





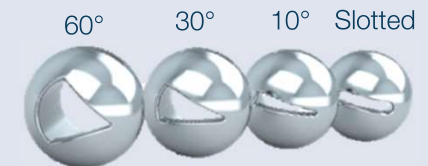
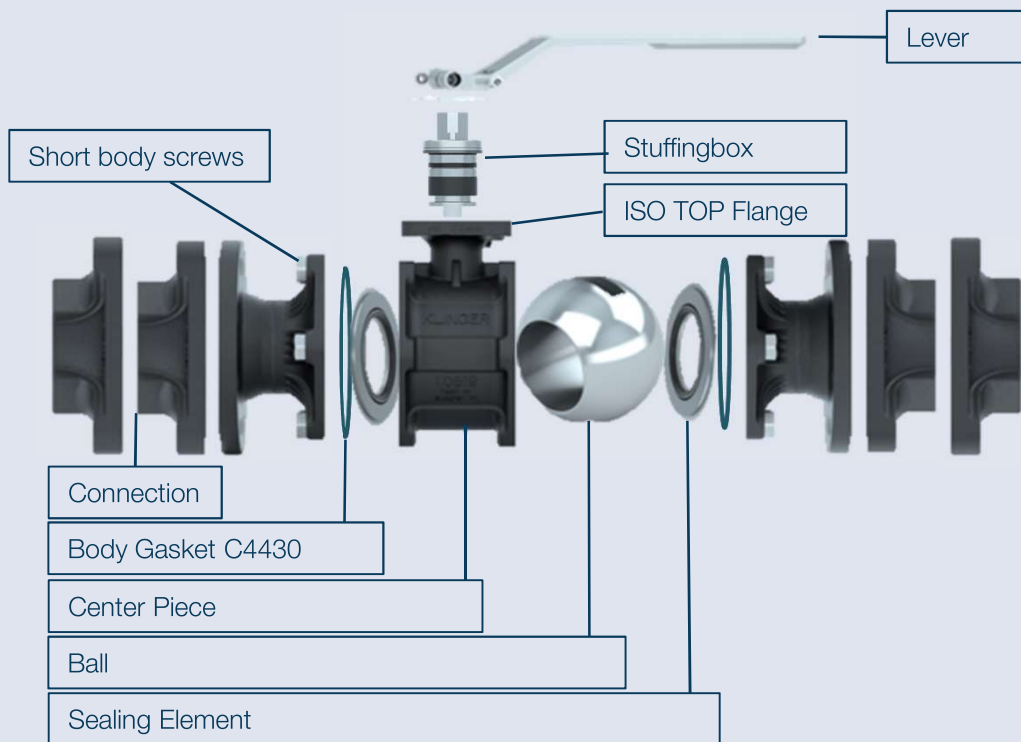
BALLOSTAR® KHA 3 PIECE BALL VALVE:



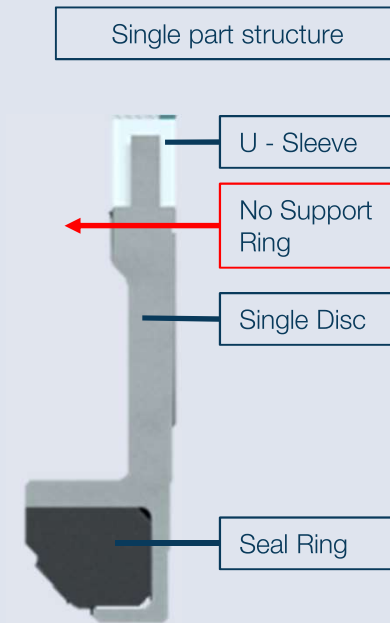
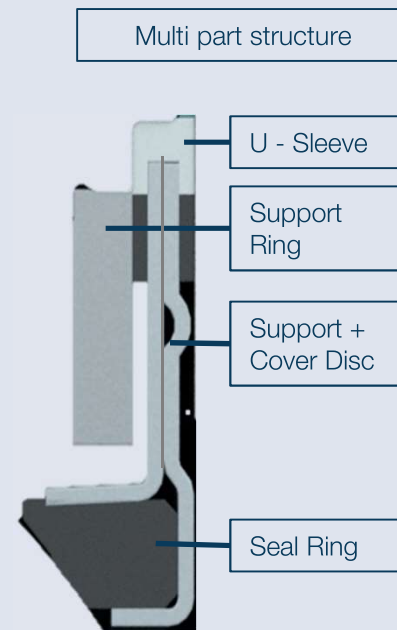
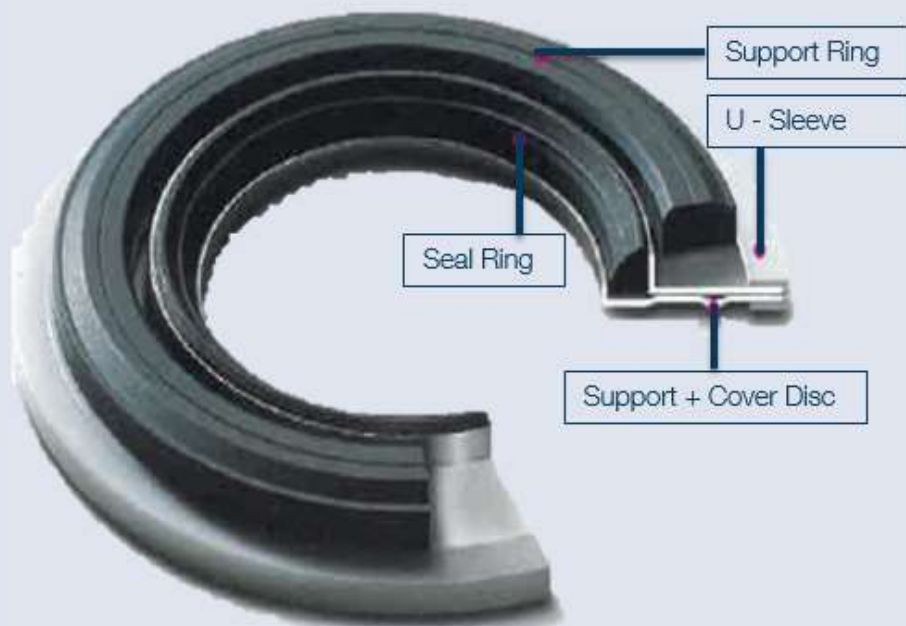
KHA - VARIANTS

Model	DN	PN	Connection	Face to Face	Body Material	Ball Bearing & Version	°C	General
 KHA-F	15-125	16,25,40, 63,100 Size depending	Flanged EN1092-1	EN558-1, GR1	1.0619 1.4408 Duplex	Bearing: Floating Trunnion (1.0619, 1.4408) Version: Solid full V-Port 10° V-Port 30° V-Port 60° Slotted	Acc. P/T diagram	ISO TOP Flange KACP corrosion protection Labelling acc. EN19 Full bore Certification Standard Version: Fire Safe acc. API607 and EN10497 TA-Luft VDI2440 ISO15848
	1/2" – 5"	CL150/300	Flanged ASME B16.5	ASME B16.10, CL300				
 KHA-S	15-125	40,63,100 Size depending	Weld end EN12627	EN12982 row 67				
	 KHA-G	1/2" – 2"	40,63,100 Size depending	Thread end Rp. EN10226				EN16722-114
1/2" – 2"		40,63,100 Size depending	Thread end NPT	ANSI B 1.20.1				
 KHA-DBB	15-125	16,25,40	Flanged Flanged Weld end Thread end	EN558-1, GR1 ASME B16.10 EN12982-67 EN16722-114	1.0619 1.4408	Trunnion mounted Version: Solid full		DBB certificate

