



TECHNICAL BULLETIN

Kämmer® LinedFlow™ - 132000 Corrosive Application Valves

FCD KMENTB3221-01 04/12



Description

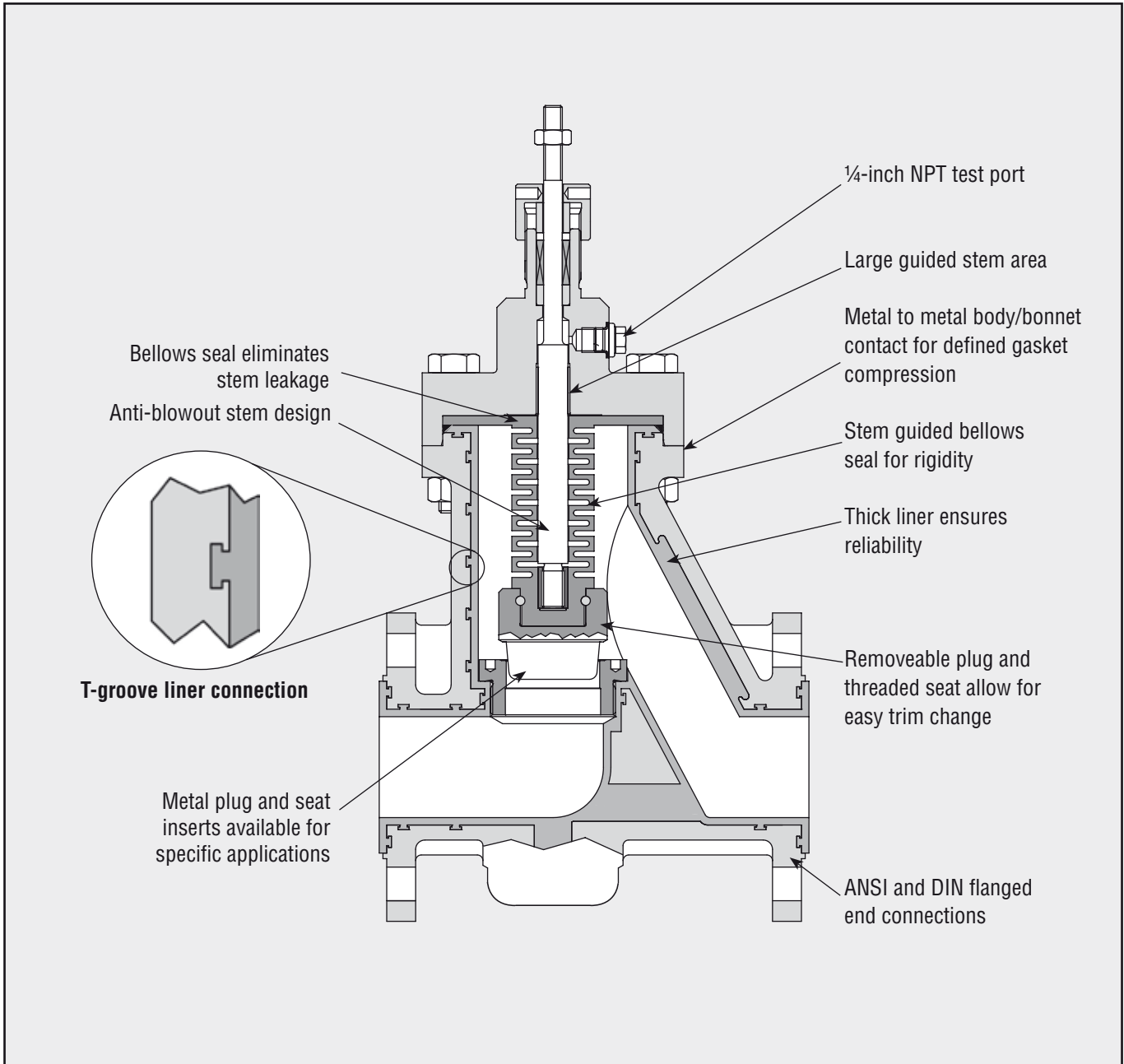


Figure 1: 132000 Series Body Assembly

Flowserve's Kammer 132000 Series control valves combine many years of expertise in manufacturing both plastic lined valve bodies and precision globe control valves. With a variety of high quality linings available, this

valve can be used in many corrosive mediums, and the unique bellows design allows for working pressures of up to 232 psig. In addition, the 132000 series has high flow capacities verified by flow testing.

