GVK(GER)

ECCENTRIC BALL VALVE

Total Engineering Solution Service

Mission

기초에 근거하여 원천 기술을 살리고 원천 기술을
극대화하여 세계 중심에 서는 것
To stand at the centre of the world by
utilizing original technology based on the
foundation and maximizing original technology

Vision

우리는 옳은 일과 가치 있는 일에 주저함이 없이
최선을 다하고 실천하여 세계의 중심에 서자
Let us put ourselves at the center of the world by
doing our best and not hesitating to stand up for
what is right and worthy

GLOBAL VISION KOREA

VMV®
Value MFG Valve

ACEFLOW
Valve Engineering

Valve Product Service

GVK Limited, founded in June 2020 by a leader with 38 years of experience, focuses on R&D while ensuring quality, price, and functionality through domestic production. The company offers Process Valves, Valve Equipment, and Total Engineering services for industries such as Gas, Refining, Petroleum, Power generation, Environment, and Water treatment.
With a management team possessing 30-40 years of experience, GVK has developed numerous patents and adheres to quality standards like ISO 9001, 14001, 45001, and CE. Recognized for its advanced automatic control valves, GVK also supplies a range of Control Valves globally through OEM and ODM partnerships.
Although still in the early design and manufacturing stages, GVK has emerged as a leading company in Korea, equipped with skilled personnel and testing capabilities. The company aims to lower production costs, enhance efficiency, and improve quality while accumulating Hyper-Intelligence Valve Engineering (HIVE) technology. GVK Limited is committed to meeting customer needs with competitive pricing and high value-added services.

The Professional Provider of Automatic valve Actuastors





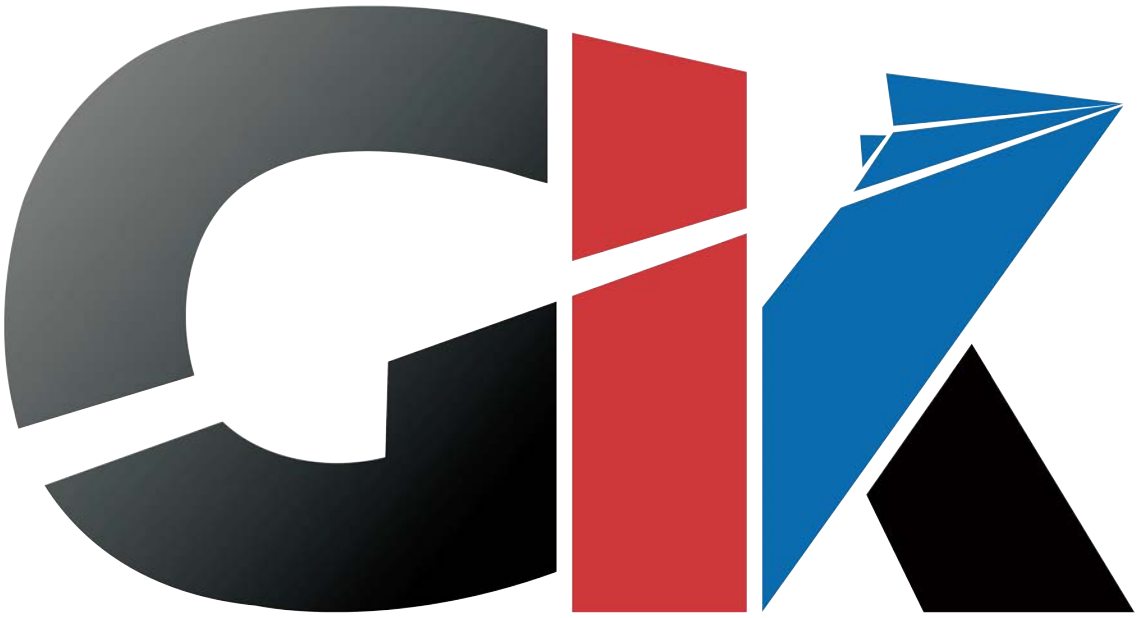


Mutually Beneficial Relationships

To Be Your Best Partner

Twenty years experience "one stop" goods and services



GVK(GER)

Eccentric Ball Valve

Total Engineering Solution Service

GVK / OE ECCENTRIC BALL VALVE

Contents

Series OE

Automation Valve Product Service

GVK GER Series
Eccentric Ball Valve

Introduction

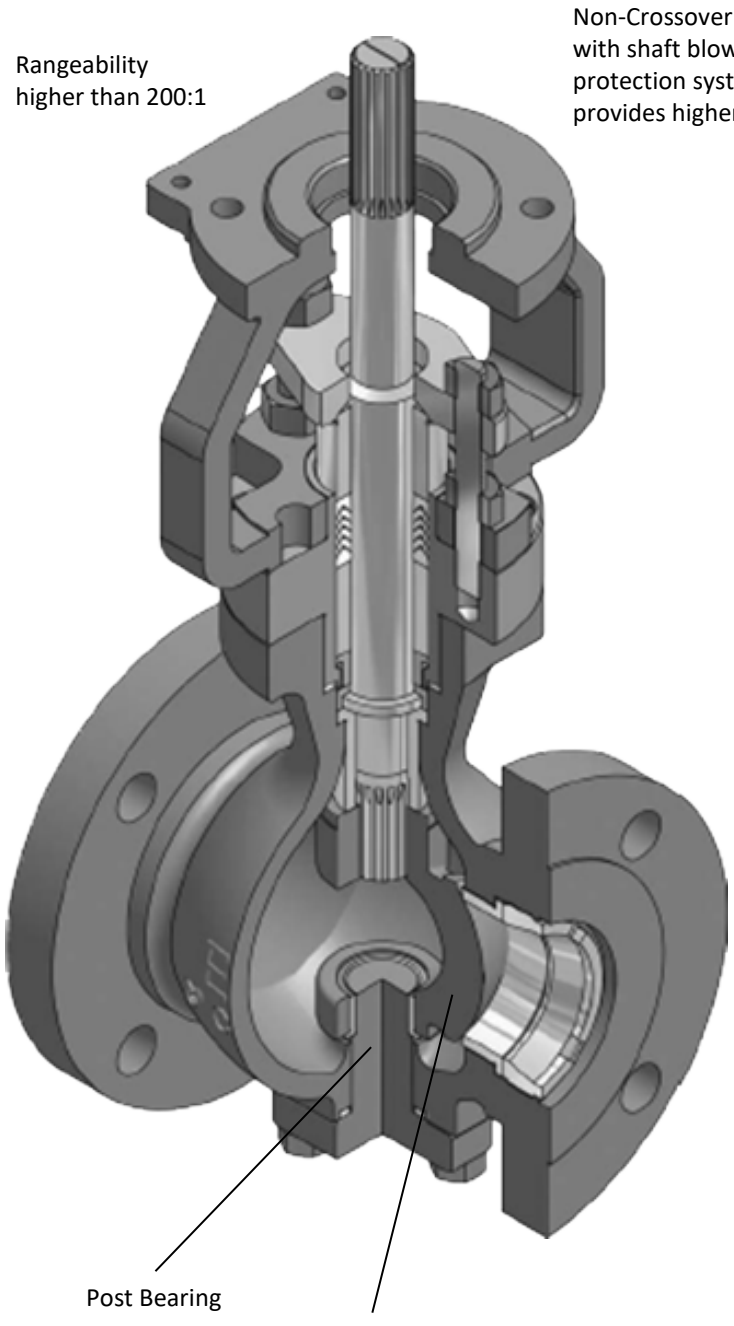
GVK ER series Eccentric Ball control valves have become one of the best control valves' choices in the market, mostly due to their capacity to handle large flows, superior rangeability, compact sizes and their shaft sealing design, all these characteristics provide a wide range of process solutions for most of control valves' industrial plant applications.

