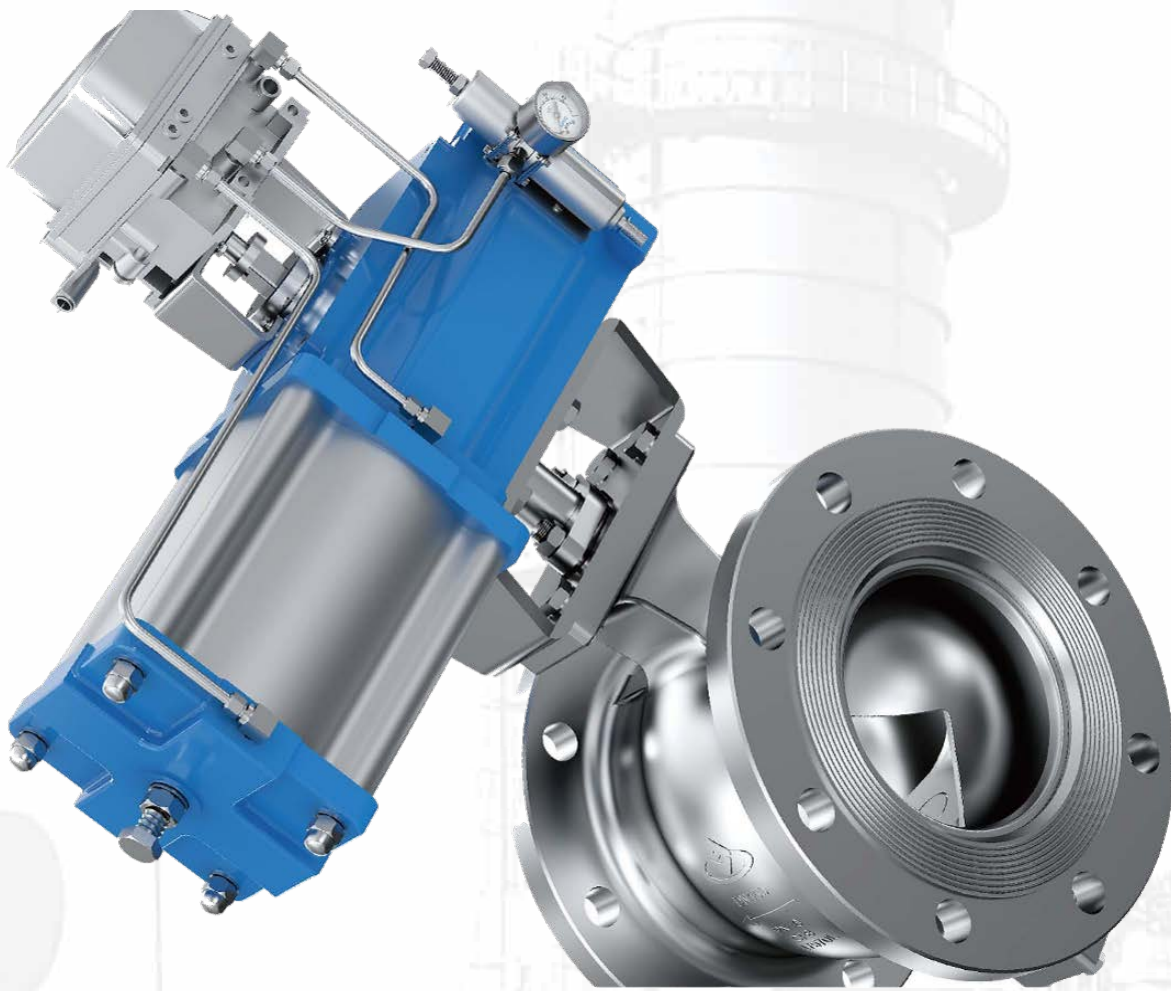




KV CONTROLS

Control & Isolation Valves



SEGMENT BALL VALVE

SERVICE

RV series is quarter turn control valve mainly recommended for throttle service, segment ball valve combines globe valve control with the efficiency of a rotary ball valve. Segment Ball is in V-notch design with strong cutting force and self-cleanness, especially suitable for control of medium containing fiber and tiny solids. Segment ball valve was from pulp and paper industry, By research and development, segment ball valve is extend to other industrial such as petrochemical, petroleum, chemical, fiber, power, metallurgy, pharmacy, environmental protection etc.

FEATURES

Precise contouring of the V-notch provides excellent control characteristics for an extensive variety of flow applications.

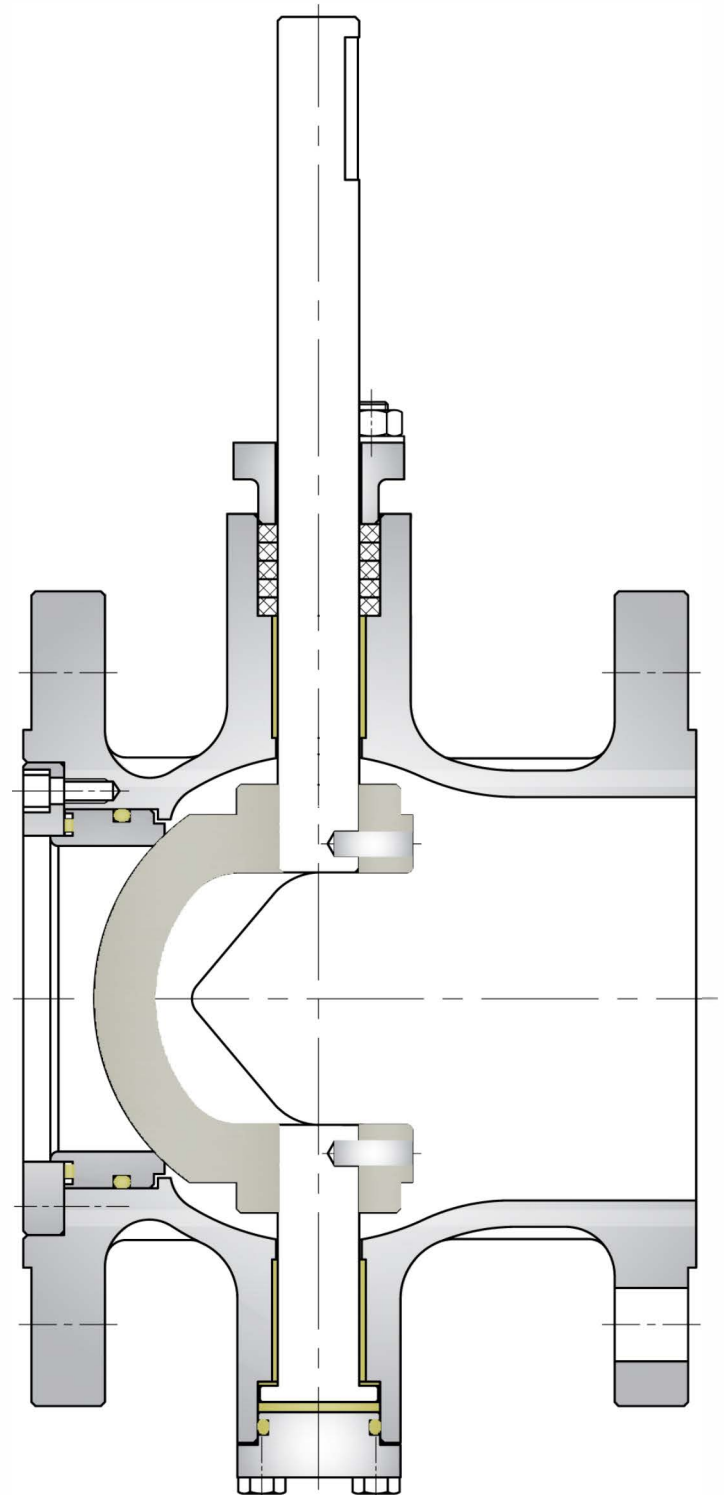
Splined connection between the shaft and ball ensures precise control and low hysteresis.

