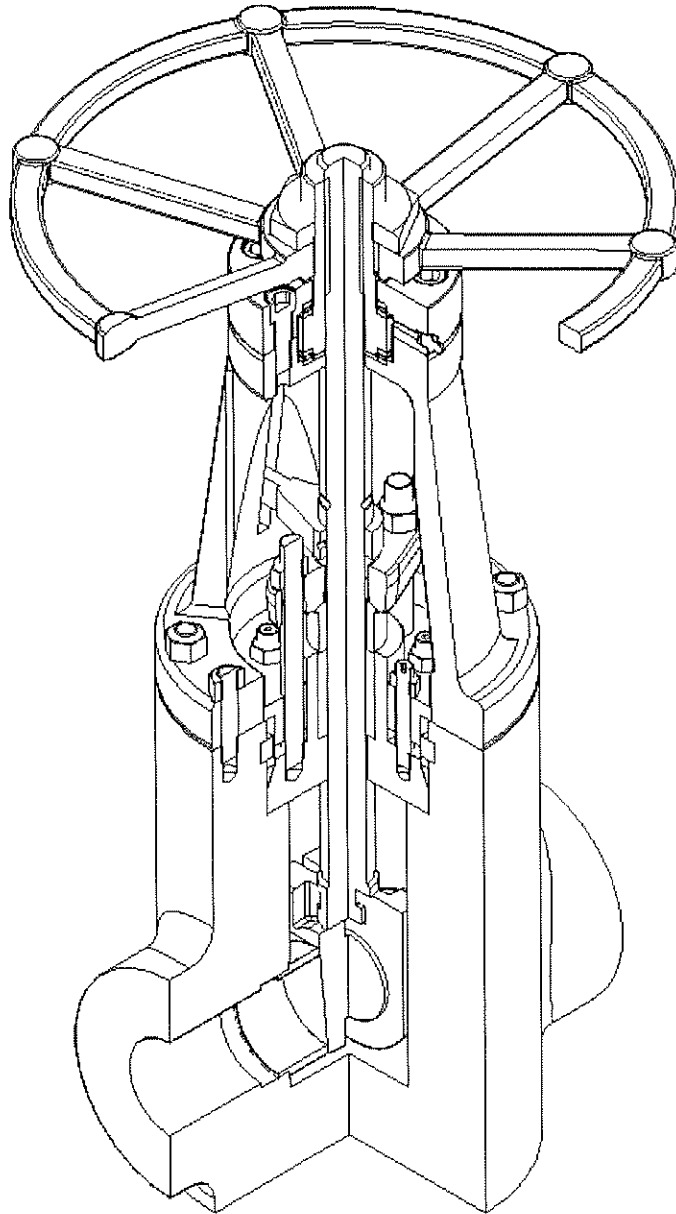


PRESSURE SEAL FORGED VALVES



DOUGLAS/CHERO
dc FORGED VALVES

Douglas Chero was established in 1974 to meet the demand for high quality forged valves in the petroleum refining and production plants, offshore oil and gas fields, power industry, fertilizer, chemical and desalination plants all over the world. Production capacity increased from 3,000 pieces in 1974 to current 40,000 pieces per month in our new factory with modern state of the art machining facilities and manufacturing technology.

The factory is 30,000 sq.m. (330,000 sq.ft.) of which 9,000 sq.m. (100,000 sq.ft.) are covered.

Douglas Chero Gate, Globe, Check forged valves in Pressure Seal execution have been designed for high temperatures and high pressure applications in all types of power plants as well as for chemical and petrochemical plants.

The high quality forged materials are more reliable for severe applications if compared to cast materials and the advanced design of Douglas Chero Pressure Seal valves guarantees the best performance and the best tightness at the worst conditions of service. Furthermore, the one piece body design eliminates any potential risk of leakage through welded components.

Quality

The high quality of Douglas Chero valves is recognized everywhere since more than 30 years.

Not only the quality is guaranteed on the manufactured valves but every process and step from procurement through machining, assembly and testing is driven by our continued commitment for innovation through quality in accordance with the written rules of our QA manual and as per ISO 9001: 2000 .

Main Technical Characteristics:

- **Rating:** From 900# to 4500#
Standard class or Special class as per ASME B16.34
- **End connections:** BW as per ASME B16.25
- **Materials:** A105N, F11, F22, F91, F92, F316
Others upon request
- **Size:** From 1/2" to 12"
- **Operation:** Handweel
Bevel Gear
Electric actuator

Head Office & Factory

Località Pradaglie - 29013 Carpaneto (PC) - Italy
Tel. +39-0523-854011 - Fax +39-0523-850389
E-mail sales@douglas-cherro.com
www.douglas-cherro.com

Valves are CE marked
according to PED 97/23/CE



VALVES ARE MANUFACTURED ACCORDING TO ISO 9001:2000
CERTIFIED BY DET NORSKE VERITAS WITH CERTIFICATE

No. CERT-00026-92-AQ-MIL-SINCERT

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
== ISO 9001 ==



VALVES ARE MANUFACTURED ACCORDING TO TÜV AD 2000-
Merkblatt HP 0 REGISTRATION No. 04 202 H 410 05 00011



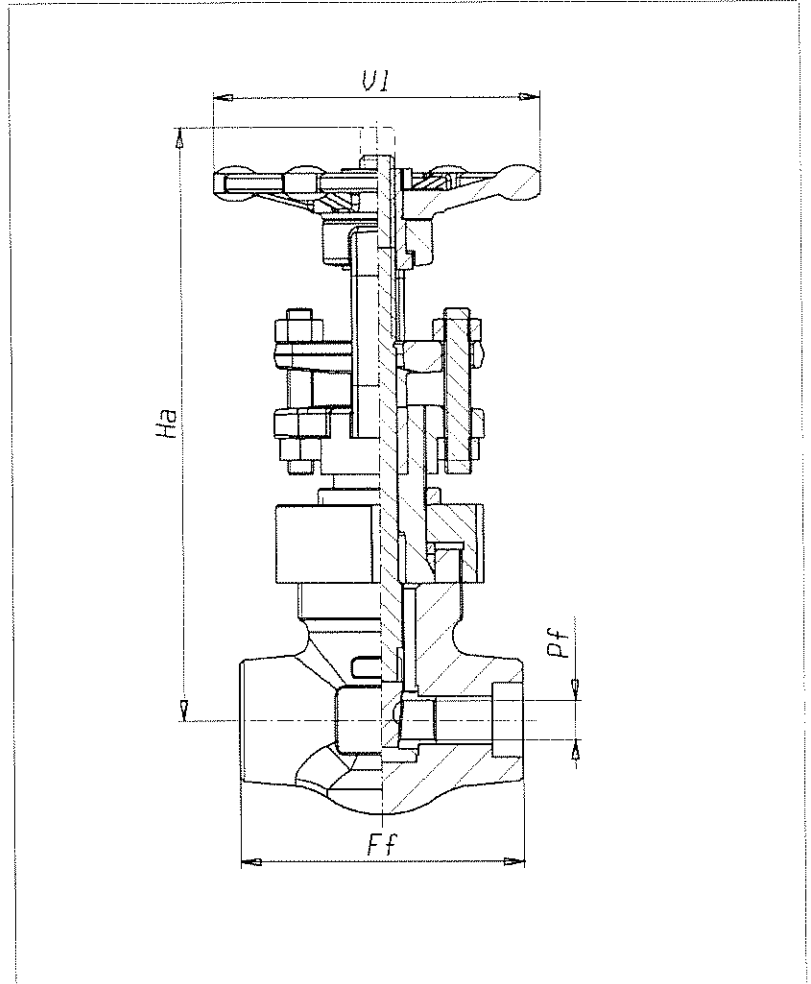
Products

Ratings (ASTM A105)

 1500 p.s.i. @ 850°F
 3705 p.s.i. @ 100°F

Test pressure (ASTM A105)
Hydraulic: (minimum)
 Body - 5575 p.s.i.
 Seat - 4100 p.s.i.
Air under water:
 Seat - 85 p.s.i.

Standards
Construction *founded on ASME B16.34*
Socket weld ASME B16.11
Butt weld ASME B16.25
Test ASME B16.34

Connections (xx)
SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS

STANDARD BORE

| | | | 1/2" | 3/4" | 1" | | 1.1/2" | 2" |
|-------------|--|--|-----------|----------|-----------|--|-----------|-----------|
| Ff (mm/in) | | | 110 4,33 | 115 4,53 | 130 5,12 | | 210 8,27 | 240 9,45 |
| Ha (mm/in) | | | 219 8,62 | 263 10,3 | 278 10,9 | | 400 15,75 | 414 16,30 |
| V1 (mm/in) | | | 120 4,72 | 175 6,89 | 175 6,89 | | 225 8,86 | 250 9,84 |
| Pf (mm/in) | | | 11,5 0,45 | 15 0,59 | 19,5 0,77 | | 32 1,26 | 40 1,57 |
| Wt. (kg/lb) | | | 5,9 13,1 | 8,4 18,5 | 9,8 21,6 | | 26,8 59,0 | 35 78 |
| Catal. no. | | | 652PS/xx | 653PS/xx | 654PS/xx | | 656PS/xx | 657PS/xx |

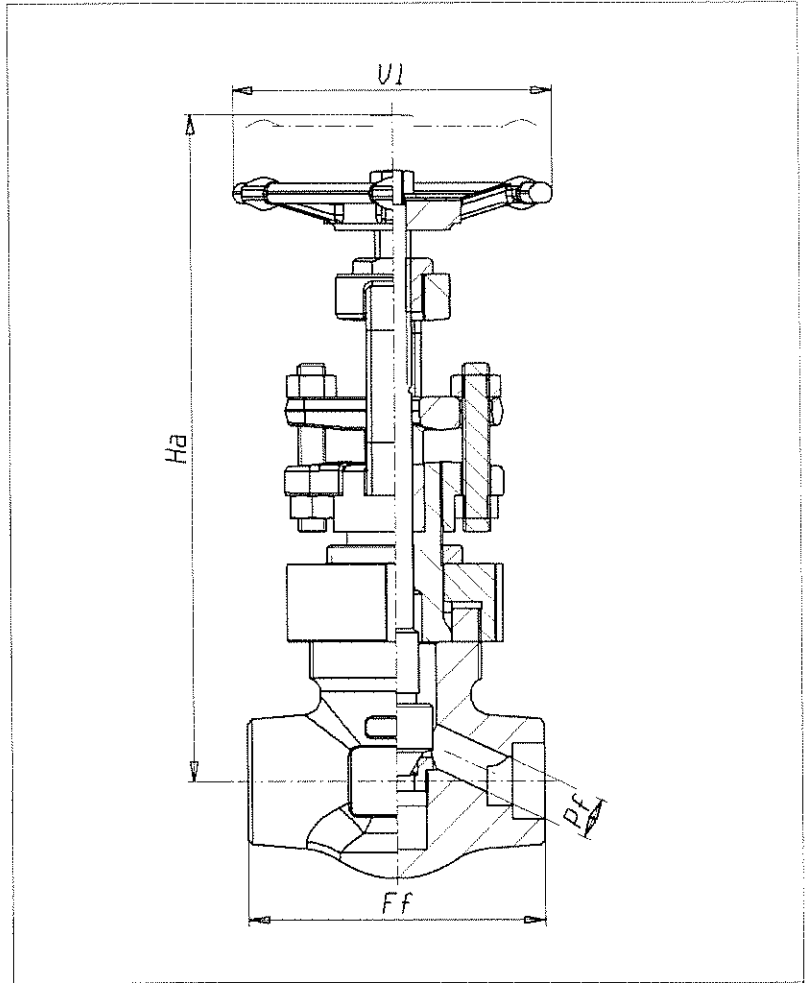
1) Complete Pressure-Temperature ratings on page 24, 25

Ratings (ASTM A105)

 1500 p.s.i. @ 850°F
 3705 p.s.i. @ 100°F

Test pressure (ASTM A105)
Hydraulic: (minimum)
 Body - 5575 p.s.i.
 Seat - 4100 p.s.i.
Air under water:
 Seat - 85 p.s.i.

