Parts List

PL 008-755
September 2018

Schneider Electric Model 84C Vortex Flowmeters
Wafer Body Flowmeters

Give instrument Model Code when ordering.
*Parts preceded by an asterisk are recommended spare parts.
See Recommended Spare Parts Summary section for quantities.

TO ORDER PARTS, CALL 1-866-746-6477.

Schneider Electric™

MODEL CODE

Description	Model
Vortex Flowmeter	84C
Body Style	
Wafer	W
Nominal Line Size	
3/4 in (DN15, 15 mm) Line Size	008
1 in (DN25, 25 mm) Line Size	010
1 1/2 in (DN40, 40 mm) Line Size	015
2 in (DN50, 50 mm) Line Size	020
3 in (DN80, 80 mm) Line Size	030
4 in (DN100, 100 mm) Line Size	040
6 in (DN150, 150 mm) Line Size	060
8 in (DN200, 200 mm) Line Size	080
Electronics Version	
HART Communication Protocol	-T
Low Power with HART Communication Protocol, output fixed at 10 mA	-L
Pulse Output	
Standard pulse output capability	P
Body, Flange, and Shedder Bar Material	
316 ss, ASTM A351-CF8M (316) Cast Body and Shedder	R
ASTM A494-CW2M (Nickel alloy (a) ▸ For line sizes 008 to 040 only	H
Mounting and Centering System	
▸ Centering for ANSI Class 150, 300, and 600 flanges (Line sizes 008 to 040) ▸ Centering for PN16 flanges (Line sizes 010 to 030) ▸ Centering for PN40 (Line sizes 010 to 030, 060, and 080) ▸ Centering PN63 and PN100 (All sizes)	W1
Centering for ANSI Class 600 flange (Line sizes 060 to 080 only)	W3
Centering for PN16 flange (Line sizes 040 to 080 only)	W4
Centering for PN40 only (Line size 040 only)	W5
Centering for Metric PN16 and PN40 (Line size 008 only)	W9
Single or Dual Measurement and Isolation Manifold	
Single Measurement; No Isolation Manifold	S
Multivariable Selection	
Temperature compensation only (up to 500°F/260°C maximum with Multivariable Selection T) (b) (c)	T
Sensor Fill, Temperature Range, and Material	
Standard Temperature Range (with Fill Fluid)	
Fluorolube Fill, 0° to 200°F (-18° to +93°C) Nickel alloy (a)	D
Fluorolube Fill, 0° to 200°F (-18° to +93°C) Stainless Steel CF3M	F
Silicone Fill, 0° to 400°F (-18° to +204°C) Nickel alloy CW2M (a)	R
Silicone Fill, 0° to 400°F (-18° to +204°C) Stainless Steel CF3M	S
Extended Temperature Range (No Fill Fluid)	
Unfilled, 300° to 800°F (149° to 427°C) Nickel alloy CW2M (a) (c) For Multivariable Selection T, sensor is rated to 500°F (260°C) maximum	E
Unfilled, 300° to 800°F (149° to 427°C) Stainless Steel CF3M (c) For Multivariable Selection T, sensor is rated to 500°F (260°C) maximum	G
Mounting and Conduit Openings for Electrical Housing	
Aluminum Integral Top Mounted with 1/2-NPT Conduit Connections	T
Aluminum Integral Top Mounted with M20 Conduit Connections	V
Aluminum Remote Mounted, 1/2-NPT Conduit Connections (d)	R
Aluminum Remote Mounted M20 Conduit Connections (d)	W
Local Digital Indicator/Configurator	
No Digital Indicator/Configurator (blind only)	N
Digital Indicator/Configurator	J

