

# BT-M high temperature

2

The Bendix "BT-M" firewall electrical connectors were specially designed for service where high temperature performance and direct exposure to flame are prevalent.

It is important to note that the "BT-M" series is divided into two categories. The first category, "BT-M," utilizes a MS-R type silicone grommet and clamp for termination of open wiring. The second category, the "BT-MA," utilizes a conduit adapter for termination of cable conduit.

The "BT-M" series connector will maintain a functional circuit under extreme heat of 2000°F for 5 minutes. It will also sustain a flame barrier for an additional 15 minutes. Continuous duty at an elevated temperature up to 450°F is assured.

## COMPONENTS

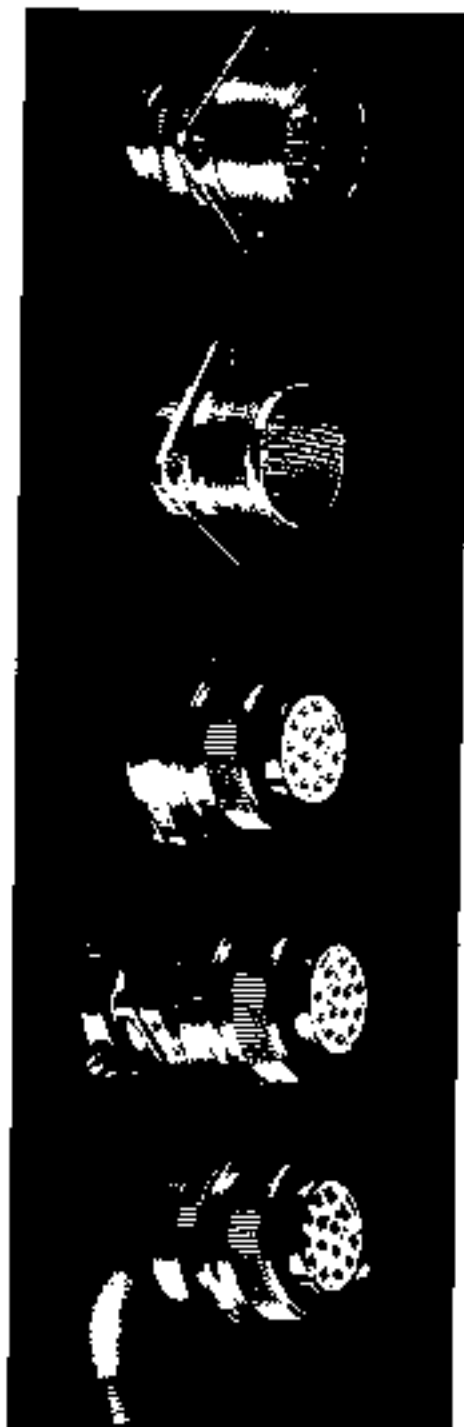
- Stainless Steel Shells provide added durability and resistance to corrosion.
- High density alumina oxide inserts provide increased performance in the following characteristics:
  - (a) High resistance to vibration damage.
  - (b) Durability.
  - (c) Over all connector reliability.
- Crimped type, gold plated contacts designed for use with wire conforming to MIL-W-5086 requirements.

## HOW TO ORDER

To more easily illustrate ordering procedure, part number BT06M-16-9P(X) (SR) is shown as follows:

$\frac{BT}{1}$      $\frac{06}{2}$      $\frac{M}{3}$     -     $\frac{16}{4}$     -     $\frac{9}{5}$     P     $\frac{X}{7}$      $\frac{(SR)}{8}$

1. Connector type
2. Shell style
  - 00 designates wall mount receptacle
  - 02 designates box mount receptacle
  - 06 designates straight plug
  - 08 designates 90° plug
3. Termination
  - M designates open wiring termination
  - MA designates cable conduit termination
4. Shell size
  - 10 thru 32 available (page 4)
5. Insert arrangement - 16 9
  - Complete listing of insert patterns (pages 5, 6)
6. Contacts
  - P designates pins, S designates sockets
7. Alternate insert rotation. No letter required for normal rotation position, alternate positions, page 4
8. Strain relief accessory (pages 7, 9, 10)



