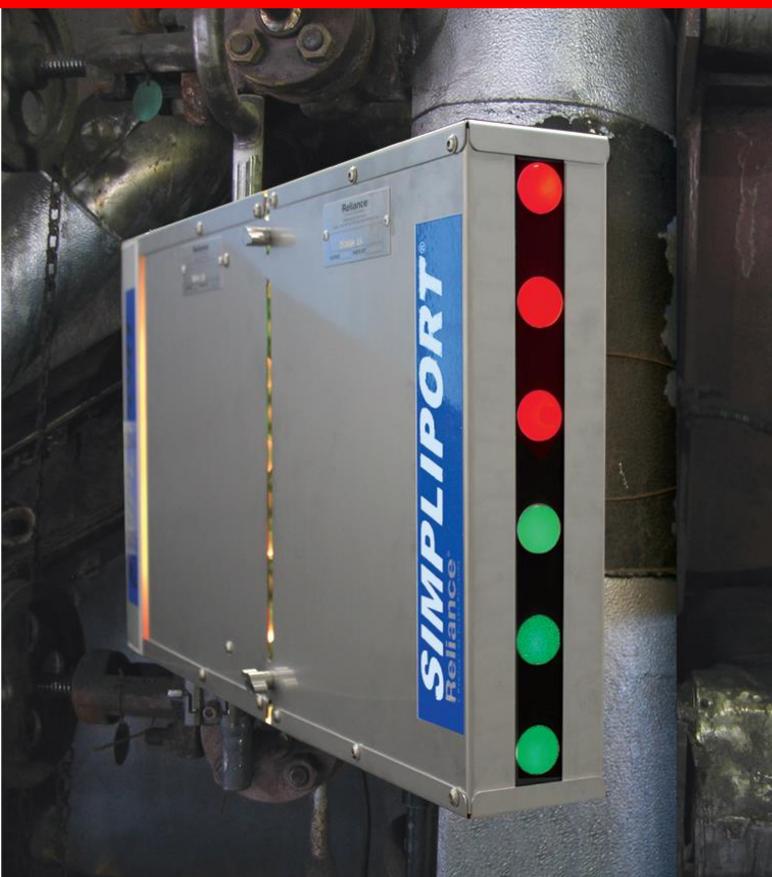


# See Boiler Water Level at Any Angle, Any Distance



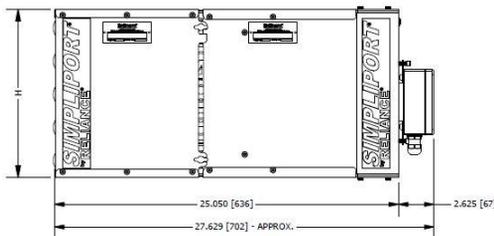
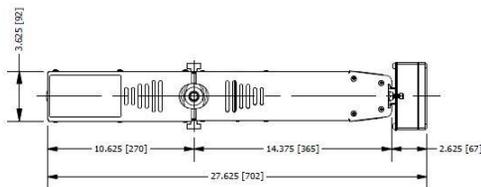
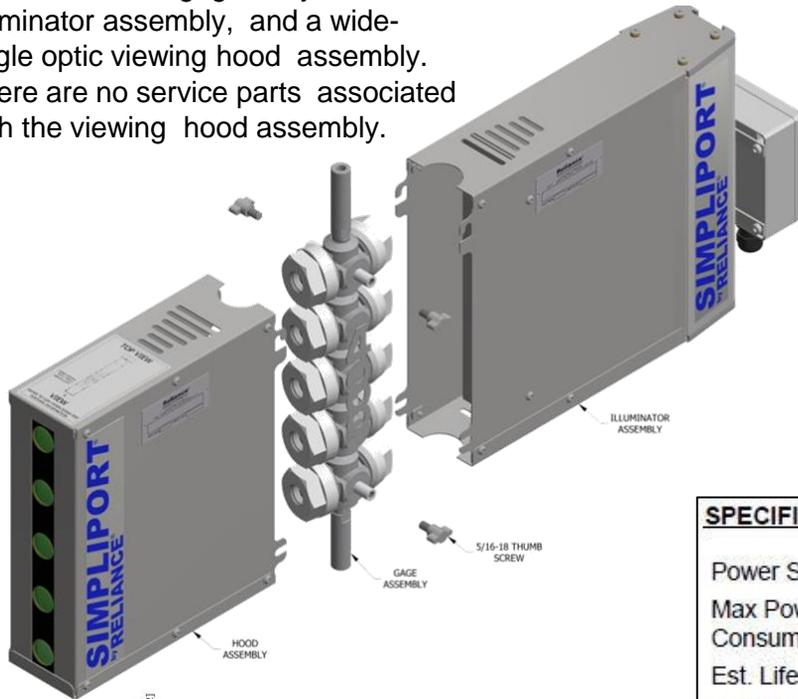
## Simpliport<sup>®</sup> 180 Water Gage System