MODEL CODE

Description	Model
Electrical Safety (refer to ELECTRICAL SAFETY SPECIFICATIONS in the associated PSS for details) (e)	
ATEX intrinsically safe	AA
ATEX flameproof	AD
INMETRO intrinsically safe	BA
INMETRO flameproof	BD
CSA intrinsically safe	CA
CSA explosionproof	CD
CSA Division 2	CN
IECEx intrinsically safe	EA
IECEx flameproof	ED
FM intrinsically safe	FA
FM explosionproof	FD
FM nonincendive	FN
EAC intrinsically safe	RA
EAC flameproof	RD
Unit with CE mark, PED, controls and records	YY
Unit does not have CE mark; not to be installed in European Union (EU) countries	ZZ
Optional Selections	
Tamperproof and Custody Transfer Options	
Tamperproof sealing for housing and covers	-A
Cable Length Selection for Remote Mounted Electronics	
20 ft (6 m) Cable to Connect to Remote Electronics Housing	-B
30 ft (9 m) Cable to Connect to Remote Electronics Housing	-D
40 ft (12 m) Cable to Connect to Remote Electronics Housing	-E
50 ft (15 m) Cable to Connect to Remote Electronics Housing	-G
Cleaning for Oxygen/Chlorine Service	
Cleaning of Process Wetted Parts per Compressed Gas Association's CGA G-4.1 and ASTM G93	-H
Sensor Plating (for Hydrogen applications)	
Gold Plated Sensor	-J
Schneider Electric Certificates of Compliance/Conformance	
Standard Certificate of Compliance	-L
Schneider Electric Material Certification of Process Wetted Metal (Conforms to EN 10204 Type 3.1 certificate)	-M
Process Wetted Parts Comply with NACE Standards MR-0175-2003 and MR-0103-2007	-Q
Schneider Electric Calibration Certificate	
Calibration and Pressure Test Certified Copy	-N
Cable Connectors – with Electronics Housing Codes T and R only (1/2 NPT)	
Hawke Cable Gland (available only with electrical safety codes YY and ZZ)	-P
PG11 Cable Gland, Trumpet Shaped (not available with explosionproof/flameproof certifications)	-R
Optional Conduit Fitting	
Adapter for use with 1/2 NPT conduit (Available only with Remote Mounted Housing Code R)	-T
Instruction Manual	
Detailed Instruction Manual in hard copy format (f)	-C
Example: 84CW020-TPRW1STDTJYY-N	

a. Equivalent to Hastelloy C-4C.

b. Pulse output option is required for temperature compensated vortex.

c. Multivariable Option T allows for up to 500°F (260°C). The temperature element of the RTD is rated only up to 500°F (260°C). Use care when using a Vortex high temperature sensor, which may be rated to a higher temperature.

d. For remote mounting, select optional cable length.

e. The Model 84C has been designed to meet the electrical safety descriptions listed in this table. For detailed information, or status of the testing laboratory approval/certification, contact Global Customer Service.

f. A DVD containing the documentation set is shipped standard with the product.

PARTS

Figure 1. Model 84C Electronics Housing Assembly (Housing Integrally Mounted to Flowtube)

