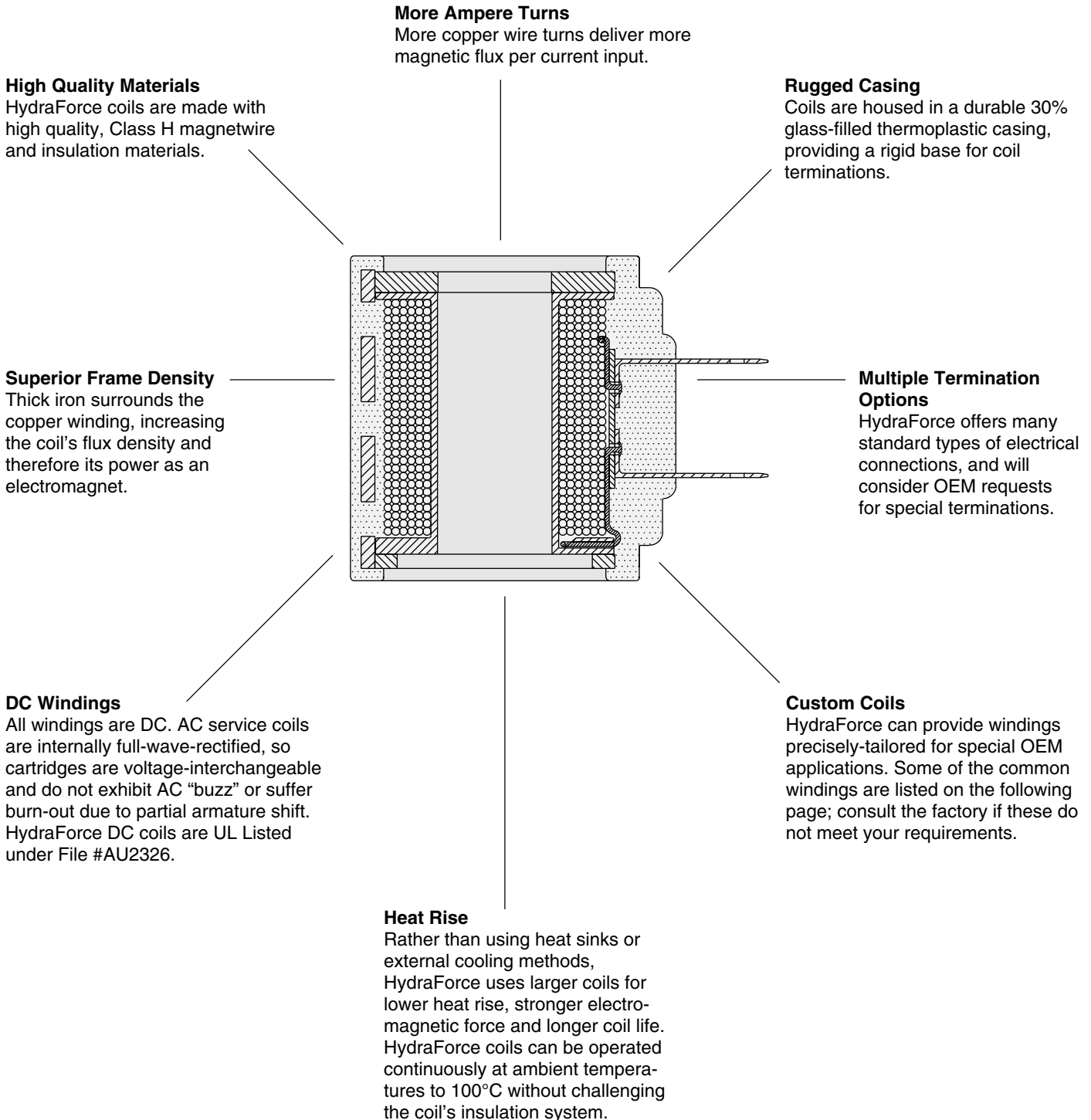


COILS AND ELECTRONIC CONTROLS

Standard Coils and Proportional Valve Coils

WHY HYDRAFORCE STANDARD COILS OUTPERFORM COMPETITIVE UNITS



Note: Some coils may differ in construction from this illustration.

Standard Coils and Proportional Valve Coils

COMMON WINDING SPECIFICATIONS

08, 80 Size Coil Data (14.7 Watts)		
Volts	Resistance (DC) @ 20°C Ohms	Initial Current Draw Amps
DC Service		
6*	2.46	2.44
10	6.8	1.47
12	9.8	1.22
20*	27.2	0.74
24	39.3	0.61
30*	61.4	0.49
36	88.3	0.41
48	156.6	0.31
72*	352.4	0.20
AC Service		
24	31.2	0.61
115	765.5	0.13
230	3035.0	0.06

*Special Order Coils

10, 38, 58, 12, 52, 16, 56 Size Coil Data (20 Watts)		
Volts	Resistance (DC) @ 20°C Ohms	Initial Current Draw Amps
DC Service		
6*	1.8	3.33
10	4.8	2.08
12	7.2	1.67
20*	19.0	1.05
24	28.8	0.83
30*	43.2	0.69
36	64.8	0.56
48	110.2	0.44
72*	249.8	0.29
AC Service		
24	23.6	0.83
115	568.0	0.17
230	2304.0	0.09

*Special Order Coils

70 Size Coil Data Proportional Coil Data		
Volts	Resistance (DC) @ 20°C Ohms	Nominal I-Max. Current Draw Amps
12	5.0	1.50
24	20.0	0.75

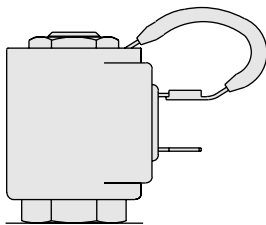
EHPR Coil Data Proportional Coil Data		
Volts	Resistance (DC) @ 20°C Ohms	Nominal I-Max. Current Draw Amps
10	3.1	1.50
12	5.4	1.20
20	12.5	0.75
24	21.7	0.60

COIL INFORMATION

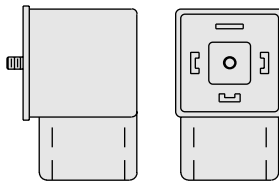
- AC service coils are internally rectified, and can be used in 50 or 60 cycle (Hz) lines.
- Special voltages and terminations are available for OEM applications; consult factory.
- Coil should always be installed with lettering facing up.
- Standard coils are not hermetically sealed. For applications requiring water or weather resistant coils, see pages 3.400.1-8
- AC voltage service with transient surges over 1000 volts may require that a varistor be placed in parallel at the coil.

Voltage	Varistor Part No.	Joule Rating Required
115	GE: V150LA10A Siemens: S10R150 or equivalent	45 minimum
230	GE: V250LA40A Siemens: S20R250 or equivalent	130 minimum

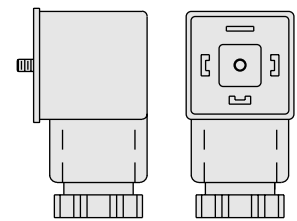
COIL ACCESSORIES



**Coil Ground Strap
for DS Coils
P/N 6502200**



**DIN 43650
1/2" Conduit to Connector
P/N 6110001**

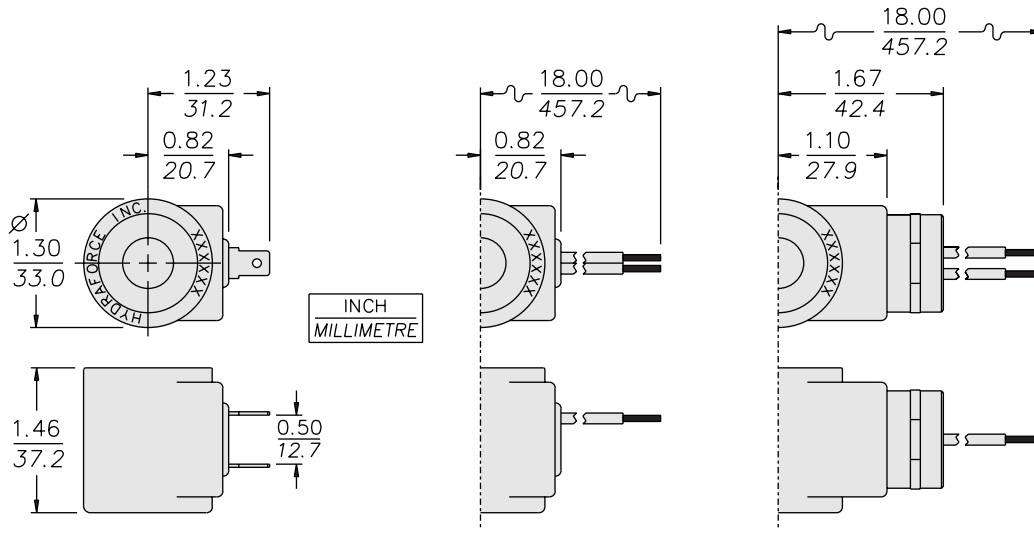


**DIN 43650
Cable Gland PG 9
(7 mm nominal cable diameter)
P/N 6110002
or Cable Gland PG 11
(9 mm nominal cable diameter)
P/N 6110005**

COILS AND ELECTRONIC CONTROLS

Standard Coils and Proportional Valve Coils

SERIES 08, 80, 88, 98 COIL INFORMATION



S
Dual Spades
SAE J858a

L
Dual Leads
18 Gauge
Optional 36-inch leads
available. Consult factory.