Detachable seat retainer design provides easy access to trim parts of valves through inlet of valve by simply removing the screws of retainer, therefore , easy maintenance is ensured which saves user lots of costs as seat spares can be kept instead of changing the entire valve body.

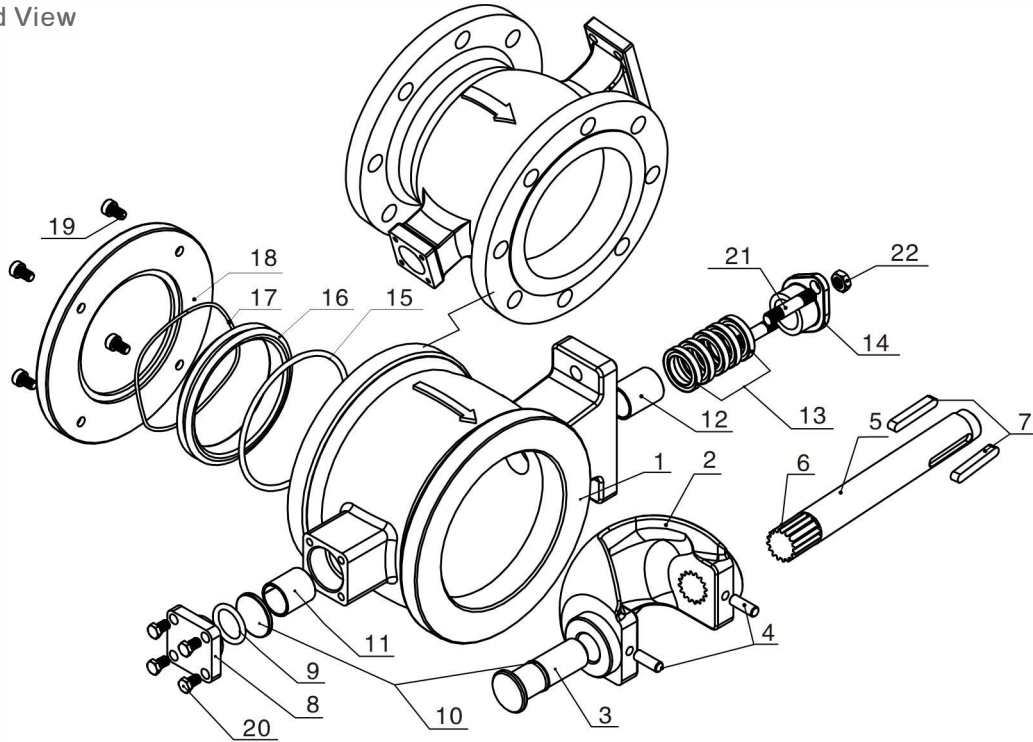
Superior trunnion bearing technology is engineered for excellent abrasion resistance.

Rugged self-adjusting metal seated option is ideally suited for high temperature applications or slurries. spring loaded seat maintains constant contact with the ball, giving enhanced sealing performance.

Shearing action between ball and seal promotes smooth, non-clogging operation-perfect for fiber or slurry application.



Exploded View



PARTS LIST / MATERIALS OF CONSTRUCTION

Table 1

| No. | Name | Quantity | Material |
|-----|--------------------------|----------|--|
| 1 | Body | 1 | WCB, CF8, CF8M |
| 2 | Ball | 1 | CF8, CF8M, CF3M, Hard Chromium Plating or Stellite Surfacing |
| 3 | Lower shaft | 1 | 17-4PH, SS316 |
| 4 | Cylindrical pin | 2 | SS304, SS316 |
| 5 | Upper shaft | 1 | 17-4PH, SS316 |
| 6 | Spline | 1 | 17-4PH, SS316 |
| 7 | Flat key | 2 | SS304, 45# |
| 8 | Blind flange | 1 | CF8, CF8M |
| 9 | O-ring | 1 | Viton, Graphite |
| 10 | Gasket | 1 each | PTFE, Graphite |
| 11 | Self-lubricating bearing | 1 | Composite material |
| 12 | Self-lubricating bearing | 1 | Composite material |
| 13 | Packing | 1 Set | PTFE, Graphite |
| 14 | Gland | 1 | CF8M |
| 15 | O-ring | 1 | Viton, Graphite |
| 16 | Seat | 1 | PTFE, SS316, SS316L, Hard Chrome Plating or Stellite Surfacing |
| 17 | Wavy spring | 1 | SS316 |
| 18 | Retainer | 1 | Carbon Steel, SS304, SS316 |
| 19 | Socketed head screw | 4 | A193 B7, A193 B8 |
| 20 | Hexagon screw | 4 | A193 B7, A193 B8 |
| 21 | Stud | 2 | A193 B7, A193 B8 |
| 22 | Hexagon nut | 2 | A194 2H, A194 8 |

TECHNICAL DATA

End Connection: Wafer DN25 through DN250/1" through 10" , MFR standard.

Flanged DN25 through DN700 / 1" through 28" ,

Face to face dimension standard: IEC/DIN534-3-2 or ISA S75.04

Nominal Pressure Rating: 1.0, 1.6, 2.5, 4.0, 6.4(MPa), ANSI 150, ANSI 300, ANSI600

Working Temperature: -20~160°C / -20 ~320°F,

Optional: -20~230°C / -20 ~446°F,

-20~350°C / -20~660 °F

Please consult Linuo factory for higher temperature service range.

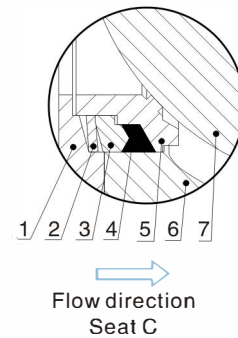
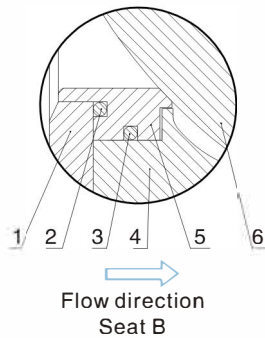
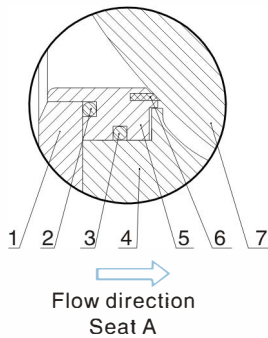
Pressure Test: Each Linuo valve undergoes hydraulic test with 1.5 X pressure rating as shell test, and seat tightness test according to ANSI/FCI 70.2.

