

Utmost[®]

品质与艺术完美结合

艾坦姆系列控制阀

Utmost[®] Control Valves





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G114,G154 系列波纹管控制阀特点 Features of G114 and G154 Series Bellows Sealing Control Valve

控制阀中危险介质的泄漏将给人与环境造成永久性威胁。艾坦姆的波纹管密封阀门具备了全面的密封的特性。波纹管作为密封元件适用于严格控制外漏的场合,例如介质为有毒有害的液体或气体。具有弹性及抗压能力的波纹管一头焊接在阀杆上,而另一头焊接在上阀盖下的接口密封圈上。为了安全起见,此系统采用了免维护的措施。我们可以在阀杆与波纹管之间选择使用软管连接,也可以用这种结构进行泄漏量探测,或者在波纹管与阀杆之间充上惰性气体。

Any leakage of dangerous media will result permanent threat to human or environment during control valve operation. Therefore, Utmost recommend the bellows valve which possess comprehensive sealing features. Utmost® bellows valves have comprehensive sealing characteristics. Bellows is used as the sealing element in strictly leakage controlled occasions such as toxic and dangerous liquids or gases. Flexible and compressive strength bellows with one end welded on the bottom of the valve stem and the top welded with the cover plate. For safety reasons, such structures adopt maintenance free type. Hose connection can be choose between the stem and bellows, which structure is also can be used to detect leakage, or fill with inert gas valve stem between the bellows. Or fill inert gas between bellows and stem.

艾坦姆的波纹管密封阀门是按照最苛刻的工况条件下的经久耐用为目的来进行制作的,艾坦姆波纹管标准形式为双壁波纹管,最高可达到一百万次动作不产生任何泄漏。

Utmost® bellows valve are constructed for the most operating conditions, Utmost® standard bellows type is double layers with 1,000,000 stroke cycle can be achieved without any leakage.



G114,G154 系列波纹管控制阀

G114 and G154 Series Bellows Sealing Control Valve

G114,G154 系列波纹管控制阀技术数据

Technical Data Sheet of G114 and G154 Series Bellows Sealing Control Valve

可选波纹管材料

Available Bellows Materials

材料编号 Material NO.	材料类型 Material Type	适用性		备注 Remark
		波纹式波纹管 Corrugated Bellows	薄膜波纹管 Film Bellows	
1.4541	Ti-stabilized Austenitic stainless steel ANSI 321	++	++	
1.4571	Ti-free Austenitic stainless steel ANSI 316Ti	++	++	标准材料 Standard Material
1.4404	Ti-free Austenitic stainless steel ANSI 316L	++	++	食品和真空技术 Food and Vacuum Use
1.4441	Ti-free Austenitic stainless	++	++	根据要求 On Request
1.4828	不结垢不锈钢 Scale-resistant stainless steel	+	+	
1.4876	Incoloy 800H	++	++	适用于高于 550℃ 的温度 For temperature over 550°C
1.4564	17-7 PH	++	+	硬化不锈钢 Harden Stainless Steel
1.4568				
—	AM 350	+	+	
2.4816	Inconel 600	+	+	根据要求 On Request
2.4856	Inconel 625	++	++	高压、高温和 / 或增强的防腐性要求 用标准材料
2.4819	HC-276	++	++	Standard Material for High Pressures, High Temperatures or increased corrosion requirements
2.4610	HC-4	+	-	高度耐酸性 High degree of acid resistance
2.4617	HB-2	+	-	
3.7025	纯钛, 1 级 Pure titanium Grade 1	+	+	
3.7035	纯钛, 2 级 Pure titanium Grade 1	+	+	
2.4360	蒙乃尔铜镍合金 Monel	+	-	根据要求 On Request
2.4060	纯镍 Pure Nickel	+	-	
2.1020	青铜 CuSn6	++	-	
2.1030	青铜 CuSn8	++	-	

波纹管的材料将由介质和操作温度决定。如在温度在 200 °C 的环境中最佳的使用材料应为奥氏体不锈钢 316ss；如温度更高在 450 °C 以上的环境中，我们可以提供 1.4828 或 1.4919；在腐蚀性极强的介质中使用，我们可以提供镍基合金，例如 2.4819（哈氏合金 C 276）或 2.4856（Inconel625）。

The bellows material is determined by the medium and the operating temperature. Austenitic stainless steel 1.4571 is the first choice for the temperature at 200 °C environment; if temperature higher than 450 °C, The preferred material is 1.4828 or 1.4919; we also can provide Nickel alloys for highly corrosive medium, such as 2.4819 (HC 276) or 2.4856 (Inconel625) material.

