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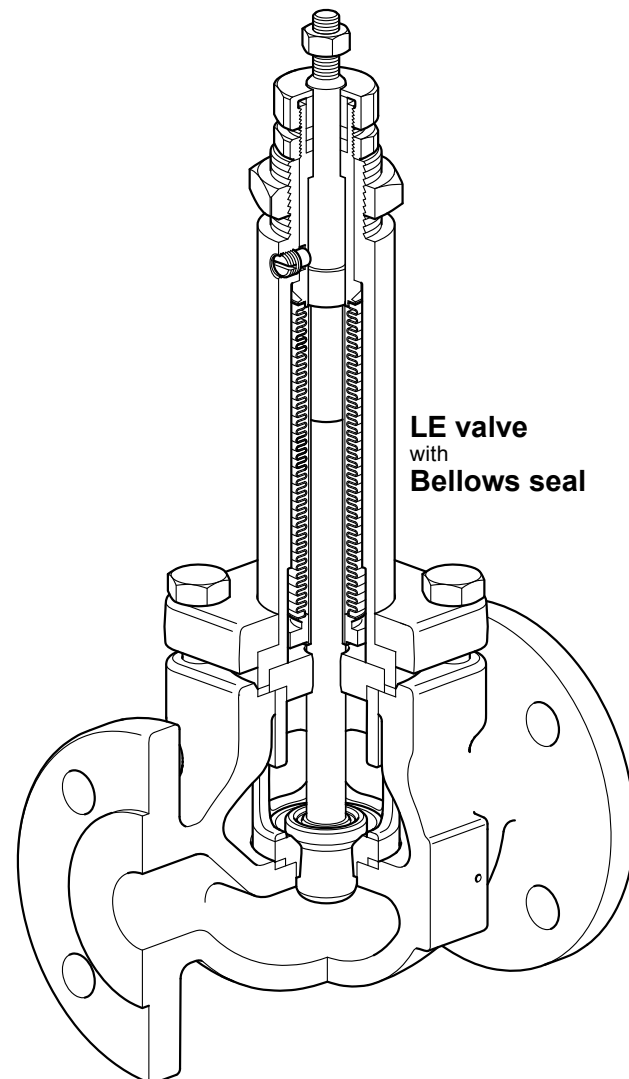
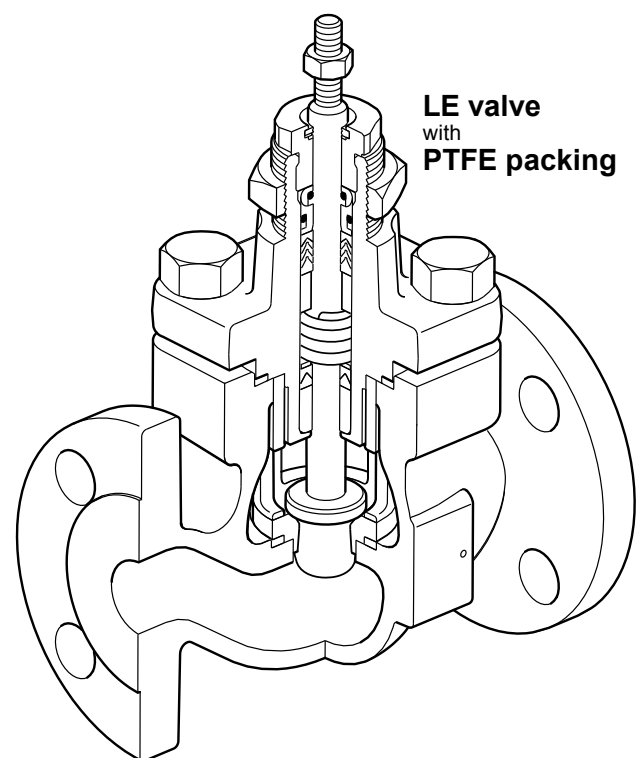
TI-S24-70  
 CH Issue 2

## CHRYSSAFIDIS Spira-trol™ Two-port Control Valves

### EN Standard LE, LF and LL DN15 to DN100 and ASME Standard LEA, LFA and LLA 1/2" to 4"

#### Description

Spira-trol™ is a range of two-port single seat globe valves with cage retained seats conforming to EN and ASME standard. These valves are available in three body materials in sizes ranging from DN15 to DN100 (1/2" to 4"). When used in conjunction with a pneumatic or electric linear actuator they provide characterized modulating or on/off control.



#### Sizes and pipe connections

Body material	Connections	Type	Size range
Cast iron	Screwed	BSP	LE31 DN15, DN20, DN25, DN32, DN40 and DN50
		NPT	LEA31 1/2", 3/4", 1", 1 1/4", 1 1/2" and 2"
	Flanged	EN 1092 PN16, JIS/KS 10	LE33 DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80 and DN100
		ASME class 125	LEA33 1", 1 1/2", 2", 2 1/2", 3" and 4"
Carbon steel	Flanged	JIS/KS 10	LEA33 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3" and 4"
		EN 1092 PN16, JIS/KS 10	LE43 DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80 and DN100
	Flanged	ASME class 150	LEA43 1/2", 3/4", 1", 1 1/2", 2", 2 1/2", 3" and 4"
		JIS/KS 10	LEA43 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3" and 4"
Stainless steel	Flanged	EN 1092 PN16, JIS/KS 10	LE63 DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80 and DN100
		ASME class 150	LEA63 1/2", 3/4", 1", 1 1/2", 2", 2 1/2", 3" and 4"
			LEA63 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3" and 4"

## SPIRA-TROL valve characteristic - options:

**LE and LEA Equal percentage (E)** - Suitable for most modulating process control applications providing good control at all flowrates.

**LF and LFA Fast opening (F)** - For on/off applications only.

**LL and LLA Linear (L)** - Primarily for liquid flow control where the differential pressures across the valve is constant.

**Important note:** Throughout this document, reference has been made to the standard LE or LEA control valve. With the exception of trim type, the LE, LEA, LF, LFA, LL and LLA control valves are identical.

## SPIRA-TROL valve options:


Stem sealing	PTFE chevron seals	Standard
	Bellows / graphite secondary seals (D)	Zero emissions and high temperature applications
	Graphite packing	High temperature applications
Seating	Metal-to-metal	431 stainless steel - standard 316L stainless steel
	Soft seating	Up to 200°C (392°F) - PTFE for Class VI shut-off Up to 250°C (482°F) - PEEK for Class VI shut-off
	Hard facing	316L stainless steel with Stellite 6 facing - for more arduous applications
Bonnet type	Standard bonnet	
	Extended bonnet for large pipe lagging or hot / cold applications	
Trim	Standard trim	
	Low noise and anti-cavitation trim (see TI-S24-59)	

## SPIRA-TROL valves are compatible with the following actuators and positioners:

Electric	EL3500, EL7200, AEL5 and AEL6 series
Pneumatic	PN1000, PN9000 and PN2000 series
Positioners	PP5 (pneumatic) or EP5 (electropneumatic)
	ISP5 (intrinsically safe electropneumatic)
	SP200is, SP400 and SP500 (microprocessor based electropneumatic)
	SP300 (digital communications)

Refer to the relevant Technical Information sheet for further details.

## Standards

Designed in accordance with EN 60534. This product fully complies with the requirements of the European Pressure Equipment Directive 97 / 23 / EC and carries the  mark when so required.

## Certification

This product is available with certification to EN 10204 3.1. **Note:** All certification / inspection requirements must be stated at the time of order placement.