Leakage: Soft Seat: ANSI/FCI 70.2 Class VI.

Metal Seat: Maximum allowable leakage equal to 1% of maximum allowable leakage of ANSI/FCI 70.2 Class IV.

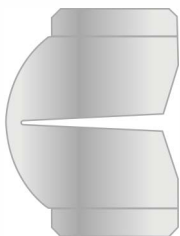
Please consult Linuo factory for higher tightness class requirements.

VARIOUS SEAT CONSTRUCTIONS



| PTFE Seat | | | Standard Metal Seat | | | High Temperature Version Metal Seat | | |
|-----------|------------|-------------|---------------------|------------|------------------------|-------------------------------------|-----------------|-------------|
| No. | Parts | Temp. Range | No. | Parts | Temp. Range | No. | Parts | Temp. Range |
| 1 | Retainer | -20~160°C | 1 | Retainer | -20~120°C -20~200°C | 1 | Retainer | -20~450°C |
| 2 | Spring | | 2 | Spring | | 2 | Belville Spring | |
| 3 | O ring | | 3 | O ring | | 3 | Plunge Ring | |
| 4 | Valve Body | | 4 | Valve Body | | 4 | Graphite ring | |
| 5 | Seat Body | | 5 | Seat | | 5 | Metal Seat | |
| 6 | Seat Seal | | 6 | Ball | | 6 | Valve Body | |
| 7 | Ball | | 7 | | | 7 | Ball | |

VARIOUS TRIM DESIGNS FOR LOW CV AND NOISE APPLICATIONS



When the flow rate of application is too low calling for valves with very low flow capacity for throttling that a standard DN20 or DN25 trim of segment ball valve can not manage to achieve, special low Cv trim design is available engineered as per specific Cv requirements to provide precise throttling performance, which particularly meets the control requirements of additives and coatings in paper making industry.



Low noise trim provides very good solution to applications easily subject to excessive noise level with conventional trim especially for control systems handling gas and steam and other applications where requires a limited level of noise. Meanwhile, it can also prevent the potential risk of damaged piping system and influenced life cycle and control performance of control valves resulted from the cavitation phenomenon during controlling of water and other liquids under high differential pressure.

MAXIMUM ALLOWABLE DIFFERENTIAL PRESSURE AND TORQUE

Table 2

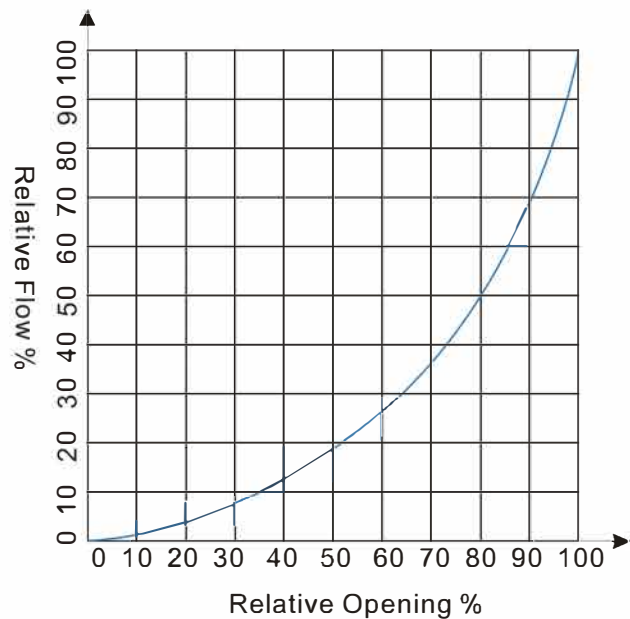
| Size | Wafer/PN10/PN16/150LB | | | | | | | | Wafer/PN40/300LB | | | | | | | | Torque | |
|-----------|-----------------------|-----|---------|-----|-----------------|-----|---------|-----|------------------|-----|---------|-----|-----------------|-----|---------|-----|----------|----------|
| | Max shut-off dp. | | | | Max control dp. | | | | Max shut-off dp. | | | | Max control dp. | | | | N. M | |
| | Wafer | | Flanged | | Wafer | | Flanged | | Wafer | | Flanged | | Wafer | | Flanged | | 16 (bar) | 40 (bar) |
| | bar | psi | bar | psi | bar | psi | bar | psi | bar | psi | bar | psi | bar | psi | bar | psi | | |
| 25/1" | 20 | 290 | 20 | 290 | 15 | 217 | 15 | 217 | 50 | 725 | 40 | 580 | 35 | 507 | 35 | 507 | 25 | 48 |
| 32/1-1/4" | 20 | 290 | 20 | 290 | 15 | 217 | 15 | 217 | 50 | 725 | 40 | 580 | 35 | 507 | 35 | 507 | 25 | 55 |
| 40/1-1/2" | 20 | 290 | 20 | 290 | 15 | 217 | 15 | 217 | 50 | 725 | 40 | 580 | 35 | 507 | 35 | 507 | 30 | 60 |
| 50/2" | 20 | 290 | 20 | 290 | 15 | 217 | 15 | 217 | 50 | 725 | 40 | 580 | 35 | 507 | 35 | 507 | 35 | 70 |
| 65/2-1/2" | 20 | 290 | 20 | 290 | 15 | 217 | 15 | 217 | 50 | 725 | 40 | 580 | 35 | 507 | 35 | 507 | 60 | 140 |
| 80/3" | 20 | 290 | 20 | 290 | 15 | 217 | 15 | 217 | 50 | 725 | 40 | 580 | 35 | 507 | 35 | 507 | 80 | 224 |
| 100/4" | 16 | 232 | 16 | 232 | 12 | 174 | 12 | 174 | 40 | 580 | 40 | 580 | 25 | 362 | 25 | 362 | 140 | 315 |
| 125/5" | 16 | 232 | 16 | 232 | 12 | 174 | 12 | 174 | 40 | 580 | 40 | 580 | 25 | 362 | 25 | 362 | 160 | 480 |
| 150/6" | 16 | 232 | 16 | 232 | 12 | 174 | 12 | 174 | 40 | 580 | 40 | 580 | 25 | 362 | 25 | 362 | 220 | 930 |
| 200/8" | 16 | 232 | 16 | 232 | 12 | 174 | 12 | 174 | 35 | 507 | 40 | 580 | 25 | 362 | 25 | 362 | 350 | 1830 |
| 250/10" | 14 | 203 | 14 | 203 | 10 | 145 | 10 | 145 | 35 | 507 | 40 | 580 | 20 | 290 | 20 | 290 | 660 | 3125 |
| 300/12" | / | / | 14 | 203 | / | / | 10 | 145 | / | / | 40 | 580 | / | / | 20 | 290 | 1200 | 4000 |
| 350/14" | / | / | 12 | 174 | / | / | 8 | 116 | / | / | 40 | 580 | / | / | 20 | 290 | 1700 | 6120 |
| 400/16" | / | / | 12 | 174 | / | / | 8 | 116 | / | / | 40 | 580 | / | / | 20 | 290 | 2600 | 8030 |
| 450/18" | / | / | 10 | 145 | / | / | 6 | 87 | / | / | 40 | 580 | / | / | 20 | 290 | 3500 | 12000 |
| 500/20" | / | / | 10 | 145 | / | / | 6 | 87 | / | / | 30 | 435 | / | / | 10 | 145 | 3800 | 15000 |
| 600/24" | / | / | 8 | 116 | / | / | 4 | 58 | / | / | 30 | 435 | / | / | 10 | 145 | 6000 | 20500 |