Features and Benefits

Table 1: 132000 Series Features and Benefits

Features	Benefits
Liner Materials	Multiple high quality liner materials are available to cover most corrosive applications, including: PFA and PFA anti-static.
Liner Thickness	The liner thickness provides a high degree of protection from corrosive medias.
Liner Connection	T-grooves ensure a positive mechanical connection between the liner material and the valve body. This feature is especially important in vacuum applications.
Bellows Seal	The unique bellows design allows for working pressures up to 232 psig. Very high cycle life bellows (based on extensive cycle testing) are separable from plug to allow easy maintenance.
Trim Design	Large selection of precision and custom flow curves High rangeability Very large flow capacity (Cv) per valve size Separable plug head and threaded seat ring for easy maintenance
Metal Plug and Seat Inserts	Metal plug and seat inserts enable smaller Cv values Wear resistance Higher rangeability
End Connections	ANSI 150# flanges with ANSI face-to-face ANSI 150# flanges with DIN face-to-face DIN PN 16 flanges with DIN face-to-face
Safety	Anti-blowout stem design ¼-inch NPT leak detection port Backup packing for additional protection

Trim

The seat and plug are threaded, i.e. replacement is possible at any time when a K_{vs} value change is required or for repair purposes. The plug is threaded into the bellows and secured against loosening by a PTFE insert. For smaller K_{vs} values, a Hastelloy insert can be provided in the plug or in the seat.