# Simpliport® 180 Water Level Gage System For Ordinary (Non-Classified) Locations

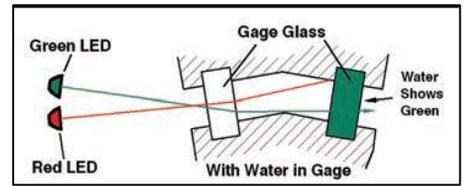
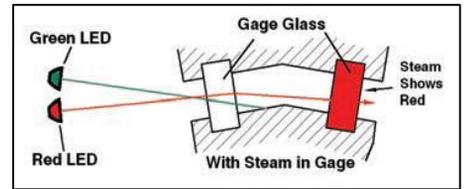
Patent # 7,047,806B2

## The Simpliport® 180 System

The Simpliport 180 System consists of a stainless-steel gage body, an LED illuminator assembly, and a wide-angle optic viewing hood assembly. There are no service parts associated with the viewing hood assembly.



Red indicates steam,  
green indicates water  
level in boiler.



Light does not refract through water on the same line that light reflects through steam. By calculated placement of a light source and gage glass, the Simpliport gage indicates water levels by displaying green ports at water level and red ports for steam above.

### SPECIFICATIONS

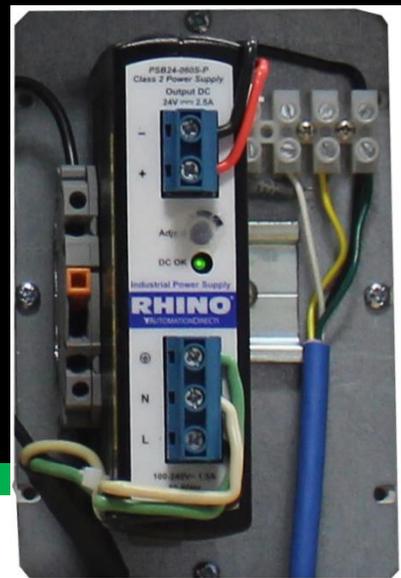
Power Supply:	115/230 VAC @ 50-60 Hz
Max Power Consumption:	500 mA
Est. Life:	Up to 7 years (continuous)
Agency Approvals:	FM/CFM Ordinary Locations
Wire Size:	Min 16 AWG / Max 10 AWG
Max dist. from power supply to light:	72' (22 M)
Ambient Temperature:	-40 F (-40 C) to 170 F (77C)

ILLUMINATOR PART NO.	VIEWING HOOD PART NO.	H (IN)	H (MM)
SWAI 5S	SWAH 5S	12.125	307
SWAI 6S	SWAH 6S	14.500	368
SWAI 7S	SWAH 7S	16.875	428
SWAI 8S	SWAH 8S	19.250	488
SWAI 9S	SWAH 9S	21.625	549
SWAI 10S	SWAH 10S	24.000	609

# Simpliport® 180

## Water Level Gage System

For Hazardous (Classified) Locations



### The Simpliport® 180 System with Local Power Supply



### The Simpliport® 180 System with Remote Power Supply



Note: Shown with integral junction box for wire terminations. Power supply furnished without enclosure for user installation and Power Supply can be located up to 1000 Feet (303 Meters) away from the Illuminator.