MODULAR CONSTRUCTION

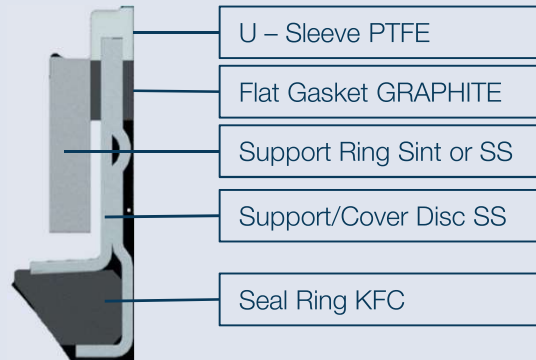


BASIC STRUCTURE SEALING ELEMENT

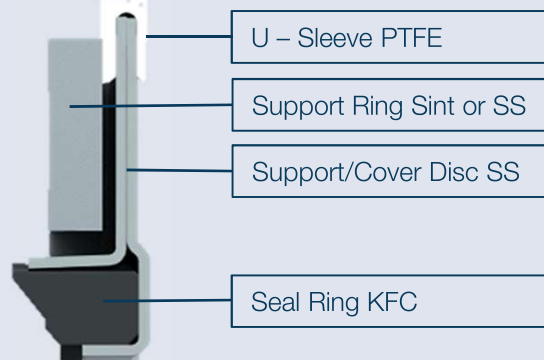


MULTI PART SEALING ELEMENTS

Standard Fire Safe 300°C „FF“



KFC 300°C „KK“



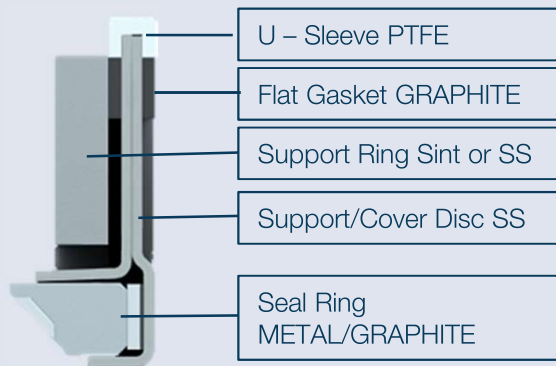
Seal Ring PTFE 200°C „PP“

Seal Ring METAL 300°C „MM“

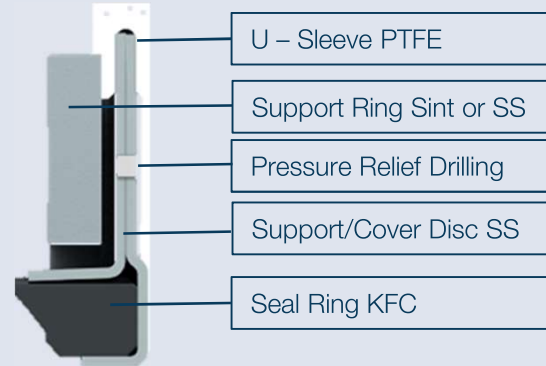
Seal Ring VITON 150°C „W“



METAL Hightemperature 400°C „SS“



KFC with Relief Drilling 300°C „KK“



SINGLE PART SEALING ELEMENTS

GAS 150°C „GG“



Flat Gasket GRAPHITE

No Support Ring

Single Disc SS

Seal Ring KFC

HACO 300°C „HH“



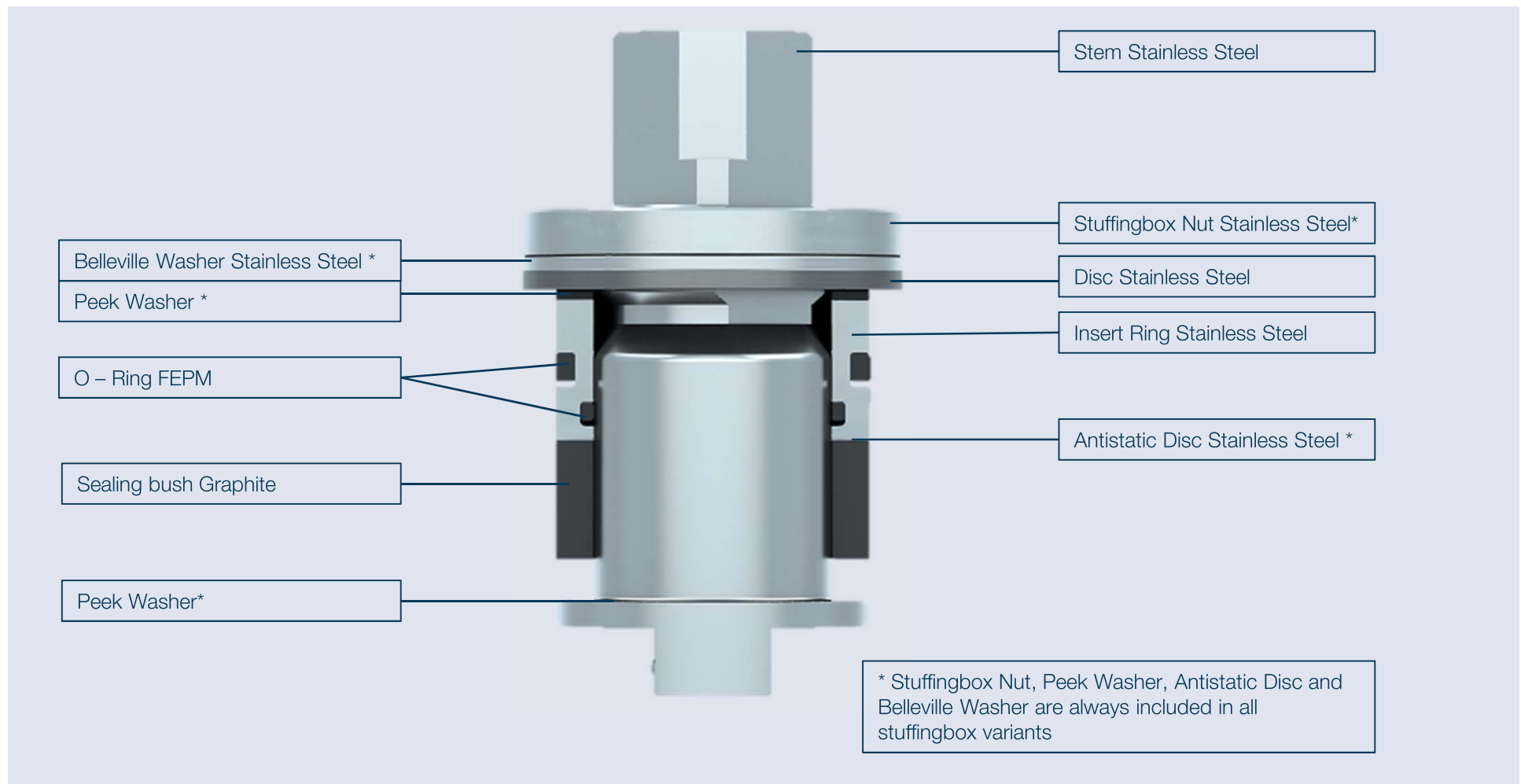
U – Sleeve PTFE

No Support Ring

Single Disc SS

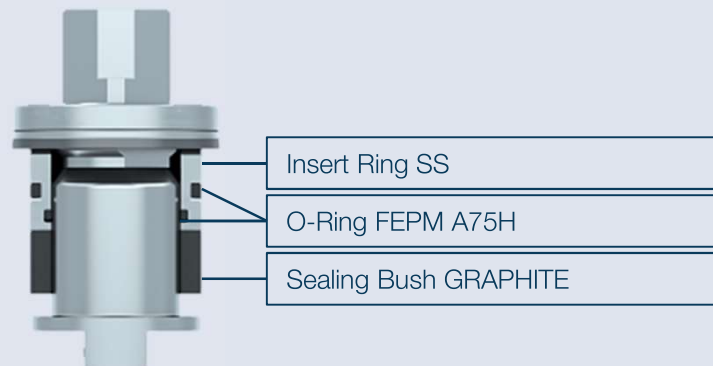
Seal Ring METAL/TOP
CHEM

BASIC STRUCTURE STUFFINGBOX

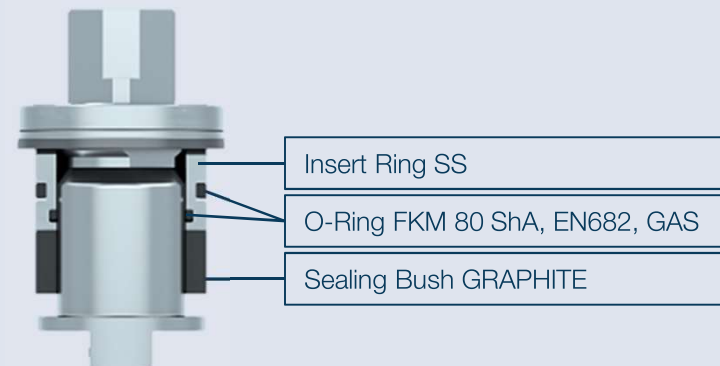


STUFFINGBOX VARIANTS

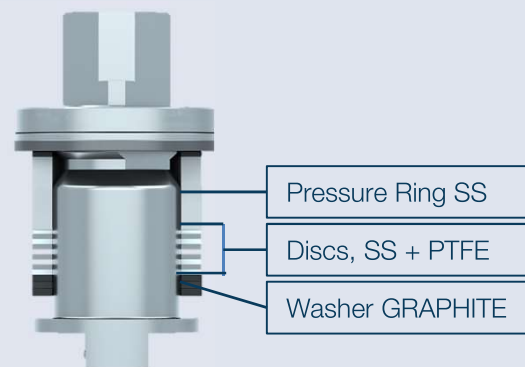
Standard AFLAS/GRAPHITE 300°C „FS“



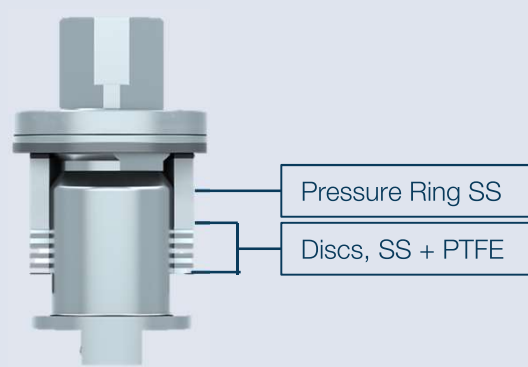
GAS / FIRE SAFE 150°C „GAS“



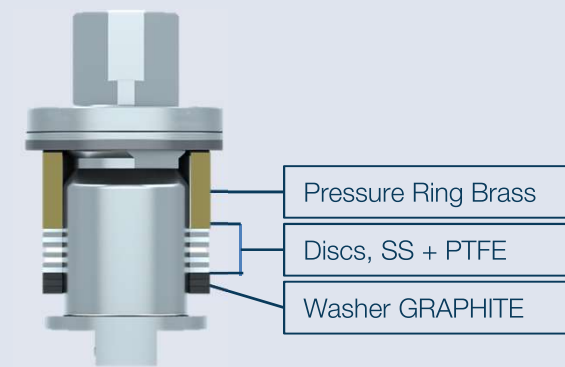
LABYRINTH 300°C „LABP“



Pure PTFE 200°C „PTFE“

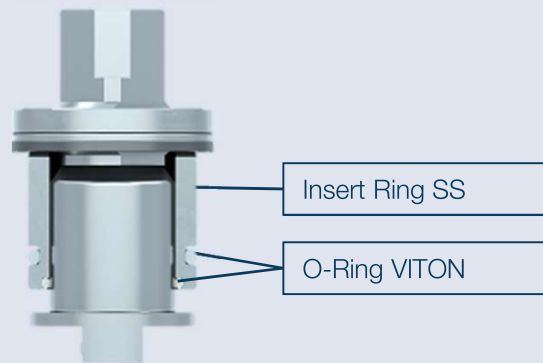


HACO 300°C „HACO“

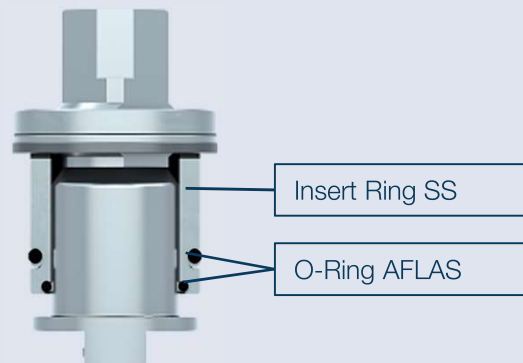


STUFFINGBOX VARIANTS

VITON 150°C „VIT“



