



# *Kämmer<sup>®</sup> Series 011000, 015000*

## *High Pressure Valves*



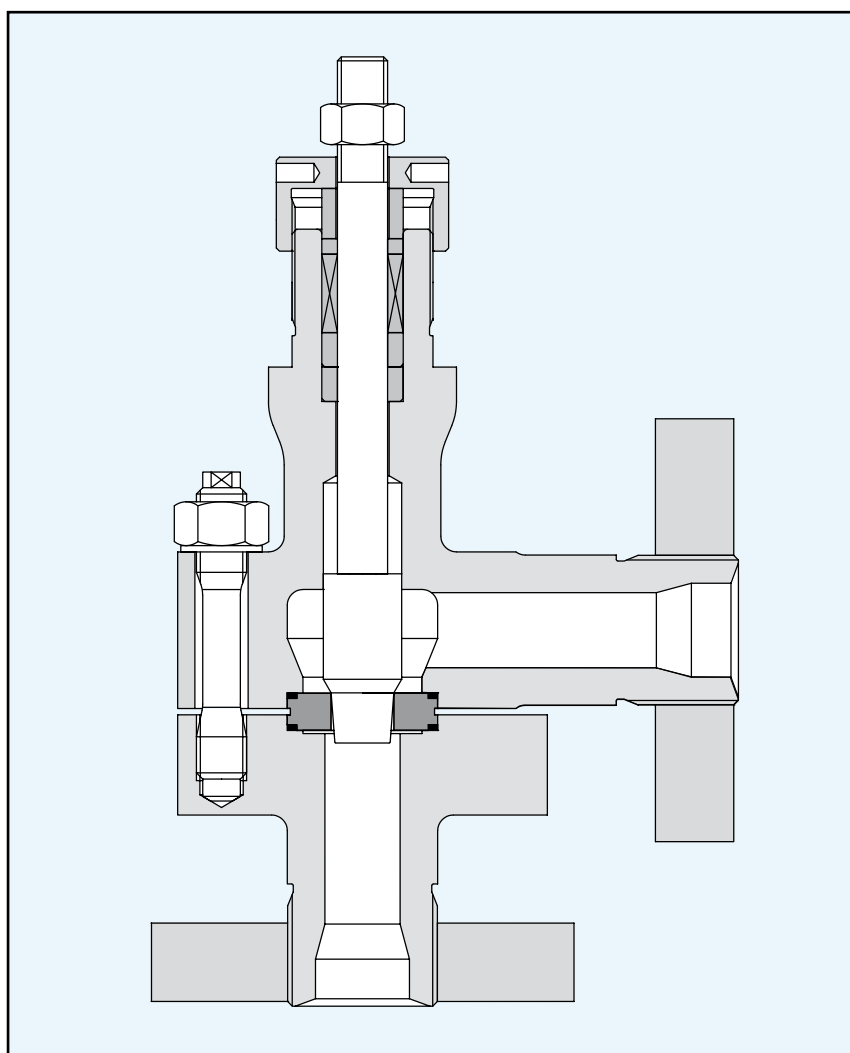
*Experience In Motion*

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## ***Series 011000, 015000***

### Description

High pressure angle valves with split body. Connections manufactured to IG standards. Other high pressure screwed connections or flanges are possible. These valves provide a basis for high pressure relief special designs e.g. with wear bushes, dissipator sleeves, additional aperture plates. Furthermore, due to their unique construction, they can be manufactured from almost any desired material.