Illuminators for NEC Class 1, Division 2 applications, for use with the same Viewing Hoods as our ordinary location illuminators. Models are available with local and remote Power Supplies for installer convenience.

#### SPECIFICATIONS

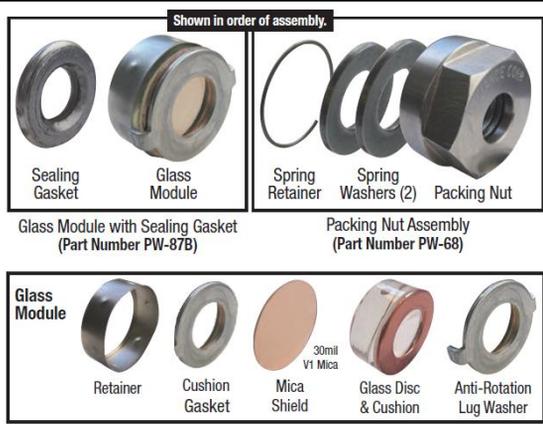
Power Supply:	85-264 VAC @ 47-63 Hz
Max Power Consumption:	1.5 A
Est. Life:	Up to 10 years (continuous)
Agency Approvals:	ETL US/Canada Class I Div.2 Grps A,B,C,D T4 Hazardous Locations
Ambient Temp.:	-13°F (-25°C) to 176°F (80°C)
Wire Size:	Min 20 AWG (.52mm <sup>2</sup> ) Max 12 AWG (3.31mm <sup>2</sup> )



ILLUMINATOR PART NO. Local Power Supply	ILLUMINATOR PART NO. Remote Power Supply
SWAI-5S-HL	SWAI-5S-HR
SWAI-6S-HL	SWAI-6S-HR
SWAI-7S-HL	SWAI-7S-HR
SWAI-8S-HL	SWAI-8S-HR
SWAI-9S-HL	SWAI-9S-HR
SWAI-10S-HL	SWAI-10S-HR

Note: The dimensions are the same as the ordinary location models.

# Simpliport 4000 Gage Body Assembly



*The 4000 Series Simpliport Gage is engineered with a spiral wound sealing gasket featuring a unique inner support ring and cushion pad, which eliminates the Hot-Torque step required on past models. The result is a gage that is ready-to-use upon installation.*

## Simpliport® Gage is Built for Continuous Service to 3000 PSI (206 Bar) Steam Pressure

### Proven Bi-Color Gage

- Direct reading up to 3000 PSI (206 Bar)
- Spiral wound sealing gaskets
- No hot-torquing required
- Highest quality (V1), thickest (30 mil) mica shields
- Over 15,000 in service worldwide

Designed and manufactured to rigid quality standards, the Clark-Reliance Simpliport gage is proven for accurate and easy water level reading. Worldwide, Simpliport gages have delivered outstanding performance in dependability, low maintenance and installation versatility.

To meet specific requirements, Simpliport gages are offered in visibility lengths from 10-1/4 inches (260 mm) to 71-5/8 inches (1819 mm). Special gages of longer visibility can be supplied. In all lengths, gage ports are tightly spaced for maximum reading accuracy.

