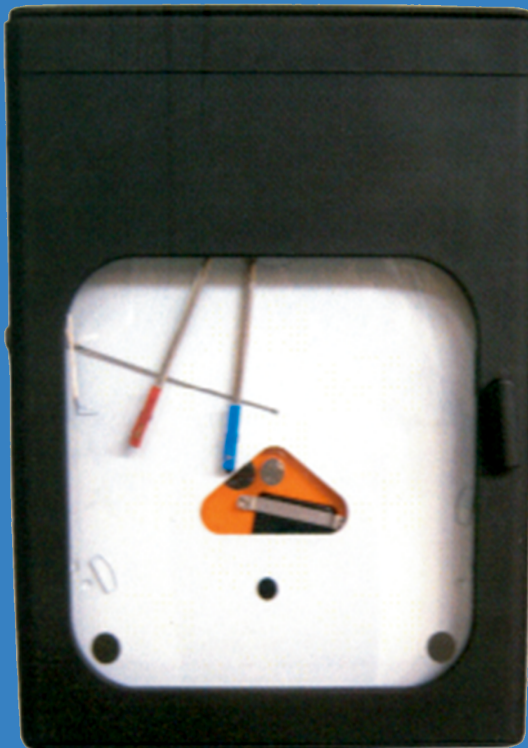
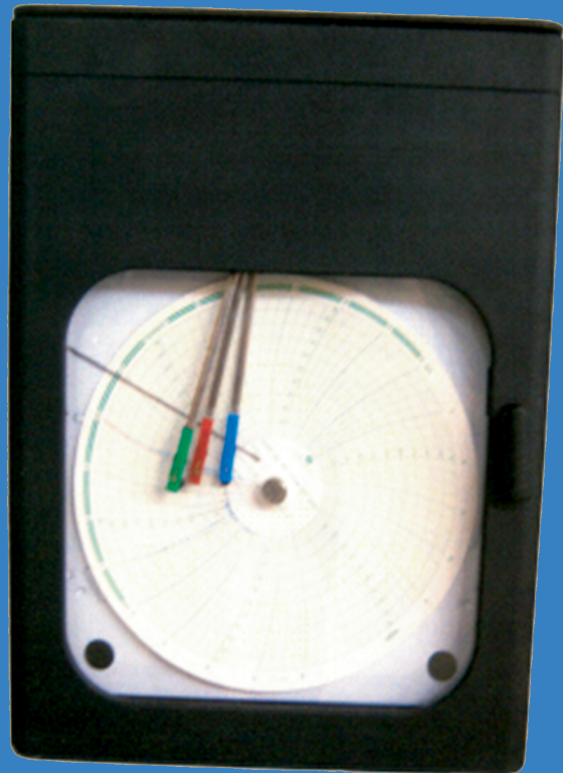


CHARTS LTD.



Providing a full slate of gas measurement and services to the energy and gas sector worldwide

DPU Series



CLPR Series



Mechanical Chart Recorder

Precision measurement of Flowing Fluid, Well-head & Pipelines Gas, Liquid or Steam

Company Introduction

Charts Ltd. is fully integrated natural gas measurement company that has been manufacturing measuring equipment & servicing the energy industry since 1979.

Charts Ltd is pleased to announce that we have commenced delivery on our line of new Charts Ltd. brand mechanical charts recorder. All recorder parts are being manufactured to our rigid specifications and are assembled to comply with your requirements in our Midland, Texas facility. Additionally, the recorder comes with an industry leading warranty.

We also carry a huge inventory of recorder parts and offer same day service on parts orders. All stocked parts are fully interchangeable with the popular brands of competitive recorders.

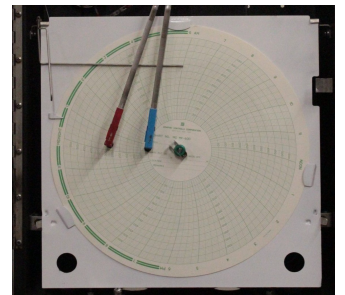
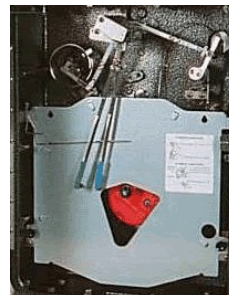
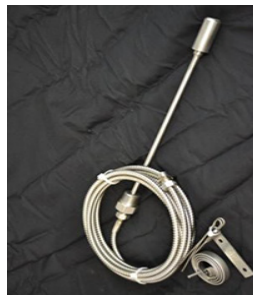
Charts, Ltd. also now carries a large inventory of single pen, dual pen and three pen charts recorders and the finest bellows units in the industry designed to your specifications.