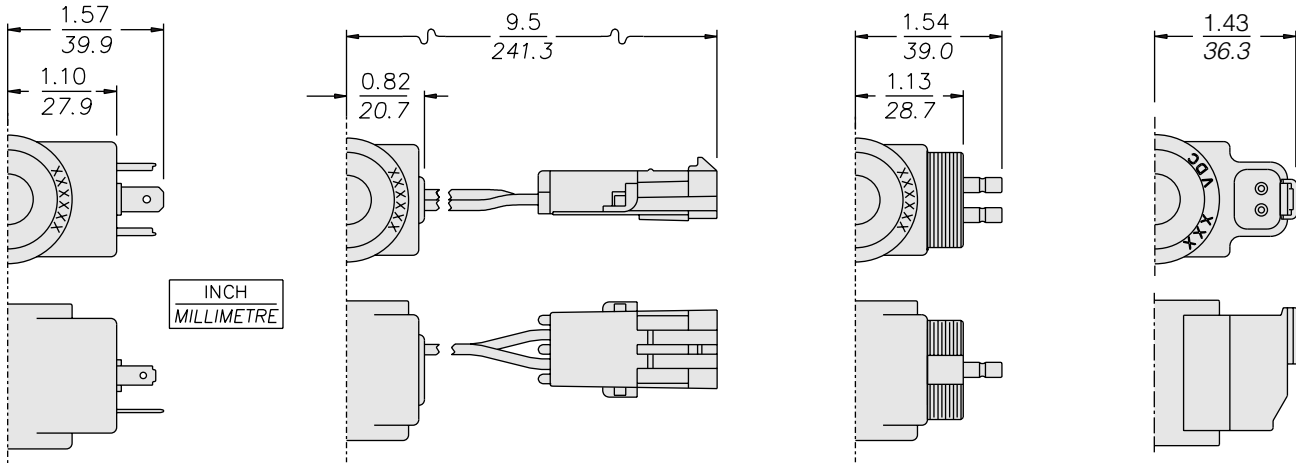
P
1/2" Conduit &
18 Gauge Leads

Voltage	Part Number Suffix		
	S	L	P
10 VDC	6301010	6302010	
12 VDC	6301012	6302012	6305012
24 VDC	6301024	6302024	6305024
36 VDC	6301036	6302036	
48 VDC	6301048	6302048	
*24 VAC			6315024
*115 VAC			6315115
*230 VAC			6315230

*Rectified

Standard Coils and Proportional Valve Coils

SERIES 08, 80, 88, 98 COIL INFORMATION



G

**DIN 43650
Connector**

W

**Dual 18 Gauge Leads with
Weather Pack® Connector**

For use with Packard part no. 12015792
male plug

K

**Kostal
Connector**

DK Coils; U.K.
availability only.

DR

**Integral Deutsch
Connector**

DR Models without Diode
DR/D Models with Diode
DR/Z Models with Zener Diode

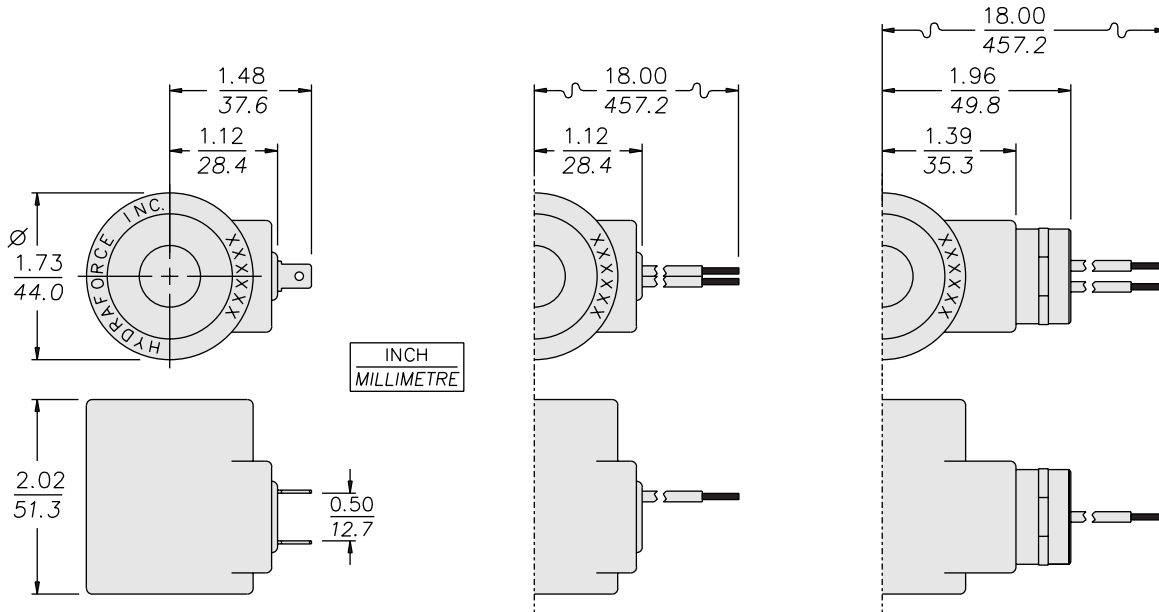
Voltage	Part Number Suffix					
	G	W	K	DR	DR/D	DR/Z
10 VDC		6309410				
12 VDC	6306012	6309412	6348812	4301512	4301872	4301852
24 VDC	6306024	6309424	6348824	4301524	4301874	4301854
36 VDC	6306036	6309436				
48 VDC	6306048	6309448				
*24 VAC	6316024					
*115 VAC	6316115					
*230 VAC	6316230					

*Rectified

COILS AND ELECTRONIC CONTROLS

Standard Coils and Proportional Valve Coils

SERIES 10, 12, 16, 38, 58 COIL INFORMATION



S

**Dual Spades
SAE J858a**

L

**Dual Leads
18 Gauge**

Optional 36-inch leads
available. Consult factory.