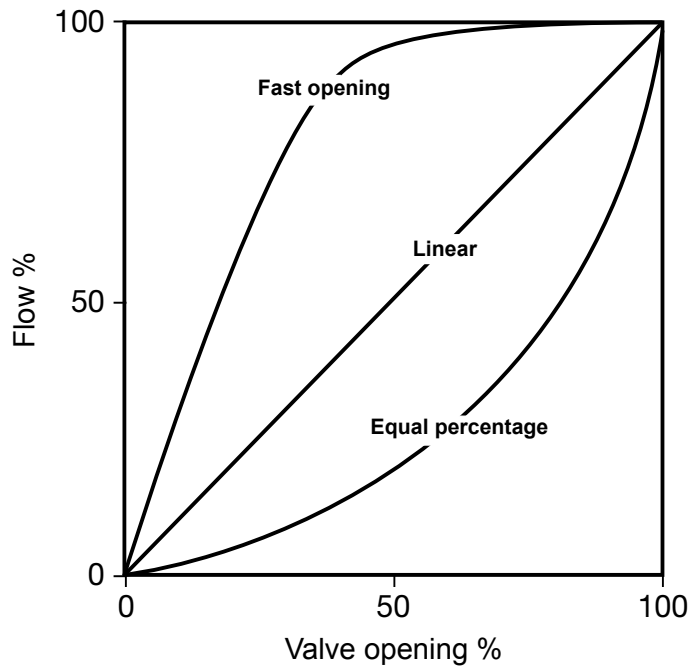


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**Technical data**

<b>Plug design</b>			Parabolic
<b>Leakage</b>	Metal-to-metal	Balanced and Unbalanced	Class IV
		Unbalanced	(optional) Class V
	Soft seal	Balanced	Class IV
		Unbalanced	Class VI
<b>Rangeability</b>	Equal		50:1
	Linear		30:1
	Fast		10:1
<b>Travel</b>	DN15 - DN50 (½" - 2")		20 mm (¾")
	DN65 - DN100 (2½" - 4")		30 mm (1¼")

**Typical flow characteristic curves**



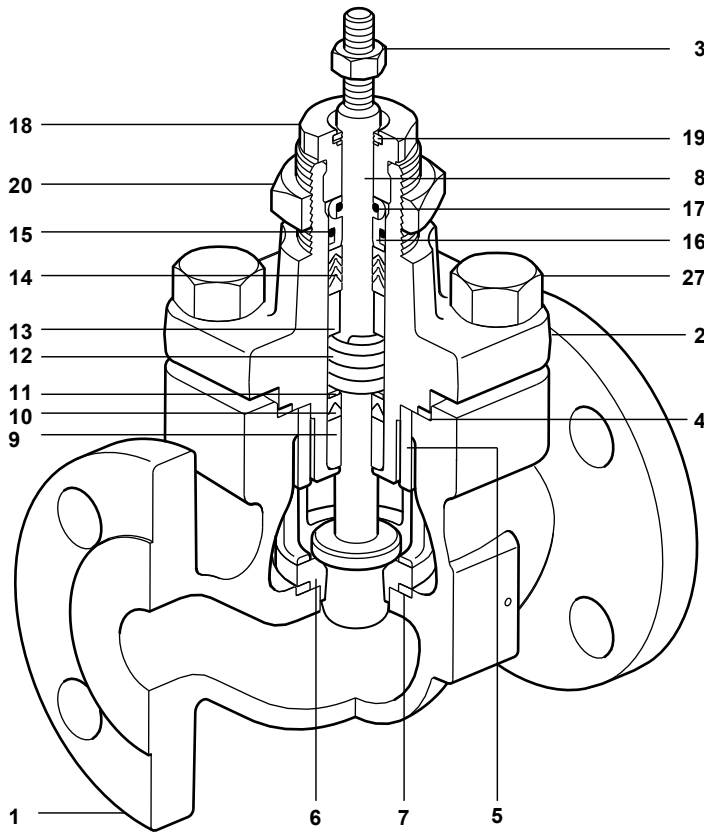
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## Materials

Body material	No.	Part	Type	Material	
Cast iron	1	Body	LE31 and LE33	SG iron EN 1563 : EN-GJS-400-18	
			LEA31 and LEA33	Cast iron ASTM A126B	
	2	Bonnet	DN15 - DN50 (½" - 2")	LE31 and LE33	SG iron EN 1563 : EN-GJS-400-18
				LEA31 and LEA33	Ductile iron ASTM A395
			DN65 - DN100 (2½" - 4")	LE31 and LE33	Cast iron EN 1561 : EN-GJL-250
				LEA31 and LEA33	Ductile iron ASTM A395
2a	Bonnet extension	LE31 and LE33	Carbon steel EN 10213 GP240GH+N (1.0619N) ASTM A216 WCB or A105N		
LEA31 and LEA33					
Carbon steel	1	Body	LE43	Carbon steel EN 10213 GP240GH+N (1.0619N)	
			LEA43	Cast steel ASTM A216 WCB	
	2	Bonnet	DN15 - DN50 (½" - 2")	LE43	Carbon steel EN 10273 P250GH (1.0460)
				LEA43	Carbon steel ASTM A105N
			DN65 - DN100 (2½" - 4")	LE43	Steel EN10213 GP240GH+N (1.0619N)
				LEA43	Cast steel ASTM A216 WCB
2a	Bonnet extension	LE43 and LEA43	Carbon steel EN 10213 GP240GH+N (1.0619N) ASTM A216 WCB or A105N		
Stainless steel	1	Body	LE63	Stainless steel EN 10213 1.4408 ASTM A351 CF8M	
			LEA63		
	2	Bonnet	LE63	Stainless steel EN 10213 1.4408 ASTM A351 CF8M	
			LEA63		
2a	Bonnet extension	LE63 and LEA63	Stainless steel		
All versions	2b	Bellows	All versions	Stainless steel	
	2c	Extended bonnet	LE63 and LEA63	Stainless steel A351 CF8M and EN 10213 1.4408	
			All others	Carbon steel A216 WCB and EN 10213 1.0619N	
	3	Stem lock-nut	All versions	Stainless steel	
	4	Bonnet gasket	All versions	Reinforced exfoliated graphite	
	5	Seat retainer	All versions	Stainless steel	
	6	Valve seat ring	All versions	Stainless steel, except FULL PEEK soft seat	
	7	Seat gasket	All versions	Reinforced exfoliated graphite	
	8	Valve plug and stem	All versions	Stainless steel	
	9 *	Lower stem guide	All versions	Glass filled PTFE, except Nitronic bush option	
	10 *	Lower stem wiper	All versions	PTFE	
	11 *	Packing guard washer	All versions	Stainless steel	
	12 *	Spring	All versions	Stainless steel	
	13	Packing spacer	All versions	Stainless steel	
	14 *	Chevron packing set	All versions	PTFE	
	15 *	Outer 'O' ring	All versions	Viton	
	16 *	Upper stem guide	All versions	Glass filled PTFE, except Nitronic bush option	
	17 *	Inner 'O' ring	All versions	Viton	
	18	Gland nut	All versions	Stainless steel	
	19	Scraper ring	All versions	PTFE	
	20	Actuator clamp nut	All versions	Plated carbon steel	
	21	Bellows assembly	All versions	Stainless steel	
	22	Bonnet extension gasket	All versions	Reinforced exfoliated graphite	
	23	Top plate (bonnet extension only)	All versions	Stainless steel	
	24	Lower spindle bearing housing	All versions	Stainless steel	
	25	Lower spindle bearing	All versions	Stainless steel	
26	Spindle lock and anti-rotation nut	All versions	Stainless steel		
27	Bonnet nuts	LEA63	Stainless steel ASTM A194 Gr. 8M		
		All others	Steel ASTM A194 Gr. 2H		
27	Set screws	LE63	Stainless steel A2-70		
		All others	Steel 8.8		
28	Standard bonnet studs	LEA63	Stainless steel ASTM A193 Gr. B8 M2		
		All others	Steel ASTM A193 Gr. B7		