All chart recorders come with a calibration charts and/or calibration certificate. Charts Ltd. also offers on-site repair service on Bellows and most brands of dry flow meters.

Please contract us with questions or for a price quote.

TOP 5 Reasons To Do Business with CHARTS LTD

1. Most Experienced Company in the Industry.
2. Fully Integrated Slate of Services and Products.
3. Highly Competitive Prices.
4. Over \$1m on Onsite Inventory.
5. The Best Warranty in the Industry.



Specifications:

Main Features

Static Pressure:

Stainless Steel Helical Wound Bourdon static tubes are used. Available pressure range 0 psi through 30,000 psi (depending on models). Static pressure connection ¼ FNPT.

Differential Pressure Elements:

Two Flexible metal bellows are attached to a center plate. The bellows and center plate cavity are liquid filled under vacuum. A center shaft connects the two bellows and they move together. Movement to the right is opposed by tension range springs in the low pressure (L) cavity. Differential pressure range from 0-20" W.C. through 0-400" W.C.

When the pressure in the high pressure (H) cavity exceeds the pressure in the low cavity, the bellows contracts forcing fill fluid into the bellows which expands. This fluid exchange causes the center shaft to move to the right imparting a counter clock wise movement to the D/P unit output shaft. If the pressure in the High and Low equalized the range spring returns the center shaft to its starting position and the output shaft can follow since the friction free torque tube seal is itself a spring load in a clockwise direction.

Temperature Element:

Consists of 3/4" x 3/8" or 3/4" x 11/16" Temperature sensing bulb with armored capillary. It also has Helical wound Bourdon tube per N.A.C.E. MR-0175. All components are made of stainless Steel. Temp. range 0-250F.

Chart Drive:

Mechanical Spring wound "C" Battery operated, UL and cUL listed for hazardous locations. Temperature range of the battery -40F-180F.

Housing:

Powder coated Die Cast Aluminum housing. The housing is an excellent protection against industrial turns and liquids as well as weathering and scratches.

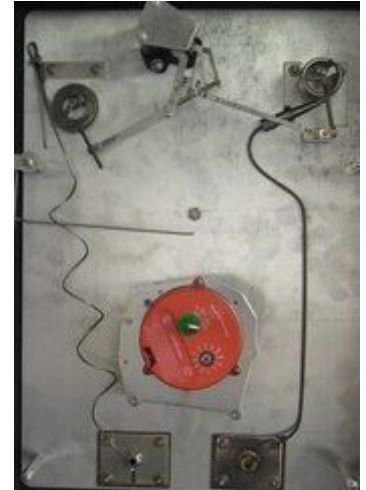
Mounting: (Optional)

- Wall Mounted
- 2" pipe mount
- 2" pedestal
- Portable

Other Details

Superior Bellows	: 316L Stainless Steel
Case	: Powder- Coated Die Cast Aluminum Housing
Chart Drive	: Mechanical Spring wound "C" battery operated, UL and cUL listed for hazardous locations. Operating Temperature Range 40F-160F. Sonceboz or Wilson Chart Drives Available
Chart Size	: Standard 12"/10" 100 Uniform linear Division
Chart Rotation	: 60 minutes, 96 minutes, 12 hours, 24 hours, and 7, 8, 16 & 31 day Selectable options
Window	: Lexan, Polypropylene, Impact Resistant
Number of Pens	: 1 to 3
Pen Style:	: Disposable Fibre Tip pen. Box type pen Available in various color

