

HEAVY DUTY INDUSTRIAL

HEAVY DUTY INDUSTRIAL INSTRUMENTS

Rugged products for demanding O.E.M. applications

DESCRIPTION:

Full line of heavy-duty gauges, tachometers & speedometers ideally suited for rugged O.E.M. off-highway, industrial & specialty vehicle applications • Rugged design assures desired performance in high shock & vibration environments • Superior Magna-Torque™ air-core movement minimizes hysteresis, improves pointer response & assures better accuracy • High-impact moisture-resistant polyester case & sealed bobbin assembly • Dual scale graphics • Immune to over-voltage or incorrect installation • Optional Smart Instrument® versions

SPECIFICATIONS:

Sizes:	2" diameter (nominal) gauges/tachometers, panel cut-out 2.098" +/- .02"; 3-3/8" diameter (nominal) tachometers/speedometers, panel cut-out 3.400" +/- .02"
Dials:	Metal, black
Graphics/symbols:	White-on-black English-metric (dual scale) with SAE symbols
Pointer:	Standard white; RTZ feature on select products
Bezel:	Black, anodized; SAE "step", "deep draw" or stainless steel, polished "step"
Lens:	Glass
Case:	High-impact moisture-resistant polyester (PBT)
Bobbin assembly:	Fully sealed, internally dampened
Movement:	High-torque Magna-Torque™ air-core movement: 90° sweep for gauges & 270° sweep for tachometers & speedometers
Lighting:	Perimeter lighting (flood-lit)/Optional incandescent 12- or 24-volt 5/8" or wedge-base light kits
Supply/operating voltage:	12 VDC or 24 VDC/10-16 VDC (12-volt) or 20-32 VDC (24-volt)
Ohms/resistance:	Datcon electrical "match" (240-33.5Ω, typical)
Electrical connections:	#6-32 studs, male
Hardware:	"Kit" includes mounting bracket, lock washers & zinc-plated nuts
Sealing:	Front sealed, gasketed
General performance:	Gauges per SAE J1810; meters per SAE J1399 & J1226
Accuracy:	Per SAE J1810: +/-1.5 angular degrees at primary calibration point & +/-3 angular degrees at secondary calibration point based on nominal input
Operating temperature:	-40°C to +85°C
Shock & vibration:	Per SAE J1810

APPLICATIONS:

Suitability of application is the responsibility of the user. Gauges and meters should be matched with appropriate Datcon brand senders and sensors to assure systems compatibility.



AIR PRESSURE

P/N	Model	Scale	Ø mm	Ω Ohms	 Volts	 Bezel
101213	889	0-150 psi	52	240-33.5	12	Black
101214	889	0-150 psi	52	240-33.5	12	Polished

AIR PRESSURE (MECHANICAL)

P/N	Model	Scale	Ø mm	 Bezel
100190	389	0-150 psi	52	Black
100191	389	0-150 psi	52	Polished

AIR PRESSURE-DUAL (MECHANICAL)

P/N	Model	Scale	Ø mm	 Bezel
100250	N/A	0-150 psi	52	Black
100251	N/A	0-150 psi	52	Polished

AMMETERS

P/N	Model	Scale	Ø mm	 Bezel	Shunt (P/N)
102480	861	10-0-10 A	52	Black	N/A
102481	861	10-0-10 A	52	Polished	N/A
101077	862	20-0-20 A	52	Black	N/A
101078	862	20-0-20 A	52	Polished	N/A
100158	863	30-0-30 A	52	Black	N/A
100159	863	30-0-30 A	52	Polished	N/A
101079	864	40-0-40 A	52	Black	N/A
101080	864	40-0-40 A	52	Polished	N/A
100160	866	60-0-60 A	52	Black	N/A
100161	866	60-0-60 A	52	Polished	N/A
101995	86X	80-0-80A	52	Black	N/A
100162	860	100-0-100 A	52	Black	07598-00
100163	860	100-0-100 A	52	Polished	07598-00
100164	867	150-0-150 A	52	Black	07599-00
100165	867	150-0-150 A	52	Polished	07599-00
106373	869	300-0-300 A	52	Black	07618-00

Note: Shunts are external to ammeters.