The GVK ER series eccentric half ball rotary control valve has been designed as a simple but yet robust, lightweight, and more economically-built alternative to our well known Exc Series, eccentric plug rotary valve design.

Our GVK Limited was designed to comfortably handle differential pressures of up to 725 psi (50 bar), temperature ranges from -150°F to 752°F (-100°C to 400°C), in sizes from 1" to 4", and body class ANSI 150-300 or DIN PN 16-40.

The GVK ER series eccentric plug provides an excellent rangeability 200:1, which is significantly higher than that of globe valves; 50:1 or 20:1 displayed in most butterfly valves. Several reduced trim sizes are also available for each valve size. These trim reductions offer a wider range of Cv values for every body size selection which enhances optimal sizing alternatives during the engineering application and selection process.

ANSI Class IV Shutoff – Metal Seat
ANSI Class VI Shutoff – Soft Seat



GVK-ER Series
Construction/Seating

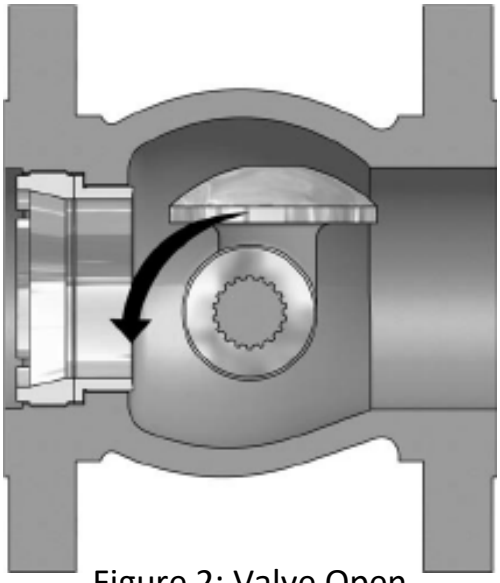


Figure 2: Valve Open

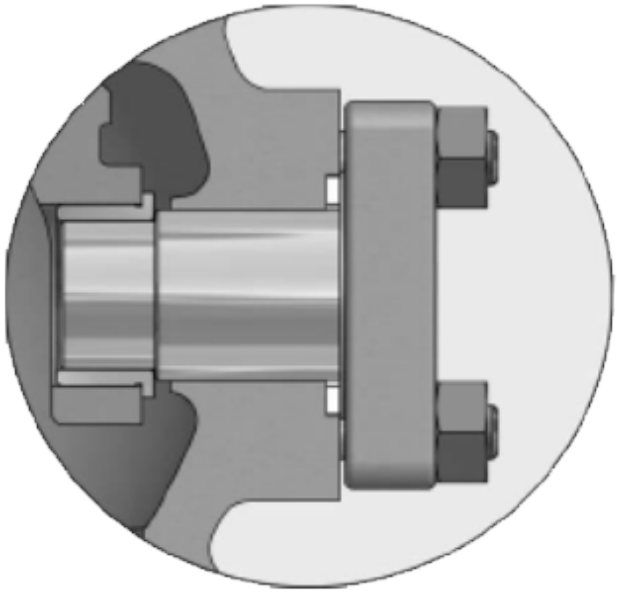


Figure 3: Post Bearing

Design Characteristics

Designed with a rugged and well sized non-cross-over shaft, higher flow capacities can be achieved for every valve size. This superior quality design characteristic eliminates potential damage caused by corrosive and/or heavy slurry processes.

In most conventional rotary control valves the shaft crosses over the valve stream line therefore causing a significant reduction in flow capacity and additionally causing unnecessary wear of the shaft. The GVK-ER valve configuration assures a higher Cv capacity. While in the open position the streamlined fluid flow is not affected since the plug is kept totally retracted and away from the natural flow of the medium.

When the plug moves to the closed position, and due to its double-eccentricity configuration, the plug slides easily into its seat in such an angle that eliminates any direct metal-to-metal contact with its seat. This unique design characteristic contributes to drastic reductions of seat wear, therefore, less maintenance and service requirements.

As the valve opens and the eccentric plug slides smoothly off the seat, the possibility for the water-hammer effect to occur is greatly reduced, this is mainly due to the “zero breakout torque” characteristics provided by the GVK ER series eccentric ball.

This “zero-breakout torque” feature also allows for the selection and usage of smaller actuators which translates into less initial costs and life-time-maintenance costs.

Our valve design engineers have combined in one valve excellent features such as a large dimensioned post bearing system (Fig. 3), and a well sized shaft and plug made in hardened 17-4PH as a standard, which together provide excellent tight shutoff characteristics as well as increased life expectancy of the inner parts of this assembly.

The GVK-ER displays a large size packing box which complies to ISA requirements and a shaft system that complies with ANSI B 16.34 standards, built in such a way as to prevent shaft blowout when the valve is still under pressure. Reduced trim sizes 70%, and 40% are offered to obtain a wide range of flow capacity.