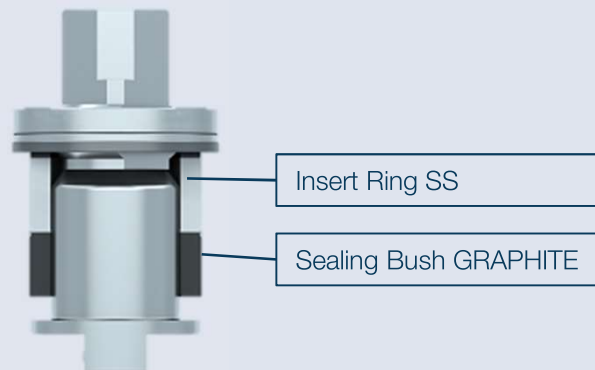
AFLAS 200°C „AF“














C70M 125°C „C70M“












GRAPHITE 400°C „GRA“







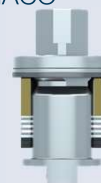



COMMON COMBINATIONS

Model	Sealing Element Type	Stuffingbox Type	Temperature Range	Application
  	Standard FIRE SAFE „FF“ 	Standard AFLAS/GRAPHITE „FS“ 	-20°C to +300°C For Carbon and Stainless Steel Body	Clear liquids and gases without solids, acids and alkalis, Fire Safe Applications, applications with high operating cycles. Certification Standard Version: Fire Safe acc. API607/ EN10497, TA-Luft, VDI2440, ISO15848
	KFC „KK“ 	Labyrinth „LABP“ 	Carbon Steel Body: -20°C to +300°C Stainless Steel Body: -60°C to +300°C	Clear liquids and gases without solids, acids, alkalis and Oxygen. Certification: TA-Luft VDI2440
	PTFE „PP“ 	Labyrinth „LABP“ 	Carbon Steel Body: -20°C to +200°C Stainless Steel Body: -60°C to +200°C	Chemical Applications Clear liquids and gases without solids, acids and alkalis. Certification: TA-Luft VDI2440
	PTFE „PP“ 	Pure PTFE „PTFE“ 	Carbon Steel Body: -20°C to +200°C Stainless Steel Body: -60°C to +200°C	Chemical Applications Clear liquids and gases without solids, acids and alkalis. Application where PTFE is not permitted. Certification: TA-Luft VDI2440

