



Reflex
R-20

Transparent
T-20

For Pressures Up to 3270 PSI @ 100°F

Series 20

Features

- Recessed Gasket Seat in Chamber and Cover
- Tempered Borosilicate Glass conforming to BS3463, JIS B8211, & DIN 7081
- Wetted Parts conform to NACE MR0175 & MR0103
- All parts listed in ASTM & ASME B31.3
- ABS Certified
- Carbon Steel Covers are Shrouded to Protect the Glass Edges
- All Gages feature a continuous, one-piece chamber regardless of length

The Jerguson Series 20 gage is the most common gage specified and will cover 80-85% of applications encountered. Important features include a recessed gasket surface (standard on all gage series) and shrouded covers. A recessed gasket surface provides positive location of the seal gasket during both assembly and field repair and also makes it possible to repair a Jerguson gage while it is mounted to the vessel. The recessed gasket surface is also an important safety feature in the fact that it contains the gasket and helps prevent lateral movement which could lead to a gasket blow-out (as with competitive gages.)

Refer to page 24 for Non-Frost Extensions, page 28 for Illuminators, page 25 for Support Brackets, PCTFE Shields and page 7 for Mica Shields, and special alloys.

TEST PRESSURE: All gages are hydrostatically tested by Jerguson prior to shipment @ 1 1/2 times the design pressure rating at 100°F (38°C).

PRESSURE / TEMPERATURE RATINGS, PSI

| Temperature | | R-20 REFLEX GAGE | | | | | | | | |
|---|-----|------------------|------|------|------|------|------|------|------|------|
| | | Glass Size | | | | | | | | |
| °F | °C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 100 | 38 | 3270 | 3140 | 3000 | 2880 | 2750 | 2630 | 2510 | 2390 | 2250 |
| 200 | 93 | 3090 | 2970 | 2860 | 2740 | 2620 | 2500 | 2380 | 2260 | 2150 |
| 300 | 149 | 2900 | 2790 | 2670 | 2560 | 2450 | 2340 | 2220 | 2110 | 2000 |
| 400 | 204 | 2700 | 2600 | 2490 | 2380 | 2270 | 2170 | 2060 | 1950 | 1850 |
| 500 | 260 | 2510 | 2410 | 2305 | 2205 | 2100 | 2000 | 1900 | 1800 | 1700 |
| 600 | 316 | 2285 | 2190 | 2100 | 2010 | 1915 | 1820 | 1730 | 1640 | 1550 |
| For temperatures above 600°F (316°C) Aluminosilicate Glass must be used | | | | | | | | | | |
| 700 | 371 | 2080 | 1990 | 1910 | 1820 | 1740 | 1650 | 1570 | 1480 | 1400 |
| 800 | 427 | 1870 | 1790 | 1720 | 1640 | 1560 | 1480 | 1410 | 1330 | 1250 |
| Saturated Steam Rating 300 WSP | | | | | | | | | | |

NOTE: Flanged gages are derated to flange rating, if applicable.

| Temperature | | T-20 TRANSPARENT GAGE | | | | | | | | |
|---|-----|-----------------------|------|------|------|------|------|------|------|------|
| | | Glass Size | | | | | | | | |
| °F | °C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 100 | 38 | 2000 | 1850 | 1750 | 1600 | 1500 | 1350 | 1250 | 1100 | 1000 |
| 200 | 93 | 1900 | 1780 | 1660 | 1550 | 1440 | 1300 | 1175 | 1060 | 950 |
| 300 | 149 | 1770 | 1660 | 1550 | 1450 | 1330 | 1220 | 1100 | 1000 | 900 |
| 400 | 204 | 1675 | 1575 | 1470 | 1350 | 1250 | 1150 | 1050 | 925 | 850 |
| 500 | 260 | 1530 | 1450 | 1350 | 1250 | 1150 | 1050 | 950 | 850 | 750 |
| 600 | 316 | 1350 | 1275 | 1180 | 1100 | 1010 | 925 | 850 | 750 | 675 |
| For temperatures above 600°F (316°C) Aluminosilicate Glass must be used | | | | | | | | | | |
| 700 | 371 | 1220 | 1140 | 1070 | 990 | 920 | 840 | 760 | 690 | 610 |
| 800 | 427 | 1100 | 1030 | 960 | 890 | 820 | 750 | 690 | 620 | 550 |
| Saturated Steam Rating with MICA | | | | | | | | | | |
| | | 600 | 600 | 600 | 600 | 550 | 500 | 450 | 400 | 350 |

Saturated Steam Rating 300 WSP NOTE: Flanged gages are derated to flange rating, if applicable.

