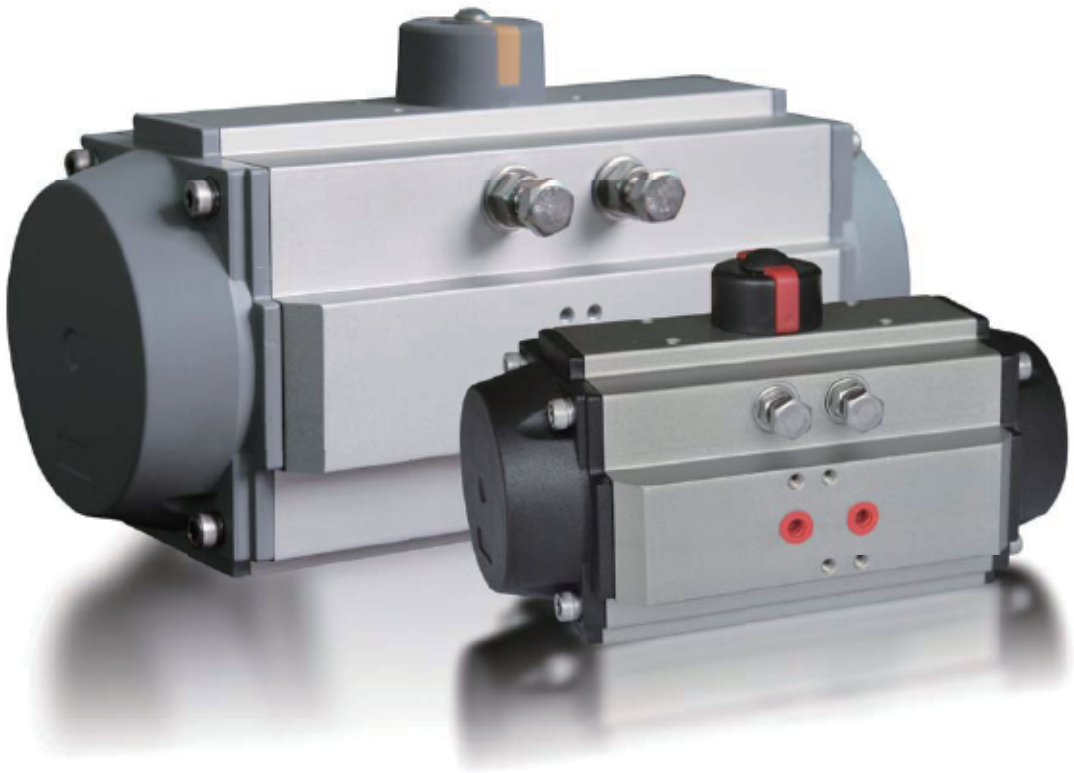
UG Series Rack and Pinion Pneumatic Actuator



High performance and high reliability
Fully compliant with the latest international standards and regulations
More applicable to a wide range of specifications and higher cost performance
Compact design is better suited for a variety of industrial applications

MD 2006/42/EC

ATEX2014/34/EU

Design and Structure

Design

UG series rack and pinion pneumatic actuators apply innovative drive mechanism, integrating the latest pneumatic actuator technology and materials. The series is designed as per extensive field mounting and application experience with following product strengths:

☆ High performance and high reliability
☆ Fully compliant with the latest international standards and regulations
☆ More applicable to a wide range of specifications and higher cost performance
☆ Compact design is better suited for a variety of industrial applications

Structure

1. Integrate and compact design utilizes the same body and end caps for double acting and spring return actuator in the same model. It also benefits less spare parts inventory and is greatly convenient for customers' field application by adding or removing spring cartridges.

2. Fully compliant with the latest international standards including ISO5211,DIN3337 and VDI/VDE3845, etc. Fully compliant with NUMAR standard and convenient to replace or mount accesso-ries including solenoid valves, limit switches.

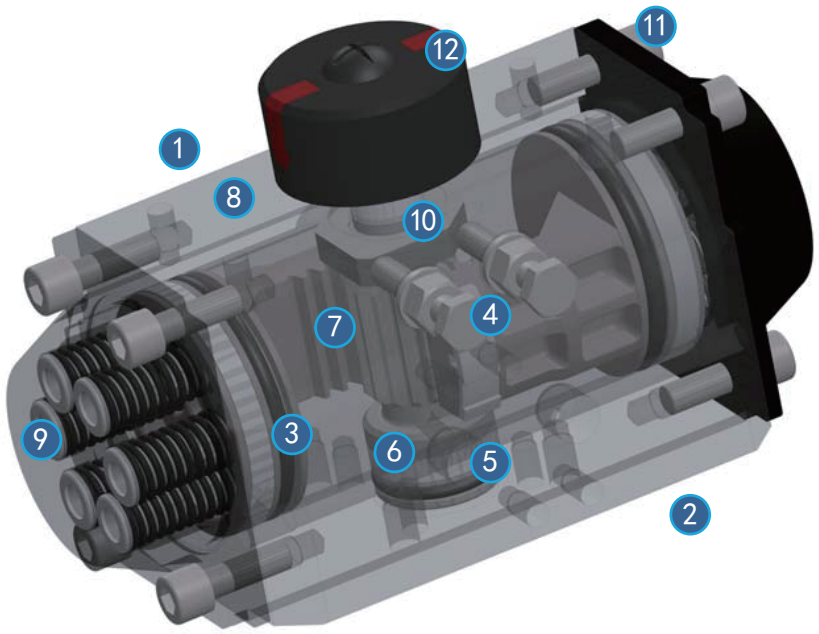
3. Apply rack and pinion with double pistons in advantages of compact structure, high cycle life, and swift operation. It is convenient to switch rotation direction only by inverting the pistons for symmetrical mounting position design.

4. Dual independent travel stoppers can be conveniently and precisely implement ±4° adjustments externally in two directions, allowing actuators in alignment with valve on both the opening and closing phases of the stroke.

5. The composite bearings and guides on pinion and piston ensure precise operation, low friction and high life cycle, preventing output shaft from fractures.

6. Integrate design of bearing and guide improves security with high resistance to fractures and long cycle life for Nickel plating process.

7. Rack and pinion tooth in high precision realize less clearance, accurate drive and high output power.



8. Extruded aluminum body is processed with corrosion resistance internally and externally. Fine ground cylinder surface lead to low friction coefficient and high cycle life.

9. Modularized preload spring cartridges with special coating is applicable to a wide range of scenarios with high security and anticorrosion.

10. High-quality bearings are of reliable sealing, low friction, high cycle life and wide range of application temperature.

11. All of the internal and external fasteners are made in long term corrosion-resistant stainless steel.

12. Multifunctional position indicator with slot in compliance with NAMUR standard offers simplicity and clarity for visual indication. Connection to a variety of standard and common sensors can be easily realized.