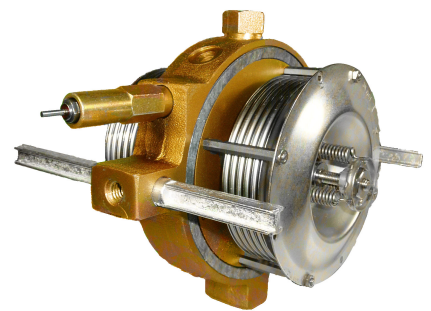
Stainless Steel Components



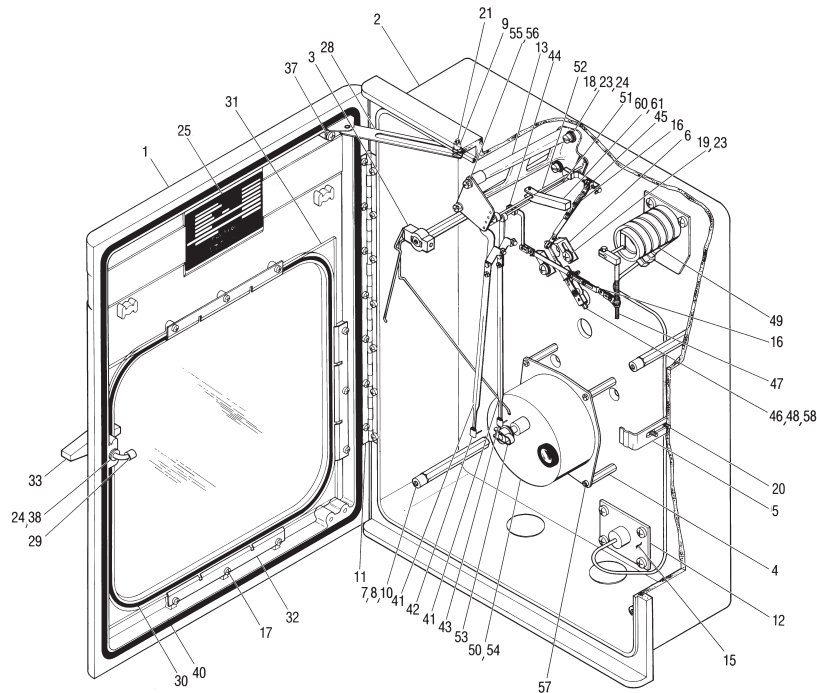
Accuracy:

Differential Pressure Unit (DPU)	: +/- 0.5% of Full Scale (URV)
Static and Temperature Elements	: +/- 0.05% of Full Scale (URV)
Interchangeable components with other brands like Barton, PMC, Cliff-mock, Peterson, Foxboro and many more.	
Element Type	: Pressure-Helical (Bourdon), Stainless Steel, Temperature-Helical, Class V Mercury Filled
Calibration	: 5 point Calibration- Calibration Chart Provided
Pressure Range	: 0 through 30,000 PSI (For CLPR Series)
Temperature	: 0-250 Deg. F (CLPR & DPU Series)
Differential Pressure:	0-20"W.C., 0-50"W.C., 0-100"W.C. ,
Unit (DPU) Ranges	: 0-200"W.C., 0-400'W.C. ,(For DPU Series)
MAOP For the DPU	: Up to 2500 PSI (For DPU Series)

Superior Bellows

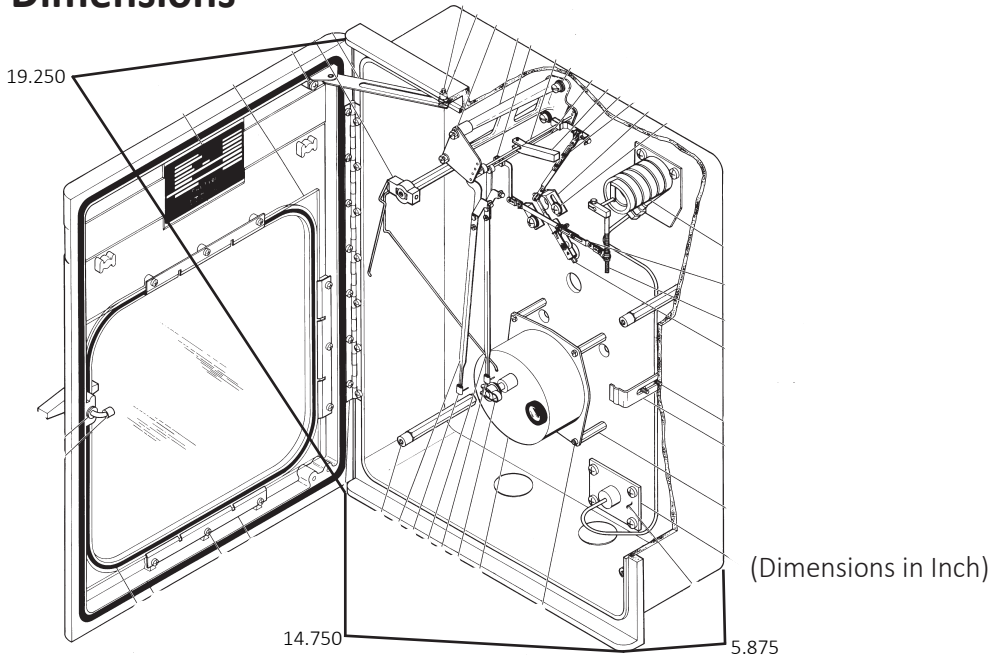


Note: The above specification is based on our DPU Series (Static Pressure, Differential Pressure & Temperature Unit) and CLPR Series (Static pressure & Temperature Unit)

