



Cert. No. LRQ 0963008

ISO 9001

# spirax sarco

## CE63

TI-F12-34  
CH Issue 2

1" (DN25) to 4" (DN100)

## Stainless Steel Cage Design, Two Port Control Valves

### Description

The CE63 series is a range of stainless steel two port, cage trim, control valves conforming to ANSI B 16.34, ASME VIII standards in sizes 1" to 4" (DN25 to DN100) available with ANSI and PN flange connections. When used in conjunction with a pneumatic linear actuator the 'C' series valve will provide characterised modulating or on/off control.

### Compatible actuators and positioners:

<b>Pneumatic actuators</b>	PN1000 series, spring-to-close
	PN2000 series, spring-to-open
<b>Positioners</b>	PP5 (pneumatic)
	EP5 (electropneumatic)
	SP2 (smart electropneumatic)

Refer to the relevant Technical Information Sheet for further details.

### Sizes and pipe connections

1", 1½", 2", 2½", 3" and 4" (DN25, 40, 50, 65, 80 and 100) flanged to ANSI 150, ANSI 300, ANSI 600 (Raised face or ring type joint), PN16, PN25, PN40, PN63, and PN100 (Raised face with ANSI face-to-face dimension). 1", 1½" and 2" socket weld.

### Options

<b>Trim</b>	Equal %, linear, fast opening (on/off) characteristics, soft seat, hard faced, low noise and anti-cavitation (single and multi-cage).
<b>Stem seal</b>	PTFE chevron, graphite packing and bellows.
<b>Plug</b>	Balanced or unbalanced to ANSI Class IV, V or VI shut-off.

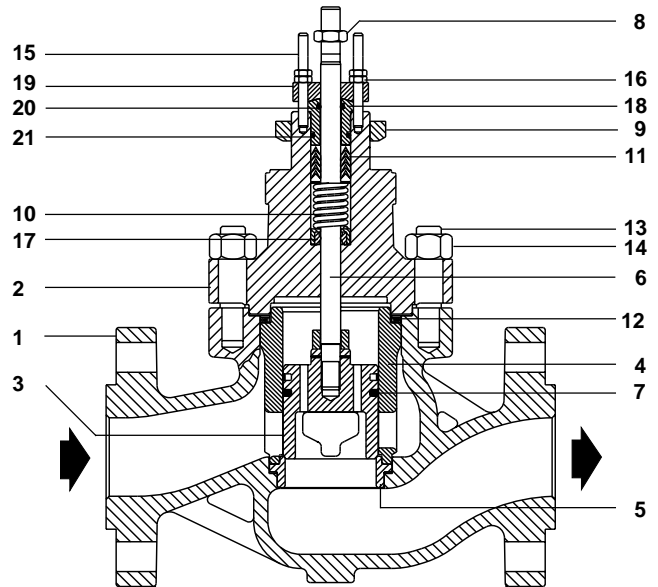
See 'C' series valve options Technical Information Sheet TI-F12-23.

### Technical data

<b>Plug design</b>	Unbalanced plug		
	PTFE sealed balanced plug		
	Graphite sealed balanced plug		
<b>Trim design</b>	Cage trim with equal percentage, linear and fast opening flow characteristic options.		
	Class IV	Metal-to-metal seat	IEC 534-4
<b>Leakage</b>	Class IV & V	Hard face stellite	IEC 534-4
	Class VI	PTFE soft seat	IEC 534-4
	CE valves Equal percentage		
<b>Flow characteristic</b>	CF valves Fast opening		
	CL valves Linear		
	CM valves Modified equal percentage		
	50:1 Equal percentage		
<b>Rangeability</b>	30:1 Linear		
	1" and 1½"	(DN25 and 40)	¾" (20 mm)
<b>Travel</b>	2"		(DN50) 1⅜" (30 mm)
	2½" and 3"		(DN65 and 80) 1½" (38 mm)
	4"		(DN100) 2" (50 mm)