除增强了抗腐蚀能力外，镍基合金同样具有比奥氏体不锈钢更高的强度和更高的抗热值的特性，因而更加的耐高压和高温。波纹管的分层结构（层数及单层厚度）将由工作压力决定。

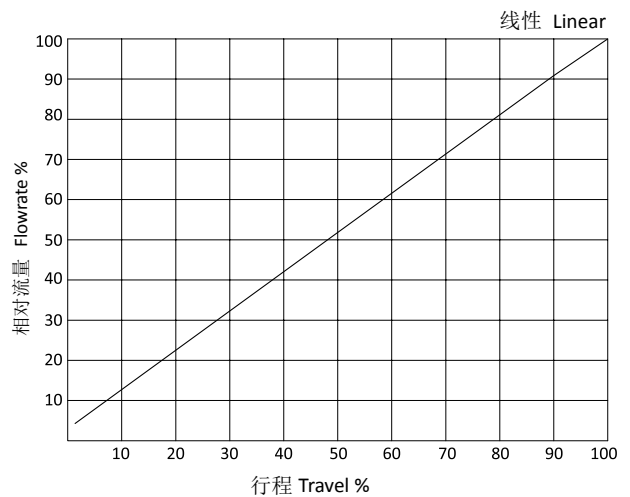
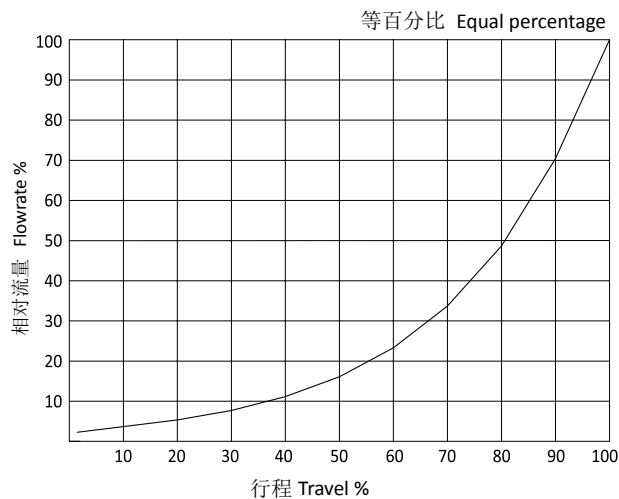
In addition to increased corrosion resistance, Nickel based alloys also possess higher strength and higher heat resistance than austenitic stainless steel, therefore more high pressure and high temperature resistance can be achieved. The layer structure of the bellows (number of layers and thickness) determined by the operating pressure.

G114,G154 系列波纹管控制阀技术数据 Technical Data Sheet of G114 and G154 Series Bellows Sealing Control Valve