Automation Valve Product Service

GVK-ER

Construction Materials

Built For High Performance

Manufactured with a rugged oversized shaft and post bearing, the GVK ER series rotary control valve prevents damages that may occur on its own shaft.
The rotary plug is manufactured in its standard configuration with 17-4 PH heat hardened stainless steel, however the inner parts assembly can be also constructed in solid Alloy #6 type steel, providing for an excellent tight shutoff and enhancing its use in a wide range of applications such as in flashing conditions, corrosive services, mild cavitation, and steam services as well.
The non-crossover shaft design, a characteristic of the GVK ER series eccentric ball rotary control valve pervents the line from clogging, assuring an uninterrupted flow passage. When the valve is in the open position, the flow is not diverted to the seat or seat retainer, delivering excellent performance even after several years of operation.
The connection between the plug and the shaft is achieved via a tight and precise splined connection, eliminating the use of keys and/or taper pins which are prone to corrosion and/or wear due to vibration. The rugged, rigid and heavy-duty seat design is excellent for applications where the valve is subjected to high pressure drops.
The typical maintenance cycle of the GVK valves exceeds the period of five years and the service life expectation exceeds a period of twenty years.

Table IV: Body Specifications

Size (inches)	1; 1.5; 2; 3; 4 DN 25; 40; 50; 80; 100
End Connection	Flanged RF
Finish	125-250 Rc standard
Rating class	ANSI Class 150-300 DN PN 16-40
Face-to-face dimension	ISA S75.04
Seat Area	Full 100% Reduced 70% Reduced 40%
Leakage Class	ANSI Class IV – metal seat ANSI Clas VI – soft seat
Operating Temperature	-150˚ F to 752˚ F (-100˚C TO 400˚C)

After a detailed analysis of the GVK control valve under the reliability viewpoint, other considerations should be added to its performance such as: it can provide a flow capacity of up to 70% higher when compared to the eccentric plug rotary valves of other manufacturers. The GVK ER series can be installed in processes handling paper pulp concentration of up to 3%due to its non-crossover shaft design. The valve design permits the valve to withstand a pressure drop of up to 725 psi (50 bars) in the closed position. It also allows the valve to be installed with shaft upstream or downstream. Reduced trim areas of 70% and 40%. Leakage class ANSI Class IV with metal seat and Class VI with soft seat. Shaft blowout protecting system eliminates the risk of personal injury caused by fluid pressure, fires and process interruptions do to accidents. Plug rotation of 90 degrees with the use of a high performance double-acting rotary cylinder piston fail-safe spring actuator.

Table V: Flow Direction

Installation	Flow	Application
Standard	Shaft downstream flow into the convex plug face	Clean fluid No cavitation
Reversed	Shaft upstream flow onto the outward plug face	Fluid with entrained particles, cavitation or flashing

Table VI: Packing Temperature Limitations

Type of Material	Temperature	
	˚F	˚C
“V”-rings – PTFE	-150 to 450	-101 to 232
Braided PTFE	-20 to 500	-28 to 260
Grafoil	-20 to 752	-28 to 400
PT	-20 to 450	-28 to 232
PTG	-20 to 450	-28 to 232
PTG XT	-20 to 550	-28 to 288

*Pressure class versus body material limitations must not be exceeded

Table VII: Standard Construction Materials Carbon Steel Sub-assembly

Part	Material Specifications	Specifications		
Part	Material Classification	ASTM Code (AMS No.)	UNS Code	Hardness Rc
Body	Carbon steel – Cast	A216 WCB	J 03002	
Plug	17-4PH – Cast	A747, Gr CB7-Cu-1	J 92180	35-38 C
	Alloy #6 – Cast	AMS 5387	R 30006	40-42 C
Shaft	17-4 PH – Bar	A564 Gr 630	S 17400	35 C
Post	17-4 PH – Cast	A747 Gr CB7-Cu-1	J 92180	35-38 C
Bearings (shaft/plug)	440C – Bar	A276	S 44004	55-60 C
Seat retainer	316 – Cast	A351 Gr CF8M	J92900	
Metal seat	316 – Bar	A479 Gr 316	S 31600	
	420 – Cast	A743 Gr CA40	J 91160	38-45
	Alloy #6 – Cast	AMS 5387	R 30006	40-42 C
Soft seat	316 – Bar / PTFE	A479 Gr 316	S 31600	
Thrust bearing	316 – Bar / 440 Bar	A479 Gr 316 / A276	S 31600 / S 44004	55-60 C
Gland flange	316 – Cast	A351 Gr CF8M	J 92900	
Packing follower	316 – Bar	A479 Gr 316	S 31600	
Packing spacer	316 – Bar	A479 Gr 316	S 31600	

Table VIII: Standard Construction Material Stainless Steel Sub-assembly

Part	Material Specifications Classification	Specifications		
		ASTM Code (AMS No.)	UNS Code	Hardness Rc
Body	316 – Cast	A351 Gr CF8M	J 92900	
Plug	17-4PH – Cast	A747, Gr CB7-Cu-1	J 92180	35-38 C
	Alloy #6 – Cast	AMS 5387	R 30006	40-42 C
Shaft	17-4 PH – Bar	A564 Gr 630	S 17400	35 C
Post	17-4 PH – Cast	A747 Gr CB7-Cu-1	J 92180	35-38 C
Bearings (shaft/plug)	Duplex – Cast	A890 4A	J 92205	15-25
Seat retainer	316 – Cast	A351 Gr CF8M	J92900	
Metal seat	316 – Bar / CVD-5B	A479 Gr 316	S 31600	72 C
	Alloy #6 / CVD-5B	AMS 5387	R 30006	40-42 C / 72 C
Soft seat	316 – Bar / PTFE	A479 Gr 316	S 31600	
Thrust bearing	316 – Bar / Duplex 2205	A479 Gr 316 / A890	S 31600 / J 92205	16 / 15-25
Gland flange	316 – Cast	A351 Gr CF8M	J 92900	
Packing follower	316 – Bar	A479 Gr 316	S 31600	
Packing spacer	316 – Bar	A479 Gr 316	S 31600	

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GVK-ER Body Materials

Table IX: Body Pressure and Temperature Limitations (ASME 16.34)

Material	End Connections	Pressure		Temperature	
		PSI	Bar	˚F	˚C
ASTM A-216 Gr. WCB Carbon Steel	ANSI 150#	285	19,7	-20 to 100	-29 to 38
		260	17,3	200	93
		250	17,2	300	149
		245	16,9	400	204
		230	15,9	500	260
		210	14,5	600	316
		205	14,1	650	343
		195	13,4	750	399
		725	50,0	-20 to 100	-29 to 38
	ANSI 300#	675	46,5	200	93
		655	45,2	300	149
		635	43,8	400	204
		600	41,4	500	260
		545	37,6	600	316
		535	36,9	650	343
		505	34,8	750	399
		275	19,0	-20 to 100	-29 to 38
ASTM A-351 Gr. CF8M Stainless Steel	ANSI 150#	205	14,1	200	93
		185	12,8	300	149
		175	12,1	400	204
		170	11,7	500	260
		165	11,4	600	316
		160	11,0	750	399
		725	50,0	-20 to 100	-29 to 38
	ANSI 300#	535	36,9	200	93
		485	33,4	300	149
		455	31,4	400	204
		450	31,0	500	260
		435	3,0	600	316
		430	29,7	650	343
		420	29,0	700	371
		410	28,3	750	399