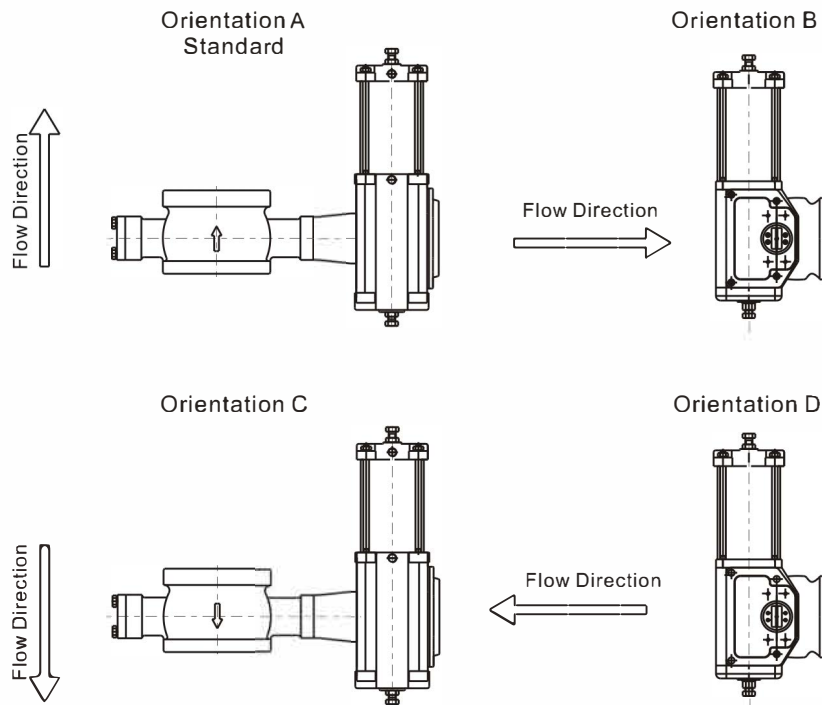
RATED CV

Table 3

| Size | CV | Size | CV |
|-------|------|-------|-------|
| DN25 | 27 | DN200 | 1860 |
| DN32 | 47 | DN250 | 2900 |
| DN40 | 70 | DN300 | 4320 |
| DN50 | 135 | DN350 | 6640 |
| DN65 | 210 | DN400 | 8000 |
| DN80 | 390 | DN450 | 10000 |
| DN100 | 560 | DN500 | 12200 |
| DN125 | 790 | DN600 | 17270 |
| DN150 | 1130 | DN700 | 25000 |