Standard valve with flange connections

## Series 011000, 015000

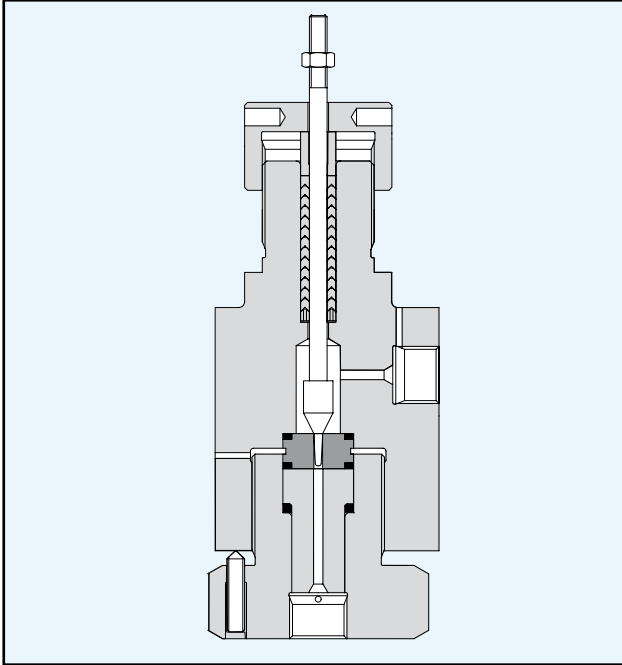
### Technical Data

Series	011000	015000
Valve body style	Angle	
Characteristics	Equal%, Linear, On-Off	
Seat leakage, standard	≤ 0.01 of $k_{vs}$ value	
Material for plug/seat ring	316Ti Optional: 1.4122, Stellite ceramics, tungsten carbide	316Ti Optional: Alloy 6, Hastelloy C titanium, ceramics, tungsten carbide
PTFE-soft seat (T = max. 150 °C)	In seat ring $k_{vs}$ 0.1 – 2.5 for tighter seating	In plug from $k_{vs}$ 1.0 for tighter seating
Packing	PTFE for temperatures up to +200 °C Grafoil for temperatures over +200 °C PTFE for oxygen services Packing according to German clean air act (TA-Luft)	
Body gaskets	PTFE for temperatures from up to +200 °C 316Ti for temperatures over +200 °C	
Extensions	Standard, normalizing fins, bellows seal, cryogenic	
$k_{vs}$ values	See tables pages 6/7	
Connections	Screwed internal* DN 3 - 10, PN 325 - 4000 Screwed flanges acc. to IG Std. NW 3-16, ND 325-700 DIN-flanges DN 10 - 15, PN 250 - 400 ANSI-flanges ½", Class 1500 - 2500	Screwed flanges acc. to IG Std. NW 16-45, ND 325-700 DIN-flanges DN 25 - 50, PN 250 - 400 ANSI-flanges 1" - 2", Class 1500 - 2500
Valve body	316Ti, WNR 1.4429 Optional: Hastelloy C or other materials according to pressure rating	

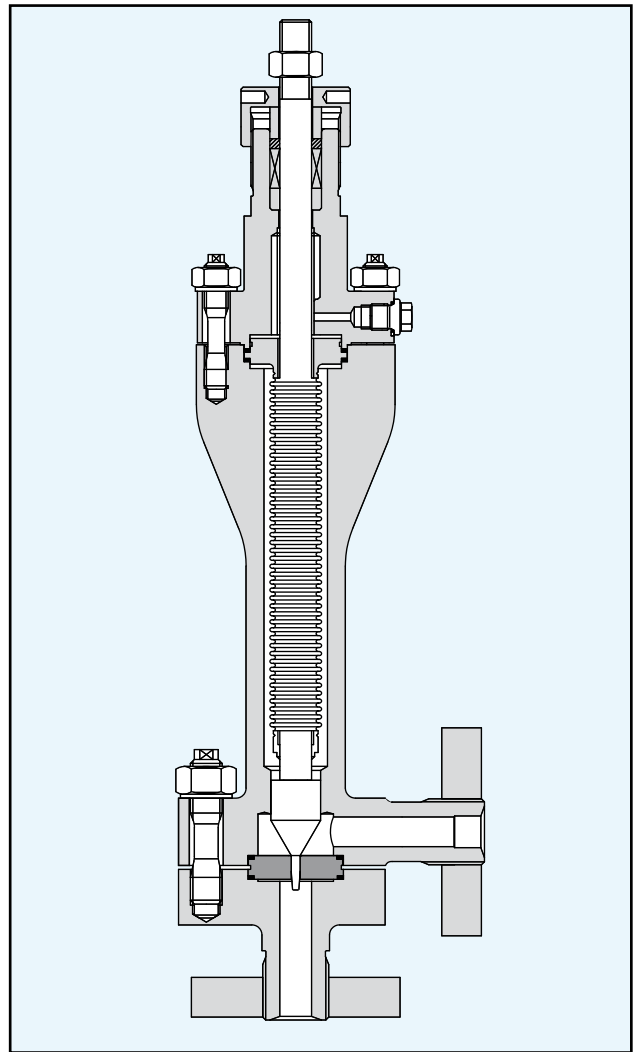
\* Manufactured according to customers requirements; suitable for superpressure connectors.