Table X: Maximum Pressure Drop*

Nominal Valve Size		Shaft Diameter		Seat Diameter (Full Area Trim)		Maximum Pressure Drop* 90 Degrees Rotation (Bidirectional FLow)	
Inches	DIN	Inch	mm	Inch	mm	PSI	Bar
1	DN 25	0.44	11	.70	17,98	725	50
1.5	DN 40	0.62	16	1.1	27,98	725	50
2	DN 50	0.62	16	1.36	34,75	725	50
3	DN 80	0.90	23	2.35	59,92	725	50
4	DN 100	0.90	23	3.03	76,95	725	50

*The maximum allowable pressure drop is based upon shaft mechanical resistance, however, it is limited to the pressure class. Standard limitations according to the pressure class should not be exceeded.

GVK-ER series

Packings

The OpEXL rotary valve is built with a large packing box which gives a longer service life to the packing assembly. The OpEXL Packing box design allows for the use of a large number of packing system options, and fully complies with the most demanding fugitive emission control regulations in modern industrial processes.

Standard Packing

The OpEXL standard packing set is composed by PTFE “V” rings, Figures 8A and 8B. The PTFE “V” rings are the most used packing system since their introduction, providing exceptional tight sealing. They provide a very low friction coefficient, good mechanical resistance and excellent resistance to corrosion. The PTFE “V” rings are the most common application choice for gasketing material.

The PTFE “V” rings are used within temperature ranges of -150 to 450°F (-101 to 232°C). High Temperature Packing The OpEXL formed packing rings, Figures 9A and 9B, is an alternative choice whenever the operating temperature exceeds that determined for the use of PTFE “V” rings. The materials employed in the formed packing rings of the OpEXL are braided PTFE for use in temperatures up to 500°F (260°C) and Grafoil for use in temperatures up to 752°F(400°C). The Grafoil formed packing rings are an excellent choice whenever packing is subjected to high operating temperatures, however it should be noted that the demand of high forces required to achieve a tight sealing results in a significant friction increase forces as the valve plug turns.

Special Packing

The PT type packing set, Figure 10A, is composed by a set of “V” type rings under compression by an assembly of disc springs that result in a ”live-loading” effect. This system achieves a sealing level of below 500 ppm. The PT type packing combines the superior virgin PTFE “V” rings quality with the PTFE “V” rings combined with carbon filament wound. The PTG type packing, Fig. 10B, is composed of an advanced packing set that is capable of keeping a sealing rate very below 500 ppm (at a 10 ppm step rate). The packing set is composed by the combination of PTFE “V” rings with carbon filament wound and Kalrez® “V” rings, an advanced material that provides a superior performance to the packing set. For temperatures higher than 450°F (232°C) the packing set is employed. This type of packing utilizes rings instead the PTFE/carbon rings.

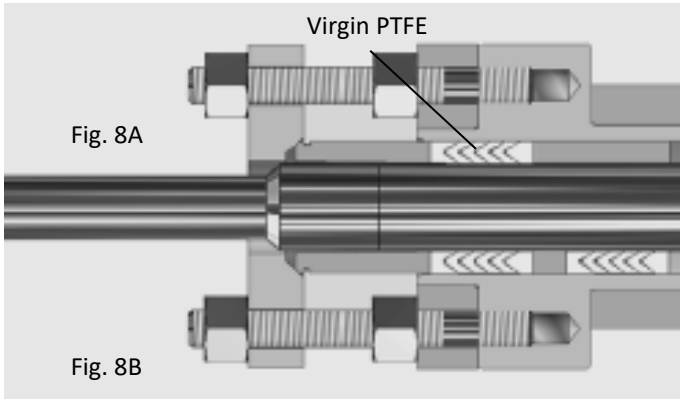

Figure 8A: Standard Packing: “V” rings
Figure 8B: Double Packing: “V” rings

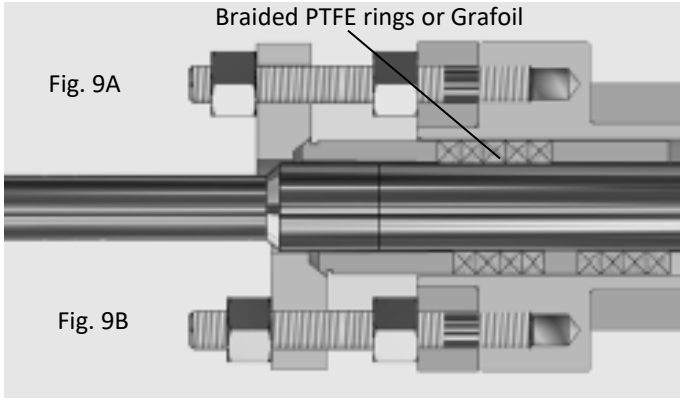

Figure 9A: Packing: Formed Rings
Figure 9B: Double Packing: Formed Rings

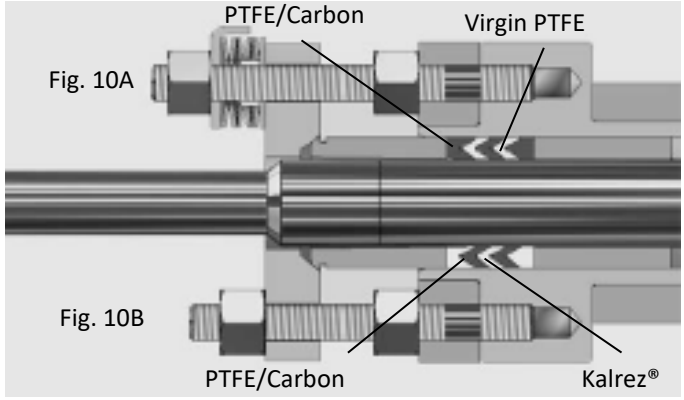

Figure 10A: PT Packing Set
Figure 10B: PTG Packing Set

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GVK-ER series

Specifications/Selection

Table XI: Maximum Allowable Pressure Actuator versus Supply Pressure (PSI/Bar)

