	36	1265	1462
	300	305			255		200,0	22,3	32,2			45	1220	1410
6	150	267	600	250	280	215,9	241,3	22,3	24,3	27	200	65	3021	3492
	300	403			320		269,9		35,4			92	2880	3329
8	150	457	-	-	345	269,9	298,5	22,4	29,0	36	563	173	5368	6206
10	150	533	-	-	405	323,8	362,0	25,4	30,6	36	688	257	8582	9921

ASME B16.10

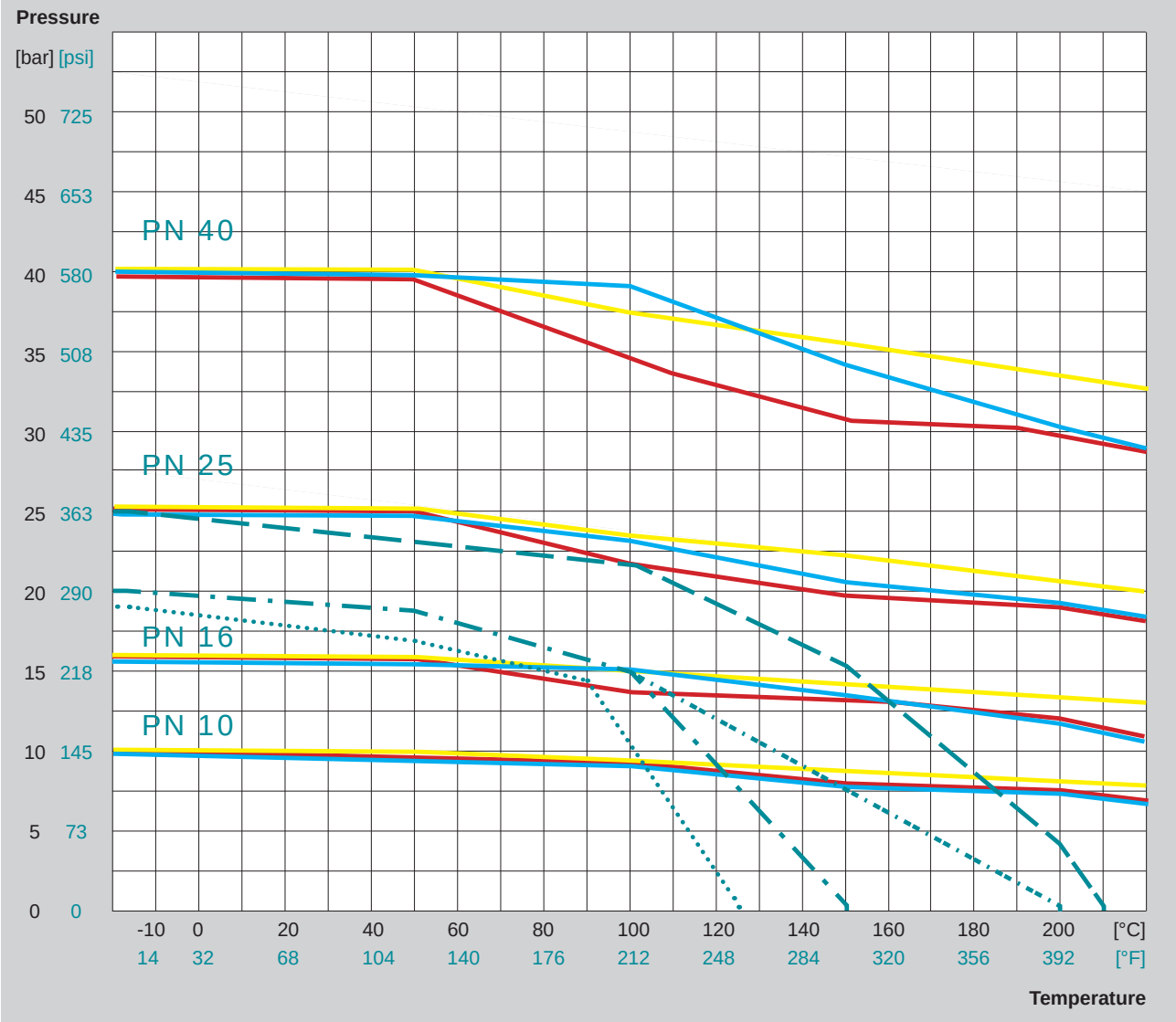
Type NVN-R

NPS	Class	L [mm]	R [mm]	H [mm]	ØD [mm]	ØDNk [mm]	Øg [mm]	Øk [mm	Øc [mm]	b [mm]	SW [mm]	torque* [Nm]	weight [kg]	K_{VS} [m³/h]	C_V [US.gal/min]
1½	150	165	170	121	125	25	73,0	98,4	15,7	14,7	11	18	5,0	44	51
2	150	178	170	128	150	40	92,1	120,7	19,1	16,3	11	21	7,4	127	147
3	150	203	230	143	190	50	127,0	152,4	19,1	19,5	14	40	13	159	184
4	150	229	320	184	230	80	157,2	190,5	19,1	24,3	19	113	28	483	535
6	150	267	420	203	280	100	215,9	241,3	22,3	24,3	22	150	42	638	738
8	150	457	-	-	345	150	269,9	298,5	22,4	29,0	27	200	80,2	1380	1595