P

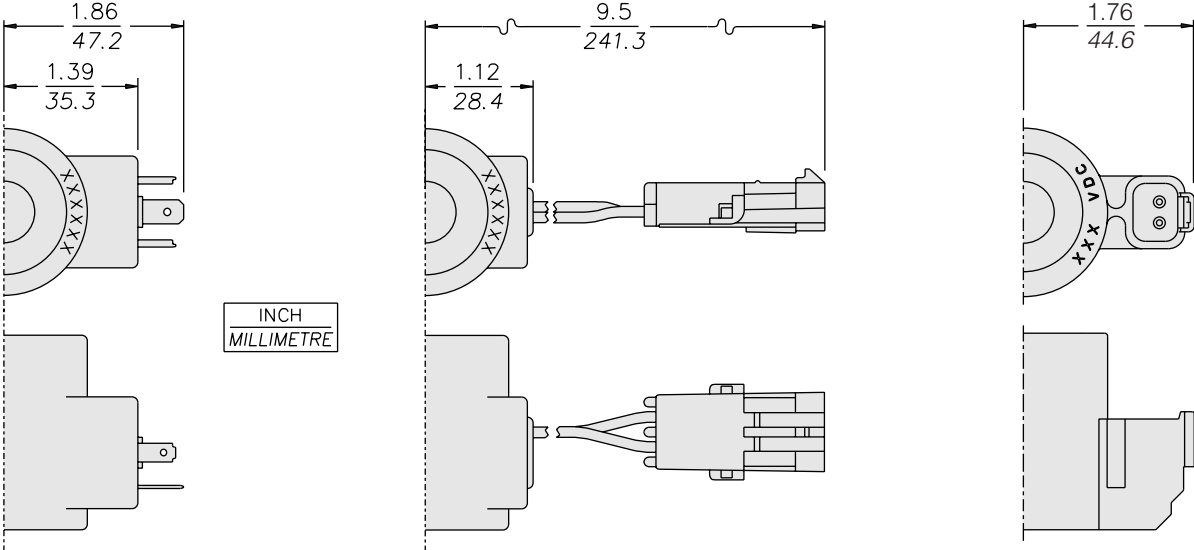
**1/2" Conduit &
18 Gauge Leads**

Voltage	Part Number Suffix		
	S	L	P
10 VDC	6351010	6352010	
12 VDC	6351012	6352012	6355012
24 VDC	6351024	6352024	6355024
36 VDC	6351036	6352036	
48 VDC	6351048	6352048	
*24 VAC			6365024
*115 VAC			6365115
*230 VAC			6365230

*Rectified

Standard Coils and Proportional Valve Coils

SERIES 10, 12, 16, 38, 58 COIL INFORMATION



G
DIN 43650
Connector

W
Dual 18 Gauge Leads with
Weather Pack® Connector
For use with Packard part no. 12015792
male plug

DR
Integral Deutsch
Connector
DR Models without Diode
DR/D Models with Diode
DR/Z Models with Zener Diode

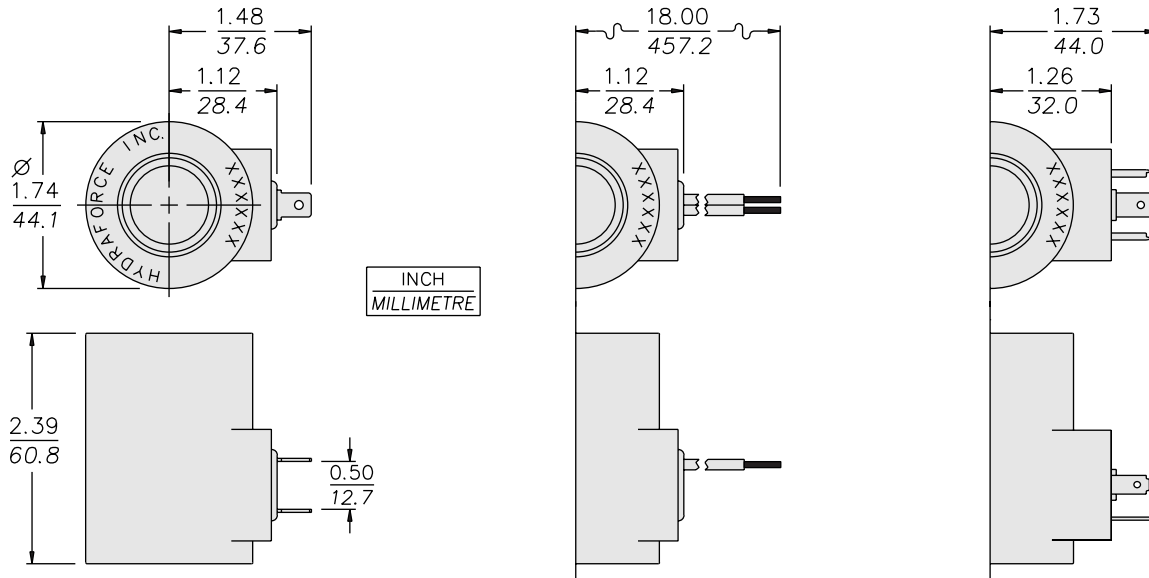
Voltage	Part Number Suffix				
	G	W	DR	DR/D	DR/Z
10 VDC		6359410			
12 VDC	6356012	6359412	4301612	4301892	4301862
24 VDC	6356024	6359424	4301624	4301894	4301864
36 VDC	6356036	6359436			
48 VDC	6356048	6359448			
*24 VAC	6366024				
*115 VAC	6366115				
*230 VAC	6366230				

*Rectified

COILS AND ELECTRONIC CONTROLS

Proportional Valve Coils

SIZE 70 COIL INFORMATION



S
Dual Spades
SAE J858a

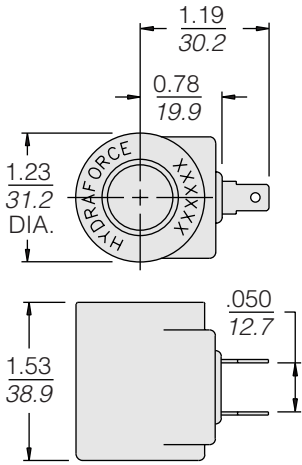
L
Dual Leads
18 Gauge

G
DIN 43650
Connector

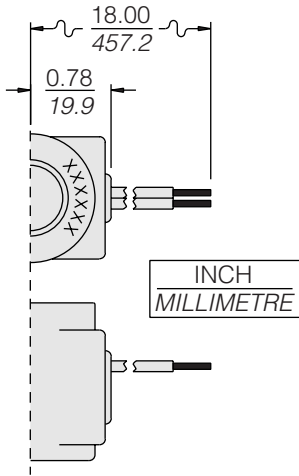
Voltage	Part Number Suffix		
	S	L	G
12 VDC	6507112	6507212	6507612
24 VDC	6507124	6507224	6507624

Proportional Valve Coils

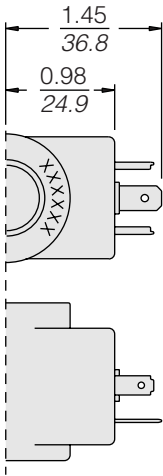
SERIES EHPR08 COIL INFORMATION



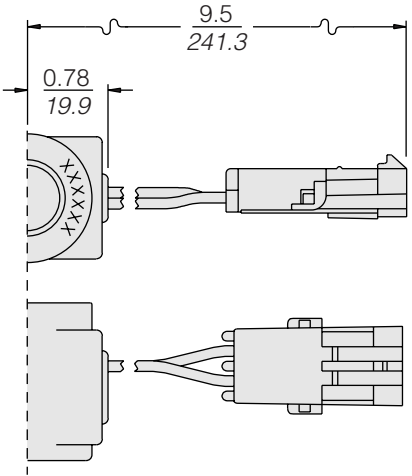
S
Dual Spades
SAE J858a



L
Dual Leads
18 Gauge
Optional 36-inch leads
available. Consult factory.



G
DIN 43650
Connector



W
Dual 18 Gauge Leads with
Weather Pack® Connector
For use with Packard part no. 12015792
male plug

Voltage	Part Number Suffix			
	S	L	G	W
12 VDC	6451112	6451212	6451612	6451512
24 VDC	6451124	6451224	6451624	6451524

COILS AND ELECTRONIC CONTROLS

Standard Coil Weather-Proofing (obsolete Jan.1, 2002)

INTRODUCTION

For SV Series valves, the standard coil weather-proofing method described here is being replaced by the new Series E Water/Weather Resistant Coils described on pages 3.400.1-7. However, the new Series E Coils are not currently available for most PV, TS or ZL Series Proportional valves (consult factory). The older method of weather-proofing described on these pages will continue to be available as service parts and for use on existing applications where coil performance or space limitations require it.

Standard HydraForce coils are encapsulated and weather-resistant, having been successfully applied in many mobile and industrial installations where the coil is exposed. However, these coils are not hermetically sealed against moisture under all conditions.

Standard HydraForce coils must be protected if both of the following conditions apply:

- The coil is run continuously, causing heating of the materials and resultant separation of the plastic and metal parts in cool-down contraction.
- Under the above if water is present and can pool at the top or bottom metal washer surface.

Application experience indicates that higher voltage coils are more susceptible to damage from water due to thin wire diameters. Extra care should be given to specification for AC service applications.

WEATHER-PROOFING METHOD

All electrical devices are sensitive to water intrusion and must be insulated against contact if moisture is present. This is done by creating a barrier or blocking means to prevent intimate contact of the water and copper.