CYLINDER HEAD TEMPERATURE

P/N	Model	Scale	Ø mm	Match	 Volts	 Bezel
101071	820	50-250°F	52	DALC	12	Black
101072	820	50-250°F	52	DALC	12	Polished

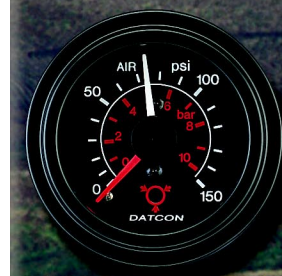
Note: "Match" relates to type of Datcon brand temperature sender. See section on Senders/ Sensors for references to either "DATCON LOW" (match) or "DATCON HIGH" (match) senders.



101213



100190



100250



100158





100176



100170



106674



100824

FUEL

P/N	Model	Scale	Ø mm	Ω Ohms	Volts	Bezel
100176	810	E-1/2-F	52	240-33.5	12	Black
100177	810	E-1/2-F	52	240-33.5	12	Polished
100677	810	E-1/2-F	52	0-90	12	Black
100678	810	E-1/2-F	52	0-90	12	Polished
100726	810	E-1/2-F	52	10-180	12	Black
101584	810	E-1/2-F	52	240-33.5	24	Black
101585	810	E-1/2-F	52	240-33.5	24	Polished
102478	810	E-1/2-F	52	78-10	12	Black
102479	810	E-1/2-F	52	78-10	12	Polished

APPLICATIONS TIPS: For 240-33.5 ohm fuel gauges, use either regular duty universal (6-24" adjustable) fuel sender P/N 102535 or heavy-duty sender P/N 104734 for 1 & 3 position configuration, P/N 100438 or 104735 for 2 & 4 position configuration; for 10-180 ohms, use either P/N 100967 or 104738 (1 & 3 position), or 100083 or 104739 (2 & 4 position); for 0-90 ohms, use either P/N 100436 or 104742 (2 & 4 position only); for 78-10 ohms, use either P/N 100437 or 104743 (2 & 4 position only). All senders provide common ground. Senders include gasket and hardware.

FUEL PRESSURE (MECHANICAL)

P/N	Model	Scale	Ø mm	Bezel
100168	352	0-15 psi	52	Black
100169	352	0-15 psi	52	Polished
100170	350	0-30 psi	52	Black
100171	350	0-30 psi	52	Polished
101190	381	0-80 psi	52	Black
101191	381	0-80 psi	52	Polished

HYDRAULIC OIL TEMPERATURE

P/N	Model	Scale	Ø mm	Match	Volts	Bezel
106674	825	100-240°F	52	DAL	12	Black

MANIFOLD PRESSURE (MECHANICAL)

P/N	Model	Scale	Ø mm	Bezel
100824	350	0-30 psi	52	Black
100826	350	0-30 psi	52	Polished

OIL PRESSURE

P/N	Model	Scale	Ø mm	Ω Ohms	Volts	Bezel
103340	884	0-60 psi	52	240-33.5	12	Polished
100172	881	0-80 psi	52	240-33.5	12	Black
100173	881	0-80 psi	52	240-33.5	12	Polished
101574	881	0-80 psi	52	240-33.5	24	Black

OIL PRESSURE (CONT'D)

P/N	Model	Scale	Ø mm	Ω Ohms	Volts	Bezel
101575	881	0-80 psi	52	240-33.5	24	Polished
103098	881	0-80 psi	52	0-90	12	Black
103099	881	0-80 psi	52	0-90	12	Polished
100174	882	0-100 psi	52	240-33.5	12	Black
100175	882	0-100 psi	52	240-33.5	12	Polished
101576	882	0-100 psi	52	240-33.5	24	Black
101577	882	0-100 psi	52	240-33.5	24	Polished
107490	882	0-100 psi	52	240-33.5	12	Black
101083	883	0-125 psi	52	240-33.5	12	Black
101084	883	0-125 psi	52	240-33.5	12	Polished
101087	889	0-150 psi	52	240-33.5	12	Black
101088	889	0-150 psi	52	240-33.5	12	Polished
100679	887	0-300 psi	52	0-90	12	Black
100680	887	0-300 psi	52	0-90	12	Polished
100728	802	0-5 bar	52	10-180	12	Black
100729	802	0-5 bar	52	10-180	12	Polished
100730	805	0-10 bar	52	10-180	12	Black
100731	805	0-10 bar	52	10-180	12	Polished
100732	806	0-25 bar	52	10-180	12	Black
100733	806	0-25 bar	52	10-180	12	Polished