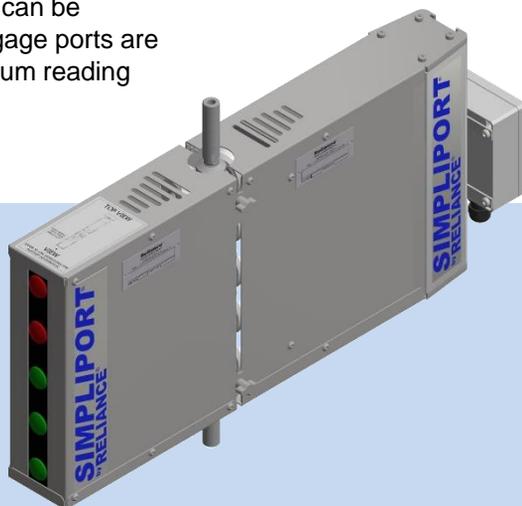
The gage operates on the reliable principles of light refraction. Light does not refract through water on the same line that light refracts through steam. The Simpliport gage indicates water level by displaying green ports for water and red ports for steam.

The Simpliport unit is the only high-pressure gage with a repairable body, a significant economic advantage for operators.

### LED Illuminator & Hood

for Bi-Color Water Gage Glass

- Features the brightest LEDs in the boiler gage industry
- Low power consumption (< .1 Amp)
- LEDs generate no heat
- 120 or 240 VAC operation
- Indoor or outdoor use



The new Simpliport LED Illuminator features high-intensity long life red and green LED's and eliminates the traditional red and green glass color strips. The service life of the LEDs is up to 10 years, which far exceeds any traditional incandescent or halogen lamps in previous models.

“We have replaced our old units with the **Clark-Reliance Simpliport** boiler sight glasses and have had much better performance. We are very satisfied with Clark-Reliance products. Their new LED illuminator works well, lasts long and has great support.”

George Machuta  
*Maintenance Supervisor  
 Municipal Power Plant*



## High Quality, Repairable Construction

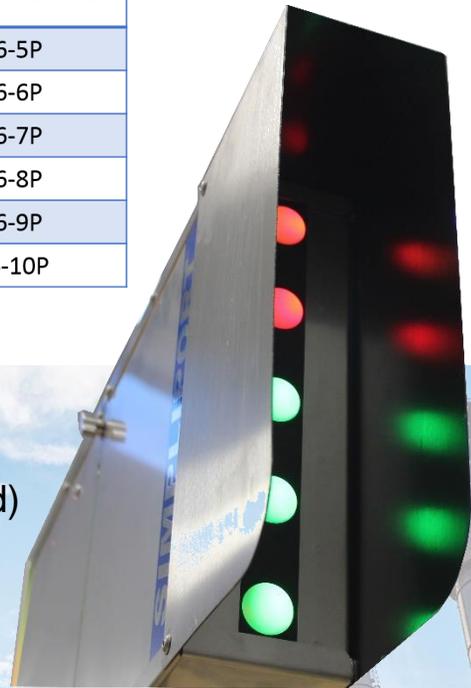
Quality construction is a Simpliport gage mainstay. Gage bodies are manufactured from Type 304 stainless steel. In addition, high quality materials throughout all gage components impart product integrity to even its smallest parts. The result is a premium gage, extremely strong yet lightweight. For example, the six-port Model P4006 with 12-5/8 inches in (321 mm) visibility weighs only 14 lbs.

New design features include the “all around” spring support for Glass Disc Modules. This provides positive and uniform loading to prolong the life of gage glass and the highest quality (V1) 30 mil mica shields. Service life may vary based upon actual operating conditions and water quality.

Sun Shield Model Nos.
PWA-46-5P
PWA-46-6P
PWA-46-7P
PWA-46-8P
PWA-46-9P
PWA-46-10P

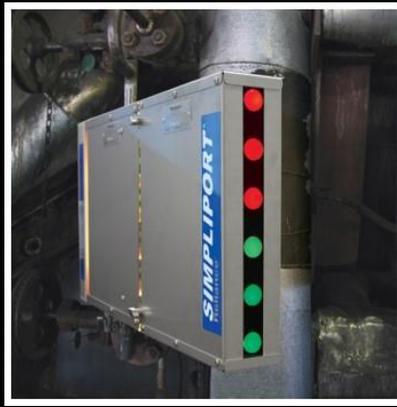
## Wide Angle Viewing Hood

- Optional Sun Shield (only adds 5 inches (127 mm) to the length of the Viewing Hood)
- Clear and bright viewing from any angle, any distance
- Improves visibility of existing gages...can provide clearer readings from dirty, contaminated gages...easy field retrofits!
- Eliminates need for mirrors in most applications
- Easy to install, with thumb screws
- For indoor, outdoor, and classified areas