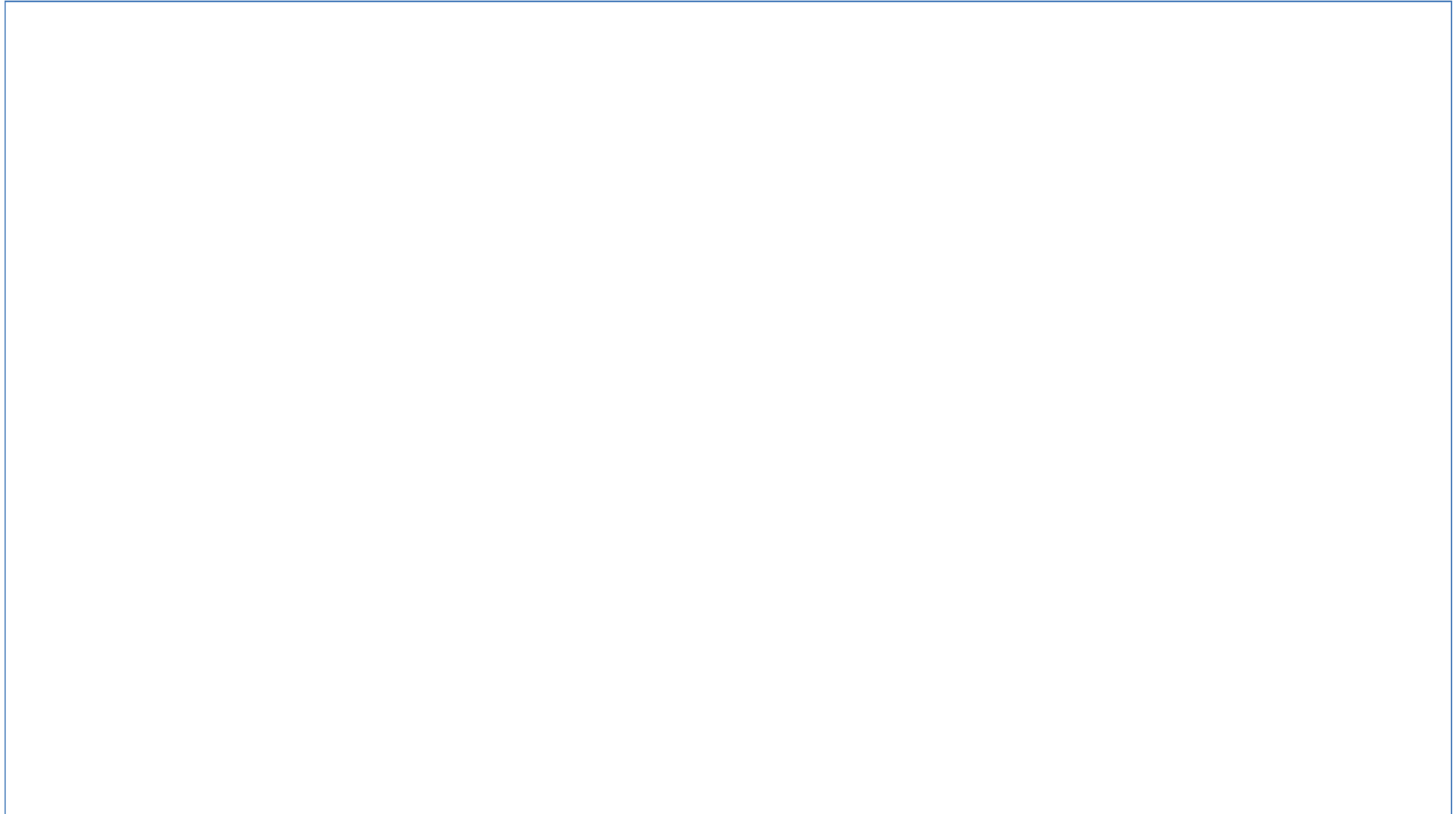
COMMON COMBINATIONS

Model	Sealing Element Type	Stuffingbox Type	Temperature Range	Application
	METAL „MM“ 	Labyrinth „LABP“ 	Carbon Steel Body: -20°C to +300°C Stainless Steel Body: -60°C to +300°C	For solid containing and abrasive medias. Certification: TA-Luft VDI2440
	METAL High temperature „SS“ 	GRAPHITE „GRA“ 	Carbon Steel Body: -20°C to +400°C Stainless Steel Body: -60°C to +400°C	For solid containing, abrasive medias and high temperature applications until +400°C.
	VITON „VV“ 	VITON „VIT“ 	Carbon Steel Body: -15°C to +150°C Stainless Steel Body: -15°C to +150°C	For low vacuum. Certification: TA-Luft VDI2440
	GAS „GG“ 	GAS FIRE SAFE „GAS“ 	Carbon Steel Body: -15°C to +150°C Stainless Steel Body: -15°C to +150°C	For gas applications (natural gas). Certification: DVGW Fire Safe acc. API607/ EN10497

COMMON COMBINATIONS

Model	Sealing Element Type	Stuffingbox Type	Temperature Range	Application
	KFC w. Relief Drilling „KK“ 	C70M „C70M“ 	Carbon Steel Body: -20°C to +125°C Stainless Steel Body: -35°C to +125°C	For ammonia applications. Upstream sealing element with pressure relief drilling.
	HACO „HH“ 	HACO „HACO“ 	Only Stainless Steel Body: -60°C to +300°C	For coffee powder, solid containing, abrasive media and high operating cycles
KHA - DBB 	KFC „KK“ 	AFLAS „AF“ 	For Carbon and Stainless Steel Body: DN15-40: -10°C to +235°C DN50-125: -10°C-230°C	For Double Block & Bleed“ applications (clear liquids or gases). Certification: Certificate of DBB functionality

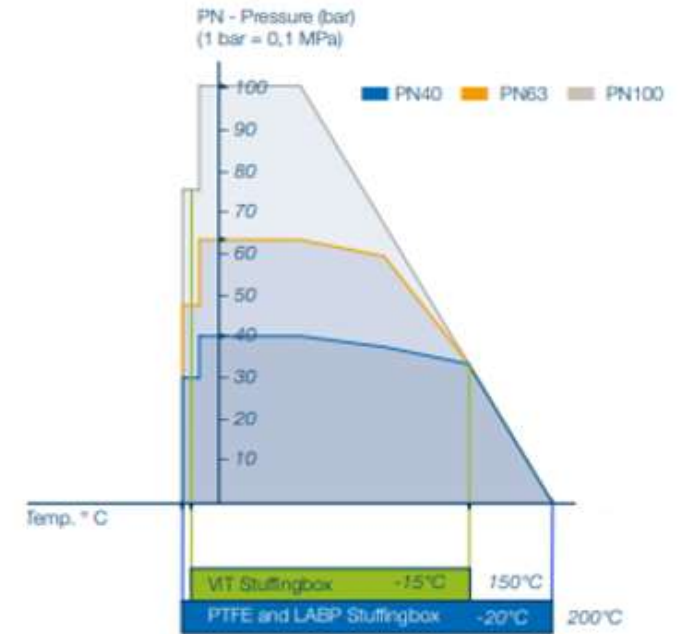
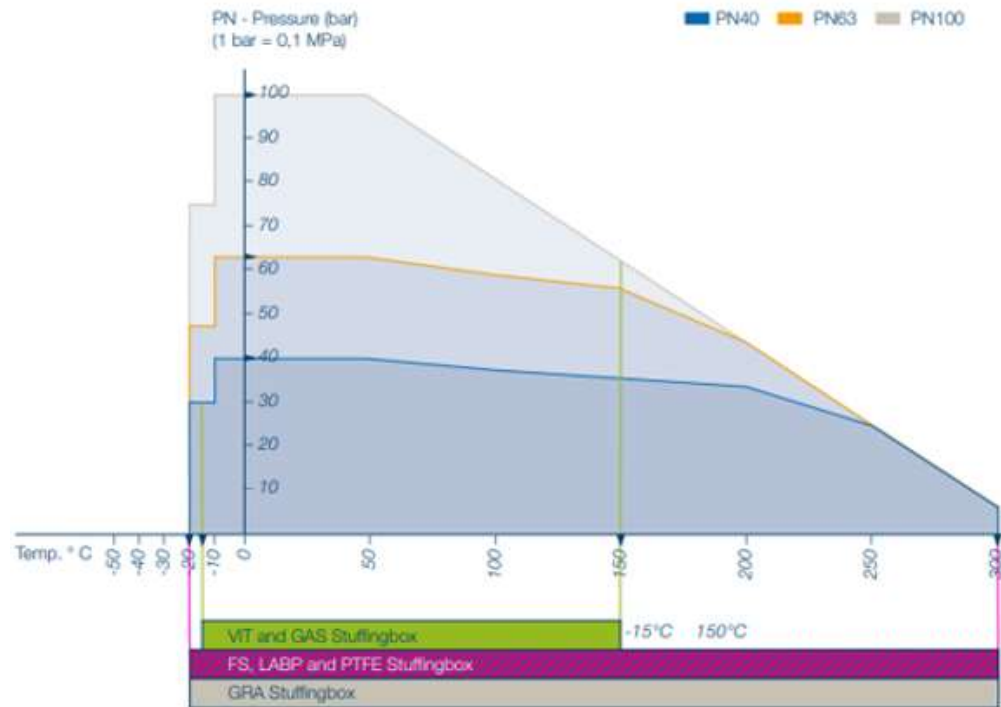
KHA FEATURE VIDEO