OIL PRESSURE (MECHANICAL)

P/N	Model	Scale	Ø mm	Bezel
102252	384	0-60 psi	52	Polished
100186	381	0-80 psi	52	Black
100187	381	0-80 psi	52	Polished
100188	382	0-100 psi	52	Black
100189	382	0-100 psi	52	Polished
107009	389	0-150 psi	52	Black

OIL TEMPERATURE

P/N	Model	Scale	Ø mm	Match	Volts	Bezel
100681	825	100-240°F	52	DAL	12	Black
100682	825	100-240°F	52	DAL	12	Polished
100180	826	100-280°F	52	DAH	12	Black
100181	826	100-280°F	52	DAH	12	Polished
101578	826	100-280°F	52	DAH	24	Black
101579	826	100-280°F	52	DAH	24	Polished
100178	828	140-320°F	52	DAH	12	Black
100179	828	140-320°F	52	DAH	12	Polished
101580	828	140-320°F	52	DAH	24	Black
101581	828	140-320°F	52	DAH	24	Polished
100736	817	150-300°F	52	VD3	12	Black





100210

100252

103643

OIL TEMPERATURE (MECHANICAL)

P/N	Model	Scale	Ø mm	Bezel	Tubing
100210	326	100-280°F	52	Black	72"
100211	326	100-280°F	52	Polished	72"
100212	326	100-280°F	52	Black	96"
100213	326	100-280°F	52	Polished	96"
100215	326	100-280°F	52	Polished	120"
100217	326	100-280°F	52	Polished	144"
105769	326	100-280°F	52	Black	216"
106839	326	100-280°F	52	Polished	216"
105764	328	140-320°F	52	Black	72"
105767	328	140-320°F	52	Black	144"
105768	328	140-320°F	52	Black	216"
108101	328	140-320°F	52	Polished	60"
108103	328	140-320°F	52	Polished	96"
108105	328	140-320°F	52	Polished	144"
108106	328	140-320°F	52	Polished	216"

PYROMETERS

P/N	Model	Scale	Ø mm	Bezel	Lead Wire
100252	N/A	300-1300°F (Single Scale)	52	Black	84"-100510 168"-100511
100253	N/A	300-1300°F (Single Scale)	52	Polished	84"-100510 168"-100511
102241	N/A	300-1300°F 150-700°C	52	Black	84"-100510 168"-100511
102243	N/A	300-1300°F 150-700°C	52	Polished	84"-100510 168"-100511

Note: Datcon brand pyrometers use thermocouple P/N 100348. See section on Specialty Products & Accessories for additional pyrometer accessories.

SPEEDOMETERS WITH ODOMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
103643	30L08MI (E)	0-80 MPH (30000ppm)	12V	Black	Tach Generator/ Magnetic Sensor
103714	30L08MI (E)	0-80 MPH (30000ppm)	12V	Polished	Tach Generator/ Magnetic Sensor
103646	30L08MI (E)	0-80MPH (30000ppm)	24V	Black	Tach Generator/ Magnetic Sensor
103644	30LP108MI (P-Low)	0-80 MPH (15360-30600ppm)	12V	Black	Tach Generator/ Magnetic Sensor
100246	30LP108MI (P-Low)	0-80MPH (15360-30600ppm)	12V	Black (DD)	Tach Generator/ Magnetic Sensor
100247	30LP108MI (P-Low)	0-80MPH (15360-30600ppm)	12V	Polished (DD)	Tach Generator/ Magnetic Sensor
103647	30LP108MI (P-Low)	0-80MPH (15360-30600ppm)	24V	Black	Tach Generator/ Magnetic Sensor



SPEEDOMETERS WITH ODOMETERS (CONT'D)

