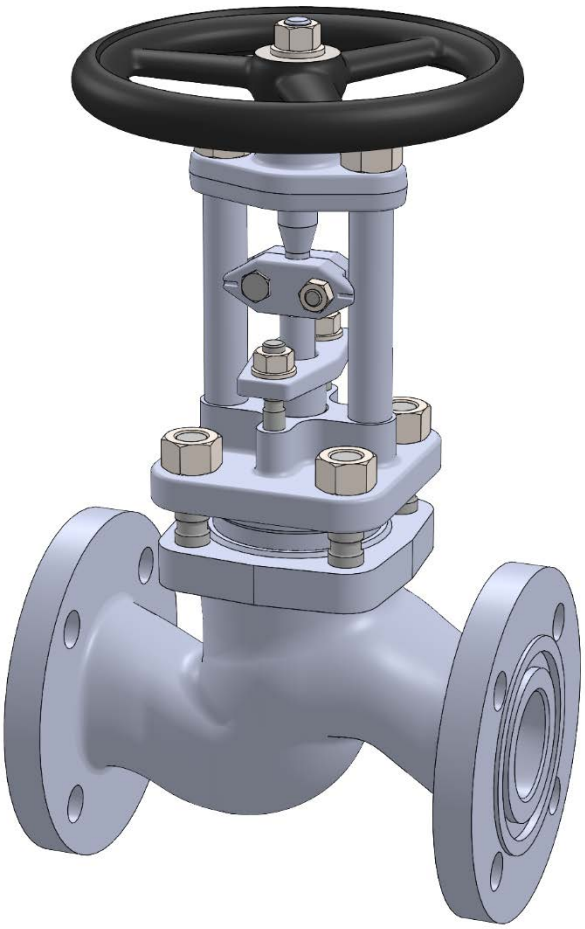
PHÖNIX STRACK DAUME REGELARMATUREN S+P Solent & Pratt Phönix Ltd



# Globe Valve

# Type 390

# PN 100


**Phönix Valve Group**
**Am Stadtbruch 6**
**34471 Volkmarsen**

**Phone:** +49 5693 988 0
**web:** www.phoenix-valvegroup.com
**eMail:** info@phoenix-valvegroup.com


PHÖNIX VALVE GROUP

# Model 390

Short Medium Flushed Bellows

## Applications & Design Features

### Applications

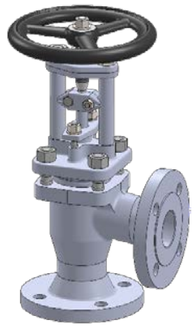
Model 390 is designed for a wide range of critical applications involving lethal, toxic, corrosive, inflammable, volatile, radiating, or expensive process fluids. With its bellows exposed to the product flow model 390 is recommended for service conditions where fluid crystallization, polymerization, or any settling of solids in the bellows convolutions are likely. The large annular area around the bellows allows for fluid circulation and maintains a bellows temperature equivalent to the fluid.

The most common applications are

- Phosgene (COCl2)
- Isocyanites (MDI, TDI)
- Hydrocyanic Acid (HCN)
- Vinyl Chloride
- Styrene
- Slurries
- Molten Sodium
- Heat transfer fluid applications (thermal oil, refrigerants, etc.) and
- fluids of similar nature.

This valve design guarantees reliable and excellent protection against leaks or fugitive emissions. The stem seal requires virtually no maintenance due to leak free weld connections of the bellows with bonnet and stem. Constant valve monitoring and re-adjustment of the packing is eliminated. In the unlikely event of a bellows failure the backup packing guarantees safe valve performance until the next scheduled shutdown.

