



Dynisco SPX 2-Series

GENERAL PURPOSE SMART PRESSURE SENSORS
FOR HAZARDOUS LOCATIONS



Description

The Dynisco SPX 2-Series is a smart 4-20mA pressure transmitter designed for use in hazardous locations and are available with a variety of different process and electrical connections. The SPX 2-Series is an all welded construction.

These amplified transmitters eliminate the need for external signal conditioning. All models can interface directly with distributed control systems, PLC's, computers, and similar high level control devices. Optional thermocouple or RTD configurations are available to provide melt temperature.

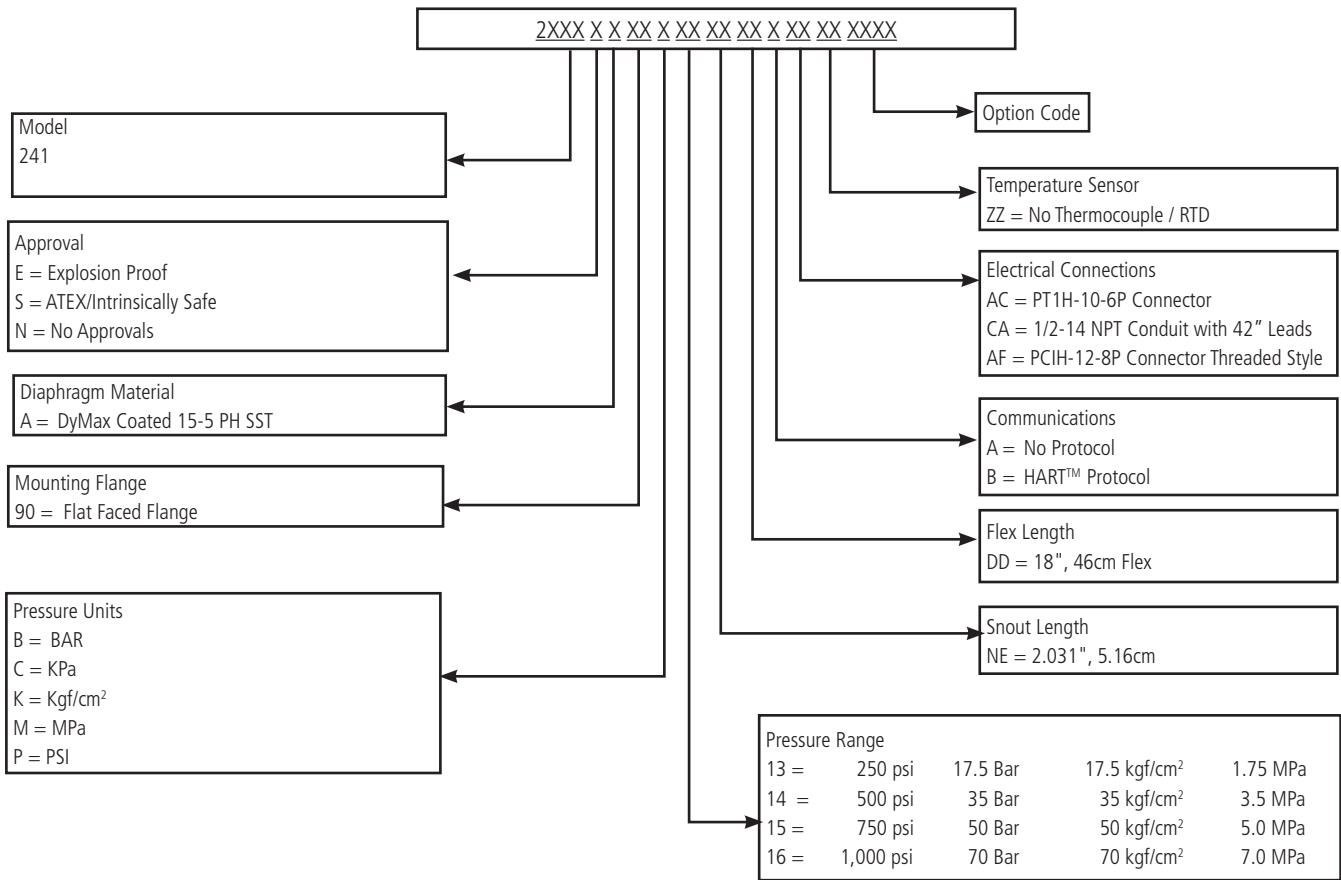
Features

- 4-20mA loop-powered output
- +/- 0.25% accuracy available
- Wide selection of pressure ranges available
- Turndown 6:1 (3:1 Turndown for model SPX 2290)
- Configurations available for use in hazardous locations
- Remotely configurable via HART™
- Precise, repeatable pressure measurements
- Output supplied directly to DSC or PLC
- Meets CE requirements
- CE ATEX Intrinsically Safe Approved
- IECEx Intrinsically Safe Approved
- FM Explosion Proof Approved
- CSA Explosion Proof Approved
- SIL 2 Certified (Pressure Output)
- PL'c' Certified (Relay Output)
- Additional approvals are available

Performance Characteristics SPX2- Series	
Output	4 - 20 mA, with optional HART™
Input Voltage	16 - 36 Vdc (Std); 16 - 30 Vdc (ATEX IS)
Accuracy	2241 ± 1.0% 2242 ± 0.25% for pressure ranges ≥ 1,500 psi; ± 0.50% for pressure ranges < 1,500 psi 2243 ± 0.25% for pressure ranges ≥ 1,500 psi; ± 0.50% for pressure ranges < 1,500 psi 2244 ± 0.25% for pressure ranges ≥ 500 psi; ± 1.0% for pressure ranges < 500 psi 2290/2291/2292 ± 0.50%
Repeatability	±0.1%
Rangeability	6:1 Turndown (3:1 Turndown for Model SPX2290)
Over Pressure	2X FSO or 35,000 psi, whichever is less (2290, 2291, & 2292 1.5 x FSO for 10,000 psi)
Zero Balance Adjustment Range	-40% to +10%; -80% to 20% for FSP < 500 psi
Load Resistance	500 Ω @ 24 Vdc, 1,000 Ω @ 36 Vdc
Electronics Ambient Temperature	70°F (20°C)
Electronics Operating Temperature	-20 to 185°F (-29 to 85°C)
Diaphragm Temperature	750°F (400°C) max [Models 2241, 2244, 2290, 2291, 2292 limited to 600°F (315°C)]
Electronics Compensated Temperature Range	0 to 150°F (-18 to 65°C)
Zero Shift (Electronics Temp Change)	All Models: 0.01% F.S./°F max (0.02% F.S./°C max)
Span Shift (Electronics Temp Change)	All Models: 0.01% F.S./°F max (0.02% F.S./°C max)
Zero Shift (Snout Temp Change)	2241/2244//2290/2291/2292: 1 psi/100°F (from 75-450°F) typical 2 psi/100°F (from 450-600°F) typical 2242/2243: 15 psi/100°F (27 psi/100°C) typical

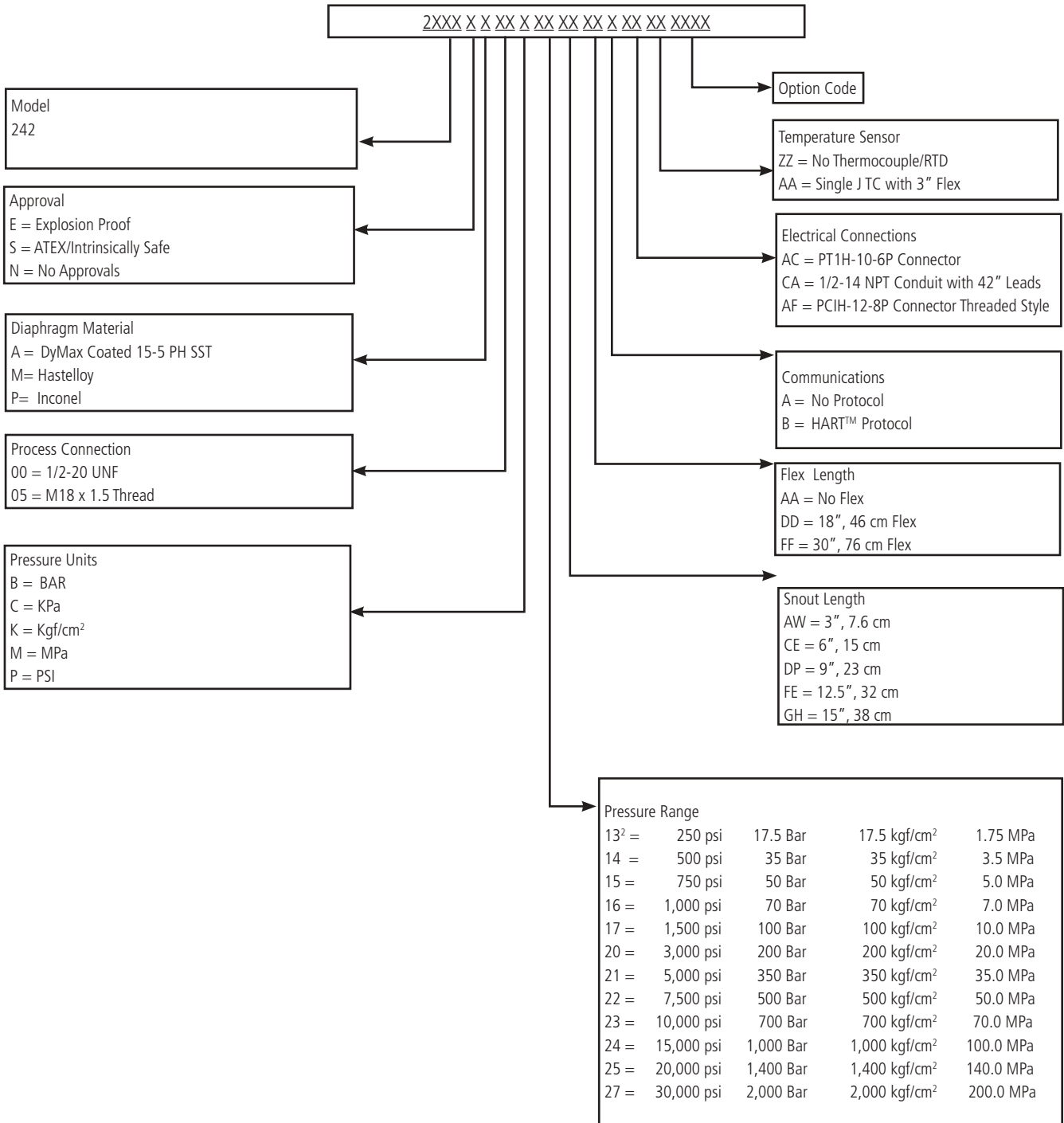
Mechanical Characteristics	
Mounting Torque	2241: 350 inch-lbf max 2242: 500 inch-lbf max 2243: 50 inch-lbf max 2244: 350 inch-lbf max 2290: 350 inch-lbf max 2291: 350 inch-lbf max 2292: 80 ft-lbf max
Standard Wetted Parts	DyMax coated 15-5 PH SST
Approvals & Certifications	
ATEX/IECEX Intrinsically Safe	
SIL 2 (pressure output) & PL 'c' (relay output)	
FM & CSA Explosion Proof	
Additional Approvals are Available	

Ordering Guide for Models SPX2241¹



¹ Other configurations are available. Please consult factory.