10	150	533	-	-	405	200	323,8	362,0	25,4	30,6	36	563	190	3105	3590

*) Δp=10 bar, recommended safety factor for actuator: +60 %

**) on request

PT Diagram, PN 10 - PN 40
lined valves



Body material

EN 10213 - 1.0619 / Carbon Steel
EN 10213 - 1.4408 / Stainless Steel
EN 1563 - EN-GJS-400-18-LT / Ductile Iron
other body materials on request

Lining combination

	Body	Plug / Ball	T_{MAX}
– –	PFA	PTFE or special*	210°C / 410°F
– · –	PFA	PFA	200°C / 392°F
– · · –	all combinations with PFA and FEP		150°C / 302°F
· · · · ·	PFA conductive	PFA conductive**	125°C / 257°F

*) Special materials (metallic) for plugs without lining on request
**) Material combination PFA / FEP possible

Maximum breakaway torque depending on material combinations according to the technical data sheets of the plug valve.

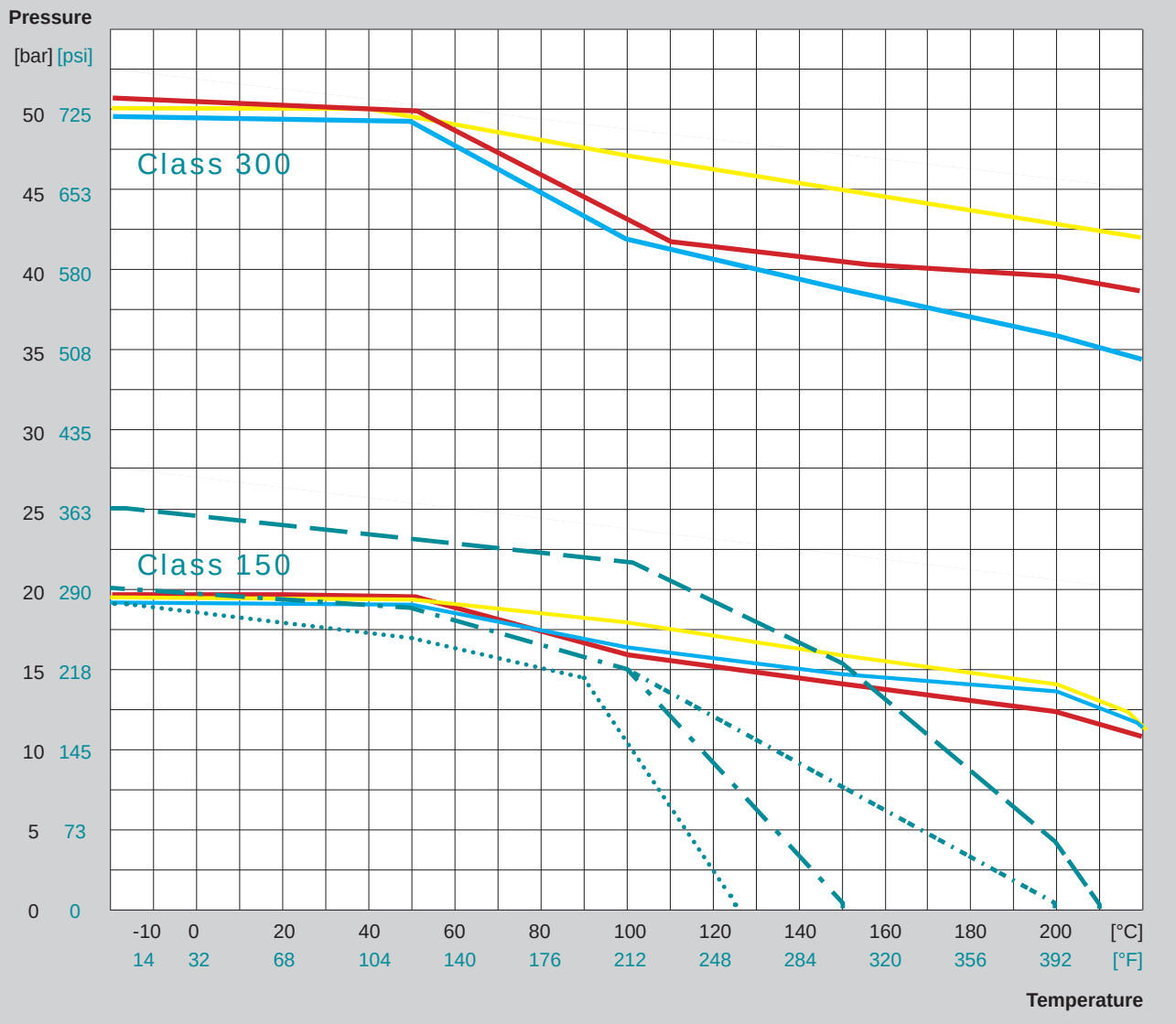
Subject to technical change without notice.