Product Selection Range, Accessories and Quality Management

Selection Range:

A: Actuators in all specifications are supplied with 304 or 316 stainless steel output shafts as requested.

B: For applications under extremely high and low temperature, all models are supplied with corresponding FPM or silicone rubber O-ring with special lubricant.

C: The female pinion drive is standard with double square and diagonal square output drive at the bottom, and optional with keyed drive, flat head drive. And customized design as per customers' specific requirements is also available.

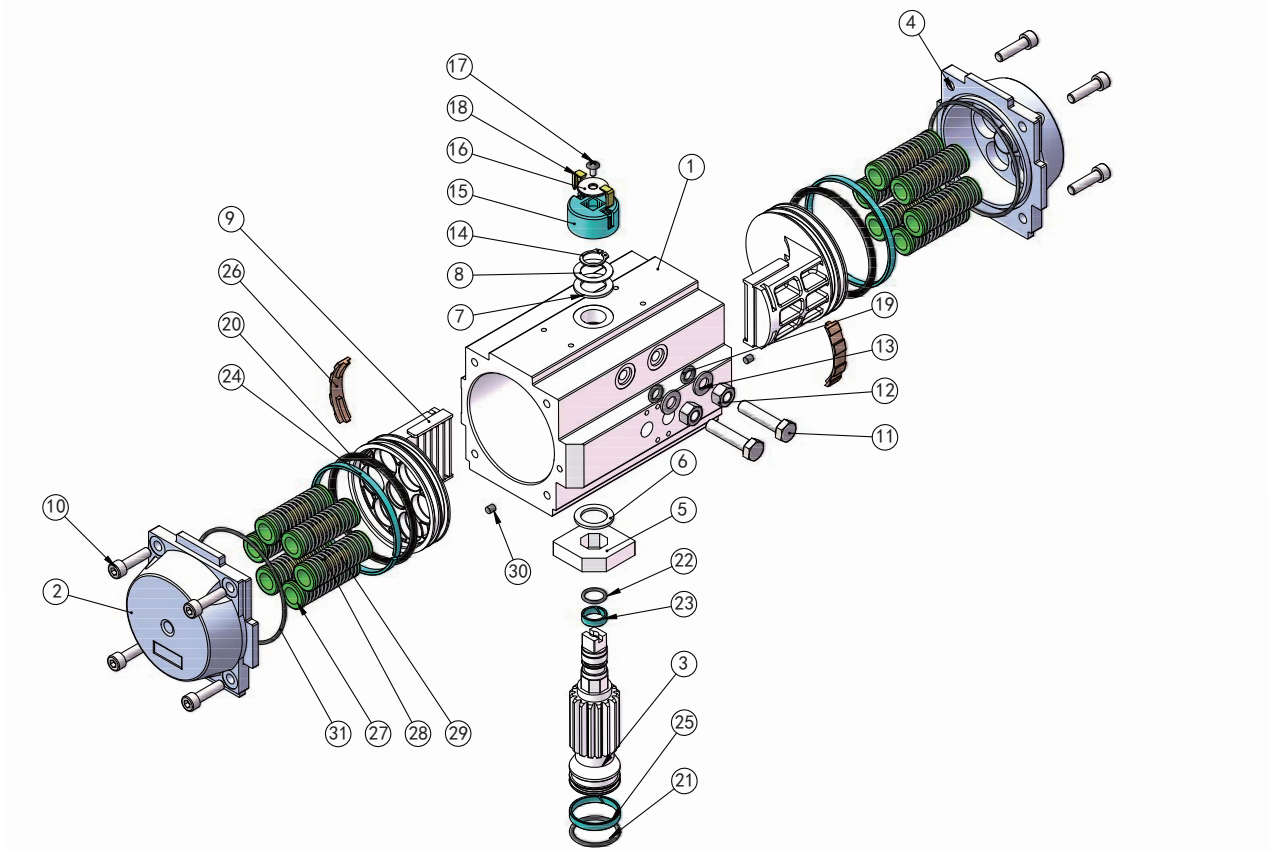
Quality Management:

- U G series pneumatic actuators production process is fully compliant with ISO9001.
- 100% of all units are factory pressure and leak tested and externally marked with dedicated serial number for traceability.
- 100% of all units are individually boxed with suitable cardboard carton for protection and appropriately labeled in detail for identification.

Optional Accessories:

- Bracket
- Solenoid Valve
- Proximity Sensor
- Gear Box(Manual Gear Override)
- Complete set of square output shaft in reduced sizes
- Connector
- Limit Switch Box
- Positioner

Part And Material



Item No.	Description	Materials	Qty.	Item No.	Description	Materials	Qty.	Item No.	Description	Materials	Qty.
1	Body	Aluminum Alloy	1	12	Travel Stop Nut	Stainless Steel	2	23	Upper Pinion Bearing	Advanced Polymer	1
2	Left End Cap	Aluminum Alloy	1	13	Travel Stop Washer	Stainless Steel	2	24	Piston Wear Bearing	Advanced Polymer	2
3	Pinion	45# Steel	1	14	Retaining Ring	Spring Steel	1	25	Lower Pinion Bearing	Advanced Polymer	1
4	Right End Cap	Aluminum Alloy	1	15	Indicator	Advanced Polymer	1	26	Piston Skate	Advanced Polymer	2
5	OCTI-CAM	45# Steel	1	16	Indicator Thrust Bearing	Stainless Steel	1	27	Spring Seat	Advanced Polymer	24
6	Upper Pinion Thrust Bearing	Advanced Polymer	1	17	Flat Head Cross Bolt	Stainless Steel	1	28	Spring	Spring Steel	12
7	Thrust Bearing	Advanced Polymer	1	18	Color Code	Advanced Polymer	2	29	Straining Beam	Copper Pipe	12
8	Thrust Washer	Stainless Steel	1	19	O-ring (Travel Stop)	NBR	2	30	Plug	NBR	2
9	Travel Stop Piston	Aluminum Alloy	2	20	O-ring (Piston)	NBR	2	31	O-ring (End Cap)	NBR	2
10	End Cap Bolt	Stainless Steel	8	21	O-ring (Lower Pinion)	NBR	1				
11	Travel Stop	Stainless Steel	2	22	O-ring (Upper Pinion)	NBR	1				

Technical Data (Metric Unit)