PRESSURE / TEMPERATURE RATINGS, BarG

| Temperature | | R-20 REFLEX GAGE | | | | | | | | |
|---|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | Glass Size | | | | | | | | |
| °F | °C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 100 | 38 | 225.5 | 216.5 | 206.8 | 198.6 | 189.6 | 181.3 | 173.1 | 164.8 | 155.1 |
| 200 | 93 | 213.0 | 204.8 | 197.2 | 188.9 | 180.6 | 172.4 | 164.1 | 155.8 | 148.2 |
| 300 | 149 | 199.9 | 192.4 | 184.1 | 176.5 | 168.9 | 161.3 | 153.1 | 145.5 | 137.9 |
| 400 | 204 | 186.2 | 179.3 | 171.7 | 164.1 | 156.5 | 149.6 | 142.0 | 134.4 | 127.6 |
| 500 | 260 | 173.1 | 166.2 | 158.9 | 152.0 | 144.8 | 137.9 | 131.0 | 124.1 | 117.2 |
| 600 | 316 | 157.5 | 151.0 | 144.8 | 138.6 | 132.0 | 125.5 | 119.3 | 113.1 | 106.9 |
| For temperatures above 600°F (316°C) Aluminosilicate Glass must be used | | | | | | | | | | |
| 700 | 371 | 143.4 | 137.2 | 131.7 | 125.5 | 120.0 | 113.8 | 108.2 | 102.0 | 96.5 |
| 800 | 427 | 128.9 | 123.4 | 118.6 | 113.1 | 107.6 | 102.0 | 97.2 | 91.7 | 86.2 |
| Saturated Steam Rating 300 WSP | | | | | | | | | | |

NOTE: Flanged gages are derated to flange rating, if applicable.

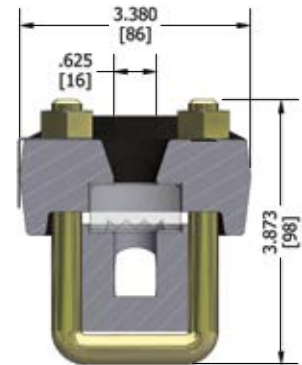
| Temperature | | T-20 TRANSPARENT GAGE | | | | | | | | |
|---|-----|-----------------------|-------|-------|-------|-------|------|------|------|------|
| | | Glass Size | | | | | | | | |
| °F | °C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 100 | 38 | 137.9 | 127.6 | 120.7 | 110.3 | 103.4 | 93.1 | 86.2 | 75.8 | 68.9 |
| 200 | 93 | 131.0 | 122.7 | 114.5 | 106.9 | 99.3 | 89.6 | 81.0 | 73.1 | 65.5 |
| 300 | 149 | 122.0 | 114.5 | 106.9 | 100.0 | 91.7 | 84.1 | 75.8 | 68.9 | 62.1 |
| 400 | 204 | 115.5 | 108.6 | 101.4 | 93.1 | 86.2 | 79.3 | 72.4 | 63.8 | 58.6 |
| 500 | 260 | 105.5 | 100.0 | 93.1 | 86.2 | 79.3 | 72.4 | 65.5 | 58.6 | 51.7 |
| 600 | 316 | 93.1 | 87.9 | 81.4 | 75.8 | 69.6 | 63.8 | 58.6 | 51.7 | 46.5 |
| For temperatures above 600°F (316°C) Aluminosilicate Glass must be used | | | | | | | | | | |
| 700 | 371 | 84.1 | 78.6 | 73.8 | 68.3 | 63.4 | 57.9 | 52.4 | 47.6 | 42.1 |
| 800 | 427 | 75.8 | 71.0 | 66.2 | 61.4 | 56.5 | 51.7 | 47.6 | 42.7 | 37.9 |
| Saturated Steam Rating with MICA | | | | | | | | | | |
| | | 41.4 | 41.4 | 41.4 | 41.4 | 37.9 | 34.5 | 31.0 | 27.6 | 24.1 |