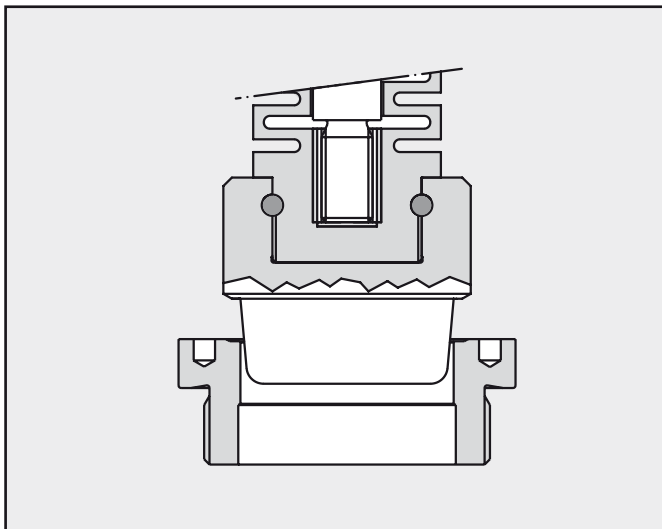


Figure 2: Separable Plug, Seat and Bellows

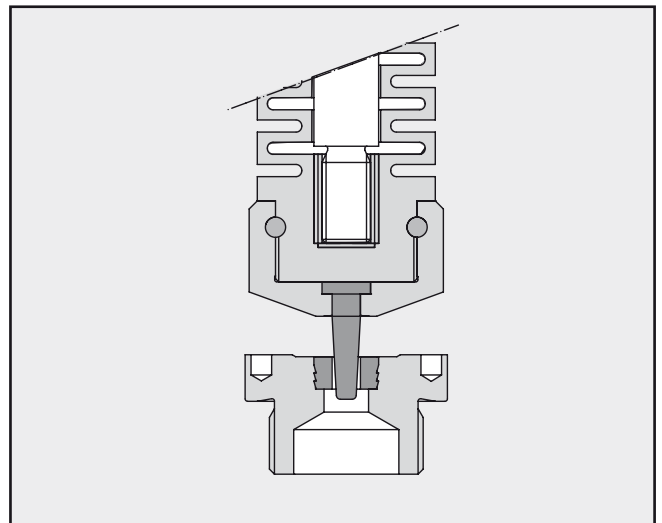


Figure 3: Metal Plug and Seat Inserts

Lining Materials

High quality lining material, such as PFA (Perfluoroalkoxy resin), protects the metal parts of the valve assembly. T-grooves provide an extremely reliable connection between the liner and the metal valve body, which is especially important in vacuum applications. The liner thickness is at least 5 mm for 1-inch to 6-inch (DN 25-

150) valve sizes (3.5 mm liner thickness for ½-inch and ¾-inch (DN 15-20) valves). A variety of other liner materials including FEP, PP, PVDF, ETFE and anti-static PFA are available to meet the requirements for most applications.