Model	UG032	UG050		UG065		UG075		UG085		UG095		UG110		UG125		UG140		UG160		UG190		UG210		UG240		UG270		UG300		UG350		UG400	
	D	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S
Diameter(mm)	32	50		65		75		85		95		110		125		140		160		190		210		240		270		300		350		400	
Air Volume Opening(L)	0.03	0.09		0.19		0.30		0.44		0.88		0.83		1.41		1.76		2.85		4.75		6.60		11.40		15.80		19.09		27.65		42.81	
Air Volume Closing(L)	0.04	0.15		0.32		0.50		0.66		1.17		1.27		2.13		2.72		4.08		7.20		10.29		15.10		18.80		28.23		44.10		62.05	
Opening Time(s)	0.3	0.3	0.9	0.4	0.9	0.4	0.9	0.9	1.0	0.9	1.4	0.9	1.4	1.3	2.4	1.3	2.8	2.0	4.8	2.2	2.4	2.9	3.4	3.2	3.81	4.4	5.0	5.0	6.0	6.2	7.4	7.5	9.6
Closing Time(s)	0.4	0.4	0.7	0.4	0.8	0.4	0.9	0.9	1.2	1.0	1.4	1.0	1.6	1.4	2.4	1.4	3.0	2.4	4.9	2.6	3.0	3.8	4.1	3.7	4.0	4.9	5.5	6.0	6.8	7.2	8.4	8.5	10.6
Weight (kg)	0.47	1.13	1.25	1.97	2.21	2.93	3.29	3.78	4.26	5.14	5.86	6.09	7.17	10.86	12.54	13.77	15.93	20.15	23.75	28.41	33.81	40.03	48.43	52.6	77.76	73.64	90.6	108	135.6	146.7	188.1	220.5	283.5

Notice: (A) The operation time above are measured in following experimental conditions:

1.For model 32-160
(1)Room temperature (2)Actuator stroke 90° (3)Solenoid valve with orifice of 4 mm and a flow capacity Qn400L/min (4)Inside pipe diameter 6 mm (5) Neutral clean air (6)Air supply pressure 5.5 bar
(7)Actuator without external resistance load

2.For model 190-400
(1)Room temperature (2)Actuator stroke 90° (3)Solenoid valve with orifice of 12 mm and a flow capacity Qn5100L/min (4)Inside pipe diameter 8 mm (5)Neutral clean air (6)Air supply pressure 5.5 bar
(7)Actuator without external resistance load

Cautions: obviously on the field applications when one or more parameters are different from above, the operation time time will be different. Air consumption rest with air supply, open/switch stroke, air volume and action cycle times.
Expressions:

$$\text{L/min=Air volume(opening air volume+closing air volume)}\times \frac{[\text{Air Supply(Kpa)}+101.3]}{101.3}\text{X Action times(/min)}$$

High- Quality Products and Patent Qualification Certificates

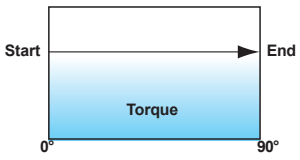
Various Qualifications And Certifications Verified By International Authorities

—All UG products have been professionally designed with optimization.
—100% of all units are factory pressure and leak tested.
—100% of all units are externally marked with dedicated serial number for traceability.
—100% of all units are individually boxed with suitable cardboard carton for protection and appropriately labeled in detail for identification.

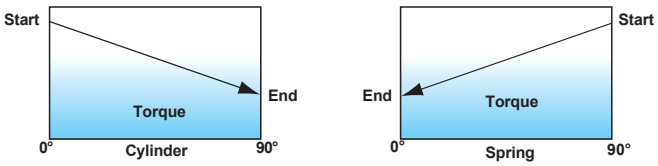
Numerous Invention Patent Certifications

Torque-Metric Torque Output

Double Acting Torque Output Diagram



Spring Return Torque Output Diagram



Double Acting Actuator Torque（N.m）

Model	Air Supply (Unit: Bar)									
	2,5	3	3.5	4	4.5	5	5.5	6	7	8
UG032	2.9	3.4	4.0	4.6	5.3	5.9	6.5	7.1	8.3	9.5
UG050	8.6	10.4	12.3	14.2	16.0	17.9	19.8	21.6	25.4	29.1
UG065	17.4	21.2	25.0	28.7	32.5	36.3	40.1	43.9	51.4	59.0
UG075	27.0	32.9	38.8	44.7	50.5	56.4	62.3	68.2	79.9	91.7
UG085	39.7	48.3	56.9	65.6	74.2	82.8	91.4	100.1	117.3	134.6
UG095	55.7	67.9	80.0	92.1	104.2	116.4	128.5	140.6	164.8	189.1
UG110	72.0	89.3	105.0	120.6	136.3	152.0	167.6	183.3	214.6	245.9
UG125	128.7	159.5	187.5	215.4	243.4	271.4	299.4	327.4	383.3	439.3
UG140	196	237	278	319	360	401	442	483	565	647
UG160	263.5	326.6	383.9	441.2	498.5	555.8	613.1	670.4	785.0	899.7
UG190	428.5	518.0	607.3	696.6	785.9	875.3	964.6	1053.9	1232.5	1411.1
UG210	598.2	723.2	847.9	972.6	1097.3	1222.0	1346.6	1471.3	1720.7	1970.1
UG240	928.3	1122.0	1315.0	1508.0	1702.0	1895.0	2089.0	2282.0	2669.0	3056.0
UG270	1305.0	1577.0	1849.0	2121.0	2393.0	2665.0	2937.0	3209.0	3753.0	4297.0
UG300	1678.6	2029.4	2379.3	2729.2	3079.1	3429.0	3778.9	4128.8	4828.5	5528.3
UG350	2492.5	3011.8	3531.1	4050.4	4569.6	5088.9	5608.2	6127.5	7166.0	8204.6
UG400	3798.1	4589.4	5380.7	6172.0	6963.3	7754.5	8545.8	9337.1	10919.7	12502.2

Spring Return Actuator Torque (N.m)