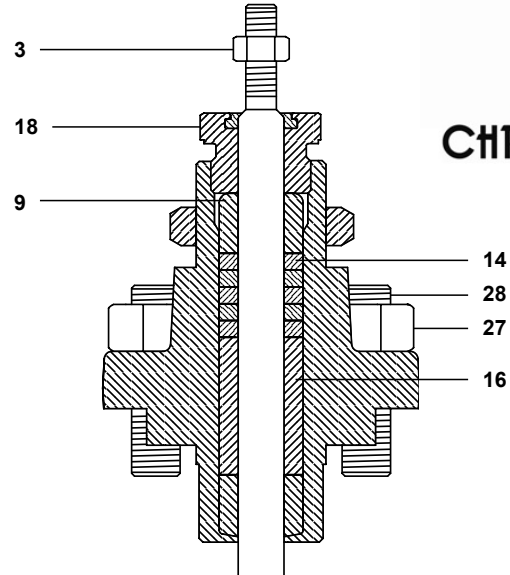
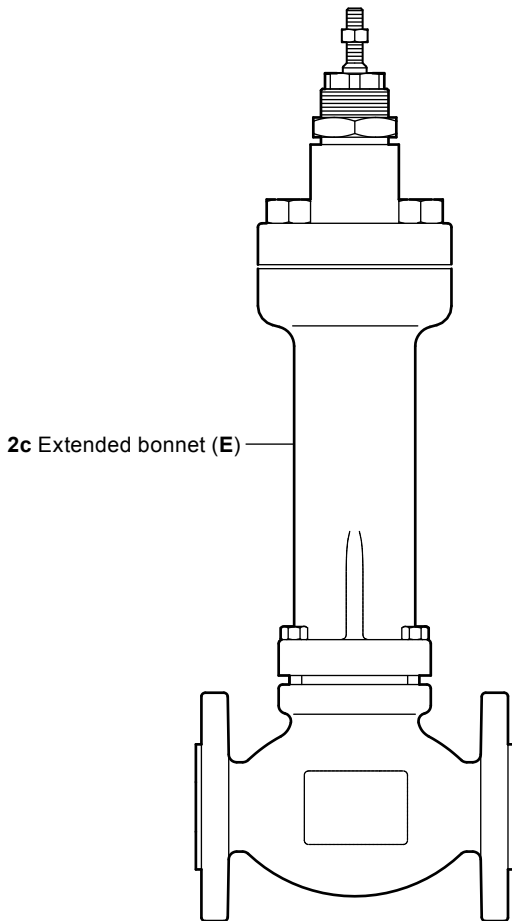
## \* Graphite packing

High temperature packing	9 16	Lower and upper stem guide	Stellite 6
	14	Grafoil packing	Graphite rings
	10, 11, 12, 15, 17, 19		Not used

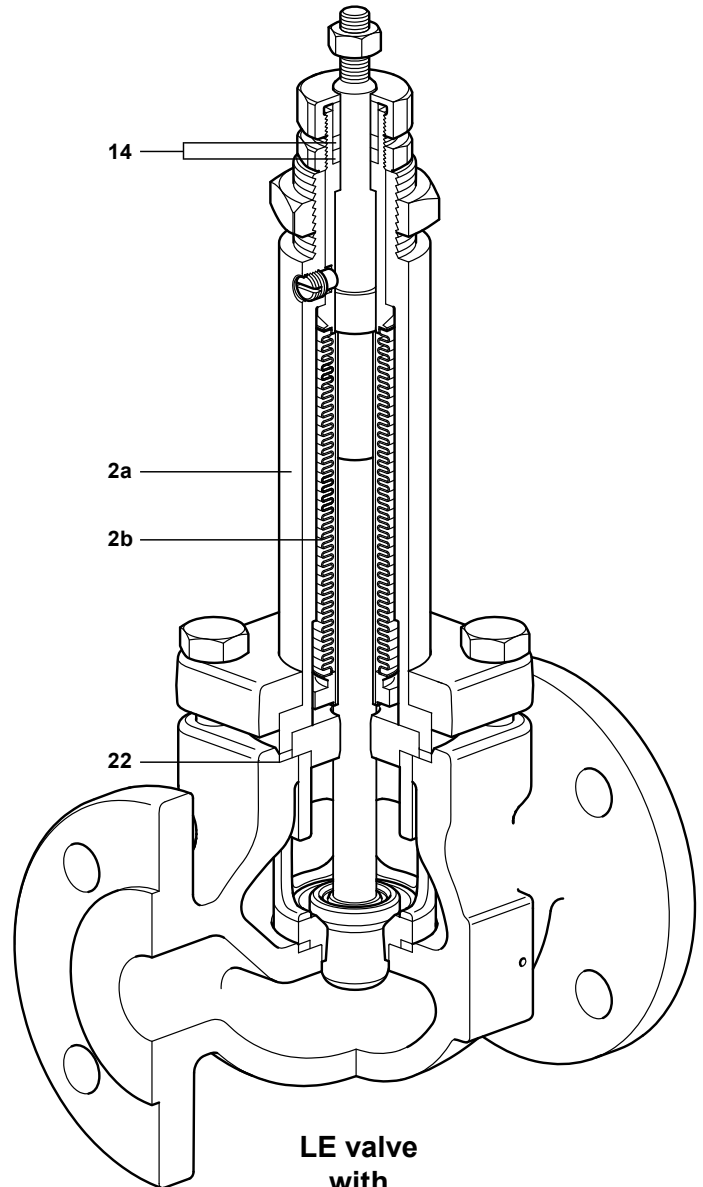


**LE valve with PTFE packing**

**LEA valve with extended bonnet (E)**



**Bonnet with graphite packing**



**LE valve with bellows seal (D)**

**K<sub>v</sub> values**

Valve size			DN15 (½")	DN20 (¾")	DN25 (1")	DN32 (1¼")	DN40 (1½")	DN50 (2")	DN65 (2½")	DN80 (3")	DN100 (4")	
<b>Standard trim</b>	Full port	Equal %	4.0	6.3	10.0	16.0	25.0	36	63	100	160	
		Linear	4.0	6.3	10.0	16.0	25.0	36	63	100	160	
		Fast opening	4.0	6.3	10.0	18.0	28.0	50	85	117	180	
	Reduced trim 1	Equal %	1.6	4.0	6.3	10.0	16.0	25	36	63	100	
		Linear	1.6	4.0	6.3	10.0	16.0	25	36	63	100	
	Reduced trim 2	Equal %	1.0	1.6	4.0	6.3	10.0	16	25	36	63	
		Linear	1.0	1.6	4.0	6.3	10.0	16	25	36	63	
	Reduced trim 3	Equal %	0.4	1.0	1.6	4.0	6.3	10	16	25	36	
		Linear	0.4	1.0	1.6	4.0	6.3	10	16	25	36	
	<b>Microflute</b>			0.5	0.5	0.5						
				0.2	0.2	0.2						
				0.1	0.1	0.1						
		0.07	0.07	0.07								
		0.01	0.01	0.01								