Valve Nominal Size (Inches)	Air Supply Pressure		Actuator Size											
			290						370					
			Trim Area						Trim Area					
			100%		70%		40%		100%		70%		40%	
	PSI	Bar	PSI	Bar	PSI	Bar	PSI	Bar	PSI	Bar	PSI	Bar	PSI	Bar
1	40	2,7	725	50,0	725	50,0	725	50,0						
	60	4,1	725	50,0	725	50,0	725	50,0						
	80	5,5	725	50,0	725	50,0	725	50,0						
	100	6,9	725	50,0	725	50,0	725	50,0						
	150	10,3	725	50,0	725	50,0	725	50,0						
1.5 & 2	40	2,7	725	50,0	725	50,0	725	50,0						
	60	4,1	725	50,0	725	50,0	725	50,0						
	80	5,5	725	50,0	725	50,0	725	50,0						
	100	6,9	725	50,0	725	50,0	725	50,0						
	150	10,3	725	50,0	725	50,0	725	50,0						
3	40	2,7	350	24,1	500	34,5	690	47,6	685	47,2	725	50,0	725	50,0
	60	4,1	500	34,5	650	44,8	725	50,0	725	50,0	725	50,0	725	50,0
	80	5,5	620	42,7	725	50,0	725	50,0	725	50,0	725	50,0	725	50,0
	100	6,9	725	50,0	725	50,0	725	50,0	725	50,0	725	50,0	725	50,0
	150	10,3	725	50,0	725	50,0	725	50,0	725	50,0	725	50,0	725	50,0
4	40	2,7	210	14,5	295	20,3	410	28,3	400	27,6	580	40,0	725	50,0
	60	4,1	300	20,7	415	28,6	580	40,0	580	40,0	725	50,0	725	50,0
	80	5,5	375	25,8	530	36,5	725	50,0	725	50,0	725	50,0	725	50,0
	100	6,9	445	30,7	625	43,1	725	50,0	725	50,0	725	50,0	725	50,0
	150	10,3	530	36,5	725	50,0	725	50,0	725	50,0	725	50,0	725	50,0

Note: The pressure limitations should be limited to the body and flanges pressure class.

Table XII: Seat Maximum Pressure Drop

Type of Seat	Process Medium	Open Position		Closed Position	
		PSI	Bar	PSI	Bar
Metal Seal	Liquids, Vapors	363	24,7	725	50,0
Metal Seal	Gases	725	49,3	725	50,0
Soft Seal	Liquids, Vapors	145	9,8	725	50,0
Soft Seal	Gases	290	19,7	725	50,0

Note: Pressure limitations should be limited to body and flange pressure classes.

Table XIII: Yoke Gasket/Post Bearing Maximum Pressure/Temperature

Gasket Material	Pressure		Temperature	
	PSI	Bar	PSI	Bar
PTFE	725	50	350	186
316 SS/Grafoil	725	50	752	400

Table XIV: Trim Material

Body Sub-assembly Carbon Steel

Plug	Seat	Bearings	Shaft	Post Bearing
17-4 PH 17-4 PH Alloy #6	316 Stainless steel 420Stainless steel Alloy #6	440C Stainless steel 440C Stainless steel 440C Stainless steel	17-4 PH 17-4 PH 17-4 PH	17-4 PH 17-4 PH 17-4 PH

Body Sub-assembly Carbon Steel – NACE

Plug	Seat	Bearings	Shaft	Post Bearing
Alloy #6 Alloy #6	316 stainless steel Alloy #6	Duplex 2205 Duplex 2205	A 453 Gr 660 A 453 Gr 660	A 453 Gr 660 A453 Gr 660

Body Sub-assembly Stainless Steel

Plug	Seat	Bearings	Shaft	Post Bearing
17-4 PH Alloy #6	316 Stainless steel Alloy #6	Duplex 2205 Duplex 2205	17-4 PH 17-4 PH	17-4 PH 17-4 PH

Body Sub-assembly Stainless Steel – NACE

Plug	Seat	Bearings	Shaft	Post Bearing
Alloy #6 Alloy #6	316 stainless steel Alloy #6	Duplex 2205 Duplex 2205	A 453 Gr 660 A 453 Gr 660	A 453 Gr 660 A453 Gr 660

Automation Valve Product Service

Table XV: Recommended Application

Fluid	Plug	Seat	Bearings	Flow Direction
Industrial Air and Liquids*	17-4 PH	AISI 316	440C; Duplex 2205	Shaft downstream
Liquid Hidrocarbon	17-4 PH Alloy #6	AISI 316 Alloy #6	440C; Duplex 2205 440C; Duplex 2205	Shaft downstream Shaft downstream
Clean Gases	17-4 PH	AISI 316	440C; Duplex 2205	Shaft downstream
Clean Liquids Clean Liquids w/Cavitation or Flashing	17-4 PH Alloy #6	AISI 316 Alloy #6	440C; Duplex 2205 440C; Duplex 2205	Shaft upstream Shaft upstream
Liquids not clean, Slurry or Abrasive Liquids not clean, w/Cavitation or Flashing	Alloy #6 Alloy #6	Alloy #6 Alloy #6	440C; Duplex 2205 440C; Duplex 2205	Shaft upstream Shaft upstream
Non-corrosive Chemical Products	17-4 PH	AISI 316	440C	Shaft downstream
Corrosive Chemical Products	Alloy #6 Alloy #6	AISI 316 Alloy #6	Duplex 2205 Duplex 2205	Shaft downstream Shaft upstream
Water Stream – 150 PSI	17-4 PH	AISI 420	440C	Shaft downstream
Water Stream – 300 PSI	Alloy #6	Alloy #6	440C	Shaft downstream