*Straight*



*Angle*

*Y-Pattern*

### Design Features

**Bellows and Packing**

- exposed to product flow for self cleaning
- multiple walls and hydroformed bellows
- up to 10.000 bellows operations guaranteed

**Stem**

- two-piece stem protects the bellows against torque stress
- design eliminates stem bearings along with their maintenance needs
- metal-to-metal back seat provides additional safety

**Body and Bonnet**

- bodies are forgings or castings with larger than required wall thickness and integral flanges
- body bonnet joint gasket is fully confined to prevent gasket flow or blowout
- angle and Y-pattern design available (model 391 and 392)

**Seats**

- solid hardfacings for outstanding corrosion and wear resistance
- knife edge metal-to-metal seat for bubble-tight shutoff
- replaceable disc for inexpensive maintenance

**= zero emissions, zero seat leakage, low maintenance**



*Globe Valve* *Bellows Sealed*

Model 390

Short Medium Flushed Bellows

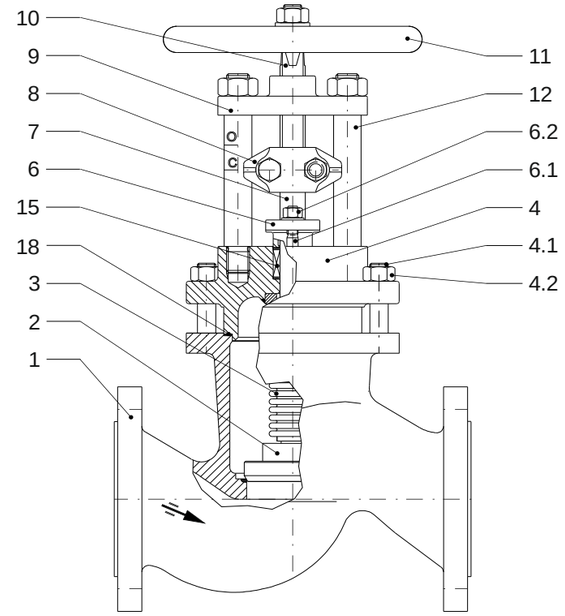
## Standard Materials of Construction

### Options

Other materials per customer requirements are available!

### Notes

Phönix reserves the right to change product design and specification without notice!




### Materials

| Item | Part Name | Carbon steel<br>**Model 390C**<br>up to 450°C | low temp. Carbon steel<br>**Model 390T**<br>-50°C up to 300°C | Stainless steel<br>**Model 390V**<br>-200°C up to 400°C |
|---|---|---|---|---|
| 1 | Body | 1.0460 / 1.0619 | 1.0566 / 1.6220 / 1.1138 | 1.4404 / 1.4408 |
| | Seat overlay | 1.4370 (≈ 200HRB) | 1.4370 (≈ 200HRB) | like body (≈ 200HRB) |
| 2 | Disc | 1.4021 hardened / 1.0460 | 1.4571 / 1.0566 | 1.4571 |
| | Overlay | 1.4009 (≈ 300HRB) | Stellite 6 (≈ 42HRC) | Stellite 6 (≈ 42HRC) |
| 3 | Bellows | 1.4571 | 1.4571 | 1.4571 |
| 4 | Bonnet | 1.0460 / 1.0619 | 1.0566 / 1.6220 / 1.1138 | 1.4404 / 1.4408 |
| 4.1 | Stud bolt | 1.7709 | A4-70 | A4-70 |
| 4.2 | Hex. nut | 1.7218 | A4-70 | A4-70 |
| 6 | Gland follower | 1.0460 / 1.0619 | 1.5638 | 1.4408 |
| 6.1 | Stud bolt | Steel 5.6 | A4-70 | A4-70 |
| 6.2 | Hex. nut | Steel 5 | A4-70 | A4-70 |
| 7 | Lower stem | 1.4571 | 1.4571 | 1.4571 |
| 8 | Coupling | 1.4408 | 1.4408 | 1.4408 |
| 9 | Bridge | 1.0460, QPQ-nitrided | 1.0460, QPQ-nitrided | 1.0460, QPQ-nitrided |
| 10 | Upper stem | 1.4057 | 1.4057 | 1.4057 |
| 11 | Handwheel | Cast iron | Cast iron | Cast iron |
| 12 | Pillar | 1.0501 | 1.4057 | 1.4057 |
| 15 | Packing | Graphite | PTFE-silk * | Graphite |
| 18 | Gasket | Grooved SS / graphite | Grooved SS / graphite | Grooved SS / graphite |

