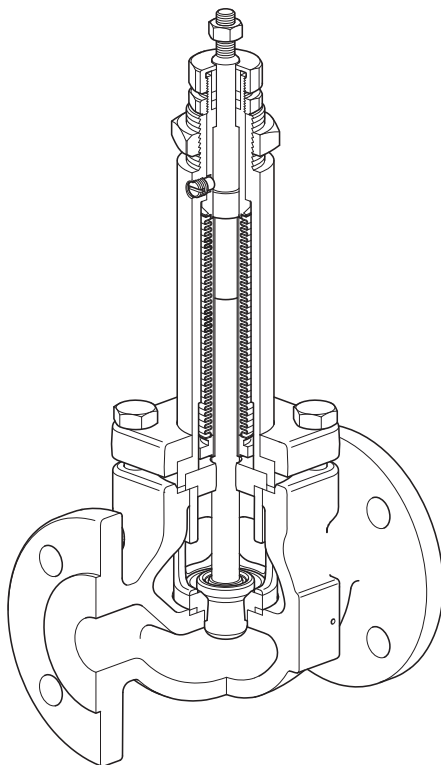


LE valve with PTFE packing



LE valve with Bellows seal

GCV Two-Port Control Valves  
 EN Standard LE, LF and LL DN 15 to DN 100 and  
 ASME Standard LEA, LFA and LLA ½" to 4"

### L Series

#### Description

GCV 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 (½" 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	½", ¾", 1", 1¼", 1½" 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", 1½", 2", 2½", 3" and 4"
Carbon steel	Flanged	EN 1092 PN16, JIS/KS 10	LE43	DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80 and DN100
		ASME class 150	LEA43	½", ¾", 1", 1½", 2", 2½", 3" and 4"
	JIS/KS 10	½", ¾", 1", 1¼", 1½", 2", 2½", 3" and 4"		
	Stainless steel	Flanged	EN 1092 PN16, JIS/KS 10	LE63
ASME class 150			LEA63	½", ¾", 1", 1½", 2", 2½", 3" and 4"
JIS/KS 10				½", ¾", 1", 1¼", 1½", 2", 2½", 3" and 4"

#### GCV valve characteristic - options:

LE and LEA	<b>Equal percentage (E)</b> - Suitable for most modulating process control applications providing good control at all flowrates.
LF and LFA	<b>Fast opening (F)</b> - For on/off applications only.
LL and LLA	<b>Linear (L)</b> - 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.

#### GCV valve options:

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

## GCV valves are compatible with the following actuators and positioners:

<b>Electric</b>	EL3500, EL7200, AEL3, AEL5 and AEL6 series
<b>Pneumatic</b>	PN1000, PN9000, PN2000, TN2000 and TN2100 Series
	PP5 (pneumatic) or EP500S (electropneumatic)
<b>Positioners</b>	EP500A (intrinsically safe electropneumatic)
	SP400 and SP500 (microprocessor based electropneumatic)

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 2014/68/EC and carries the  mark when so required.

### Certification

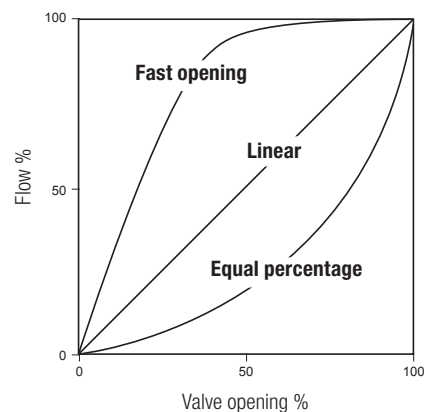
This product is available with certification to EN 10204 3.1.

**Note:** All certification/inspection requirements must be stated at the time of order placement.

## Technical data

<b>Plug design</b>	Parabolic	
<b>Leakage</b>	Metal-to-metal	Balanced and Unbalanced Class IV
		Unbalanced (optional) Class V
<b>Leakage</b>	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 (1 <sup>3</sup> / <sub>16</sub> ")

## Typical flow characteristic curves



## 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)		
		LEA31 and LEA33	ASTM A216 WCB or A105N		
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
LEA63				ASTM A351 CF8M	
2		Bonnet	LE63	Stainless steel EN 10213 1.4408	
			LEA63	ASTM A351 CF8M	
2a		Bonnet extension	LE63 and LEA63	Stainless steel AISI 316L	