EQUAL PERCENTAGE INHERENT FLOW CHARACTERISTIC



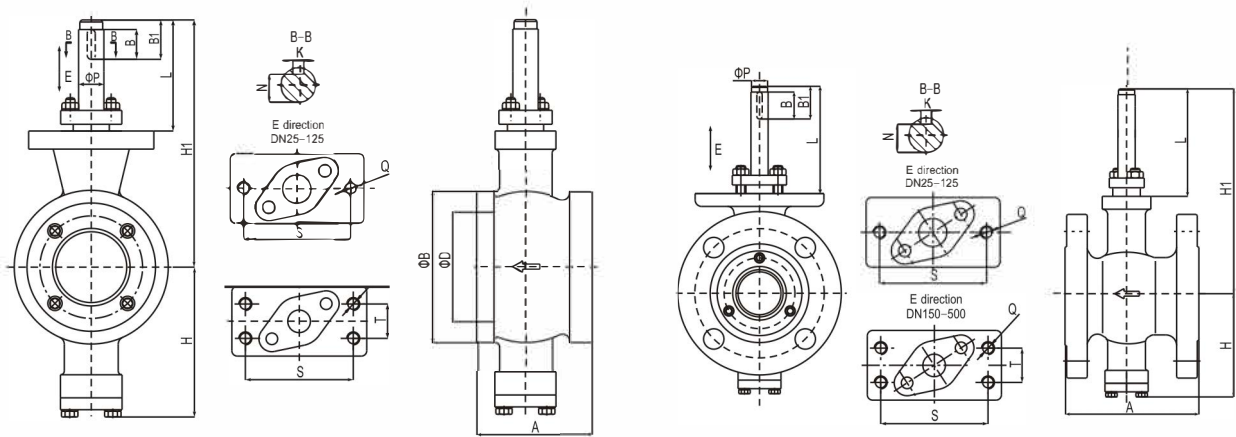


ACTUATOR SELECTION

Table 4

| Size DN | Torque(Nm) 20-25bar/150-360psi of dp | Double Acting Actuator | | | Single Acting Actuator |
|------------|---|------------------------|------------------------------------|------------------------------------|------------------------|
| | | 1.6Mpa | 2.5MPa or Temp.Range: 180-250°C | 4.0MPa or Temp.Range: 250-350°C | 1.6MPa |
| 15/20 | 25 | ZSQ32- c 63- c 14 | ZSQ32- c 63- c 14 | ZSQ32- c 63- c 14 | ZDQ41- c 100- c 14 |
| 25 | 25 | ZSQ32- c 63- c 16 | ZSQ32- c 63- c 16 | ZSQ32- c 63- c 16 | ZDQ41- c 100- c 16 |
| 32 | 25 | ZSQ32- c 63- c 16 | ZSQ32- c 63- c 16 | ZSQ32- c 63- c 16 | ZDQ41- c 100- c 16 |
| 40 | 30 | ZSQ32- c 63- c 16 | ZSQ41- c 80- c 16 | ZSQ41- c 100- c 16 | ZDQ41- c 100- c 16 |
| 50 | 35 | ZSQ41- c 80- c 16 | ZSQ41- c 100- c 16 | ZSQ41- c 125- c 16 | ZDQ41- c 100- c 16 |
| 65 | 60 | ZSQ41- c 80- c 16 | ZSQ41- c 100- c 16 | ZSQ41- c 125- c 16 | ZDQ41- c 125- c 16 |
| 80 | 80 | ZSQ41- c 100- c 20 | ZSQ41- c 125- c 20 | ZSQ50- c 125- c 20 | ZDQ50- c 125- c 20 |
| 100 | 140 | ZSQ50- c 100- c 20 | ZSQ50- c 125- c 20 | ZSQ50- c 125- c 20 | ZDQ50- c 160- c 20 |
| 125 | 150 | ZSQ50- c 100- c 25 | ZSQ50- c 125- c 25 | ZSQ50- c 160- c 25 | ZDQ50- c 160- c 25 |
| 150 | 180 | ZSQ50- c 125- c 30 | ZSQ50- c 160- c 30 | ZSQ60- c 160- c 30 | ZDQ60- c 200- c 30 |
| 200 | 350 | ZSQ60- c 125- c 30 | ZSQ60- c 160- c 30 | ZSQ60- c 200- c 30 | ZDQ80- c 200- c 30 |
| 250 | 600 | ZSQ60- c 160- c 40 | ZSQ60- c 200- c 40 | ZSQ80- c 250- c 40 | ZDQ80- c 250- c 40 |
| 300 | 1200 | ZSQ80- c 200- c 40 | ZSQ80- c 250- c 40 | ZSQ100- c 300- c 50 | ZDQ100- c 300- c 40 |
| 350 | 1700 | ZSQ80- c 250- c 50 | ZSQ100- c 300- c 50 | ZSQ130- c 300- c 50 | ZDQ130- c 350- c 50 |
| 400 | 2600 | ZSQ130- c 300- c 60 | ZSQ130- c 350- c 60 | ZSQ160- c 400- c 60 | ZDQ160- c 400- c 60 |
| 450 | 3500 | ZSQ130- c 300- c 70 | ZSQ160- c 400- c 70 | ZSQ160- c 450- c 70 | ZDQ160- c 450- c 70 |
| 500 | 3800 | ZSQ130- c 350- c 80 | ZSQ160- c 400- c 80 | ZSQ160- c 400- c 80 | ZDQ160- c 450- c 80 |

Note: ZSQ and ZDQ series piston actuators are manufactured by Linuo. The actuators above are recommended for valves of pressure PN10, PN16, PN25, PN40, ANSI 150Lb and temp. -20~160°C, with minimum air supply pressure of 5 bar.



DIMENSIONS OF WAFER TYPE

PN10/PN16/150LB

Table 5

mm/inch

| DN | A | H1 | H2 | ΦD | ΦB | L | ΦP | B1 | B | K | N | S | Q | T | Net W. (Kg/Lbs) |
|-----------|----------|----------|-----------|-----------|-----------|----------|---------|---------|---------|---------|-----------|----------|-----|---------|-----------------|
| 20/3/4" | 62/2.44 | 75/2.95 | 183/7.20 | 33/1.30 | 56/2.20 | 108/4.25 | 14/0.55 | 40/1.57 | 35/1.38 | 5/0.20 | 11/0.43 | 65/2.56 | M10 | / | 2.7/5.95 |
| 25/1" | 62/2.44 | 87/3.43 | 185/7.28 | 38/1.50 | 68/2.68 | 110/4.33 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 2.7/5.95 |
| 32/1-1/4" | 62/2.44 | 87/3.43 | 193/7.60 | 44/1.73 | 78/3.07 | 112/4.41 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 3/6.61 |
| 40/1-1/2" | 62/2.44 | 87/3.43 | 195/7.68 | 52/2.05 | 85/3.35 | 110/4.33 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 3.5/7.72 |
| 50/2" | 75/2.95 | 97/3.82 | 198/7.80 | 60/2.36 | 100/3.94 | 107/4.21 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 4.2/9.26 |
| 65/2-1/2" | 90/3.54 | 112/4.41 | 218/8.58 | 75/2.95 | 120/4.72 | 108/4.25 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 6/13.23 |
| 80/3" | 100/3.94 | 112/4.41 | 237/9.33 | 94/3.70 | 130/5.12 | 122/4.80 | 20/0.79 | 40/1.57 | 35/1.38 | 6/0.27 | 16.5/0.65 | 90/3.54 | M12 | / | 7.5/16.53 |
| 100/4" | 115/4.53 | 133/5.24 | 240/9.45 | 118/4.65 | 158/6.22 | 109/4.29 | 20/0.79 | 40/1.57 | 35/1.38 | 6/0.27 | 16.5/0.65 | 90/3.54 | M12 | / | 11/24.25 |
| 125/5" | 129/5.08 | 153/6.02 | 270/10.63 | 140/5.52 | 184/7.24 | 120/4.72 | 25/0.98 | 40/1.57 | 35/1.38 | 8/0.31 | 21/0.83 | 100/3.94 | M12 | / | 15.5/34.17 |
| 150/6" | 160/6.30 | 178/7.01 | 311/12.24 | 167/6.57 | 216/8.50 | 133/5.27 | 30/1.18 | 45/1.77 | 40/1.57 | 10/0.39 | 25/0.98 | 110/4.33 | M12 | 40/1.57 | 25/55.12 |
| 200/8" | 200/7.87 | 200/7.87 | 328/12.91 | 210/8.27 | 268/10.55 | 123/4.84 | 30/1.18 | 45/1.77 | 40/1.57 | 10/0.39 | 25/0.98 | 110/4.33 | M12 | 40/1.57 | 39/85.98 |
| 250/10" | 240/9.45 | 243/9.57 | 378/14.88 | 267/10.51 | 322/12.68 | 138/5.43 | 40/1.57 | 55/2.17 | 50/1.97 | 12/0.47 | 35/1.38 | 110/4.33 | M12 | 45/1.57 | 64/141.10 |

Note: The above dimensions are applicable for wafer connection valves of pressure rating PN10, 16, 25, 150lb. DN20-32 is not available for 150lb only. Face to face dimension of above wafer valve is as per Linuo's internal standard. ISA S75.04 face to face standard wafer valve is available by conversion from flanged type valve from size DN40 to DN600.