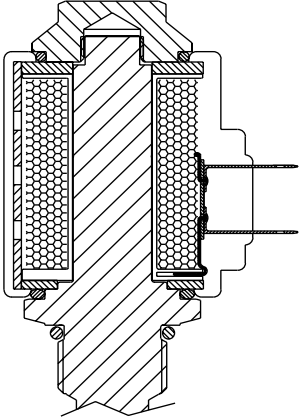
The HydraForce weather-proofing system described here uses external fluorocarbon O-rings positioned and retained at potential entry points on the coil. Various sizes and types of solenoid cartridges require different installation methods as illustrated on the opposite page. Some of these are retrofit-able, while others are not. See the table below.

Model Group	Armature Type	Installation Type	Field Conversion	Service Kit P/N
PV7x-xx	Proportional	E/H	Yes/All	6260145
SL08-22	Pull	A	No	6260100
SL38/58-22	Pull	A	Yes	6260130
SV08-20, 22, 24, 25, 26, 30, 31, 33, 40, 41, 42, 44, 45, 46	Pull	A	No	6260100
SV08-21, 23	Push	B	No	6260105
SV08-47A, 47C, 47D	Push/Pull	C/D	Yes/All	C-6260111 D-6260106
SV10-20, 22, 24, 25, 31, 33, 34, 40, 41, 42, 43, 44, 45	Pull	A/F	No	A-6260130 F-6260110
SV10-21, 23	Push	B/G	No	B-6260135 G-6260115
SV10-47A, 47B, 47C, 47D	Push/Pull	C/D	No	C-6260140 D-TBD
SV38/58-26	Pull	A/F	No	A-6260130 F-6260110
SV58-20, 22, 24, 25, 30, 40, 41, 42, 44	Pull	A/F	No	A-6260130 F-6260110
SV58-21, 23	Push	B	No	6260135
SV12-20, 22	Pull	A	Yes/All	6260130
SV12-21, 23	Push	B	Yes/All	6260135
SV16-20, 22	Pull	A	Yes/All	6260130
SV16-21, 23	Push	B	Yes/All	6260135

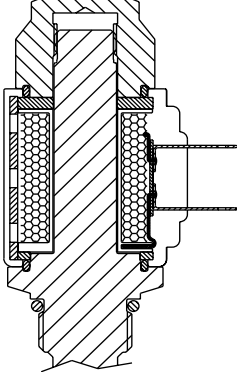
NOTE: Torque weather-proofing nuts to 0.07–0.10 Nm (7–10 ft. lbs.) max.

Standard Coil Weather-Proofing (obsolete Jan.1, 2002)

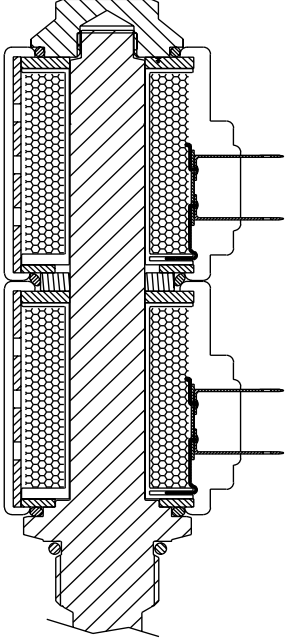
A
SVxx
Pull-Type



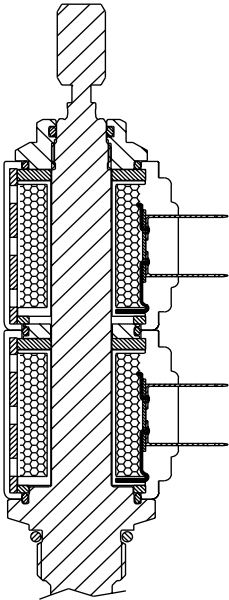
B
SVxx
Push-Type



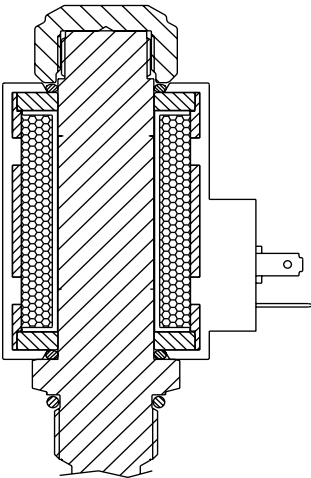
C
SVxx-47
Push/Pull-Type



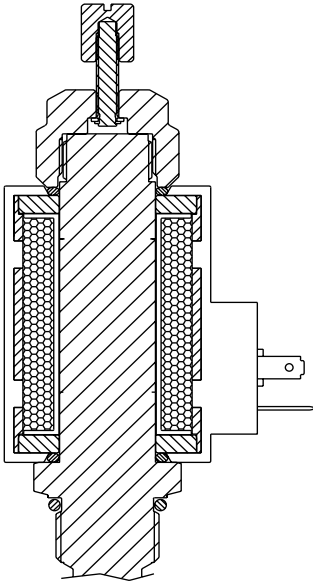
D
SVxx-47 with Push/Pull
Manual Override