Standards
Construction *founded on ASME B16.34*
Socket weld ASME B16.11
Butt weld ASME B16.25
Test ASME B16.34

Connections (xx)
SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS

STANDARD BORE

| | | | 1/2" | 3/4" | 1" | | 1.1/2" | 2" |
|-------------|--|--|-----------|----------|-----------|--|-----------|-----------|
| Ff (mm/in) | | | 110 4,33 | 115 4,53 | 130 5,12 | | 210 8,27 | 240 9,45 |
| Ha (mm/in) | | | 223 8,78 | 270 10,6 | 286 11,2 | | 408 16,06 | 420 16,53 |
| V1 (mm/in) | | | 120 4,72 | 140 4,53 | 140 4,53 | | 260 10,2 | 260 10,2 |
| Pf (mm/in) | | | 11,0 0,43 | 14 0,55 | 18,0 0,71 | | 30 1,18 | 35 1,38 |
| Wt. (kg/lb) | | | 4,7 10,3 | 7,4 16,3 | 8,4 18,5 | | 24,8 54,6 | 26 57 |
| Catal. no. | | | 752PS/xx | 753PS/xx | 754PS/xx | | 756PS/xx | 757PS/xx |

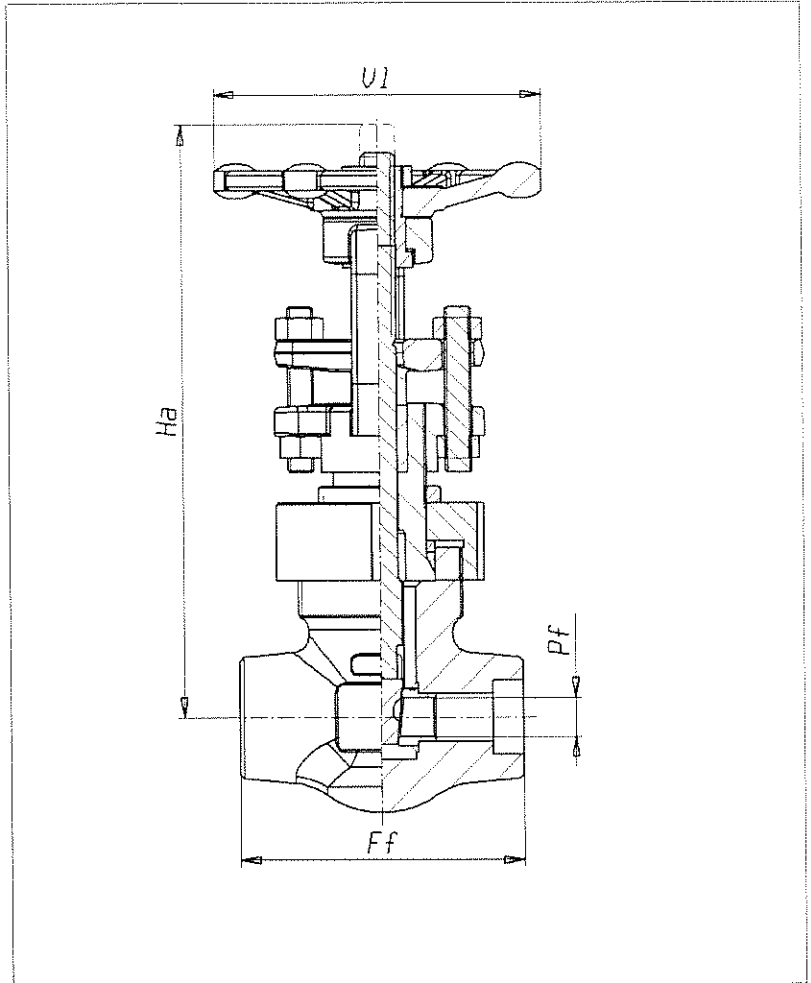
1) Complete Pressurtemperature ratings on page 24, 25

Ratings (ASTM A105)

 2500 p.s.i. @ 850°F
 6170 p.s.i. @ 100°F

Test pressure (ASTM A105)
Hydraulic:(minimum)
 Body - 9275 p.s.i.
 Seat - 6800 p.s.i.
Air under water:
 Seat - 85 p.s.i.

Standards
Construction *founded on ASME B16.34*
Socket weld ASME B16.11
Butt weld ASME B16.25
Test ASME B16.34

Connections (xx)
SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS

STANDARD BORE

| | | | 1/2" | | 3/4" | | 1" | | | 1.1/2" | | 2" | |
|-------------|--|--|-----------|------|-----------|------|-----------|------|--|-----------|-------|-----------|-------|
| Ff (mm/in) | | | 110 | 4,33 | 115 | 4,53 | 130 | 5,12 | | 210 | 8,27 | 240 | 9,45 |
| Ha (mm/in) | | | 233 | 9,17 | 272 | 10,7 | 287 | 11,3 | | 398 | 15,67 | 438 | 17,24 |
| VI (mm/in) | | | 140 | 5,51 | 175 | 6,89 | 175 | 6,89 | | 250 | 9,84 | 350 | 13,7 |
| Pf (mm/in) | | | 10,0 | 0,39 | 14 | 0,55 | 18,0 | 0,71 | | 31 | 1,22 | 36.5 | 1,44 |
| Wt. (kg/lb) | | | 6,1 | 13,4 | 8,7 | 19,1 | 10,2 | 22,4 | | 27,4 | 60,4 | 36 | 79.8 |
| Catal. no. | | | 1052PS/xx | | 1053PS/xx | | 1054PS/xx | | | 1056PS/xx | | 1057PS/xx | |

1) Complete Pressure-Temperature ratings on page 24, 25

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

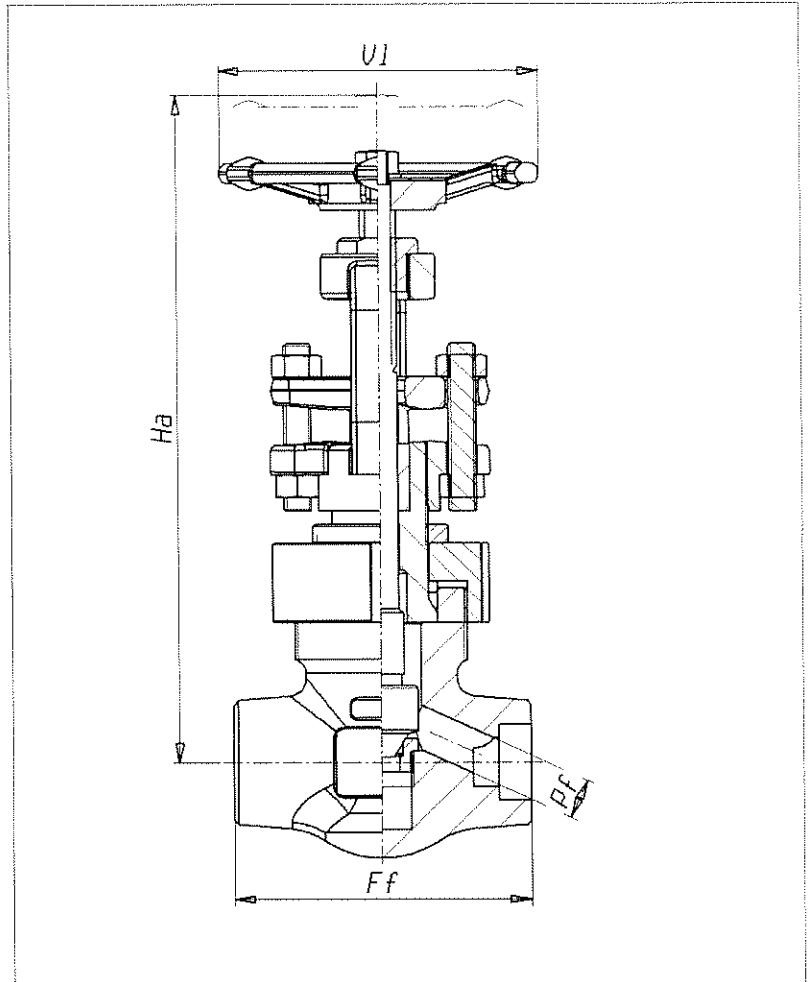
Hydraulic: (minimum)
Body - 9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on ASME B16.34
Socket weld ASME B16.11
Butt weld ASME B16.25
Test ASME B16.34

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS


STANDARD BORE

| | | | 1/2" | 3/4" | 1" | | 1.1/2" | 2" |
|--------------------|--|--|-----------|-----------|-----------|--|-----------|-----------|
| Ff (mm/in) | | | 110 4,33 | 115 4,53 | 130 5,12 | | 210 8,27 | 240 9,45 |
| Ha (mm/in) | | | 238 9,37 | 276 10,8 | 295 11,6 | | 406 15,98 | 437 17,20 |
| VI (mm/in) | | | 120 4,72 | 200 7,87 | 200 7,87 | | 260 10,2 | 350 13,7 |
| Pf (mm/in) | | | 11,0 0,43 | 14 0,55 | 18,0 0,71 | | 30 1,18 | 35 1,38 |
| Wt. (kg/lb) | | | 5,7 12,5 | 7,9 17,4 | 9,2 20,2 | | 29,1 64,1 | 35 78 |
| Catal. no. | | | 1152PS/xx | 1153PS/xx | 1154PS/xx | | 1156PS/xx | 1157PS/xx |

1) Complete Pressure-Temperature ratings on page 24, 25

Ratings (ASTM A105)

900 p.s.i. @ 850°F
2220 p.s.i. @ 100°F

Test pressure (ASTM A105)

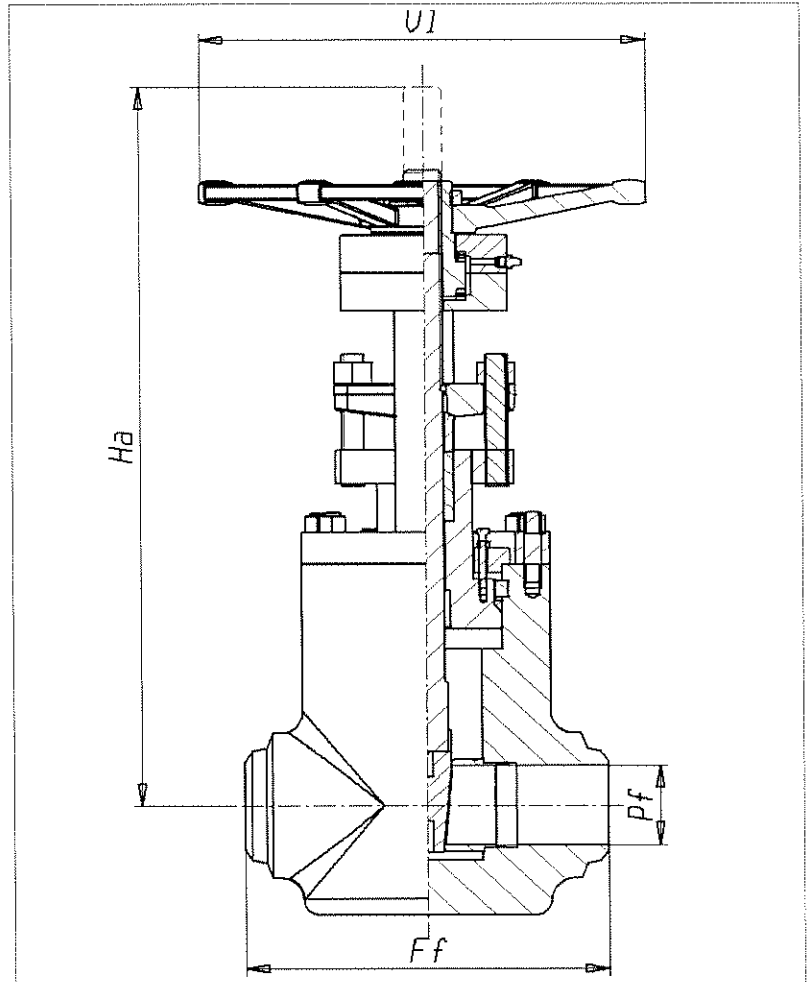
Hydraulic: (minimum)
Body - 3330 p.s.i.
Seat - 2442 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on API 600
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS


STANDARD BORE

| | | | 3" | 4" | 6" | 8" | 10" | 12" |
|-------------|--|--|----------|----------|-----------|-----------|-----------|-----------|
| Ff (mm/in) | | | 305 12,0 | 356 14,0 | 508 20,0 | 660 25,9 | 787 30,9 | 864 34,0 |
| Ha (mm/in) | | | 600 23,6 | 660 25,9 | 1000 39,3 | 1300 51,1 | 1495 58,8 | 1690 66,5 |
| VI (mm/in) | | | 350 13,7 | 350 13,7 | BGR | BGR | BGR | BGR |
| Pf (mm/in) | | | 72 2,83 | 98 3,85 | 146 5,74 | 190 7,48 | 210 8,26 | 245 9,64 |
| Wt. (kg/lb) | | | 85 187 | 160 352 | 410 902 | 737 1621 | 980 2156 | 1545 3399 |
| Catal. no. | | | 60BPS/xx | 60CPS/xx | 60APS/xx | 60GPS/xx | 60HPS/xx | 60JPS/xx |

1) Complete Pressure-Temperature ratings on page 24, 25
2) BGR: with gear operator

Ratings (ASTM A105)

900 p.s.i. @ 850°F
2220 p.s.i. @ 100°F

Test pressure (ASTM A105)

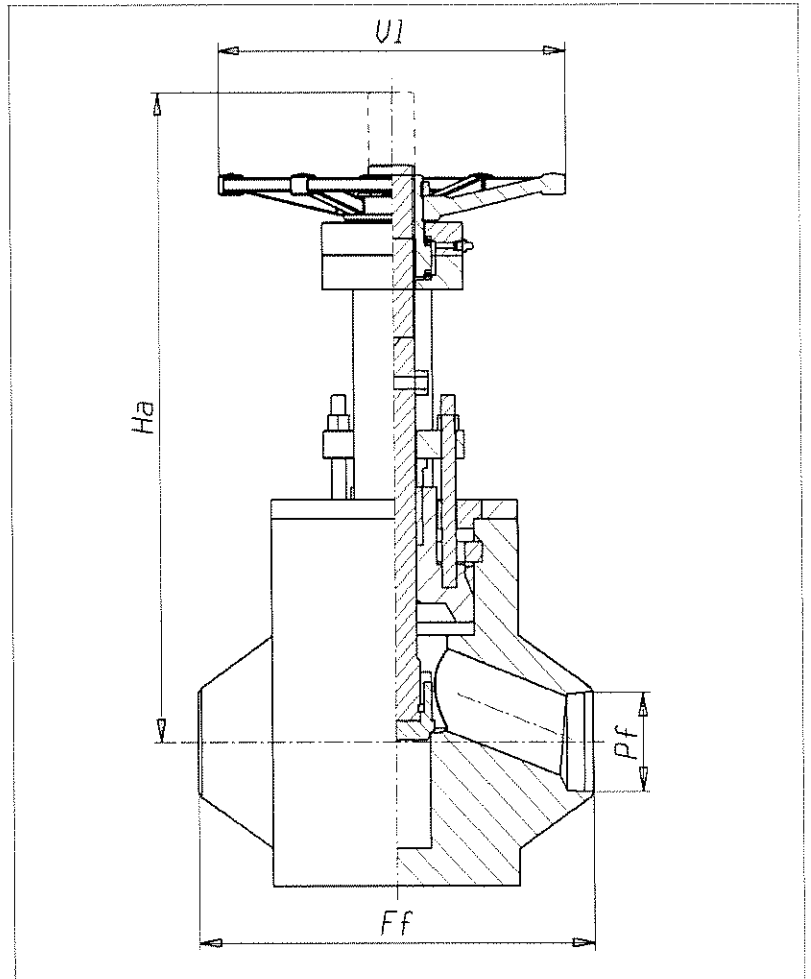
Hydraulic: (minimum)
Body - 3330 p.s.i.
Seat - 2442 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on BS 1873
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt. 1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS


STANDARD BORE

| | | | 3" | 4" | 6" | 8" | 10" | 12" |
|-------------|--|--|----------|----------|----------|-----------|-----------|-----------|
| Ff (mm/in) | | | 305 12,0 | 356 14,0 | 508 20,0 | 660 25,9 | 838 32,9 | 965 37,9 |
| Ha (mm/in) | | | 600 23,6 | 650 25,5 | 750 29,5 | 1000 39,3 | 1750 68,8 | 1970 77,5 |
| U1 (mm/in) | | | 350 13,7 | 350 13,7 | BGR | BGR | BGR | BGR |
| Pf (mm/in) | | | 78 3,07 | 102 4,01 | 154 6,06 | 180 7,08 | 195 7,67 | 231 9,09 |
| Wt. (kg/lb) | | | 90 198 | 170 374 | 430 946 | 750 1650 | 1195 2629 | 1910 4202 |
| Catal. no. | | | 70BPS/xx | 70CPS/xx | 70APS/xx | 70GPS/xx | 70HPS/xx | 70JPS/xx |

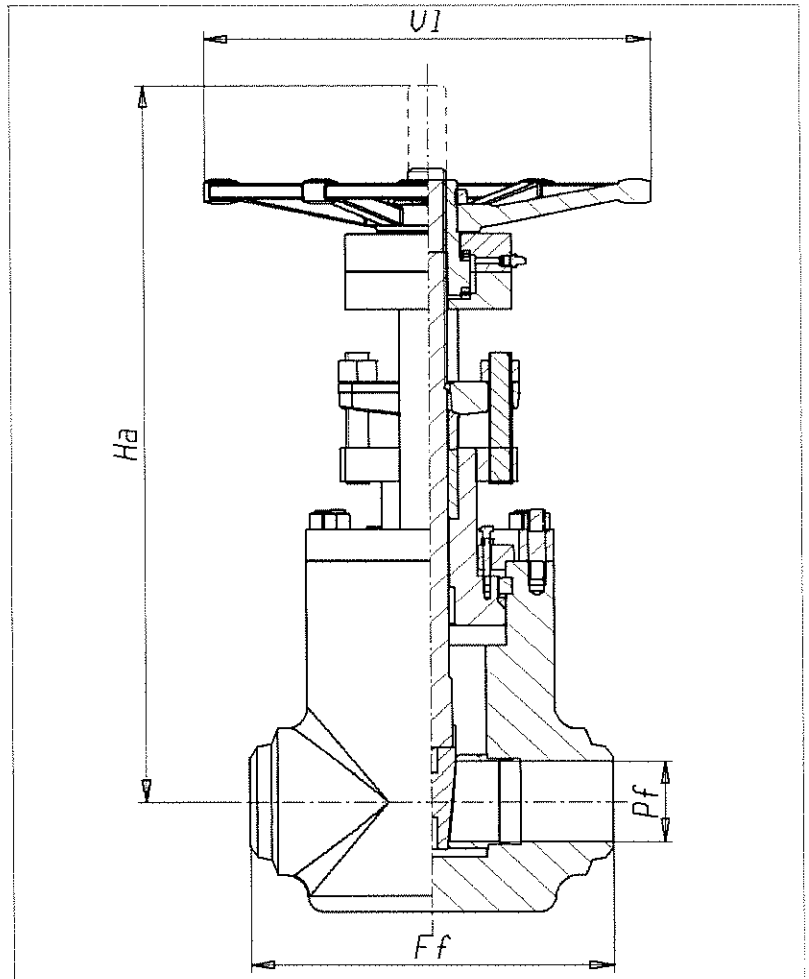
1) Complete Pressure-Temperature ratings on page 24, 25
2) BGR: with gear operator

Ratings (ASTM A105)

 1500 p.s.i. @ 850°F
 3705 p.s.i. @ 100°F

Test pressure (ASTM A105)
Hydraulic: (minimum)
 Body - 5557 p.s.i.
 Seat - 4075 p.s.i.
Air under water:
 Seat - 85 p.s.i.

Standards
Construction founded on API 600
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)
SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS

STANDARD BORE

| | | | 3" | 4" | 6" | 8" | 10" | 12" |
|--------------------|--|--|----------|----------|-----------|-----------|-----------|-----------|
| Ff (mm/in) | | | 305 12,0 | 406 15,9 | 559 22,0 | 711 27,9 | 864 34,0 | 864 34,0 |
| Ha (mm/in) | | | 630 24,8 | 690 27,1 | 1100 43,3 | 1350 53,1 | 1495 58,8 | 1690 66,5 |
| U1 (mm/in) | | | 350 13,7 | 350 13,7 | BGR | BGR | BGR | BGR |
| Pf (mm/in) | | | 69 2,71 | 98 3,85 | 137 5,39 | 178 7,00 | 210 8,26 | 245 9,64 |
| Wt. (kg/lb) | | | 90 198 | 170 374 | 430 946 | 750 1650 | 1015 2233 | 1545 3399 |
| Catal. no. | | | 65BPS/xx | 65CPS/xx | 65APS/xx | 65GPS/xx | 65HPS/xx | 65JPS/xx |

 1) Complete Pressure-Temperature ratings on page 24, 25
 2) BGR: with gear operator

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

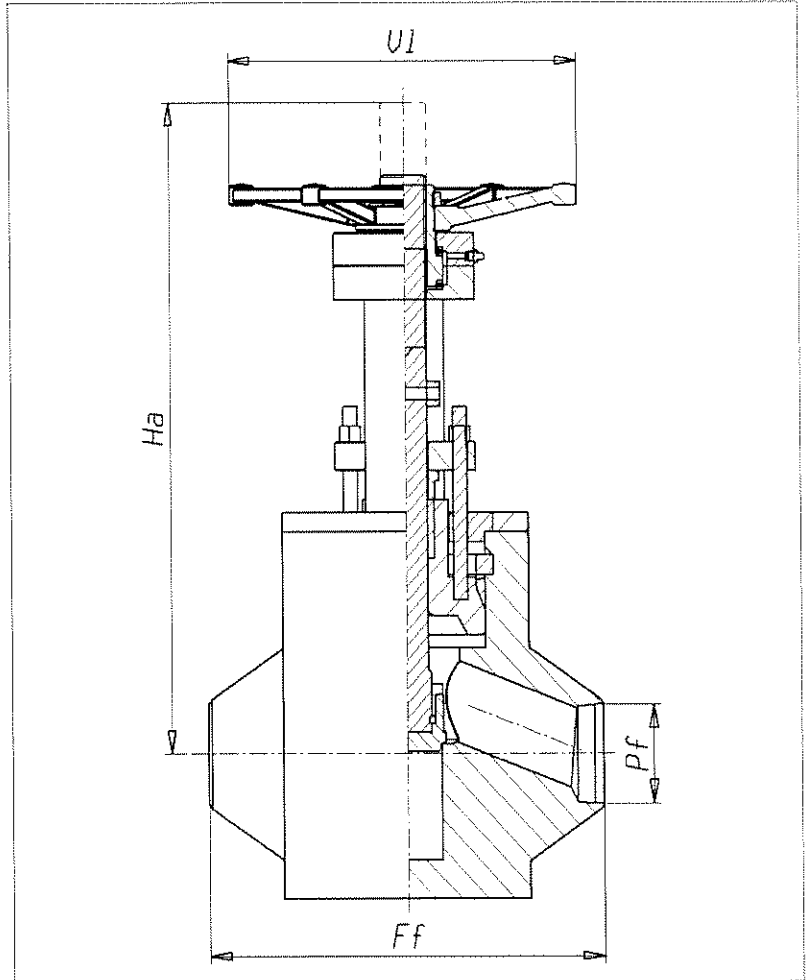
Hydraulic: (minimum)
Body - 5557 p.s.i.
Seat - 4075 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on BS 1873
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS


STANDARD BORE

| | | | 3" | 4" | 6" | 8" | 10" | 12" |
|-------------|--|--|----------|----------|----------|-----------|-----------|-----------|
| Ff (mm/in) | | | 305 12,0 | 406 15,9 | 559 22,0 | 711 27,9 | 991 39,0 | 1130 44,4 |
| Ha (mm/in) | | | 600 23,6 | 650 25,5 | 750 29,5 | 1000 39,3 | 1410 55,5 | 1590 62,5 |
| VI (mm/in) | | | 350 13,7 | 350 13,7 | BGR | BGR | BGR | BGR |
| Pf (mm/in) | | | 78 3,07 | 102 4,01 | 154 6,06 | 180 7,08 | 195 7,67 | 231 9,09 |
| Wt. (kg/lb) | | | 90 198 | 170 374 | 430 946 | 750 1650 | 1250 2750 | 1980 4356 |
| Catal. no. | | | 75BPS/xx | 75CPS/xx | 75APS/xx | 75GPS/xx | 75HPS/xx | 75JPS/xx |

1) Complete Pressure-Temperature ratings on page 24, 25
2) BGR: with gear operator

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

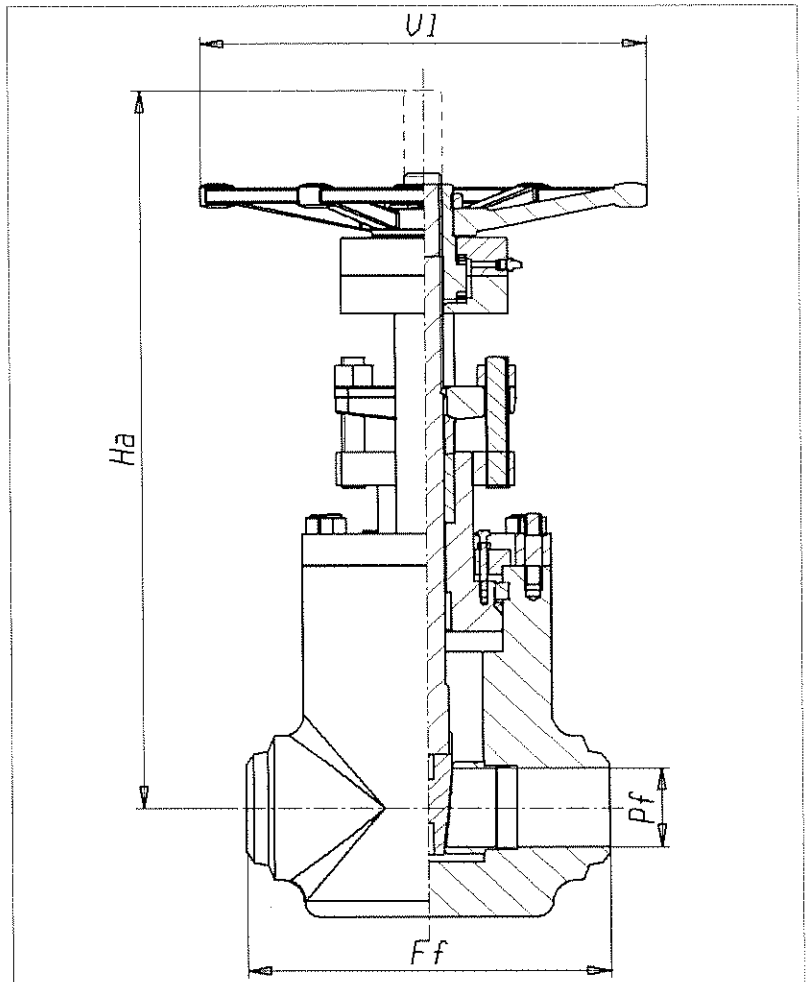
Hydraulic: (minimum)
Body - 9255 p.s.i.
Seat - 6787 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on API 600
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS


STANDARD BORE

| | | | 3" | 4" | 6" | 8" | 10" | 12" |
|-------------|--|--|-----------|-----------|-----------|-----------|-----------|-----------|
| Ff (mm/in) | | | 368 14,4 | 457 17,9 | 610 24,0 | 762 30,0 | 864 34,0 | 864 34,0 |
| Ha (mm/in) | | | 600 23,6 | 660 25,9 | 1000 39,3 | 1300 51,1 | 1400 55,1 | 1770 69,6 |
| VI (mm/in) | | | 350 13,7 | BGR | BGR | BGR | BGR | BGR |
| Pf (mm/in) | | | 57 2,24 | 73 2,87 | 111 4,37 | 146 5,74 | 184 7,24 | 218 8,58 |
| Wt. (kg/lb) | | | 95 209 | 170 374 | 430 946 | 790 1738 | 1400 3080 | 1850 4070 |
| Catal. no. | | | 105BPS/xx | 105CPS/xx | 105APS/xx | 105GPS/xx | 105HPS/xx | 105JPS/xx |

1) Complete Pressure-Temperature ratings on page 24, 25
2) BGR: with gear operator

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

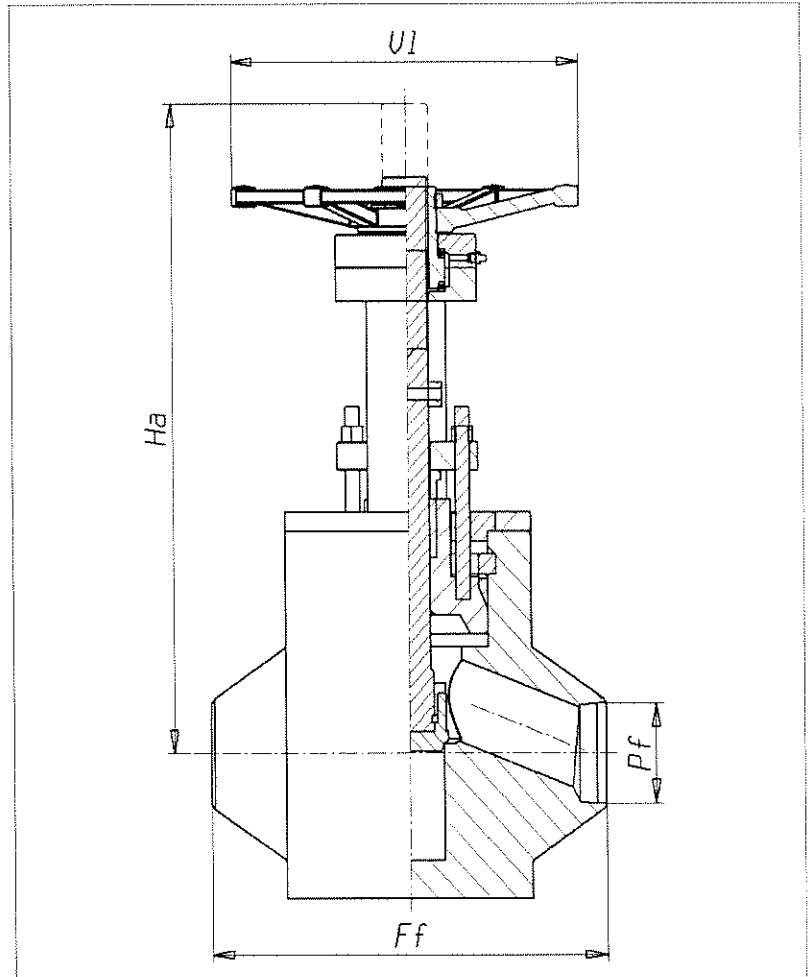
Hydraulic: (minimum)
Body - 9255 p.s.i.
Seat - 6787 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on BS 1873
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS


STANDARD BORE

| | | | 3" | 4" | 6" | 8" | 10" | 12" |
|--------------------|--|--|-----------|-----------|-----------|-----------|-----------|-----------|
| Ff (mm/in) | | | 368 14,4 | 457 17,9 | 610 24,0 | 762 30,0 | 914 35,9 | 1041 40,9 |
| Ha (mm/in) | | | 600 23,6 | 660 25,9 | 800 31,4 | 1100 43,3 | 1500 59,0 | 1950 76,7 |
| U1 (mm/in) | | | 350 13,7 | BGR | BGR | BGR | BGR | BGR |
| Pf (mm/in) | | | 78 3,07 | 102 4,01 | 154 6,06 | 180 7,08 | 200 7,8 | 220 8,6 |
| Wt. (kg/lb) | | | 95 209 | 170 374 | 430 946 | 790 1738 | 1500 3300 | 2000 4400 |
| Catal. no. | | | 115BPS/xx | 115CPS/xx | 115APS/xx | 115GPS/xx | 115HPS/xx | 115JPS/xx |

1) Complete Pressure-Temperature ratings on page 24, 25
2) BGR: with gear operator

Ratings (ASTM A105)

900 p.s.i. @ 850°F
2220 p.s.i. @ 100°F

Test pressure (ASTM A105)

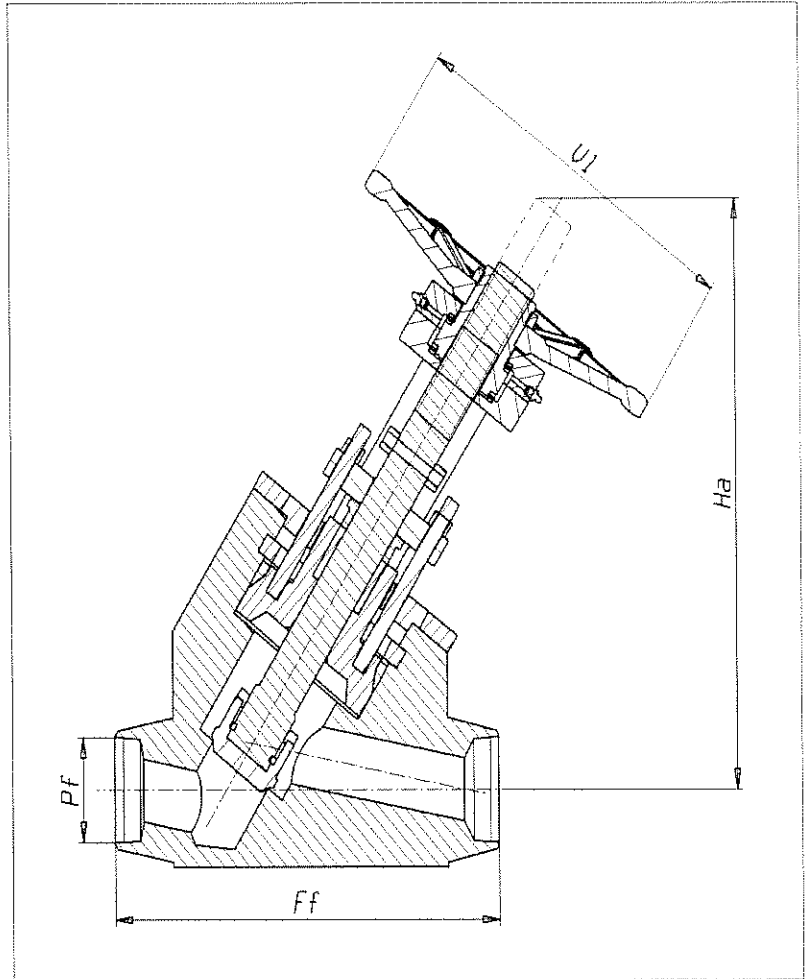
Hydraulic: (minimum)
Body - 3330 p.s.i.
Seat - 2442 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction *founded on* BS 1873
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS



STANDARD BORE

| | | | 3" | 4" | 6" | 8" | | |
|-------------|--|--|-----------|-----------|-----------|-----------|--|--|
| Ff (mm/in) | | | 350 13,7 | 400 15,7 | 500 19,6 | 625 24,6 | | |
| Ha (mm/in) | | | 450 17,7 | 510 20,0 | 630 24,8 | 825 32,4 | | |
| Vl (mm/in) | | | 350 13,7 | 350 13,7 | BGR | BGR | | |
| Pf (mm/in) | | | 78 3,07 | 102 4,01 | 154 6,06 | 202 7,95 | | |
| Wt. (kg/lb) | | | 90 198 | 120 264 | 430 946 | 750 1650 | | |
| Catal. no. | | | Y70BPS/xx | Y70CPS/xx | Y70APS/xx | Y70GPS/xx | | |

1) Complete Pressure-Temperature ratings on page 24, 25
2) BGR: with gear operator

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

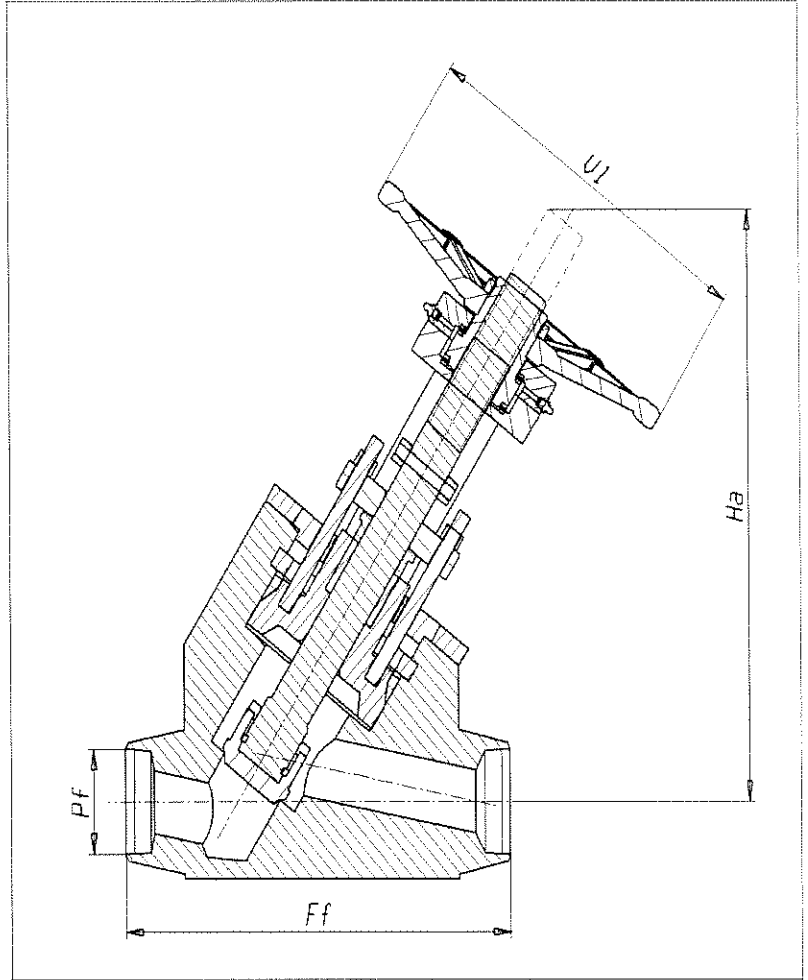
Hydraulic: (minimum)
Body - 5557 p.s.i.
Seat - 4075 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on BS 1873
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS



STANDARD BORE

| | | 3" | 4" | 6" | 8" | | |
|-------------|--|-----------|-----------|-----------|-----------|--|--|
| Ff (mm/in) | | 350 13,7 | 400 15,7 | 500 19,6 | 625 24,6 | | |
| Ha (mm/in) | | 450 17,7 | 510 20,0 | 630 24,8 | 825 32,4 | | |
| VI (mm/in) | | 350 13,7 | 500 19,6 | BGR | BGR | | |
| Pf (mm/in) | | 78 3,07 | 102 4,01 | 154 6,06 | 202 7,95 | | |
| Wt. (kg/lb) | | 90 198 | 170 374 | 430 946 | 750 1650 | | |
| Catal. no. | | Y75BPS/xx | Y75CPS/xx | Y75APS/xx | Y75GPS/xx | | |

1) Complete Pressure-Temperature ratings on page 24, 25
2) BGR: with gear operator

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

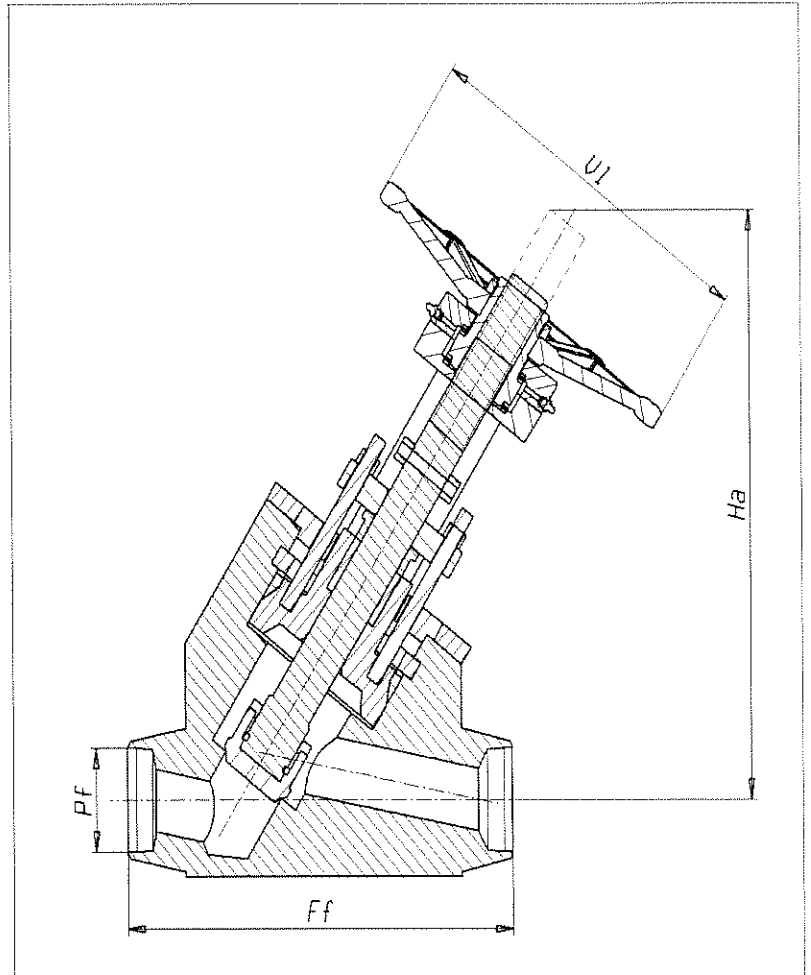
Hydraulic: (minimum)
Body - 9255 p.s.i.
Seat - 6787 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on BS 1873
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS



STANDARD BORE

| | | 3" | 4" | 6" | 8" | | |
|-------------|--|------------|------------|------------|------------|--|--|
| Ff (mm/in) | | 350 13,7 | 400 15,7 | 500 19,6 | 625 24,6 | | |
| Ha (mm/in) | | 450 17,7 | 510 20,0 | 630 24,8 | 825 32,4 | | |
| Vl (mm/in) | | 350 13,7 | BGR | BGR | BGR | | |
| Pf (mm/in) | | 78 3,07 | 102 4,01 | 154 6,06 | 202 7,95 | | |
| Wt. (kg/lb) | | 95 209 | 170 374 | 430 946 | 790 1738 | | |
| Catal. no. | | Y115BPS/xx | Y115CPS/xx | Y115APS/xx | Y115GPS/xx | | |

1) Complete Pressure-Temperature ratings on page 24, 25

2) BGR: with gear operator

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

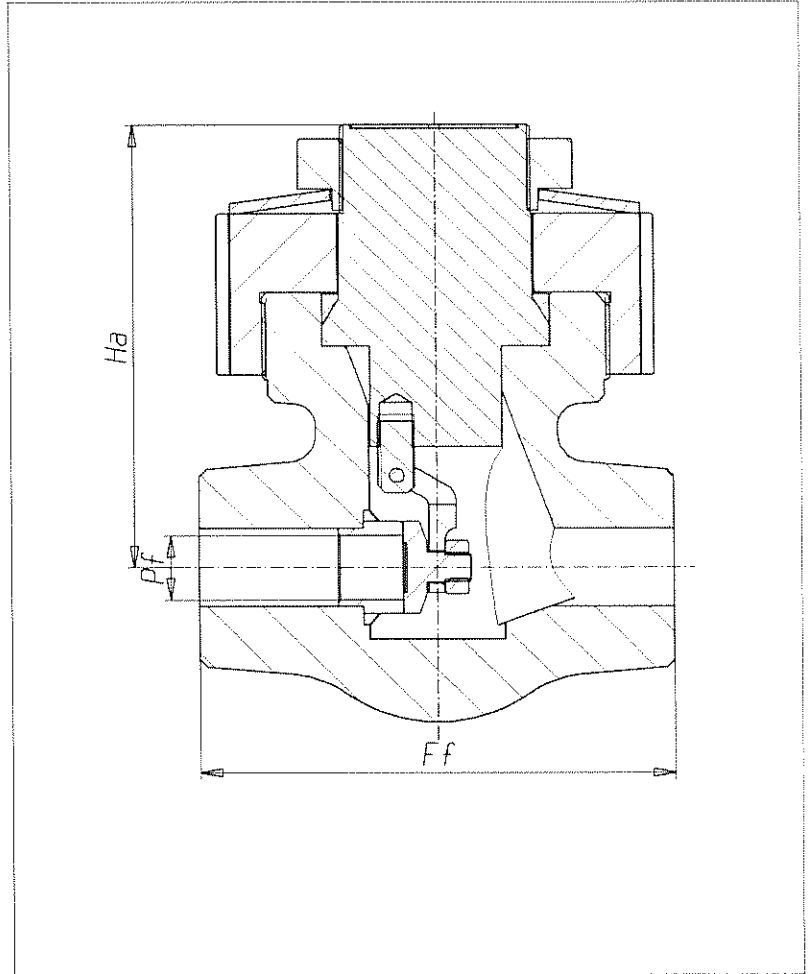
Hydraulic: (minimum)
Body - 5575 p.s.i.
Seat - 4100 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on ASME B16.34
Socket weld ASME B16.11
Butt weld ASME B16.25
Test ASME B16.34