* ≥ 220°C Packing of pure graphite

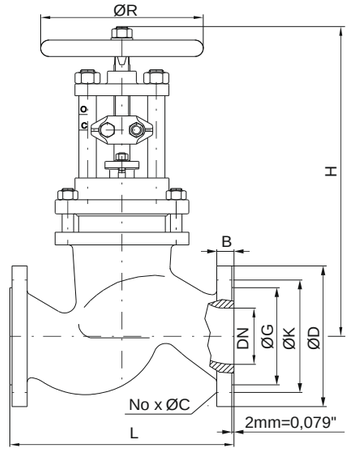
PHÖNIX • P +49 5693 988-0 • F +49 5693 988-178 • info@phoenix-valvegroup.com • https://phoenix-valvegroup.com

# *Globe Valve* *Bellows Sealed*

## Model 390

Short Medium Flushed Bellows

PN100 Sizes DN15 - DN200




### Options

- Other customer specific designs on request

### Notes

- Design acc. PED 2014/68/EU and harmonized standards
- Marking acc. to EN 19, AD-A4, PED 2014/68/EU, CE
- Standard tests acc. to DIN EN 12266, ISO 5208
- Preservation acc. to manufacturer standard
- Connections: Flanges acc. to DIN EN 1092-1
  Butt Weld Ends acc. to DIN EN 12627
  Socket Weld Ends acc. to DIN EN 12760
- F-T-F Dimensions: Flanges acc. to DIN EN 558-1
  Butt Weld Ends acc. to DIN EN 12982
  Socket Weld Ends acc. to manufacturer standard

### Dimensions & Weights & Flow Coefficients

| DN | Unit | Globe | | | Flage facing type B1 | | | | | | Kv [m³/h] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | H | ØR | ØG | ØK | No x ØC | ØD | B | Weight | cv *[USGal/min]* |
| 15 | [mm] | 210 | 280 | 150 | 45 | 75 | 4 x 14 | 105 | 20 | 12 kg | 3.6 |
| | *[in]* | *8.27* | *11.02* | *5.91* | *1.77* | *2.95* | *4 x 0.55* | *4.13* | *0.79* | *26 lbs* | *4.19* |
| 20 | [mm] | 230 | 280 | 150 | 58 | 90 | 4 x 18 | 130 | 22 | 14 kg | 7.4 |
| | *[in]* | *9.06* | *11.02* | *5.91* | *2.28* | *3.54* | *4 x 0.71* | *5.12* | *0.87* | *31 lbs* | *8.6* |
| 25 | [mm] | 230 | 280 | 150 | 68 | 100 | 4 x 18 | 140 | 24 | 16 kg | 9 |
| | *[in]* | *9.06* | *11.02* | *5.91* | *2.68* | *3.94* | *4 x 0.71* | *5.51* | *0.94* | *35 lbs* | *10.47* |
| 32 | [mm] | ON REQUEST | | | | | | | | | |
| | *[in]* | | | | | | | | | | |
| 40 | [mm] | 260 | 400 | 200 | 88 | 125 | 4 x 22 | 170 | 26 | 27 kg | 27 |
| | *[in]* | *10.24* | *15.75* | *7.87* | *3.46* | *4.92* | *4 x 0.87* | *6.69* | *1.02* | *60 lbs* | *31* |
| 50 | [mm] | 300 | 400 | 200 | 102 | 145 | 4 x 26 | 195 | 28 | 32 kg | 32 |
| | *[in]* | *11.81* | *15.75* | *7.87* | *4.02* | *5.71* | *4 x 1.02* | *7.68* | *1.10* | *71 lbs* | *37* |
| 65 | [mm] | ON REQUEST | | | | | | | | | |
| | *[in]* | | | | | | | | | | |
| 80* | [mm] | 380 | 530 | 315 | 138 | 180 | 8 x 26 | 230 | 32 | 65 kg | 105 |
| | *[in]* | *14.96* | *20.87* | *12.40* | *5.43* | *7.09* | *8 x 1.02* | *9.06* | *1.26* | *143 lbs* | *122* |
| 100* | [mm] | 430 | 540 | 400 | 162 | 210 | 8 x 30 | 265 | 36 | 90 kg | 167 |
| | *[in]* | *16.93* | *21.26* | *15.75* | *6.38* | *8.27* | *8 x 1.18* | *10.43* | *1.42* | *198 lbs* | *194* |
| 125* | [mm] | ON REQUEST | | | | | | | | | |
| | *[in]* | | | | | | | | | | |
| 150* | [mm] | 550 | 800 | 400 | 218 | 290 | 12 x 33 | 355 | 44 | 240 kg | 375 |
| | *[in]* | *21.65* | *31.50* | *15.75* | *8.58* | *11.42* | *12 x 1.30* | *13.98* | *1.73* | *529 lbs* | *436* |