* Except O2

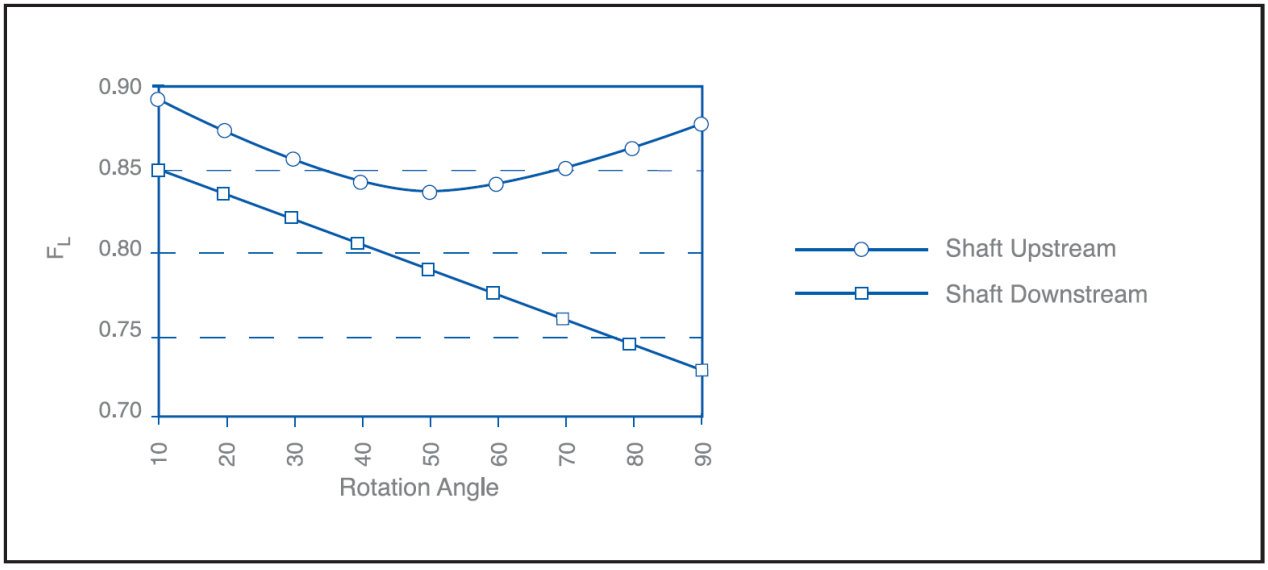


Figure 11: Pressure Recovery Factor, FL: OpEXL Eccentric Plug Rotary Control Valve

Piping Size Effect on Valve Cv Coefficient

The nominal Cv values indicated on the Tables XVI and XVII
are considered for a line size valve installation, where inlet/outlet pipe and valve sizes are the same. When the valve is concentrically installed in pipelines with higher nominal sizes, the Cv coefficient is affected and should be multiplied by the “PCF” factor in Table XV.

Table XVI: Cv Correction Factor

Trim Area %	Piping Correction Factor, FCF – d/D*						
	0.4	0.05	0.06	0.7	0.08	0.09	1
100			0.91	0.94	0.97	0.99	1
70	0.93	0.94	0.96	0.97	0.98	0.99	1
40	0.98	0.98	0.99	0.99	0.99	0.99	1

* d = Nominal Valve Size
D = Larger Piping Size

Flow Coefficient: Cv

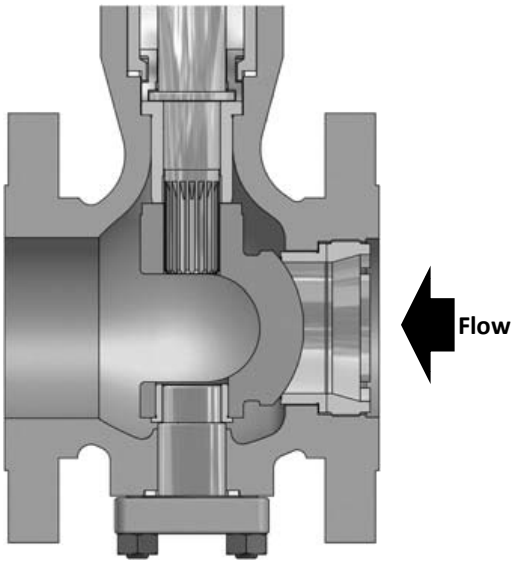


Figure 12: Shaft Downstream

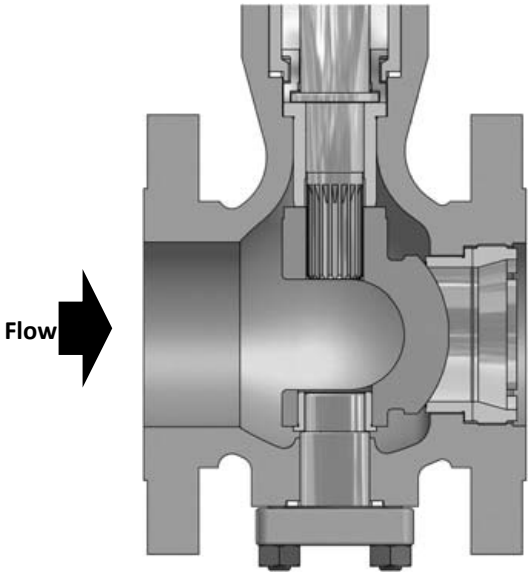


Figure 13: Shaft Upstream

Table XVII: Maximum Flow Capacity (Cv) - Shaft Downstream

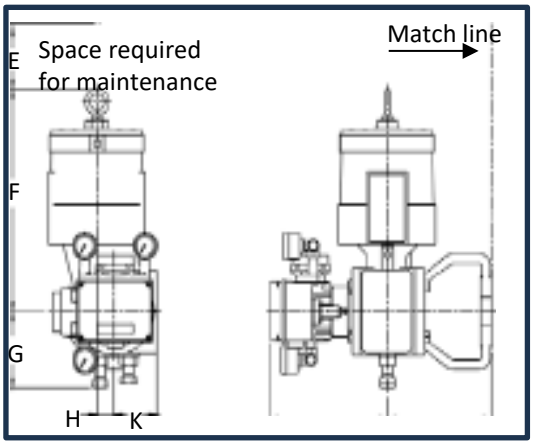
Trim Area %	Opening Angle	Valve Nominal Size (Inch)									
		1		1.5		2		3		4	
		Metal	Soft	Metal	Soft	Metal	Soft	Metal	Soft	Metal	Soft
100	90	18	10	47	39	80	17	245	245	408	408
	80	17.7	9.8	44	37	78	69	224	224	380	380
	70	17.4	9.7	40	33	64	57	186	186	309	309
	60	15.9	8.8	34	28	53	47	150	150	245	245
	50	13.3	7.4	29	24	43	38	126	126	207	207
	40	10.4	5.8	22	18	35	31	99	99	162	162
	30	7.6	4.2	16	13	26	23	73	73	118	118
	20	4.2	2.4	9.2	7.6	15	13	41	41	66	66
	10	2.1	1.2	4.5	3.7	5	4	21	21	33	33
70	90	13	7	33	33	53	53	182	182	269	269
40	90	7	6	19	19	32	32	104	104	170	170