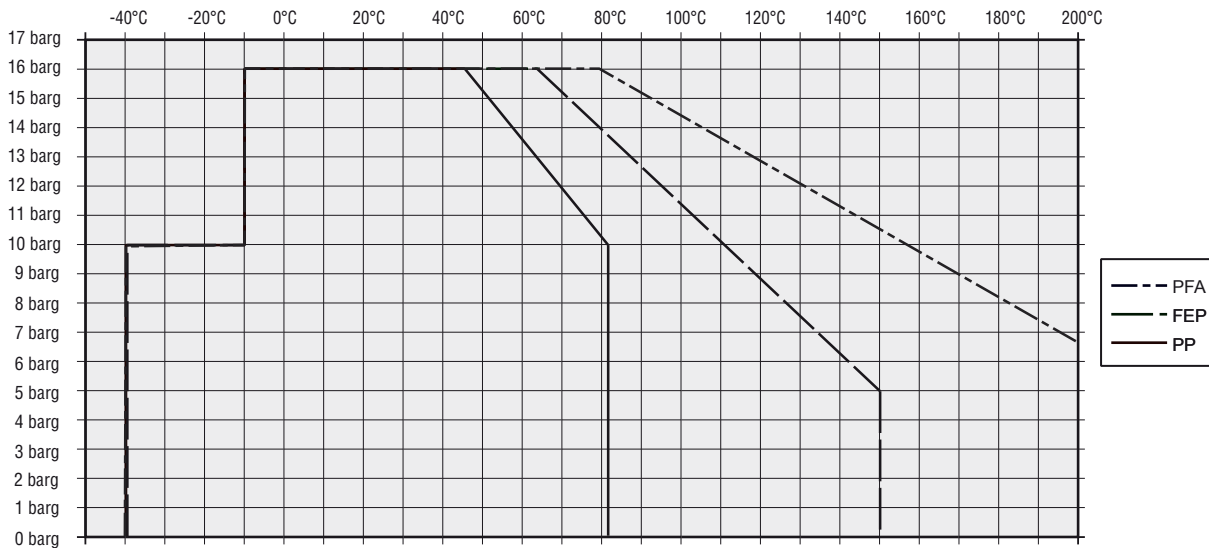


Figure 4: Pressure Temperature Diagram

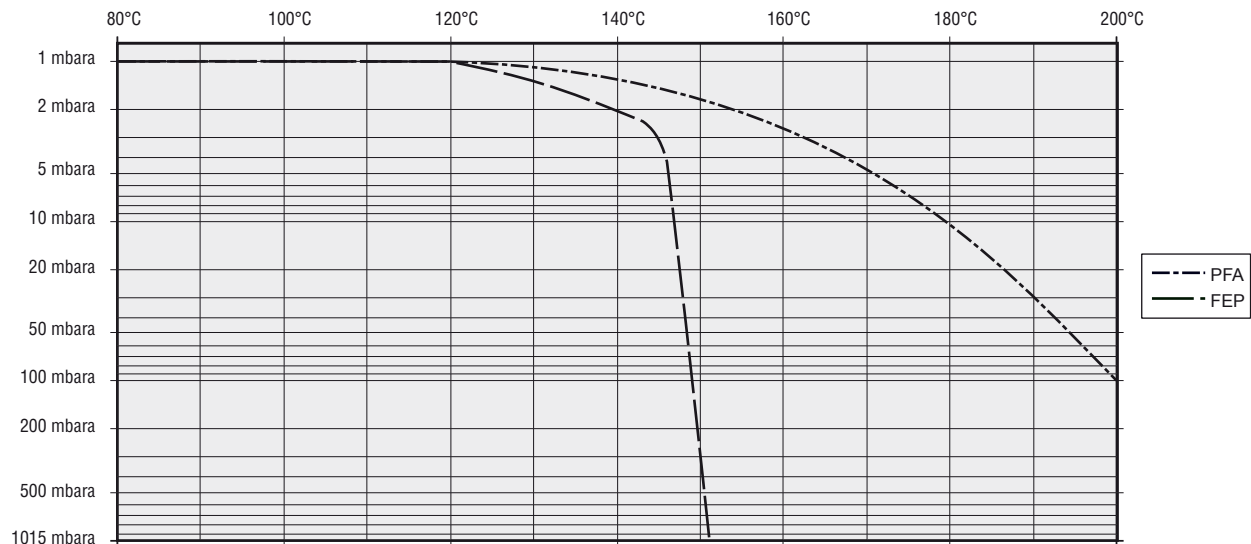


Figure 5: Vacuum Temperature Diagram

K_{VS} / C_V Table

K _{VS} / C _V -Values		Plug		Valve Size							Hastelloy	Hastelloy	TFM1600
		Seat		DN15/20	DN25	DN 40	DN 50	DN 80	DN 100	DN 150	Hastelloy	TFM1600	TFM1600
K _{VS}	C _V	Seat ø		0.5"/0.75"	1"	1½"	2"	3"	4"	6"			
		mm	in.	Stroke (mm/inch)									
0.011	0.013	3	0.12	10/0.39	10/0.39						x		
0.017	0.020	3	0.12	10/0.39	10/0.39						x		
0.025	0.029	3	0.12	10/0.39	10/0.39						x		
0.040	0.047	3	0.12	10/0.39	10/0.39						x		
0.063	0.074	3	0.12	10/0.39	10/0.39						x		
0.10	0.12	4.5	0.18	10/0.39	20/0.79							x	
0.16	0.19	4.5	0.18	10/0.39	20/0.79							x	
0.25	0.29	4.5	0.18	10/0.39	20/0.79							x	
0.40	0.47	4.5	0.18	10/0.39	20/0.79							x	
0.63	0.74	4.5	0.18	10/0.39	20/0.79							x	
1.0	1.2	7	0.28	10/0.39	20/0.79								x
1.6	1.9	7	0.28	10/0.39	20/0.79								x
2.5	2.9	10	0.38	10/0.39	20/0.79								x
4.0	4.7	12	0.47		20/0.79	20/0.79							x
5.0	5.8	15	0.59	10/0.39									x
6.3	7.4	16	0.63		20/0.79	20/0.79	20/0.79						x
10	12	20	0.79			20/0.79	20/0.79						x
13	15	25	0.98		20/0.79								x
16	19	25	0.98			20/0.79	20/0.79	40/1.57					x
25	29	32	1.26				20/0.79	40/1.57					x
32	37	40	1.57			20/0.79							x
40	47	40	1.57					40/1.57	40/1.57				x
47	55	50	1.97				20/0.79						x
63	74	50	1.97					40/1.57	40/1.57				x
100	120	63	2.48						40/1.57	40/1.57			x
120	139	80	3.15					40/1.57					x
160	190	80	3.15							40/1.57			x
180	210	100	3.94						40/1.57				x
250	290	100	3.94							40/1.57			x
340	400	125	4.92							40/1.57			x