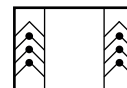
## Materials

<b>All versions</b>	<b>2b</b>	Bellows	<b>All versions</b>	Stainless steel	AISI 316L
	<b>2c</b>	Extended bonnet	<b>LE63 and LEA63</b>	Stainless steel	A351 CF8M and EN 10213 1.4408
			<b>All others</b>	Carbon steel	A216 WCB and EN 10213 1.0619N
	<b>3</b>	Stem lock-nut	<b>All versions</b>	Stainless steel	AISI 431
	<b>4</b>	Bonnet gasket	<b>All versions</b>	Reinforced exfoliated graphite	
	<b>5</b>	Seat retainer	<b>All versions</b>	Stainless steel	AISI 316L
	<b>6</b>	Valve seat ring	<b>Seating version T</b>	Stainless steel	AISI 431
			<b>Seating versions P and K</b>	PEEK	
			<b>All others</b>	Stainless steel	AISI 316L
	<b>7</b>	Seat gasket	<b>Seating version W</b>	Stellite	Alloy 6
	<b>8</b>	Valve plug and stem	<b>All versions</b>	Reinforced exfoliated graphite	
			<b>All others</b>	Stainless steel	AISI 431
			<b>LE63</b>	Stainless steel	AISI 316L
	<b>9 *</b>	Lower stem guide	<b>All versions</b>	Glass filled PTFE, except Nitronic bush option	
	<b>10 *</b>	Lower stem wiper	<b>All versions</b>	PTFE	
	<b>11 *</b>	Packing guard washer	<b>All versions</b>	Stainless steel	AISI 316L
	<b>12 *</b>	Spring	<b>All versions</b>	Stainless steel	AISI 316L
	<b>13</b>	Packing spacer	<b>All versions</b>	Stainless steel	AISI 316L
	<b>14 *</b>	Chevron packing set	<b>All versions</b>	PTFE	
	<b>15 *</b>	Outer 'O' ring	<b>All versions</b>	Viton	
	<b>16 *</b>	Upper stem guide	<b>All versions</b>	Glass filled PTFE, except Nitronic bush option	
	<b>17 *</b>	Inner 'O' ring	<b>All versions</b>	Viton	
	<b>18</b>	Gland nut	<b>All others</b>	Stainless steel	AISI 431
			<b>LE63</b>	Stainless steel	AISI 316L
	<b>19</b>	Scraper ring	<b>All versions</b>	PTFE	
	<b>20</b>	Actuator clamp nut	<b>All versions</b>	Plated carbon	NFA 35553 XC 18
	<b>21</b>	Bellows assembly	<b>All versions</b>	Stainless steel	
	<b>22</b>	Bonnet extension gasket	<b>All versions</b>	Reinforced exfoliated graphite	
<b>23</b>	Top plate (bonnet extension only)	<b>All versions</b>	Stainless steel	AISI 316L	
<b>24</b>	Lower spindle bearing housing	<b>All versions</b>	Stainless steel	AISI 316L	
<b>25</b>	Lower spindle bearing	<b>All versions</b>	Stainless steel	AISI 431	
		<b>Without stainless steel</b>	Stellite	Alloy 6	
<b>26</b>	Spindle lock and anti-rotation nut	<b>All versions</b>	Stainless steel		
<b>27</b>	Bonnet nuts	<b>LEA63</b>	Stainless steel	ASTM A194 Gr. 8M	
		<b>All others</b>	Steel	ASTM A194 Gr. 2H	
	Set screws	<b>LE63</b>	Stainless steel	A2-70	
		<b>All others</b>	Steel	8.8	
<b>28</b>	Standard bonnet studs	<b>LEA63</b>	Stainless steel	ASTM A193 Gr. B8 M2	
		<b>All others</b>	Steel	ASTM A193 Gr. B7	

### \* Graphite packing

Body material	No.	Part	Material
High temperature packing	<b>9 16</b>	Lower and upper stem guide	Stellite 6
	<b>14</b>	Grafoil packing	Graphite rings
	<b>10, 11, 12, 15, 17, 19</b>		Not used

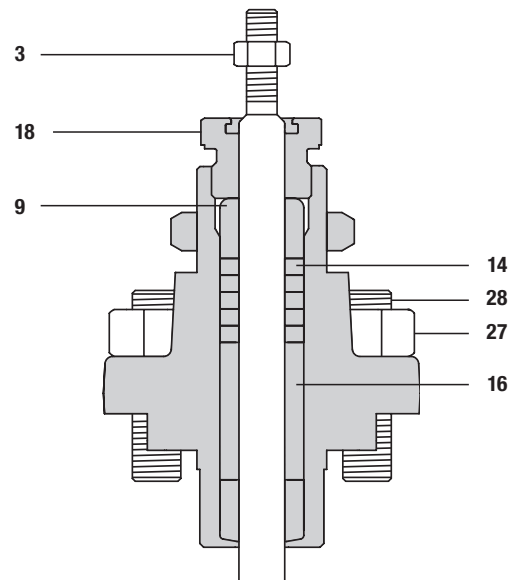
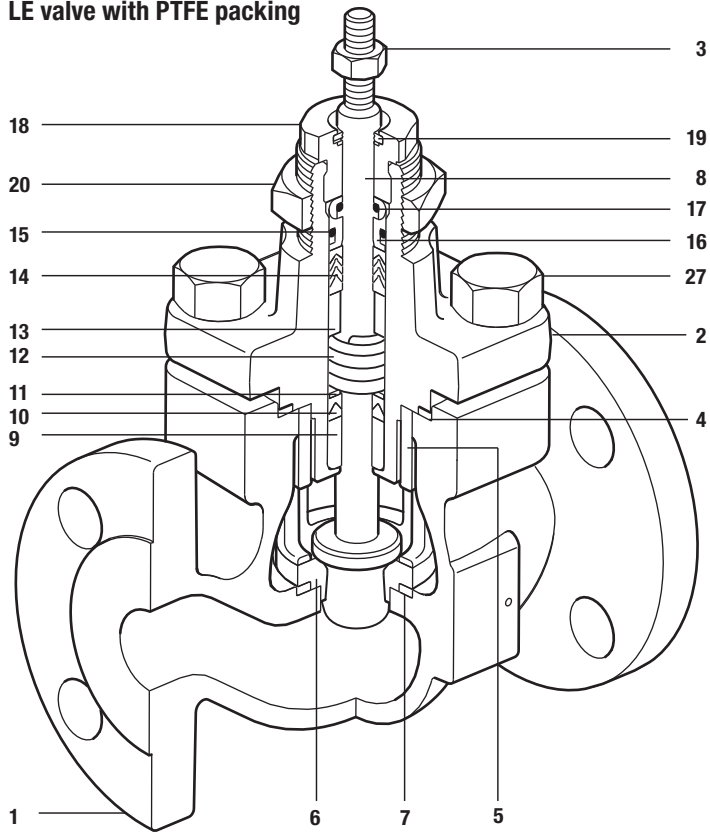
#### \* PTFE stem sealing