Table XVIII: Maximum Flow Capacity (Cv) - Shaft Upstream

Trim Area %	Opening Angle	Valve Nominal Size (Inch)									
		1		1.5		2		3		4	
		Metal	Soft	Metal	Soft	Metal	Soft	Metal	Soft	Metal	Soft
100	90	21	12	50	40	78	69	218	218	305	305
	80	20.6	11.8	48	38	74	65	198	198	295	295
	70	19.5	11.1	44	35	66	58	170	170	263	263
	60	17.7	10.1	40	32	55	49	142	142	225	225
	50	15.7	9.0	33	26	45	40	115	115	183	183
	40	12.5	7.1	26	21	36	23	92	92	146	146
	30	9.1	5.2	19	15	26	17	67	67	106	106
	20	5.4	3.1	11.5	9.2	15	13	40	40	63	63
	10	2.0	1.1	4.2	3.4	4.7	4.2	15	15	23	23
70	90	15	8	35	35	55	55	167	167	223	223
40	90	8	6	20	20	31	31	68	68	150	150

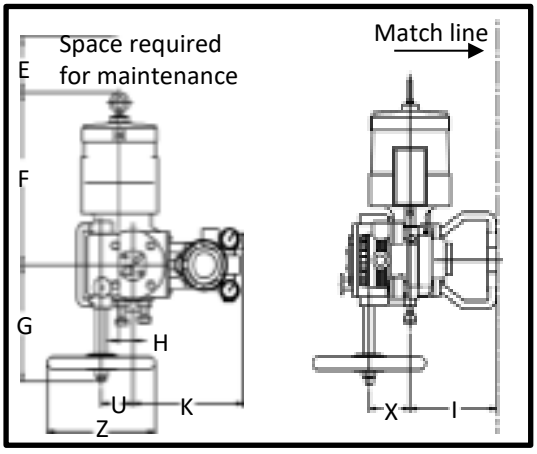
Automation Valve Product Service

Actuator Sub-assembly Dimensions



Actuator Size	Dimensions (inches / mm)													
	E		F		G		H		I		K		V	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
290	6.0	152	13.1	334	4.6	116	1.1	29	6.8	174	2.9	74	7.7	196
29 EF	9.3	236	17.4	441	4.6	116	1.1	29	6.8	174	2.9	74	7.7	196
370	8.0	203	18.1	461	5.6	144	2.0	51	6.8	174	3.8	96	7.7	196
37 EF	9.8	249	24.0	609	5.6	144	2.0	51	6.8	174	3.8	96	7.7	196

Fig. 14: RA Series Actuator with Positioner



Actuator Size	Dimensions (inches / mm)													
	F		G		H		I		K		U		X	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
290	12.1	334	8.9	226	1.1	29	6.8	174	9.2	233	2.6	67	3.3	83
29 EF	17.4	441	8.9	226	1.1	29	6.8	174	9.2	233	2.6	67	3.3	83
370	18.1	461	9.4	238	2.0	51	6.8	174	10.1	256	3.4	86	3.3	83
37 EF	24.0	609	9.4	238	2.0	51	6.8	174	10.1	256	3.4	86	3.3	83

Fig. 15: RA Series Actuator w/ Handwheel & Positioner

GVK-ER series
Body Sub-Assembly Dimensions

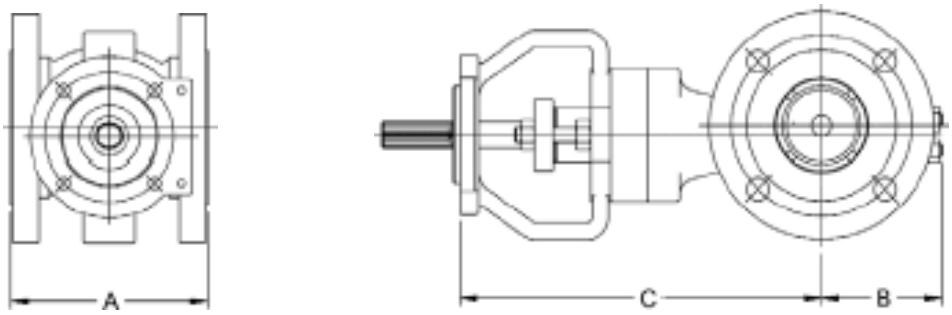


Fig. 16: GVK-ER series Body Sub-assembly

Dimensions			Valve Size (Inches)				
			1	1.5	2	3	4
A	150	in.	4	4.5	4.9	6.5	7.6
		mm	102	114	124	165	194
	300	in.	4	4.5	4.9	6.5	7.6
		mm	102	114	124	165	194
B	150	in.	2.7	2.8	2.9	4	4.2
		mm	69	71	74	102	107
	300	in.	2.7	2.8	2.9	4	4.2
		mm	69	71	74	102	107
C	150	in.	8.7	9.8	9.8	12	12.2
		mm	222	248	250	304	309
	300	in.	8.7	9.8	9.8	12	12.2
		mm	222	248	250	304	309

Product Service Qualified Certificate

ISO 9001:2015	ISO 14001:2015	ISO 45001:2018


Certificate of Registration

GVK INDUSTRY CO., LTD.

This is to certify that the Quality Management System of the company mentioned above meets the requirements of

ISO 9001:2015

SCOPE

Design/Development and Manufacture of Automatic Valves

Certificate No. : GSR-Q-950
Initial Certification : 2021. 04. 09.
Date Of Issue : 2021. 04. 09.
Expiry Date : 2024. 04. 08.

Global Systems Register Co.,Ltd


Certificate of Registration

GVK INDUSTRY CO., LTD.

This is to certify that the Environmental Management System of the company mentioned above meets the requirements of

ISO 14001:2015

SCOPE

Design/Development and Manufacture of Automatic Valves

Certificate No. : GSR-E-950
Initial Certification : 2021. 04. 09.
Date Of Issue : 2021. 04. 09.
Expiry Date : 2024. 04. 08.

Global Systems Register Co.,Ltd


Certificate of Registration

GVK INDUSTRY CO., LTD.

This is to certify that Occupational Health and Safety Management System of the company mentioned above meets the requirements of

ISO 45001:2018

SCOPE

Design/Development and Manufacture of Automatic Valves

Certificate Number: GSR-O-950 Issue Date: 2023. 10. 20.
Initial Certification: 2023. 10. 20. Expiry Date: 2026. 10. 19.

Global Systems Register Co., Ltd.