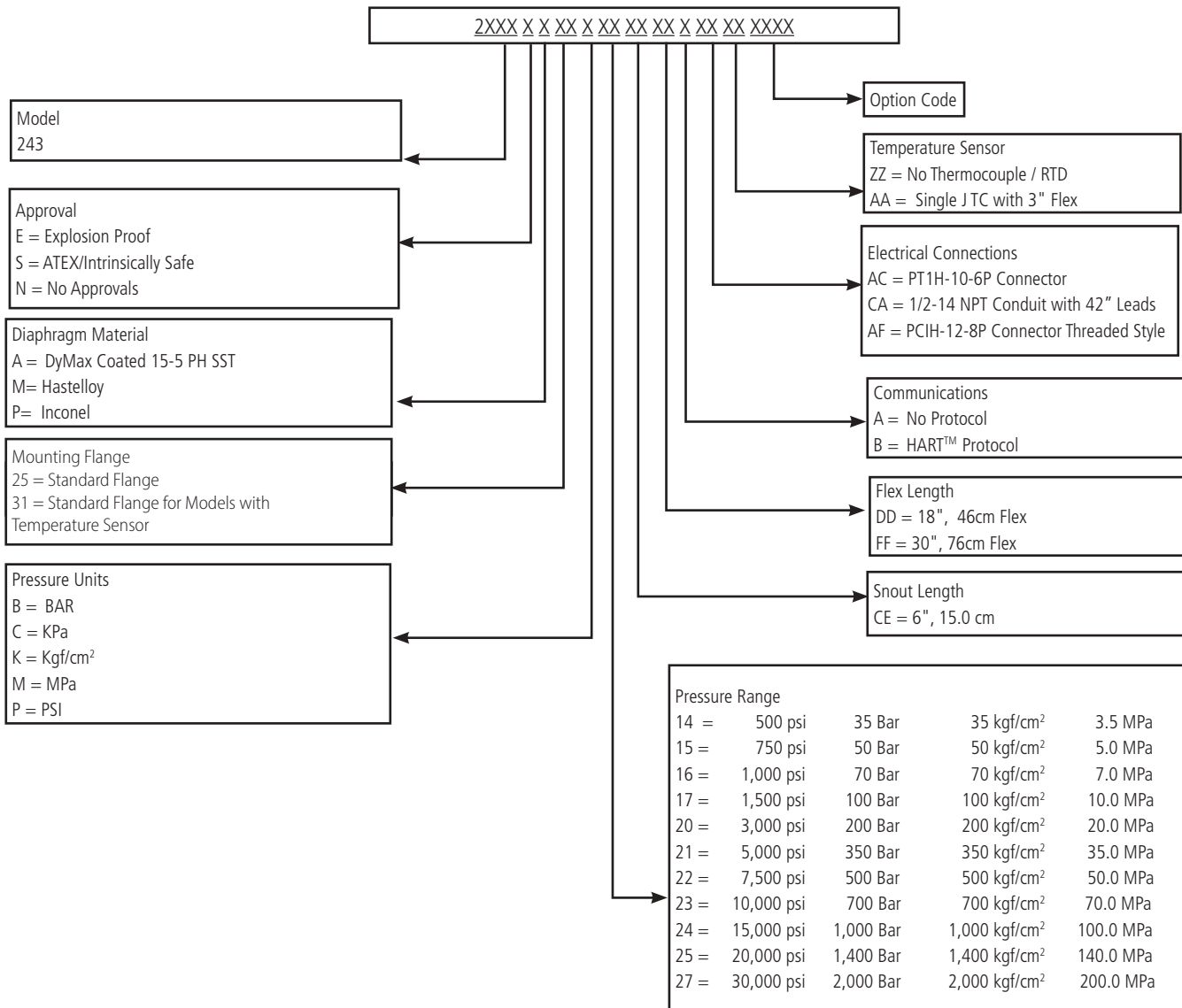
Ordering Guide for Models SPX2242¹



¹Other configurations are available. Please consult factory.

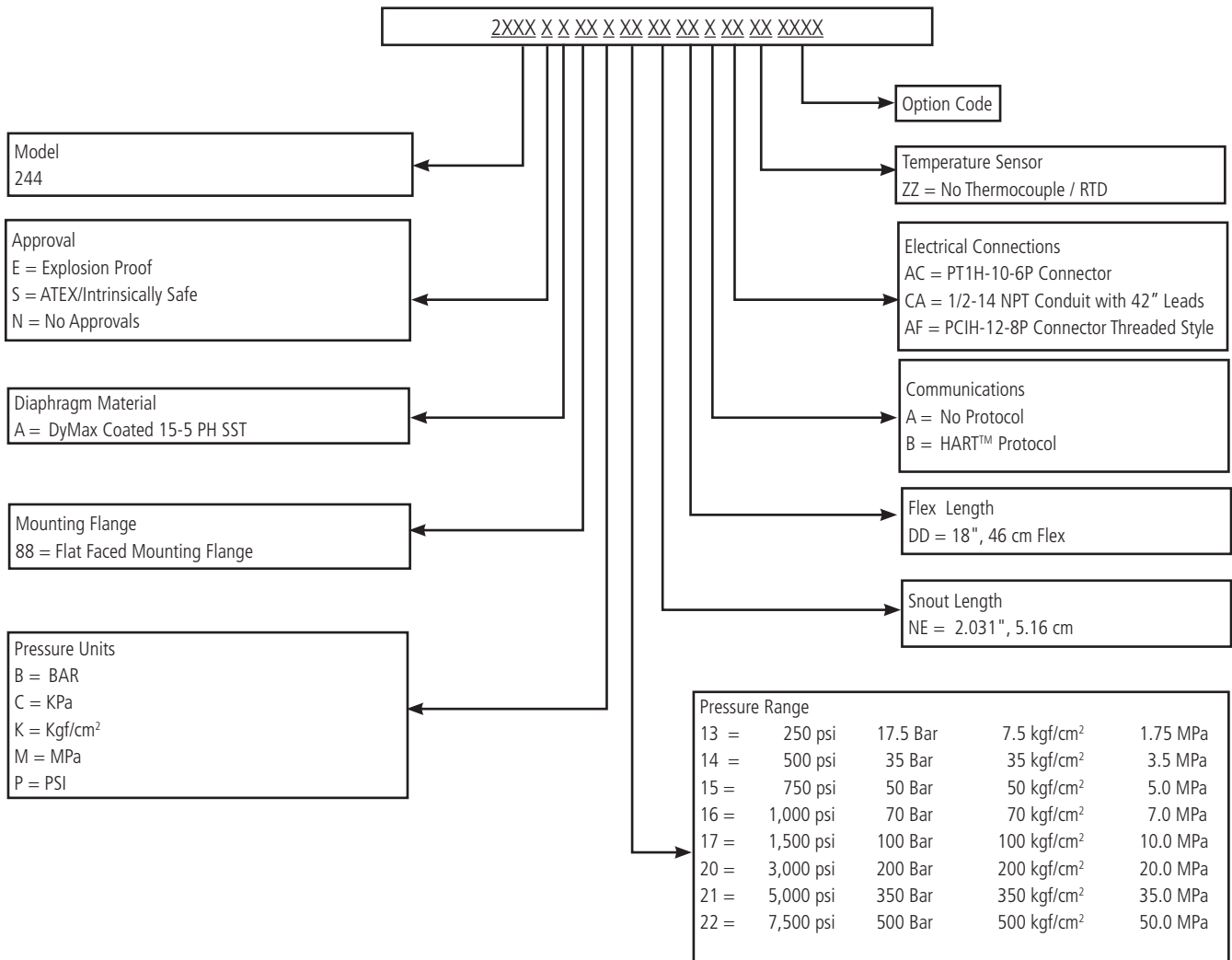
²Available in M18 x 1.5 thread only.