#### PTFE stem sealing for vacuum service

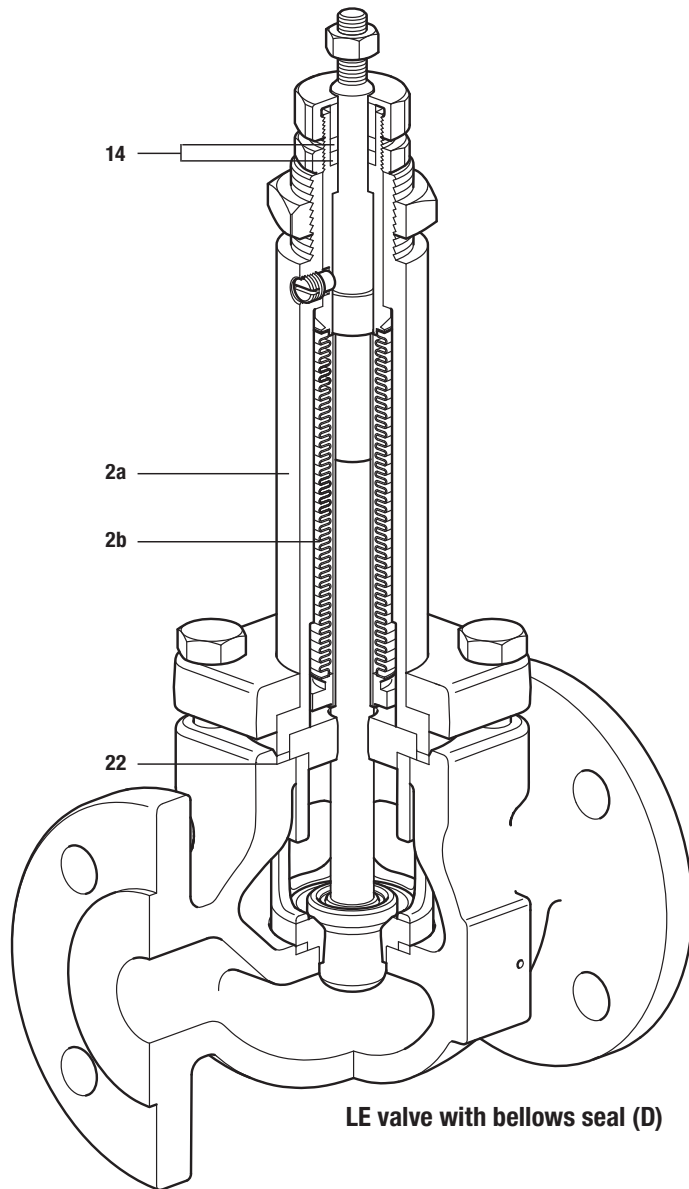
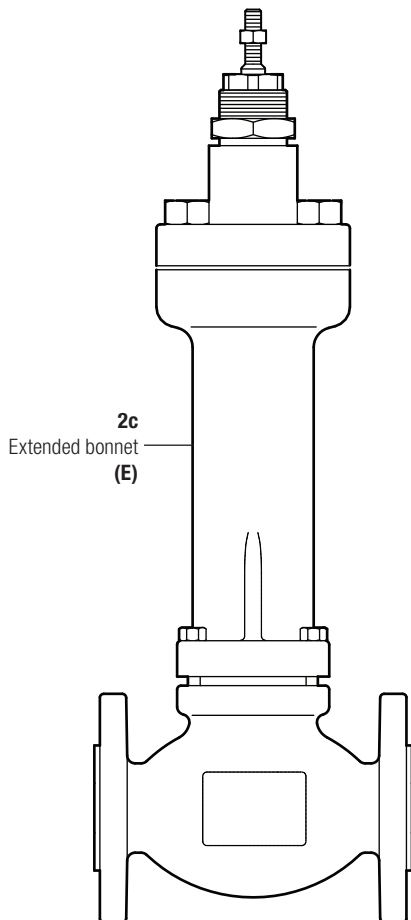


**LE valve with PTFE packing**



**Bonnet with graphite packing**

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



**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")	
Standard trim	High capacity	Equal %	4.9	7.2	11.0	17.5	31.0	46.0	90	115	N/A	
		Full port	Equal %	4.0	6.3	10.0	16.0	25.0	36.0	63	100	160
	Full port	Linear	4.0	6.3	10.0	16.0	25.0	36.0	63	100	160	
		Fast opening	4.0	6.3	10.0	18.0	28.0	50.0	85	117	180	
	Reduced trim 1	Equal %	2.5	4.0	6.3	10.0	16.0	25.0	36	63	100	
		Linear	2.5	4.0	6.3	10.0	16.0	25.0	36	63	100	
	Reduced trim 2	Equal %	1.6	2.5	4.0	6.3	10.0	16.0	25	36	63	
		Linear	1.6	2.5	4.0	6.3	10.0	16.0	25	36	63	
	Reduced trim 3	Equal %	1.0	1.6	2.5	4.0	6.3	10.0	16	25	36	
		Linear	1.0	1.6	2.5	4.0	6.3	10.0	16	25	36	
	Reduced trim 4	Equal %		1.0	1.6		4.0	6.3		16		
		Linear		1.0	1.6		4.0	6.3		16		
	Reduced trim 5	Equal %			1.0			4.0				
		Linear			1.0			4.0				
	Microflute			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 the corresponding Data Sheet