*Simpliport with  
 Sun Shield Option*

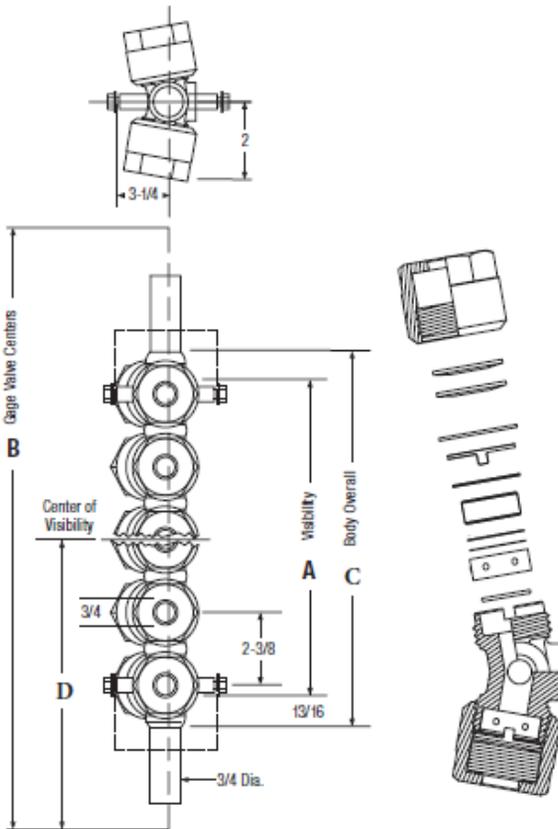
# Simpliport® Gage Assemblies



“I’ve never seen a gage that you can see so well from extreme angles. With this sight glass, if I’m standing anywhere within 180° of it, the level is visible.”

Bob Martin  
Maintenance Supervisor  
Municipal Power Plant

## P4000 Series: Simpliport Gage with Nipple Connections (1500 PSI [103 Bar] Maximum)



Simpliport gage connections for pressures to 1500 PSI (103 Bar) include standard nipple connections (end stems), ANSI flanges (as specified) or male/female socket welds.

### P4000 Series: Dimension Chart-Standard Size 0-1500 PSI (103 Bar)

Simpliport Model No.	# of Ports	Vision A inches (mm)	Min. Centers B inches (mm)	Body C inches (mm)	Min. D inches (mm)
P4005	5	10.25 (260)	21.00 (533)	11.88 (301)	10.38 (263)
P4006	6	12.62 (320)	23.37 (593)	14.25 (362)	11.56 (294)
P4007	7	15.00 (380)	25.75 (654)	16.62 (422)	12.75 (324)
P4008	8	17.38 (441)	28.12 (714)	19.00 (482)	13.94 (354)
P4009	9	19.75 (501)	30.50 (774)	21.38 (543)	15.25 (387)
P4010	10	22.12 (562)	32.88 (835)	23.75 (603)	16.31 (414)