Model	Air Supply (Unit:bar)																				Spring Return (Nm)	
	2. 5		3		3. 5		4		4. 5		5		5. 5		6		7		8			
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
UG050S05	5. 1	3. 4	6. 9	5. 3	8. 8	7. 2	10. 7	9. 0	12. 5	10. 9	14. 4	12. 8	16. 3	14. 6	18. 1	16. 5	21. 9	20. 2	25. 6	23. 9	5. 2	3. 5
UG050S06	4. 4	2. 4	6. 2	4. 3	8. 1	6. 1	10. 0	8. 0	11. 8	9. 9	13. 7	11. 7	15. 6	13. 6	17. 4	15. 5	21. 2	19. 2	24. 9	22. 9	6. 2	4. 2
UG050S07			5. 5	3. 2	7. 4	5. 1	9. 3	7. 0	11. 1	8. 8	13. 0	10. 7	14. 9	12. 6	16. 7	14. 4	20. 5	18. 2	24. 2	21. 9	7. 2	4. 9
UG050S08					6. 7	4. 1	8. 6	5. 9	10. 4	7. 8	12. 3	9. 7	14. 2	11. 5	16. 0	13. 4	19. 8	17. 1	23. 5	20. 9	8. 2	5. 6
UG050S09							7. 9	4. 9	9. 7	6. 8	11. 6	8. 6	13. 5	10. 5	15. 3	12. 4	19. 1	16. 1	22. 8	19. 8	9. 3	6. 3
UG050S10									9. 0	5. 7	10. 9	7. 6	12. 8	9. 5	14. 6	11. 3	18. 4	15. 1	22. 1	18. 8	10. 3	7. 0
UG050S11											10. 2	6. 6	12. 1	8. 4	13. 9	10. 3	17. 7	14. 0	21. 4	17. 8	11. 3	7. 7
UG050S12													11. 4	7. 4	13. 2	9. 3	17. 0	13. 0	20. 7	16. 7	12. 4	8. 4
UG065S05	8. 7	4. 3	12. 5	8. 1	16. 3	11. 9	20. 0	15. 6	23. 8	19. 4	27. 6	23. 2	31. 4	27. 0	35. 2	30. 8	42. 7	38. 3	50. 3	45. 9	13. 1	8. 7
UG065S06	7. 0	1. 7	10. 7	5. 5	14. 5	9. 2	18. 3	13. 0	22. 1	16. 8	25. 9	20. 6	29. 7	24. 4	33. 4	28. 2	41. 0	35. 7	48. 6	43. 3	15. 7	10. 4
UG065S07			9. 0	2. 8	12. 8	6. 6	16. 6	10. 4	20. 4	14. 2	24. 1	18. 0	27. 9	21. 8	31. 7	25. 5	39. 3	33. 1	46. 8	40. 7	18. 3	12. 2
UG065S08					11. 0	4. 0	14. 8	7. 8	18. 6	11. 6	22. 4	15. 4	26. 2	19. 1	30. 0	22. 9	37. 5	30. 5	45. 1	38. 1	21. 0	13. 9
UG065S09							13. 1	5. 2	16. 9	9. 0	20. 7	12. 7	24. 4	16. 5	28. 2	20. 3	35. 8	27. 9	43. 4	35. 4	23. 6	15. 7
UG065S10									15. 1	6. 3	18. 9	10. 1	22. 7	13. 9	26. 5	17. 7	34. 0	25. 2	41. 6	32. 8	26. 2	17. 4
UG065S11											17. 2	7. 5	21. 0	11. 3	24. 7	15. 1	32. 3	22. 6	39. 9	30. 2	28. 8	19. 1
UG065S12													19. 2	8. 7	23. 0	12. 4	30. 6	20. 0	38. 1	27. 6	31. 4	20. 9
UG075S05	16. 3	10. 2	22. 2	16. 0	28. 1	21. 9	34. 0	27. 8	39. 8	33. 7	45. 7	39. 6	51. 6	45. 4	57. 5	51. 3	69. 2	63. 1	81. 0	74. 8	16. 9	10. 7
UG075S06	14. 2	6. 8	20. 1	12. 7	25. 9	18. 6	31. 8	24. 4	37. 7	30. 3	43. 6	36. 2	49. 4	42. 1	55. 3	47. 9	67. 1	59. 7	78. 8	71. 4	20. 2	12. 8
UG075S07			17. 9	9. 3	23. 8	15. 2	29. 7	21. 1	35. 6	26. 9	41. 4	32. 8	47. 3	38. 7	53. 2	44. 6	64. 9	56. 3	76. 7	68. 1	23. 6	15. 0
UG075S08					21. 7	11. 8	27. 5	17. 7	33. 4	23. 6	39. 3	29. 4	45. 2	35. 3	51. 0	41. 2	62. 8	53. 0	74. 5	64. 7	27. 0	17. 1
UG075S09							25. 4	14. 3	31. 3	20. 2	37. 1	26. 1	43. 0	32. 0	48. 9	37. 8	60. 7	49. 6	72. 4	61. 3	30. 3	19. 3
UG075S10									29. 1	16. 8	35. 0	22. 7	40. 9	28. 6	46. 8	34. 5	58. 5	46. 2	70. 3	58. 0	33. 7	21. 4
UG075S11											32. 9	19. 3	38. 7	25. 2	44. 6	31. 1	56. 4	42. 8	68. 1	54. 6	37. 1	23. 5
UG075S12													36. 6	21. 8	42. 5	27. 7	54. 2	39. 5	66. 0	51. 2	40. 4	25. 7