## C<sub>v</sub> (US) values

$$C_v \text{ (US)} = C_v \text{ (UK)} \times 1.2009$$

Valve size			DN15 (½")	DN20 (¾")	DN25 (1")	DN32 (1¼")	DN40 (1½")	DN50 (2")	DN65 (2½")	DN80 (3")	DN100 (4")	
Standard trim	High capacity	Equal %	5.7	8.3	12.7	20.2	36.0	53.0	104.0	133.0	N/A	
		Full port	Equal %	4.6	7.3	12.0	18.0	29.0	42.0	73.0	116.0	185.0
	Full port	Linear	4.6	7.3	12.0	18.0	29.0	42.0	73.0	116.0	185.0	
		Fast opening	4.6	7.3	12.0	21.0	32.0	58.0	98.0	135.0	208.0	
	Reduced trim 1	Equal %	2.9	4.6	7.3	12.0	18.0	29.0	42.0	73.0	116.0	
		Linear	2.9	4.6	7.3	12.0	18.0	29.0	42.0	73.0	116.0	
	Reduced trim 2	Equal %	1.8	2.9	4.6	7.3	12.0	18.0	29.0	42.0	73.0	
		Linear	1.8	2.9	4.6	7.3	12.0	18.0	29.0	42.0	73.0	
	Reduced trim 3	Equal %	1.2	1.8	2.9	4.6	7.3	12.0	18.0	29.0	42.0	
		Linear	1.2	1.8	2.9	4.6	7.3	12.0	18.0	29.0	42.0	
	Reduced trim 4	Equal %		1.2	1.8		4.6	7.3		18.0		
		Linear		1.2	1.8		4.6	7.3		18.0		
	Reduced trim 5	Equal %			1.2			4.6				
		Linear			1.2			4.6				
	Microflute			0.58	0.58	0.6						
				0.23	0.23	0.23						
		0.12	0.12	0.12								
		0.081	0.081	0.081								
		0.012	0.012	0.012								

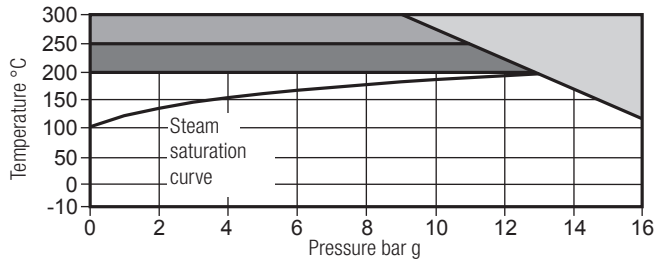
### Notes:

- Special K<sub>v</sub> on request
- For low noise and anticavitation K<sub>v</sub> please see the corresponding Data Sheet

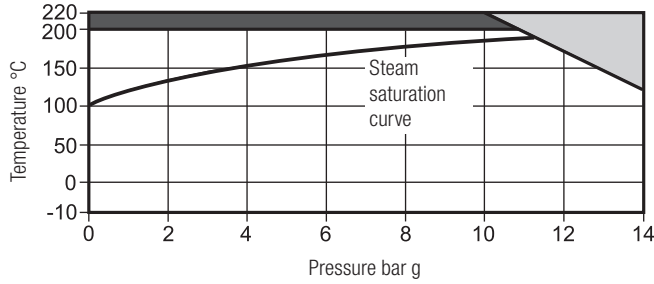
## Pressure/temperature limits

### LE31 and LE33 cast iron valve body

#### Screwed BSP Flanged EN 1092 PN16



#### Flanged JIS/KS 10



#### 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.

Body design conditions	PN16		
Maximum design pressure	16 bar g @ 120 °C		
Maximum design temperature	300 °C @ 9.6 bar g		
Maximum differential pressure design	PTFE soft seat (G)	7 bar	
	PEEK soft seat (K)	7 bar	
	Full PEEK seat (P)	19 bar	
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
	Extended bonnet with PTFE chevron	- Option <b>E</b>	250 °C
See the GCV selection guide for the full list of available options	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 GESTRA	-10 °C	
Maximum differential pressures	See relevant actuator Technical Information sheet.		
Maximum cold hydraulic test pressure of:	24 bar g		

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

 High temperature graphite packing is required for use in this region.

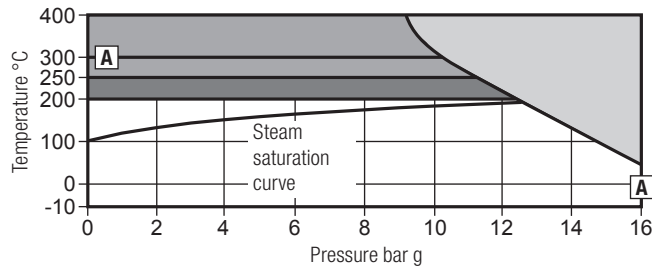
**Note:** Soft seated valves cannot be used in this region.