DIMENSIONS OF FLANGED TYPE

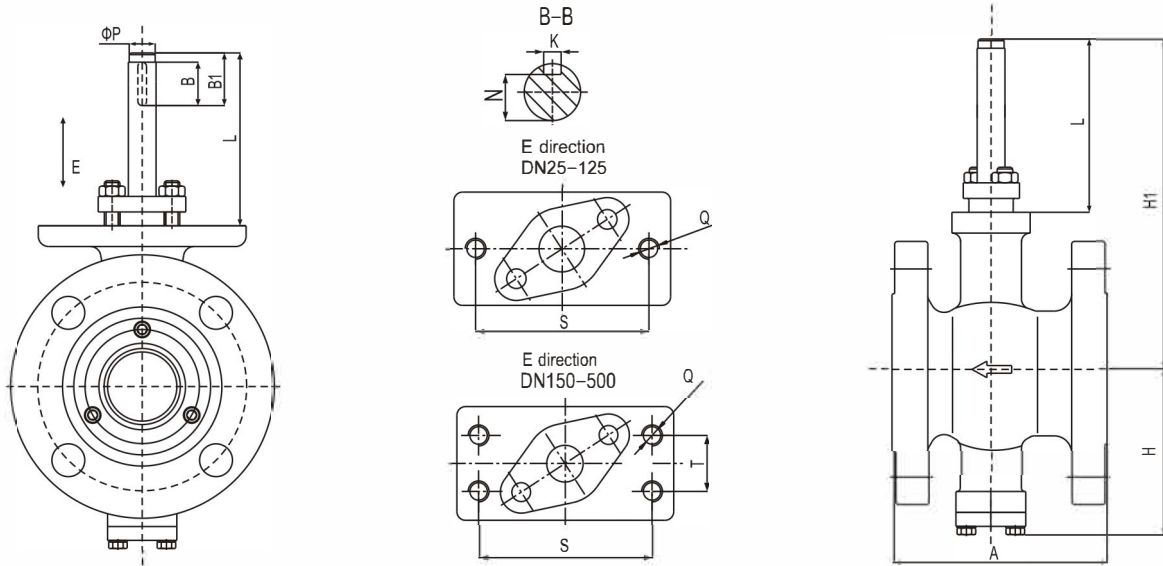
PN10/PN16/150LB

Table 6

mm/inch

| DN | A | H1 | H2 | L | ΦP | B1 | B | K | N | S | Q | T | Net W. (Kg/Lbs) |
|-----------|-----------|-----------|-----------|-----------|---------|----------|----------|---------|-----------|----------|-----|---------|-----------------|
| 25/1" | 102/4.02 | 87/3.43 | 185/7.28 | 107/4.21 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 4/8.82 |
| 32/1-1/4" | 102/4.02 | 87/3.43 | 193/7.60 | 108/4.25 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 5.5/12.13 |
| 40/1-1/2" | 114/4.49 | 87/3.43 | 195/7.68 | 110/4.33 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 6/13.23 |
| 50/2" | 124/4.88 | 93/3.66 | 198/7.80 | 105/4.13 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 7.5/16.53 |
| 65/2-1/2" | 145/5.71 | 117/4.61 | 218/8.58 | 106/4.17 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 9.5/20.94 |
| 80/3" | 165/6.50 | 121/4.76 | 240/9.45 | 122/4.80 | 20/0.79 | 40/1.57 | 35/1.38 | 6/0.27 | 16.5/0.65 | 90/3.54 | M12 | / | 14/30.86 |
| 100/4" | 194/7.64 | 133/5.24 | 240/9.45 | 109/4.29 | 20/0.79 | 40/1.57 | 35/1.38 | 6/0.27 | 16.5/0.65 | 90/3.54 | M12 | / | 21.5/47.40 |
| 125/5" | 213/8.39 | 153/6.02 | 270/10.63 | 120/4.72 | 25/0.98 | 40/1.57 | 35/1.38 | 8/0.31 | 21/0.83 | 100/3.94 | M12 | / | 23/50.71 |
| 150/6" | 229/9.02 | 178/7.01 | 310/12.20 | 133/5.27 | 30/1.18 | 45/1.77 | 40/1.57 | 10/0.39 | 25/0.98 | 110/4.33 | M12 | 40/1.57 | 37/81.57 |
| 200/8" | 243/9.57 | 200/7.87 | 328/12.91 | 123/4.84 | 30/1.18 | 45/1.77 | 40/1.57 | 10/0.39 | 25/0.98 | 110/4.33 | M12 | 40/1.57 | 58/127.87 |
| 250/10" | 297/11.69 | 243/9.57 | 378/14.88 | 138/5.43 | 40/1.57 | 55/2.17 | 50/1.97 | 12/0.47 | 35/1.38 | 110/4.33 | M12 | 45/1.77 | 85/187.39 |
| 300/12" | 338/13.31 | 272/10.71 | 415/16.34 | 146/5.75 | 40/1.57 | 55/2.17 | 50/1.97 | 12/0.47 | 35/1.38 | 130/5.12 | M12 | 45/1.77 | 131/288.80 |
| 350/14" | 400/15.75 | 326/12.83 | 509/20.04 | 180/7.09 | 50/1.97 | 68/2.68 | 60/2.36 | 16/0.63 | 44/1.73 | 134/5.28 | M16 | 64/2.52 | 199/438.72 |
| 400/16" | 400/15.75 | 375/14.76 | 595/23.43 | 214/8.43 | 60/2.36 | 68/2.68 | 60/2.36 | 18/0.71 | 53/2.09 | 175/6.89 | M20 | 70/2.76 | 345/760.59 |
| 450/18" | 520/20.47 | 422/16.61 | 642/25.28 | 214/8.43 | 70/2.76 | 88/3.46 | 80/3.15 | 20/0.79 | 62.5/2.46 | 190/7.48 | M20 | 90/3.54 | 510/1124.36 |
| 500/20" | 600/23.62 | 510/20.08 | 720/28.35 | 230/9.06 | 80/3.15 | 88/3.46 | 80/3.15 | 22/0.87 | 71/2.80 | 215/8.46 | M20 | 96/3.78 | 607/1338.21 |
| 600/24" | 680/26.77 | 560/22.05 | 845/33.27 | 285/11.22 | 85/3.35 | 115/4.53 | 100/3.94 | 22/0.87 | 76/2.99 | 230/9.06 | M30 | 90/3.54 | 720/1587.33 |

Note: The above dimensions are applicable for flanged valves of pressure rating PN10, 16, 25, 150lb. DN25-32 is not available for 150lb only. ISA S75.04 face to face standard wafer valve is available by conversion from flanged type valve from size DN40 to DN600.