**Notes:** - Special K<sub>v</sub> on request  
- For low noise and anticavitation K<sub>v</sub> please see TI-S24-59

**C<sub>v</sub> (UK) values** C<sub>v</sub> (US) = C<sub>v</sub> (UK) x 1.2009

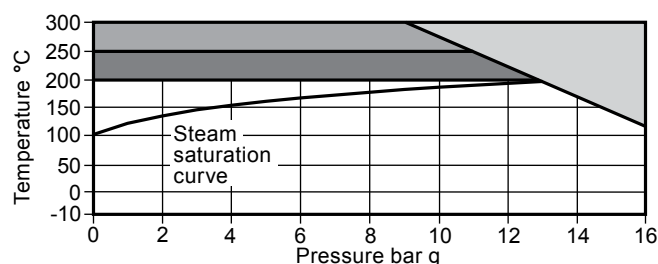
Valve size			DN15 (½")	DN20 (¾")	DN25 (1")	DN32 (1¼")	DN40 (1½")	DN50 (2")	DN65 (2½")	DN80 (3")	DN100 (4")	
<b>Standard trim</b>	Full port	Equal %	5.0	7.5	12.0	18.5	30.0	42.0	74.0	117.0	187.0	
		Linear	5.0	7.5	12.0	18.5	30.0	42.0	74.0	117.0	187.0	
		Fast opening	5.0	7.5	12.0	21.0	32.0	50.0	88.0	136.0	210.0	
	Reduced trim 1	Equal %	1.9	5.0	7.5	12.0	18.5	30.0	42.0	74.0	117.0	
		Linear	1.9	5.0	7.5	12.0	18.5	30.0	42.0	74.0	117.0	
	Reduced trim 2	Equal %	1.2	1.9	5.0	7.5	12.0	18.5	30.0	42.0	74.0	
		Linear	1.2	1.9	5.0	7.5	12.0	18.5	30.0	42.0	74.0	
	Reduced trim 3	Equal %	0.5	1.2	1.9	5.0	7.5	12.0	18.5	30.0	42.0	
		Linear	0.5	1.2	1.9	5.0	7.5	12.0	18.5	30.0	42.0	
	<b>Microflute</b>			0.5	0.5	0.5						
				0.2	0.2	0.2						
				0.1	0.1	0.1						
		0.07	0.07	0.07								
		0.01	0.01	0.01								

**Notes:** - Special C<sub>v</sub> on request  
- For low noise and anticavitation C<sub>v</sub> please see TI-S24-59

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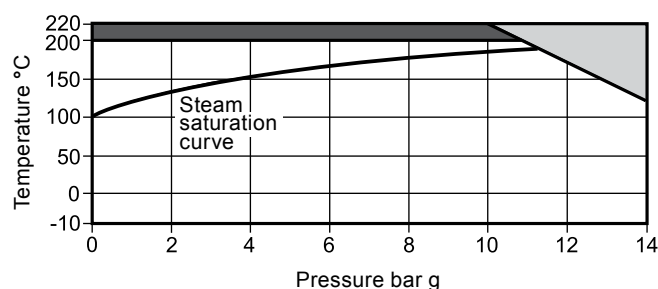
## Pressure/temperature limits - LE31 and LE33 cast iron valve body




Screwed BSP  
Flanged EN 1092 PN16



**Note:**  
When the process fluid temperature is sub-zero and the ambient temperature is below +5°C, the external moving parts of the valve and actuator must be heat traced to maintain normal operation.

Flanged JIS / KS 10



-  The product **must not** be used in this region.
-  High temperature graphite packing is required for use in this region. **Note:** Soft seated valves cannot be used in this region.
-  PTFE soft seated valves are limited to a maximum operating temperature of 200°C.

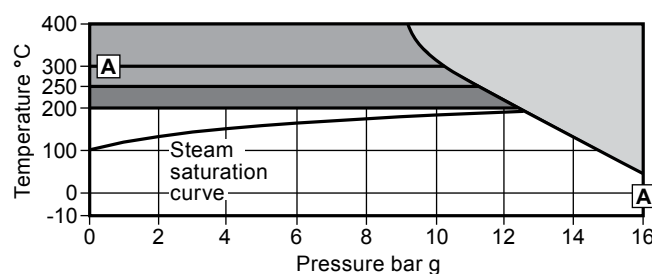
Body design conditions		PN16
Maximum design pressure		16 bar g @ 120°C
Maximum design temperature		300°C @ 9.6 bar g
Minimum design temperature		-10°C
Maximum operating temperature	Standard packing PTFE chevron - Option <b>P</b> or <b>N</b>	250°C
	PTFE soft seat - Option <b>G</b>	200°C
	PEEK soft seat - Option <b>K</b> or <b>P</b>	250°C
	Graphite packing - Option <b>H</b>	300°C
	See the Spira-trol™ selection guide on page 18 for the full list of available options	Extended bonnet with PTFE chevron - Option <b>E</b>
	Extended bonnet with graphite packing - Option <b>E</b>	300°C
	Bellows - Option <b>D</b>	300°C
Minimum operating temperature	<b>Note:</b> For lower operating temperatures consult Spirax Sarco	-10°C
Maximum differential pressures	See relevant actuator Technical Information sheet.	
Maximum cold hydraulic test pressure of:		24 bar g



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## Pressure/temperature limits - LE43 carbon steel valve body

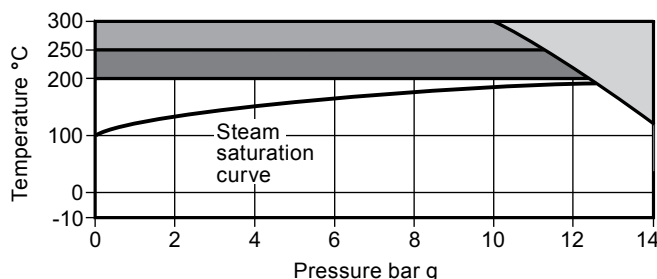
## Flanged EN 1092 PN16






**Please note** - Bellows sealed valves (Option D) are limited to A - A.

**Note:** When the process fluid temperature is sub-zero and the ambient temperature is below +5°C, the external moving parts of the valve and actuator must be heat traced to maintain normal operation.

## Flanged JIS / KS 10



-  The product **must not** be used in this region.
-  High temperature graphite packing is required for use in this region. **Note:** Soft seated valves cannot be used in this region.
-  PTFE soft seated valves are limited to a maximum operating temperature of 200°C.

Body design conditions		PN16
Maximum design pressure		16 bar g @ 50°C
Maximum design temperature		400°C @ 9.5 bar g
Minimum design temperature		-10°C
	Standard packing PTFE chevron	- Option P or N 250°C
	PTFE soft seat	- Option G 200°C
	PEEK soft seat	- Option K or P 250°C
Maximum operating temperature	Graphite packing	- Option H 400°C
See the Spira-trol™ selection guide on page 18 for the full list of available options	Extended bonnet with PTFE chevron	- Option E 250°C
	Extended bonnet with graphite packing	- Option E 400°C
	Bellows (A - A on the LE43 chart)	- Option D 300°C
Minimum operating temperature	<b>Note:</b> For lower operating temperatures consult Spirax Sarco	-10°C
Maximum differential pressures	See relevant actuator Technical Information sheet.	
Maximum cold hydraulic test pressure of:		24 bar g

For valve operating above 300°C extended bonnet is recommended for actuator suitability.