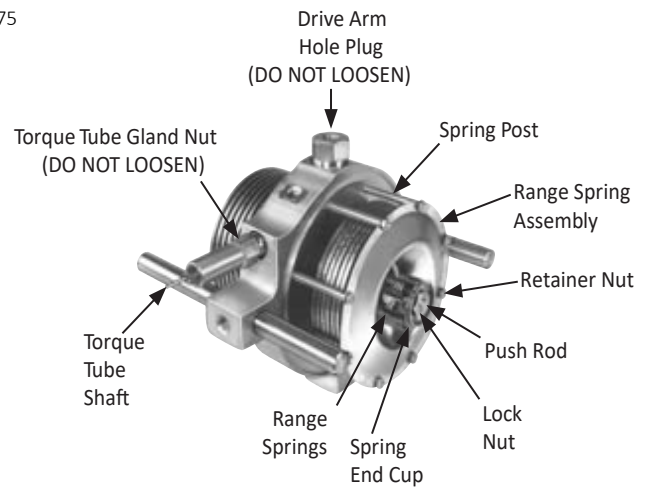
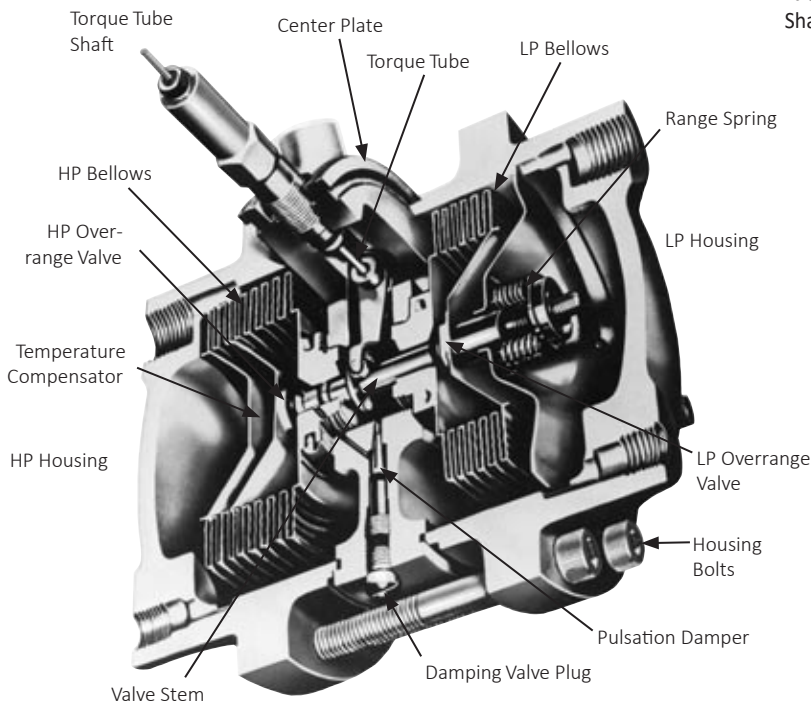


- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Door Assembly, Flow Recorder 2. Case, Flow Recorder 3. Assembly pen Liter 4. Riser Charts Drive 5. Door Latch 6. Over range Stop 7. Riser Charts Plate 8. Door Latch 9. Over range Stop 10. Riser Charts Plate 11. Screw Fil.Hd.(Chart Plate) 12. Bushing. Door Stop 13. Screw. Cap 1/4-20 x 5/8(Riser) 14. Hinge Door 15. Gasket. Cover Plate Connection 16. Pen Mount Assembly, Dual 17. Pen Mount Assembly, Single (not shown) 18. Static Pressure Connection Assembly 19. Link Assembly 20. Screw Rd Hd self- Tapping 10-24x1/4 21. Screw 10-24x5/8 SST 22. Screw Rd Hd (Plug) 10-32x1/4 (not shown) 23. Washer No.10 Flat 24. Washer No 10 Si akeproof 25. Plate Data Flow Recorder 26. Screw Sell-tap, 14-20 (Not shown) 27. Chart Plate (Not shown) 28. Door stop Assembly 29. Door latch Hook Assembly 30. Gasket Cover Glass 31. Glass cover 32. Clip Cover Glass 33. Assembly handle Door Latch 34. Bushing Door handle Door Latch 35. Not used 36. Not used | <ol style="list-style-type: none"> 37. Screw, self- Tapping 38. Flat Water 39. Pin (Not shown) 40. Gasket, Door 41. Arm, Fountain Pen (1st or 2nd from Chart) 42. Pen, Fountain (Static) (1st form chart) 43. Pen, Fountain (Differential) (2nd from chart) 44. Static Shaft Arm Assembly 45. Range Arm Assembly 46. Block, Clamp 47. Lever Arm Assembly 48. Drive Arm Assembly 49. Element, Static pressure 50. Drive chart 51. Shaft, pen Arm (1st from chart) 52. Shaft, pen Arm (2nd from chart) 53. Hub, Chart 54. Turret, Macnick Chart Drive (Not shown) Rotation:
2-Hour
3-Hour
4-Hour
6-Hour
8-Hour
12-Hour
24-Hour
72-Hour
7-Day
8-Day 55. Screw, SI, Hey Hd 8-32x1/4 (Pen Mount, Top Plate) 56. Washer, Lock #8 (Pen Mount, Top Plate) 57. Screw, SI, Fil. Hd. 6-40x1/4 58. Screw, Set, 2-56x5/32 (Drive Arm) 59. Differential Pressure Unit (Not Shown) 60. Counterweight 61. Screw, Counter |
|--|---|