Specifications

Table 3: Body and Lining materials

Body/Bonnet material	0.7043 (Ductile Iron)
Sizes	DN 15 to 150 ½-inch to 6-inch
Working Pressure Rating	PN 16 ANSI Class 150
End Connections	ANSI Class 150 RF Flanges DIN PN 16 Flanges
Lining material	PFA (standard), FEP, PVDF PP, ETFE antistatic PFA
Liner thickness	3.5 mm (minimum) for ½-inch & ¾-inch valve sizes 5 mm (minimum) for 1-inch to 6-inch valve sizes

Table 4: Trim

C_v-values	See table 2
Rangeability	50 : 1
Valve Plug and Seat Ring Material	Modified PTFE for small K _{vs} -/C _v values: Hastelloy C276 Kegel and/or seat inserts
Leakage class	ANSI Class VI
Characteristics	Equal percentage Linear On - Off

Table 5: Bellows seal

Material	TF 1620 for ½-inch to 1-inch valve sizes TFM 1600 for 1½-inch to 6-inch valve sizes
Working Pressure	232 psig at 250 °F (120 °C)

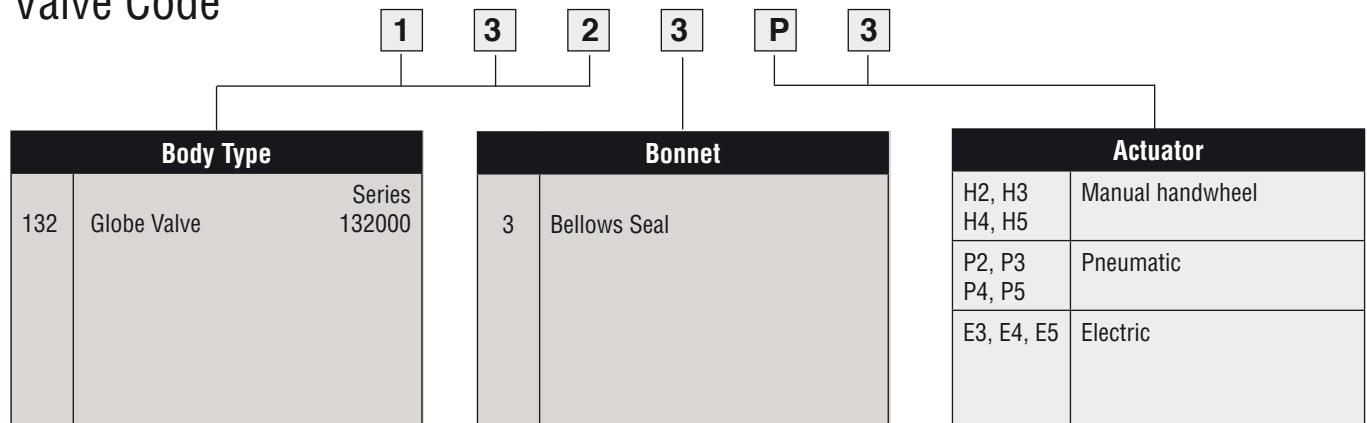
Table 6: Options

Bellows seal	Hastelloy C276
Stem	Hastelloy C276

Table 7: Bellows Seal Options

Size		Effective Area		Stroke	
ANSI	DIN	Inches ²	cm ²	Inches	mm
0.5	DN 15	0.99	6.4	0.39	10
0.75	DN 20	0.99	6.4	0.39	10
1	DN 25	1.33	8.6	0.79	20
1.5	DN 40	1.33	8.6	0.79	20
2	DN 50	1.33	8.6	0.79	20
3	DN 80	2.05	13.2	1.57	40
4	DN 100	2.05	13.2	1.57	40
6	DN 150	2.05	13.2	1.57	40

Valve Code



Dimensions in. (mm) and Weights lbs. (kg)

