

spirax sarco®

K Series Valve Options

Description

Options of trim design, stem sealing and valve seating are available for the K Series of two port valves. Details of K two port valves are given in the following TI documents:

½" to 4"	Carbon steel	TI-P305-01
6" to 8"	Carbon steel	TI-P305-07
½" to 4"	Ductile iron	TI-P305-02
6" to 8"	Ductile iron	TI-P305-09
½" to 4"	Stainless steel	TI-P305-03
6" to 8"	Stainless steel	TI-P305-08

Valve characteristics

Equal percentage (E)

The standard characteristic for a modulating control valve. Matches the characteristics of most processes and provides good control at low flowrates.

Linear (L)

Special characteristic plug frequently specified for flow control where the differential pressures across the valve remain constant.

C_v values

Size	inches	½	¾	1	1¼	1½	2	2½	3	4	6	8
Travel	inches	¾	¾	¾	¾	¾	¾	¾ 1¼	¾ 1¼	¾ 1¼	1¼ 2	1¼ 2
Equal %	C _v	4.7	7.4	12.0	19.0	29.0	42.0	- 74	- 117	- 187	- 280	- 492
Linear	C _v	4.7	7.4	12.0	19.0	29.0	42.0	- 74	- 117	- 187	- 280	- 492
Reduced	C _v	1.9	4.7	7.4	12.0	19.0	29.0	42*	- 74	- 117	220	- 420
equal% and	C _v	1.2	1.9	4.7	7.4	12.0	19.0	29*	- 42*	- 74	187	- 320
linear trims	C _v	0.5	1.2	1.9	4.7	7.4	12.0	19*	- 29*	- 42*	117	- 187
Low noise	C _v	-	-	9.3	14.0	21.0	30.3	- 58	- 74	- 105	- 200	- 350

K_{vS} values

Size	DN	15	20	25	32	40	50	65	80	100	150	200
Travel	mm	20	20	20	20	20	20	20 30	20 30	20 30	30 50	30 50
Equal %	K _{vS}	4.0	6.3	10.0	16.0	25.0	36.0	- 63	- 100	- 160	- 238	- 418
Linear	K _{vS}	4.0	6.3	10.0	16.0	25.0	36.0	- 63	- 100	- 160	- 238	- 418
Reduced	K _{vS}	1.6	4.0	6.3	10.0	16.0	25.0	36*	- 63	- 100	187	- 357
equal% and	K _{vS}	1.0	1.6	4.0	6.3	10.0	16.0	25*	- 36*	- 63	159	- 272
linear trims	K _{vS}	0.4	1.0	1.6	4.0	6.3	10.0	16*	- 25*	- 36*	100	- 159
Low noise	K _{vS}	-	-	8.0	12.0	18.0	26.0	- 50	- 63	- 90	- 170	- 298

*To obtain the correct signal to travel relationship with the reduced C_v (K_v) trims identified a positioner must be used.

Fast opening (F)

A non-characterised valve plug intended for on-off applications only.

C_v (US) values

Size	inches	½	¾	1	1¼	1½	2	2½	3	4	6	8
Travel	inches	9/16	9/16	9/16	9/16	9/16	9/16	¾	¾	¾	1½	2
Fast opening	C _v	4.7	7.4	12.0	21.0	32.8	59.0	99.0	137.0	211.0	280.0	500.0

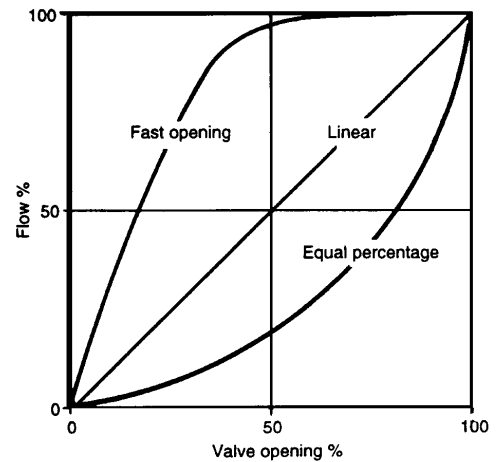
K_{vS} values

Size	DN	15	20	25	32	40	50	65	80	100	150	200
Travel	mm	15	15	15	15	15	15	20	20	20	38	50
Fast opening	K _{vS}	4.0	6.3	10.0	18.0	28.0	50.0	85.0	117.0	180.0	238.0	425.0

For product compatibility with pneumatically actuated valves:

¾" (20 mm) travel pneumatic actuators must be used for valve sizes ½" to 2" (DN15 to DN50), 1¼" (30 mm) travel actuators for valve sizes 2½" to 4" (DN65 to DN100) and 2" (50 mm) travel actuators for valve sizes 6" and 8" (DN150 and DN200).

Typical flow characteristic curves



K Valve Options

Stem sealing

High temperature graphite packing (H)

Design temperature	Up to 800°F (426°C) KEA41, 43, 61 and 63 Up to 450°F (232°C) KEA71 and 73
Material	Braided graphite packing

Note: For details of differential pressure for valves having graphite packed stem seals please contact Spirax Sarco.

Seat sealing

Soft seal (G)

Design temperature	Up to 392°F (200°C)
Material	PTFE
Leakage	IEC 534-4 ANSI, Class VI

Hard faced (W)

Design temperature	Up to 800°F (426°C) KEA41, 43, 61 and 63 Up to 450°F (232°C) KEA71 and 73
Material	316L stainless steel with stellite seating faces

Trim options

Low noise (N)

Design temperature	Up to 800°F (426°C) KEA41, 43, 61 and 63 Up to 450°F (232°C) KEA71 and 73
Seat	316L stainless steel
Plug	316L stainless steel
Characteristic	Equal percentage

Reduces noise by 10 dBA.

Anti-cavitation trim (C)

Design temperature	Up to 800°F (426°C) KEA41, 43, 61 and 63 Up to 450°F (232°C) KEA71 and 73
Seat	ASTM A276 Gr. 431 KEA41, 43, 71 and 73
Plug	ASTM A276 Gr. 431 KEA41, 43, 71 and 73

Also available in 316L material for KEA61 and 63

Characteristic	Equal percentage
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The perforated trim helps to extend the valve life by reducing the possibility of damage caused by cavitating liquids. Can also be used on pressurised hot water and condensate applications to reduce noise and wear caused by flashing across the valve seat/plug.

Connection options

Refer to the valve Technical Instruction Sheet (TI) for details of available options.

Control valve selection guide

Valve size	½" to 8" (DN15 to DN200)	<input type="text" value="2"/>
Valve series	K = 2-port	<input type="text" value="K"/>
Valve characteristic	L = Linear E = Equal percentage F = Fast opening	<input type="text" value="E"/>
Body series	A = ANSI/ASTM	<input type="text" value="A"/>
Body material	4 = Carbon steel 7 = Ductile iron 6 = Stainless steel	<input type="text" value="7"/>
Connections	1 = Screwed 3 = Flanged	<input type="text" value="3"/>
Gland sealing option	H = High temperature graphite packing	<input type="text"/>
Seating option	G = Soft seal (PTFE) W = Hard faced (stellite)	<input type="text" value="G"/>
Trim	C = Anti-cavitation N = Low noise	<input type="text"/>
C _v (US)	To be specified	<input type="text" value="Cv 42"/>
Connection type	To be specified	<input type="text" value="ANSI 250"/>

How to order

Example: 1 off 2" KEA73G C_v (US) 42 with ANSI 250 flanges.

Spare parts

See TI-P305-05 for KEA valve spares.