* permissible differential pressure [bar] see Appendix I, Table 1

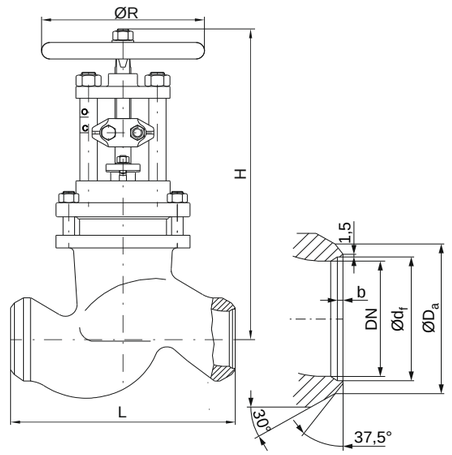


*Globe Valve* *Bellows Sealed*

Model 390

Short Medium Flushed Bellows

PN100 Sizes DN15 - DN200




### Options

- Other customer specific designs on request

### Notes

- Design acc. PED 2014/68/EU and harmonized standards
- Marking acc. to EN 19, AD-A4, PED 2014/68/EU, CE
- Standard tests acc. to DIN EN 12266, ISO 5208
- Preservation acc. to manufacturer standard
- Connections: Flanges acc. to DIN EN 1092-1
  Butt Weld Ends acc. to DIN EN 12627
  Socket Weld Ends acc. to DIN EN 12760
- F-T-F Dimensions: Flanges acc. to DIN EN 558-1
  Butt Weld Ends acc. to DIN EN 12982
  Socket Weld Ends acc. to manufacturer standard

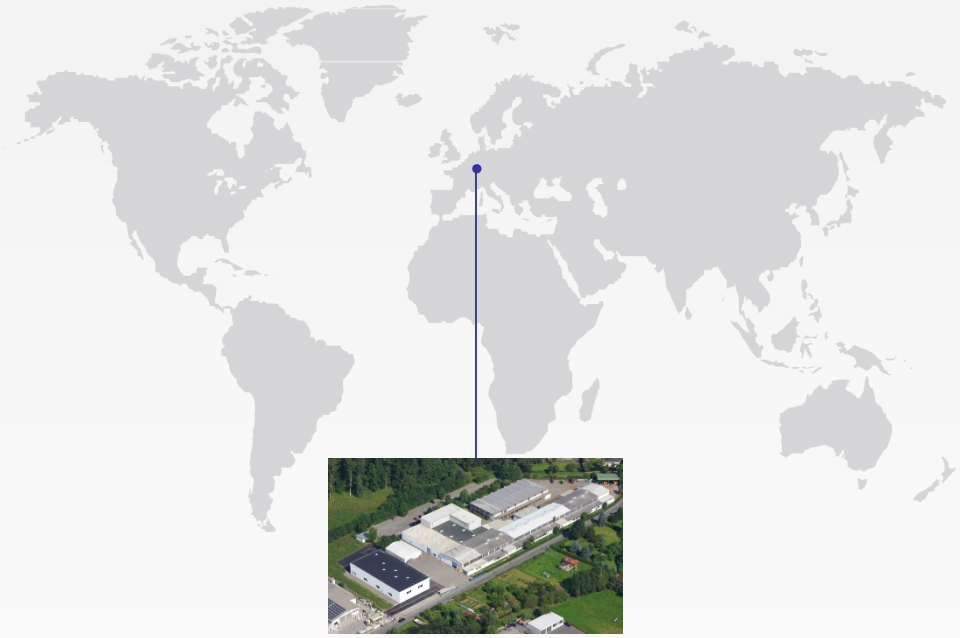
### Dimensions & Weights & Flow Coefficients