Saturated Steam Rating 300 WSP NOTE: Flanged gages are derated to flange rating, if applicable.

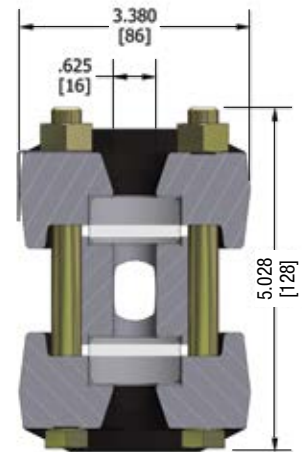
Liquid Level Gages

Series R-20 Reflex, Series T-20 Transparent

| Sect. X Size | Visible Range | | Overall Length (End Connected Gage Only) | | Approximate Weight | | | |
|-----------------|---------------|------|---|------|--------------------|------|---------------|-------|
| | in | mm | in | mm | Reflex, R-20 | | Transp., T-20 | |
| | | | | | lbs. | Kgs | lbs. | Kgs |
| 11 | 3.750 | 95 | 5.250 | 133 | 9 | 4.1 | 13 | 5.9 |
| 12 | 4.750 | 121 | 6.250 | 159 | 10 | 4.5 | 15 | 6.8 |
| 13 | 5.750 | 146 | 7.250 | 184 | 12 | 5.5 | 17 | 7.7 |
| 14 | 6.750 | 171 | 8.250 | 210 | 13 | 5.9 | 20 | 9.1 |
| 15 | 7.875 | 200 | 9.375 | 238 | 15 | 6.8 | 22 | 10.0 |
| 16 | 9.125 | 232 | 10.625 | 270 | 17 | 7.7 | 25 | 11.4 |
| 17 | 10.250 | 260 | 11.750 | 298 | 19 | 8.6 | 28 | 12.7 |
| 18 | 11.875 | 302 | 13.375 | 340 | 21 | 9.5 | 31 | 14.1 |
| 19 | 12.625 | 321 | 14.125 | 359 | 22 | 10.0 | 33 | 15.0 |
| 23 | 13.000 | 330 | 14.500 | 368 | 23 | 10.5 | 35 | 15.9 |
| 24 | 15.000 | 381 | 16.500 | 419 | 27 | 12.3 | 39 | 17.7 |
| 25 | 17.250 | 438 | 18.750 | 476 | 29 | 13.2 | 44 | 20.0 |
| 26 | 19.750 | 502 | 21.250 | 540 | 34 | 15.5 | 50 | 22.7 |
| 27 | 22.000 | 559 | 23.500 | 597 | 37 | 16.8 | 55 | 25.0 |
| 28 | 25.250 | 641 | 26.750 | 679 | 42 | 19.1 | 62 | 28.2 |
| 29 | 26.750 | 679 | 28.250 | 718 | 44 | 20.0 | 65 | 29.5 |
| 36 | 30.375 | 772 | 31.875 | 810 | 50 | 22.7 | 75 | 34.1 |
| 37 | 33.750 | 857 | 35.250 | 895 | 56 | 25.5 | 82 | 37.3 |
| 38 | 38.625 | 981 | 40.125 | 1019 | 63 | 28.6 | 93 | 42.3 |
| 39 | 40.875 | 1038 | 42.375 | 1076 | 66 | 30.0 | 98 | 44.5 |
| 47 | 45.500 | 1156 | 47.000 | 1194 | 74 | 33.6 | 109 | 49.5 |
| 48 | 52.000 | 1321 | 53.500 | 1359 | 84 | 38.2 | 124 | 56.4 |
| 49 | 55.000 | 1397 | 56.500 | 1435 | 88 | 40.0 | 130 | 59.1 |
| 57 | 57.250 | 1454 | 58.750 | 1492 | 93 | 42.3 | 137 | 62.3 |
| 58 | 65.375 | 1661 | 66.875 | 1699 | 105 | 47.7 | 155 | 70.5 |
| 59 | 69.125 | 1756 | 70.625 | 1794 | 111 | 50.5 | 163 | 74.1 |
| 68 | 78.750 | 2000 | 80.250 | 2038 | 126 | 57.3 | 186 | 84.5 |
| 69 | 83.250 | 2115 | 84.750 | 2153 | 133 | 60.5 | 196 | 89.1 |
| 78 | 92.125 | 2340 | 93.625 | 2378 | 147 | 66.8 | 217 | 98.6 |
| 79 | 97.375 | 2473 | 98.875 | 2511 | 155 | 70.5 | 228 | 103.6 |
| 88 | 105.500 | 2680 | 107.000 | 2718 | 169 | 76.8 | 248 | 112.7 |
| 89 | 111.500 | 2832 | 113.000 | 2870 | 177 | 80.5 | 261 | 118.6 |
| 98 | 118.875 | 3019 | 120.375 | 3058 | 190 | 86.4 | 279 | 126.8 |
| 99 | 125.625 | 3191 | 127.125 | 3229 | 199 | 90.5 | 294 | 133.6 |



