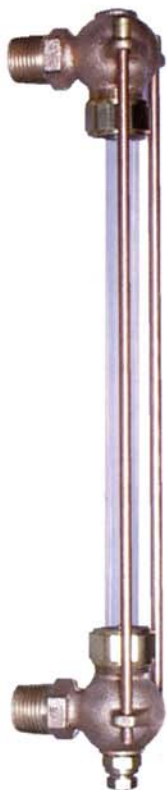
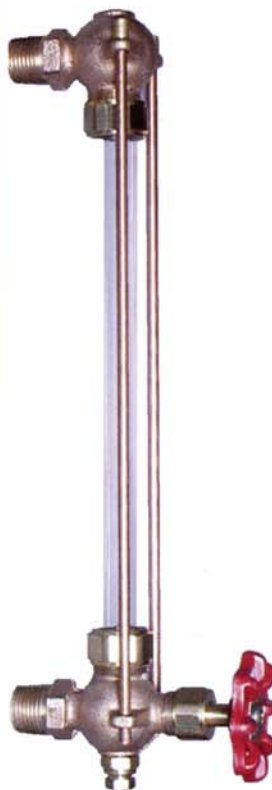


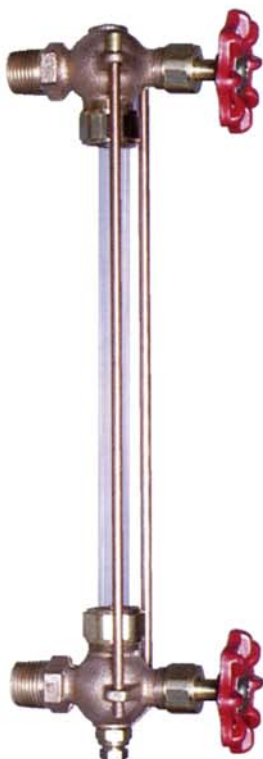
Tubular Gauge Valves - Brass



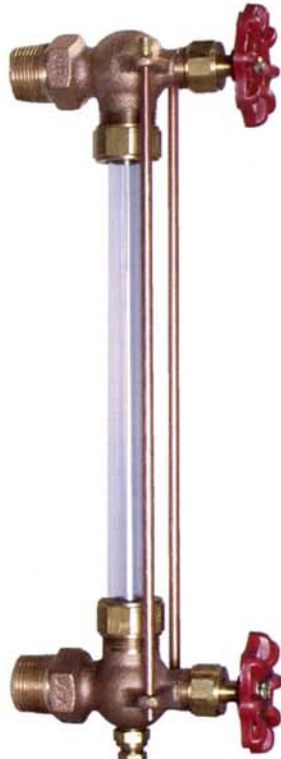
Model 401



Model 402



Model 403



Model 405

Features

- ◆ Vessel Connection Sizes: 3/8" to 3/4" NPT
- ◆ Auto Ball Checks Available
- ◆ For Glass Tube or Shielded Gauges

Ratings

- ◆ **Pressure Ratings** are subject to the limitations of the gauge glass (Page 42)
- ◆ **Temperature Ratings** are subject to the limitations of the packing (Page 45).

Materials

- ◆ Body: Brass
- ◆ Glass Packing: EPDM
- ◆ Stem Packing: Teflon

A Special Note about Corrosion:

- Excessive corrosion may result in leakage, glass breakage, and premature valve failure.
- Be sure all wetted components of the gauge are constructed with materials compatible with the service medium. John C. Ernst Co. does not make chemical compatibility recommendations.
- See the "Compass Corrosion Guide" or equivalent for material compatibility.