E
PV7x
Proportional



H
PV7x - Proportional
w/Manual Override



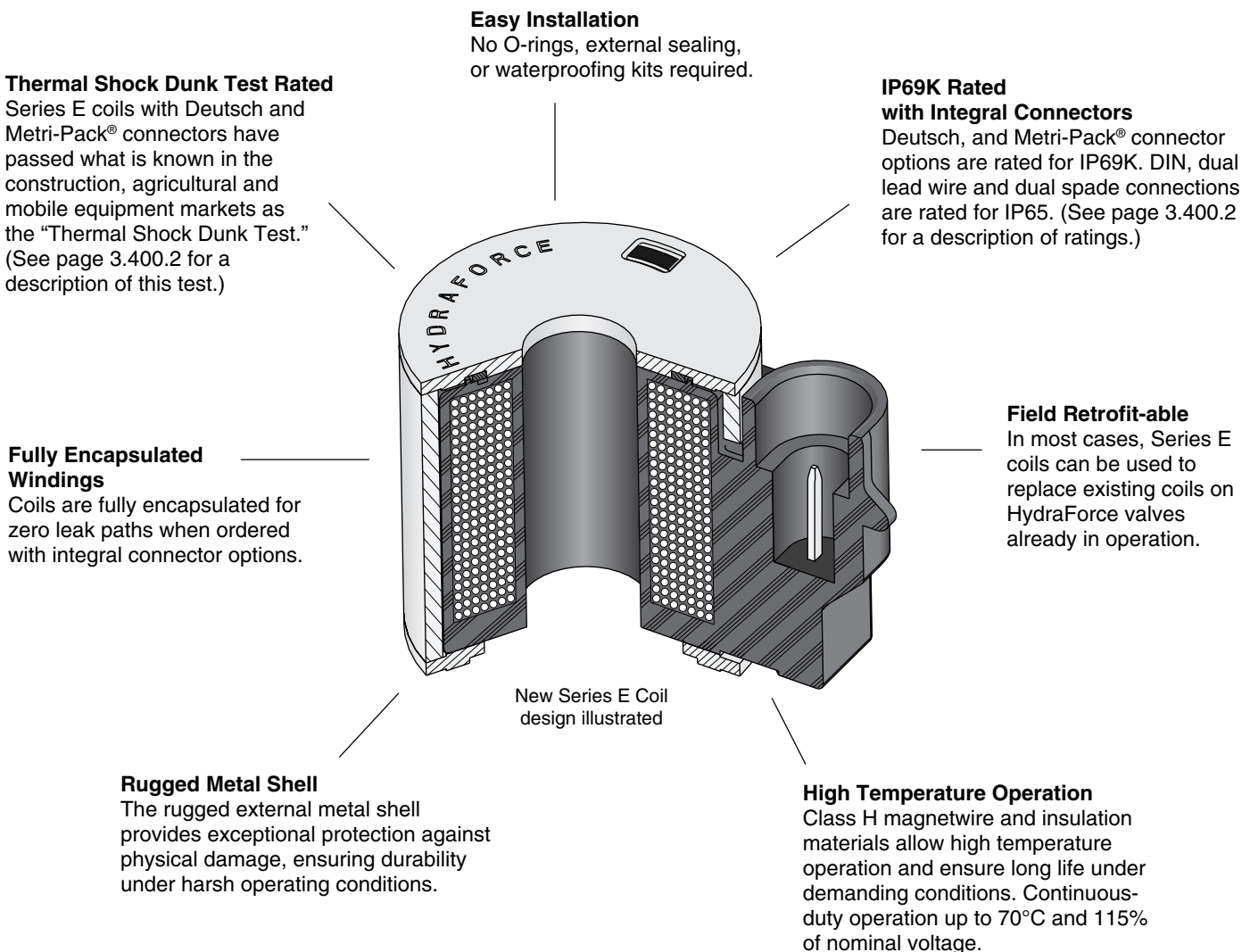
Series E Environmental Coils

NEW SERIES E WATER-RESISTANT/WEATHER-RESISTANT SOLENOID VALVE COILS

New Series E coils are the latest innovation in coil technology from Hydraforce. They are designed to meet the demanding requirements of mobile and industrial applications where weather resistance is required. Models with Deutsch and Metri-Pack® integral connectors meet or exceed all IP69K standards for weather resistance, offering superior reliability under the most demanding conditions. Series E coils have passed what is known in the construction, agricultural and mobile equipment markets as the “Thermal Shock Dunk Test.”

Series E coils feature a new, fully encapsulated coil winding technology. Deutsch and Metri-Pack® connectors are molded into the coil encapsulation, assuring IP69K weather resistance. An external metal shell serves as the element to concentrate the magnetic flux for the coil winding and also functions as a rugged container for the coil. No O-rings or waterproofing kits are required.

Models are available to fit most standard 08, 10, 12, and 16 size valves. In most applications, these coils can be used to retrofit HydraForce valves already in field operation and will offer superior weather resistance.



NOTE: Some coils, including those manufactured prior to 1-1-04, may differ in construction from this illustration. See page 3.400.7

Series E Environmental Coils

IMPROVING DURABILITY TO ASSURE LONG LIFE IN THE HARSHTEST ENVIRONMENTS

HydraForce has made design changes to the industry-leading environmentally-hardened Series E coils. The new design provides longer life under high-temperature conditions, as well as easier and more convenient interchange with our Series D standard-duty coils.

The Story Behind the Ratings

To appreciate the performance of the new Series E coils, it is helpful to have a working knowledge of the testing conducted to assure coil life in the harshest environments. Many OEMs request a coil that is IP67 or IP69 rated. These ratings do not address the issue of the effect of high temperatures on coil life and operation. Therefore they are of limited value in evaluating the suitability of a coil for use in typical mobile equipment applications.

Why temperature matters: When a coil is heated, the air inside the coil expands, creating internal pressure, causing the heated air to attempt to exit the coil. If the coil is then submerged in cold water, the air within the coil cools and contracts, drawing water into the coil through any seams or voids in the coil encapsulant. Eventually the water will find its way into the winding area, causing the coil winding to corrode or short-circuit, resulting in coil failure.

IP ratings are international specifications for electrical equipment which define various levels of protection against failure resulting from contamination by water or other foreign substances. The IP67 rating is based on submerging the coil in one meter of water for 30 minutes. The coil is then inspected for evidence of water infiltration. The IP67 specification loosely states that "ingress of water in quantities causing harmful effect shall not occur." The exact meaning of the phrase "harmful effect" is not precisely defined, and is therefore open to some interpretation. In this test, the coil is not subjected to high temperatures, so the effects of thermal stress are not considered.

The IP69 rating, which is currently only part of the DIN version of this specification, first requires that the coil pass the test for IP67 as described above. Beyond that, the coil and its integral electrical connector are subjected to a rigorous high-pressure water spray. The water is mixed with detergent, is held at a temperature of 80°C., and is sprayed at the coil from a distance of 100 mm (4 inches) at a pressure of 100 bar (1450 psi). Again, the specification does not precisely define the amount of water ingress that would be considered unacceptable.

DESCRIPTION OF SERIES E COIL RATINGS

IP69K: Coils with Metri-Pack® connectors (EY option) Coils with Deutsch DT04-2P connectors (ER option)

The coil is protected against intrusion of dust and high pressure water wash at 1450 psi (100 bar) with the source located 4 to 6 inches (100 to 150 mm) from the coil.

IP65: Coils with DIN 43650 connectors (EG option) Coils with Dual Spade connectors (ES option) Coils with Dual Lead Wires (EL option), and Coils with Leads and Weather-Pack® Connector (EW option)

The coil is protected against intrusion of dust and can withstand low-pressure water spray from a distance of 10 feet (3 meters).

HydraForce Ratings

Working with major mobile equipment OEMs, HydraForce has developed even more rigorous tests that are designed to assure that our coils will perform reliably under the harshest real-world application conditions. Both our original and our new Series E coils meet or exceed the requirements of what is known as the "Thermal Shock Dunk Test." In this test the coil is thermally "soaked" for two hours in an ambient temperature of 100°C. The coil is then immersed immediately in a 0°C salt-water bath for two hours. This procedure is repeated five times. The coil is then inspected for water ingress. By HydraForce's standards, the coil is considered to have passed this test if there is NO detectable water ingress, as determined by visual inspection and a "high pot" test. This standard requires a totally sealed coil that is impervious to moisture infiltration, even under widely varying ambient thermal conditions.

The new Series E coils can now withstand at least 20 cycles of the "Thermal Shock Dunk Test."

In addition to the requirements of the industry-recognized, "Thermal Shock Dunk Test," described above, HydraForce further tests these coils for durability against failure due to vibration, as well as against failure due to the application of voltage above the coil's standard duty rating while it is simultaneously subjected to continually varying ambient temperatures.

Beyond enhancing the durability of the coils, we have decreased the wattage by approximately 10%. This reduces the power consumption and also allows the operating temperature range to be extended. The new design also improves the ease and convenience of interchanging these coils with HydraForce's Series D (standard duty) coils, the original Series E coils, as well as the older "W-style" waterproof option. The new Series E coils use the same retaining nuts as the Series D coils, simplifying interchangeability, inventory and assembly requirements and procedures.

See page 3.400.7 for detailed information describing the differences between the original Series E coils and the new Series E coils, including part number cross-references for the coils, the retaining nuts, and the spacers used on the dual-solenoid valves.

Thermal Shock Immersion Test:

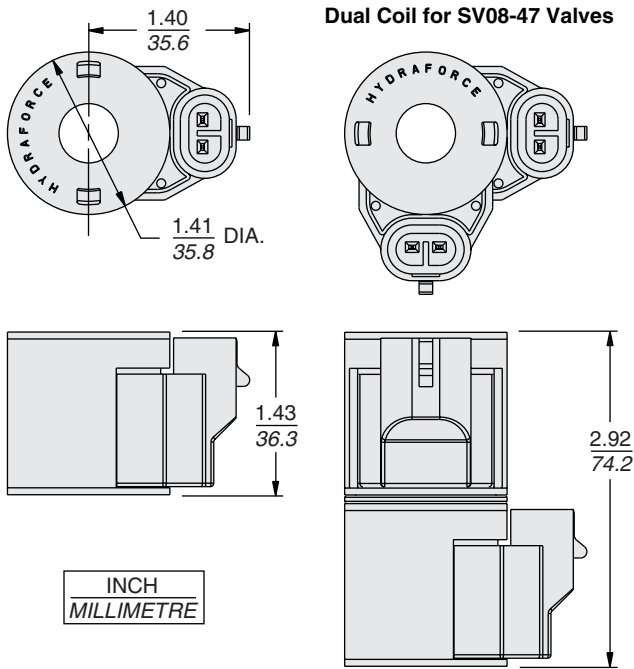
Coils with Metri-Pack® connectors (EY option) Coils with Deutsch DT04-2P connectors (ER option)

Known in the construction, agricultural and mobile equipment industries as a "thermal shock dunk test," the coil is heated for 2 hours at 105°C, then immediately immersed into 0°C water for 2 hours. No water intrusion into the coil is allowed. This test is repeated for a total of five trials. The coil is then tested for operational standards.