P/N	Model	Scale	 Volts	 Bezel	Signal Source
103721	30LP1113KM (P-Low)	0-130KM/H (15360-30600ppk)	12V	Polished	Tach Generator/ Magnetic Sensor
103654	30LP1113KM (P-Low)	0-130KM/H (15360-30600ppk)	24V	Black	Tach Generator/ Magnetic Sensor
103645	30LP208MI (P-High)	0-80MPH (30720-61320ppm)	12V	Black	Tach Generator/ Magnetic Sensor
100248	30LP208MI (P-High)	0-80-MPH (30720-61320ppk)	12V	Black (DD)	Tach Generator/ Magnetic Sensor
103716	30LP208MI (P-High)	0-80MPH (30720-61320ppm)	12V	Polished	Tach Generator/ Magnetic Sensor
100249	30LP208MI (P-High)	0-80MPH (30720-61320ppm)	12V	Polished (DD)	Tach Generator/ Magnetic Sensor
103648	30LP208MI (P-High)	0-80MPH (30720-61320ppm)	24V	Black	Tach Generator/ Magnetic Sensor

Note: See section on Senders/Sensors for appropriate speed sensors and section on Specialty Products & Accessories for pulse generators and drive tangs.

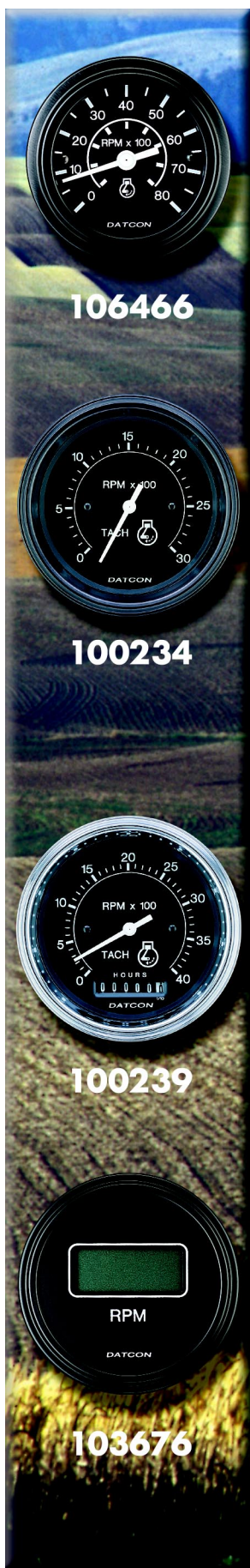
Note: "DD" under "Bezel" indicates "deep draw" style bezel.

Note: "E" refers to electronic speedometer; "P-Low" refers to programmable speedometer low; "P-High" refers to programmable speedometer high.

2" TACHOMETERS

ITEM	Model	Scale	Application	 Volts	 Bezel	Signal Source
106471	12G30	0-3000 RPM	0.5:1	12	Black	Tach Gen 16-pole
106472	12G30	0-3000 RPM	1.0:1	12	Black	Tach Gen 16-pole
106473	12G30	0-3000 RPM	2.0:1	12	Black	Tach Gen 16-pole
106474	12G30	0-3000 RPM	811-1900 Hz	12	Black	Alternator
106912	12M30	0-3000 RPM	120-180 teeth	12	Black	Magnetic Sensor
106460	12B40	0-4000 RPM	4-cylinder	12	Black	Battery Ignition
106461	12B40	0-4000 RPM	6-cylinder	12	Black	Battery Ignition
106462	12B40	0-4000 RPM	8-cylinder	12	Black	Battery Ignition
106475	12G40	0-4000 RPM	1.0:1	12	Black	Tach Gen 16-pole
106476	12G40	0-4000 RPM	2.0:1	12	Black	Tach Gen 16-pole
106477	12B40	0-4000 RPM	4-cylinder	12	Polished	Battery Ignition
106478	12B40	0-4000 RPM	6-cylinder	12	Black	Battery Ignition
106479	12B40	0-4000 RPM	8-cylinder	12	Polished	Battery Ignition
106492	12G40	0-4000 RPM	1.0:1	12	Polished	Tach Gen 16-pole
106493	12G40	0-4000 RPM	2.0:1	12	Polished	Tach Gen 16-pole
106913	12M40	0-4000 RPM	90-135 teeth	12	Black	Magnetic Sensor
106915	12M40	0-4000 RPM	90-135 teeth	12	Polished	Magnetic Sensor
106463	12B60	0-6000 RPM	6-cylinder	12	Black	Battery Ignition
106464	12B60	0-6000 RPM	6-cylinder	12	Black	Battery Ignition
106465	12B60	0-6000 RPM	8-cylinder	12	Black	Battery Ignition
106480	12B60	0-6000 RPM	4-cylinder	12	Polished	Battery Ignition
106481	12B60	0-6000 RPM	6-cylinder	12	Polished	Battery Ignition
106482	12B60	0-6000 RPM	8-cylinder	12	Polished	Battery Ignition
106486	12G60	0-6000 RPM	12-pole	12	Polished	Direct Drive Alt.