### Limiting conditions

<b>Body design conditions</b>	ANSI 300 and ANSI 600	
	Standard PTFE chevron stem seals	-20°F to +482°F (-29°C to +250°C)
<b>Design temperature</b>	Graphite packing stem seals	Standard bonnet -20°F to +572°F (-29°C to +300°C)
		Extended bonnet -20°F to +1004°F (-29°C to +540°C)
	Graphite sealed balanced plug	Class IV 1 004°F (540°C)
	PTFE sealed balanced plug	Class VI 356°F (180°C)
<b>Designed for a maximum cold hydraulic test pressure of:</b>	ANSI 300	1 080 psi g (74.5 bar g)
	ANSI 600	2 160 psi g (149 bar g)
<b>Maximum differential pressure</b>	See relevant actuator TI	



### Materials

No.	Part	Material
1	Body	Stainless steel ASTM A351 CF8M
2	Bonnet	Stainless steel ASTM A351 CF8M
3	Valve plug	Stainless steel AISI 431 hardened
4	Valve cage	Stainless steel AISI 316 ENC
5	Valve seat	Stainless steel AISI 431
6	Valve stem	Stainless steel AISI 316
7	Valve plug sealing rings	PTFE and graphite or graphite
8	Lock-nut	Stainless steel AISI 316
9	Mounting nut	Zinc plated carbon steel
10	Gland spring	Stainless steel AISI 302
11	Gland seal	PTFE chevron or graphite
12	Bonnet gasket	Reinforced exfoliated graphite
13	Bonnet studs	Stainless steel ASTM A193 Gr. B8M
14	Bonnet nuts	Stainless steel ASTM A194 Gr. 8M
15	Stuffing box studs	Stainless steel ASTM A193 Gr. B8M
16	Stuffing box nuts	Stainless steel ASTM A194 Gr. 8M
17	Stem scraper	Glass filled PTFE
18	Stuffing box bush	Stainless steel AISI 316
19	Stuffing box ring	Stainless steel AISI 316
20	Valve stem wiper	Fluoroelastomer
21	'O' ring	Fluoroelastomer

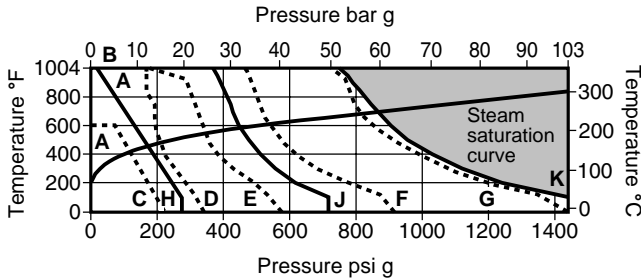
Local regulations may restrict the use of this product to below the conditions quoted.

In the interests of development and improvement of the product, we reserve the right to change the specification.

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## Operating range for body material and flange type only.

Note: See limiting conditions for stem and plug limitations.

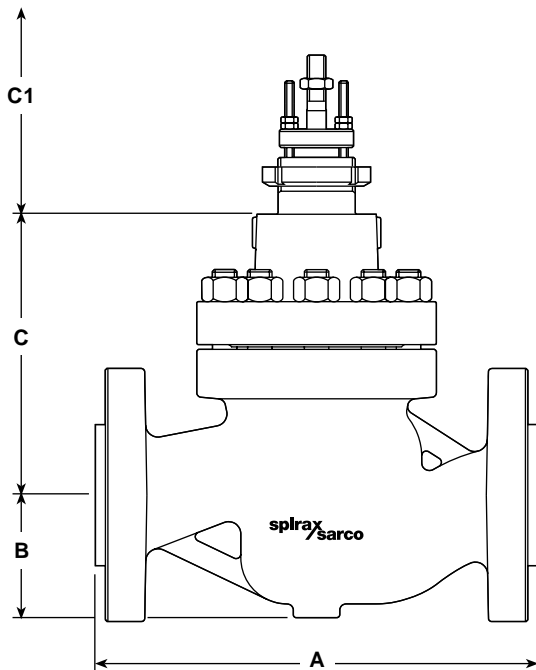


The product must not be used in this region.