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

## Pressure/temperature limits

### LE43 carbon steel valve body

#### Flanged EN 1092 PN16

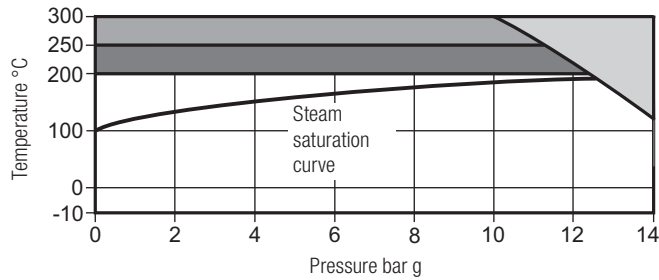


**Please note** - Bellows sealed valves (Option **D**) are limited to **A - A**.

**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



Body design conditions	PN16		
Maximum design pressure	16 bar g @ 50 °C		
Maximum design temperature	400 °C @ 9.5 bar g		
Maximum differential pressure design	PTFE soft seat (G)	7 bar	
	PEEK soft seat (K)	7 bar	
	Full PEEK seat (P)	19 bar	
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
See the GCV selection guide for the full list of available options	Graphite packing	- Option <b>H</b>	400 °C
	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 LE43 chart)	- Option <b>D</b>	300 °C
Minimum operating temperature	<b>Note:</b> For lower operating temperatures consult GESTRA		-10 °C
Maximum differential pressures	See relevant actuator Technical Information sheet.		
Maximum cold hydraulic test pressure of:	24 bar g		

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.

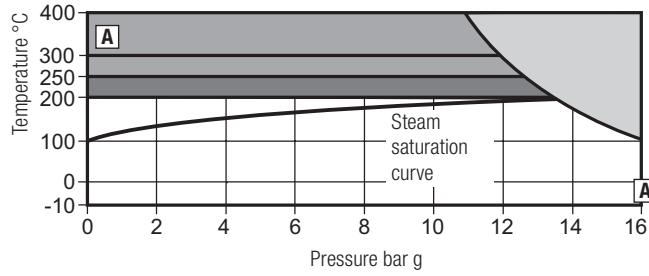
PTFE soft seated valves are limited to a maximum operating temperature of 200 °C.

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

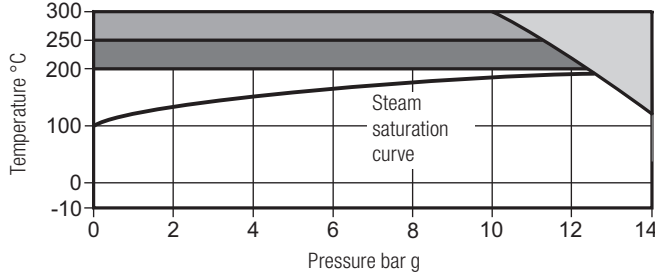
## Pressure/temperature limits

### LE63 stainless steel valve body

#### Flanged EN 1092 PN16



#### Flanged JIS/KS 10





Body design conditions	PN16		
Maximum design pressure	16 bar g @ 50 °C		
Maximum design temperature	400 °C @ 10.9 bar g		
Maximum differential pressure design	PTFE soft seat (G)	7 bar	
	PEEK soft seat (K)	7 bar	
	Full PEEK seat (P)	19 bar	
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>	400 °C
	Extended bonnet with PTFE chevron	- Option <b>E</b>	250 °C
See the GCV selection guide for the full list of available options	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
<b>Note:</b> For lower operating temperatures consult GESTRA	Graphite packing	-10 °C	
Maximum differential pressures	See relevant actuator Technical Information sheet.		
Maximum cold hydraulic test pressure of:	24 bar g		


**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.

 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.

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

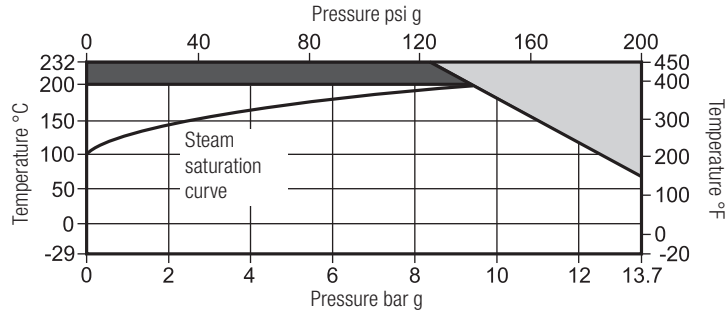


## Pressure/temperature limits

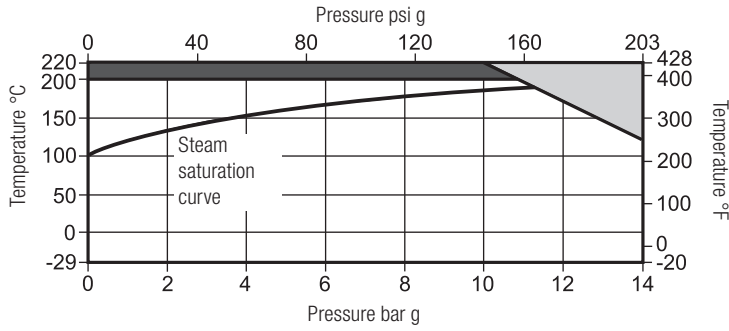
### LEA31 and LEA33 cast iron valve body

**Screwed NPT**

**Flanged  
ASME class 125**




**Flanged  
JIS/KS 10**




**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.

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)		
	PTFE soft seat (G)		7 bar
Maximum differential pressure design	PEEK soft seat (K)		7 bar
	Full PEEK seat (P)		19 bar
Minimum design temperature	-29 °C (-20 °F)		
	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)
Maximum operating temperature	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 GCV selection guide for the full list of available options	Extended bonnet with PTFE chevron	- Option <b>E</b>	232 °C (450 °F)
	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 GESTRA -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)

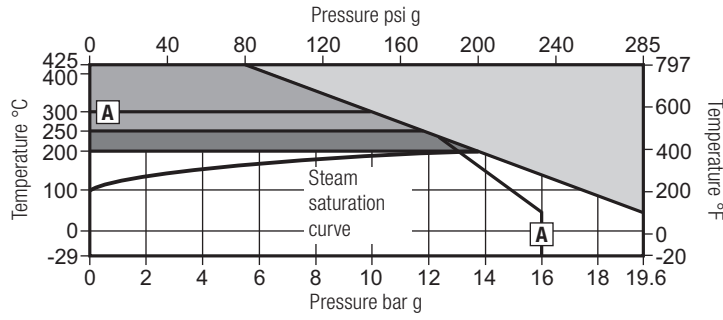
 The product **must not** be used in this region.