106466

100234

100239

103676

2" TACHOMETERS (CONT'D)

ITEM	Model	Scale	Application	Volts	Bezel	Signal Source
106466	12B80	0-8000 RPM	4-cylinder	12	Black	Battery Ignition
106468	12B80	0-8000 RPM	8-cylinder	12	Black	Battery Ignition

Note: See section on Senders/Sensors for appropriate speed sensors and section for Specialty Products & Accessories for pulse generators and drive tangs.

3-3/8" TACHOMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
100234	27C30	0-3000 RPM	12/24	Black (DD)	Tach Generator 16-pole
100694	27S30	0-3000 RPM	12/24	Black (DD)	Tach Generator 60-pole
100818	27A30	0-3000 RPM	12/24	Black (DD)	Alternator
100820	27M30	0-3000 RPM	12/24	Black (DD)	Magnetic Sensor
102221	27D30	0-3000 RPM	12/24	Black (DD)	Magnetic Sensor
100230	27A40	0-4000 RPM	12/24	Black (DD)	Alternator
100231	27A40	0-4000 RPM	12/24	Polished (DD)	Alternator
100232	27M40	0-4000 RPM	12/24	Black (DD)	Magnetic Sensor
100237	27B40	0-4000 RPM	12/24	Polished (DD)	Battery Ignition
100226	27B60	0-6000 RPM	12/24	Black (DD)	Battery Ignition
100228	27B80	0-8000 RPM	12/24	Black (DD)	Battery Ignition
100229	27B80	0-8000 RPM	12/24	Polished (DD)	Battery Ignition

Note: "DD" under "Bezel" indicates "deep draw" style bezel.

3-3/8" TACHOMETERS WITH HOURMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
100696	24S30	0-3000 RPM	12/24	Black (DD)	Tach Generator 60-pole
102471	24A30	0-3000 RPM	12/24	Black (DD)	Alternator
102473	24M30	0-3000 RPM	12/24	Black (DD)	Magnetic Sensor
100238	24A40	0-4000 RPM	12/24	Black (DD)	Alternator
100239	24A40	0-4000 RPM	12/24	Polished (DD)	Alternator
100240	24M40	0-4000 RPM	12/24	Black (DD)	Magnetic Sensor
100242	24C40	0-4000 RPM	12/24	Black (DD)	Tach Generator 16-pole

Note: "DD" under "Bezel" indicates "deep draw" style bezel.

3-3/8" TACHOMETERS-LCD DIGITAL

P/N	Model	Volts	Bezel	Signal Source
103676	26	Self-powered/12	Black	Mag Sensor or Pulse Gen.
103747	26	Self-powered/12	Polished	Mag Sensor or Pulse Gen.
104928	26	Self-powered/24	Polished	Mag Sensor or Pulse Gen.

Note: "Self-powered" means that units are energized by either a magnetic sensor or signal generator. These units are recommended for stationary applications.

Note: Consult with factory representatives or your distributor concerning options for programmable speedometer and tachometers with LCD odometers and hourmeters.

TRANSMISSION OIL PRESSURE

P/N	Model	Scale	Ø mm	Match	 Volts	 Bezel
105296	888	0-400 psi	52	0-90	12	Black
105760	888	0-400 psi	52	0-90	12	Polished
108838	888	0-400 psi	52	240-33.5	12	Polished

TRANSMISSION OIL PRESSURE (MECHANICAL)

P/N	Model	Scale	Ø mm	 Bezel
100196	387	0-300 psi	52	Black
100197	387	0-300 psi	52	Polished
100198	388	0-400 psi	52	Black
100199	388	0-400 psi	52	Polished

TRANSMISSION OIL TEMPERATURE

P/N	Model	Scale	Ø mm	Match	 Volts	 Bezel
100685	826	100-280°F	52	DAH	12	Black
100686	826	100-280°F	52	DAH	12	Polished

TRIM

P/N	Model	Match	 Volts	 Bezel
100742	840	MERC	12	Black
100745	890	OMC	12	Polished