UG085S05	23. 2	13. 7	31. 8	22. 3	40. 4	30. 9	49. 0	39. 5	57. 6	48. 1	66. 3	56. 8	74. 9	65. 4	83. 5	74. 0	100. 8	91. 3	118. 0	108. 5	26. 1	16. 6
UG085S06	19. 8	8. 4	28. 4	17. 0	37. 1	25. 7	45. 7	34. 3	54. 3	42. 9	62. 9	51. 5	71. 6	60. 2	80. 2	68. 8	97. 4	86. 0	114. 7	103. 3	31. 3	19. 9
UG085S07			25. 1	11. 8	33. 8	20. 5	42. 4	29. 1	51. 0	37. 7	59. 6	46. 3	68. 3	55. 0	76. 9	63. 6	94. 1	80. 8	111. 4	98. 1	36. 5	23. 2
UG085S08					30. 4	15. 2	39. 1	23. 9	47. 7	32. 5	56. 3	41. 1	64. 9	49. 7	73. 6	58. 4	90. 8	75. 6	108. 1	92. 9	41. 7	26. 5
UG085S09							35. 8	18. 7	44. 4	27. 3	53. 0	35. 9	61. 6	44. 5	70. 3	53. 2	87. 5	70. 4	104. 8	87. 7	46. 9	29. 8
UG085S10									41. 1	22. 1	49. 7	30. 7	58. 3	39. 3	67. 0	48. 0	84. 2	65. 2	101. 5	82. 5	52. 1	33. 1
UG085S11											46. 4	25. 5	55. 0	34. 1	63. 6	42. 7	80. 9	60. 0	98. 1	77. 2	57. 3	36. 4
UG085S12													51. 7	28. 9	60. 3	37. 5	77. 6	54. 8	94. 8	72. 0	62. 5	39. 7
UG095S05	33. 6	20. 9	45. 8	33. 0	57. 9	45. 1	70. 0	57. 3	82. 1	69. 4	94. 3	81. 5	106. 4	93. 6	118. 5	105. 8	142. 7	130. 0	167. 0	154. 2	34. 9	22. 1
UG095S06	29. 2	13. 9	41. 4	26. 1	53. 5	38. 2	65. 6	50. 3	77. 7	62. 4	89. 8	74. 5	102. 0	86. 7	114. 1	98. 8	138. 3	123. 0	162. 6	147. 3	41. 8	26. 5
UG095S07			36. 9	19. 1	49. 1	31. 2	61. 2	43. 3	73. 3	55. 4	85. 4	67. 6	97. 5	79. 7	109. 7	91. 8	133. 9	116. 1	158. 1	140. 3	48. 8	30. 9
UG095S08					44. 6	24. 2	56. 8	36. 4	68. 9	48. 5	81. 0	60. 6	93. 1	72. 7	105. 2	84. 8	129. 5	109. 1	153. 7	133. 3	55. 8	35. 4
UG095S09							52. 3	29. 4	64. 5	41. 5	76. 6	53. 6	88. 7	65. 8	100. 8	77. 9	125. 1	102. 1	149. 3	126. 4	62. 7	39. 8
UG095S10									60. 0	34. 5	72. 2	46. 7	84. 3	58. 8	96. 4	70. 9	120. 6	95. 1	144. 9	119. 4	69. 7	44. 2
UG095S11											67. 7	39. 7	79. 9	51. 8	92. 0	63. 9	116. 2	88. 2	140. 5	112. 4	76. 7	48. 6
UG095S12													75. 4	44. 8	87. 6	57. 0	111. 8	81. 2	136. 0	105. 4	83. 6	53. 0
UG110S05	43. 4	26. 2	60. 7	43. 4	76. 4	59. 1	92. 0	74. 8	107. 7	90. 4	123. 4	106. 1	139. 0	121. 8	154. 7	137. 4	186. 0	168. 8	217. 3	200. 1	45. 9	28. 6
UG110S06	37. 7	17. 0	55. 0	34. 3	70. 6	49. 9	86. 3	65. 6	102. 0	81. 3	117. 6	96. 9	133. 3	112. 6	149. 0	128. 3	180. 3	159. 6	211. 6	190. 9	55. 0	34. 3
UG110S07			49. 3	25. 1	64. 9	40. 8	80. 6	56. 4	96. 2	72. 1	111. 9	87. 8	127. 6	103. 4	143. 2	119. 1	174. 6	150. 4	205. 9	181. 8	64. 2	40. 0
UG110S08					59. 2	31. 6	74. 9	47. 3	90. 5	62. 9	106. 2	78. 6	121. 9	94. 3	137. 5	109. 9	168. 9	141. 3	200. 2	172. 6	73. 4	45. 8
UG110S09							69. 1	38. 1	84. 8	53. 8	100. 5	69. 4	116. 1	85. 1	131. 8	100. 8	163. 1	132. 1	194. 5	163. 4	82. 5	51. 5
UG110S10									79. 1	44. 6	94. 8	60. 3	110. 4	75. 9	126. 1	91. 6	157. 4	122. 9	188. 7	154. 2	91. 7	57. 2
UG110S11											89. 0	51. 1	104. 7	66. 7	120. 4	82. 4	151. 7	113. 7	183. 0	145. 1	100. 9	62. 9
UG110S12													99. 0	57. 6	114. 6	73. 2	146. 0	104. 6	177. 3	135. 9	110. 0	68. 6