 PTFE soft seated valves are limited to a maximum operating temperature of 200 °C (482 °F).

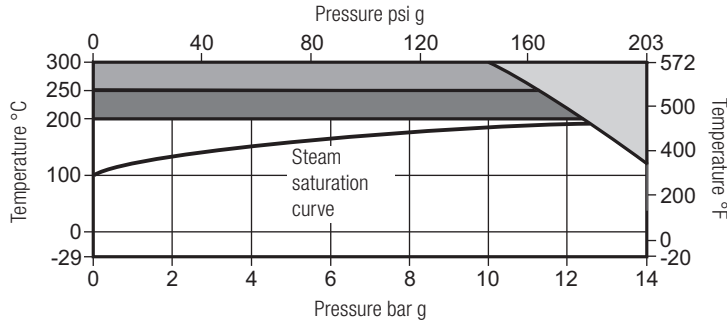
**Pressure/temperature limits**

**LEA43 carbon steel valve body**

**Flanged  
ASME class 150**



**Flanged  
JIS/KS 10**



**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.

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)	
Maximum differential pressure design	PTFE soft seat (G)	7 bar
	PEEK soft seat (K)	7 bar
	Full PEEK seat (P)	19 bar
Minimum design temperature	-29 °C (-20 °F)	
Maximum operating temperature	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)
	Graphite packing - Option <b>H</b>	425 °C (800 °F)
See the GCV selection guide 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>	425 °C (800 °F)
	Bellows ( <b>A - A</b> on the LEA43 chart) - Option <b>D</b>	300 °C (572 °F)
Minimum operating temperature	<b>Note:</b> For lower operating temperatures consult GESTRA	-29 °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)

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.

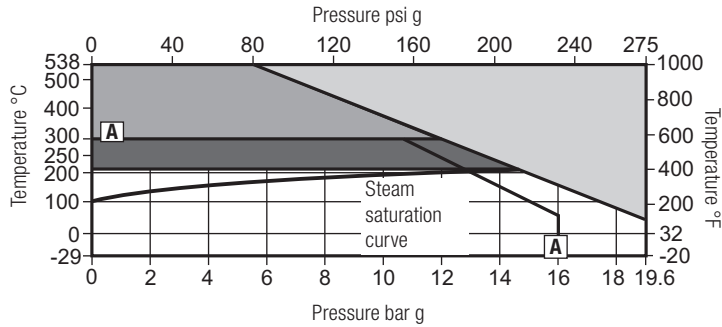
PTFE soft seated valves are limited to a maximum operating temperature of 200 °C (482 °F).

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

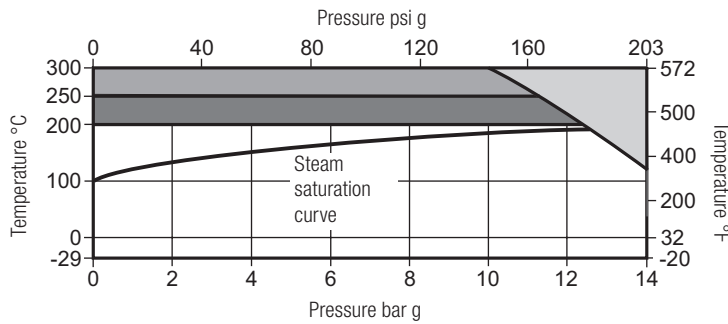
## Pressure/temperature limits

### LEA63 stainless steel valve body

Flanged  
ASME class  
150



Flanged  
JIS/KS 10



**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.

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 (1 000 °F @ 20 psi g)		
Maximum differential pressure design	PTFE soft seat (G)	7 bar	
	PEEK soft seat (K)	7 bar	
	Full PEEK seat (P)	19 bar	
Minimum design temperature	-29 °C (14 °F)		
Maximum operating temperature	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)
	Graphite packing - Option <b>H</b>	538 °C	(1 000 °F)
See the GCV selection guide 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 ( <b>A - A</b> on the LEA63 chart) - Option <b>D</b>	300 °C	(572 °F)
Minimum operating temperature <b>Note:</b> For lower operating temperatures consult GESTRA	PTFE packing	-29 °C	(14 °F)
	Graphite packing		
Maximum differential pressures	See relevant actuator Technical Information sheet.		
Maximum cold hydraulic test pressure of:	28.4 bar g	(413 psi g)	

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.

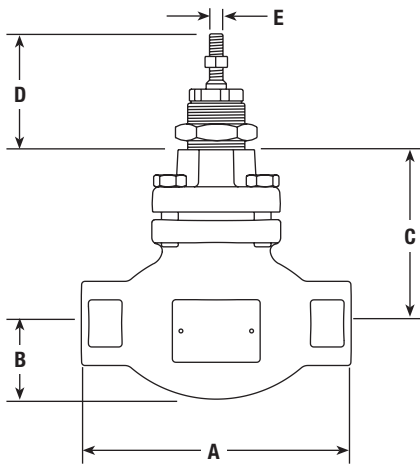
PTFE soft seated valves are limited to a maximum operating temperature of 200 °C (482 °F).