TURBO BOOST (MECHANICAL)

P/N	Model	Scale	Ø mm	 Bezel
101490	350	0-30 psi	52	Black
101491	350	0-30 psi	52	Polished

TURBO PRESSURE (MECHANICAL)

P/N	Model	Scale	Ø mm	 Bezel
100192	351	30-0 in Hg/0-15 psi	52	Black
100193	351	30-0 in Hg/0-15 psi	52	Polished
101085	354	30-0 in Hg/0-30 psi	52	Black
101086	354	30-0 in Hg/0-30 psi	52	Polished



105296



100196



100685

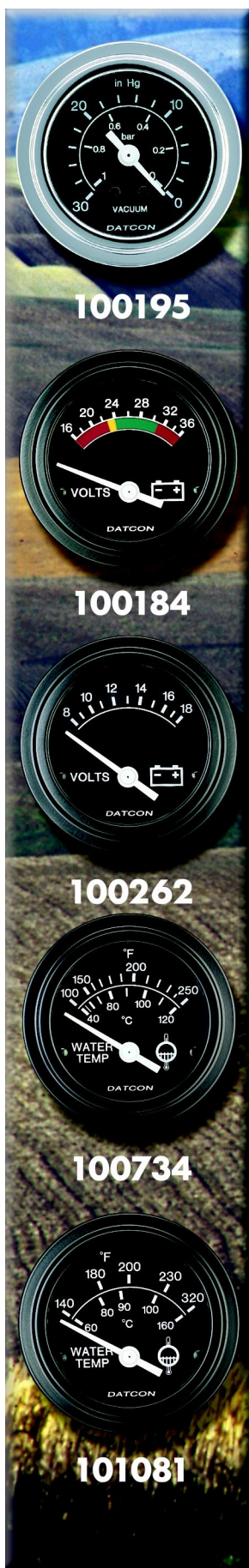


101491



100192





100195

100184

100262

100734

101081

VACUUM (MECHANICAL)

P/N	Model	Scale	Ø mm	Bezel
100194	353	30-0 in Hg	52	Black
100195	353	30-0 in Hg	52	Polished

VOLTMETERS

P/N	Model	Scale	Colored Dial	Ø mm	Volts	Bezel
100166	830	8-18 V	Yes	52	12	Black
100167	830	8-18 V	Yes	52	12	Polished
100262	830	8-18 V	No	52	12	Black
100263	830	8-18 V	No	52	12	Polished
100184	831	16-36 V	Yes	52	24	Black
100185	831	16-36 V	Yes	52	24	Polished
100264	831	16-36 V	No	52	24	Black
100265	831	16-36 V	No	52	24	Polished

WATER TEMPERATURE

P/N	Model	Scale	Ø mm	Match	Volts	Bezel
100683	825	100-240°F	52	DAL	12	Black
100684	825	100-240°F	52	DAL	12	Polished
101586	825	100-240°F	52	DAL	24	Black
101587	825	100-240°F	52	DAL	24	Polished
100734	815	100-250°F	52	VD3	12	Black
100735	815	100-250°F	52	VD3	12	Polished
100182	826	100-280°F	52	DAH	12	Black
100183	826	100-280°F	52	DAH	12	Polished
101582	826	100-280°F	52	DAH	24	Black
101583	826	100-280°F	52	DAH	24	Polished
101081	828	140-320°F	52	DAH	12	Black
101082	828	140-320°F	52	DAH	12	Polished

WATER TEMPERATURE (MECHANICAL)

P/N	Model	Scale	Ø mm	Bezel	Tubing
100256	326	100-280°F	52	Black	36"
100257	326	100-280°F	52	Polished	36"
100258	326	100-280°F	52	Black	48"
100259	326	100-280°F	52	Polished	48"
100260	326	100-280°F	52	Black	60"
100261	326	100-280°F	52	Polished	60"
100200	326	100-280°F	52	Black	72"
100201	326	100-280°F	52	Polished	72"
100202	326	100-280°F	52	Black	96"
100203	326	100-280°F	52	Polished	96"
100204	326	100-280°F	52	Black	120"
100205	326	100-280°F	52	Polished	120"
100206	326	100-280°F	52	Black	144"



WATER TEMPERATURE (MECHANICAL)(CONT'D)

P/N	Model	Scale	Ø mm	Bezel	Tubing
100207	326	100-280°F	52	Polished	144"
100208	326	100-280°F	52	Black	216"
100209	326	100-280°F	52	Polished	216"

Note: See section on Heavy Duty Hourmeters to match appropriate hourmeter with Heavy Duty Industrial style instruments.