Metri-Pack® and Weather-Pack® are registered trademarks of Delphi Packard Electric Systems

Series E Environmental Coils

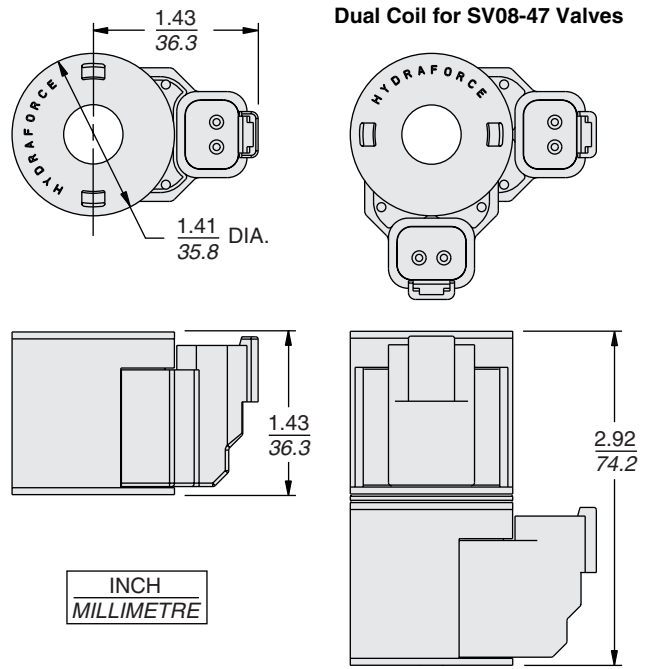
08-SIZE SERIES E COILS



EY

**IP69K Rated Coil
Thermal Shock Dunk Test Rated Coil
Metri-Pack® 150 Connector**

(Mating Connector: Delphi Packard No. 12052641)



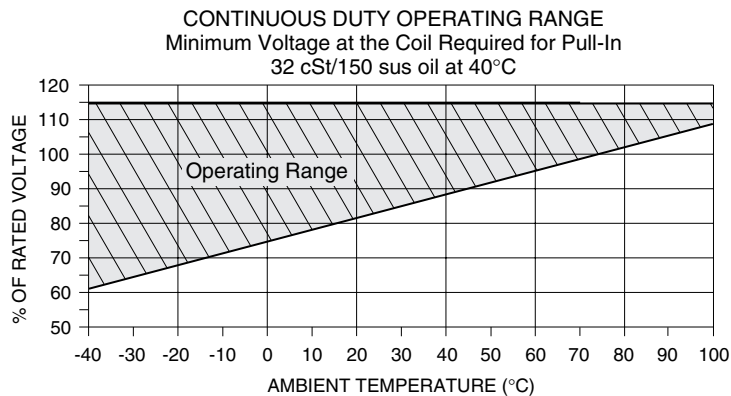
ER

**IP69K Rated Coil
Thermal Shock Dunk Test Rated Coil
Deutsch DT04-2P Connector**

(Mating Connector: Deutsch No. DT06-2S)

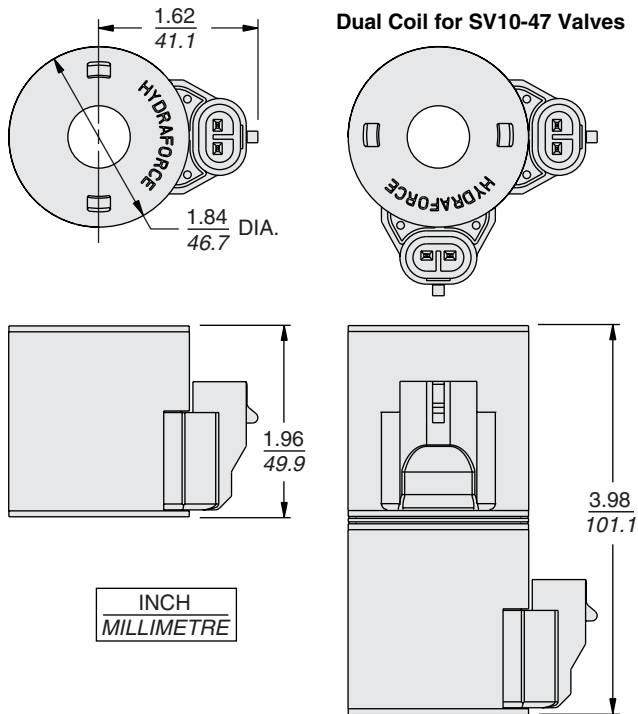
EY Coil Part No.	ER Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
4303410	4303610	10 VDC	6.2 ohms	1.6 amps	16.2 watts	136 g. (4.8 oz.)
4303412	4303612	12 VDC	8.8 ohms	1.4 amps	16.3 watts	136 g. (4.8 oz.)
4303420	4303620	20 VDC	25.4 ohms	0.8 amps	15.7 watts	136 g. (4.8 oz.)
4303424	4303624	24 VDC	33.8 ohms	0.7 amps	17.1 watts	136 g. (4.8 oz.)

Please note: Electrical specifications for Series E coils differ from those for standard HydraForce coils.
(Refer to page 3.200.1 for standard coil specifications.)



Series E Environmental Coils

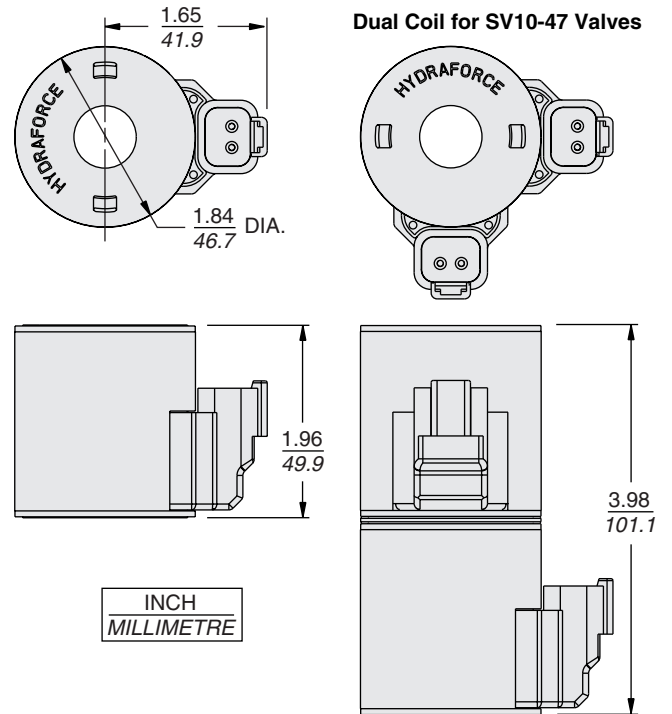
10-SIZE SERIES E COILS (Also for use on 12-Size Poppet Valves and 16-Size Poppet Valves)



EY

IP69K Rated Coil
Thermal Shock Dunk Test Rated Coil
Metri-Pack® 150 Connector

(Mating Connector: Delphi Packard No. 12052641)



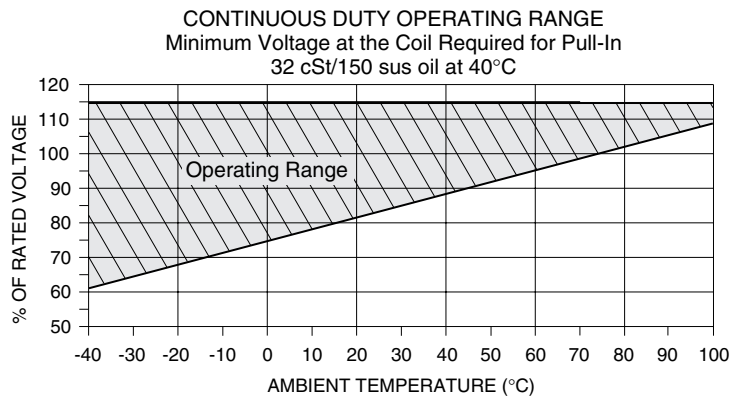
ER

IP69K Rated Coil
Thermal Shock Dunk Test Rated Coil
Deutsch DT04-2P Connector

(Mating Connector: Deutsch No. DT06-2S)

EY Coil Part No.	ER Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
4303510	4303710	10 VDC	5.0 ohms	2.0 amps	19.9 watts	408 g. (14.4 oz.)
4303512	4303712	12 VDC	7.3 ohms	1.6 amps	19.7 watts	408 g. (14.4 oz.)
4303520	4303720	20 VDC	19.9 ohms	1.0 amps	20.1 watts	408 g. (14.4 oz.)
4303524	4303724	24 VDC	29.4 ohms	0.8 amps	19.6 watts	408 g. (14.4 oz.)