Torque-Metric Torque Output

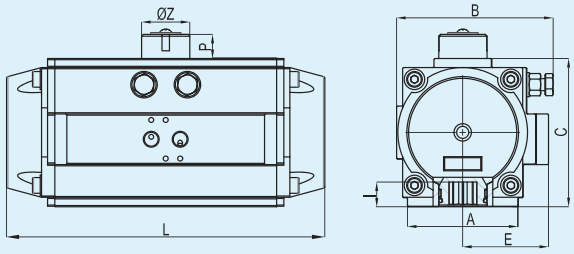
Spring Return Actuator Torque (N.m)

Model	Air Supply (Unit:bar)																				Spring Return (Nm)	
	2.5		3		3.5		4		4.5		5		5.5		6		7		8			
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
UG125S05	77.7	48.2	108.5	78.9	136.5	106.9	164.4	134.9	192.4	162.9	220.4	190.9	248.4	218.8	276.4	246.8	332.3	302.8	388.3	358.7	80.6	51.0
UG125S06	67.5	32.0	98.3	62.8	126.3	90.8	154.2	118.8	182.2	146.8	210.2	174.7	238.2	202.7	266.2	230.7	322.1	286.7	378.1	342.6	96.7	61.2
UG125S07			88.1	46.7	116.1	74.7	144.0	102.7	172.0	130.7	200.0	158.6	228.0	186.6	256.0	214.6	311.9	270.6	367.9	326.5	112.8	71.4
UG125S08					105.9	58.6	133.8	86.6	161.8	114.5	189.8	142.5	217.8	170.5	245.8	198.5	301.7	254.4	357.7	310.4	128.9	81.6
UG125S09							123.6	70.5	151.6	98.4	179.6	126.4	207.6	154.4	235.6	182.4	291.5	238.3	347.5	294.3	145.0	91.8
UG125S10									141.4	82.3	169.4	110.3	197.4	138.3	225.4	166.3	281.3	222.2	337.3	278.2	161.1	102.0
UG125S11											159.2	94.2	187.2	122.2	215.2	150.2	271.1	206.1	327.1	262.1	177.2	112.2
UG125S12													177.0	106.1	205.0	134.0	260.9	190.0	316.9	246.0	193.3	122.4
UG140S05	114.2	74.1	155.1	115	196.1	156.0	237.0	196.9	277.9	237.8	318.8	278.7									122.4	82.3
UG140S06	97.7	49.6	138.7	90.6	179.6	131.5	220.5	172.4	261.5	213.3	302.4	254.3	343.3	295.2							146.8	98.7
UG140S07			122.2	66.1	163.2	107.0	204.1	147.9	245.0	188.9	285.9	229.8	326.9	270.7	367.8	311.6					171.3	115.2
UG140S08					146.7	82.5	187.6	123.5	228.6	164.4	269.5	205.3	310.4	246.2	351.3	287.2	433.2	369.0			195.8	131.6
UG140S09							171.2	99.0	212.1	139.9	253.0	180.9	294.0	221.8	334.9	262.7	416.7	344.6	498.6	426.4	220.2	148.1
UG140S10									195.7	115.5	236.6	156.4	277.5	197.3	318.4	238.2	400.3	320.1	482.1	401.9	244.7	164.5
UG140S11											220.1	131.9	261.1	172.8	302.0	213.8	383.8	295.6	465.7	377.5	269.2	181.0
UG140S12													244.6	148.4	285.5	189.3	367.4	271.1	449.2	353.0	293.6	197.4
UG160S05	153.5	101.3	216.6	164.4	273.9	221.7	331.2	279.0	388.5	336.3	445.8	393.6	503.1	450.9	560.4	508.2	675.0	622.8	789.7	737.4	162.3	110.0
UG160S06	131.5	68.8	194.6	131.9	251.9	189.2	309.2	246.5	366.5	303.8	423.8	361.1	481.1	418.4	538.4	475.7	653.0	590.3	767.7	705.0	194.7	132.0
UG160S07			172.6	99.5	229.9	156.8	287.2	214.1	344.5	271.4	401.8	328.7	459.1	386.0	516.4	443.3	631.0	557.9	745.7	672.5	227.2	154.0
UG160S08					207.9	124.3	265.2	181.6	322.5	238.9	379.8	296.2	437.1	353.5	494.4	410.8	609.0	525.4	723.7	640.1	259.6	176.0
UG160S09							243.2	149.2	300.5	206.5	357.8	263.8	415.1	321.1	472.4	378.4	587.0	493.0	701.7	607.6	292.1	198.0
UG160S10									278.5	174.0	335.8	231.3	393.1	288.6	450.4	345.9	565.0	460.5	679.7	575.2	324.5	220.0
UG160S11											313.8	198.9	371.1	256.2	428.4	313.5	543.0	428.1	657.7	542.7	357.0	242.0
UG160S12													349.1	223.7	406.4	281.0	521.0	395.6	635.7	510.3	389.4	264.0
UG190S05	246.8	167.4	336.3	256.9	425.6	346.2	514.9	435.5	604.2	524.8	693.5	614.1									261.2	181.8
UG190S06	210.4	115.1	299.9	204.6	389.2	293.9	478.5	383.3	567.8	472.6	657.2	561.9	746.5	651.2							313.4	218.1
UG190S07			263.6	152.4	352.9	241.7	442.2	331.0	531.5	420.3	620.8	509.6	710.1	599.0	799.4	688.3					365.6	254.5
UG190S08					316.5	189.5	405.8	278.8	495.1	368.1	584.5	457.4	673.8	546.7	763.1	636.0	941.7	814.7			417.8	290.8
UG190S09							369.5	226.6	458.8	315.9	548.1	405.2	637.4	494.5	726.7	583.8	905.3	762.4	1084.0	941.1	470.1	327.2
UG190S10									422.4	263.6	511.8	353.0	601.1	442.3	690.4	531.6	869.0	710.2	1047.6	888.8	522.3	363.5
UG190S11											475.4	300.7	564.7	390.0	654.0	479.3	832.6	658.0	1011.3	836.6	574.5	399.9
UG190S12													528.4	337.8	617.7	427.1	796.3	605.7	974.9	784.4	626.8	436.8
UG210S05	352.8	239.1	477.8	364.1	602.5	488.8	727.2	613.5	851.9	738.2	976.6	862.9	1101.2	987.5	1225.9	1112.2	1475.3	1361.6	1724.7	1611.0	359.1	245.4
UG210S06	303.7	167.3	428.7	292.3	553.4	417.0	678.1	541.7	802.8	666.4	927.5	791.0	1052.2	915.7	1176.9	1040.4	1426.2	1289.8	1675.6	1539.2	430.9	294.5
UG210S07			379.6	220.5	504.3	345.2	629.0	469.8	753.7	594.5	878.4	719.2	1003.1	843.9	1127.8	968.6	1377.2	1218.0	1626.5	1467.4	502.7	343.6
UG210S08					455.3	273.3	579.9	398.0	704.6	522.7	829.3	647.4	954.0	772.1	1078.7	896.8	1328.1	1146.2	1577.5	1395.5	574.6	392.6
UG210S09							530.9	326.2	655.6	450.9	780.2	575.6	904.9	700.3	1029.6	825.0	1279.0	1074.3	1528.4	1323.7	646.4	441.7
UG210S10									606.5	379.1	731.2	503.8	855.8	628.4	980.5	753.1	1229.9	1002.5	1479.3	1251.9	718.2	490.8
UG210S11											682.1	431.9	806.8	556.6	931.5	681.3	1180.8	930.7	1430.2	1180.1	790.0	539.9
UG210S12													757.7	484.8	882.4	609.5	1131.8	858.9	1381.1	1108.3	861.8	589.0
UG240S05	517.8	374.3	711.2	567.7	904.6	761.1	1098.0	954.5	1291.4	1147.9	1484.8	1341.3									554.0	410.5