Ordering Guide for Models SPX2243¹



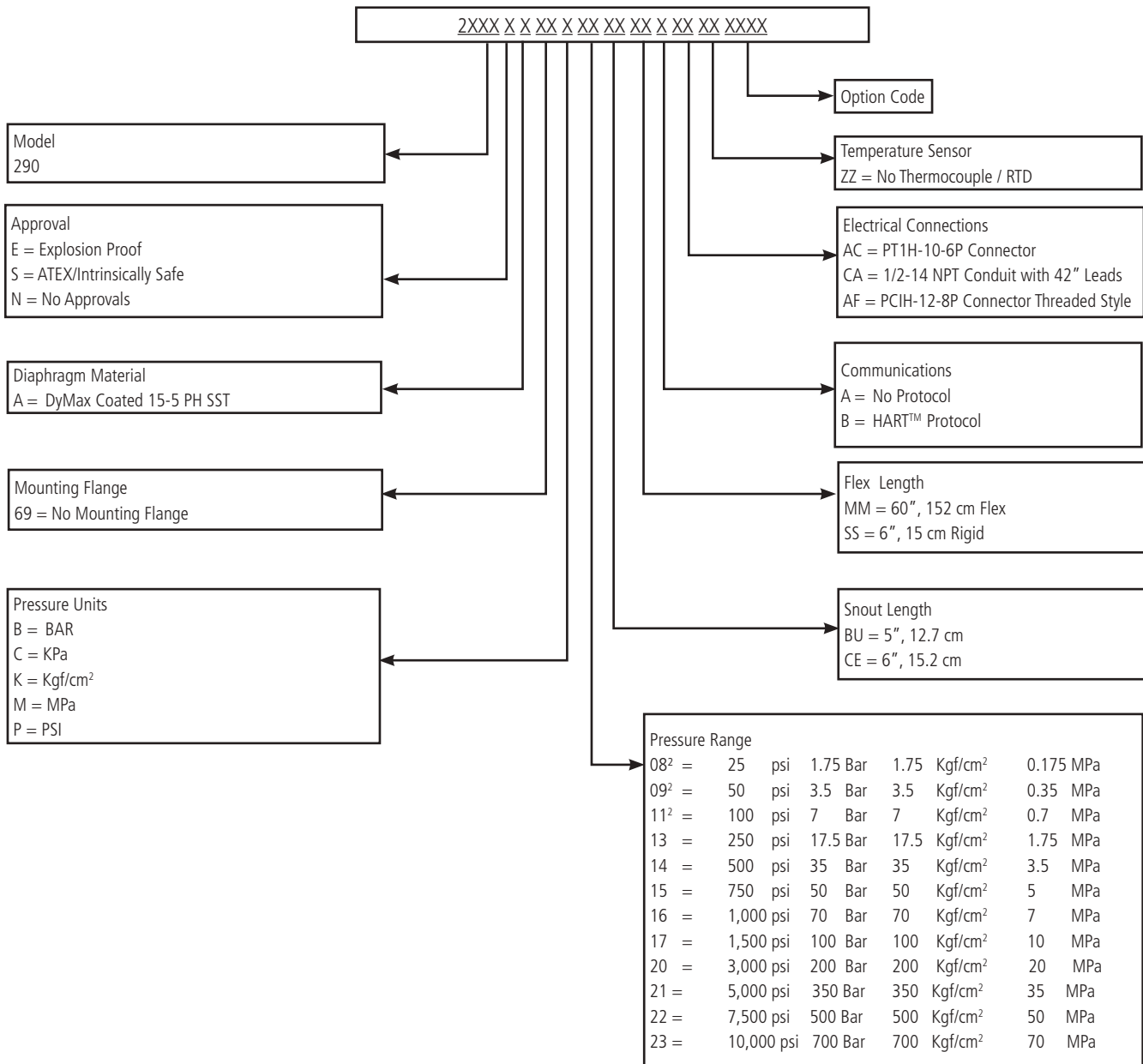
¹Other configurations are available. Please consult factory.

Ordering Guide for Models SPX2244¹



¹Other configurations are available. Please consult factory.