| DN | Unit | Globe | | | Butt Weld Ends | | | | | Kv [m³/h] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L | H | ØR | $ØD_a$ | $Ød_f$ | b | for pipe | Weight | cv *[USGal/min]* |
| 15 | [mm] | 130 | 280 | 150 | 22 | 17 | 3 | Ø21.3 x 2.0 | 10 kg | 3.6 |
| | *[in]* | *5.12* | *11.02* | *5.91* | *0.87* | *0.67* | *0.12* | *Ø0.84 x 0.08* | *22 lbs* | *4.19* |
| 20 | [mm] | 150 | 280 | 150 | ON REQUEST | | | | 10 kg | 7.4 |
| | *[in]* | *5.91* | *11.02* | *5.91* | | | | | *22 lbs* | *8.6* |
| 25 | [mm] | 160 | 280 | 150 | 35 | 28.5 | 4 | Ø33.7 x 2.6 | 11 kg | 9 |
| | *[in]* | *6.30* | *11.02* | *5.91* | *1.38* | *1.12* | *0.16* | *Ø1.33 x 0.10* | *24 lbs* | *10.47* |
| 32 | [mm] | ON REQUEST | | | | | | | | |
| | *[in]* | | | | | | | | | |
| 40 | [mm] | 200** | 400 | 200 | 50 | 43 | 4 | Ø48.3 x 2.6 | 19 kg | 27 |
| | *[in]* | *7.87* | *15.75* | *7.87* | *1.97* | *1.69* | *0.16* | *Ø1.90 x 0.10* | *42 lbs* | *31* |
| 50 | [mm] | 230** | 400 | 200 | 62 | 53.5 | 5 | Ø60.3 x 3.2 | 21 kg | 32 |
| | *[in]* | *9.06* | *15.75* | *7.87* | *2.44* | *2.11* | *0.20* | *Ø2.37 x 0.13* | *46 lbs* | *37* |
| 65 | [mm] | ON REQUEST | | | | | | | | |
| | *[in]* | | | | | | | | | |
| 80* | [mm] | 380 | 530 | 315 | 91 | 80.5 | 6 | Ø88.9 x 4.0 | 50 kg | 105 |
| | *[in]* | *14.96* | *20.87* | *12.40* | *3.58* | *3.17* | *0.24* | *Ø3.50 x 0.16* | *110 lbs* | *122* |
| 100* | [mm] | 430 | 540 | 400 | 117 | 104.3 | 8 | Ø114.3 x 5.0 | 68 kg | 167 |
| | *[in]* | *16.93* | *21.26* | *15.75* | *4.61* | *4.11* | *0.31* | *Ø4.50 x 0.20* | *150 lbs* | *194* |
| 125* | [mm] | ON REQUEST | | | | | | | | |
| | *[in]* | | | | | | | | | |
| 150* | [mm] | 550 | 800 | 400 | 172 | 154 | 11 | Ø168.3 x 7.1 | 197 kg | 375 |
| | *[in]* | *21.65* | *31.50* | *15.75* | *6.77* | *6.06* | *0.43* | *Ø6.63 x 0.28* | *434 lbs* | *436* |

* permissible differential pressure [bar] see Appendix I, Table 1

** manufacturer standard

# Contact us



Volkmarsen, Germany

## Sales and Operations


Phönix Valve Group GmbH
Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

Phönix Armaturen Werke-Bregel GmbH
Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

Strack GmbH
Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

PAW SARL
Genay Cedex, France
Phone: +33 437 408 195
Email: commercial@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

Daume Regelarmaturen GmbH
Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

Solent & Pratt Phönix Ltd.
Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com





Printed in Germany
09/22-R0