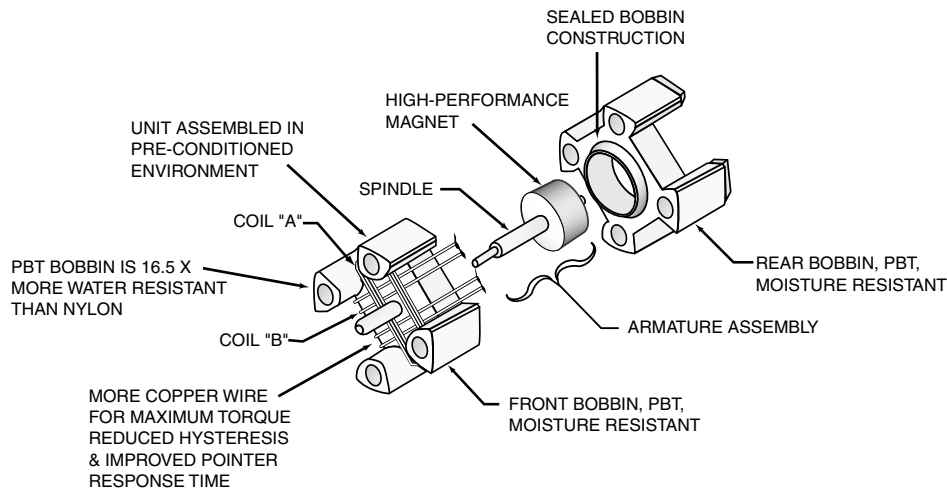
Note: Datcon brand tachometers and speedometers are interchangeable with either Heavy Duty Automotive or Heavy Duty Industrial gauges.

Note: Consult with factory representatives or your distributor for other products not listed.

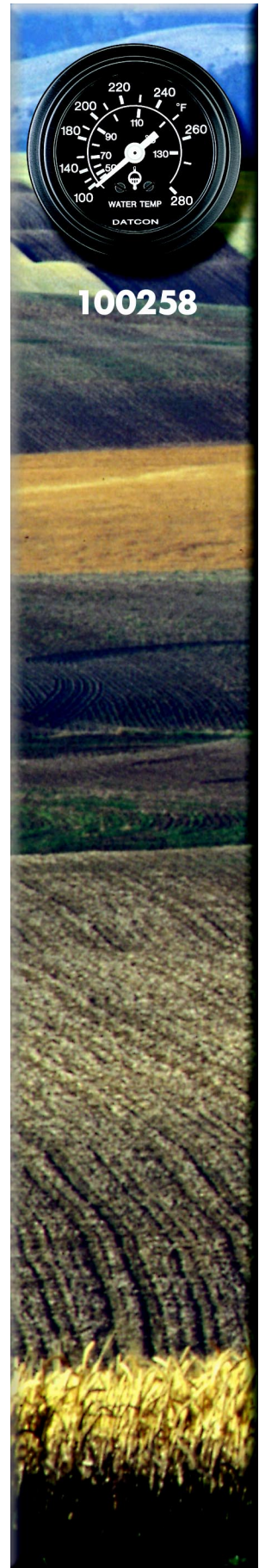
Note: See section on Smart Instruments® for gauges with warning light options.

What makes a Heavy Duty Industrial gauge *heavy duty*?

Superior air-core bobbin assembly - the "heart" of the gauge.