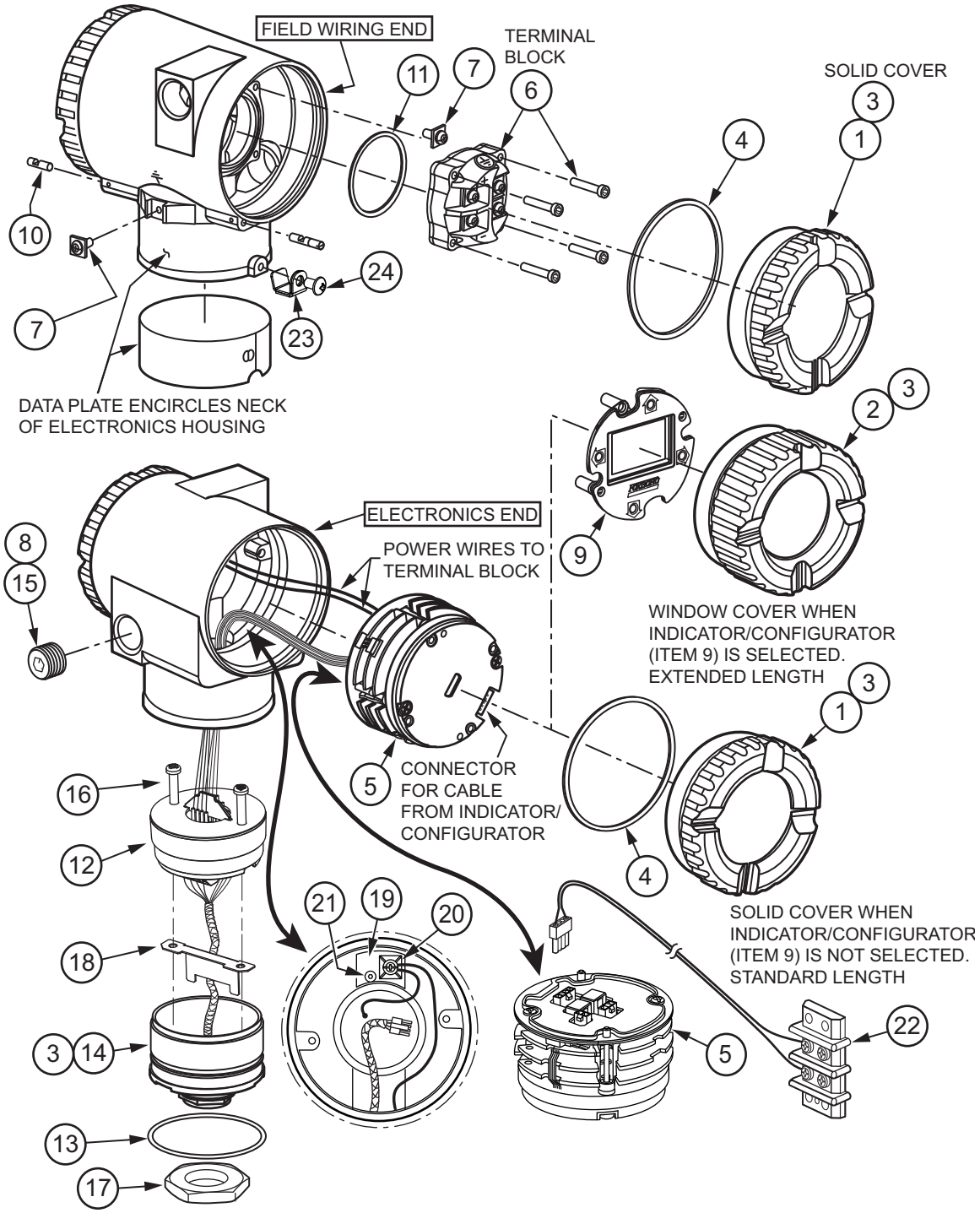

Table 1. Parts for Figure 1

Item	Part No.	Qty.	Part Name
1	D0162AP	2	Cover, Aluminum; No Indicator/Configurator
2	K0147YA	1	Cover, Aluminum; with Window; used when Indicator/Configurator is selected, replaces Item 1 on electronics end.
3	X0114AT	A/R	Grease, 14 ounce can (a)
*4	X0201FC	2	O-ring, Cover
*5	Below	1	Electronics Module Assembly
	K0168GF		with Pulse Output (Version -T)
	K0168RS		LOW POWER with Pulse Output (Version -L)
6	Below	1	Terminal Block Assembly - with Pulse Output. (The terminal block assembly includes 4 mounting screws)
	K0168QY		with Pulse Output (non-explosionproof installations)
	K0168QZ		with Pulse Output (flameproof/explosionproof installations)
7	D0162VJ	2	Screw Assembly, Plated ss, 0.164-32 x 0.375
8	B1270KE	A/R	Sealant, Thread (a)
*9	K0149GV	1	LCD Indicator/Configurator Replacement Kit; Includes Indicator/Configurator, label, screws, and instructions
*10	D0162WM	2	Screw, Cover Lock, 0.164-32 (b)
11	X0144KR	1	O-ring, Terminal Block
*12	Below	1	Potted Cup Assembly, Module
	K0168GJ		Non-explosionproof transmitters, Integral, Standard temperature.
	K0168MW		Flameproof or explosionproof, Integral, Standard temperature.
	K0168HF		Non-explosionproof transmitters, Integral, High temperature.
	K0168MX		Flameproof or explosionproof, Integral, High temperature.
*13	X0144KW	1	O-ring, Housing Neck
14	K0168GG	1	Cup Housing Neck, Machining
15	Below	1	Plug, Pipe; See WARNING below
	B0139CA		1/2 NPT; Aluminum; with Housing Codes T and R
	D0179FK		M20; ss; with Housing Codes V and W
16	X0174GF	2	Screw, Panhead; Cross Recessed; ss; M4 x 0.7 x 28mm
17	K0148TQ	1	Nut, Jam; Hexhead; ss; 0.500-14
18	K0163FY	1	Shield Sensor
19	K0152JV	1	Molding, Physical Ground
20	K0152JX	1	Screw Assembly, Physical Ground; ss; 0.164-32 x 0.315
21	X0133VN	1	Screw, Socket Head; ss; 0.138-32 x 0.437
22	K0152KU	1	Harness, Test; Accessory (c)
23	D0197PS	1	Clip, Retention
24	X0174EK	1	Screw, Button Head