Series R-20 Reflex



Series T-20 Transparent



CE models available

Specifications (See page 3 for Specifying Information)

SECTION LENGTHS

Gage sections are available in nine standard glass sizes. Longer sizes are constructed with multiple vision slots in a continuous solid bar chamber.

CONNECTIONS

Standard connections are at top and bottom and are 1/2" or 3/4" NPT female. Optional connections are available, such as socket weld, flanged or close hook-up (side/side).

LIQUID CHAMBER

Machined from bar stock. The gasket seat is recessed to provide lateral support, and facilitate positioning of the gasket. This seat aids in field repair, and enhances safety/reliability.

COVERS

Forged carbon steel shrouded covers are standard with optional materials available. The cushion gasket surface is recessed on all covers.

BOLTS & NUTS

Steel fasteners, heat treated for strength; A193 B7 bolts / A194 2H nuts. NACE options include A193 B7M bolts / A194 2HM nuts (Transparent only) and A193 B8M bolts / A194 8M nuts (316 Stainless Steel).

GLASS

Tempered Borosilicate is used to 600°F (316°C). Aluminosilicate is used to 800°F (427°C). Transparent glass may be protected from corrosive media with mica or Neoflon PCTFE shields.

GASKETS

Standard gaskets are precision die cut in proprietary Jerguson® dies.

FINISH

All carbon steel parts are finish coated prior to assembly with Jerguson Protective FP-16. Optional coatings such as FP-11 offshore available.

VALVES

Use of Jerguson gage valves is strongly recommended. Standard features include safety ballchecks which help prevent loss of product and physical injury in the event of a catastrophic failure.

Glass Types & Sizes

Glass Materials

- Borosilicate
 - Up to 600°F (316°C)
 - Up to 300 WSP
 - Over 300 WSP, Mica Protected Transparent Glass Only
- HP Borosilicate
 - Up to 600°F (316°C)
 - Higher Tolerances
- Aluminosilicate
 - Up to 800°F (426°C)

Glass Sizes – Industry Standard 34mm
 Sizes 1 thru 9 (All models except 300L)

| Size | Length | Typical Visible Range |
|------|-----------------|-----------------------|
| 1 | 4-1/2" (115mm) | 3-3/4" (95mm) |
| 2 | 5-1/2" (140mm) | 4-3/4" (121mm) |
| 3 | 6-1/2" (165mm) | 5-3/4" (146mm) |
| 4 | 7-1/2" (190mm) | 6-3/4" (171mm) |
| 5 | 8-5/8" (220mm) | 7-7/8" (200mm) |
| 6 | 9-7/8" (250mm) | 9-1/8" (232mm) |
| 7 | 11" (280mm) | 10-1/4" (260mm) |
| 8 | 12-5/8" (320mm) | 11-7/8" (302mm) |
| 9 | 13-3/8" (340mm) | 12-5/8" (321mm) |