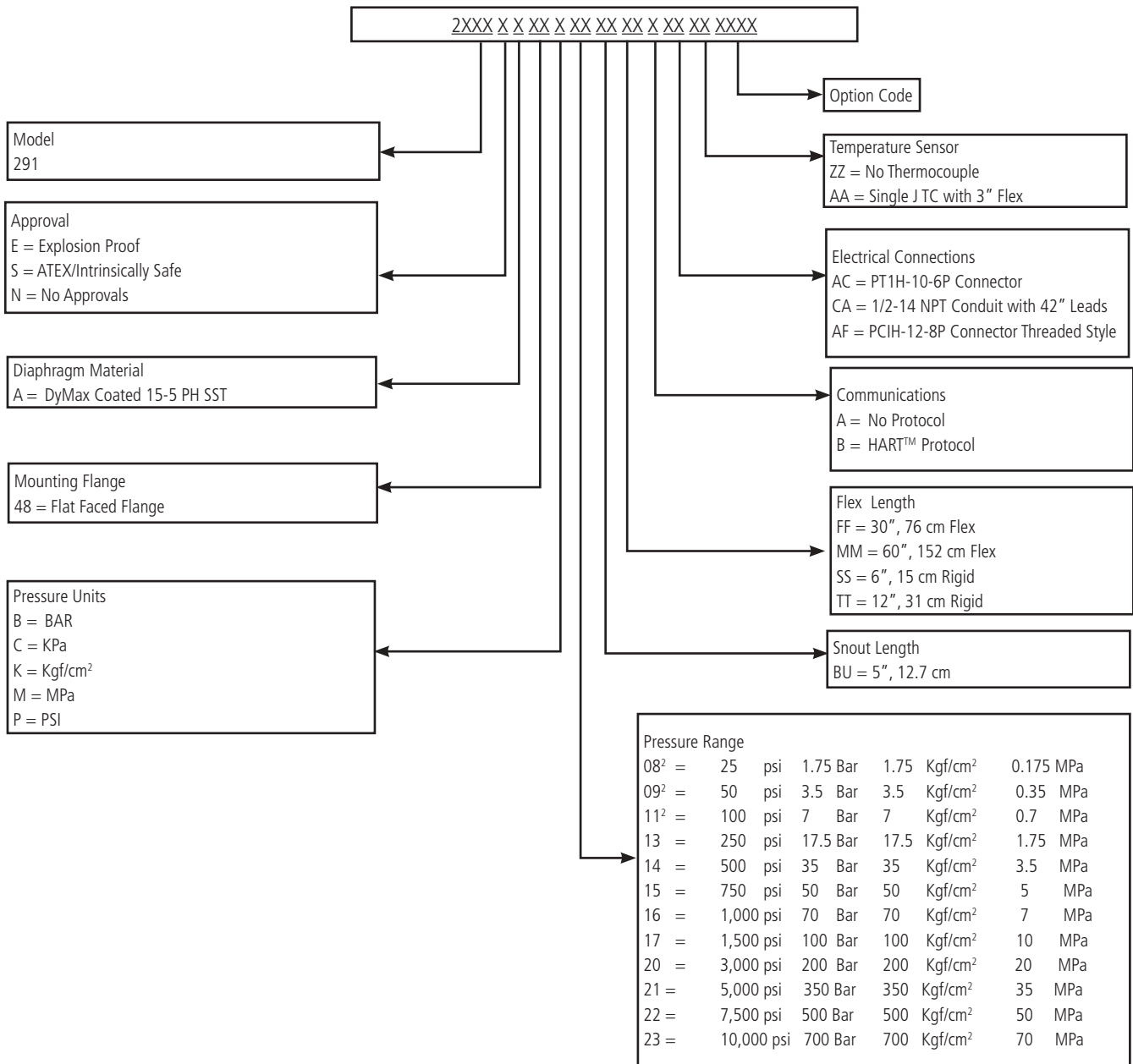
Ordering Guide for Models SPX2290¹



¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

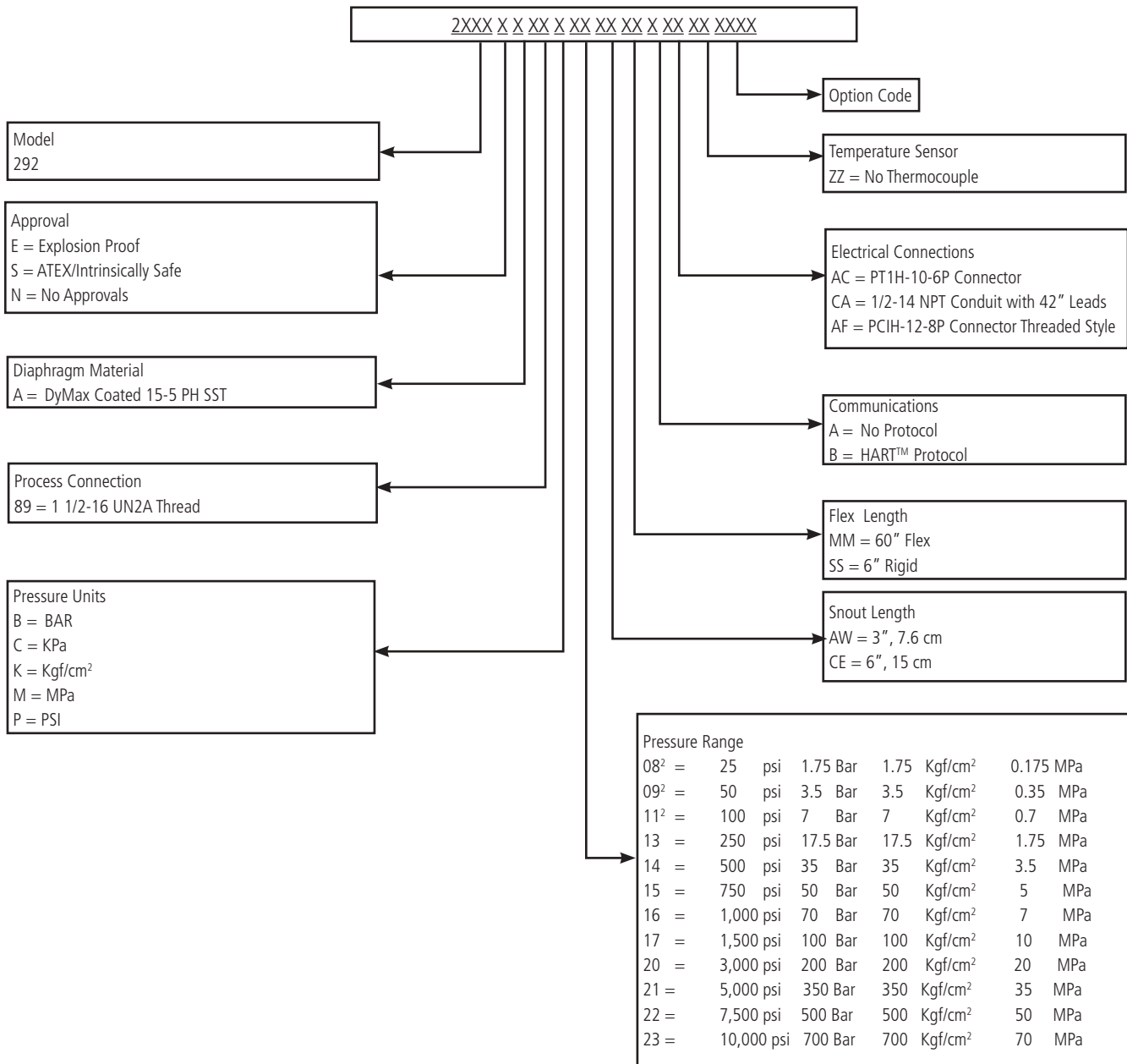
Ordering Guide for Models SPX2291¹



¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

Ordering Guide for Models SPX2292¹



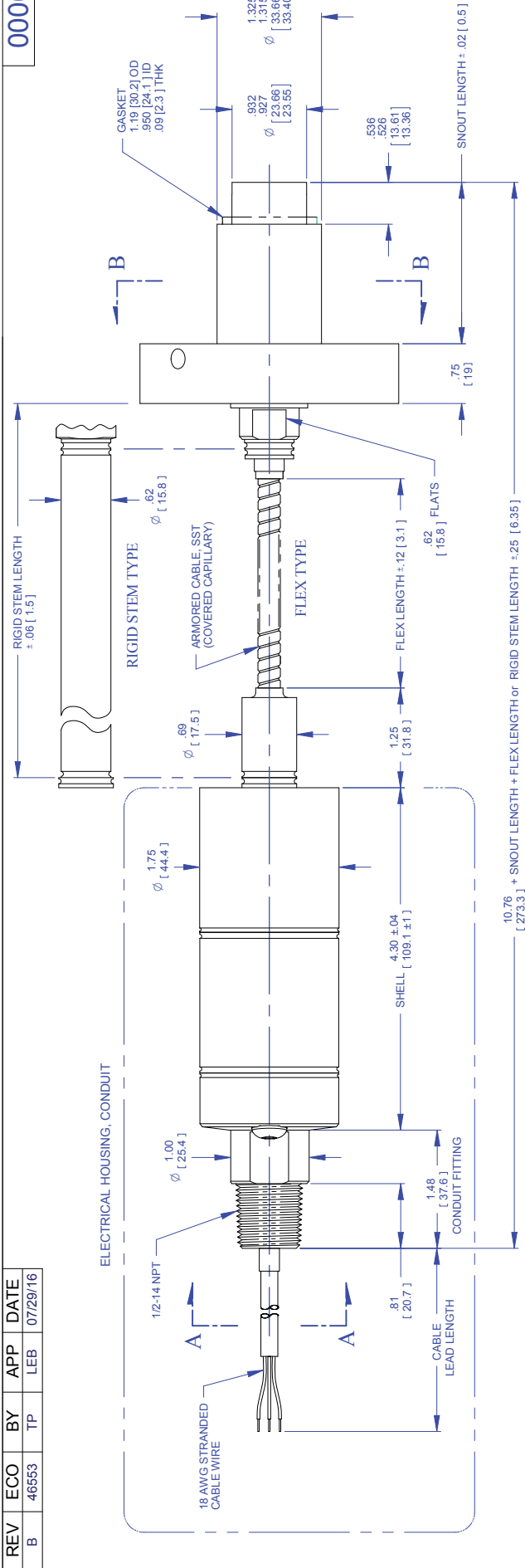
¹Other configurations are available. Please consult factory.

²Pressure ranges below 250 psi are supplied with rigid capillary

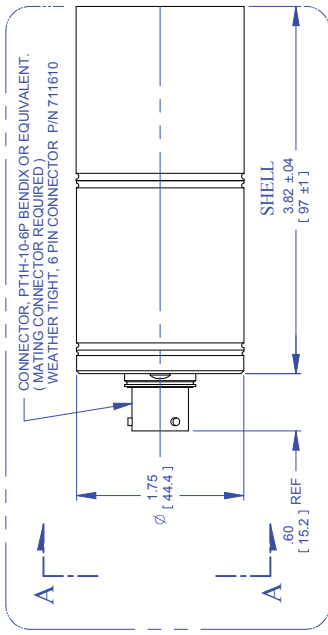
REV	ECO	BY	APP	DATE
B	46553	TP	LEB	07/29/16

000614

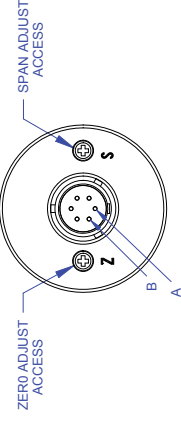
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION



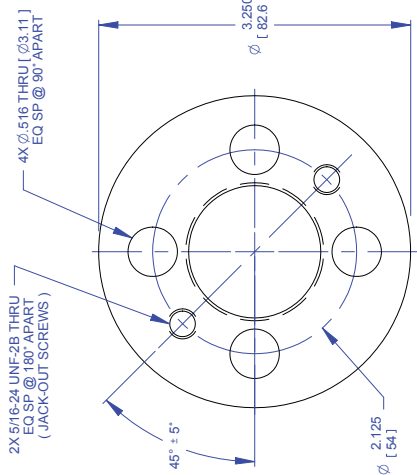
CONNECTOR, PTH-10-6P BENDIX OR EQUIVALENT.
(MATING CONNECTOR REQUIRED)
WEATHER TIGHT, 6 PIN CONNECTOR PIN 711610



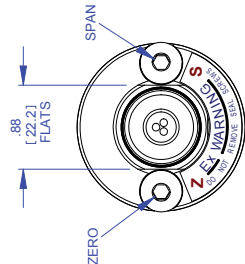
VIEW A-A

CONNECTOR WIRING	
PIN	FUNCTION
A	POWER + / SIGNAL +
B	POWER - / SIGNAL -
C	NO
D	CONNECTION
E	Rcal -
F	Rcal +

ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



VIEW B-B
FLANGE



VIEW A-A
3 CONDUCTOR SHOWN

Cable Wiring	
Color	Function
RED	POWER + / SIG +
BLACK	POWER - / SIG -
GREEN	GROUND
ORANGE	Rcal +
BLUE	Rcal -

TOLERANCES UNLESS OTHERWISE SPECIFIED:

- 1.2 PLACE DECIMAL 1.01
- 3 PLACE DECIMAL 1.005
- 4 PLACE DECIMAL 1.0005
- Ø DRAWS ±0.004, ±.005 ±0.004, ±.008
- ANGLES ±0.05° MAX
- EDGES R .005 OR CHAMFER MAX
- ALL DIMENSIONS ARE IN INCHES
- ALL DIMENSIONS ARE IN MILLIMETERS

TITLE
SPX-GEN2 OUTLINE
MODELS 2241, 5341
FLEX & RIGID VERSIONS

DRAWN	DRG	DATE	11/24/11
CHECKED	MUL	DATE	11/03/11
APPROVED	MUL	DATE	11/03/11
FINISH			

MODEL NO	SPX-GEN2
DO NOT SCALE DRAWING	
MATERIAL	

NOTES:

1. ALL DIMENSIONS ARE [MILLIMETERS] INCHES
2. EXPOSED SURFACES ARE STAINLESS STEEL.



FORCE PARKWAY FRANKLIN, MA
DWG. NO. C 000614 B

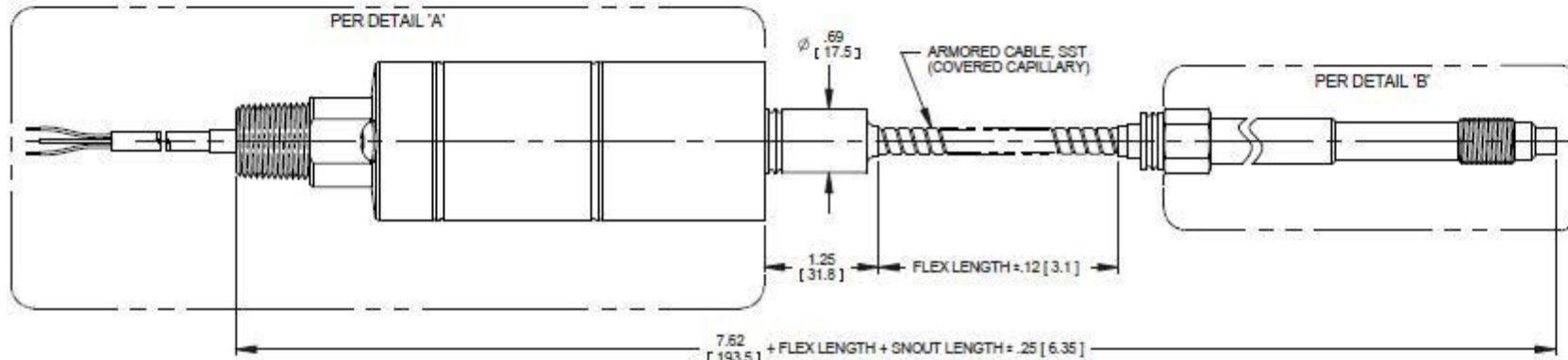
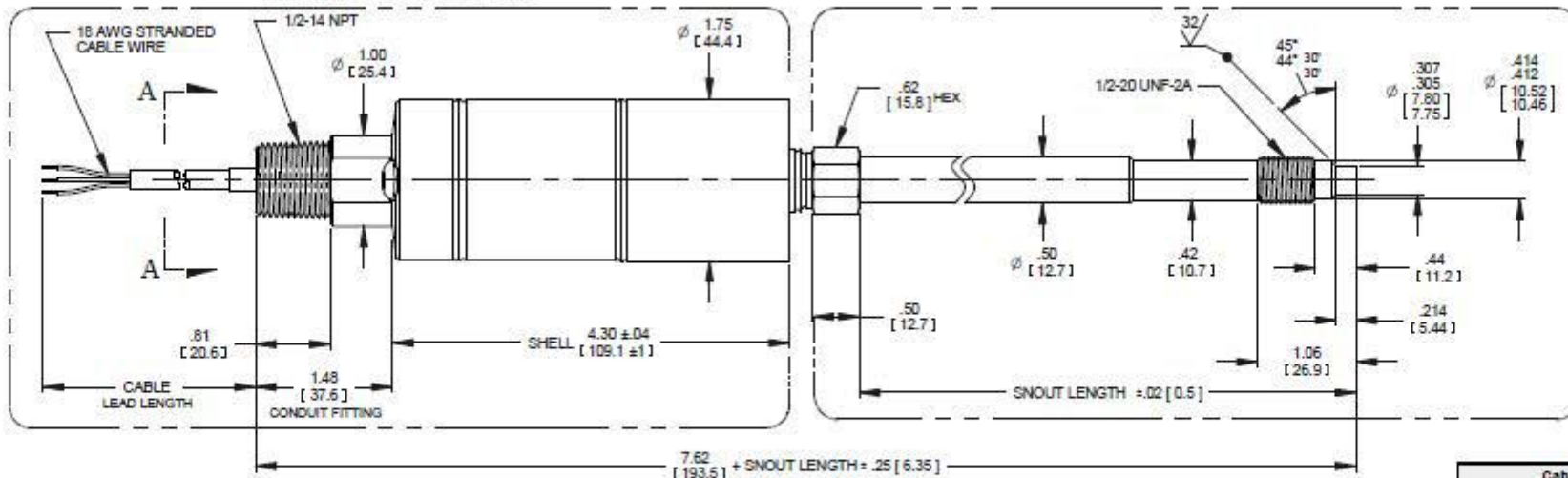
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REV	ECO	BY	APP	DATE
C	47068	TP	LEB	11/18/16