a. Recommended lubricant and thread sealant is indicated for threaded parts. An equivalent commercially available equivalent lubricant or thread sealant may also be used.
b. Cover lock screws are provided with ATEX/IECEx/NEPSI flameproof electrical certifications. They are used to help prevent rotation of the housing covers. To remove a cover, turn screw clockwise until screw clears the cover groove; then remove cover. To put cover back in place, screw cover on, and then turn screw counterclockwise until it engages the cover groove.
c. The test harness provides a method for inputting a frequency using a frequency generator, for those users who require a test input for validation.

⚠ WARNING

RISK OF MOISTURE INGRESS

To maintain IP66 (IEC 60529) and NEMA 4X protection, the unused conduit opening must be closed with a metal plug. In addition, the threaded housing covers must be properly installed.

Failure to follow these instructions can result in death or serious injury.

Figure 2. Model 84C Flowmeter Assembly with Remote Mounted Electronics Housing

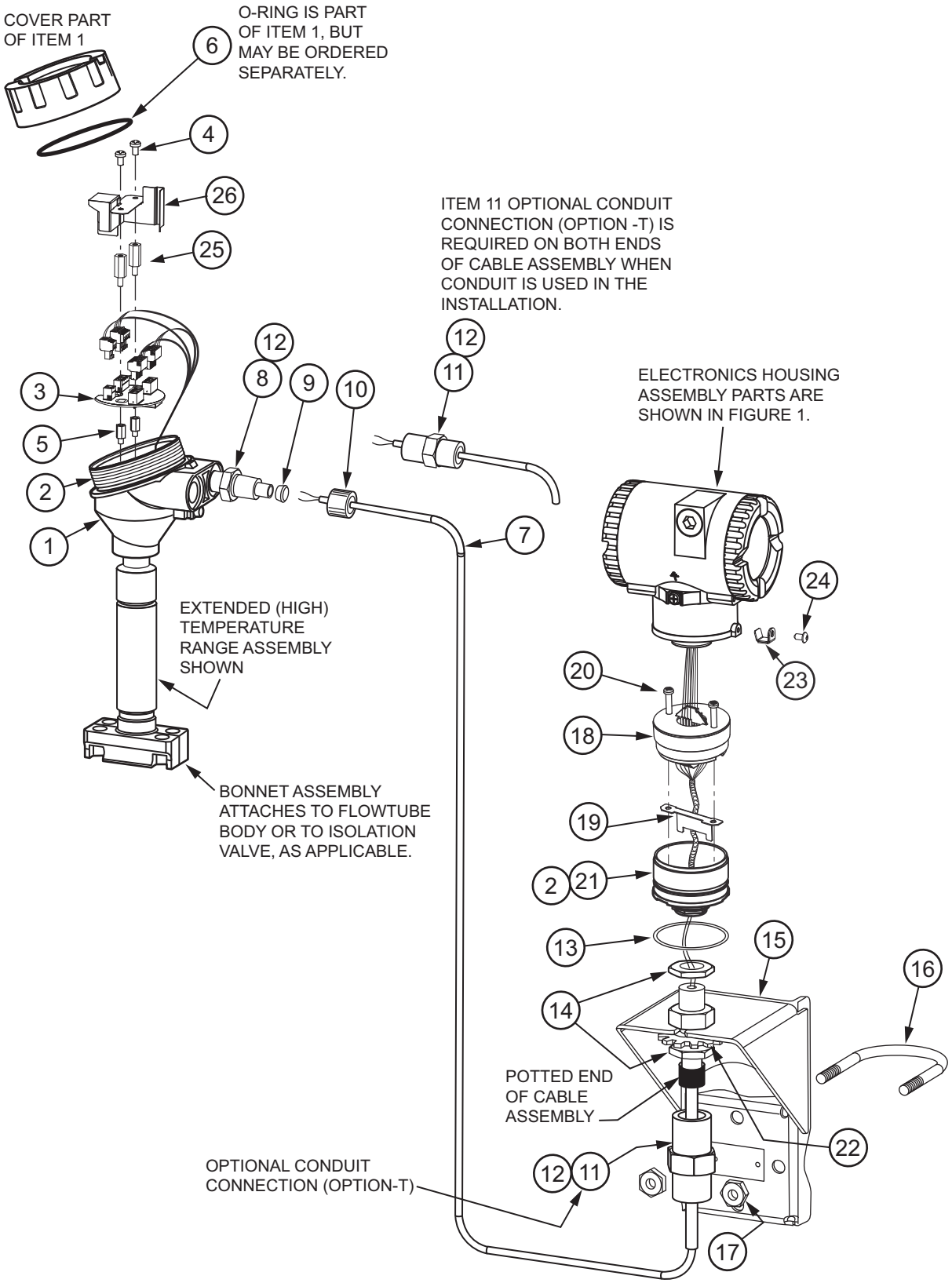

Table 2. Parts for Figure 2

Item	Part No.	Qty.	Part Name
1	K0152GB	1	Connection Head Assembly (Junction Box); explosionproof; ss; Includes housing, cover, cover lock, and cover O-ring
2	X0114AT	A/R	Grease, 14 ounce can (a)
*3	Below	1	Preamplifier Assembly
	D0159SX		Standard Temperature
	D0159SZ		Extended Temperature
4	X0173UN	2	Screw, Panhead; Cross-recessed; ss; M4 x 0.7 x 9 mm
5	X0201KL	2	Standoff, hexagonal head; ss; M4 x 10 mm
*6	D0179EG	1	O-ring, Cover; Part of Item 1 but may be ordered separately
7	Below	1	Cable Assembly, Remote Housing (includes Connector Assembly) (b)