# BT-M specifications

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## WIRE WELL DATA

Contact Size	4	8	12	16
Well Dia.	+ .005 .281 - .003	- .004 .379 - .002	+ .004 .498 - .003	+ .004 .663 - .000
Well Depth + .011 - .000	500	500	750	750

## CONTACT PART NUMBERS

Pin Contact	Socket Contact	Plating
10-40701B-XX9	10-407019-XX9	100 $\mu$ gold over nickel*
10-40701B-XXT	10-407019-XXT	30 mil rhodium over silver
10-101649-XXP	10-101649-XXS	50 mil gold over nickel
10-746XX	(Pin or Socket)	200 mil silver

\*Plating normally supplied.

Various contact platings are available. Please check with factory for availability of platings not shown. For complete contact part numbers, see p. 11.

## CONTACT RATING

Contact Size	Rated Current	Test Current	Potential Drop W. Wetts Max. P
16	13	13	35
12	23	23	30
8	46	46	25
4	80	80	14

\*End to End

## CONTACT ARRANGEMENT SERVICE RATING

MS Service	Recommended Operating Voltage at Sea Level		Test Voltage AC rms
	30	40 rms	
Insl	250	200	1000
A	700	500	2000
D	1250	900	2800
E	1750	1250	3500
B	2450	1750	4500
C	4700	3000	7000

# BT-M

## insert availability identification alternate positions

4

Insert Arrangement	Total Contacts	Contact Size				Service Rating	Alternate Positioning Degrees			
		4	8	12	16		W	X	Y	Z
13SL-3	3				3	A	*	*	*	*
13SL-4	2				2	A	*	*	*	*
14S-2	2				2	A	70	145	215	290
14S-3	4				4	Inst	*	120	240	*
14S-5	5				5	Inst	*	110	*	*
14S-6	6				6	Inst	*	*	*	*
14S-7	3				3	A	90	180	270	*
14S-9	2				2	A	70	145	215	290
14S-1	7				7	A	80	*	*	230
16S-3	5				5	A	*	170	265	*
16-9	4			2	2	A	35	110	250	325
15-10	3			3		A	90	180	270	*
16-11**	2			2		A	35	110	250	325
18-1	10				10	***	70	145	215	290
18-4	4				4	0	35	110	250	325
18-11	5			5		A	*	170	265	*
20-27	14				14	A	35	110	250	325
22-19	14				14	A	80	140	210	280
22-27	4		4			A	*	110	250	*
24-7**	16			2	14	A	80	140	210	280
24-27	4		4			B	45	110	250	*
25-11	22			4	18	A	80	110	250	280
28-12	25				25	A	90	180	270	*
28-16	20				20	A	60	110	250	280
37-7	30			7	23	****	80	125	235	280
37-17	4	4				D	45	110	250	*

\*Indicated positions are not available

\*\*Tooled in Socket Arrangement Only

\*\*\*A, C, F, G = A, Balance = Inst

\*\*\*\*A, B, P, J = Inst, Balance = A



POSITION W



POSITION X



POSITION Y



POSITION Z

Views looking into front face of pin insert or rear of socket insert.

# BT-M insert arrangements

front face of pin inserts illustrated

5

insert arrangement  
number of contacts  
size of contacts  
service rating



10SL-4  
2  
2, 16  
A



12S-5  
2  
2, 16  
A



14S-9  
2  
2, 16  
A



16-11\*  
2  
2, 12  
A

insert arrangement  
number of contacts  
size of contacts  
service rating



10SL-3  
3  
3, 16  
A



14S-7  
3  
3, 16  
A



16-10  
3  
3, 12  
A

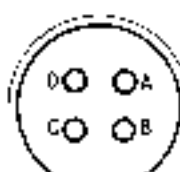


14S-2  
4  
4, 16  
Inst.