UG240S06	435.7	263.5	629.1	456.9	822.5	650.3	1015.9	843.7	1209.3	1037.1	1402.7	1230.5	1596.1	1423.9							664.8	492.6
UG240S07			547.0	346.1	740.4	539.5	933.8	732.9	1127.2	926.3	1320.6	1119.7	1514.0	1313.1	1707.4	1506.5					775.6	574.7
UG240S08					658.3	428.7	851.7	622.1	1045.1	815.5	1238.5	1008.9	1431.9	1202.3	1625.3	1395.7	2012.1	1782.5			886.4	656.8
UG240S09							769.6	511.3	963.0	704.7	1156.4	898.1	1349.8	1091.5	1543.2	1284.9	1930.0	1671.7	2316.8	2058.5	997.2	738.9
UG240S10									880.9	593.9	1074.3	787.3	1267.7	980.7	1461.1	1174.1	1847.9	1560.9	2234.7	1947.7	1108.0	821.0
UG240S11											992.2	676.5	1185.6	869.9	1379.0	1063.3	1765.8	1450.1	2152.6	1836.9	1218.8	903.1
UG240S12													1103.5	759.1	1296.9	952.5	1683.7	1339.3	2070.5	1726.1	1329.6	985.2
UG270S05	745.9	519.4	1017.9	791.4	1289.9	1063.4	1561.8	1335.3	1833.8	1607.3	2105.7	1879.2									786.0	559.5
UG270S06	634.0	362.2	906.0	634.2	1178.0	906.2	1449.9	1178.1	1721.9	1450.1	1993.8	1722.0	2265.8	1994.0							943.2	671.4
UG270S07			794.1	477.0	1166.1	749.0	1338.0	1020.9	1610.0	1292.9	1881.9	1564.8	2153.9	1836.8	2425.9	2108.8					1100.4	783.3
UG270S08					954.2	591.8	1226.1	863.7	1498.1	1135.7	1770.0	1407.6	2042.0	1679.6	2314.0	1951.6	2857.9	2495.5			1257.6	895.2
UG270S09							1114.2	706.5	1386.2	978.5	1658.1	1250.4	1930.1	1522.4	2202.1	1794.4	2746.0	2338.3	3289.9	2882.2	1414.8	1007.1
UG270S10									1274.3	821.3	1546.2	1093.2	1818.2	1365.2	2090.2	1637.2	2634.1	2181.1	3178.0	2725.0	1572.0	1119.0
UG270S11											1434.3	936.0	1706.3	1208.0	1978.3	1480.0	2522.2	2023.9	3066.1	2567.8	1729.2	1230.9
UG270S12													1594.4	1050.8	1866.4	1322.8	2410.3	1866.7	2954.2	2410.6	1886.4	1342.8
UG300S05	987.5	646.7	1338.3	997.5	1688.2	1347.4	2038.1	1697.3	2388.0	2047.2	2737.9	2397.1	3087.8	2747.0	3437.7	3096.9	4137.4	3796.6	4837.2	4496.4	1031.9	691.1
UG300S06	849.3	440.3	1200.1	791.1	1550.0	1141.0	1899.9	1490.9	2249.8	1840.8	2599.6	2190.7	2949.5	2540.6	3299.4	2890.5	3999.2	3590.3	4699.0	4290.1	1238.3	829.3
UG300S07			1061.9	584.7	1411.7	934.6	1761.6	1284.5	2111.5	1634.4	2461.4	1984.3	2811.3	2334.2	3161.2	2684.1	3861.0	3383.9	4560.8	4083.7	1444.7	967.5
UG300S08					1273.5	728.2	1623.4	1078.1	1973.3	1428.0	2323.2	1777.9	2673.1	2127.8	3023.0	2477.7	3722.8	3177.5	4422.6	3877.3	1651.0	1105.8
UG300S09							1485.2	871.8	1835.1	1221.7	2185.0	1571.5	2534.9	1921.4	2884.8	2271.3	3584.6	2971.1	4284.4	3670.9	1857.4	1244.0
UG300S10									1696.9	1015.3	2046.8	1365.2	2396.7	1715.1	2746.6	2065.0	3446.3	2764.7	4146.1	3464.5	2063.8	1382.2
UG300S11											1908.5	1158.8	2258.4	1508.7	2608.3	1858.6	3308.1	2558.4	4007.9	3258.2	2270.2	1520.4
UG300S12													2120.2	1302.3	2470.1	1652.2	3169.9	2352.0	3869.7	3051.8	2476.6	1658.6
UG350S05	1498.2	1017.1	2017.5	1536.4	2536.8	2055.6	3056.1	2574.9	3575.3	3094.2	4094.6	3613.5	4137.4	4132.7	5133.2	4652.0	6171.7	5690.6	7210.3	6729.1	1475.5	994.3
UG350S06			1818.6	1241.3	2337.9	1760.5	2857.2	2279.8	3376.5	2799.1	3895.8	3318.4	3999.2	3837.7	4934.3	4356.9	5972.9	5395.5	7011.4	6434.0	1770.5	1193.2
UG350S07			1619.8	946.2	2139.1	1465.5	2658.3	1984.7	3177.6	2504.0	3696.9	3023.3	3861.0	3542.6	4735.5	4061.8	5774.0	5100.4	6812.6	6139.0	2065.6	1392.0
UG350S08					1940.2	1170.4	2459.5	1689.6	2978.8	2208.9	3498.0	2728.2	3722.8	3247.5	4536.6	3766.8	5575.1	4805.3	6613.7	5843.9	2360.7	1590.9
UG350S09					1741.3	875.3	2260.6	1394.6	2779.9	1913.8	3299.2	2433.1	3584.6	2952.4	4337.7	3471.7	5376.3	4510.2	6414.8	5548.8	2655.8	1789.7
UG350S10							2061.8	1099.5	2581.0	1618.7	3100.3	2138.0	3446.3	2657.3	4138.9	3176.6	5177.4	4215.1	6216.0	5253.7	2950.9	1988.6
UG350S11							1862.9	804.4	2382.2	1323.7	2901.5	1842.9	3308.1	2362.2	3940.0	2881.5	4978.6	3920.0	6017.1	4958.6	3246.0	2187.5
UG350S12									2183.3	1028.6	2702.6	1547.8	3169.9	2067.1	3741.2	2586.4	4779.7	3624.9	5818.3	4663.5	3541.1	2386.3
UG400S05	2222.0	1497.0	3013.0	2288.0	3805.0	3080.0	4596.0	3871.0	5387.0	4662.0	6179.0	5454.0									2301.0	1576.0
UG400S06			2698.0	1828.0	3490.0	2620.0	4281.0	3411.0	5072.0	4202.0	5863.0	4993.0	6655.0	5785.0							2761.0	1891.0
UG400S07			2383.0	1368.0	3174.0	2195.0	3966.0	2951.0	4757.0	3742.0	5548.0	4533.0	6339.0	5324.0	7131.0	6116.0					3221.0	2206.0
UG400S08					2859.0	1699.0	3650.0	2490.0	4442.0	3282.0	5233.0	4073.0	6024.0	4864.0	6816.0	5656.0	8398.0	7238.0			3682.0	2522.0
UG400S09					2544.0	1239.0	3335.0	2030.0	4126.0	2821.0	4918.0	3613.0	5709.0	4404.0	6500.0	5195.0	8083.0	6778.0	9665.0	8360.0	4142.0	2837.0
UG400S10							3020.0	1570.0	3811.0	2361.0	4603.0	3153.0	5394.0	3944.0	6185.0	4735.0	7768.0	6318.0	9350.0	7900.0	4602.0	3152.0
UG400S11							2705.0	1110.0	3496.0	1901.0	4287.0	2692.0	5079.0	3484.0	5870.0	4275.0	7452.0	5857.0	9035.0	7440.0	5062.0	3467.0
UG400S12									3181.0	1441.0	3972.0	2232.0	4763.0	3023.0	5555.0	3815.0	7137.0	5397.0	8720.0	6980.0	5522.0	3782.0