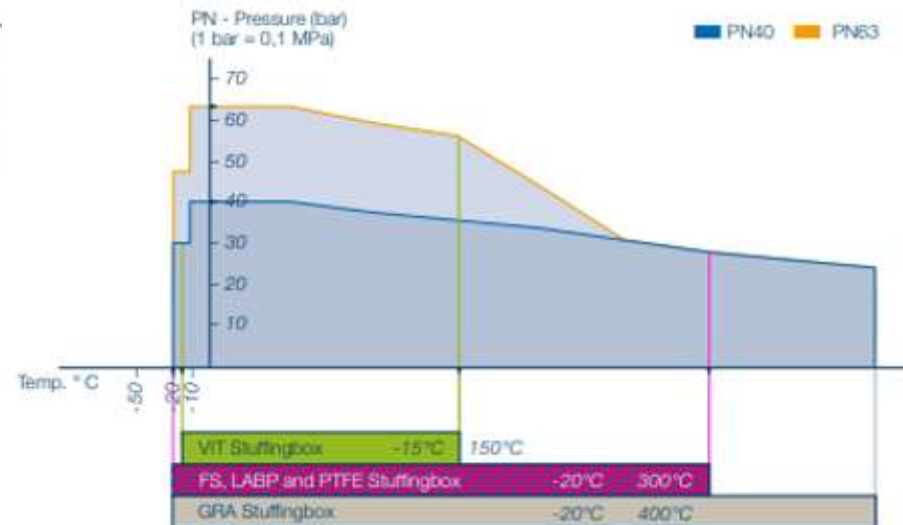
P/T DIAGRAMS CARBON STEEL „M1“ EN

PT diagram for sealing elements: PP

PT diagram for sealing elements: FF, KK, GG and MM

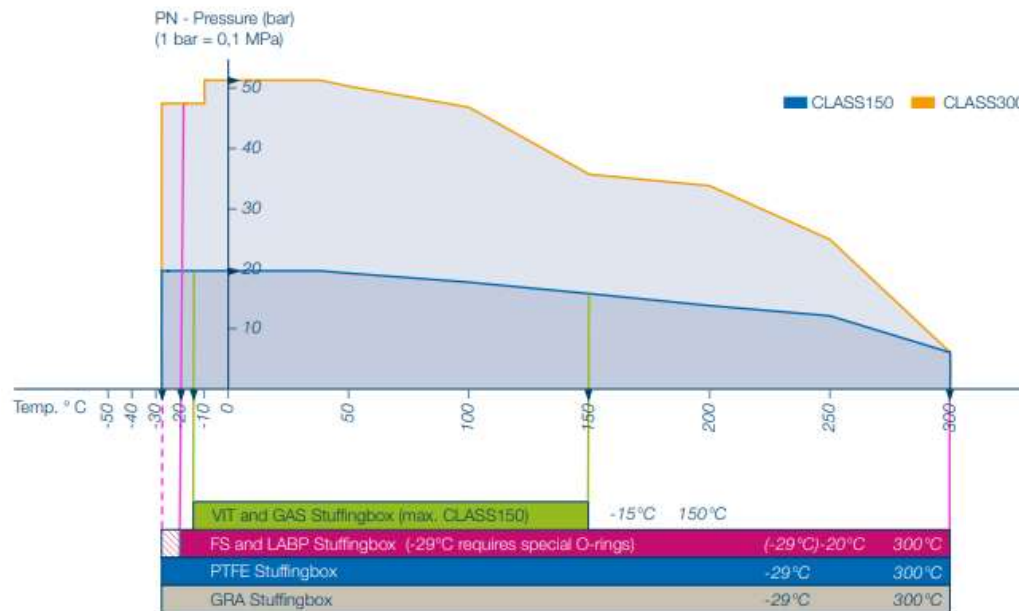


PT diagram for sealing elements: SS

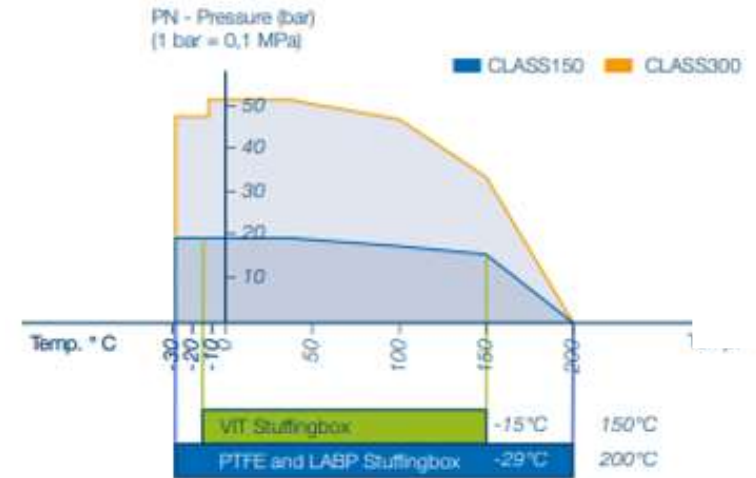


P/T DIAGRAMS CARBON STEEL „M1“ ANSI

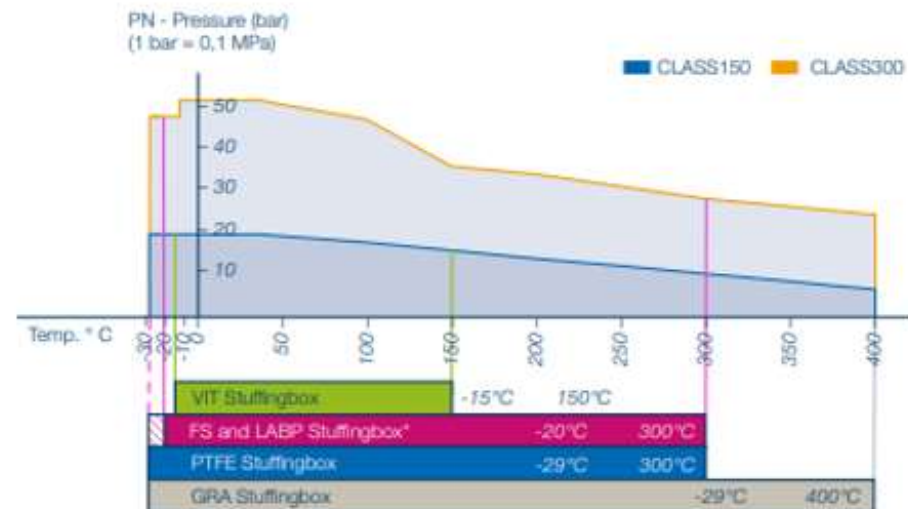
PT diagram for sealing elements: FF, KK, GG and MM