Dimensions



Bellows construction

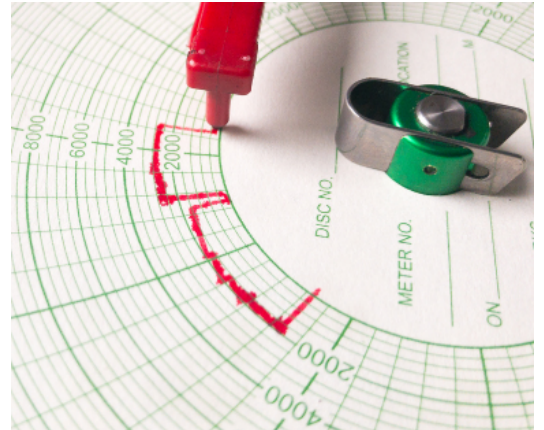


BELLOWS UNIT ASSEMBLY

Recorder Pens and Circular Chart Paper

We also provide a complete line of disposable fiber tip pens, pen arms, links and paper charts. All are designed to work with all of the major domestic and foreign circular and strip chart recorder brands.

Whatever you are measuring- temperature, pressure, liquid level, flow, voltage, or seismic activity- we will measure up to your expectations.



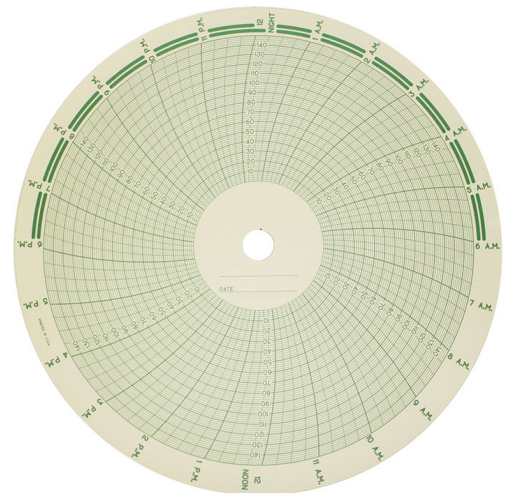
Charts, Ltd. Services

- Chart Integration and Auditing
- Gas Analysis/ Gas Sampling
- EGM Sales and Service
- Meter Repair/ Bellows Repair
- Meter Inspection/ Calibration
- Professional Witnessing

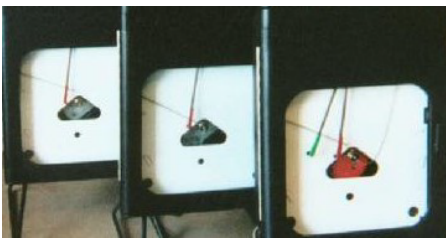


Charts, Ltd. Products

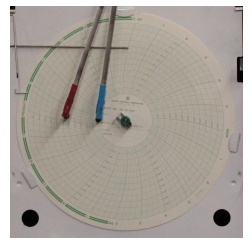
- Gas Measurement Meters
- Gas Measurement Bellows
- Gas Meter Runs
- Orifice Plates
- Gas Meter Parts Charts
- Mechanical Charts Recorders
- Recorder Pens
- Circular Charts
- Field Calculators
- Software



Availability



Calibrated



CHARTS Ltd. 

CHARTS LTD.
2031 TRADE DR
MIDLAND, TX 79702
(432) 697-7801 Tel (432) 520-3564 Fax
www.Charts-Ltd.com

Charts Ltd [®]Texas [®] USA