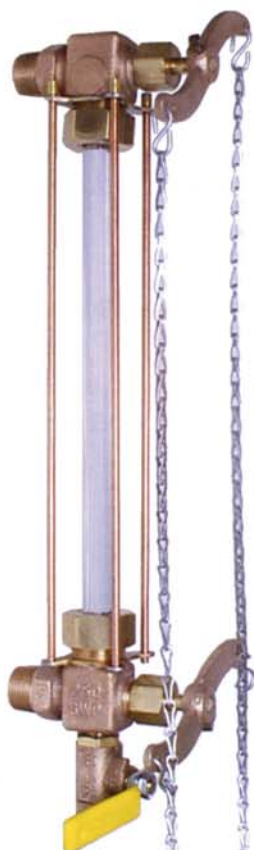
Model	Size NPT	Glass OD	Glass Length from Centers	Rod Length from Centers
401-03	3/8"	5/8"	- 1-1/4"	+ 3/4"
401-04	1/2"	5/8"	- 1-1/4"	+ 3/4"
401-05	3/4"	3/4"	- 1-1/4"	+ 3/4"
402-04	1/2"	5/8"	- 1-1/4"	+ 3/4"
403-03	3/8"	5/8"	- 1-1/4"	+ 3/4"
403-04	1/2"	5/8"	- 1-1/4"	+ 3/4"
405-03	3/8"	5/8"	- 1-1/2"	+ 3/4"
405-04	1/2"	5/8"	- 1-1/4"	+ 3/4"
405-05	3/4"	3/4"	- 1-1/4"	+ 3/4"

Model	Maximum Liquid Pressure @ Temp PSIG / °F	Steam Service PSIG	Auto Ball Checks
401-03	300/100°F to 125/350°F	N/A	No
401-04	300/100°F to 125/350°F	N/A	No
401-05	100/100°F to 50/300°F	N/A	No
402-04	400/100°F to 200/400°F	N/A	Yes
403-03	300/100°F to 125/350°F	125	No
403-04	300/100°F to 125/350°F	125	No
405-03	200/100°F to 100/300°F	100	Yes
405-04	400/100°F to 200/400°F	200	Yes
405-05	400/100°F to 200/400°F	200	Yes

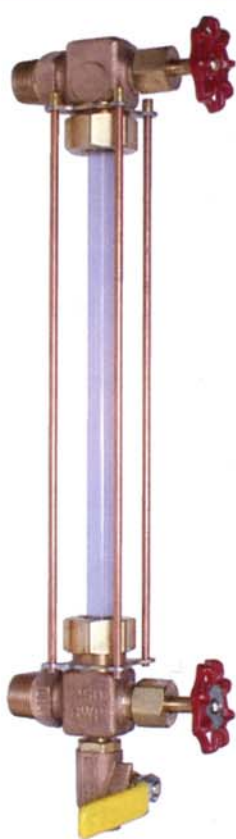
For Glass see Page 42.

For Shielded Gauges see Page 34.

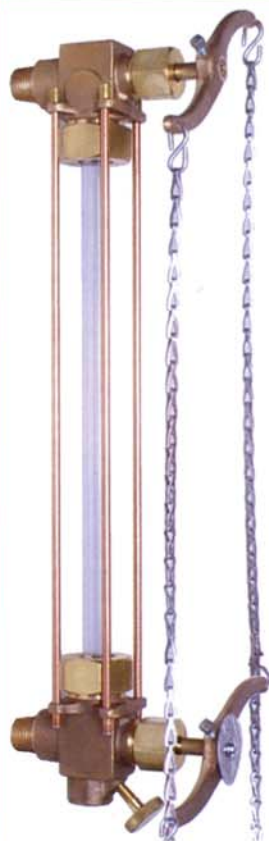
Tubular Gauge Valves – Bronze



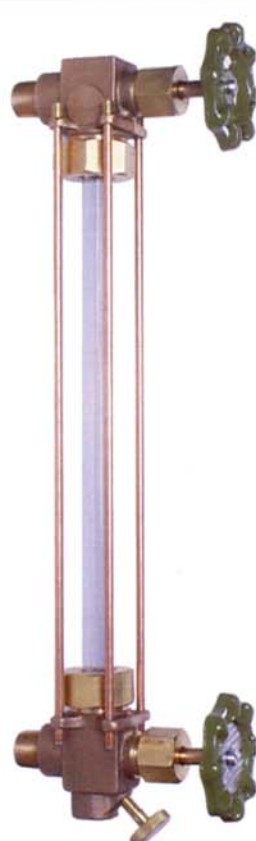
Model 408



Model 409



Model 414



Model 415

Features

- ◆ Sizes 1/2" NPT up to 1" Flanged
- ◆ Auto Ball Checks (ASME)
- ◆ For Glass Tube or Shielded Gauges

Ratings

- ◆ **Pressure Ratings** are subject to the limitations of the gauge glass (Page 42).
- ◆ **Temperature Ratings** are subject to the limitations of the packing (Page 45).