CE: Globe Control Valve	CE : Ball Valve	Research Institute


SZUTEST CE

CERTIFICATE OF COMPLIANCE
UYGUNLUK SERTİFİKASI


SZUTEST CE

CERTIFICATE OF COMPLIANCE
UYGUNLUK SERTİFİKASI


제 2023111848 호

기업부설연구소 인정서

1. 연 구 소 명: 지브이케이인더스트리(주) 기업부설연구소
[소속기업명: 지브이케이인더스트리(주)]
2. 소 재 지: 인천광역시 부평구 주부토로 236
C동 503호 (갈산동)
3. 신고 연월일: 2023년 06월 08일
(최초인정일 : 2023년 5월 10일)

과학기술정보통신부

「기초연구진흥 및 기술개발지원에 관한 법률」 제14조의 2제1항 및 같은 법 시행령 제27조제1항에 따라 위와 같이 기업부설연구소로 인정합니다.

2023년 6월 15일

한국산업기술진흥협회장

ASME U, PP Stemp

The American Society of Mechanical Engineers

CERTIFICATE OF AUTHORIZATION

The named company is authorized by The American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the ASME Single Certification Mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with the ASME Single Certification Mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

GVK INDUSTRY CO., LTD.
C-504, 236, Juhuto-ro, Ibayeong-gu
Incheon 21330
Republic of Korea

SCOPE:

Manufacture of pressure vessels at the above location and field sites controlled by the above location (This authorization does not cover impregnated graphite)

AUTHORIZED: March 25, 2024
EXPIRES: March 25, 2027
CERTIFICATE NUMBER: 61476

Board Chair, Conformity Assessment

Senior Director, Engineering Operations

EAC : RUSSIA TRCU

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

СЕРТИФИКАТ СООТВЕТСТВИЯ

EAC

№ ЕАЭС RU C-KR.АЖ58.В.01722

Серия RU № 0388216

ОРГАН ПО СЕРТИФИКАЦИИ

ЗАЯВИТЕЛЬ

ИЗГОТОВИТЕЛЬ GVK INDUSTRY CO.,LTD

ПРОДУКЦИЯ

КОДЫ ТН ВЭД ЕАЭС

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ

СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

СРОК ДЕЙСТВИЯ С ПО

ВЫДАЛ (УПОЛНОМОЧЕННОЕ ЛИЦО)

API 6D / 600 By KSM

Certificate of Authority to use the Official API Monogram

License Number: 6D-0646

KEY SUNG METAL CO., LTD.
20, Nokseonsandan 17-ro, Gangseo-gu
Busan
South Korea

American Petroleum Institute

Effective Date: MARCH 20, 2024
Expiration Date: MARCH 20, 2027

Certificate of Authority to use the Official API Monogram

License Number: 600-0065

KEY SUNG METAL CO., LTD.
20, Nokseonsandan 17-ro, Gangseo-gu
Busan
South Korea

American Petroleum Institute

Effective Date: MARCH 20, 2024
Expiration Date: MARCH 20, 2027

Venture company

벤처기업확인서

CERTIFICATE OF VENTURE ENTERPRISE

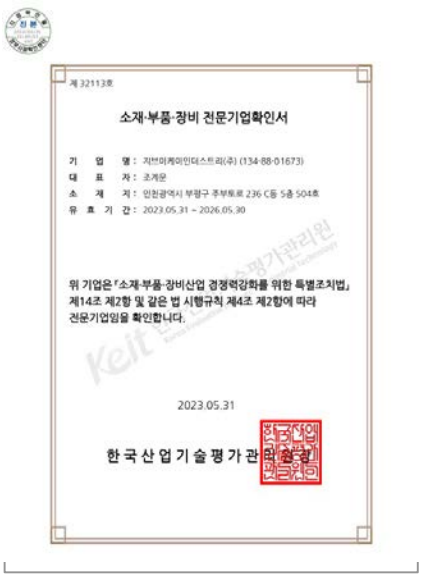
- 기업명 지브이케이인더스트리(주)
- 사업자등록번호 134-88-01673
- 대표자 조계문
- 주소 경기도 부천시 석천로 397 (삼정동) 301동 303-4호
- 확인유형 혁신성장유형
- 유효기간 2023년 06월 07일 ~ 2026년 06월 06일

위 기업은 「벤처기업육성에 관한 특별조치법」 제25조의 규정에 의거 벤처기업임을 확인합니다.

2023년 06월 07일

벤처기업확인기관장

Material · Part · Equipment



제 32113호

소재·부품·장비 전문기업확인서

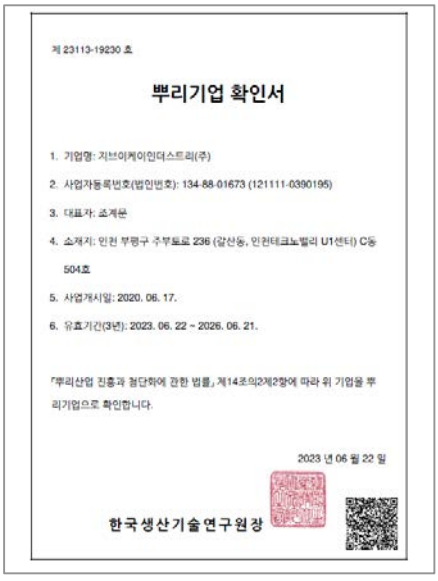
기 업 명 : 지브이케이인더스트리(주) (134-88-01673)
대 표 자 : 조계문
소 재 지 : 인천광역시 부평구 주부토로 236 C동 5층 504호
유 효 기 간 : 2023.05.31 ~ 2026.05.30

위 기업은 「소재·부품·장비산업 경쟁력강화를 위한 특별조치법」 제14조 제2항 및 같은 법 시행규칙 제4조 제2항에 따라 전문기업임을 확인합니다.

2023.05.31

한국산업기술평가관리원장

Rooting Enterprise



제 23113-19230 호

뿌리기업 확인서

1. 기업명: 지브이케이인더스트리(주)
2. 사업자등록번호(법인번호): 134-88-01673 (121111-0390195)
3. 대표자: 조계문
4. 소재지: 인천 부평구 주부토로 236 (갈산동, 인천테크노밸리 U1센터) C동 504호
5. 사업개시일: 2020. 06. 17.
6. 유효기간(3년): 2023. 06. 22 ~ 2026. 06. 21.

「뿌리산업 진흥과 첨단화에 관한 법률」 제14조의2제2항에 따라 위 기업을 뿌리기업으로 확인합니다.

2023 년 06 월 22 일

한국생산기술연구원장

GVK(GER)
ECCENTRIC BALL VALVE

Total Engineering Solution Service

GVK CO.,LTD.

HEAD OFFICE
Techno Valley C-503, 236, Jubuto-ro,
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