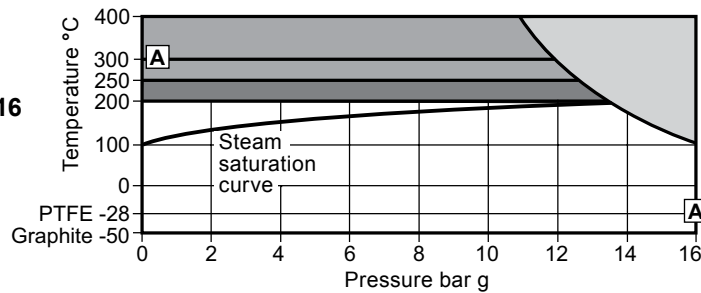


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## Pressure/temperature limits - LE63 stainless steel valve body

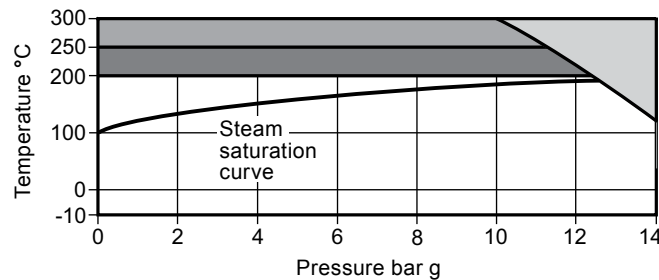
### Flanged EN 1092 PN16



**Please note** - Bellows sealed valves (Option **D**) are limited to **A - A**.

**Note:** When the process fluid temperature is sub-zero and the ambient temperature is below +5°C, the external moving parts of the valve and actuator must be heat traced to maintain normal operation.

### Flanged JIS / KS 10



- The product **must not** be used in this region.
- High temperature graphite packing is required for use in this region. **Note:** Soft seated valves cannot be used in this region.
- PTFE soft seated valves are limited to a maximum operating temperature of 200°C.

Body design conditions		PN16	
Maximum design pressure		16 bar g @ 50°C	
Maximum design temperature		400°C @ 10.9 bar g	
Minimum design temperature		-50°C	
Maximum operating temperature	Standard packing PTFE chevron	- Option <b>P</b> or <b>N</b>	250°C
	PTFE soft seat	- Option <b>G</b>	200°C
	PEEK soft seat	- Option <b>K</b> or <b>P</b>	250°C
	Graphite packing	- Option <b>H</b>	400°C
See the Spira-trol™ selection guide on page 18 for the full list of available options	Extended bonnet with PTFE chevron	- Option <b>E</b>	250°C
	Extended bonnet with graphite packing	- Option <b>E</b>	400°C
	Bellows ( <b>A - A</b> on the LE63 chart)	- Option <b>D</b>	300°C
Minimum operating temperature	PTFE packing		-28°C
	Graphite packing		-50°C
Maximum differential pressures	See relevant actuator Technical Information sheet.		
Maximum cold hydraulic test pressure of:			24 bar g

For valve operating above 300°C extended bonnet is recommended for actuator suitability.

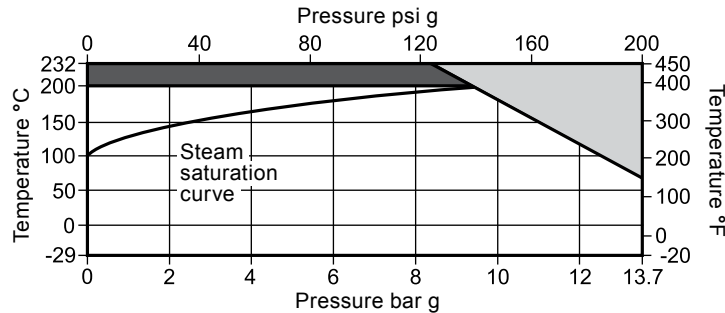


## CHRYSSAFIDIS

## Pressure/temperature limits - LEA31 and LEA33 cast iron valve body

### Screwed NPT

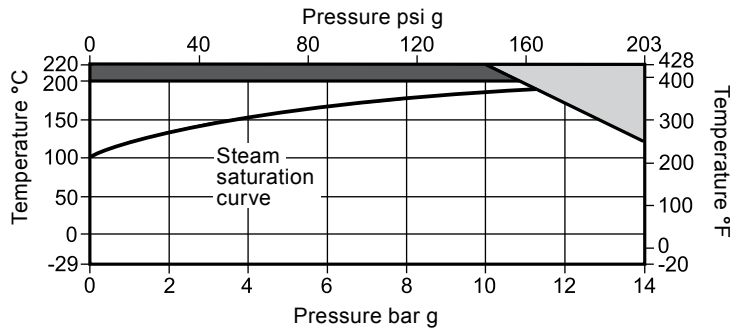
### Flanged ASME class 125



#### Note:

When the process fluid temperature is sub-zero and the ambient temperature is below +5°C (41°F), the external moving parts of the valve and actuator must be heat traced to maintain normal operation.

### Flanged JIS / KS 10



The product **must not** be used in this region.

PTFE soft seated valves are limited to a maximum operating temperature of 200°C.

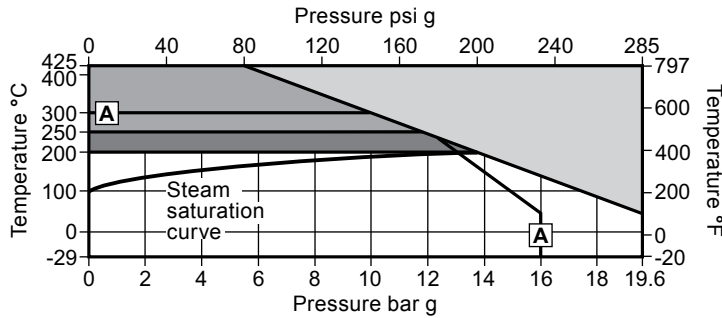
Body design conditions		ASME 125	
Maximum design pressure		13.7 bar g @ 65°C	(200 psi g @ 150°F)
Maximum design temperature		232°C @ 8.6 bar g	(450°F @ 125 psi g)
Minimum design temperature		-28°C	(-20°F)
Maximum operating temperature	Standard packing PTFE chevron	- Option <b>P</b> or <b>N</b>	232°C (450°F)
	PTFE soft seat	- Option <b>G</b>	200°C (392°F)
	PEEK soft seat	- Option <b>K</b> or <b>P</b>	232°C (450°F)
	Graphite packing	- Option <b>H</b>	232°C (450°F)
	See the Spira-trol™ selection guide on page 18 for the full list of available options	Extended bonnet with PTFE chevron	- Option <b>E</b>
Extended bonnet with graphite packing		- Option <b>E</b>	232°C (450°F)
Bellows		- Option <b>D</b>	232°C (450°F)
Minimum operating temperature	<b>Note:</b> For lower operating temperatures consult Spirax Sarco	-29°C	(-20°F)
Maximum differential pressures	See relevant actuator Technical Information sheet.		
Maximum cold hydraulic test pressure of:		21 bar g	(300 psi g)



# CHRYSSAFIDIS

**Pressure/temperature limits - LEA43 carbon steel valve body**

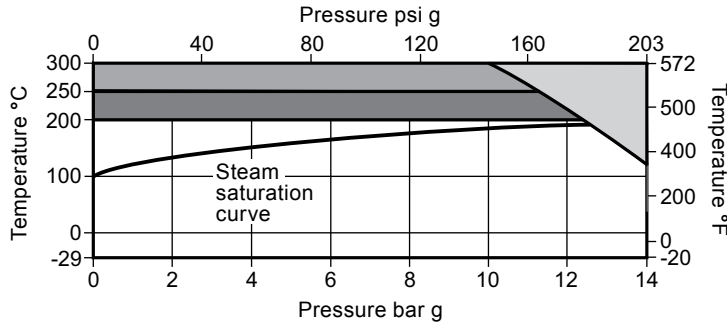
**Flanged  
ASME class 150**



**Please note** - Bellows sealed valves (Option D) are limited to A - A.

**Note:** When the process fluid temperature is sub-zero and the ambient temperature is below +5°C (41°F), the external moving parts of the valve and actuator must be heat traced to maintain normal operation.

**Flanged  
JIS / KS 10**



- The product **must not** be used in this region.
- High temperature graphite packing is required for use in this region. **Note:** Soft seated valves cannot be used in this region.
- PTFE soft seated valves are limited to a maximum operating temperature of 200°C (482°F).