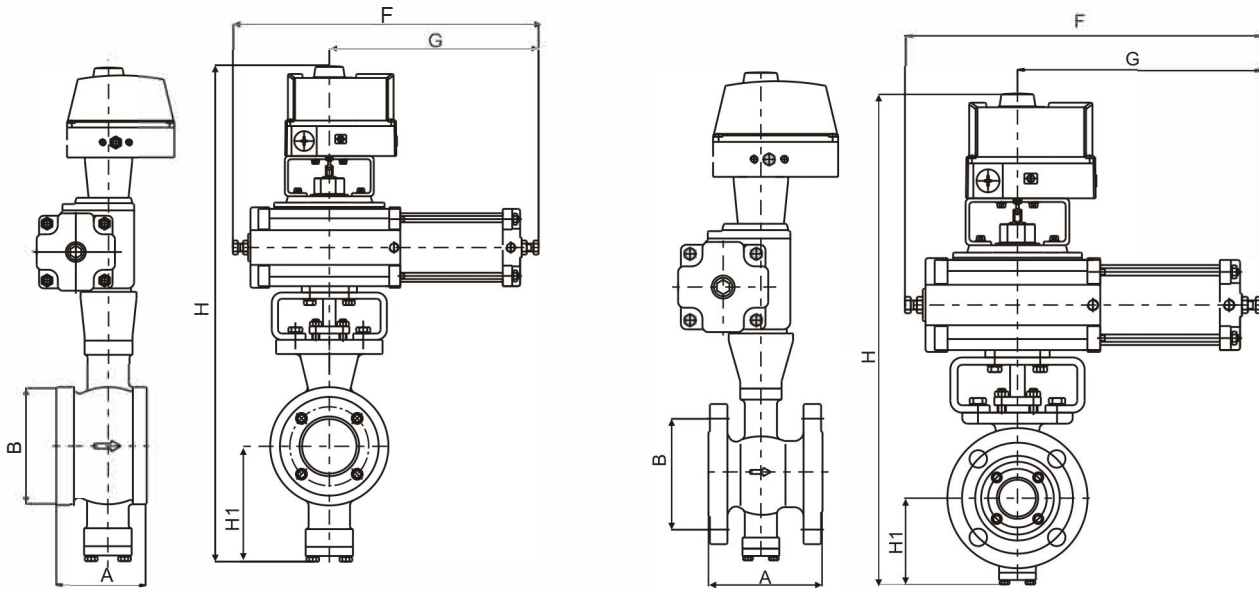
DIMENSION OF FLANGED TYPE

PN40/300LB

Table 7

mm/inch

| DN | A | H1 | H2 | L | ΦP | B1 | B | K | N | S | Q | T | Net W. (Kg/Lbs) |
|-----------|-----------|-----------|-----------|-----------|---------|----------|----------|---------|-----------|----------|-----|---------|--------------------|
| 25/1" | 102/4.02 | 87/3.43 | 185/7.28 | 107/4.21 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 4/8.82 |
| 32/1-1/4" | 102/4.02 | 87/3.43 | 193/7.60 | 108/4.25 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 5.5/12.13 |
| 40/1-1/2" | 114/4.49 | 87/3.43 | 195/7.68 | 110/4.33 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M10 | / | 6/13.23 |
| 50/2" | 124/4.88 | 103/4.06 | 212/8.35 | 112/4.41 | 16/0.63 | 40/1.57 | 35/1.38 | 5/0.20 | 13/0.51 | 80/3.15 | M12 | / | 11/24.25 |
| 80/3" | 165/6.50 | 136/5.35 | 254/10.00 | 120/4.72 | 25/0.98 | 40/1.57 | 35/1.38 | 8/0.31 | 21/0.83 | 100/3.94 | M12 | 32/1.26 | 22/48.50 |
| 100/4" | 194/7.64 | 144/5.70 | 262/10.31 | 120/4.72 | 25/0.98 | 40/1.57 | 35/1.38 | 8/0.31 | 21/0.83 | 100/3.94 | M12 | 32/1.26 | 32/70.55 |
| 150/6" | 229/9.02 | 202/7.95 | 346/13.62 | 145/5.71 | 40/1.57 | 55/2.17 | 50/1.97 | 12/0.47 | 32/1.26 | 130/5.12 | M16 | 45/1.77 | 62/136.69 |
| 200/8" | 243/9.57 | 219/8.62 | 363/14.29 | 145/5.71 | 40/1.57 | 55/2.17 | 50/1.97 | 12/0.47 | 35/1.38 | 130/5.12 | M16 | 45/1.77 | 90/198.42 |
| 250/10" | 297/11.69 | 267/10.51 | 467/18.39 | 192/7.56 | 50/1.97 | 68/2.68 | 50/1.97 | 16/0.63 | 44/1.73 | 175/6.89 | M20 | 70/2.76 | 150/330.69 |
| 300/12" | 338/13.31 | 288/11.34 | 483/19.02 | 192/7.56 | 50/1.97 | 68/2.68 | 50/1.97 | 16/0.63 | 44/1.73 | 175/6.89 | M20 | 70/2.76 | 220/485.02 |
| 350/14" | 400/15.75 | 350/13.78 | 600/23.62 | 245/9.65 | 60/2.36 | 90/3.54 | 80/3.15 | 18/0.71 | 63/2.48 | 180/7.09 | M24 | 70/2.76 | 310/683.43 |
| 400/16" | 400/15.75 | 450/17.72 | 645/25.39 | 245/9.65 | 70/2.76 | 90/3.54 | 80/3.15 | 20/0.79 | 62.5/2.46 | 210/8.27 | M27 | 90/3.54 | 450/992.08 |
| 500/20" | 630/24.80 | 500/19.69 | 805/31.69 | 285/11.22 | 80/3.15 | 120/4.72 | 110/4.33 | 25/0.98 | 76/2.99 | 230/9.06 | M30 | 90/3.54 | 956/2107.62 |



