



Mandrels

Deflection gauges (mandrels) are used to test flexible sewer pipe for out-of-roundness or deflection. This testing ensures that flexible pipe had been properly bedded and backfilled to give optimum performance (Per ASTM Designation D2321).

Both steel and aluminum gauges utilize a nine arm design to ensure the pipe is tested accurately. This design also allows gravel and debris to easily pass through. Other gauges can get hung up - causing a deflection test to fail, even though the pipe is within tolerance.

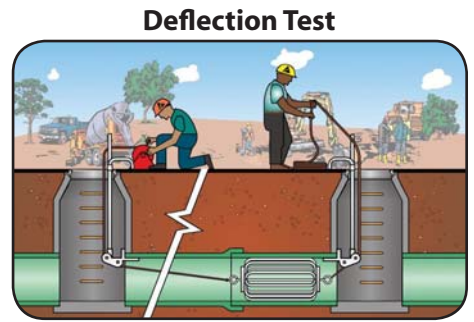
Sized to .01", both deflection gauge styles meet ASTM requirements.



Aluminum Fin Style Deflection Gauge:

- Lightweight, corrosion-resistant
- Field-verifiable without a proving ring
- Assembles without tools
- All sizes fit through standard 24" manhole
- Fins for 4"-15" gauges have skid size equal to the nominal pipe size—gauge will meet regional codes and will not tip in the line
- Nine-arm design ensures testing accuracy
- Open design allows gravel and debris pass-through

Deflection Gauge Set

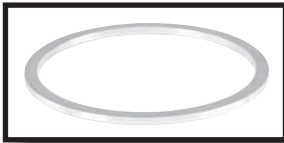


Fixed Steel Style Deflection Gauge:

- Durable, zinc-plated construction resists corrosion
- Conforms to mandrel sizing specifications—blade length is equal to or greater than the nominal pipe size
- Nine-arm design ensures testing accuracy
- Open design allows gravel and debris pass-through

Sizing Verification

For quick and easy size verification

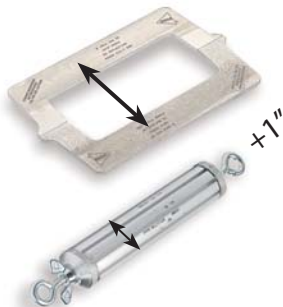


Proving Ring in Use



Proving Ring:

- Used to verify deflection gauge sizes
- Standard sizes: 6"-15" SDR 35 5% and 8"-12" SDR 35 7.5%
- Custom sizes for 5"-18" also available



Width +1" = Deflection gauge outside diameter

Field Verification:

Cherne's Fin Style Deflection Gauges are designed to be field verified by inspectors without the use of a proving ring. Simply place two fins end to end as pictured to the right and measure the width. Add one inch to the mandrel and you have the outside dimension of the gauge. Using this method simplifies the inspector's job of verifying sizes on deflection gauges.

Larger and custom sizes are available.

Part #	Nominal Size	Pipe	Deflection	Product Weight
Aluminum Fin Sets				
285688	6",8",10"	SDR 26	5%	18 lbs
285005	6",8",10"	SDR 35	5%	18 lbs
285013	6",8",10"	SDR 35	7.5%	18 lbs
285698	8",10",12"	SDR 26	5%	19 lbs
285021	8",10",12"	SDR 35	5%	19 lbs
285048	8",10",12"	SDR 35	7.5%	19 lbs

Mandrels for Aluminum Fin Sets				
285617	10" Mandrel (fits fins from 4" - 15")			4 lbs
285250	24" Mandrel (fits fins 18" - 48")			11 lbs

Part#	Nominal Size	Pipe	Deflection	Product Weight
Proving Rings				
073199	6"	SDR 35	5%	4 oz (.11 kg)
073202	8"	SDR 35	5%	4 oz (.11 kg)
073253	8"	SDR 35	7.5%	4 oz (.11 kg)
073210	10"	SDR 35	5%	6 oz (.17 kg)
073261	10"	SDR 35	7.5%	6 oz (.17 kg)
073229	12"	SDR 35	5%	6 oz (.17 kg)
073288	12"	SDR 35	7.5%	6 oz (.17 kg)
073237	15"	SDR 35	5%	7 oz (.20 kg)

Nominal Size	Pipe	Average ID	Base ID*	5% Deflection	7.5% Deflection
ASTM Specification D3034 (4" - 15")					
4"	SDR 35	3.965	3.895	3.70	3.60
6"	SDR 26	5.764	5.612	5.33	5.19
6"	SDR 35	5.893	5.742	5.46	5.31
8"	SDR 26	7.715	7.488	7.11	6.93
8"	SDR 35	7.891	7.665	7.28	7.09
10"	SDR 26	9.644	9.342	8.87	8.64
10"	SDR 35	9.864	9.563	9.08	8.84
12"	SDR 26	11.480	11.102	10.55	10.27
12"	SDR 35	11.737	11.361	10.79	10.51
15"	SDR 26	14.053	13.575	12.90	12.56
15"	SDR 35	14.374	13.898	13.20	12.86

ASTM Specification F679 (18" - 27")					
18"	SDR 26	17.177	16.586	15.76	15.34
18"	SDR 35	17.564	16.976	16.13	15.70
21"	SDR 26	20.249	19.545	18.57	18.08
21"	SDR 35	20.707	20.004	19.00	18.50
24"	SDR 26	23.296	22.480	21.36	20.80
24"	SDR 35	22.781	21.964	20.87	20.32
27"	SDR 26	25.674	24.744	23.51	22.89
27"	SDR 35	26.258	25.327	24.06	23.43
30"	SDR 26	29.306	28.763	27.32	26.61

Nominal Size	Pipe	Aluminum 5%	Aluminum 7.5%	Product Weight	Steel 5%	Steel 7.5%	Product Weight
Deflection Gauge Part Numbers							
4"	SDR 35	285056	285137	1.5 lbs	N/A	N/A	N/A
6"	SDR 26	285638	Custom	2 lbs	286008	286128	5 lbs
6"	SDR 35	285072	285153	2 lbs	286068	286188	5 lbs
8"	SDR 26	285648	Custom	2.5 lbs	286018	286138	7 lbs
8"	SDR 35	285080	285161	2.5 lbs	286078	286198	7 lbs
10"	SDR 26	285658	Custom	3 lbs	286028	286148	8 lbs
10"	SDR 35	285099	285188	3 lbs	286088	286208	8 lbs
12"	SDR 26	285668	Custom	4 lbs	286038	286158	9 lbs
12"	SDR 35	285102	285196	4 lbs	286098	286218	9 lbs
15"	SDR 26	285678	Custom	5 lbs	286048	286168	13.5 lbs
15"	SDR 35	285110	285218	5 lbs	286108	286228	13.5 lbs
18"	SDR 35	285536	285560	8 lbs	286118	286238	15 lbs
21"	SDR 35	285544	285579	10 lbs	286278	N/A	18 lbs
24"	SDR 35	285552	285587	11 lbs	N/A	N/A	N/A
27"	SDR 35	285595	285609	12 lbs	N/A	N/A	N/A

* Base Inside Diameter (Base ID) - Allows for out of roundness and wall thickness tolerances as defined by ASTM Standards.

Larger and custom sizes are available.