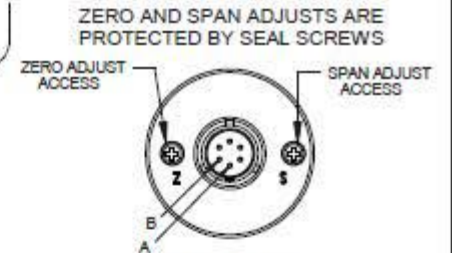
000616

DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT

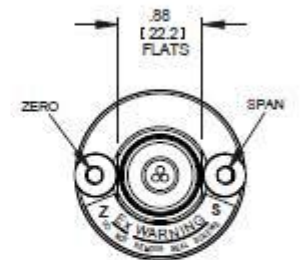
DETAIL 'B'
1/2 - 20 PROCESS CONNECTION



Cable Wiring		
Conductor	Color	Function
3 - Conductor	RED	POWER + / SIG +
	BLACK	POWER - / SIG -
	GREEN	GROUND
	ORANGE	Real +
	BLUE	Real -

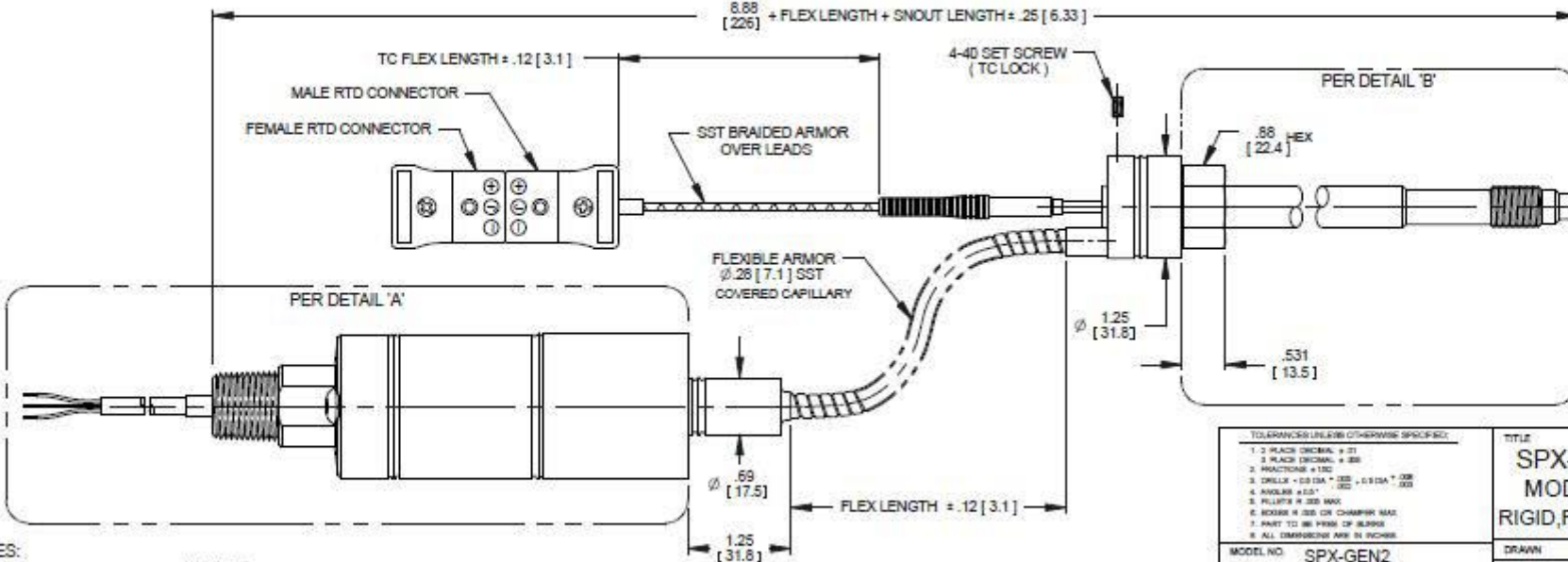


VIEW A-A



VIEW A-A

3 CONDUCTOR SHOWN



NOTES:
1. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]
2. EXPOSED SURFACES ARE STAINLESS STEEL.

TOLERANCES UNLESS OTHERWISE SPECIFIED:	
1. 3 PLACE DECIMAL, ± .01	
2. 2 PLACE DECIMAL, ± .005	
3. HOLE TO HOLE, ± .002	
4. HOLE TO EDGE, ± .002, ± .010	
5. HOLE TO CENTER, ± .002	
6. HOLE TO EDGE OR CHAMFER, ± .002	
7. HOLE TO HOLE OR CHAMFER, ± .002	
8. ALL DIMENSIONS ARE IN INCHES	
MODEL NO.	SPX-GEN2
DO NOT SCALE DRAWING	
MATERIAL	

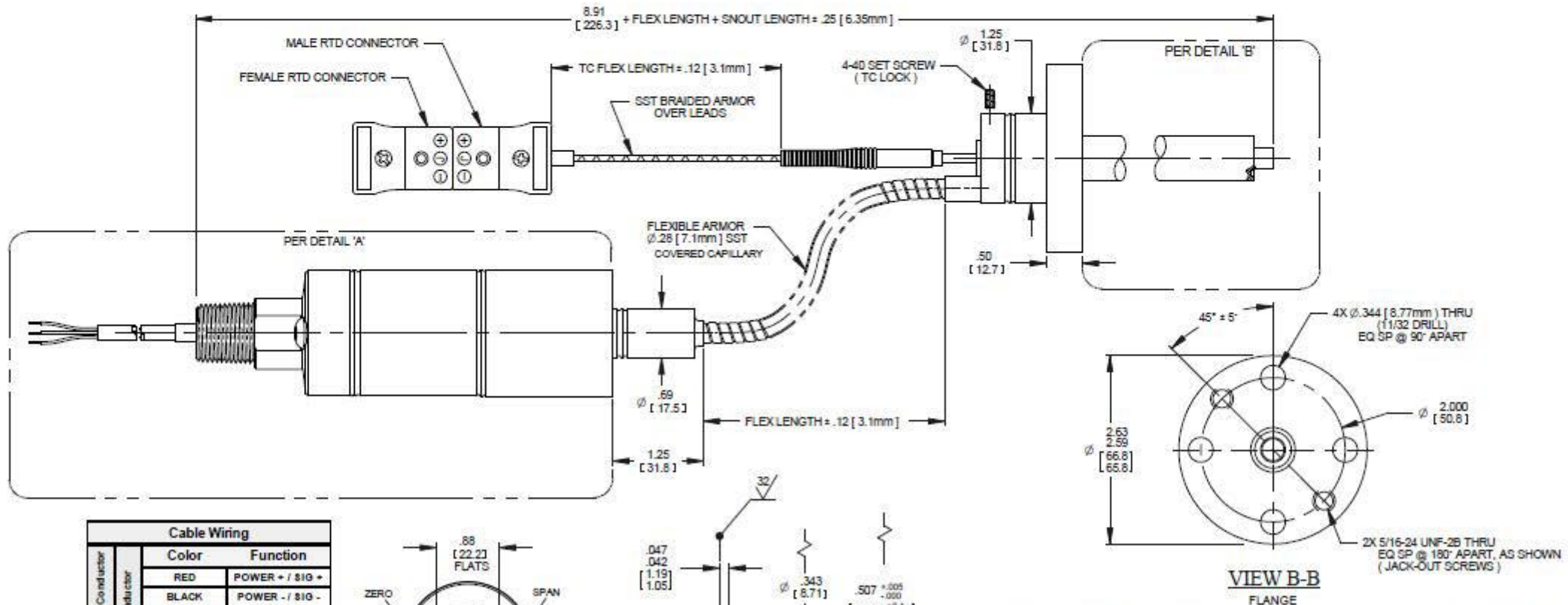
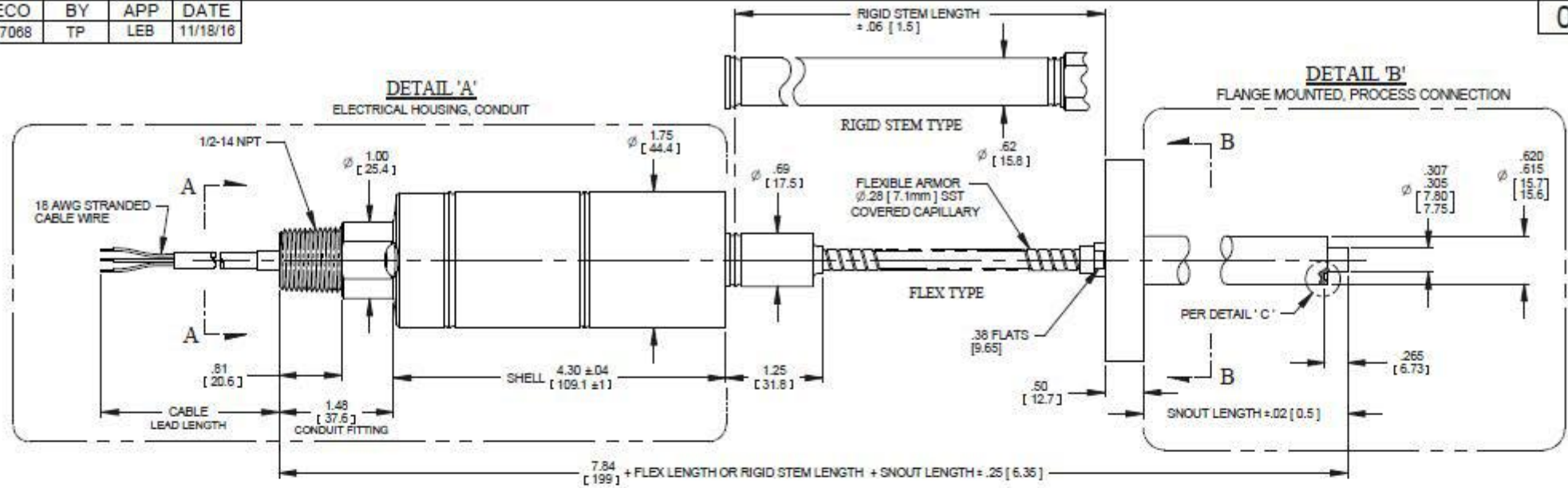
TITLE
SPX-GEN2 OUTLINE
MODELS 2242, 5342
RIGID, FLEX & TPT VERSION