DIMENSIONS OF PNEUMATIC WAFER AND FLANGED TYPE

Table 8

| DN | A | | B | | H1 | | H | | G | | F | |
|-----|----------|-----------|-----------|-----------|----------|-----------|------------|------------|-----------|------------|------------|------------|
| | Wafer | Flanged | Wafer | Flanged | Wafer | Flanged | ZSQ | ZDQ | ZSQ | ZDQ | ZSQ | ZDQ |
| 20 | 62/2.44 | / | 56/2.20 | / | 75/2.95 | / | 518/20.39 | 555/21.85 | 235/9.25 | 480/18.90 | 345/13.58 | 635/25.00 |
| 25 | 62/2.44 | 102/4.02 | 68/2.68 | 65/2.56 | 87/3.43 | 87/3.43 | 525/20.67 | 555/21.85 | 235/9.25 | 480/18.90 | 345/13.58 | 635/25.00 |
| 32 | 62/2.44 | 102/4.02 | 78/3.07 | 76/2.99 | 87/3.43 | 87/3.43 | 525/20.67 | 555/21.85 | 235/9.25 | 480/18.90 | 345/13.58 | 635/25.00 |
| 40 | 62/2.44 | 114/4.49 | 85/3.35 | 84/3.31 | 87/3.43 | 87/3.43 | 525/20.67 | 555/21.85 | 235/9.25 | 480/18.90 | 345/13.58 | 635/25.00 |
| 50 | 75/2.95 | 124/4.88 | 100/3.94 | 99/3.90 | 97/3.82 | 93/3.66 | 565/22.24 | 605/23.82 | 300/11.81 | 480/18.90 | 422/16.61 | 635/25.00 |
| 65 | 90/3.54 | 145/5.71 | 120/4.72 | 118/4.65 | 112/4.41 | 117/4.61 | 585/23.03 | 625/24.61 | 300/11.81 | 550/21.65 | 422/16.61 | 720/28.35 |
| 80 | 100/3.94 | 165/6.50 | 130/5.12 | 132/5.20 | 112/4.41 | 121/4.76 | 600/23.62 | 640/25.20 | 315/12.40 | 620/24.41 | 440/17.32 | 770/30.31 |
| 100 | 115/4.53 | 194/7.64 | 158/6.22 | 156/6.14 | 133/5.24 | 133/5.24 | 625/24.61 | 645/25.39 | 328/12.91 | 660/25.98 | 474/18.66 | 810/31.89 |
| 125 | 129/5.08 | 213/8.39 | 184/7.24 | 184/7.24 | 153/6.02 | 153/6.02 | 650/25.59 | 700/27.56 | 328/12.91 | 660/25.98 | 474/18.66 | 810/31.89 |
| 150 | 160/6.30 | 229/9.02 | 216/8.50 | 211/8.31 | 178/7.01 | 178/7.01 | 720/28.35 | 770/30.31 | 328/12.91 | 640/25.20 | 474/18.66 | 830/32.68 |
| 200 | 200/7.87 | 243/9.57 | 268/10.55 | 266/10.47 | 200/7.87 | 200/7.87 | 810/31.89 | 870/34.25 | 356/14.02 | 680/26.77 | 530/20.87 | 870/34.25 |
| 250 | 240/9.45 | 297/11.69 | 322/12.68 | 319/12.56 | 243/9.57 | 243/9.57 | 900/35.43 | 980/35.58 | 396/15.59 | 875/34.45 | 570/22.44 | 1170/46.06 |
| 300 | / | 338/13.31 | / | 370/14.57 | / | 272/10.71 | 1025/40.35 | 1725/67.91 | 500/19.69 | 970/38.19 | 700/27.56 | 1260/49.61 |
| 350 | / | 400/15.75 | / | 429/16.89 | / | 326/12.83 | 1150/45.28 | 1250/49.21 | 500/19.69 | 1200/47.24 | 700/27.56 | 1600/62.99 |
| 400 | / | 400/15.75 | / | 480/18.90 | / | 375/14.76 | 1350/53.15 | 1450/57.09 | 750/29.53 | 1215/47.83 | 1050/41.34 | 1615/63.58 |
| 450 | / | 520/20.47 | / | 548/21.57 | / | 422/16.61 | 1450/57.09 | 1550/61.02 | 750/29.53 | 1270/50.00 | 1050/41.34 | 1660/65.35 |
| 500 | / | 600/23.62 | / | 609/23.98 | / | 510/20.08 | 1550/61.02 | 1650/64.96 | 750/29.53 | 1285/50.59 | 1050/41.34 | 1680/66.14 |
| 600 | / | 680/26.77 | / | 702/27.64 | / | 560/22.05 | 1695/66.73 | 1795/70.67 | 750/29.53 | 1285/50.59 | 1050/41.34 | 1680/66.14 |

ZSQ: Double Acting Actuator

ZDQ: Single Acting Actuator

Note: The dimensions above are exclusive for valves equipped with Linuo make piston cylinder type pneumatic actuator- double acting (ZSQ) and spring return (ZDQ), applicable for pressure rating PN10, PN16, 150LB with design temperature range -20~160°C. Please refer to ACTUATOR SELECTION on Page 06

How To Order

RV **100** **D1-16** **M** **51** **Y** **56** **E** **ZS**

1

Valve Series

| | |
|----|--------------------|
| RV | Segment Ball Valve |
|----|--------------------|

2

Valve Size

| | | | | | | | | | | | |
|-----|-------|--------|-----|--------|--------|-----|--------|-----|-----|--------|-----|
| 015 | DN 15 | 1/2" | 050 | DN 50 | 2" | 150 | DN 150 | 6" | 400 | DN 400 | 16" |
| 020 | DN 20 | 3/4" | 065 | DN 65 | 2-1/2" | 200 | DN 200 | 8" | 450 | DN 450 | 18" |
| 025 | DN 25 | 1" | 080 | DN 80 | 3" | 250 | DN 250 | 10" | 500 | DN 500 | 20" |
| 032 | DN 32 | 1-1/4" | 100 | DN 100 | 4" | 300 | DN 300 | 12" | 600 | DN 600 | 24" |
| 040 | DN 40 | 1-1/2" | 125 | DN 125 | 5" | 350 | DN 350 | 14" | 700 | DN 700 | 26" |

3

Connection Type

| | | | |
|-----------------|-----------------|---------------|---------------|
| F1 Flanged (RF) | F2 Flanged (MF) | D1 Wafer (RF) | D2 Wafer (MF) |
|-----------------|-----------------|---------------|---------------|

4

Pressure Rating

| | | | | | |
|----|--------|----|-------|----|-----|
| 10 | PN10 | 01 | 150Lb | 1K | 10K |
| 16 | PN16 | 03 | 300Lb | 2K | 20K |
| 25 | PN 25 | 06 | 600Lb | | |
| 40 | PN 40 | | | | |
| 64 | PN 64 | | | | |
| 80 | PN 100 | | | | |

5

Body Material

| | | | |
|---|------|---|-----------|
| C | WCB | G | CG8M |
| P | CF8 | B | LCB |
| Q | CF3 | D | LCC |
| M | CF8M | W | WC6 |
| L | CF3M | S | Duplex SS |

6

Disc Material and Treatment

| Disc material | | Surface treatment | |
|---------------|-----------|-------------------|-----------------------------------|
| 3 | CF8 | 1 | Hard chrome plating |
| 4 | CF3 | B | 6AB surfacing |
| 5 | CF8M | 3 | Nickle based hard alloy surfacing |
| 6 | CF3M | 4 | Tungsten Carbide surfacing |
| 7 | CG8M | 5 | Nitriding |
| 8 | Duplex ss | 6 | Stellite |

7

Sealing Type

| | |
|-------------------------------------|---|
| Standard Metal Seat | Y |
| Soft seat | R |
| High Temperature Version Metal Seat | G |

8

Seat Material and Treatment

| Metal seat | | | | Soft seat | |
|------------|-------------------|---|--------------------------------|-----------|-------|
| Material | Surface treatment | | Material | | |
| 3 | 304 | 1 | Hard Chrome plating | PO | PTFE |
| 4 | 304L | 4 | Tungsten Carbide spray welding | LO | PPL |
| 5 | 316 | 5 | Nitriding | NO | NYLON |
| 6 | 316L | 6 | Stellite | RO | RTFE |
| 7 | 317 | | | KO | PEEK |
| 8 | 2205 | | | | |

9

O-ring Material

| Soft seat, Material and temperature | | |
|-------------------------------------|----------|-------------|
| E | EPDM | -29°C~120°C |
| V | Viton | -29°C~230°C |
| A | PFA | -29°C~230°C |
| F | FEP | -29°C~160°C |
| G | Graphite | -29°C~425°C |

10

Actuator

| | |
|------|---------------------------------|
| ZS | Pneumatic double acting |
| ZDK | Pneumatic spring to close |
| ZDB | Pneumatic spring to open |
| ZDLK | Pneumatic light spring to open |
| ZDLB | Pneumatic light spring to close |
| ZK | Electric |
| SD | Manual operation |

Wide industrial application range served by Linuo product including
Chemical /Etrochemical /Oil & Gas /Pulp & Paper /Biochemistry /Pharmaceutical /Water /Mining



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Control & Isolation Valves

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