Materials

- ◆ Body: Bronze
- ◆ Glass Packing: EPDM
- ◆ Stem Packing for 408/409: Teflon
- ◆ Stem Packing for 414/415: Graphite

A Special Note about Corrosion:

- Excessive corrosion may result in leakage, glass breakage, and premature valve failure.
- Be sure all wetted components of the gauge are constructed with materials compatible with the service medium. John C. Ernst Co. does not make chemical compatibility recommendations.
- See the "Compass Corrosion Guide" or equivalent for material compatibility.

Model	Size NPT	Glass OD	Glass Length from Centers	Rod Length from Centers
408-04	1/2"	5/8"	- 2"	- 1"
408-05	3/4"	3/4"	- 2"	- 1"
409-04	1/2"	5/8"	- 2"	- 1"
409-05	3/4"	3/4"	- 2"	- 1"
414-04	1/2"	5/8"	- 2"	- 1"
414-05	3/4"	3/4"	- 2"	- 1"
415-04	1/2"	5/8"	- 2"	- 1"
415-05	3/4"	3/4"	- 2"	- 1"

Model	Maximum Liquid Pressure @ Temp PSIG / °F	Steam Service PSIG	Auto Ball Checks
408-04	500/100°F to 250/400°F	250	ASME
408-05	500/100°F to 250/400°F	250	ASME
409-04	500/100°F to 250/400°F	250	ASME
409-05	500/100°F to 250/400°F	250	ASME
414-04	200/100°F to 125/400°F	125	ASME
414-05	400/100°F to 250/400°F	250	ASME
415-04	200/100°F to 125/400°F	125	ASME
415-05	400/100°F to 250/400°F	250	ASME

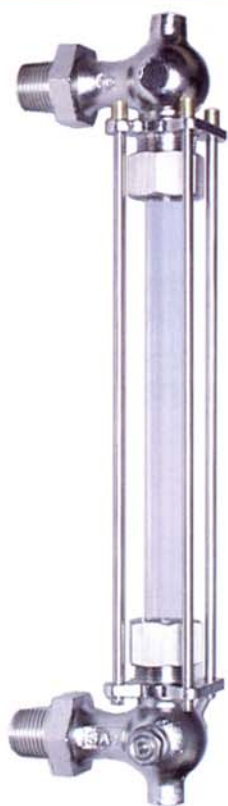
For Glass see Page 42.

For Shielded Gauges, See Page 34.

LIQUID LEVEL GAUGES

Tubular Gauge Valves – Stainless Steel

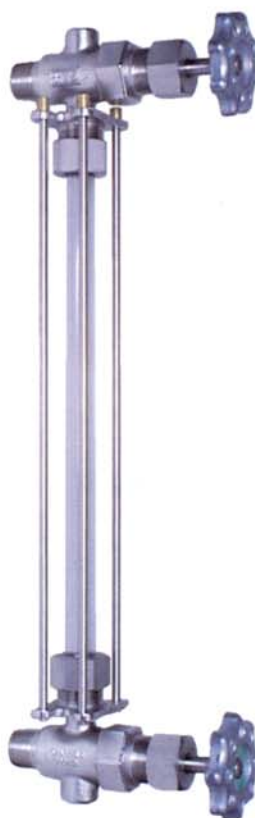
LIQUID LEVEL GAUGES



Model 440



Model 448



Model 447



Model 416

Features

- ◆ Vessel Connection Sizes:
1/4" NPT up to 1" Flanged
- ◆ Auto Ball Checks
- ◆ For Glass Tube or Shielded Gauges

Ratings

- ◆ **Pressure Ratings** are subject to the limitations of the gauge glass (Page 42)
- ◆ **Temperature Ratings** are subject to the limitations of the packing (Page 45)

Materials

- ◆ Body: 316 Stainless Steel
- ◆ Glass Packing: Viton
- ◆ Stem Packing: Teflon

A Special Note about Corrosion:

- Excessive corrosion may result in leakage, glass breakage, and premature valve failure.
- Be sure all wetted components of the gauge are constructed with materials compatible with the service medium. John C. Ernst Co. does not make chemical compatibility recommendations.
- See the "Compass Corrosion Guide" or equivalent for material compatibility.