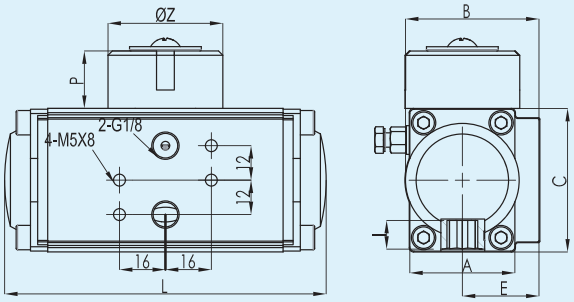
Installation Information

Sample Reference

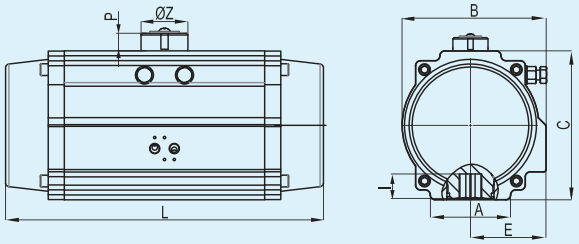
Applicable Specification:
UG050~UG160



Applicable Specification:
UG032



Applicable Specification:
UG190~UG350



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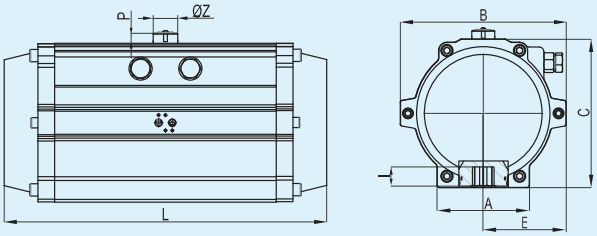
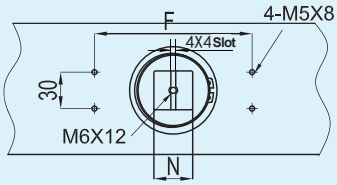
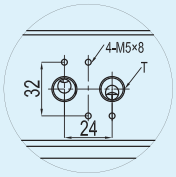
UG400



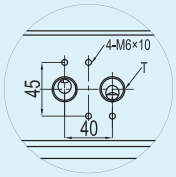
Top View



Air Supply Interface

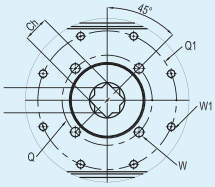


G1/4 NAMUR Standard
Applicable to UG50-
UG210



G1/2 NAMUR Standard
Applicable to UG240-
UG400

Bottom View



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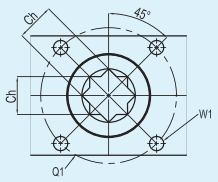
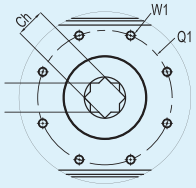
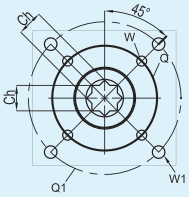


Applicable Specification :
UG032、UG210 - UG300



Applicable Specification :UG400



Applicable Specification :
UG50 - UG190

U G Series Pneumatic Actuator Dimension Table (Unit: mm)

Model	A	B	C	L	E	F	P	ØZ	N	I	Flange Type	Q	Q1	W	W1	Ch	T
UG032	37	47	50	110	27	50	20	40	10	10	F03	–	36	–	M5×8	9×9	G1/8"
UG050	45	70.5	70	154	41.5	80	20	40	10	12	F03/05	36	50	M5×7.5	M6×9	11×11	G1/4"
UG065	62	89.5	89	189	51.5	80	20	40	10	16	F05/07	50	70	M6×9	M8×12	14×14	G1/4"
UG075	68	102.5	100	210	59	80	20	40	14	16	F05/07	50	70	M6×9	M8×12	14×14	G1/4"
UG085	68	112.5	113	229	63.5	80	20	40	14	19	F05/07	50	70	M6×9	M8×12	17×17	G1/4"
UG095	92	126	123	264	71	80	20	40	14	19	F05/07	50	70	M6×9	M8×12	17×17	G1/4"
UG110	93	138.5	136	266	76.5	80	20	40	14	19	F07/10	70	102	M8×12	M10×15	17×17	G1/4"
UG125	96	157	161	337	85	80	30	56	22	25	F07/10	70	102	M8×12	M10×15	22×22	G1/4"
UG140	110	178	178	377	97	80/130	30	56	22	31	F10/12	102	125	M10×15	M12×18	27×27	G1/4"
UG160	112	196	200	414	106	80/130	30	56	22	31	F10/12	102	125	M10×15	M12×18	27×27	G1/4"
UG190	136	216.5	232	490	112	130	30	56	22	41	F10/14	102	140	M10×15	M16×24	36×36	G1/4"
UG210	140	235.5	255	550	120	130	30	80	32.5	40	F14	–	140	–	M16×24	36×36	G1/4"
UG240	159	262	292	602	131	130	30	80	32.5	50	F16	–	165	–	M20×25	46×46	G1/2"
UG270	159	295	331	672	147.5	130	30	80	32.5	50	F16	–	165	–	M20×25	46×46	G1/2"
UG300	180	335	354	784	173	130	30	80	32.5	50	F16	–	165	–	M20×25	46×46	G1/2"
UG350	270	385	410	845	195	130	30	80	32.5	50	F16/F25	165	254	M20×25	M16×24	46×46	G1/2"
UG400	290	520	466	956	260	130	30	80	32.5	60	F25	–	254		M16×24		G1/2"

Selection Method

Model	Type	Spring Qty.	Flange Type	Square	Option	Sealing Part
UG032	D=Double Acting S=Spring Return	Dedicated to Spring Return 4 5 6 7 8 9 10 11 12	F03	9×9	End Cap Color RAL 7046 9004 5021 3020 6002 5015 Cylinder Type P Smooth Surface& Hard Anodized S Sandblasted Surface&Hard Anodized（Color:Grey） H Sandblasted Surface&Hard Anodized（Color:Dark Grey） F Sandblasted Surface&Hard Anodized&PTFE Coated	Standard Nitrile Rubber -18℃~+80℃ HT Fluororubber (High Temperature) -18℃~+150℃ LT Silastic (Low Temperature) -40℃~+80℃
UG050			F03/05	11×11		
UG065			F05/07	14×14		
UG075			F05/07	14×14		
UG085			F05/07	17×17		
UG095			F05/07	17×17		
UG110			F07/10	17×17		
UG125			F07/10	22×22		
UG140			F10/12	27×27		
UG160			F10/12	27×27		
UG190			F10/14	36×36		
UG210			F14	36×36		
UG240			F16	46×46		
UG270			F16	46×46		
UG300			F16	46×46		
UG350			F16/25	46×46		
UG400			F25	55×55		

Remarks:

1. The standard rotation of double acting and spring return is clockwise to close.
2. Sealing parts come standard with normal temperature ranges of -18°C to 80°C, Corresponding sealing types are available for environment at high or low temperature.
3. Please refer to brochure for technical parameter details. UG has the capability to provide customized service based on standard products. Please contact UG for details.
4. Customized service including but not limited to:

- Color combination;
- Flange and square;
- Higher protection grade;

Model Selection Example:

Example1: UG095D F07/10 17 P7046

Description: Actuator model UG095,double acting, ISO flange F07&F10,17mm diagonal square with standard indicator as well as standard nitrile rubber sealing, P body, cap color grey(RAL7046).

Example2:UG190S12 F10/14 36 S5021 HT F0

Description:Actuator model UG190, single acting spring return,12springs, ISO flange F10&14, 36 mm diagonal square, S body, cap color green (RAL5021), fluororubber rubber sealing.

⚠ Notice

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