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS



STANDARD BORE

| | | | 1/2" | 3/4" | 1" | | 1.1/2" | 2" |
|-------------|--|--|-----------|----------|-----------|--|-----------|----------|
| Ff (mm/in) | | | 110 4,33 | 115 4,53 | 130 5,12 | | 210 8,27 | 240 9,45 |
| Ha (mm/in) | | | 86 3,38 | 100 3,93 | 110 4,33 | | 153 6,02 | 170 6,69 |
| Pf (mm/in) | | | 11,5 0,45 | 15 0,59 | 19,5 0,77 | | 32 1,26 | 40 1,57 |
| Wt. (kg/lb) | | | 2,9 6,38 | 4,2 9,24 | 5,4 11,8 | | 17,7 38,9 | 22 48,3 |
| Catal. no. | | | 852PS/xx | 853PS/xx | 854PS/xx | | 856PS/xx | 857PS/xx |

1) Complete Pressure/temperature ratings on page 24, 25

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

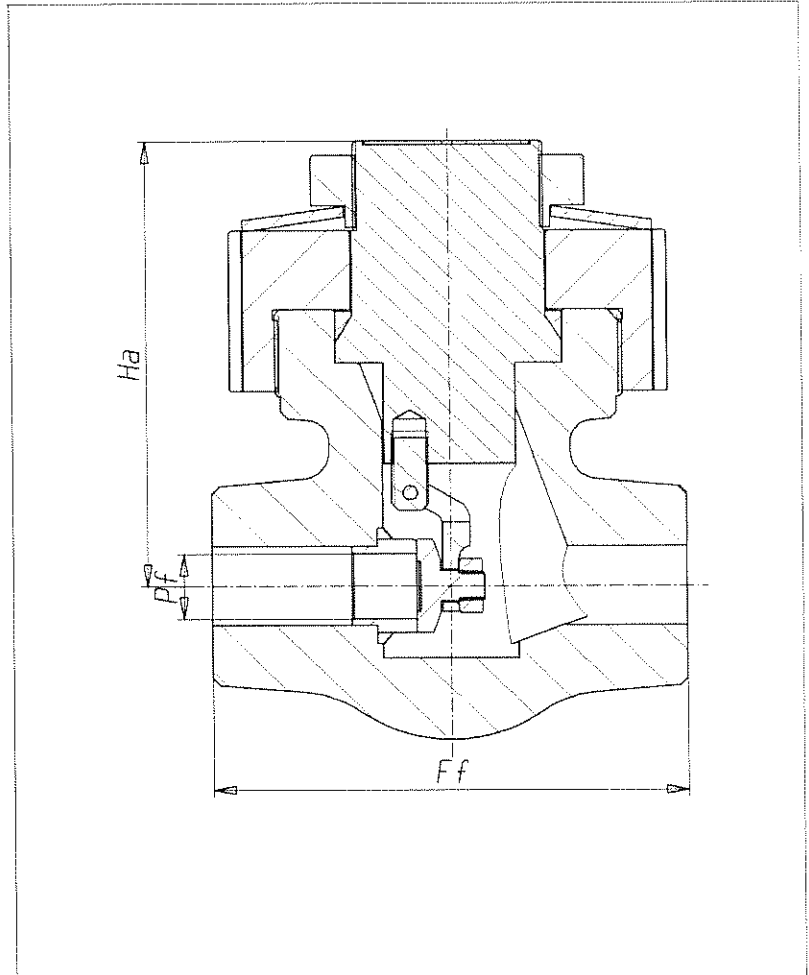
Hydraulic: (minimum)
Body - 9275 p.s.i.
Seat - 6800 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction *founded on ASME B16.34*
Socket weld ASME B16.11
Butt weld ASME B16.25
Test ASME B16.34

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS



STANDARD BORE

| | | | 1/2" | 3/4" | 1" | | 1.1/2" | 2" |
|--------------------|--|--|-----------|-----------|-----------|--|-----------|-----------|
| Ff (mm/in) | | | 110 4,33 | 115 4,53 | 130 5,12 | | 210 8,27 | 240 9,45 |
| Ha (mm/in) | | | 90 3,54 | 100 3,93 | 124 4,88 | | 164 6,45 | 170 6,69 |
| Pf (mm/in) | | | 10,0 0,39 | 14 0,55 | 18,0 0,71 | | 31 1,22 | 36,5 1,44 |
| Wt. (kg/lb) | | | 2,9 6,38 | 4,2 9,24 | 5,4 11,8 | | 17,7 38,9 | 22 48,3 |
| Catal. no. | | | 2152PS/xx | 2153PS/xx | 2154PS/xx | | 2156PS/xx | 2157PS/xx |

1) Complete Pressurtemperature ratings on page 24, 25

Ratings (ASTM A105)

900 p.s.i. @ 850°F
2220 p.s.i. @ 100°F

Test pressure (ASTM A105)

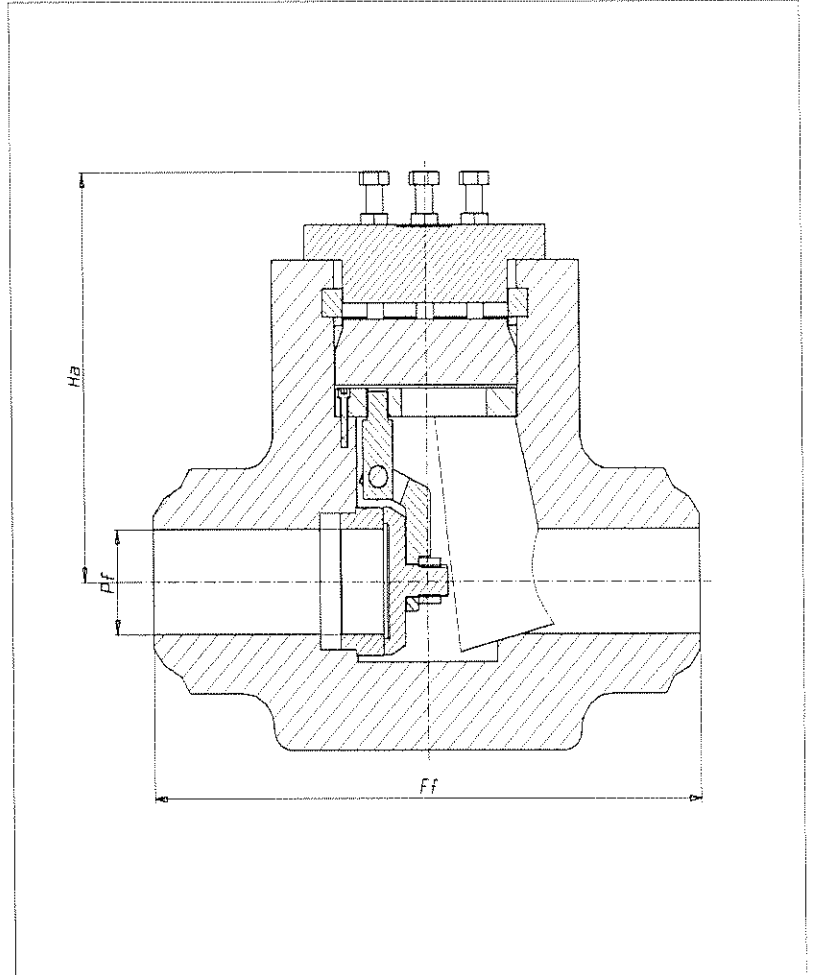
Hydraulic: (minimum)
Body - 3330 p.s.i.
Seat - 2442 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on BS 1873
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS



STANDARD BORE

| | | | 3" | 4" | 6" | 8" | 10" | 12" |
|--------------------|--|--|----------|----------|----------|----------|----------|-----------|
| Ff (mm/in) | | | 305 12,0 | 356 14,0 | 508 20,0 | 660 25,9 | 787 30,9 | 864 34,0 |
| Ha (mm/in) | | | 220 8,66 | 323 12,7 | 400 15,7 | 450 17,7 | 505 19,8 | 590 23,2 |
| Pf (mm/in) | | | 72 2,83 | 98 3,85 | 146 5,74 | 190 7,48 | 210 8,26 | 245 9,64 |
| Wt. (kg/lb) | | | 70 154 | 110 242 | 250 550 | 500 1100 | 880 1936 | 1620 3564 |
| Catal. no. | | | 80BPS/xx | 80CPS/xx | 80APS/xx | 80GPS/xx | 80HPS/xx | 80JPS/xx |

1) Complete Pressure-Temperature ratings on page 24, 25

Ratings (ASTM A105)

1500 p.s.i. @ 850°F
3705 p.s.i. @ 100°F

Test pressure (ASTM A105)

Hydraulic: (minimum)

Body - 5575 p.s.i.
Seat - 4100 p.s.i.

Air under water:

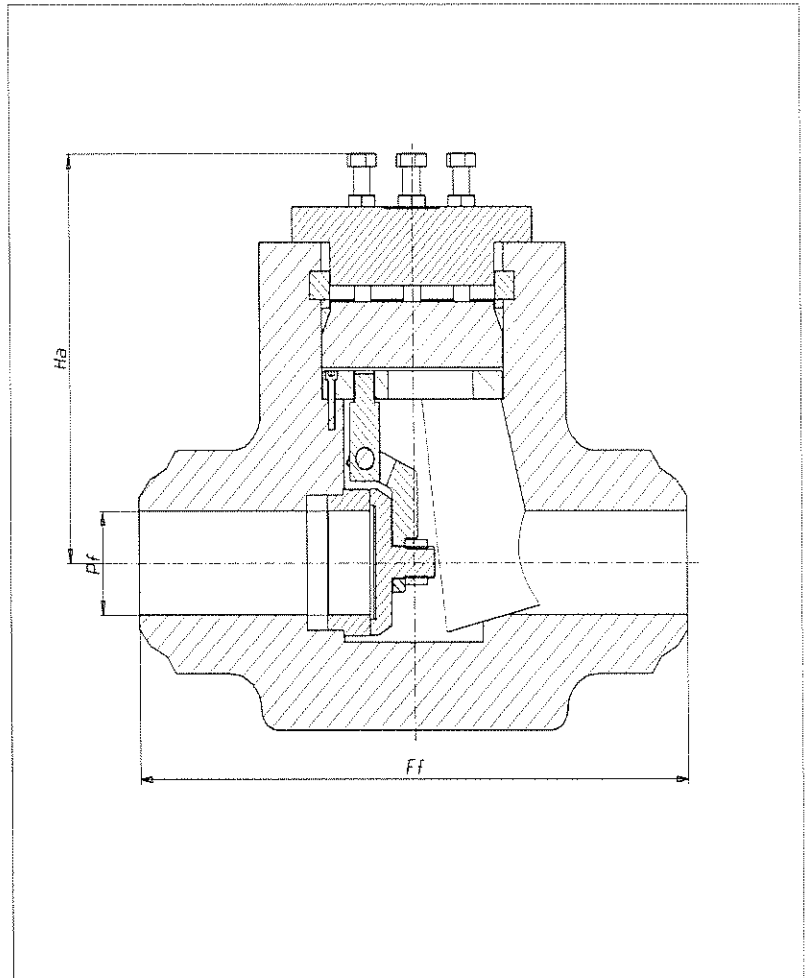
Seat - 85 p.s.i.