Model 416 has a Viton O-Ring for the glass packing, ball check and retainer are 18-8SS. Drain valves are optional.

Model	Size NPT	Glass OD	Glass Length from Centers	Rod Length from Centers
416-04	1/2"	5/8"	- 2"	- 1-1/4"
416-05	3/4"	3/4"	- 2"	- 1-1/4"
440-02	1/4"	5/8"	- 2-1/4"	- 1-1/4"
440-03	3/8"	5/8"	- 2-1/4"	- 1-1/4"
440-04	1/2"	5/8"	- 2-1/4"	- 1-1/4"
440-05	3/4"	5/8"	- 2-1/4"	- 1-1/4"
447-04	1/2"	5/8"	- 2-3/4"	- 1-1/2"
447-05	3/4"	5/8"	- 2-3/4"	- 1-1/2"
448-04	1/2"	5/8"	- 2"	- 1-1/4"
448-05	3/4"	5/8"	- 2"	- 1-1/4"

Model	Maximum Liquid Pressure @ Temp PSIG / °F	Steam Service PSIG	Auto Ball Checks
416	500/100°F to 500/425°F	N/A	Yes
440	150/100°F to 150/300°F	N/A	No
447	300/100°F to 300/300°F	N/A	Optional
448	250/100°F to 250/400°F	N/A	No

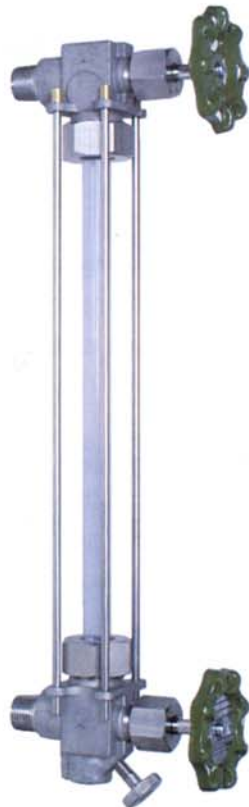
For Glass, see Page 42.

For Shielded Gauges, see Page 34.

Tubular Gauge Valves – Stainless Steel



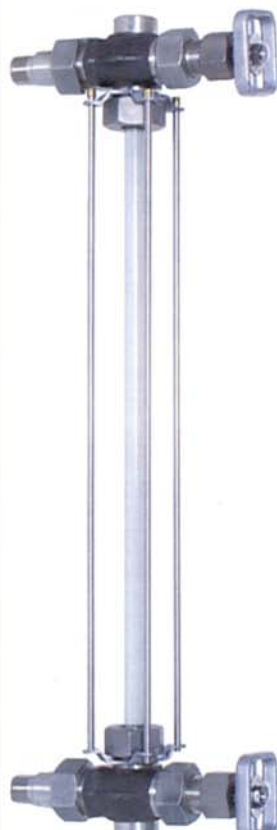
Model 436



Model 446



Model 455



Model 457

Features

- ◆ Sizes 1/2" NPT up to 2" Flanged
- ◆ Auto Ball Checks
- ◆ For Glass Tube or Shielded Gauges

Ratings

- ◆ **Pressure Ratings** are subject to the limitations of the gauge glass (Page 42).
- ◆ **Temperature Ratings** are subject to the limitations of the packing (Page 45).