PT diagram for sealing elements: PP

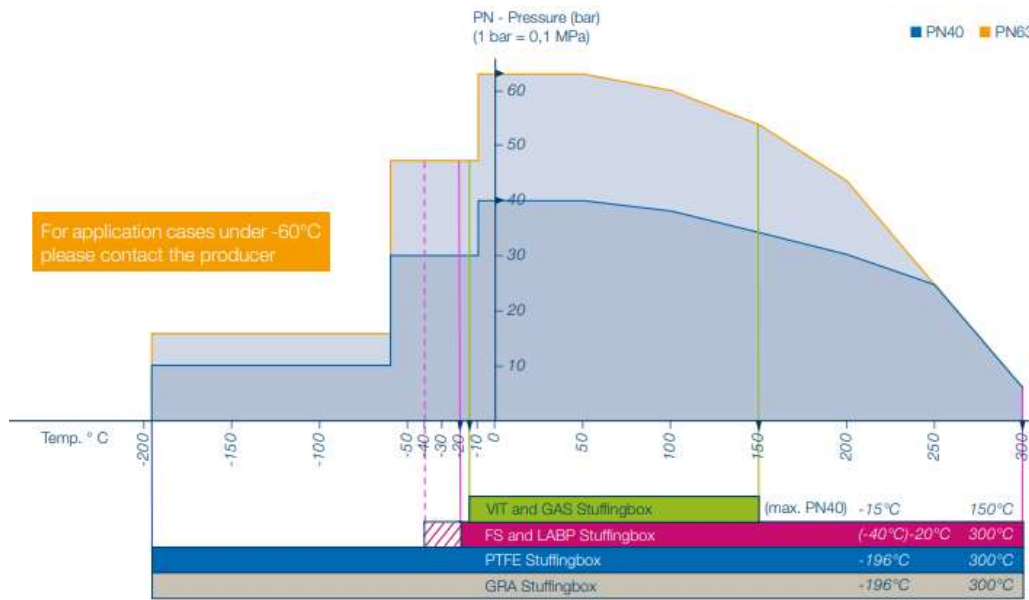


PT diagram for sealing elements: SS

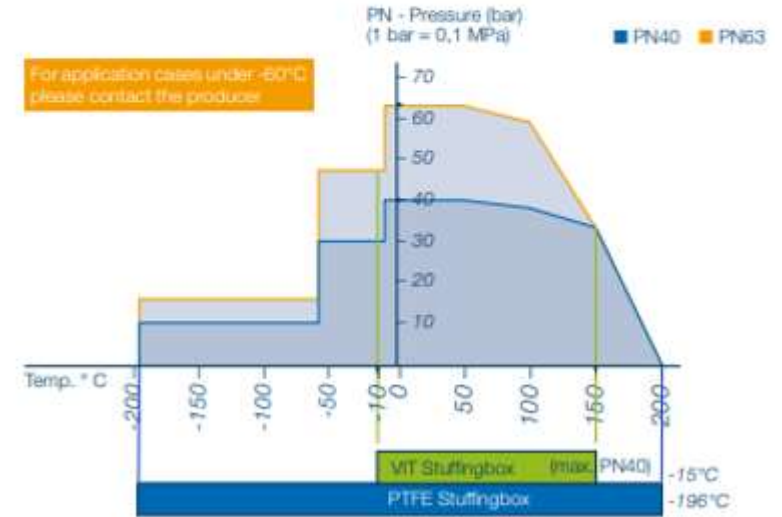


P/T DIAGRAMS STAINLESS STEEL „M2“ EN

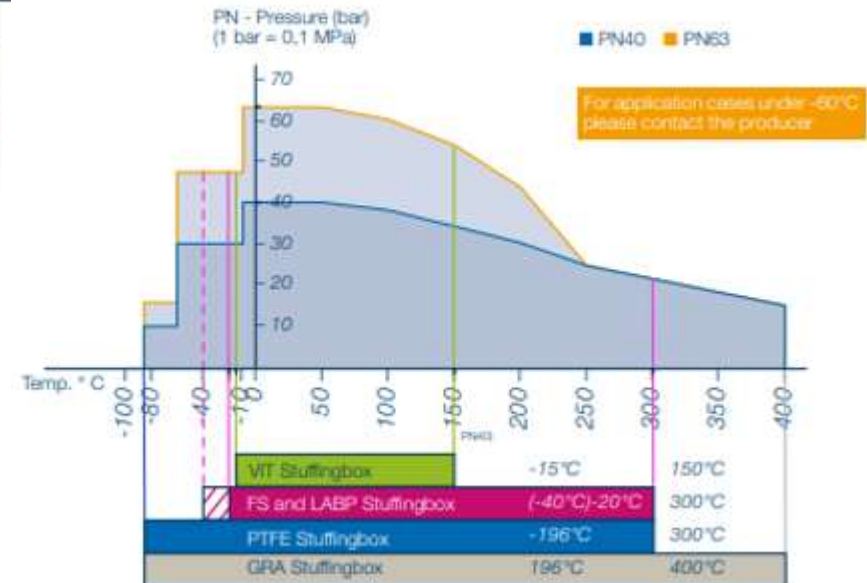
PT diagram for sealing elements: FF, KK, GG and MM



PT diagram for sealing elements: PP

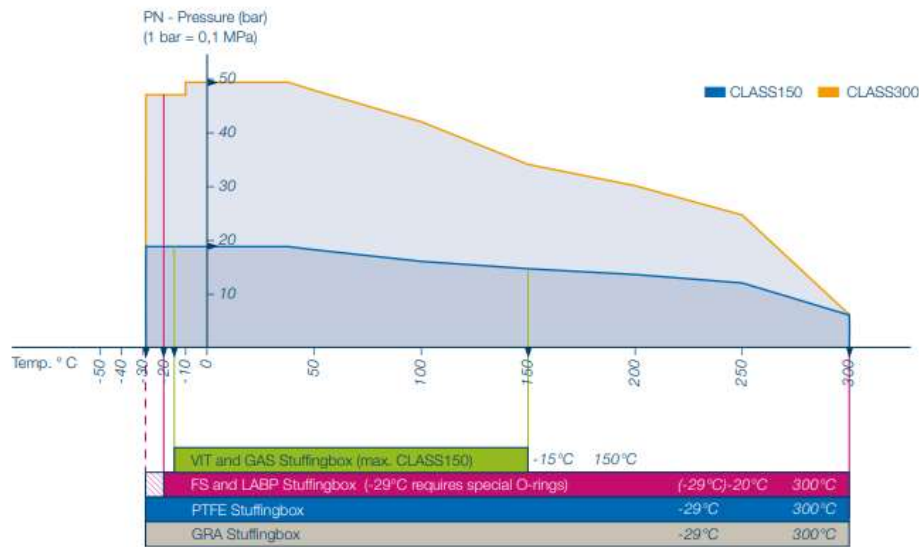


PT diagram for sealing elements: SS

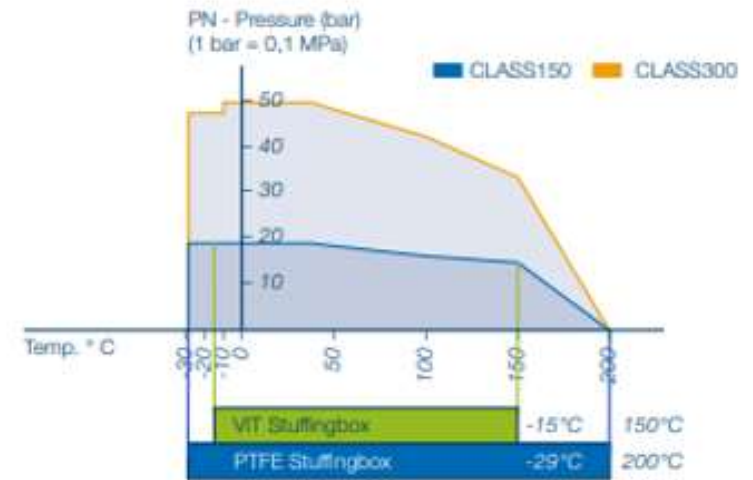


P/T DIAGRAMS STAINLESS STEEL „M2“ ANSI

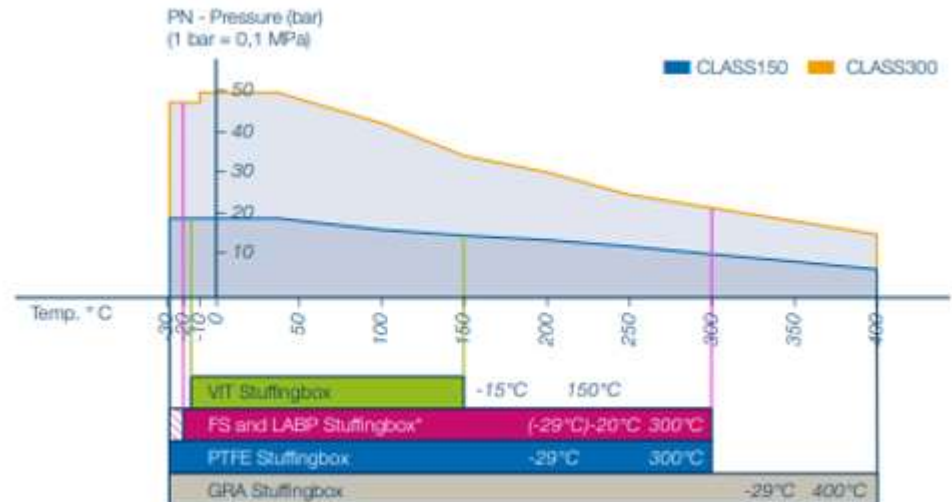
PT diagram for sealing elements: FF, KK, GG and MM