	K0168HB		20 ft (6 m) long
	K0168HC		30 ft (9 m) long
	K0168HD		40 ft (12 m) long
	K0149HE		50 ft (15 m) long
8	B0185AJ	1	Adapter; 1.125 Hexhead; ss; 1/2 NPT and 0.500-20
9	K0146JV	1	Bushing, silicone rubber; 0.275 in long; 0.280 I.D.
10	B0185AK	1	Nut, Knurled; ss; 0.542 in long; 0.500-20
11	K0149LE	2	Connector, Conduit; Option -T (required when conduit is used)
12	B1270KE	A/R	Sealant, Thread (a)
*13	X0144KW	1	O-ring, Housing Neck
14	K0148TQ	2	Nut Jam; 1.250 Hexhead; ss; 0.500-20
15	K0149HR	1	Bracket Assembly, Mounting; painted steel
16	D0114SM	1	U-Bolt, 0.312-18; plated steel
17	0011962	2	Nut, 0.312-18; plated steel
*18	Below	1	Potted Cup Assembly, Module
	K0168QB		Standard and Extended Temperature, intrinsically safe transmitters (no preamplifier).
	K0168QD		Standard and Extended Temperature, flameproof or explosionproof transmitters with barrier (no preamplifier).
19	K0163FY	1	Shield, Sensor
20	X0174GF	2	Screw, Panhead; Cross Recessed; ss; M4
21	K0168GG	1	Cup, Housing Neck
22	X0143SL	1	Washer, Lock; Extended Tooth; ss; 0.875
23	D0197PS	1	Clip, Retaining
24	X0174EK	1	Screw, Button Head
25	K0201QE	2	Standoff, Hex
26	K0168RY	1	Shield, Remote

a. Recommended lubricant and thread sealant is indicated for threaded parts. An equivalent commercially available equivalent lubricant or thread sealant may also be used.

b. The cable assembly is provided potted on the electronics housing end. The opposite end is assembled to the connection head assembly using a bushing and a knurled nut as described in instruction document MI 019-223. When a conduit is used during installation, a conduit connector is used at each end of the cable assembly.