The data given are max. values according to EN 12516-4.

IMPORTANT NOTE

for demanding conditions, such as process temperatures exceeding 150°C / 302°F: Valve size, media phase, plug position & temperature (constant or fluctuating) may have an impact on the lifetime. Consult factory for proper selection of lining material, cover sealing type and special features.

PT Diagramm, Class 150 - Class 300 lined valves



Body material

- ASTM A216 - WCB
- ASTM A351 - CF8M / Stainless Steel
- ASTM A395 / Ductile Iron

other body materials on request

Lining combination

	Body	Plug / Ball	T_{MAX}
— —	PFA	PTFE or special*	210°C / 410°F
— · —	PFA	PFA	200°C / 392°F
— · —	all combinations with PFA and FEP		150°C / 302°F
·····	PFA conductive	PFA conductive**	125°C / 257°F

*) Special materials (metallic) for plugs without lining on request

**) Material combination PFA / FEP possible

Maximum breakaway torque depending on material combinations according to the technical data sheets of the plug valve.

Subject to technical change without notice.

The data given are max. values according to EN 12516-4.

IMPORTANT NOTE

for demanding conditions, such as process temperatures exceeding 150°C / 302°F: Valve size, media phase, plug position & temperature (constant or fluctuating) may have an impact on the lifetime. Consult factory for proper selection of lining material, cover sealing type and special features.

ARMATUREN
free of cavities & maintenance

Your partner for highest demands!

Complete Catalogue
Edition 2025

AZ plants

Headquarters Germany
AZ Armaturen GmbH
Waldstrasse 7
D-78087 Moenchweiler
Phone: +49 / 7721 / 7504-0
sales@az-armaturen.com
www.az-armaturen.com

Plant Brazil
AZ Armaturen do Brasil LTDA.
Av. Osvaldo Berto, 600
CEP 13255-405 Itatiba - SP
Phone: +55 / 11 / 452499-50 / -51
az@az-armaturen.com.br
www.az-armaturen.com.br

Plant China
AZ Armaturen (Taicang) Co., Ltd.
No. 1 Zhengzhou Road
215400 Taicang City
Phone: +86 / 512 / 53667600
info@az-armaturen.cn
www.az-armaturen.cn

Plant South Africa
AZ Armaturen South Africa PTY LTD.
28 Derick Coetzee Street
Boksburg 1459
Phone: +27 / 11 / 397 3665
sales@az-armaturen.co.za
www.az-armaturen.co.za

Plant USA
AZ VALVES North America L.P.
18702 Intercontinental Crossing Drive
Houston, TX 77073
Phone: +1 / 832 / 827 2163
sales@azvalves.com
www.azvalves.com

AZ services

Europe
- Germany (Moenchweiler & Rhineland)
- France (Lyon/ Bourg-lès-Valence)
- Great Britain (York/Roecliffe)
- Italy (Milan/Caltignaga)
- Poland (Warsaw/Opoczno)
- The Netherlands (Amsterdam)
- Russia (St. Petersburg)

America
- USA (Houston/TX)
- Brazil (São Paulo, Itatiba & Belem)
- Chile (Santiago de Chile)
- Mexico (Mexico-City)
- Peru (Lima)

Asia
- China (Taicang)
- South Korea
- Thailand (Rayong)
- Vietnam (Hanoi)

Africa
- South Africa (Johannesburg)

Detailed addresses on our website
www.az-armaturen.com

Rev 1 - 10/.2024 - 1 - GB - Subject to technical change without notice

www.az-armaturen.com