PT diagram for sealing elements: PP



PT diagram for sealing elements: SS



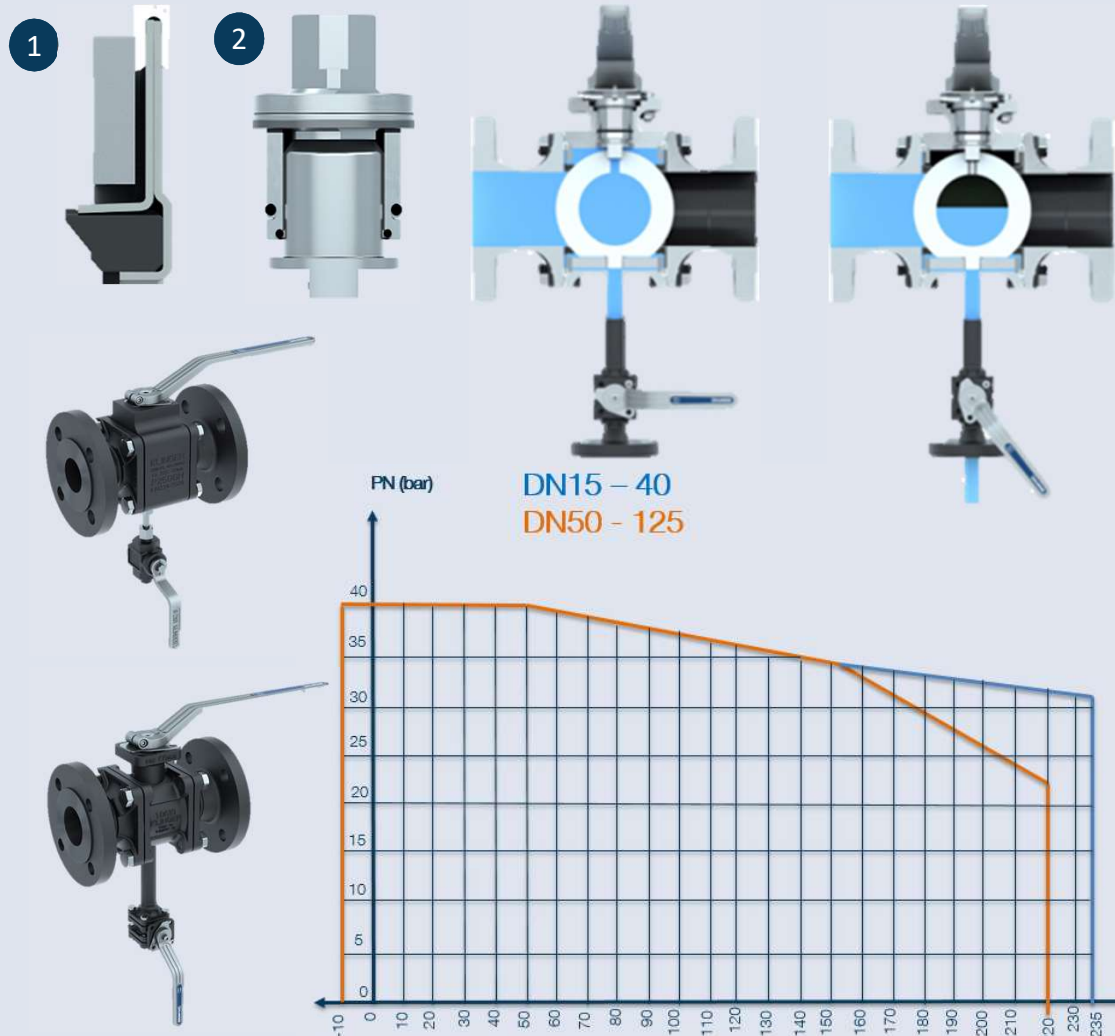
DOUBLE BLOCK & BLEED

DBB option for all sizes and models

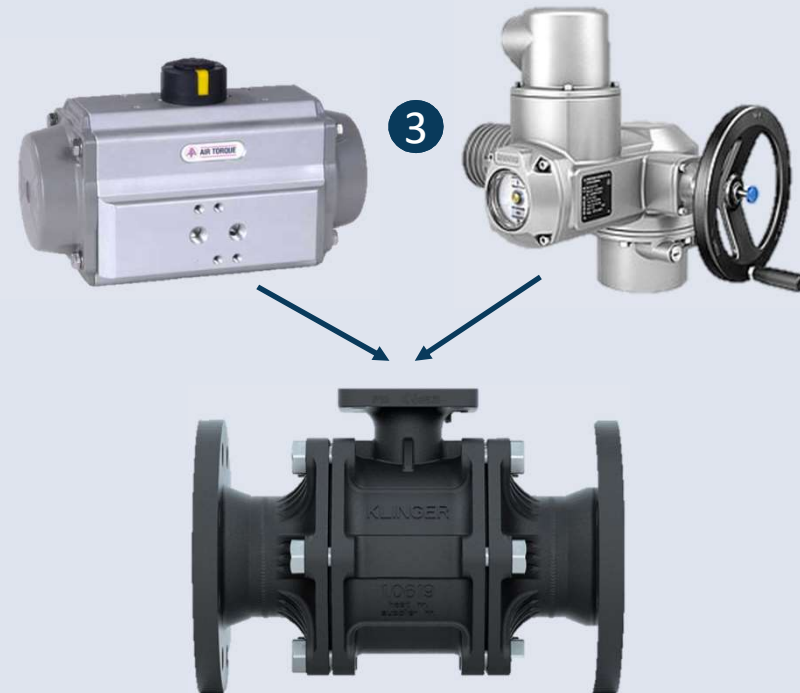
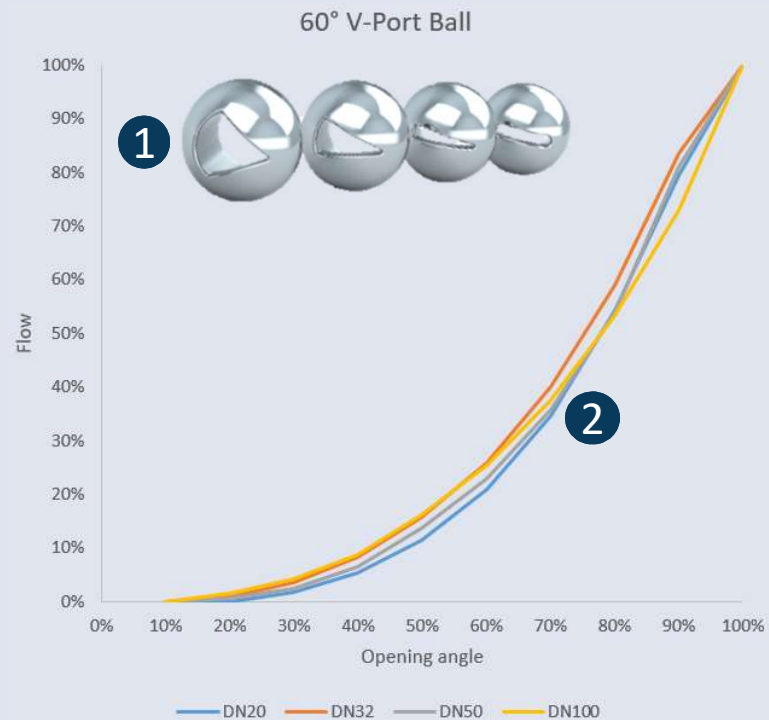
- » DN15 to DN125
- » Trunnion mounted ball
- » (1) Two part sealing element KFC pitch
- » (2) Aflas stuffingbox
- » C4430 gaskets on housing pitch
- » With drain / test cock in different versions
- » Available housing materials 1.0619, 1.4408 and duplex
- » Available with all process connections: flanged, weld ends and threaded ends

Trunnion mounted option for all sizes and models

- » Trunnion mounted ball
- » DN15 to DN125
- » DN15 – 40 with AB drain valve
- » DN50 – 125 with KHA-S drain valve
- » Available housing materials 1.0619, 1.4408 and duplex
- » Available with all process connections: flanged, weld ends and threaded ends
- » Available for all sealing element and stuffingbox combinations



V-PORT BALLS



V – port balls:

- » (1) For flow control and regulating applications, the ball valve model KHA is available with different V – port balls and are applicable for clear (also abrasive and corrosive) and solid containing medias until 230°C. For clear media, KFC sealing elements and for solid containing, metal sealing elements are used. By using of metal sealing elements, the V-port ball is chrome coated.
- » V-Port ball versions are available with 10°, 30°, 60° angled and slotted cutting.
- » (2) The different ball cuttings are available for all line sizes and show different flow and regulation characteristics.
- » (3) Combinable with pneumatic (single and double acting from AIR TPRQUE with positioner) or electric regulation actuators (24V, 230V, 380V, 400V from AUMA).

FEATURES



KACP = Klinger Advanced Corrosion Protection

Properties:

This KACP coating consists of a finely crystalline gloss zinc layer formed from a thin zinc metal layer with a layer thickness of 10 µm. This firmly adhering zinc metal layer, or top layer, consists preferably of zinc oxide, zinc hydroxide, zinc carbonate, sometimes also of zinc sulfate or zinc chloride and protects the underlying steel surface against corrosive attack in the best possible way. The typical black appearance and the excellent corrosion protection of the KACP coating are achieved with a liquid passivation containing chromium(III) and a specially adjusted post dipping bath.

The KACP coating is examined in a corrosion test in an artificial atmosphere in accordance with EN ISO 9227:2017 (neutral salt spray test). As a result, the KACP coating showed high resistance against aggressive atmosphere in this test.