A-C PN16    A-D PN25    A-E PN40    A-F PN63    A-G PN100  
B-H ANSI 150    B-J ANSI 300    B-K ANSI 600

## Dimensions (approximate) in inches and (mm)

Valve size	1" DN25	1½" DN40	2" DN50	2½" DN65	3" DN80	4" DN100	
A	ANSI 300 PN25 - PN40	7¾" (197)	9¼" (235)	10½" (267)	11½" (292)	12½" (317)	14½" (368)
	ANSI 600 PN63 - PN100	8¼" (210)	9⅞" (251)	11¼" (286)	12¼" (311)	13¼" (337)	15½" (394)
B	2½" (62)	3" (80)	3" (80)	3¾" (95)	4⅞" (105)	5" (128)	
C	5½" (141)	7" (179)	7⅞" (183)	8¼" (209)	8¼" (209)	9¾" (247)	
C1	Extended bonnet	10" (255)	11½" (293)	11⅝" (296)	13½" (344)	13½" (344)	15" (382)
	Bellows sealed bonnet	15" (380)	16½" (419)	18¼" (480)	20" (506)	20" (506)	25" (634)



## Weights (approximate) in lbs and (kg)

Valve size	1" DN25	1½" DN40	2" DN50	2½" DN65	3" DN80	4" DN100
Weights	29 (13)	48 (22)	59 (27)	92 (42)	130 (59)	213 (97)

## Valve flow coefficients at 100% lift

C<sub>v</sub> (US) for single stage trims (K<sub>vs</sub> shown in brackets).

Size	Equal % C <sub>v</sub> (K <sub>vs</sub> )	F <sub>L</sub>
1" (DN25)	18.00 (15.00)	0.94
1½" (DN40)	36.00 (31.00)	0.94
2" (DN50)	60.00 (51.00)	0.94
2½" (DN65)	99.00 (85.00)	0.92
3" (DN80)	136.00 (116.00)	0.90
4" (DN100)	223.00 (191.00)	0.89

Three reduced C<sub>v</sub> are available for equal percentage and linear trims, for further details see TI-F12-23 'C' series control valve options.

For conversion C<sub>v</sub> (UK) = C<sub>v</sub> (US) x 0.833    K<sub>vs</sub> = C<sub>v</sub> (US) x 0.865

## Sizing

Please consult Spirax Sarco.

## Installation

The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve name-plate. The actuator position will depend on the type fitted to the valve. Full instructions are supplied with the product.

## 'C' series valve selection guide

Valve size	1", 1½", 2", 2½", 3" and 4" DN25, 40, 50, 65, 80 and 100	<input type="text" value="2"/>
Valve series	C = Cage trim	<input type="text" value="C"/>
Valve characteristic	E = Equal percentage F = Fast opening L = Linear M = Modified equal percentage	<input type="text" value="E"/>
Body material	6 = Stainless steel	<input type="text" value="6"/>
Connections	2 = Butt weld (2" to 4") 3 = Flanged 4 = Socket weld (1", 1½" and 2")	<input type="text" value="3"/>
Stem sealing options	P = PTFE chevron H = Graphite B = Bellows	<input type="text" value="P"/>
Seating options	T = AISI 431 hardened G = PTFE soft seat W = Hard faced stellite AISI 316	<input type="text" value="T"/>
Type of trim	C = Standard cage P = Noise reducing perforated cage A = Anti-cavitation cage	<input type="text" value="C"/>
Number of stages	1 = One 2 = Two 3 = Three Other = To be specified	<input type="text" value="1"/>
Trim balancing	B = Balanced U = Unbalanced	<input type="text" value="U"/>
Bonnet type	S = Standard H = Extended for high temperature L = Extended for low temperature	<input type="text" value="S"/>
Reduced trim	0 = No Reduction 1 = 1 Reduction 2 = 2 Reductions 3 = 3 Reductions	<input type="text" value="1"/>
C <sub>v</sub>	To be specified	<input type="text" value="Cv 35"/>
Connection type	To be specified	<input type="text" value="ANSI 300"/>
<input type="text" value="2"/> <input type="text" value="C"/> <input type="text" value="E"/> <input type="text" value="6"/> <input type="text" value="3"/> <input type="text" value="P"/> <input type="text" value="T"/> <input type="text" value="C"/> <input type="text" value="1"/> <input type="text" value="U"/> <input type="text" value="S"/> <input type="text" value="1"/> <input type="text" value="Cv 35"/> <input type="text" value="ANSI 300"/>		

## How to order

Example: 1 off Spirax Sarco 2" CE63PTC1US1 C<sub>v</sub> 35 control valve having flanged ANSI 300 connections.

## Spare parts

See TI-F12-22.