## Series 011000, 015000

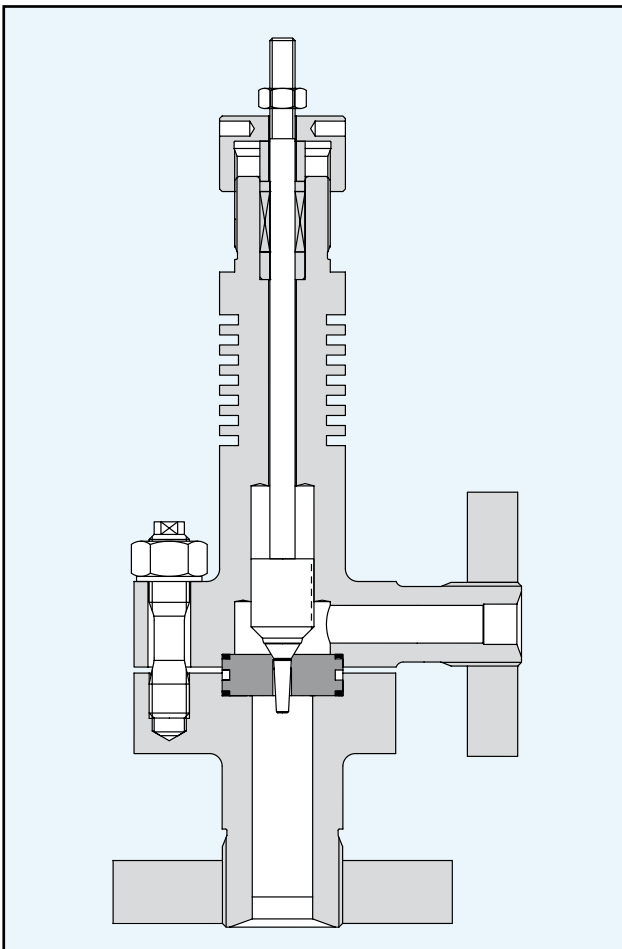
### Designs



Super pressure valve PN 4000 (60 000 lbs)