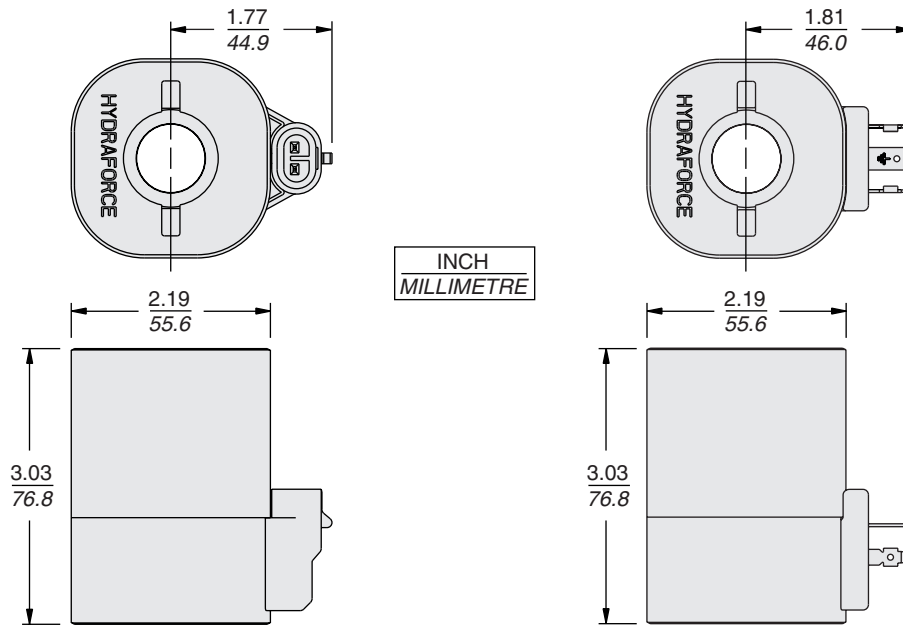
Please note: Electrical specifications for Series E coils differ from those for standard HydraForce coils.
 (Refer to page 3.200.1 for standard coil specifications.)



COILS AND ELECTRONIC CONTROLS

Series E Environmental Coils

12-SIZE SERIES E COILS (For 12 Size Spool Valves Only)



EY

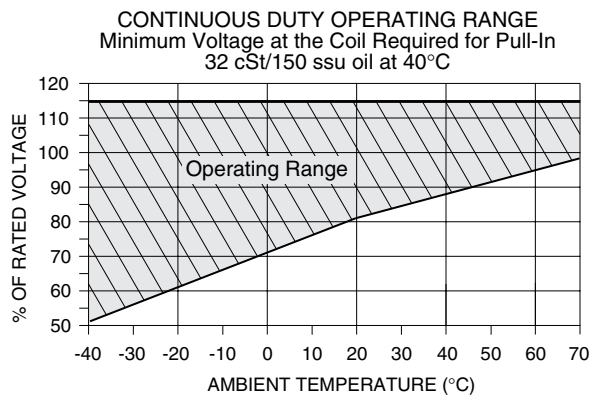
IP69K Rated Coil
Thermal Shock Dunk Test Rated Coil
Metri-Pack® 150 Connector

(Mating Connector: Delphi Packard No. 12052641)

EG

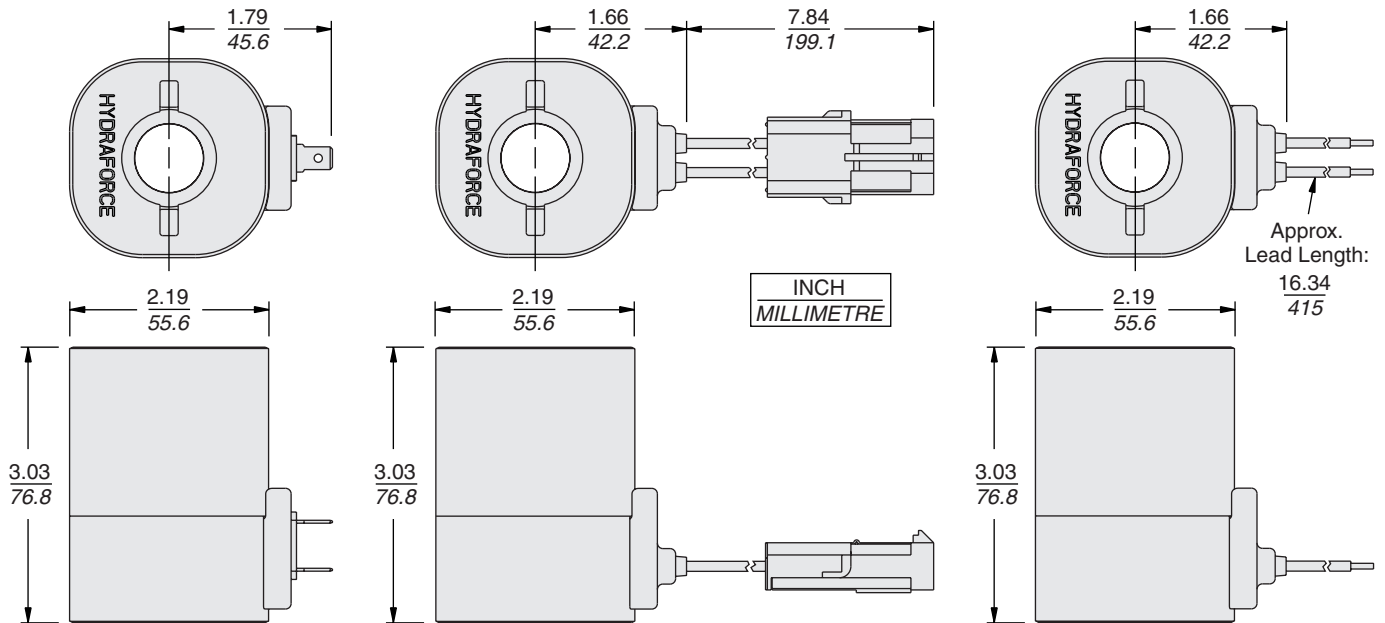
IP65 Rated Coil
DIN 43650 Connector

EY Coil Part No.	EG Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
6964012	6956012	12 VDC	4.3 ohms	2.8 amps	33.6 watts	1 kg. (2.2 lbs.)
6964024	6956024	24 VDC	17.5 ohms	1.4 amps	33.6 watts	1 kg. (2.2 lbs.)
6964036	6956036	36 VDC	34.8 ohms	1.0 amps	36.0 watts	1 kg. (2.2 lbs.)
6964048	6956048	48 VDC	67.0 ohms	0.7 amps	33.6 watts	1 kg. (2.2 lbs.)



Series E Environmental Coils

12-SIZE SERIES E COILS (For 12 Size Spool Valves Only)



ES

IP65 Rated Coil
Dual Spades SAE J858a

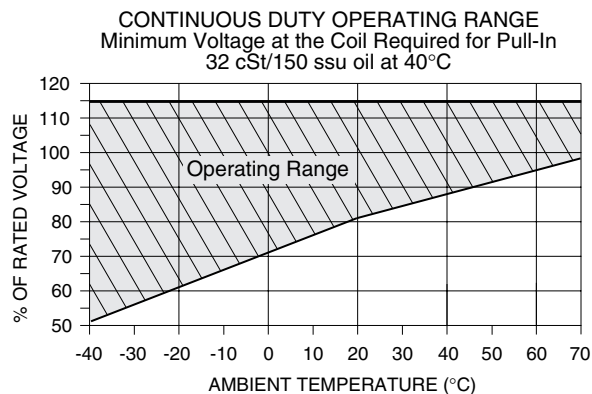
EW

IP65 Rated Coil
Dual 18 Gauge Leads
with Weather-Pack® Connector
(Mating Connector: Delphi Packard No. 12015792)

EL

IP65 Rated Coil
Dual Leads – 18 Gauge

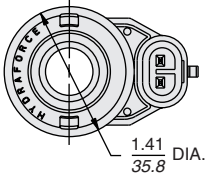
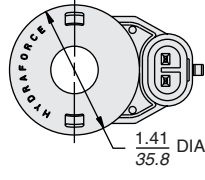
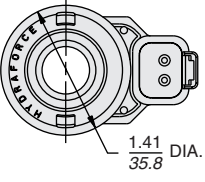
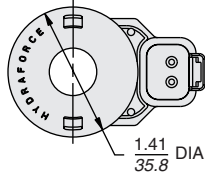
ES Coil Part No.	EW Coil Part No.	EL Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
6851012	6853012	6852012	12 VDC	4.3 ohms	2.8 amps	33.6 watts	1 kg. (2.2 lbs.)
6851024	6853024	6852024	24 VDC	17.5 ohms	1.4 amps	33.6 watts	1 kg. (2.2 lbs.)
6851036	6853036	6852036	36 VDC	34.8 ohms	1.0 amps	36.0 watts	1 kg. (2.2 lbs.)
6851048	6853048	6852048	48 VDC	67.0 ohms	0.7 amps	33.6 watts	1 kg. (2.2 lbs.)