For comparison:

- » Phosphating 20 hours
- » Standard painting 100 hours
- » KACP 400 hours



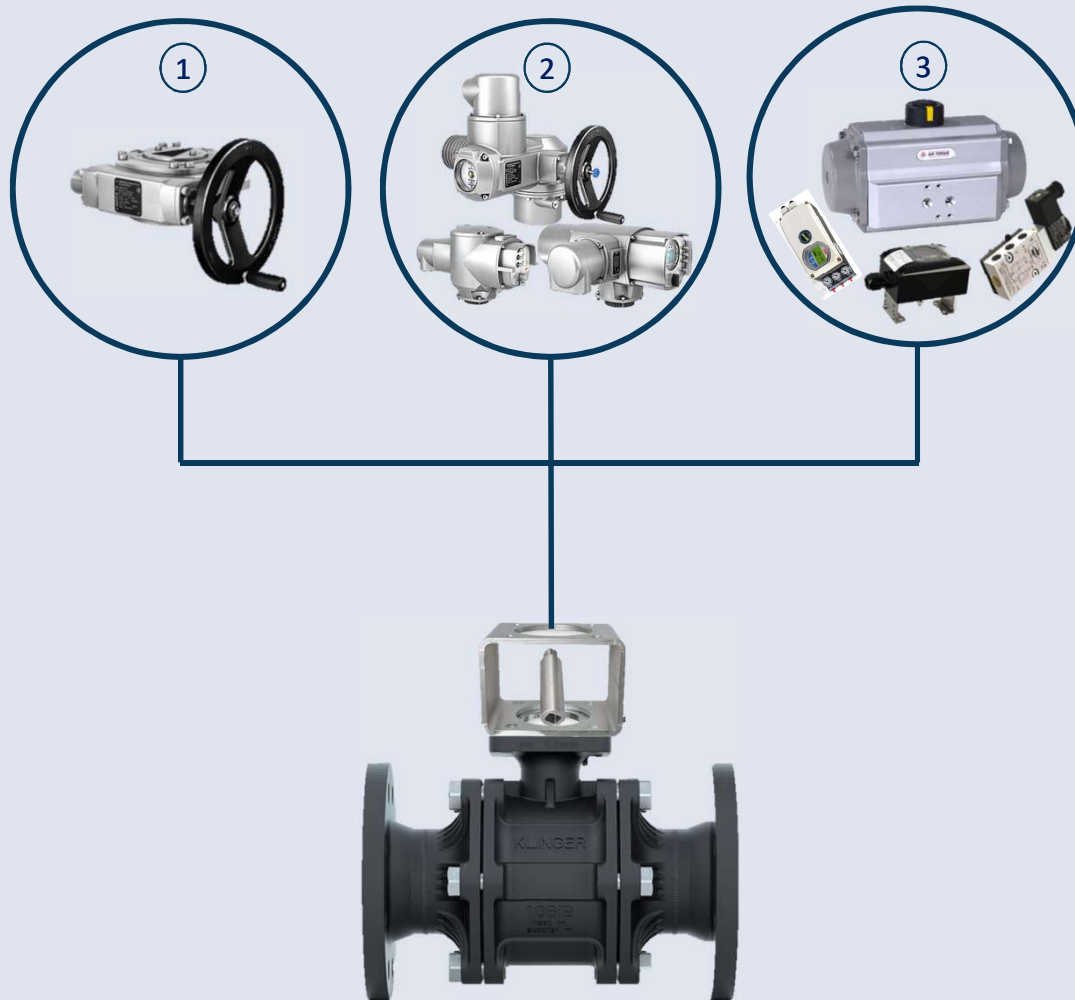
KHA stem extension:

- » Without protection pipe, material 1.4021, length 150mm
- » With protection pipe, material 1.4404, length 150mm
- » Installation on already existing KHA afterwards possible
- » Version with protection pipe is equipped with ISO TOP flange for gear / actuator installation



Complete standard-compliant (EN19) laser marking of the valve

ACTUATION



- (1) Mechanical AUMA gearboxes: Mechanical gearboxes "AUMA" for manual operation type "GS" including handwheel Option: WSG limit switch unit for signalling end positions, with mechanical position indicator
- (2) Electric AUMA actuators: Electromechanical actuators from "AUMA" type "SQ" or "SA" for 24, 230, 380 and 400V in standard, ATEX or modulating duty version with various options for closing time. Option: Local controls AUMATIC "AC", for advanced or bus applications, remote installation possible. Option: Local controls AUMAMATIC "AM", for open / close applications, remote installation possible.
- (3) Pneumatic AIR TORQUE actuators: Pneumatic actuator: "AIR TORQUE", single- or double- acting for various air supplies. Option: Solenoid valve: 24V / 230V, ATEX version on request Option: limit switches: mechanical or inductive limit switches, ATEX version on request. Option: positioner for control applications on request.

NEW MODEL CODE:

	KHA	S-F	50	V1	P1	M2	FF	FS	IV		O2
Type	Conn	DN	Ball	PN	Body m.	Seats	Stuffingb.	Version	Special 1	Special 2	
KHA	F	15	V0 -full b. (1)	P1 -PN16	M1-Viii (1.0619) (2)	FF-FS (Std)	FS-AF/graphite/Peek (FS)	FW-bare stem	AM- Ammonia KLN2414/8 (4)	BL-Blue RAL5015	
	G	20	V1 -10°	P2 -PN25	M2-Xc (1.4408)	MM-Metal	LAB-ST/PTFE/(LAB)	HA-Lever	BO- Vent drilling KLN2414/8	C3-EN12944 C3 160µm (5)	
	N	25	V3 -30°	P3 -PN40	M3-Xd (1.4462)	SS-MES	GRA-graphite	IV- Isol.ext.FW	DBB-trunnion w. drain (6)	C4-EN12944 C4 200µm	
	S*	32	V6 -60°	P4 -PN63		PP-Pure PTFE	PTFE-pure PTFE	IH- Isol.ext.HA	GAS-ÖVGW/DVGW	C5I-EN12944 240-280µm	
	S-F	40	VS -slot	P5 -PN100		VV- Viton	VIT- Viton	IG - Isol.+ Gear	PL-drain w. plug	C5M-EN12944 240-280µm	
	F-S	50	C0 -full 30µm	P6 -CL150		HH-HACO (3)	HACO-ST/MS/Peek	IA- Isol. Actuator	TM-trunnion mounted	GE-Yellow RAL1023	
	S-G	65	C1 -10°30µm	P7 -CL300		KK-KFC	C70M-C70M	KO- Console	TT-Low temperature	O2- Oxygen KLN840	
	G-S	80	C3 -30°30µm	PX -Special		UU-UHWM	AF- Aflas O-Rings	GE-gear	VL- Sk pipe ext./special BL	OF- oil and grease free	
	F-G	100	C6 -60°30µm				UHWM-PE-UHWM	AN- Actuator	AT-Air Torque	OFS- oil,grease,silicone free	
	G-F	125	CS - slot 30µm						AU-AUMA (GS/SQ)		
	...	½"	D0 -full								
	MST	¾"	D1 -10°						K1- Customer des. (CPCU)		
		1"	D3 -30°						To - Customer Ebner		
		5/4"	D6 -60°						K99-Customer design		
		6/4"	DS -slot						Marine/Lloyds		
		2"							BASF		
		2.5"							EN161		
		3"									
		4"									
		5"									

* S: weld end, F: flange, G: threaded end, S-F: weld end / flange, F-S: flange / weld end, S-G: weld end / threaded end, G-S: threaded end / weld end, F-G: flange / threaded end, G-F: threaded end / flange
 (1) V0 = solid stainless steel ball, V1 = v- port ball 10°, V3 = v- port ball 30°, V6 = v- port ball 60°, VS = slotted ball, CR = chrome coated ball 30µm
 (2) M1 = former VIII carbon steel, M2 = former Xc stainless steel, M3 = former XD duplex
 (3) HACO = Labyrinth stuffingbox with brass pressure ring and peek friction washer
 (4) AM - Ammonia version: KLN2414/8 with pressure relief drilling in upstream sealing element
 (5) C3 = C3 coating acc. EN12944 middle µm160, C = C4 coating acc. EN12944 middle µm200, C5I = C5I coating acc. EN12944 middle 240-280µm, C5M = C5M coating acc. EN12944 middle 240-280µm
 (6) DBB = double block and bleed with trunnion mounted ball and drain / test cock