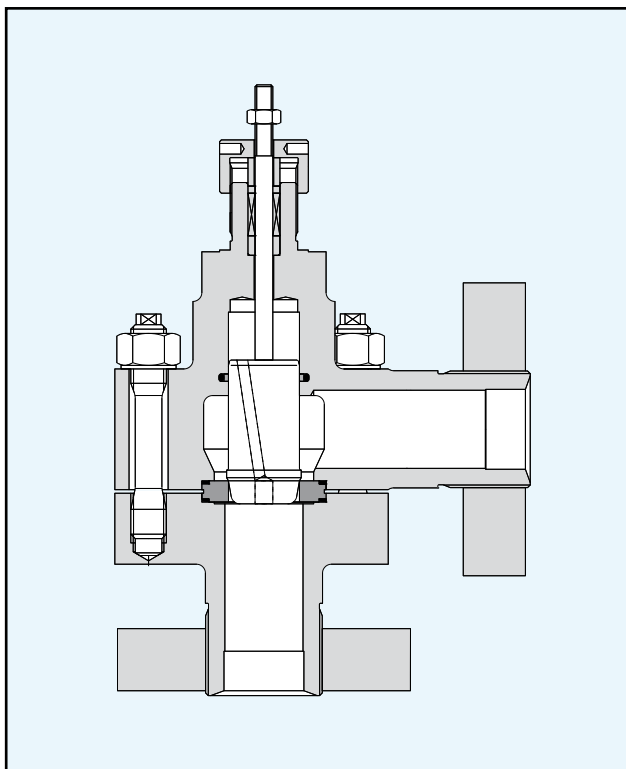
Valve with bellows seal



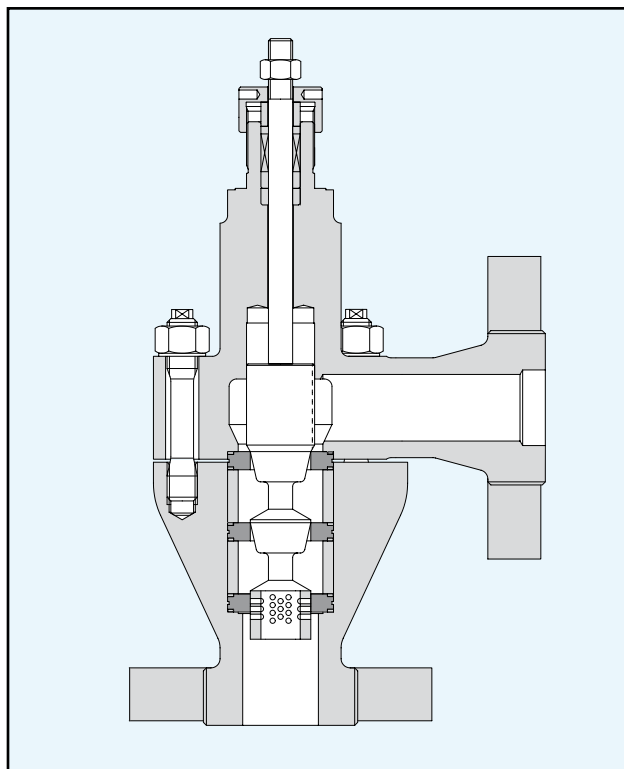
Valve with normalizing fins -30 to 0 °C resp. 250 to 400 °C

## Series 011000, 015000

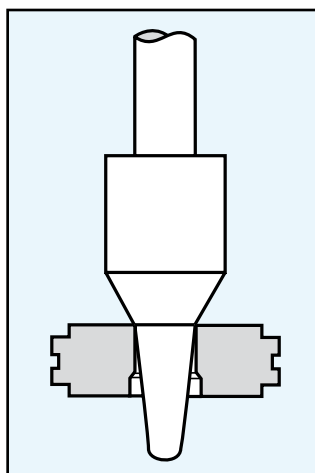
### Designs



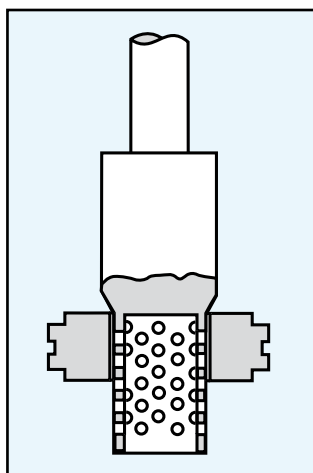
Valve with partially balanced plug



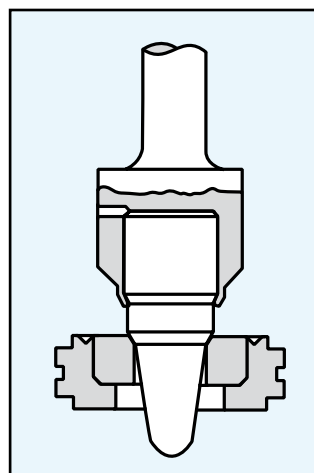
Multi-stage high pressure letdown valve for low noise and reduced wear



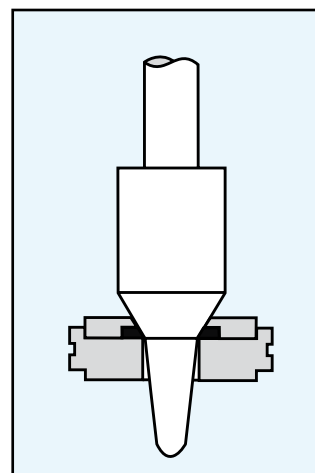
Standard trim



Low noise cage trim



Ceramics or tungsten carbide plug tip and seat insert



Trim with PTFE soft seat for temperatures up to +150 °C (series 011000)