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

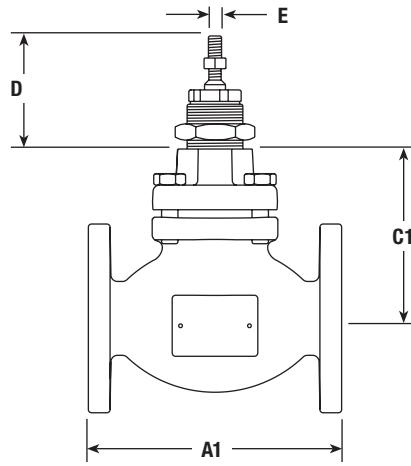
Dimensions approximate in mm and (inches)

GCV two-port control valve

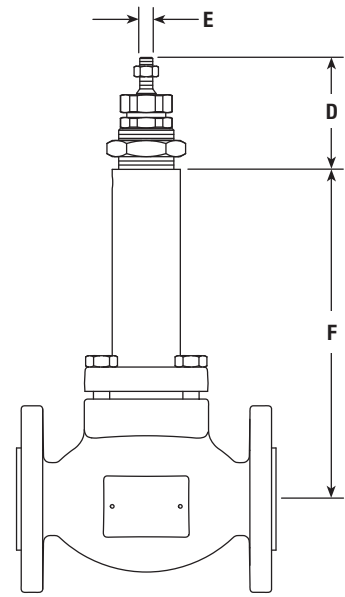
Valve size	Screwed						Flanged				D	E Thread	F		
	BSP			NPT			LE valves		LEA valves				Bellows seals	Extended bonnet	
	A	B	C	A	B	C	PN16 A1	JIS/KS LE43 LE63 C1	A1	C1					
DN15 (½")	130	40	103	165 (6½")	44 (1¾")	102 (4")	130	123	103	184 (7¼")	102 (4")	69 (2¾")	M8	237 (9")	336 (13.25")
DN20 (¾")	155	45	103	165 (6½")	44 (1¾")	102 (4")	150	144	103	184 (7¼")	102 (4")			237 (9")	336 (13.25")
DN25 (1")	160	50	103	197 (7¾")	57 (2¼")	102 (4")	160	160	103	184 (7¼")	102 (4")			237 (9")	336 (13.25")
DN32 (1¼")	185	60	132	216 (8½")	57 (2¼")	127 (5")	180	176	132	222 (8¾")	127 (5")			267 (10½")	354 (13.94")
DN40 (1½")	205	65	132	235 (9¼")	63 (2½")	127 (5")	200	198	132	222 (8¾")	127 (5")			267 (10½")	354 (13.94")
DN50 (2")	230	80	127	267 (10½")	76 (3")	127 (5")	230	222	127	254 (10")	127 (5")			267 (10½")	354 (13.94")
DN65 (2½")							290	290	200	276 (10½")	200 (77/8")	81 (3")	M12	368 (14½")	416 (16.38")
DN80 (3")							310	310	200	298 (11¾")	200 (77/8")			368 (14½")	416 (16.38")
DN100 (4")							350	350	216	352 (13¾")	216 (8½")			381 (15")	431 (17")



Screwed version



Flanged version



Bellows sealed or extended bonnet version

Weights approximate in kgs (and lbs)

**GCV two-port control valve**

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

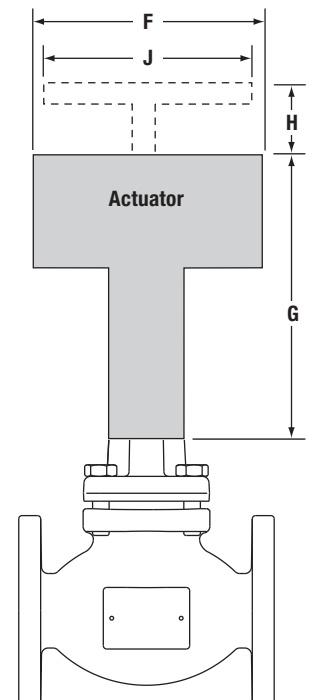
Dimensions/weights approximate in mm and kgs (inches and lbs)

**PN actuator range**

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

**EL and AEL actuator ranges**

Actuator range	F		G		Weight	
	mm	inches	mm	inches	kg	lbs
EL3500	135 x 161	5¼" x 6¼"	242	9½"	1.3	3.0
EL3500 SE and SR	135 x 161	5¼" x 6¼"	284	11"	2.4	6.0
EL7200 series	100	4"	471	18½"	3.0	6.5
AEL55 and AEL65	180	7"	557	22"	10.0	22.0
AEL51, AEL52, AEL53, AEL62 and AEL63	177	7"	459	18"	5.0	11.0
AEL54 and AEL64	177	7"	490	19"	7.0	15.5
AEL56 and AEL66	226	9"	760	30"	20.0	44.0



## Spare parts

### GCV - L series

The spare parts available are shown in solid outline. Parts drawn in a grey 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

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

Specify if reduced trim.