DRAWN	DRG	DATE	11/29/10
CHECKED		DATE	
APPROVED	MJL	DATE	01/31/11
FINISH			

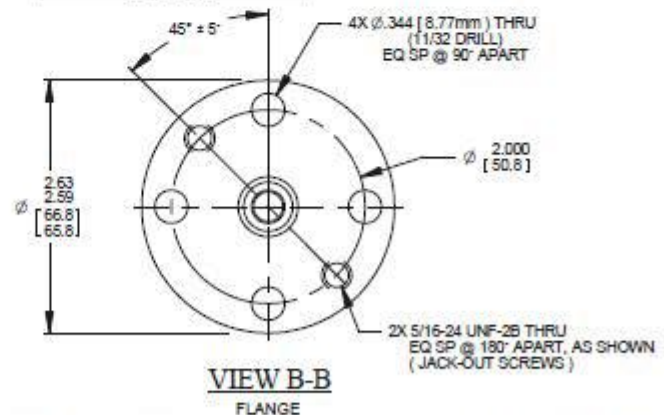
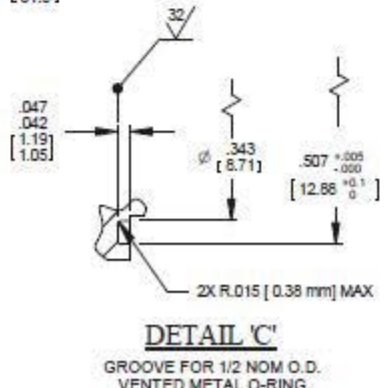
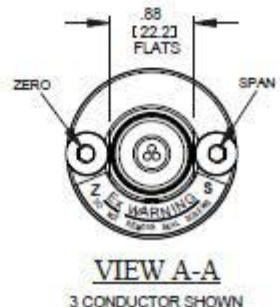
ACCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DIMENSIONS AND SPECIFICATIONS ARE THE PROPERTY OF DYNISCO, AND SHOULD BE SPECIFIC TO THIS CONTRACT AND SHALL NOT BE REPRODUCED OR COPIED, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF EQUIPMENT WITHOUT PERMISSION.		
DYNISCO		
SIZE	DWG. NO.	REV.
C	000616	C
SCALE: NONE SHEET 1 OF 1		

REV	ECO	BY	APP	DATE
C	47068	TP	LEB	11/18/16

000618



Cable Wiring		
Conductor	Color	Function
3-Conductor	RED	POWER + / 810 +
	BLACK	POWER - / 810 -
5-Conductor	GREEN	GROUND
	ORANGE	Real +
	BLUE	Real -



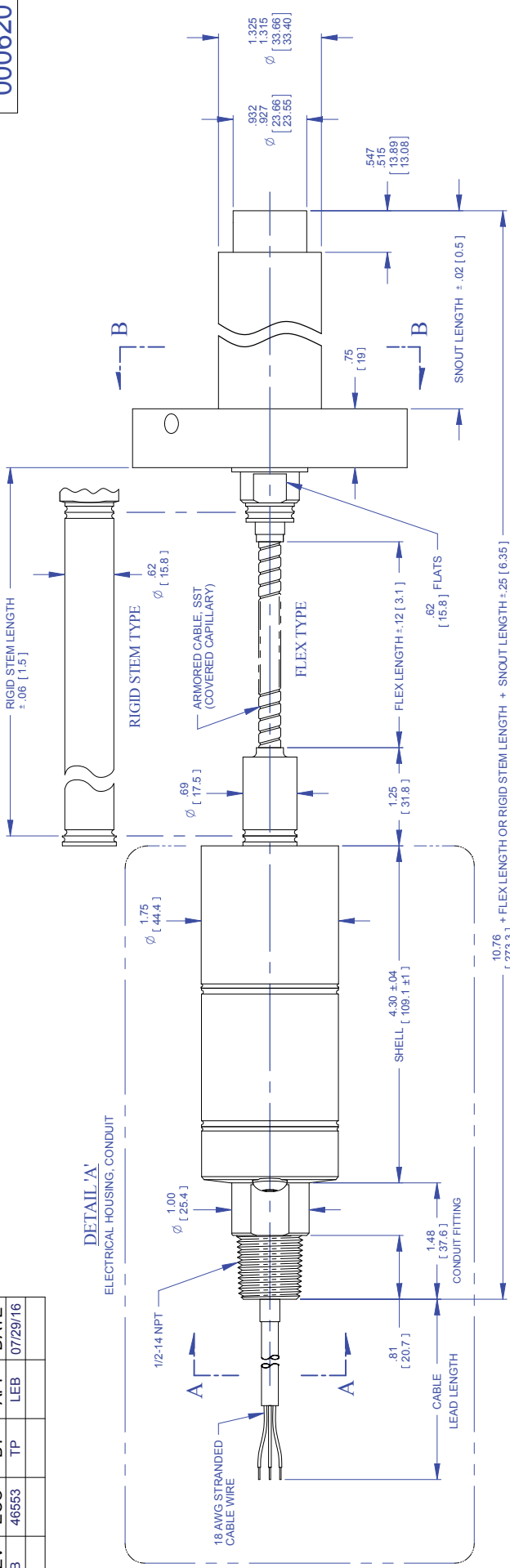
NOTES:
1. ALL DIMENSIONS ARE INCHES [MILLIMETERS]
2. EXPOSED SURFACES ARE STAINLESS STEEL.

TOLERANCES UNLESS OTHERWISE SPECIFIED:		TITLE		RECEIPT OR MAY BE OTHERWISE PROVIDED BY CONTRACTOR. THESE DIMENSIONS AND SPECIFICATIONS ARE THE PROPERTY OF DYNISCO, AND SHALL NOT BE REPRODUCED OR COPIED, OR USED, IN THE MANUFACTURE OF ANY APPARATUS WITHOUT PERMISSION.	
1. 2 PLACE DECIMAL + .01	2. 3 PLACE DECIMAL + .005	SPX-GEN2 OUTLINE		DYNISCO	
3. FRACTIONS + 1/32	4. DRILLS + .0015 (1/16) - .0015 (1/8)	MODELS 2243, 5343		FORMER PART NO. 7001-10	
5. DRILLS + .0015 (1/16) - .0015 (1/8)	6. ANGLES ± .01°	FLEX, RIGID & TPT VERSIONS		REV	
7. ROUNDS ± .005 MAX	8. SQUARE ± .005 ON CHAMFER MAX	MODEL NO. SPX-GEN2		DATE 11/29/10	C
9. PARTS TO BE FREE OF BURRS	10. ALL DIMENSIONS ARE IN INCHES	DO NOT SCALE DRAWING		DATE 01/31/11	C
		MATERIAL		FINISH	SCALE: NONE SHEET 1 of 1

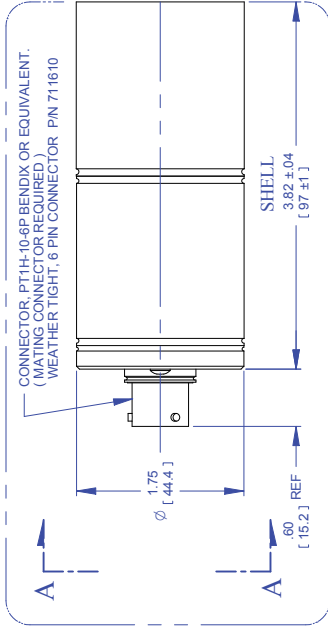
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B	46563	TP	LEB	07/29/16

000620

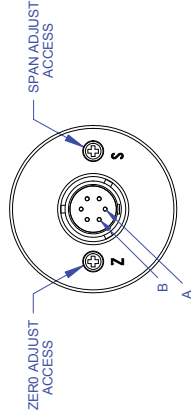
DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION

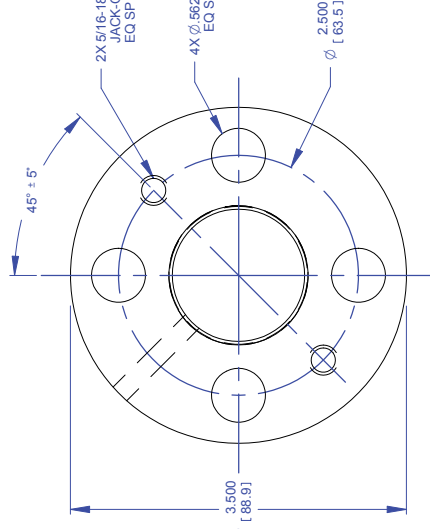


ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



VIEW A-A

CONNECTOR WIRING	FUNCTION
A	POWER + / SIGNAL +
B	POWER - / SIGNAL -
C	NO CONNECTION
D	NO CONNECTION
E	Rcal -
F	Rcal +



VIEW B-B
FLANGE

Cable Wiring	Color	Function
5 - Conductor	RED	POWER + / SIG +
	BLACK	POWER - / SIG -
	GREEN	GROUND
	ORANGE	Rcal +
3 - Conductor	BLUE	Rcal -

VIEW A-A

3 CONDUCTOR SHOWN

NOTES:

- ALL DIMENSIONS ARE [MILLIMETERS] INCHES
- EXPOSED SURFACES ARE STAINLESS STEEL.