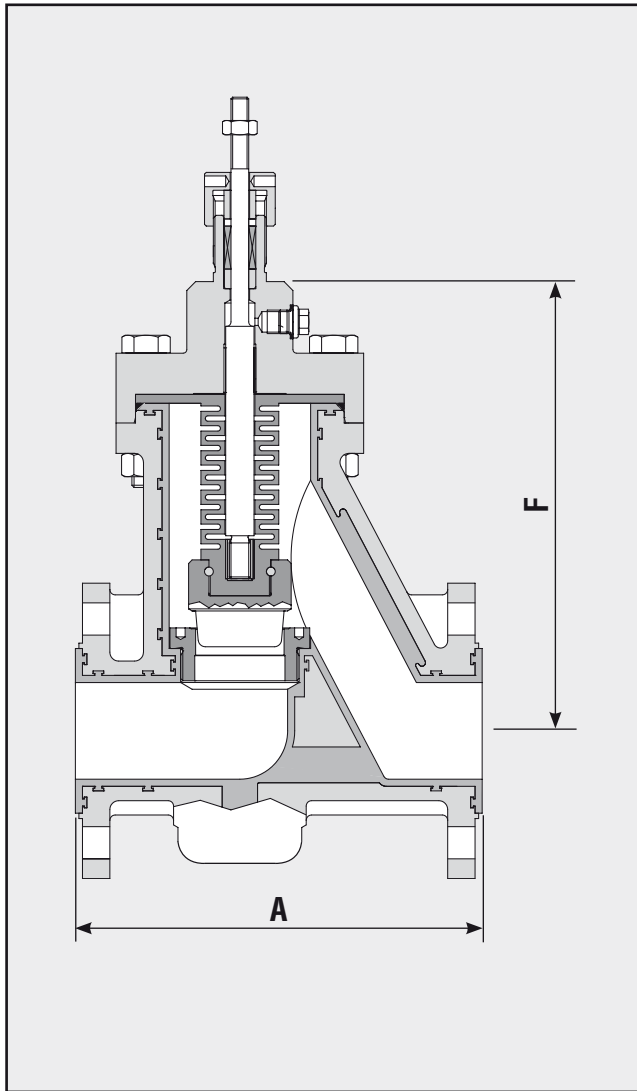


Figure 6: 132 Series Dimensions

Table 8: Dimensions

Size		Dimensions							
		A DIN PN 16		A Class 150 DIN		A Class 150 ANSI		F	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm
0.5	DN 15	5.1	130	5.1	130	5.1	130	7.3	185
0.75	DN 20	5.1	130	5.1	130	5.1	130	7.3	185
1	DN 25	7.25	160	6.3	160	6.3	184	9.4	240
1.5	DN 40	8.75	200	7.9	200	7.9	222	9.6	245
2	DN50	10.0	230	9.1	230	9.1	254	9.8	250
3	DN 80	11.75	310	12.2	310	12.2	298	15.7	400
4	DN 100	13.87	350	13.8	350	13.8	350	17.7	450
6	DN 150	18.9	480	18.9	480	18.9	480	18.5	470

Table 9: Weights

Size		ANSI		DIN	
Inches	DN	lb	kg	lb	kg
0.5	DN 15	13	6	13	6
0.75	DN 20	13	6	13	6
1	DN 25	26	11	26	12
1.5	DN 40	42	17	42	19
2	DN50	46	19	46	21
3	DN 80	82	39	82	37
4	DN 100	97	44	97	44
6	DN 150	330	150	330	150



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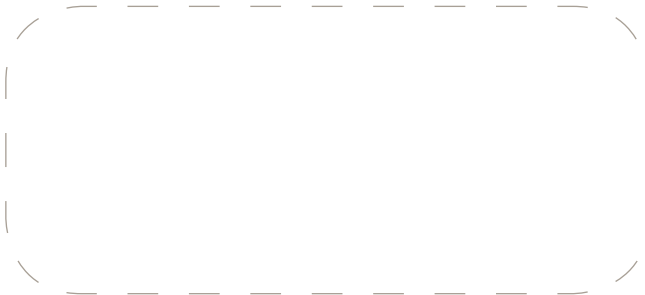
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