Body design conditions		ASME 150
Maximum design pressure	19.6 bar g @ 38°C (285 psi g @ 100°F)	
Maximum design temperature	425°C @ 5.5 bar g (800°F @ 80 psi g)	
Minimum design temperature	-29°C (-20°F)	
Maximum operating temperature	Standard packing PTFE chevron - Option P or N	250°C (482°F)
	PTFE soft seat - Option G	200°C (392°F)
	PEEK soft seat - Option K or P	250°C (482°F)
See the Spira-trol™ selection guide on page 18 for the full list of available options	Graphite packing - Option H	425°C (800°F)
	Extended bonnet with PTFE chevron - Option E	250°C (482°F)
	Extended bonnet with graphite packing - Option E	425°C (800°F)
Minimum operating temperature	<b>Note:</b> For lower operating temperatures consult Spirax Sarco	-28°C (-20°F)
Maximum differential pressures	See relevant actuator Technical Information sheet.	
Maximum cold hydraulic test pressure of:	29.5 bar g (428 psi g)	

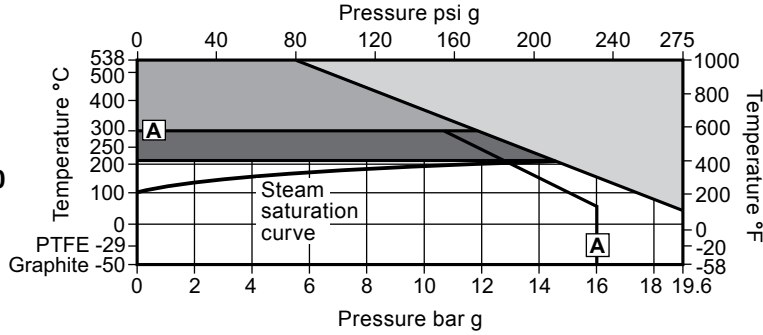
For valve operating above 572°F (300°C) extended bonnet is recommended for actuator suitability.



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**Pressure/temperature limits - LEA63 stainless steel valve body**

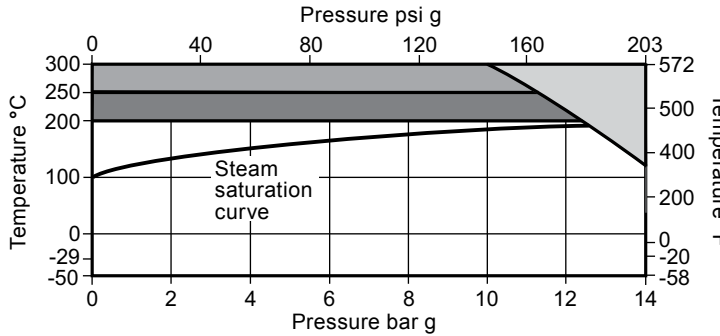
**Flanged  
ASME class 150**



**Please note** - Bellows sealed valves (Option D) are limited to A - A.

**Note:** When the process fluid temperature is sub-zero and the ambient temperature is below +5°C (41°F), the external moving parts of the valve and actuator must be heat traced to maintain normal operation.

**Flanged  
JIS / KS 10**



- The product **must not** be used in this region.
- High temperature graphite packing is required for use in this region. **Note:** Soft seated valves cannot be used in this region.
- PTFE soft seated valves are limited to a maximum operating temperature of 200°C (482°F).

Body design conditions	ASME 150		
Maximum design pressure	19.6 bar g @ 38°C (275 psi g @ 100°F)		
Maximum design temperature	538°C @ 1.3 bar g (1000°F @ 20 psi g)		
Minimum design temperature	-50°C (-58°F)		
	Standard packing PTFE chevron	- Option <b>P</b> or <b>N</b>	250°C (482°F)
	PTFE soft seat	- Option <b>G</b>	200°C (392°F)
	PEEK soft seat	- Option <b>K</b> or <b>P</b>	250°C (482°F)
Maximum operating temperature	Graphite packing	- Option <b>H</b>	538°C (1 000°F)
See the Spira-trol™ selection guide on page 18 for the full list of available options	Extended bonnet with PTFE chevron	- Option <b>E</b>	250°C (482°F)
	Extended bonnet with graphite packing	- Option <b>E</b>	538°C (1 000°F)
	Bellows (A - A on the LEA63 chart)	- Option <b>D</b>	300°C (572°F)
Minimum operating temperature	PTFE packing		-28°C (-20°F)
<b>Note:</b> For lower operating temperatures consult Spirax Sarco	Graphite packing		-50°C (-58°F)
Maximum differential pressures	See relevant actuator Technical Information sheet.		
Maximum cold hydraulic test pressure of:			28.4 bar g (413 psi g)

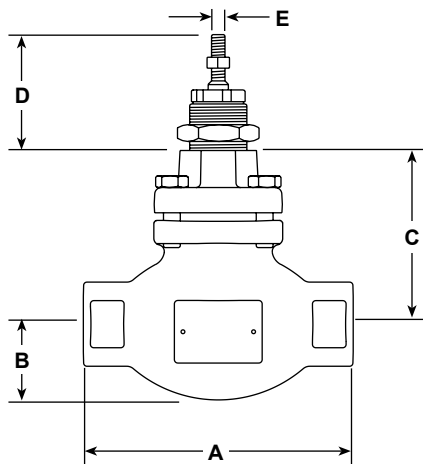
For valve operating above 572°F (300°C) extended bonnet is recommended for actuator suitability.



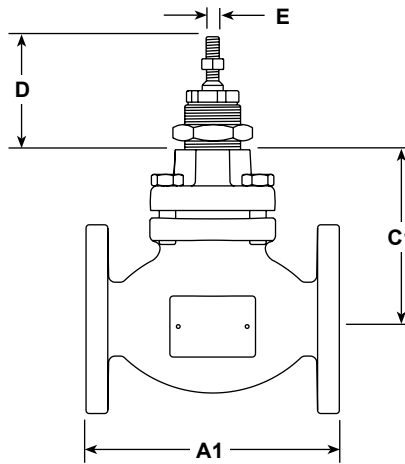
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**Dimensions** for the **Spira-trol™ two-port control valve** approximate in mm and (inches)

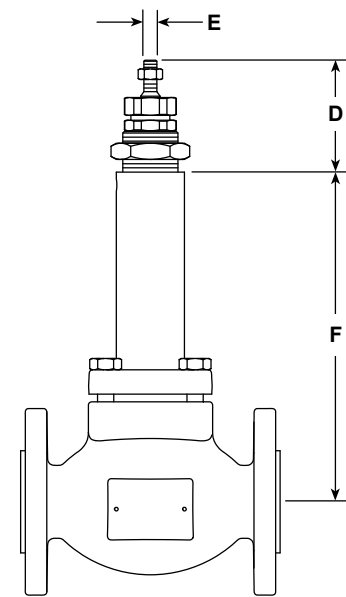
Valve size	Screwed						Flanged						D	E Thread	F	
	BSP			NPT			LE valves			LEA valves					Bellows seals	Extended bonnet
	A	B	C	A	B	C	PN16	JIS/KS 10		C1	A1	C1				
								LE33	LE43 LE63							
<b>DN15</b> (1/2")	130	40	103	165 (6 1/2")	44 (1 3/4")	102 (4")	130	130	123	103	184 (7 1/4")	102 (4")	69 (2 3/4")	M8	237 (9")	336 (13.25")
<b>DN20</b> (3/4")	155	45	103	165 (6 1/2")	44 (1 3/4")	102 (4")	150	150	144	103	184 (7 1/4")	102 (4")			237 (9")	336 (13.25")
<b>DN25</b> (1")	160	50	103	197 (7 3/4")	57 (2 1/4")	102 (4")	160	160	160	103	184 (7 1/4")	102 (4")			237 (9")	336 (13.25")
<b>DN32</b> (1 1/4")	185	60	132	216 (8 1/2")	57 (2 1/4")	127 (5")	180	180	176	132	222 (8 3/4")	127 (5")			267 (10 1/2")	354 (13.94")
<b>DN40</b> (1 1/2")	205	65	132	235 (9 1/4")	63 (2 1/2")	127 (5")	200	200	198	132	222 (8 3/4")	127 (5")			267 (10 1/2")	354 (13.94")
<b>DN50</b> (2")	230	80	127	267 (10 1/2")	76 (3")	127 (5")	230	230	222	127	254 (10")	127 (5")			267 (10 1/2")	354 (13.94")
<b>DN65</b> (2 1/2")							290	290	290	200	267 (10 1/2")	200 (7 7/8")	81 (3")	M12	368 (14 1/2")	416 (16.38")
<b>DN80</b> (3")							310	310	310	200	298 (11 3/4")	200 (7 7/8")			368 (14 1/2")	416 (16.38")
<b>DN100</b> (4")							350	350	350	216	349 (13 3/4")	216 (8 1/2")			381 (15")	431 (17")