TOLERANCES UNLESS OTHERWISE SPECIFIED:

- 1.2 PLACE DECIMAL 1.01
- 3 PLACE DECIMAL 1.005
- 4 PLACE DECIMAL 1.0005
- DIMENSIONS \pm 0.005
- ANGLES \pm 0.05° MAX
- EDGES R .005 OR CHAMFER MAX
- ALL DIMENSIONS ARE IN INCHES

TITLE
SPX-GEN2 OUTLINE
MODELS 2244, 5344
FLEX & RIGID VERSIONS

DRAWN	DRG	DATE	11/29/10
CHECKED	MUL	DATE	01/13/11
APPROVED			
FINISH			

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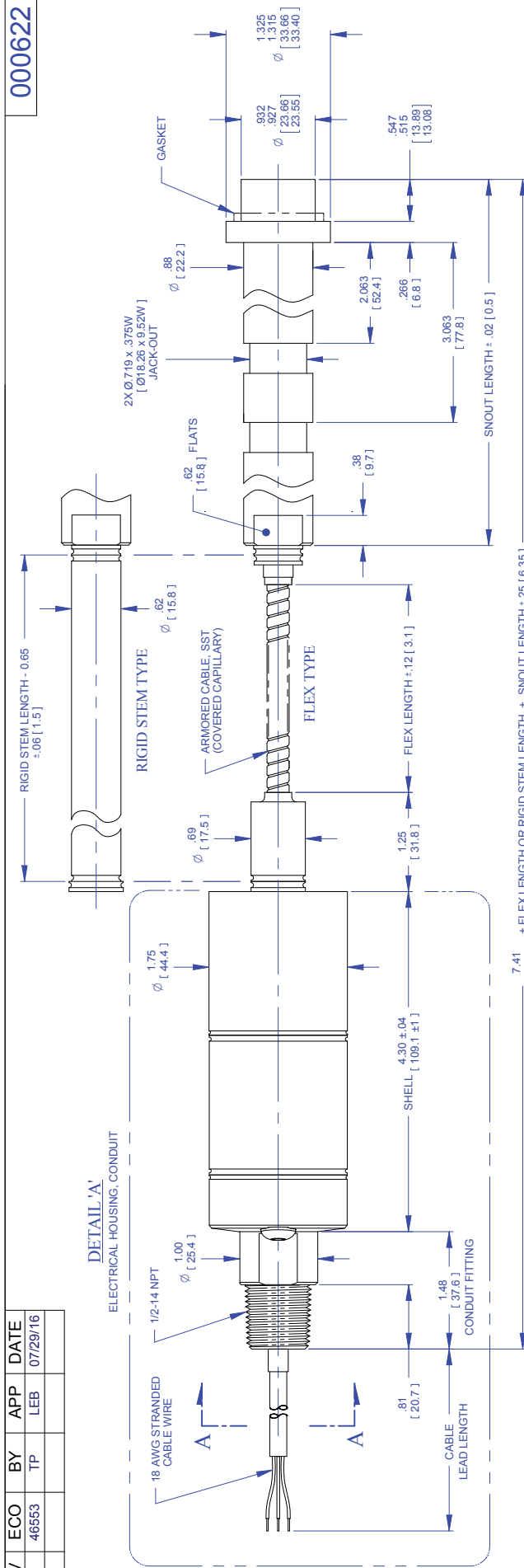
Dynisco
FORCE PARKWAY, FRANKLIN, MA

SIZE	REV
C	B
DWG. NO.	000620
SCALE	NONE SHEET 1 OF 1

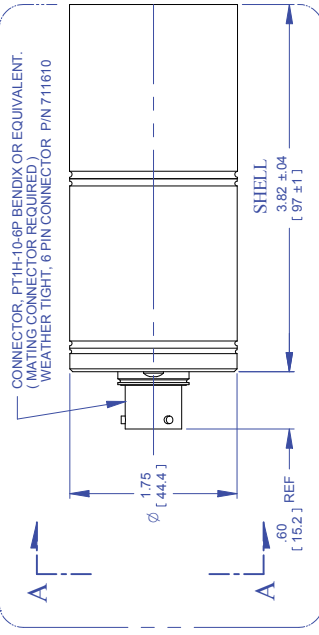
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B	46553	TP	LEB	07/29/16

000622

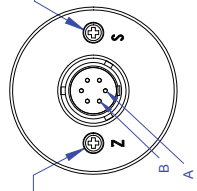
DETAIL A
ELECTRICAL HOUSING, CONDUIT



ELECTRICAL HOUSING, CONNECTOR CONFIGURATION

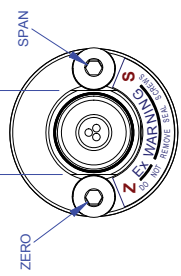


ZERO AND SPAN ADJUSTERS ARE PROTECTED BY SEAL SCREWS



CONNECTOR WIRING	
PIN	FUNCTION
A	POWER + / SIGNAL +
B	POWER - / SIGNAL -
C	NO
D	CONNECTION
E	Rcal -
F	Rcal +

Cable Wiring	
Color	Function
RED	POWER + / SIG +
BLACK	POWER - / SIG -
GREEN	GROUND
ORANGE	Rcal +
BLUE	Rcal -



VIEW A-A
3. CONDUCTOR SHOWN

- TOLERANCES UNLESS OTHERWISE SPECIFIED:
1. 2 PLACE DECIMAL ±.01
 2. 3 PLACE DECIMAL ±.005
 3. DIMENSIONS ±.005
 4. DRILLS ±0.030A, ±.005, ±0.030A, ±.008
 5. ANGLES ±0.5° MAX
 6. EDGES R.005 OR CHAMFER MAX
 7. FINISHES AS SHOWN
 8. ALL DIMENSIONS ARE IN INCHES

TITLE
SPX-GEN2 OUTLINE
MODELS 2290, 5390
FLEX & RIGID VERSIONS

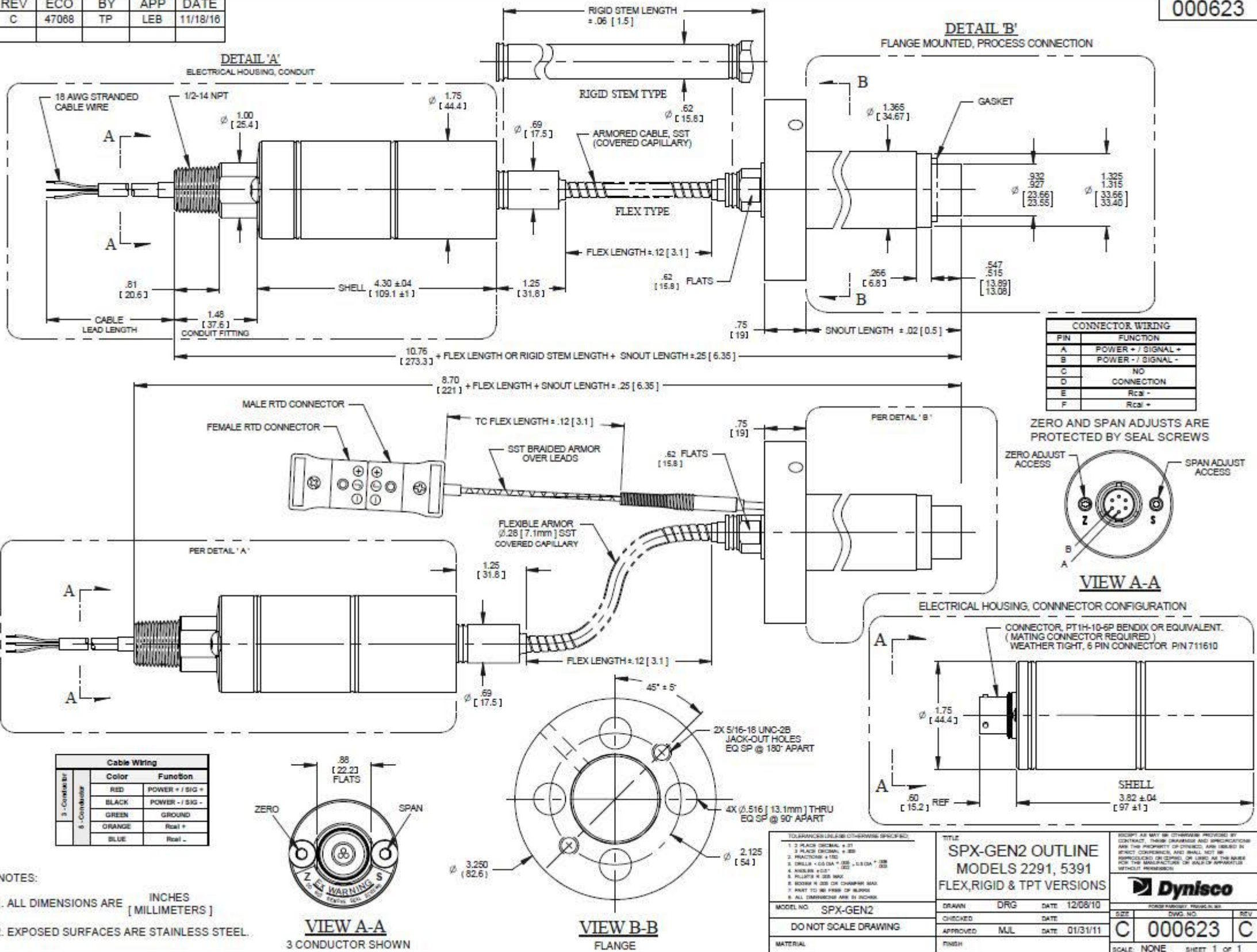
DRAWN	DATE	DRG	DATE
CHECKED	MUL	DATE	DATE
APPROVED			
FINISH			

- NOTES:
1. ALL DIMENSIONS ARE INCHES [MILLIMETERS]
 2. EXPOSED SURFACES ARE STAINLESS STEEL.

Dynisco
FORCE PARKWAY, FRANKLIN, VA
DWG. NO. 000622
REV. B

REV	ECO	BY	APP	DATE
C	47068	TP	LEB	11/18/16

000623



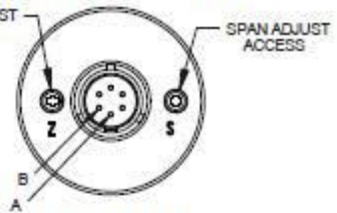
DETAIL 'B'
FLANGE MOUNTED, PROCESS CONNECTION

DETAIL 'A'
ELECTRICAL HOUSING, CONDUIT

CONNECTOR WIRING

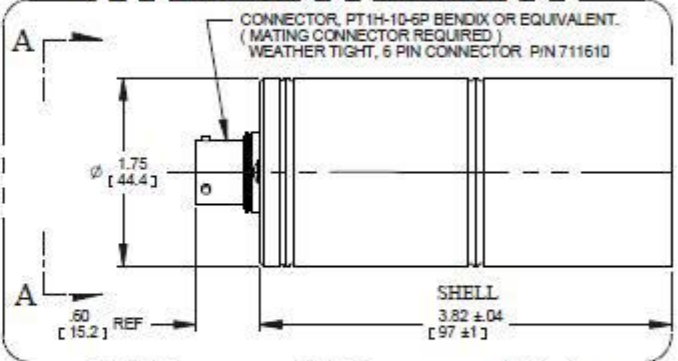
PIN	FUNCTION
A	POWER + / SIGNAL +
B	POWER - / SIGNAL -
C	NO
D	CONNECTION
E	Rcal -
F	Rcal +