基本规格 General Data

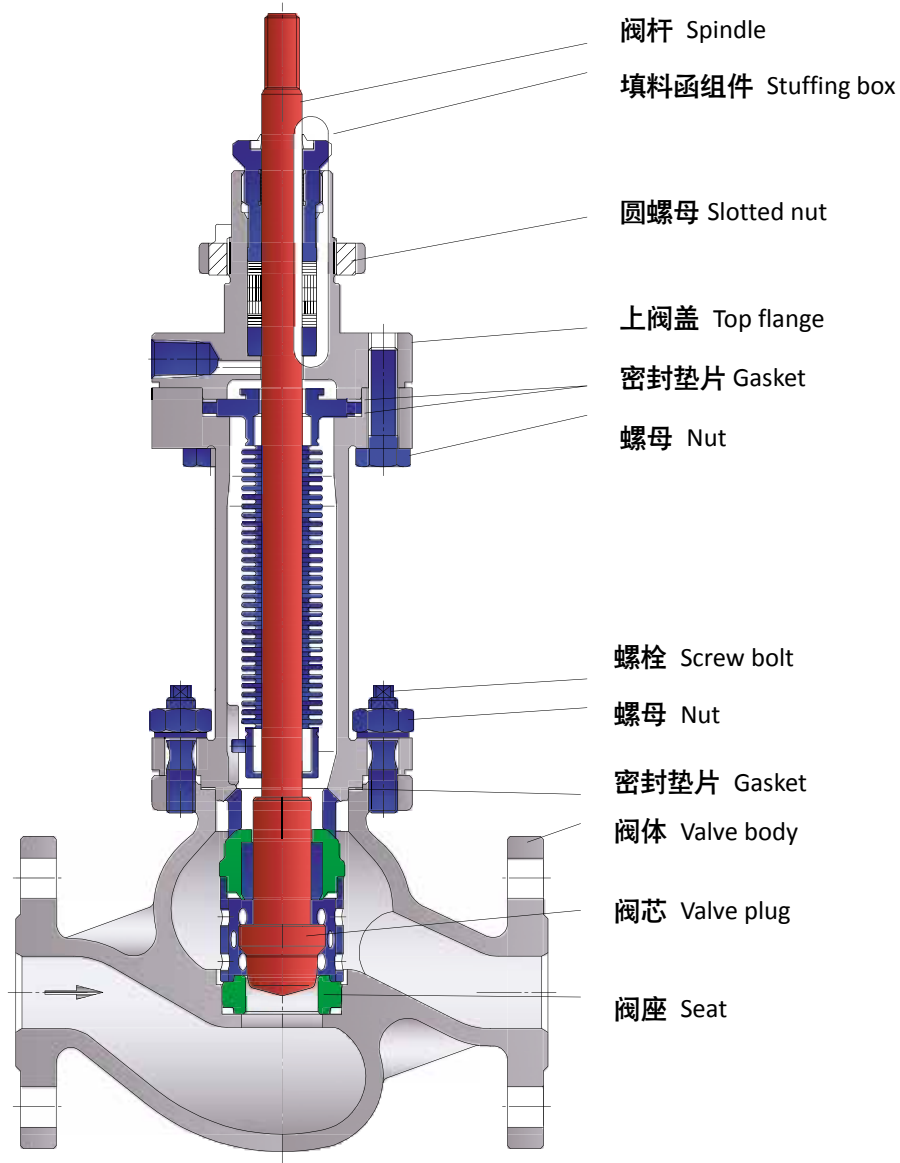
波纹管控制阀 Bellows valve	G114	G154
公称尺寸 Nominal Size DN /NPS	DN15~DN600 1/2" ~ 24"	DN15~DN300 1/2" ~ 10"
压力等级 Nominal Pressure PN / ANSI	PN16-40 ANSI 150/300	PN63-250 ANSI 600-1500
流量特性 Characteristics	等百分比或线性 Equal percentage or linear	
可调比 Rangeability	50:1	
阀芯导向 Plug guide	阀杆导向 Stem guided, 双导向 Double guiding	
泄漏等级 Seat leakage	金属硬密封 IV 级 Metal sealing: IEC 60534-4 leakage class IV 金属硬密封 V 级 Metal sealing: IEC 60534-4 leakage class V 软密封: VI 级 Soft sealing: IEC 60534-4 leakage class VI	
波纹管密封 Bellow sealing (Option)	无缝双壁波纹管, 标准材质 316SS, 可选材质: 哈氏合金、Monel、Inconel 等其他材料 Seamless, double walled, made of 316SS, Option: Hastelloy, Monel, Inconel and other materials	
保温夹套 Heating jacket (Option)	热媒进出口连接方式: 法兰 1/2" 或 1" Connections 1/2" or 1" flanges	
填料 Packing	V 型聚四氟乙烯填料、纯石墨、加强石墨、编织石墨。 V-PTFE Ring, Pure Graphite, Incone reinforced Graphite, PTFE Braided Graphite	
执行机构 Actuator	多弹簧执行机构 Multi-spring actuator	
低温设计 Low temperature design (Option)	最低到 -196℃ Down to -196℃	