Screwed version



Flanged version



Bellows sealed or extended bonnet version

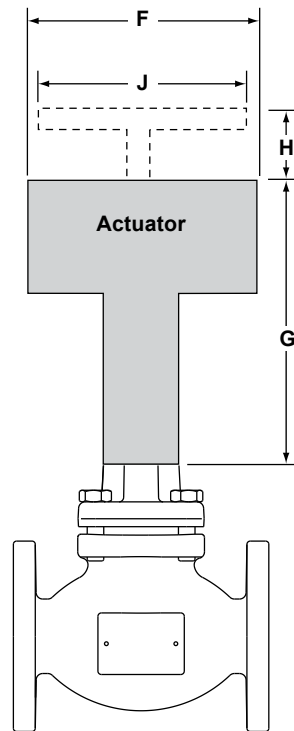
**Weights** for the **Spira-trol™ two-port control valve** approximate in kgs (and lbs)

Valve size	LE31	LE33	LE43	LE63	LEA31	LEA33	LEA43	LEA63	Additional bellows and Extended bonnet
<b>DN15</b> (½ )	4.0	5.0	5.0	5.0	7.3 (16)	7.3 (16)	7.3 (16)	7.3 (16)	4.5 (10)
<b>DN20</b> (¾ )	5.0	6.0	6.0	6.0	7.3 (16)	8.2 (18)	8.2 (18)	8.2 (18)	
<b>DN25</b> (1 )	5.5	6.5	6.5	6.5	10 (22)	13.6 (30)	13.6 (30)	13.6 (30)	
<b>DN32</b> (1¼ )	9.0	10.0	10.0	10.0	11.3 (25)	13.2 (29)	14.1 (31)	14.1 (31)	5.5 (12)
<b>DN40</b> (1½ )	10.0	12.8	12.8	12.8	14.1 (31)	14.1 (31)	16.3 (36)	16.3 (36)	
<b>DN50</b> (2 )	11.0	15.0	15.0	15.0	15 (33)	17.2 (38)	17.2 (38)	17.2 (38)	
<b>DN65</b> (2½ )		32.0	32.0	32.0		38 (84)	35 (78)	35 (78)	10.0 (21)
<b>DN80</b> (3 )		36.0	36.0	36.0		41 (91)	40 (89)	40 (89)	
<b>DN100</b> (4 )		53.0	53.0	53.0		60 (132)	56 (124)	56 (124)	13.0 (28)


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**Dimensions / weights** for the **PN actuator range** approximate in mm and kgs (inches and lbs)

Actuator range	F		G		H		J		Weight			
	mm	inches	mm	inches	mm	inches	mm	inches	Actuator		With handwheel	
									kg	lbs	kg	lbs
<b>PN1500</b> and <b>PN2500</b>	405	16"	1 114	46"					55	121.00		
<b>PN1600</b> and <b>PN2600</b>	465	18 5/16"	1 116	46"					70	154.00		
<b>PN9100E</b> and variants	275	10 7/8"	170	6a "	55	2 3/16"	225	8 7/8"	6	13.25	+5.86	+13.00
<b>PN9100R</b> and variants					140	5 1/2"					+2.50	+5.50
<b>PN9200E</b> and variants	300	11 7/8"	300	11 7/8"	55	2 3/16"	225	8 7/8"	17	37.50	+7.20	+15.75
<b>PN9200R</b> and variants					140	5 1/2"					+3.77	+8.50
<b>PN9320E</b> and variants	325	12 7/8"	390	15 9/16"	65	2 9/16"	350	13 3/4"	27	59.50	+7.20	+15.75
<b>PN9320R</b> and variants					150	15 7/8"					+3.77	+8.50
<b>PN9330E</b> and variants	335	13 3/8"	390	15 9/16"	65	2 9/16"	350	13 3/4"	27	59.50	+7.20	+15.75
<b>PN9330R</b> and variants					150	15 7/8"					+3.77	+8.50


**Dimensions / weights** for the **EL and AEL actuator ranges** approximate in mm and kgs (inches and lbs)

Actuator range	F		G		Weight	
	mm	inches	mm	inches	kg	lbs
<b>EL3500</b>	135 x 161	5 1/4" x 6 1/4"	242	9 1/2"	1.3	3.0
<b>EL3500 SE</b> and <b>SR</b>	135 x 161	5 1/4" x 6 1/4"	284	11"	2.4	6.0
<b>EL7200 series</b>	100	4"	471	18 1/2"	3.0	6.5
<b>AEL55</b> and <b>AEL65</b>	180	7"	557	22"	10.0	22.0
<b>AEL51, AEL52, AEL53, AEL62</b> and <b>AEL63</b>	177	7"	459	18"	5.0	11.0
<b>AEL54</b> and <b>AEL64</b>	177	7"	490	19"	7.0	15.5
<b>AEL56</b> and <b>AEL66</b>	226	9"	760	30"	20.0	44.0

## Spare parts

### Spira-trol™ - L series

The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

**Note:** When placing an order for spare parts please specify clearly the full product description as found on the label of the valve body, as this will ensure that the correct spare parts are supplied.

### Available spares

Actuator clamping nut		<b>A</b>
Gasket set	(Non-bellows sealed)	<b>B, G</b>
	PTFE chevrons	<b>C</b>
Stem seal kits	PTFE to Graphite conversion kit	<b>C1</b>
	Graphite packing	<b>C2</b>
Plug stem and seat kit	(No gaskets supplied)	<b>D, E</b>
PTFE or PEEK soft seat seal		<b>H</b>
Stem packing and gasket		<b>B, G, C1</b>
		<b>B, G, C</b>
Soft seat set		<b>B, G, C</b>
		<b>B, G, C2</b>
Soft seat set		<b>H1</b>

Specify if reduced trim.