Figure 3. Model 84C - Single Measurement, Wafer Body Flowmeters, Standard or Extended Temperature

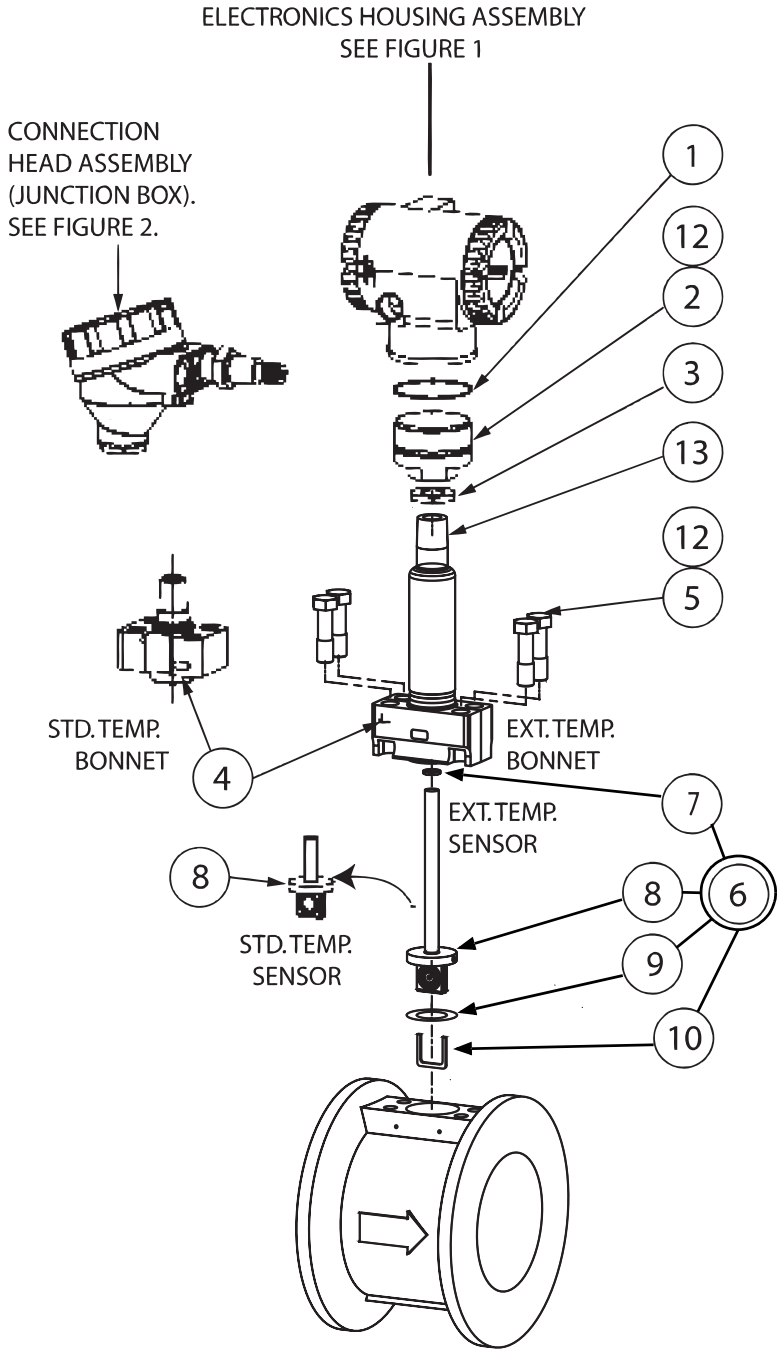

Table 3. Parts for Figure 3

Item	Part No.	Qty.	Part Name
*1	X0144KW	1	O-ring, Housing Neck
2	K0168GG	1	Cup, Housing Neck
3	K0148TQ	1	Nut, Jam; Hexhead; ss; 0.500-14
4	See Table 4	1	Bonnet Assembly, Standard or Extended Temperature Ranges (a)
5	Below	–	Bolts (Also part of Item 7) (b)
	X0173SV	4	Standard Temperature, ASTM A193, Grade B7, plated steel. Hexhead (0.625 hex); 0.437-14 x 2.
	X0174EY	4	Extended Temperature, ASTM A453, Stainless Steel, grade 660. Hexhead (0.625 hex); 0.437-14 x 2.
*6	See Table 5	–	Sensor Replacement Kit (Items 7, 8, 9, 10, and 11) (a) (c) (d)
7	See Table 5	1	O-ring, Standard or Extended Temperature Range
8	See Table 5	1	Sensor (See Table 5)
9	See Table 5	1	Gasket, Standard or Extended Temperature Range
10	See Table 5	1	Flow Dam, Standard or Extended Temperature Range
12	X0114AT	A/R	Grease; 14 ounce can
13	B1270KE	A/R	Sealant, Thread (e)

a. The bonnet assembly and sensor kits are pressure containment components. Replacement of any of these components requires pressure safety testing. Refer to Instruction manual.
b. Four bolts required when no isolation valve is used. Threads may be lubricated with an equivalent commercially available lubricant.
c. For gold plated sensor replacement, contact Global Customer Service.
d. Do not use Sensor Replacement Kits and Sensor Seal Kits (Table 5 and Table 6) for sensors that are used for oxygen service. These require special cleaning. Contact Global Customer Service.
e. An equivalent commercially available thread sealant may also be used.

Table 4. Bonnet Assembly (a)

Line Size Code	Standard Temperature		Extended Temperature	
	Non-Explosion proof Certs.	Explosion proof Certs.	Non-Explosion proof Certs.	Explosion proof Certs.
008 to 030	K0170AS	K0170AQ	K0170AW	K0170AX
040 to 080	K0170AT	K0170AR	K0170AY	K0170AZ