### P4000 Series: Multi-Section Sizes 0-1500 PSI (103 Bar)

P4011	11	25.50 (650)	36.25 (920)	27.12 (688)	18.00 (457)
P4012	12	27.88 (708)	38.62 (980)	29.50 (749)	19.19 (487)
P4013	13	30.25 (768)	41.00 (1041)	31.88 (809)	20.38 (517)
P4014	14	32.62 (828)	43.38 (1101)	34.25 (869)	21.56 (547)
P4015	15	35.00 (885)	45.75 (1162)	36.62 (930)	22.75 (577)
P4016	16	37.38 (949)	48.12 (1222)	39.00 (990)	23.94 (608)
P4017	17	39.75 (1009)	50.50 (1282)	41.38 (1051)	25.12 (638)
P4018	18	42.12 (1069)	52.88 (1343)	43.75 (1111)	26.31 (668)
P4019	19	44.50 (1130)	55.25 (1403)	46.12 (1171)	27.50 (698)
P4020	20	46.88 (1190)	57.62 (1463)	48.50 (1231)	28.69 (728)
P4021	21	50.12 (1273)	61.00 (1549)	51.88 (1317)	30.13 (765)
P4022	22	52.62 (1336)	63.38 (1609)	54.25 (1377)	31.56 (801)
P4023	23	55.00 (1397)	65.75 (1670)	56.62 (1438)	32.75 (831)
P4024	24	57.38 (1457)	68.12 (1730)	59.00 (1498)	33.94 (862)
P4025	25	59.75 (1517)	70.50 (1790)	61.38 (1559)	35.12 (892)
P4026	26	62.12 (1577)	72.88 (1851)	63.75 (1619)	36.31 (922)
P4027	27	64.50 (1638)	75.25 (1911)	66.12 (1679)	37.50 (952)
P4028	28	66.88 (1698)	77.62 (1971)	68.50 (1739)	38.68 (982)
P4029	29	69.25 (1758)	80.00 (2032)	70.88 (1800)	39.88 (1012)
P4030	30	71.62 (1819)	82.38 (2092)	73.25 (1860)	41.06 (1043)

Note: Minimum Centers “B” are for Steel Water Gage Valves. See Bulletin AB5,1D for information on water gage valves.

Note to Specifier: The three most important dimensions are A, B and D. (C is a constant.) Ask for a complete Reliance Engineered Product Specification Guide.

Note: We recommend flanged connections on all gages with more than 20 ports. Consult factory.

The Simpliport 180 System is manufactured and installed to meet ASME Boiler Code (Section 1) requirements.



## Commissioning Kit Included

For commissioning purposes, Simpliport gages are furnished with two spare Glass Disc Modules, a 1-7/8-inch socket, a 3/4"-1/2-inch drive adaptor, high temperature thread lube, and module extractor pliers.

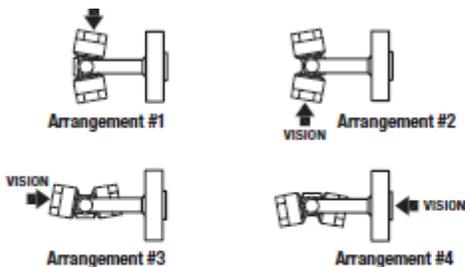
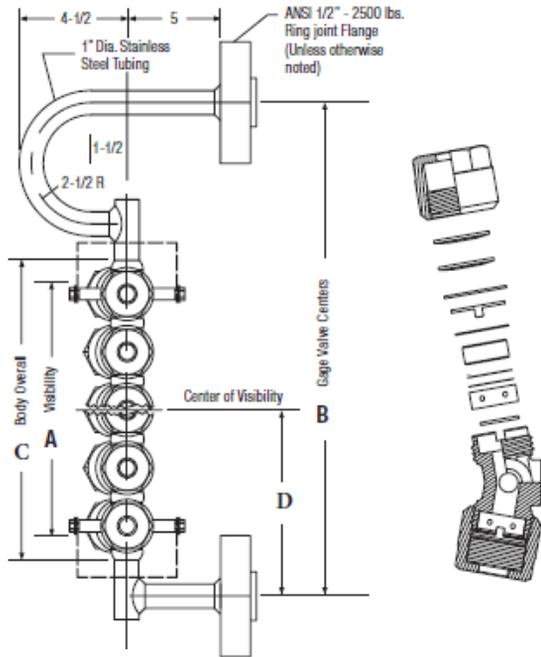


## We'll Help Assure that Your Boiler Project Gets Up and Running Smoothly

Clark-Reliance's SureStart<sup>SM</sup> Program can help qualified purchasers make certain that boiler level indication and control instrumentation will provide years of safe and reliable service in compliance with Section 1 of the ASME Code.