### How to order spares

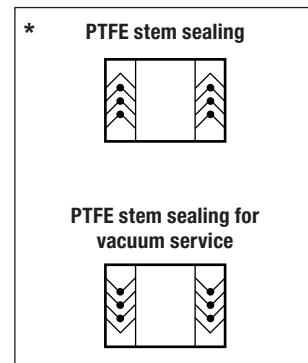
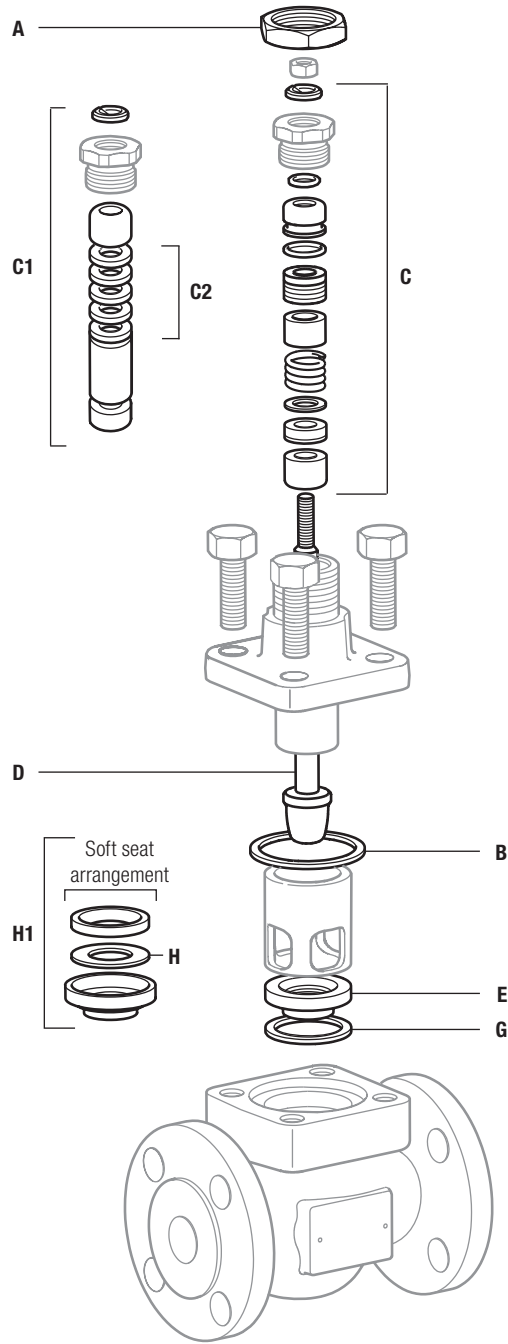
Always order spares by using the description given in the column headed 'Available spares', and state the size and type of valve including the full product description of the product.

### Example:

1 - PTFE stem seal kit for a GESTRA GCV DN25 LE43PTSUSS.2 Kvs 10 two-port control valve.

### How to fit spares

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



## Spare parts

### GCV - L series with bellows seal

The spare parts available are shown in solid outline. Parts drawn in a grey 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

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

Specify if reduced trim.

### How to order spares

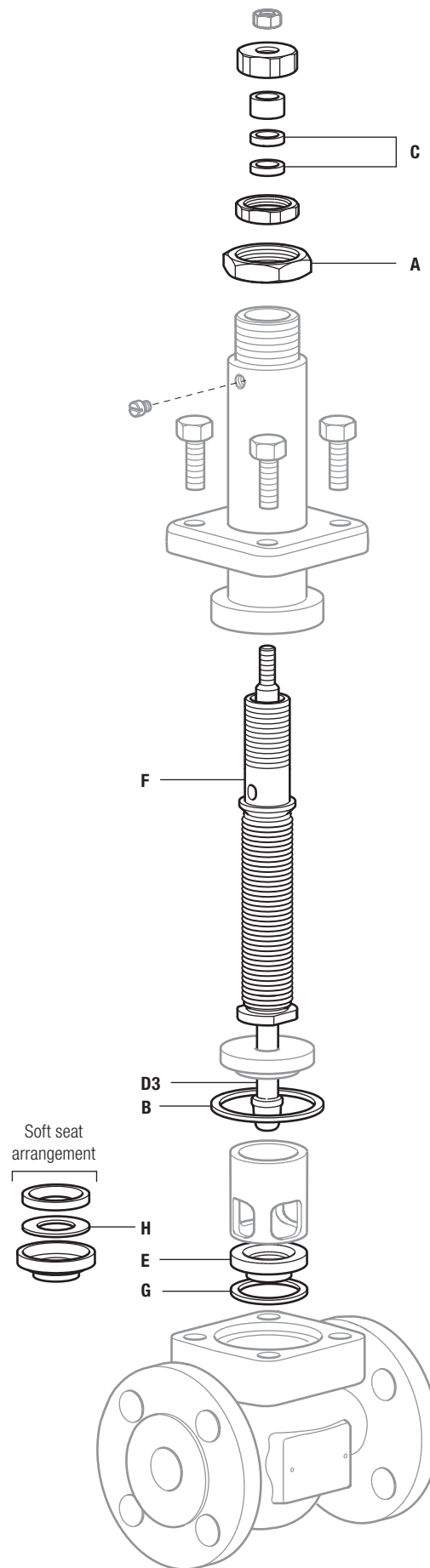
Always order spares by using the description given in the column headed 'Available spares', and state the size and type of valve including the full product description of the product.

### Example:

1 - Plug stem and seat kit for a GESTRA GCV 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.



## GCV 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>Material</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 V = PTFE for vacuum	<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>K<sub>vs</sub></b>	To be specified	<b>K<sub>vs</sub> 10</b>
<b>Connection type</b>	To be specified	<b>Flanged PN16</b>

### Selection example:

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

**Example:** 1 off GESTRA GCV DN25 LE43PTSUSS.2 K<sub>vs</sub> 10 two-port control valve having flanged PN16 connections.

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