a. The bonnet assembly and sensor kits are pressure containment components. Replacement of any of these components requires pressure safety testing. Refer to Instruction manual.

Table 5. Sensor Replacement Kit Contents for Model 84C

Sensor Replacement Kit Description				Sensor Replacement Kit Contents (a) (b)			
Kit Part Number	Replaces Sensor Code	Fill Fluid (c)	Material (d)	Sensor	Seal Kit (e)	Tie Wraps (Two)	Instruction
Kits for Standard Temperature Sensor Types						N0139FR	MI 019-223
K0169AD	D	Fl.	Nickel alloy CW2M (f)	K0168FT	K0168RJ		
K0169AC	F	Fl.	SS	K0168FR	K0168RJ		
K0169AB	R	Sil.	Nickel alloy CW2M (f)	K0168FP	K0168RJ		
K0169AA	S	Sil.	SS	K0168FM	K0168RJ		
Kits for Extended Temperature Sensor Types							
K0169AE	B	None	SS	K0168GB	K0168RK		
K0169AF	A	None	Nickel alloy CW2M (f)	K0168GC	K0168RL		

a. Do not use Sensor Replacement Kits and Sensor Seal Kits (Table 5 and Table 6) for sensors that are used for oxygen service. These require special cleaning. Contact Global Customer Service
b. For gold plated sensor replacement, contact Global Customer Service.
c. Fl. is Fluorinert; Sil. is Silicone.
d. SS is Stainless Steel Type CF3M
e. See Table 6 for contents of seal kits.
f. Equivalent to Hastelloy® C-4C.

Table 6. Seal Kit Contents for Model 84C (a)

Seal Kit Description		Seal Kit Contents			
Kit Part Number	Replaces Sensor Code	O-Ring	Gasket	Flow Dam	Bonnet Bolts (Four) (b)
Kits for Standard Temperature Sensor Types					
K0168RJ	D	X0145CM	L0121DT	L0112KT	X0173SV
K0168RJ	F	X0145CM	L0121DT	L0112KT	X0173SV
K0168RJ	R	X0145CM	L0121DT	L0112KT	X0173SV
K0168RJ	S	X0145CM	L0121DT	L0112KT	X0173SV
Kits for Extended Temperature Sensor Types					
K0168RK	B	K0168RD	K0146HL	K0148VA	X0173SV
K0168RL	A	K0168RD	K0146PT	K0148VB	X0173SV

a. Do not use Sensor Replacement Kits and Sensor Seal Kits (Table 5 and Table 6) for sensors that are used for oxygen service. These require special cleaning. Contact Global Customer Service
b. Four bolts required when no isolation valve is used. Threads may be lubricated with an equivalent commercially available lubricant.