Standards

Construction *founded on BS 1873*
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt. 1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS



STANDARD BORE

| | | | 3" | 4" | 6" | 8" | 10" | 12" |
|-------------|--|--|----------|----------|----------|----------|----------|-----------|
| Ff (mm/in) | | | 305 12,0 | 406 15,9 | 559 22,0 | 711 27,9 | 864 34,0 | 864 34,0 |
| Ha (mm/in) | | | 220 8,66 | 323 12,7 | 400 15,7 | 450 17,7 | 505 19,8 | 590 23,2 |
| Pf (mm/in) | | | 72 2,83 | 98 3,85 | 146 5,74 | 190 7,48 | 210 8,26 | 245 9,64 |
| Wt. (kg/lb) | | | 70 154 | 110 242 | 250 550 | 500 1100 | 880 1936 | 1620 3564 |
| Catal. no. | | | 85BPS/xx | 85CPS/xx | 85APS/xx | 85GPS/xx | 85HPS/xx | 85JPS/xx |

1) Complete Pressure-Temperature ratings on page 24, 25

Ratings (ASTM A105)

2500 p.s.i. @ 850°F
6170 p.s.i. @ 100°F

Test pressure (ASTM A105)

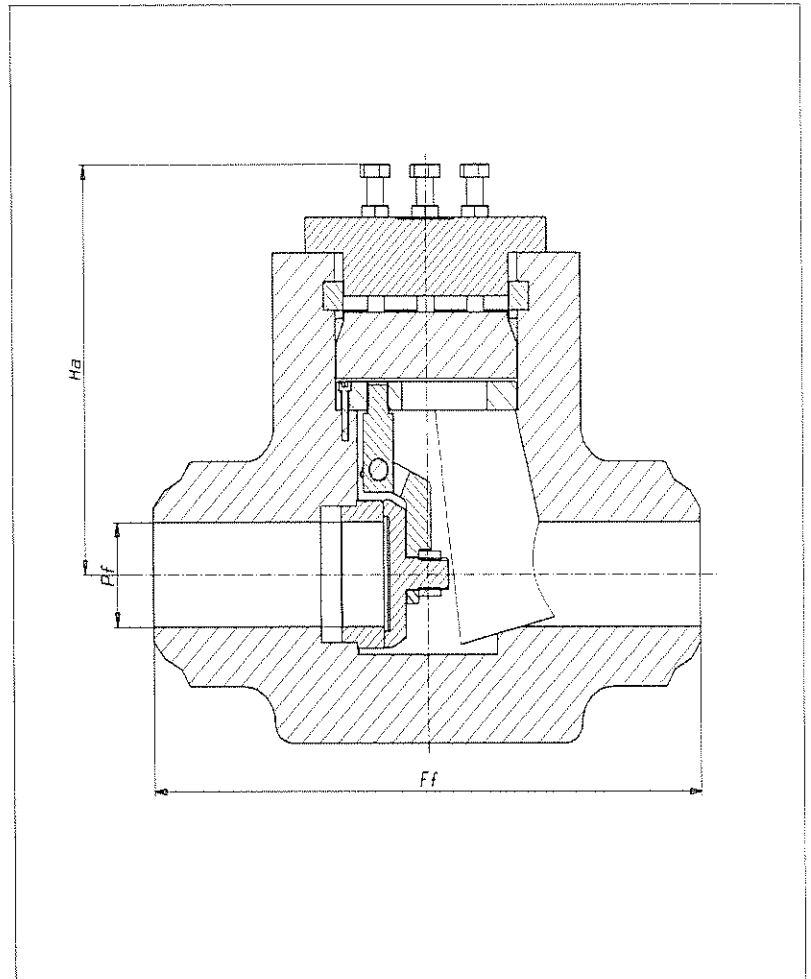
Hydraulic: (minimum)
Body - 9255 p.s.i.
Seat - 6787 p.s.i.
Air under water:
Seat - 85 p.s.i.

Standards

Construction founded on BS 1873
Socket weld ASME B16.11
Butt weld ASME B16.25
Test API 598, BS EN 12266 (Pt.1)

Connections (xx)

SW Socket weld
B4 Butt weld 40
B8 Butt weld 80
B6 Butt weld 160
BX Butt weld XXS



STANDARD BORE

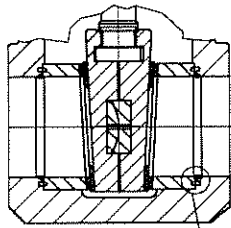
| | | 3" | | 4" | | 6" | | 8" | | 10" | | 12" | |
|-------------|--|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| Ff (mm/in) | | 368 | 14,4 | 457 | 17,9 | 610 | 24,0 | 762 | 30,0 | 864 | 34,0 | 864 | 34,0 |
| Ha (mm/in) | | 276 | 10,8 | 290 | 11,4 | 380 | 14,9 | 486 | 19,1 | 500 | 19,6 | 600 | 23,6 |
| Pf (mm/in) | | 57 | 2,24 | 75 | 2,95 | 110 | 4,33 | 147 | 5,78 | 185 | 7,28 | 218 | 8,58 |
| Wt. (kg/lb) | | 90 | 198 | 120 | 264 | 300 | 660 | 700 | 1540 | 850 | 1870 | 1300 | 2860 |
| Catal. no. | | 215BPS/xx | | 215CPS/xx | | 215APS/xx | | 215GPS/xx | | 215HPS/xx | | 215JPS/xx | |

1) Complete Pressure-Temperature ratings on page 24, 25

Wedge

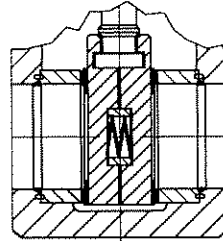
We have designed a new tee-head connection of the wedge. The wedge is now closed around the stem. Flexible split wedge is standard on our Forged Valves. During the stroke, the contact area between wedge and seat rings is wide.

Standard Flexible



Seatrings are welded in

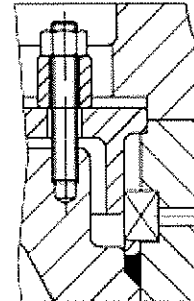
Upon request



Bonnet

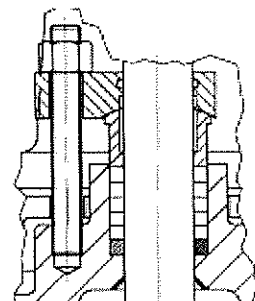
Advanced Pressure Seal design is such that the bonnet is easy to be dismantled. The segment ring is kept in the right position by the safety ring.

High tightness is achieved with pure graphite gasket ring, with a F316 jacket on both sides.



Packing

The new design of packing ensures high tightness with pure graphite pressed rings with two braided graphite ring on top and bottom. The new design of pure graphite packing also allows vacuum service and protection against fugitive emissions.



Appendix



Pressure - Temperature Charts

| ASTM A105 - A350/LF2 | | | | | | | | | | | | | | | | | |
|-----------------------------|-----|------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| F | °C | 150 | PN20 | 300 | PN50 | 600 | PN100 | 800 | PN130 | 900 | PN150 | 1500 | PN250 | 2500 | PN420 | 4500 | PN760 |
| | | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar |
| 100 | 38 | 285 | 19.7 | 740 | 51.0 | 1480 | 102.1 | 1975 | 136.2 | 2220 | 153.1 | 3705 | 255.5 | 6170 | 425.5 | 11110 | 766.2 |
| 200 | 93 | 260 | 17.9 | 675 | 46.6 | 1350 | 93.1 | 1800 | 124.1 | 2025 | 139.7 | 3375 | 232.8 | 5625 | 387.9 | 10120 | 697.9 |
| 300 | 149 | 230 | 15.9 | 655 | 45.2 | 1315 | 90.7 | 1750 | 120.7 | 1970 | 135.9 | 3280 | 226.2 | 5470 | 377.2 | 9845 | 679.0 |
| 400 | 204 | 200 | 13.8 | 635 | 43.8 | 1270 | 87.6 | 1690 | 116.6 | 1900 | 131.0 | 3170 | 218.6 | 5280 | 364.1 | 9505 | 655.5 |
| 500 | 260 | 170 | 11.7 | 600 | 41.4 | 1200 | 82.8 | 1595 | 110.0 | 1795 | 123.8 | 2995 | 206.6 | 4990 | 344.1 | 8980 | 619.3 |
| 600 | 316 | 140 | 9.7 | 550 | 37.9 | 1095 | 75.5 | 1460 | 100.7 | 1640 | 113.1 | 2735 | 188.6 | 4560 | 314.5 | 8210 | 566.2 |
| 650 | 343 | 125 | 8.6 | 535 | 36.9 | 1075 | 74.1 | 1430 | 98.6 | 1610 | 111.0 | 2685 | 185.2 | 4475 | 308.6 | 8055 | 555.5 |
| 700 | 371 | 110 | 7.6 | 535 | 36.9 | 1065 | 73.4 | 1420 | 97.9 | 1600 | 110.3 | 2665 | 183.8 | 4440 | 306.2 | 7990 | 551.0 |
| 750 | 399 | 95 | 6.6 | 505 | 34.8 | 1010 | 69.7 | 1345 | 92.8 | 1510 | 104.1 | 2520 | 173.8 | 4200 | 289.7 | 7560 | 521.4 |
| 800 | 427 | 80 | 5.5 | 410 | 28.3 | 825 | 56.9 | 1100 | 75.9 | 1235 | 85.2 | 2060 | 142.1 | 3430 | 236.6 | 6170 | 425.5 |
| 850 | 454 | 65 | 4.5 | 270 | 18.6 | 535 | 36.9 | 715 | 49.3 | 805 | 55.5 | 1340 | 92.4 | 2230 | 153.8 | 4010 | 276.6 |
| 900 | 482 | 50 | 3.4 | 170 | 11.7 | 345 | 23.8 | 460 | 31.7 | 515 | 35.5 | 860 | 59.3 | 1430 | 98.6 | 2570 | 177.2 |
| 950 | 510 | 35 | 2.4 | 105 | 7.2 | 205 | 14.1 | 275 | 19.0 | 310 | 21.4 | 515 | 35.5 | 860 | 59.3 | 1545 | 106.6 |
| 1000 | 538 | 20 | 1.4 | 50 | 3.4 | 105 | 7.2 | 140 | 9.7 | 155 | 10.7 | 260 | 17.9 | 430 | 29.7 | 770 | 53.1 |