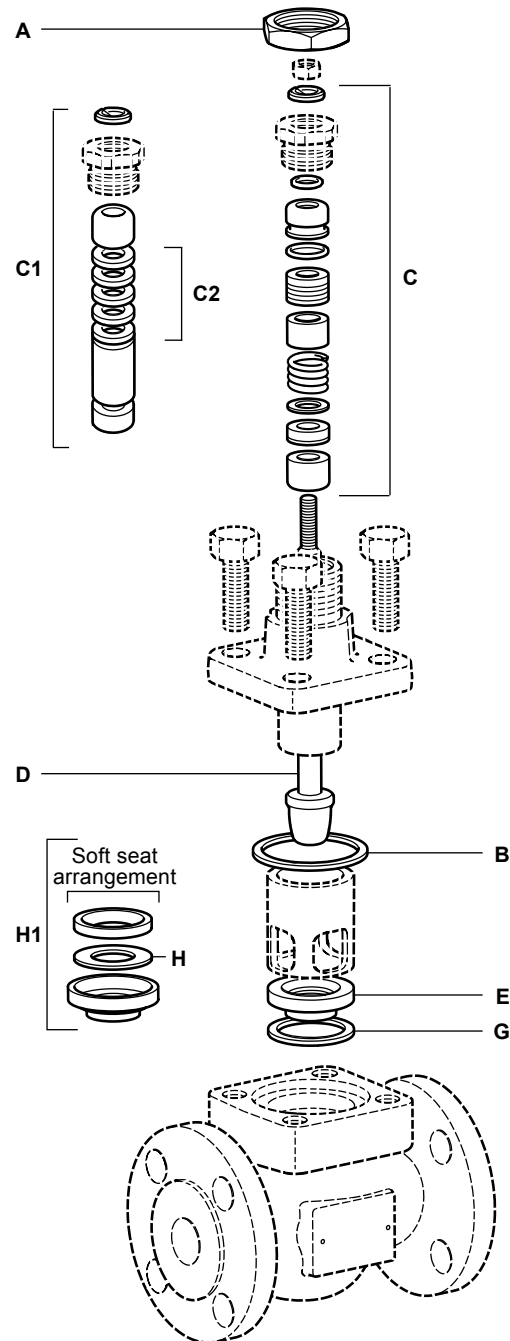
### How to order spares

Always order spares by using the description given in the column headed 'Available spares', and state the size and type of valve including the full product description of the product.

**Example:** 1 - PTFE stem seal kit for a Spirax Sarco Spira-trol™ DN25 LE43PTSUSS.2 K<sub>VS</sub> 10 two-port control valve.

### How to fit spares

Full fitting instructions are given in the Installation and Maintenance Instructions supplied with the spare.



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## Spare parts

### Spira-trol™ - L series with bellows seal

The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

**Note:** When placing an order for spare parts please specify clearly the full product description as found on the label of the valve body, as this will ensure that the correct spare parts are supplied.

### Available spares

Actuator clamping nut		<b>A</b>
Gasket set	(Non-bellows sealed)	<b>B, G</b>
Stem seal kit	Graphite packing and gasket set	<b>C2</b>
Plug stem and seat kit	(No gaskets supplied)	<b>D, E</b>
Bellows seal assembly		<b>F</b>
PTFE or PEEK soft seat seal		<b>H</b>
Soft seat set		<b>H1</b>

Specify if reduced trim.

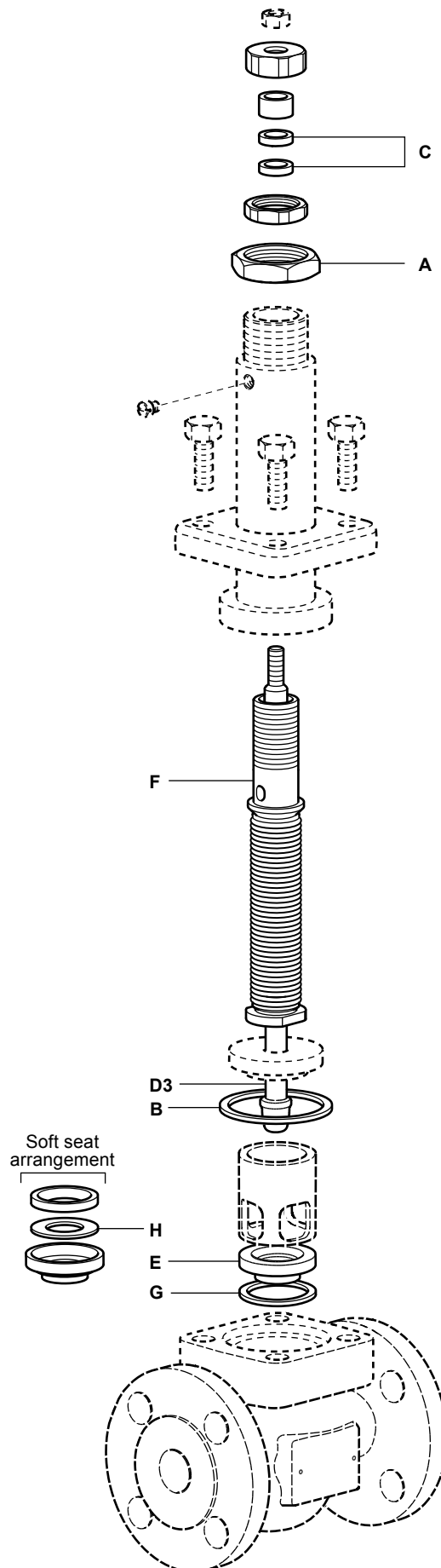
### How to order spares

Always order spares by using the description given in the column headed 'Available spares', and state the size and type of valve including the full product description of the product.

**Example:** 1 - Plug stem and seat kit for a Spirax Sarco Spira-trol™ DN25 LE43PTSUSS.2 K<sub>VS</sub> 10 two-port control valve.

### How to fit spares

Full fitting instructions are given in the Installation and Maintenance Instructions supplied with the spare.



**CHRYSSAFIDIS**

## Spira-trol™ selection guide:

<b>Valve size</b>	EN standard = DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80 and DN100 ASME standard = ½", ¾", 1", 1¼", 1½", 2", 2½", 3" and 4"	<b>DN25</b>
<b>Valve series</b>	L = L series 2-port control valve	<b>L</b>
<b>Valve characteristic</b>	E = Equal percentage F = Fast opening L = Linear	<b>E</b>
<b>Flange type</b>	A = ASME Blank = EN (PN)	<b>Blank</b>
<b>Flow</b>	Blank = under T = over	<b>Blank</b>
<b>Connections</b>	3 = Cast iron 4 = Carbon steel 6 = Stainless steel	<b>4</b>
<b>Connections</b>	1 = Screwed 3 = Flanged	<b>3</b>
<b>Stem sealing</b>	P = PTFE H = Graphite N = PTFE / Nitronic bush (DN15 to DN50 only) D = Bellows	<b>P</b>
<b>Seating</b>	T = 431 stainless steel G = PTFE soft seat S = 316L stainless steel W = 316L with stellite 6 facing P = Full PEEK K = PEEK soft seat	<b>T</b>
<b>Type of trim</b>	S = Standard trim A1 = 1 stage anticavitation A2 = 2 stage anticavitation P1 = 1 stage low noise cage P2 = 2 stage low noise cage P3 = 3 stage low noise cage	<b>S</b>
<b>Trim balancing</b>	U = Unbalanced B = Balanced (only available LEA series)	<b>U</b>
<b>Bonnet type</b>	S = Standard E = Extended	<b>S</b>
<b>Bolting</b>	S = Standard bolting H = High temperature (only available LE series)	<b>S</b>
<b>Finish</b>	Blank = Standard finish N = Nickel plated	<b>Blank</b>
<b>Series</b>	2 = .2	<b>0.2</b>
<b>Kvs</b>	To be specified	<b>Kvs 10</b>
<b>Connection type</b>	To be specified	<b>Flanged PN16</b>

## Selection example:

<b>DN25</b>	-	<b>L</b>	<b>E</b>	<b>4</b>	<b>3</b>	<b>P</b>	<b>T</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>S</b>	<b>.2</b>	-	<b>Kvs 10</b>	-	<b>Flanged PN16</b>
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## How to order

**Example:** 1 off Spirax Sarco Spira-trol™ DN25 LE43PTSUSS.2 Kvs 10 two-port control valve having flanged PN16 connections.