Figure 4. Model 84C – Optional Cable Selections P and R

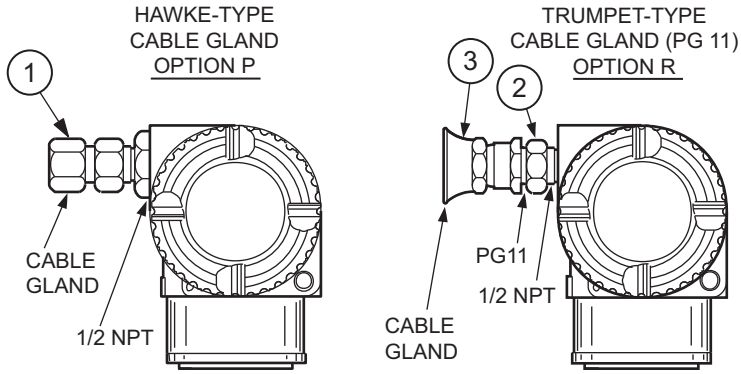

Table 7. Parts for Figure 4

Item	Part No.	Qty.	Part Name
1	N7141HX	1	Hawke-Type Cable Gland (Option P). (a)
2	N7141KR	1	Adapter, 1/2 NPT to PG 11 (Part of Option R). (a) (b)
3	N7000AA	1	Trumpet-type Cable Gland - PG 11 (Part of Option R). (a) (b)

a. Cable connector options P and R are offered for use with Electrical Housing Codes T and R only (1/2 NPT).

b. Option R (Items 2 and 3) should be ordered as a set.

RECOMMENDED SPARE PARTS SUMMARY

Figure Number	Item Number	Part Number	Part Name	Number of Parts Recommended for		
				1 Inst.	5 Inst.	20 Inst.
(1)	4	X0201FC	O-ring, Electronics Housing Cover	2	4	8
	5	Below K0168GF K0168RJ	Electronics Module Assembly with Pulse Output (Version -T) LOW POWER with Pulse Output (Version -L)	0	0	1
	9	K0149GV	LCD Indicator/Configurator Replacement Kit	0	0	1
	10	D0162WM	Screw, Cover Lock (a)	2	4	8
	12	Below K0168GJ K0168HF K0168MW K0168MX	Electronics Module, potted Intrinsically safe; Integral Flameproof/explosionproof; Integral Intrinsically safe; with barrier; Remote Flameproof/explosionproof; with barrier; Remote	0	0	1
	13	X0144KW	O-ring, Housing Neck	1	2	4
(2)	3	Below D0159SZ D0159SX	Preamplifier Assembly Standard Temperature Extended Temperature	0	0	1
	6	D0179EG	O-ring, Cover - for Connection Head Assembly	1	2	4
	13	X0144KW	O-ring, Housing Neck	1	2	4
	18	Below K0168MW K0168MX	Potted Cup Assembly, Module Standard and Extended Temperature, intrinsically safe transmitters (no preamplifier). Standard and Extended Temperature, flameproof or explosionproof transmitters with barrier (no preamplifier).	1	2	4
(3)	1	X0144KW	O-ring, Housing Neck	1	2	4
	6	See Table 5	Sensor Replacement Kit	1	2	4

a. Two cover lock screws are used with Electrical Safety Codes H, B, and S (ATEX, IECEx, and NEPSI flameproof units).

— NOTE

Sensor replacement kits and sensor seal kits are also recommended for spares. These kits include applicable sensor type, an O-ring, a gasket, a flow dam, new bolts, and instructions. See Table 5 and Table 6 for specific kit part numbers.

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