# Series 011000, 015000

## Standard $K_{VS}$ Values Series 011000

Size NW	3	6	10	16	$K_{VS}$ -value*	Reynolds Factor $K_{FR}$	Seat diameter (mm)	Rangeability**	Plug material, standard	Seat material, standard	Characteristics, lin	Characteristics, gj	Alternative materials for seat/plug		
													Tungston carbide; Hastelloy C	Nickel; Monel; Titanium; Alloy 6	
Stroke (mm)	10	10	10	10											
Stem diameter (mm)	6	6	6	6											
					0.000001	0.019	2	25:1	Alloy 6	1.4122	-	X	-	-	
				0.000016	0.024	-					X	-	-		
				0.000025	0.030	-					X	-	-		
				0.00004	0.038	-					X	-	-		
				0.000063	0.049	-					X	-	-		
				0.0001	0.062	-					X	-	-		
				0.00016	0.079	-					X	-	-		
				0.00025	0.100	-					X	-	-		
				0.0004	0.128	-					X	-	-		
				0.00063	0.162	-					X	-	-		
				0.001	0.206	-					X	X	-		
				0.0016	0.249	-					X	X	-		
				0.0025	0.298	-					X	X	-		
				0.004	0.360	-					X	X	-		
				0.0063	0.432	-					X	X	-		
				0.01	0.520	-					X	X	-		
				0.016	0.628	-					X	X	-		
				0.025	0.751	-					X	X	-		
				0.04	0.871	-					X	X	-		
				0.063	0.931	-					X	X	-		
				0.01	0.940	3	50:1	1.4571	X	X	X	X			
				0.016	0.968				X	X	X	X			
				0.025	0.983				X	X	X	X			
				0.04	0.990				X	X	X	X			
				0.063	1.000				X	X	X	X			
				0.10	1.000				X	X	X	X			
				0.16	1.000				X	X	X	X			
				0.25	1.000				X	X	X	X			
				0.40	1.000				X	X	X	X			
				0.63	1.000				X	X	X	X			
				1.0	1.000	4.5	1.4571	X	X	X	X				
				1.6	1.000			X	X	X	X				
				2.5	1.000			X	X	X	X				

\*  $K_{VS} \leq 0.25 = K_V \times F_R$  acc. to IEC 534, further special  $K_{VS}$  values on request.

\*\*For calibrating conditions

### Valve Code

0 1 1 0 P 3

Valve type		
011	Angle valve	Series 011 000
015	Angle valve	Series 015 000

Bonnet extension	
0	Standard
1	Normalizing fins
3	Bellows seal
5	Cryogenic extension

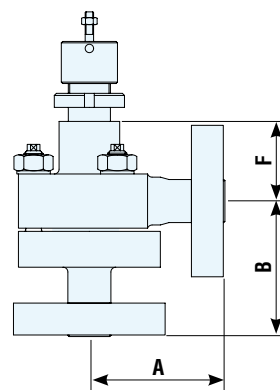
Actuator	
H3, H4, H5	Manual handwheel
P2, P3 P4, P5	Pneumatic, series 2
37, 38 39, 3D	Pneumatic, series 4 with integral positioner
E2, E3 E4, E5	Electric

## Series 011000, 015000

### Standard $K_{VS}$ Values Series 015000

					$K_{VS}$ value*	Seat diameter (mm)	Rangeability**	Seat material (standard)	Plug material (standard)
Size NW	16	24	30	45					
Size DIN / ANSI	-	-	25/1"	50/2"					
Stroke (mm)	20	20	20	20					
Stem diameter*** (mm)	10	10	10	16					
					0.1	4.5	50:1	1.4571	1.4571
					0.16	4.5			
					0.25	4.5			
					0.4	4.5			
					0.63	4.5			
					1.0	7.0			
					1.6	7.0			
					2.5	10			
					4.0	12			
					6.3	16			
					10	20			
					16	25			
					25	32			
					40	40			
* Further special $K_{VS}$ values on request.									
** For calibrating conditions.									
*** For thrusts $\geq 1000$ daN stem diameter = 16 mm									

### Dimensions (mm) and Weights (kg)



NW	Dimensions A/B			Height F			Weight			
	ND 325	ND 500	ND 700	Standard	Fins	Bellows	Standard	Fins	Bellows	
011000	3	85	85	85	-	-	-	4	4.5	7
	6	85	85	85	41	81	227	4	4.5	7
	10	85	85	85	41	81	227	5	5.5	8
	16	95	95	95	41	81	227	6	6.5	9
015000	16	95	95	95	80	140	294	8	9	18
	24	110	110	120	75	135	289	12	13	22
	30	120	120	-	72	132	286	14	15	24
	45	150	-	-	145	145	301	23	25	32



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