ZERO AND SPAN ADJUSTS ARE PROTECTED BY SEAL SCREWS



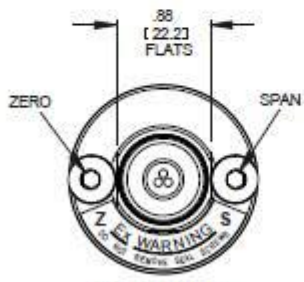
VIEW A-A

ELECTRICAL HOUSING, CONNECTOR CONFIGURATION



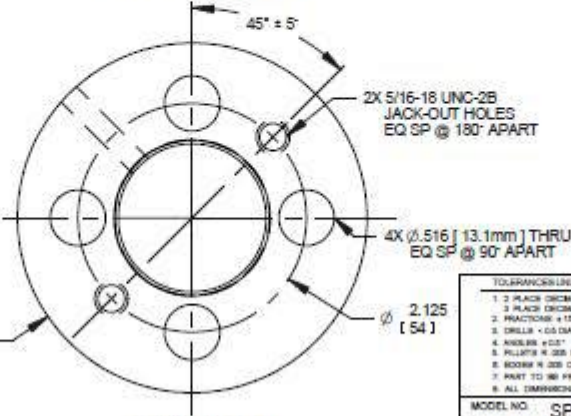
Cable Wiring

Color	Function
RED	POWER + / SIG +
BLACK	POWER - / SIG -
GREEN	GROUND
ORANGE	Rcal +
BLUE	Rcal -



VIEW A-A

3 CONDUCTOR SHOWN



VIEW B-B

FLANGE

- NOTES:
- ALL DIMENSIONS ARE INCHES (MILLIMETERS)
 - EXPOSED SURFACES ARE STAINLESS STEEL.

TOLERANCES UNLESS OTHERWISE SPECIFIED:

- 3 PLACE DECIMAL ± .01
- 2 PLACE DECIMAL ± .005
- FRACTIONS ± 1/32
- DRILLS ± 0.004 ± 0.001, 1/8 DIA ± .002
- HOLE ± .001 ± .001, 1/8 DIA ± .002
- PILLOTS ± .002 MAX
- ROCKWELL C 28 OR CHAMFER MAX
- HARD TO BE FREE OF BURRS
- ALL DIMENSIONS ARE IN INCHES

MODEL NO	SPX-GEN2
DO NOT SCALE DRAWING	
MATERIAL	

TITLE

SPX-GEN2 OUTLINE
MODELS 2291, 5391
FLEX,RIGID & TPT VERSIONS

DRAWN	DRG	DATE	12/08/10
CHECKED		DATE	
APPROVED	MUL	DATE	01/31/11
FINISH			

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Dynisco

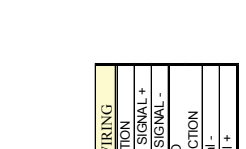
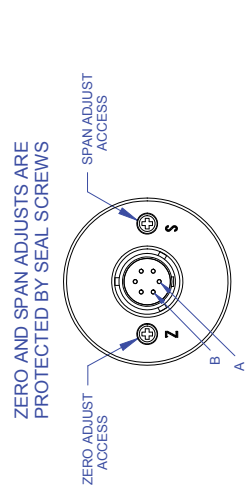
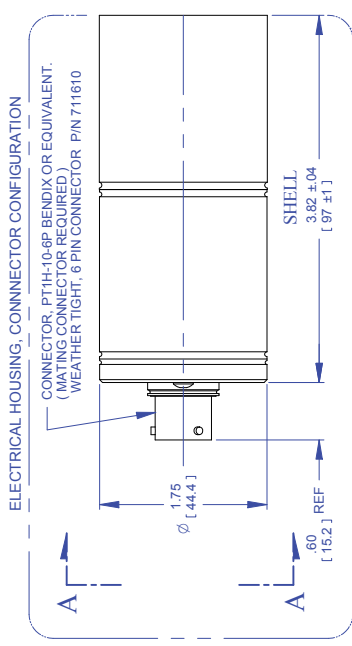
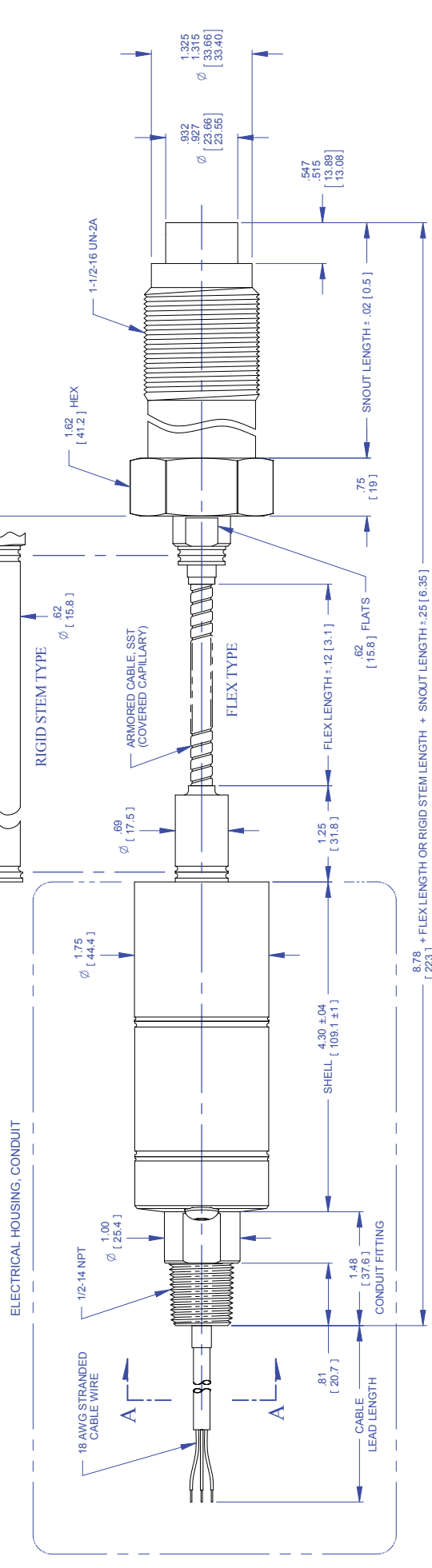
PROCESSED BY: FRANKLIN, MO

SIZE	DWG. NO.	REV
C	000623	C

SCALE: NONE SHEET 1 OF 1

REV	ECO	BY	APP	DATE
B	46553	TP	LEB	07/29/16

000625



CONNECTOR WIRING	
PIN	FUNCTION
A	POWER + / SIGNAL +
B	POWER - / SIGNAL -
C	NO
D	CONNECTION
E	Rcal -
F	Rcal +

Cable Wiring	
Color	Function
RED	POWER + / SIG +
BLACK	POWER - / SIG -
GREEN	GROUND
ORANGE	Rcal +
BLUE	Rcal -

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Dynisco
FORCE PARKWAY, FRANKLIN, VA

TITLE: **SPX-GEN2 OUTLINE**
MODELS 2292, 5392
FLEX & RIGID VERSIONS

DRAWN: DRG DATE: 12/07/10
CHECKED: DATE: 01/13/11
APPROVED: MJL
FINISH: NONE

SIZE: C
DWG. NO.: 000625
REV: B

SCALE: NONE SHEET 1 OF 1

1. ALL DIMENSIONS ARE INCHES [MILLIMETERS]

2. EXPOSED SURFACES ARE STAINLESS STEEL.

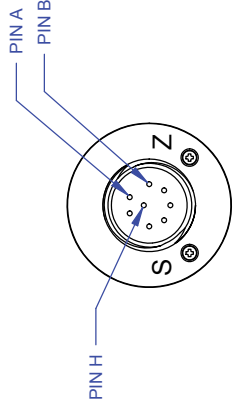
3. CONDUCTOR SHOWN

DO NOT SCALE DRAWING

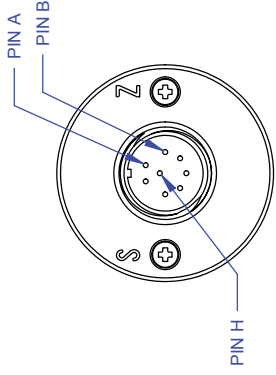
MATERIAL

REV	ECO	BY	APP	DATE
A	46553	TP	LEB	07/29/16 R

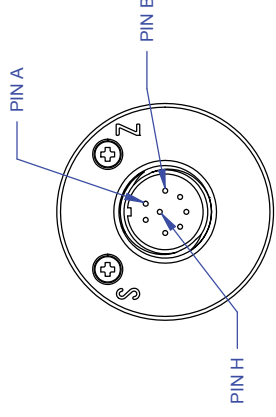
000652



8 - PIN PC
O-RING WITH PUSH BUTTONS
PCIH-12-8P



8 - PIN PC
WELDED WITH PUSH BUTTONS
PCIH-12-8P



8 - PIN PC
WELDED WITH HALLS
PCIH-12-8P

GUARDIAN CONNECTOR WIRING	
PIN	FUNCTION
A	POWER +
B	SIGNAL -
C	POWER -
D	NO CONNECTION
E	Rcal -
F	Rcal +
G	RELAY CONTACT
H	RELAY CONTACT

NOTE:
1. THESE CONNECTOR OPTIONS ARE AVAILABLE ON MOST OF THE CONFIGURATIONS SHOWN ON THE PREVIOUS SHEETS.

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 1. PLACE DECIMAL ± .005
 2. FRACTIONS ± 1/32
 3. DRILLS < 0.5 DIA. ± .002 > 0.5 DIA. ± .003
 4. ANGLES ± 0.5°
 5. ROUNDS ± .005 MAX.
 6. EDGES R .006 OR CHAMFER MAX
 7. PART TO BE FREE OF BURRS
 8. ALL DIMENSIONS ARE IN INCHES.

TITLE		DATE	
GUARDIAN SERIES CONNECTORS		TP	7/27/16
DRAWN	CHECKED	DATE	DATE
LEB	LEB	7/27/16	7/27/16
APPROVED	APPROVED	DATE	DATE
FINISH	FINISH	63	✓

SIZE		REV	
B		A	
DWG. NO.		REV	
000652		A	
SCALE NONE SHEET 1 OF 1			

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Refer to www.dynisco.com for access to Operator Manual and other support documentation.
PN: DSSPX2SERIES
REV: 1116
ECO: 470658



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