Materials

- ◆ Body: 316 Stainless Steel
- ◆ Glass Packing: Teflon
- ◆ Stem Packing : Graphite Composite
- ◆ Stem Packing for 436: Teflon/Hypolon

A Special Note about Corrosion:

- Excessive corrosion may result in leakage, glass breakage, and premature valve failure.
- Be sure all wetted components of the gauge are constructed with materials compatible with the service medium. John C. Ernst Co. does not make chemical compatibility recommendations.
- See the "Compass Corrosion Guide" or equivalent for material compatibility.

Model 454 has an integral bonnet and stem seat.

Model 456 has a union bonnet for stem seat replacement.

Model	Size NPT	Glass OD	Glass Length from Centers	Rod Length from Centers
436-04	1/2"	5/8"	- 2"	- 1"
436-05	3/4"	3/4"	- 2"	- 1"
446-04	1/2"	5/8"	- 2"	- 1"
446-05	3/4"	3/4"	- 2"	- 1"
455-04	1/2"	5/8"	- 1-3/4"	- 2-1/4"
455-05	3/4"	3/4"	- 1-3/4"	- 2-1/4"
455-06	1"	3/4"	- 1-3/4"	- 2-1/4"
457-04	1/2"	5/8"	- 1-3/4"	- 2-1/4"
457-05	3/4"	3/4"	- 1-3/4"	- 2-1/4"
457-06	1"	3/4"	- 1-3/4"	- 2-1/4"

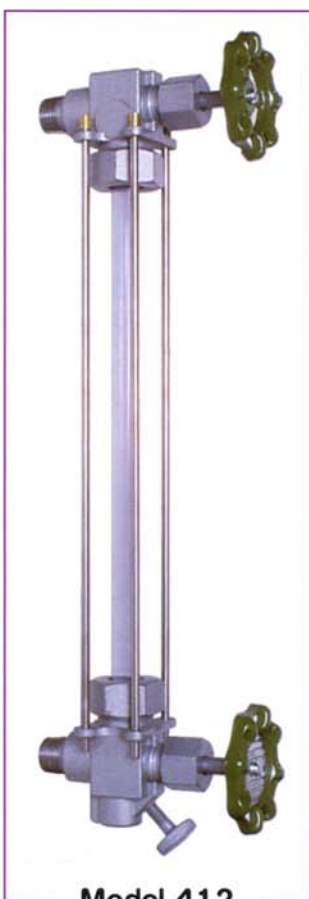
Model	Maximum Liquid Pressure @ Temp PSIG / °F	Steam Service PSIG	Auto Ball Checks
436	500/100°F to 500/425°F	500	ASME
446	500/100°F to 500/425°F	500	Yes
455	600/100°F to 345/400°F	345	Yes
457	600/100°F to 345/400°F	345	Yes

For Glass, see Page 42.

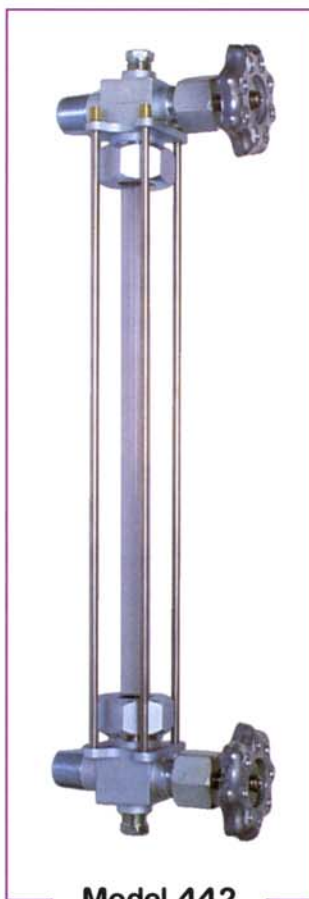
For Shielded Gauges, see Page 34.