| ASTM A 182/F11-A182/F12 | | | | | | | | | | | | | | | | | |
|--------------------------------|-----|------|-------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| F | °C | 150 | PN20 | 300 | PN50 | 600 | PN100 | 800 | PN130 | 900 | PN150 | 1500 | PN250 | 2500 | PN420 | 4500 | PN760 |
| | | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar |
| 100 | 38 | 290 | 20 | 750 | 51.7 | 1500 | 103.4 | 2000 | 137.9 | 2250 | 155.2 | 3750 | 258.6 | 6250 | 431.0 | 11250 | 775.9 |
| 200 | 93 | 260 | 17.93 | 750 | 51.7 | 1500 | 103.4 | 2000 | 137.9 | 2250 | 155.2 | 3750 | 258.6 | 6250 | 431.0 | 11250 | 775.9 |
| 300 | 149 | 230 | 15.86 | 720 | 49.7 | 1445 | 99.7 | 1925 | 132.8 | 2165 | 149.3 | 3610 | 249.0 | 6015 | 414.8 | 10830 | 746.9 |
| 400 | 204 | 200 | 13.79 | 695 | 47.9 | 1385 | 95.5 | 1850 | 127.6 | 2080 | 143.4 | 3465 | 239.0 | 5775 | 398.3 | 10400 | 717.2 |
| 500 | 260 | 170 | 11.72 | 665 | 45.9 | 1330 | 91.7 | 1775 | 122.4 | 1995 | 137.6 | 3325 | 229.3 | 5540 | 382.1 | 9965 | 687.2 |
| 600 | 316 | 140 | 9.655 | 605 | 41.7 | 1210 | 83.4 | 1615 | 111.4 | 1815 | 125.2 | 3025 | 208.6 | 5040 | 347.6 | 9070 | 625.5 |
| 650 | 343 | 125 | 8.621 | 590 | 40.7 | 1175 | 81.0 | 1570 | 108.3 | 1765 | 121.7 | 2940 | 202.8 | 4905 | 338.3 | 8825 | 608.6 |
| 700 | 371 | 110 | 7.586 | 570 | 39.3 | 1135 | 78.3 | 1515 | 104.5 | 1705 | 117.6 | 2840 | 195.9 | 4730 | 326.2 | 8515 | 587.2 |
| 750 | 399 | 95 | 6.552 | 530 | 36.6 | 1065 | 73.4 | 1420 | 97.9 | 1595 | 110.0 | 2660 | 183.4 | 4430 | 305.5 | 7970 | 549.7 |
| 800 | 427 | 80 | 5.517 | 510 | 35.2 | 1015 | 70.0 | 1355 | 93.4 | 1525 | 105.2 | 2540 | 175.2 | 4230 | 291.7 | 7610 | 524.8 |
| 850 | 454 | 65 | 4.483 | 485 | 33.4 | 975 | 67.2 | 1300 | 89.7 | 1460 | 100.7 | 2435 | 167.9 | 4060 | 280.0 | 7305 | 503.8 |
| 900 | 482 | 50 | 3.448 | 450 | 31.0 | 900 | 62.1 | 1200 | 82.8 | 1350 | 93.1 | 2245 | 154.8 | 3745 | 258.3 | 6740 | 464.8 |
| 950 | 510 | 35 | 2.414 | 320 | 22.1 | 640 | 44.1 | 850 | 58.6 | 955 | 65.9 | 1595 | 110.0 | 2655 | 183.1 | 4785 | 330.0 |
| 1000 | 538 | 20 | 1.379 | 215 | 14.8 | 430 | 29.7 | 575 | 39.7 | 650 | 44.8 | 1080 | 74.5 | 1800 | 124.1 | 3240 | 223.4 |
| 1050 | 566 | 20 | 1.379 | 145 | 10.0 | 290 | 20.0 | 385 | 26.6 | 430 | 29.7 | 720 | 49.7 | 1200 | 82.8 | 2160 | 149.0 |
| 1100 | 593 | 20 | 1.379 | 95 | 6.6 | 190 | 13.1 | 255 | 17.6 | 290 | 20.0 | 480 | 33.1 | 800 | 55.2 | 1440 | 99.3 |
| 1150 | 621 | 20 | 1.379 | 60 | 4.1 | 125 | 8.6 | 165 | 11.4 | 185 | 12.8 | 310 | 21.4 | 515 | 35.5 | 925 | 63.8 |
| 1200 | 649 | 15 | 1.034 | 40 | 2.8 | 75 | 5.2 | 100 | 6.9 | 115 | 7.9 | 190 | 13.1 | 315 | 21.7 | 565 | 39.0 |

For welding and valves only. Flanged end ratings terminate at 1000°F.

A105: permissible, but not recommended for prolonged usage above about 800°F.
 A350/LF2: not to be used over 650°F.
 A182/F11-A182/F12: permissible but not recommended for prolonged usage above about 1100°F.



Pressure - Temperature Charts

ASTM A182/F22

| °F | °C | 150 | PN20 | 300 | PN50 | 600 | PN100 | 800 | PN130 | 900 | PN150 | 1500 | PN250 | 2500 | PN420 | 4500 | PN760 |
|------|-----|------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar |
| 100 | 38 | 290 | 20.0 | 750 | 51.7 | 1500 | 103.4 | 2000 | 137.9 | 2250 | 155.2 | 3750 | 258.6 | 6250 | 431.0 | 11250 | 775.9 |
| 200 | 93 | 260 | 17.9 | 750 | 51.7 | 1500 | 103.4 | 2000 | 137.9 | 2250 | 155.2 | 3750 | 258.6 | 6250 | 431.0 | 11250 | 775.9 |
| 300 | 149 | 230 | 15.9 | 730 | 50.3 | 1455 | 100.3 | 1940 | 133.8 | 2185 | 150.7 | 3640 | 251.0 | 6070 | 418.6 | 10925 | 753.4 |
| 400 | 204 | 200 | 13.8 | 705 | 48.6 | 1410 | 97.2 | 1880 | 129.7 | 2115 | 145.9 | 3530 | 243.4 | 5880 | 405.5 | 10585 | 730.0 |
| 500 | 260 | 170 | 11.7 | 665 | 45.9 | 1330 | 91.7 | 1775 | 122.4 | 1995 | 137.6 | 3325 | 229.3 | 5540 | 382.1 | 9965 | 687.2 |
| 600 | 316 | 140 | 9.7 | 605 | 41.7 | 1210 | 83.4 | 1615 | 111.4 | 1815 | 125.2 | 3025 | 208.6 | 5040 | 347.6 | 9070 | 625.5 |
| 650 | 343 | 125 | 8.6 | 590 | 40.7 | 1175 | 81.0 | 1570 | 108.3 | 1765 | 121.7 | 2940 | 202.8 | 4905 | 338.3 | 8825 | 608.6 |
| 700 | 371 | 110 | 7.6 | 570 | 39.3 | 1135 | 78.3 | 1515 | 104.5 | 1705 | 117.6 | 2840 | 195.9 | 4730 | 326.2 | 8515 | 587.2 |
| 750 | 399 | 95 | 6.6 | 530 | 36.6 | 1065 | 73.4 | 1420 | 97.9 | 1595 | 110.0 | 2660 | 183.4 | 4430 | 305.5 | 7970 | 549.7 |
| 800 | 427 | 80 | 5.5 | 510 | 35.2 | 1015 | 70.0 | 1355 | 93.4 | 1525 | 105.2 | 2540 | 175.2 | 4230 | 291.7 | 7610 | 524.8 |
| 850 | 454 | 65 | 4.5 | 485 | 33.4 | 975 | 67.2 | 1300 | 89.7 | 1460 | 100.7 | 2435 | 167.9 | 4060 | 280.0 | 7305 | 503.8 |
| 900 | 482 | 50 | 3.4 | 450 | 31.0 | 900 | 62.1 | 1200 | 82.8 | 1350 | 93.1 | 2245 | 154.8 | 3745 | 258.3 | 6740 | 464.8 |
| 950 | 510 | 35 | 2.4 | 375 | 25.9 | 755 | 52.1 | 1005 | 69.3 | 1130 | 77.9 | 1885 | 130.0 | 3145 | 216.9 | 5665 | 390.7 |
| 1000 | 538 | 20 | 1.4 | 260 | 17.9 | 520 | 35.9 | 695 | 47.9 | 780 | 53.8 | 1305 | 90.0 | 2170 | 149.7 | 3910 | 269.7 |
| 1050 | 566 | 20 | 1.4 | 175 | 12.1 | 350 | 24.1 | 465 | 32.1 | 525 | 36.2 | 875 | 60.3 | 1455 | 100.3 | 2625 | 181.0 |
| 1100 | 593 | 20 | 1.4 | 110 | 7.6 | 220 | 15.2 | 295 | 20.3 | 330 | 22.8 | 550 | 37.9 | 915 | 63.1 | 1645 | 113.4 |
| 1150 | 621 | 20 | 1.4 | 70 | 4.8 | 135 | 9.3 | 180 | 12.4 | 205 | 14.1 | 345 | 23.8 | 570 | 39.3 | 1030 | 71.0 |
| 1200 | 649 | 20 | 1.4 | 40 | 2.8 | 80 | 5.5 | 110 | 7.6 | 125 | 8.6 | 205 | 14.1 | 345 | 23.8 | 615 | 42.4 |

ASTM A182/F91

| °F | °C | 150 | PN20 | 300 | PN50 | 600 | PN100 | 800 | PN130 | 900 | PN150 | 1500 | PN250 | 2500 | PN420 | 4500 | PN760 |
|------|-----|------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar | psig | bar |
| 100 | 38 | 290 | 20.0 | 750 | 51.7 | 1500 | 103.4 | 2000 | 137.9 | 2250 | 155.2 | 3750 | 258.6 | 6250 | 431.0 | 11250 | 775.9 |
| 200 | 93 | 260 | 17.9 | 750 | 51.7 | 1500 | 103.4 | 2000 | 137.9 | 2250 | 155.2 | 3750 | 258.6 | 6250 | 431.0 | 11250 | 775.9 |
| 300 | 149 | 230 | 15.9 | 730 | 50.3 | 1455 | 100.3 | 1940 | 133.8 | 2185 | 150.7 | 3640 | 251.0 | 6070 | 418.6 | 10925 | 753.4 |
| 400 | 204 | 200 | 13.8 | 705 | 48.6 | 1410 | 97.2 | 1880 | 129.7 | 2115 | 145.9 | 3530 | 243.4 | 5880 | 405.5 | 10585 | 730.0 |
| 500 | 260 | 170 | 11.7 | 665 | 45.9 | 1330 | 91.7 | 1775 | 122.4 | 1995 | 137.6 | 3325 | 229.3 | 5540 | 382.1 | 9965 | 687.2 |
| 600 | 316 | 140 | 9.7 | 605 | 41.7 | 1210 | 83.4 | 1615 | 111.4 | 1815 | 125.2 | 3025 | 208.6 | 5040 | 347.6 | 9070 | 625.5 |
| 650 | 343 | 125 | 8.6 | 590 | 40.7 | 1175 | 81.0 | 1570 | 108.3 | 1765 | 121.7 | 2940 | 202.8 | 4905 | 338.3 | 8825 | 608.6 |
| 700 | 371 | 110 | 7.6 | 570 | 39.3 | 1135 | 78.3 | 1515 | 104.5 | 1705 | 117.6 | 2840 | 195.9 | 4730 | 326.2 | 8515 | 587.2 |
| 750 | 399 | 95 | 6.6 | 530 | 36.6 | 1065 | 73.4 | 1420 | 97.9 | 1595 | 110.0 | 2660 | 183.4 | 4430 | 305.5 | 7970 | 549.7 |
| 800 | 427 | 80 | 5.5 | 510 | 35.2 | 1015 | 70.0 | 1355 | 93.4 | 1525 | 105.2 | 2540 | 175.2 | 4230 | 291.7 | 7610 | 524.8 |
| 850 | 454 | 65 | 4.5 | 485 | 33.4 | 975 | 67.2 | 1300 | 89.7 | 1460 | 100.7 | 2435 | 167.9 | 4060 | 280.0 | 7305 | 503.8 |
| 900 | 482 | 50 | 3.4 | 450 | 31.0 | 900 | 62.1 | 1200 | 82.8 | 1350 | 93.1 | 2245 | 154.8 | 3745 | 258.3 | 6740 | 464.8 |
| 950 | 510 | 35 | 2.4 | 385 | 26.6 | 755 | 52.1 | 1025 | 70.7 | 1160 | 80.0 | 1930 | 133.1 | 3220 | 222.1 | 5795 | 399.7 |
| 1000 | 538 | 20 | 1.4 | 365 | 25.2 | 725 | 50.0 | 968 | 66.8 | 1090 | 75.2 | 1820 | 125.5 | 3030 | 209.0 | 5450 | 375.9 |
| 1050 | 566 | 20 | 1.4 | 360 | 24.8 | 720 | 49.7 | 960 | 66.2 | 1080 | 74.5 | 1800 | 124.1 | 3000 | 206.9 | 5400 | 372.4 |
| 1100 | 593 | 20 | 1.4 | 300 | 20.7 | 605 | 41.7 | 805 | 55.5 | 905 | 62.4 | 1510 | 104.1 | 2515 | 173.4 | 4525 | 312.1 |
| 1150 | 621 | 20 | 1.4 | 225 | 15.5 | 445 | 30.7 | 595 | 41.0 | 670 | 46.2 | 1115 | 76.9 | 1855 | 127.9 | 3345 | 230.7 |
| 1200 | 649 | 20 | 1.4 | 145 | 10.0 | 290 | 20.0 | 383 | 26.4 | 430 | 29.7 | 720 | 49.7 | 1200 | 82.8 | 2160 | 149.0 |

For welding and valves only. Flanged end ratings terminate at 1000°F.

ASTM F22: permissible but not recommended for prolonged usage above about 1100°F.



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