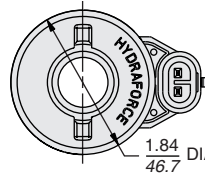
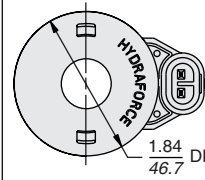
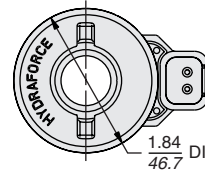
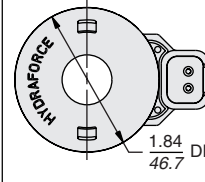


COILS AND ELECTRONIC CONTROLS



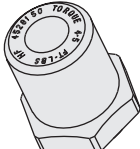
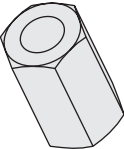
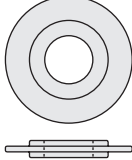
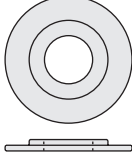
Series E Environmental Coils



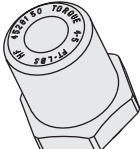
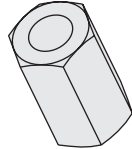

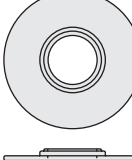
SERIES E COILS PART NUMBER CROSS REFERENCE

08 Size E-Coils	Original Design Manuf. before 1-1-04	New Design Manuf. after 1-1-04
Code EY Metri-Pack® 150 Connector Top view shown w/o retaining nut	 1.41 35.8 DIA.	 1.41 35.8 DIA.
10 VDC	4300110	4303410
12 VDC	4300112	4303412
20 VDC	—	4303420
24 VDC	4300124	4303424
Code ER Deutsch DT04-2P Connector Top view shown w/o retaining nut	 1.41 35.8 DIA.	 1.41 35.8 DIA.
10 VDC	4300310	4303610
12 VDC	4300312	4303612
20 VDC	—	4303620
24 VDC	4300324	4303624

10 Size E-Coils	Original Design Manuf. before 1-1-04	New Design Manuf. after 1-1-04
Code EY Metri-Pack® 150 Connector Top view shown w/o retaining nut	 1.84 46.7 DIA.	 1.84 46.7 DIA.
10 VDC	4300210	4303510
12 VDC	4300212	4303512
20 VDC	—	4303520
24 VDC	4300224	4303524
Code ER Deutsch DT04-2P Connector Top view shown w/o retaining nut	 1.84 46.7 DIA.	 1.84 46.7 DIA.
10 VDC	4300410	4303710
12 VDC	4300412	4303712
20 VDC	—	4303720
24 VDC	4300424	4303724







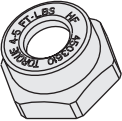
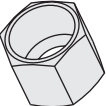
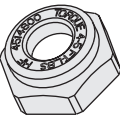
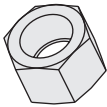
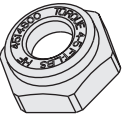
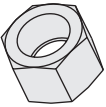



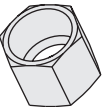


SERIES E COIL NUT & SPACER CROSS REF. FOR SPxx-47 & SVxx-47 DUAL SOLENOID VALVES

For SP08-47 & SV08-47 Series Valves	Retaining Nut and Spacer for Original E-Coil Design Manuf. before 1-1-04	Retaining Nut and Spacer for New E-Coil Design Manuf. after 1-1-04
Retaining Nut for SP08-47's & SV08-47's without Manual Override Part Number:	 Nut: 4502960	 Nut: 7004400
Retaining Nut for SP08-47M's & SV08-47M's with Manual Override Part Number:	 Nut: 4528150	 Nut: 4528180
Coil Spacer for all SP08-47 & SV08-47 Series Valves (installs between the two coils) Part Number:	 1.41 35.8 O.D.	 1.41 35.8 O.D.
Part Number:	Spacer: 4514810	Spacer: 4534720

For SP10-47 & SV10-47 Series Valves	Retaining Nut and Spacer for Original E-Coil Design Manuf. before 1-1-04	Retaining Nut and Spacer for New E-Coil Design Manuf. after 1-1-04
Retaining Nut for SP10-47's & SV10-47's without Manual Override Part Number:	 Nut: 4502960	 Nut: 7004400
Retaining Nut for SP10-47M's & SV10-47M's with Manual Override Part Number:	 Nut: 4527160	 Nut: 4527540
Coil Spacer for all SP10-47 & SV10-47 Series Valves (installs between the two coils) Part Number:	 1.84 46.6 O.D.	 1.84 46.6 O.D.
Part Number:	Spacer: 4514130	Spacer: 4539700

Series E Environmental Coils

SERIES E COIL NUT CROSS REFERENCE

Valve Models	Retaining Nuts for Original E-Coil Design Manufactured before 1-1-04	Retaining Nuts for New E-Coil Design Manufactured after 1-1-04	Valve Models	Retaining Nuts for Original E-Coil Design Manufactured before 1-1-04	Retaining Nuts for New E-Coil Design Manufactured after 1-1-04
SF08-20 SV08-33 SP08-20 SV08-40 SV08-20 SV08-41 SV08-22 SV08-42 SV08-24 SV08-43 SV08-25 SV08-44 SV08-26 SV08-45 SV08-31 SV08-46	 Nut: 4502960	 Nut: 7004400	SF10-20M/J/Y SV10-22M/J/Y SV10-24M/J/Y SV10-25M/J/Y SV10-30M/J/Y SV10-31M/J/Y SV10-33M/J/Y SV10-34M/J/Y SV10-40M/J/Y SV10-41M/J/Y SV10-42M/J/Y SV10-43M/J/Y SV10-44M/J/Y SV10-45M/J/Y SV38-20M/J/Y SV58-xxM/J/Y	 Nut: 4626260-2	 Nut: 7004590
SF08-20M/J/Y SV08-20M/J/Y SV08-22M/J/Y SV08-24M/J/Y SV08-25M/J/Y SV08-26M/J/Y SV08-31M/J/Y SV08-33M/J/Y SV08-40M/J/Y SV08-41M/J/Y SV08-42M/J/Y SV08-43M/J/Y SV08-44M/J/Y SV08-45M/J/Y SV08-46M/J/Y	 Nut: 4626260-1	 Nut: 7004490	SV10-21 SV10-21P/K SV10-23 SV10-23P/K SV38-38 SV38-38P/K	 Nut: 4503610	 Nut: 7004420
SF08-21 SV08-21 SV08-21P/K SV08-23 SV08-23P/K	 Nut: 4514800	 Nut: 7004410	TS08-20 TS80-30 TS98-30 TS98-31	 Nut: 4514800	 Nut: 7004410
SP10-20 SV10-40 SP10-41 SV10-41 SP10-46R SV10-42 SP12-20 SV10-43 SV10-20 SV10-44 SV10-22 SV10-45 SV10-24 SV12-20 SV10-25 SV12-22 SV10-30 SV16-20 SV10-31 SV16-22 SV10-33 SV38-20 SV10-34 SV58-xx	 Nut: 4502960	 Nut: 7004400	TS10-26 TS10-36 TS12-26 TS12-36 TS38-20	 Nut: 4526330	 Nut: 4540560
			TS10-27 TS12-27 TS38-21	 Nut: 4519810	 Nut: 4540550