Glass Sizes – Jerguson 25mm
 Sizes 11 thru 20 (Series 300L - Obsolete 5 & 12)

| Size | Length | Typical Visible Range |
|------|-------------|-----------------------|
| 11 | 11" (280mm) | 10-1/4" (260mm) |
| 12 | 12" (305mm) | 11-1/4" (286mm) |
| 13 | 13" (330mm) | 12-1/4" (311mm) |
| 15 | 15" (381mm) | 14-1/4" (362mm) |
| 18 | 18" (457mm) | 17-1/4" (438mm) |
| 20 | 20" (508mm) | 19-1/4" (489mm) |

Specification

Materials of Construction

- Borosilicate Glass
- Gaskets
 - IFG® -5500 Standard (Seal/Cushion)
 - Graphite, with .002" (.05mm) stainless steel reinforcement layer
 - Teflon®
 - Other Materials Available

Chamber

- Carbon Steel
 - To -20°F (-28°C)
- Low Temp Carbon Steel
 - To -50°F (-45°C)
 - Charpy Impact Tested
 - B7M Bolts / 2HM Nuts
- Stainless Steel
 - To -325°F (-198°C)
 - Dual Rated 316/316L
- All Acceptable for NACE Service

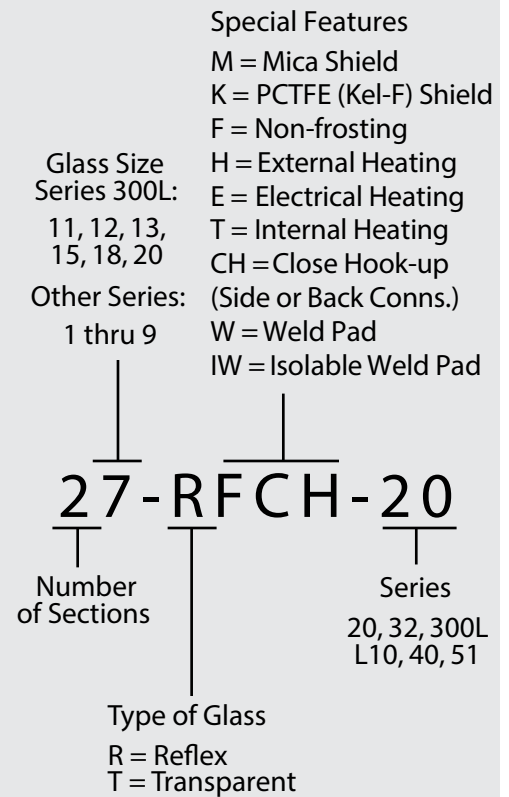
Shields

Shields are used to protect the glass from chemical attack. Two shields are available: Mica and PCTFE.

Mica: Mica shields are used to protect the glass from corrosion in high pressure steam (over 300WSP) and caustic applications (pH >11). PCTFE: PCTFE shields (formerly known as Kel-F®) are primarily used in Hydrofluoric Acid service. Note that the PCTFE shield also serves as the sealing gasket; no additional sealing gasket is required.



Gage Code for Jerguson Gages



Gasket Materials— Standard Offering

| Material | Min. Temperature | Max. Temperature | Rating Factor |
|----------------------|------------------|------------------|---------------|
| Garlock IFG-5500 | -40°F (-40°C) | 550°F (288°C) | 100% |
| 25% Glass Filled TFE | -328°F (-200°C) | 500°F (260°C) | 100% |
| Grafoil | -400°F (-240°C) | 800°F (427°C) | 100% |
| PCTFE (Kel-F) Shield | -400°F (-240°C) | 302°F (150°C) | 50% |