波纹管控制阀流量特性曲线 (等百分比、线性) Bellows valve flow characteristic flow chart(Equal percentage/Linear)



G114,G154 系列波纹管控制阀技术数据
Technical Data Sheet of G114 and G154 Series Bellows Sealing Control Valve

波纹管密封控制阀结构图及部件图
Sectional drawing of Bellows Sealing Control Valve

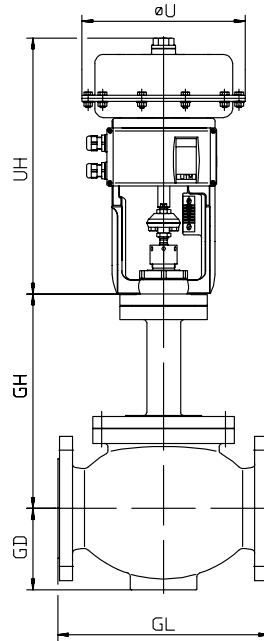


流体所产生的扭力会严重影响波纹管的寿命，一个优良设计的波纹管密封调节阀应具备充分防旋转功能。为了防止波纹管弯曲变形，不同方向的压力应转变成轴向压力，艾坦姆波纹管密封调节阀的防旋转设计，会将所有旋转扭力消除。

Medium flow has very serious affection to the bellows life span, a good designed bellows control valve shall be a function protect the valve to against the torque produced by the medium. In order to avoid bellows bending, the pressure from each direction must transform into axial force UTM® bellows control valve well considered Anti-torque design to remove such useless torque.

G114,G154 系列波纹管控制阀技术数据
Technical Data Sheet of G114 and G154 Series Bellows Sealing Control Valve

波纹管密封控制阀重量和外形尺寸
Weights and dimensions of G114 series Bellows Sealing Control Valve



重量和尺寸 Weights and Dimensions

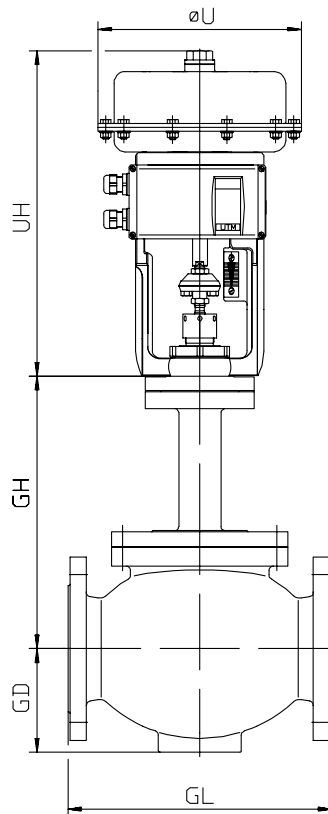
G114 系列 G114 series	公称尺寸 DN 压力等级 ANSI NPS	15 1/2"	20 3/4"	25 1"	32 -	40 1 1/2"	50 2"	65 -	80 3"	100 4"	
	GL PN10-PN40	130	150	160	180	200	230	290	310	350	
GL Class 150 RF	178	181	184	-	222	254	-	298	352		
GL Class 150 RTJ	-	-	197	-	235	267	-	311	365		
GL Class 300 RF	190	194	197	-	235	267	-	317	368		
GL Class 300 RTJ	202	206	210	-	248	282	-	333	384		
DEK4	228					233			365	389	
GD	48	59	62	70	78	83	93	106	136		
UT 型执行机构 Actuator Type UT	øU	UT I	270								
		UT II	400								
		UT III								400	
	UH	UT I	346								
		UT II	482								
		UT III	618								
	UHV	UT I	508								
		UT II	651								
		UT III								888	
	Weight* ca. kg	UT I	20	22	23	24	31	33	41	70	93
		UT II	45	47	48	49	56	58	66	95	118
		UT III	50	52	53	54	61	63	71	100	123