A direct Clark-Reliance employee will devote a day at your facility. We will verify the equipment installation, and conduct operation, use and maintenance training sessions with your operators. SureStart gives you the education and training necessary to provide safe and reliable level indication and control.

## P4100 Series: Simpliport Gage with Flange Connections (3000 PSI [206 Bar] Maximum)



Select an arrangement required. Consult factory for applications with centers less than listed in the chart.

### P4100 Series: Dimension Chart-Standard Sizes 0-3000 PSI (206 Bar)

Simpliport Model No.	# of Ports	Vision A inches (mm)	Min. Centers B inches (mm)	Body C inches (mm)	Min. D inches (mm)
P4105	5	10.25 (260)	21.63 (549)	11.88 (301)	9.19 (234)
P4106	6	12.62 (320)	24.00 (610)	14.25 (362)	10.38 (264)
P4107	7	15.00 (380)	26.38 (670)	16.62 (422)	11.56 (294)
P4108	8	17.38 (441)	28.75 (730)	19.00 (482)	12.75 (324)
P4109	9	19.75 (501)	31.13 (790)	21.38 (543)	13.94 (354)
P4110	10	22.12 (562)	33.50 (850)	23.75 (603)	15.12 (384)

### P4100 Series: Multi-Section Sizes 0-3000 PSI (206 Bar)

P4111	11	25.50 (650)	36.87 (937)	27.12 (688)	16.81 (427)
P4112	12	27.88 (708)	39.25 (997)	29.50 (749)	18.00 (457)
P4113	13	30.25 (768)	41.63 (1057)	31.88 (809)	19.19 (487)
P4114	14	32.62 (828)	44.00 (1117)	34.25 (869)	20.38 (517)
P4115	15	35.00 (885)	46.38 (1177)	36.62 (930)	21.56 (547)
P4116	16	37.38 (949)	48.75 (1237)	39.00 (990)	22.75 (577)
P4117	17	39.75 (1009)	51.13 (1297)	41.38 (1051)	23.94 (607)
P4118	18	42.12 (1069)	53.50 (1357)	43.75 (1111)	25.12 (637)
P4119	19	44.50 (1130)	55.87 (1417)	46.12 (1171)	26.31 (667)
P4120	20	46.88 (1190)	58.25 (1477)	48.50 (1231)	27.50 (697)
P4121	21	50.12 (1273)	61.63 (1565)	51.88 (1317)	29.19 (741)
P4122	22	52.62 (1336)	64.00 (1625)	54.25 (1377)	30.38 (771)
P4123	23	55.00 (1397)	66.37 (1685)	56.62 (1438)	31.56 (801)
P4124	24	57.38 (1457)	68.75 (1745)	59.00 (1498)	32.75 (831)
P4125	25	59.75 (1517)	71.13 (1805)	61.38 (1559)	33.94 (861)
P4126	26	62.12 (1577)	73.50 (1865)	63.75 (1619)	35.12 (891)
P4127	27	64.50 (1638)	75.87 (1925)	66.12 (1679)	36.31 (921)
P4128	28	66.88 (1698)	78.25 (1985)	68.50 (1739)	37.50 (951)
P4129	29	69.25 (1758)	80.63 (2045)	70.88 (1800)	38.69 (981)
P4130	30	71.62 (1819)	83.00 (2105)	73.25 (1860)	39.88 (1011)

Note: Consult factory if smaller minimum centers, non-standard flanges or other special items are required.

Note to Specifier: The three most important dimensions are: A, B, D and the Viewing Arrangement.

# From the World's Largest Selection of Boiler Instrumentation and Control Devices



**Eye-Hye® SmartLevel™**  
With Local and Remote Indicators



**Flat Glass Gages  
and DuraStar®  
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