LIQUID LEVEL GAUGES

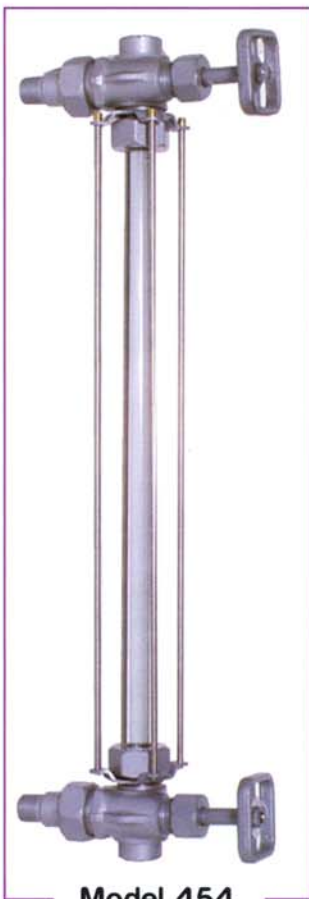
Tubular Gauge Valves – Carbon Steel



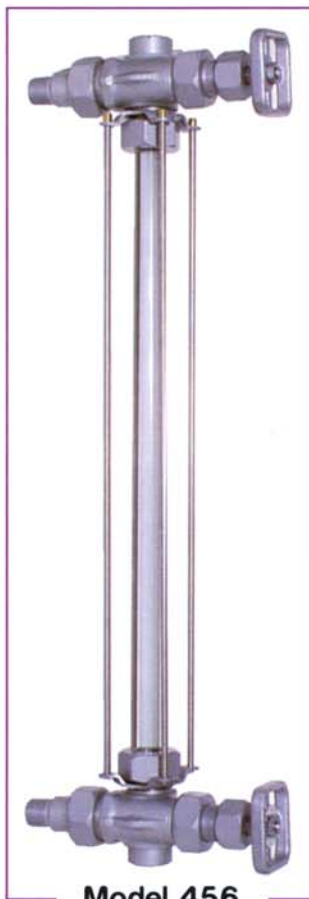
Model 412



Model 442



Model 454



Model 456

Features

- ◆ Sizes 1/2" NPT up to 2" Flanged
- ◆ Auto Ball Checks
- ◆ For Glass Tube or Shielded Gauges

Ratings

- ◆ **Pressure Ratings** are subject to the limitations of the gauge glass (Page 42).
- ◆ **Temperature Ratings** are subject to the limitations of the packing (Page 45).

Materials

- ◆ Body: Carbon Steel
- ◆ Glass Packing on 454/456: Graphite
- ◆ Glass Packing on 442: Viton O-Ring
- ◆ Glass Packing on 412: Neoprene
- ◆ Stem Packing : Graphite Composite
- ◆ Stem Packing for 442: Teflon

A Special Note about Corrosion:

- Excessive corrosion may result in leakage, glass breakage, and premature valve failure.
- Be sure all wetted components of the gauge are constructed with materials compatible with the service medium. John C. Ernst Co. does not make chemical compatibility recommendations.
- See the "Compass Corrosion Guide" or equivalent for material compatibility.

Model 454 has an integral bonnet and stem seat.
 Model 456 has a union bonnet for stem seat replacement.
 Model 442 can have a drain valve as an option.

Model	Size NPT	Glass OD	Glass Length from Centers	Rod Length from Centers
412-04	1/2"	5/8"	- 2"	- 1"
412-05	3/4"	3/4"	- 2"	- 1"
442-04	1/2"	5/8"	- 2"	-1/2"
442-05	3/4"	3/4"	- 2"	-1/2"
454-04	1/2"	5/8"	- 1-3/4"	- 2-1/4"
454-05	3/4"	3/4"	- 1-3/4"	- 2-1/4"
454-06	1"	3/4"	- 1-3/4"	- 2-1/4"
456-04	1/2"	5/8"	- 1-3/4"	- 2-1/4"
456-05	3/4"	3/4"	- 1-3/4"	- 2-1/4"
456-06	1"	3/4"	- 1-3/4"	- 2-1/4"

Model	Maximum Liquid Pressure @ Temp PSIG / °F	Steam Service PSIG	Auto Ball Checks
412	500/100°F to 500/425°F	500	Yes
442	500/100°F to 500/425°F	N/A	Yes
454	600/100°F to 345/400°F	345	Yes
456	600/100°F to 345/400°F	345	Yes

For Glass, see Page 42.

For Shielded Gauges See Page 34.