*) 重量 Weight: 执行机构不带手轮的重量 Actuator weight without hand wheel

G114,G154 系列波纹管控制阀
G114 and G154 Series Bellows Sealing Control Valve

G114,G154 系列波纹管控制阀技术数据
Technical Data Sheet of G114 and G154 Series Bellows Sealing Control Valve

波纹管密封控制阀重量和外形尺寸
Weights and dimensions of G114 Series Bellows Sealing Control Valve



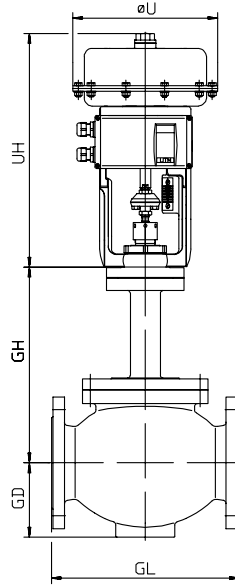
重量和尺寸 Weights and dimensions

G114 系列 G114 series	公称尺寸 DN	150	200	250	300	350	400	500
	压力等级 ANSI NPS	6"	8"	10"	12"	14"	16"	20"
	GL PN10-PN40	480	600	730	850	980	1100	1250
	GL Class 150 RF	451	543	673	737	889	1016	1250
	GL Class 150 RTJ	464	556	-	-	-	-	-
	GL Class 300 RF	473	568	708	777	927	1057	1250
	GL Class 300 RTJ	489	584	-	-	-	-	-
DEK4	575	605	850	850	880	-	-	
GD	190	240	305	335	395	445	540	
UT 型 /UTA 型执行机构 Actuator Type UT/UTA	øU	UT III	400					
		UTA	598					
	UH	UT III	618					
		UTA	1100		1363		1580	
	UHV	UT III	888					
	Weight* ca. kg	UT III	200	260				
UTA		340	400	460	760	850	1500	1800

*) 重量 Weight: 执行机构不带手轮的重量 Actuator weight without hand wheel

G114,G154 系列波纹管控制阀技术数据
Technical Data Sheet of G114 and G154 Series Bellows Sealing Control Valve

波纹管密封控制阀重量和外形尺寸
Weights and dimensions of G154 Series Bellows Sealing Control Valve



重量和尺寸 Weights and Dimensions

根据 DIN EN 1092-1 或 ANSI class 600/900/1500 RF/RTJ 标准的法兰连接的阀门尺寸 (mm) Dimensions (in mm) for valve c/w flanges acc. to DIN EN 1092-1 or ANSI Class 600/900/1500 RF/RTJ									
G154 系列 G154 series	公称尺寸 DN	25	40	50	80	100	150	200	
	压力等级 ANSI NPS	1"	1 1/2"	2"	3"	4"	6"	8"	
	GL PN63/100/160	230	260	300	380	430	550	700	
	GL PN250	260	300	350	450	520	700	800	
	GL Class 600 RF	216	241	292	356	432	559	660	
	GL Class 600 RTJ	216	241	295	359	435	562	664	
	GL Class 900 RF	254	305	368	381	457	610	737	
	GL Class 900 RTJ	254	305	372	384	460	613	740	
	GL Class 1500 RF	254	305	368	470	546	705	832	
GL Class 1500 RTJ	254	305	372	473	549	711	842		
DEK4		** 按需提供 on request							
UT 型 /UTA 型执行机构 Actuator Type UT/UTA	øU	UT I	270						
		UT II	400						
		UT III				400			
		UTA	598						
	UH	UT I	361						
		UT II	482						
		UT III				618			
		UTA	1100						
	UHV	UT I	508						
		UT II	651						
		UT III				888			
	Weight* ca. kg	UT I	34	42					
		UT II	59	67	97	126	161		
UT III		64	72	102	131	166	322	612	
UTA		204	212	242	271	306	462	752	

*) 重量 Weight: 执行机构不带手轮的重量 Actuator weight without hand wheel

**) 按需提供 On request