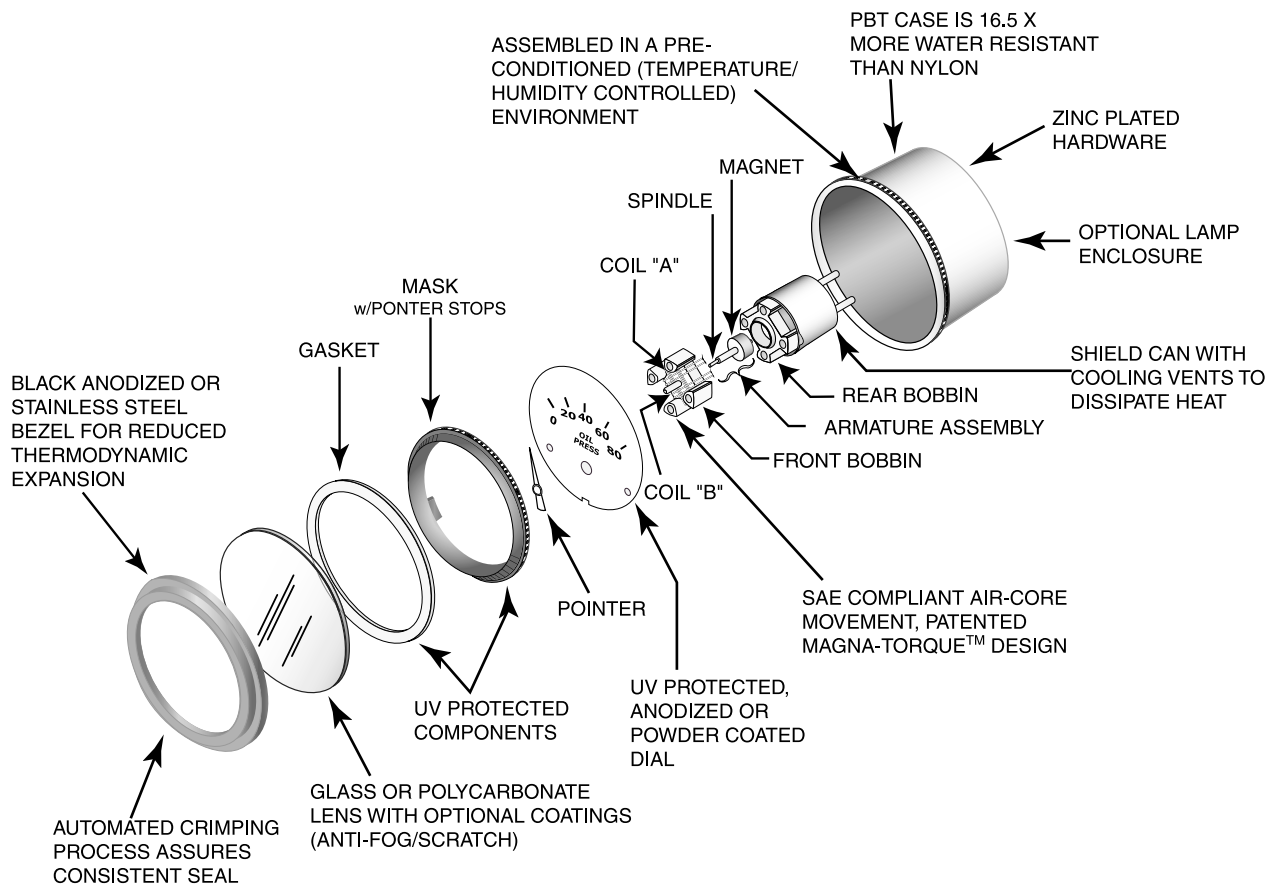


At the heart of every Heavy Duty Industrial gauge and meter (and other Datcon product lines as well) is the patented Magna-Torque™ air-core movement. Packaged in a PBT (polyester) bobbin assembly that is 16.5 times more water resistant than nylon (a typical material used due to its low cost), the system features sealed bobbin construction, thereby preventing dampening fluid from leaking out (a problem that is fairly common to marginally constructed gauges). Dampening fluid is injected into the assembly using an automated process to ensure that the correct amount is distributed, thus optimizing the system's intended relationship between desired pointer response time and negligible pointer "flutter" as would be caused from heavy shock or vibration. The design (in a Datcon match of 240-33.5 ohms) also accommodates more "turns" of copper wire around the coils, thus maximizing the system's torque output (compared to other systems). As a result, *hysteresis is minimized* (i.e. erratic pointer behavior or a floating pointer) while desired *pointer response time is maintained* (relative to real-time sender inputs). A high-performance magnet augments the system's aim of obtaining maximum torque and response time. Of particular note, the unit is assembled in a pre-conditioned environment—temperature and humidity-controlled—to ensure that no moisture is artificially induced into the assembly.



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Superior systems integration and design.



Rear view of speedometer.