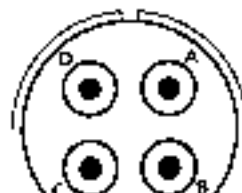
insert arrangement  
number of contacts  
size of contacts  
service rating



16-9  
4  
2, 12 2, 16  
A



18-4  
4  
4, 16  
D

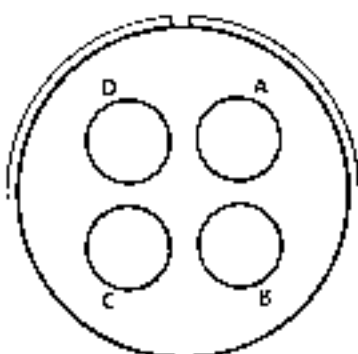


22-72  
4  
1, 8  
A

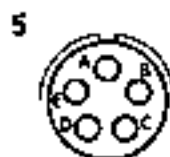


24-22  
4  
4, 8  
D

insert arrangement  
number of contacts  
size of contacts  
service rating



37-17  
4  
4, 4  
D



14S-5  
5  
5, 16  
Inst.



16S-8  
5  
5, 16  
A



18-11  
5  
5, 12  
A

\*Found in Socket Arrangement Only

contact legend



# BT-M

## insert arrangements

(continued)

front face of pin inserts illustrated

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insert arrangement  
number of contacts  
size of contacts  
service rating

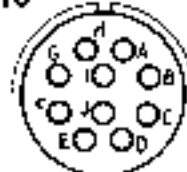
14S-5  
6  
6, 16  
Inst.

7



16S-1  
7  
7, 16  
A

10

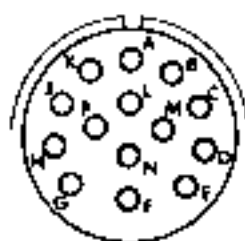


18-1  
10  
10, 16  
\*\*

14



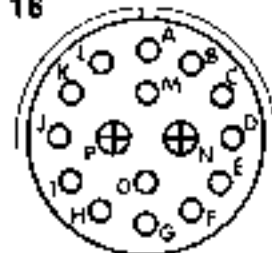
20-27  
14  
14, 16  
A



insert arrangement  
number of contacts  
size of contacts  
service rating

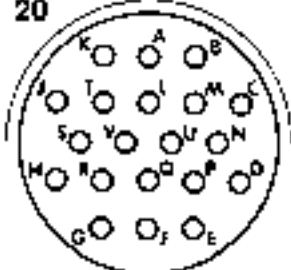
22-19  
14  
14, 16  
A

16



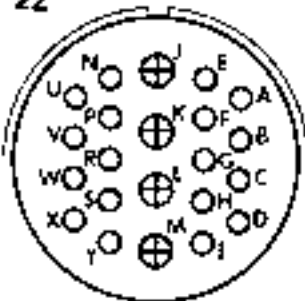
24-7\*  
16  
2, 12 14, 16  
A

20



28-15  
20  
20, 16  
A

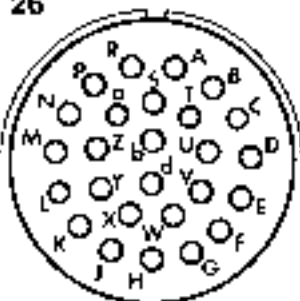
22



insert arrangement  
number of contacts  
size of contacts  
service rating

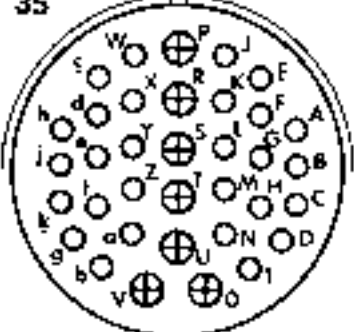
28-11  
22  
4, 12 18, 16  
A

26



28-12  
26  
26, 16  
A

35



32-7  
35  
7, 12 28, 16  
\*\*\*

\*Tooled in Socket Arrangement Only.

\*\*B, C, E, G - A. Balance - Inst.

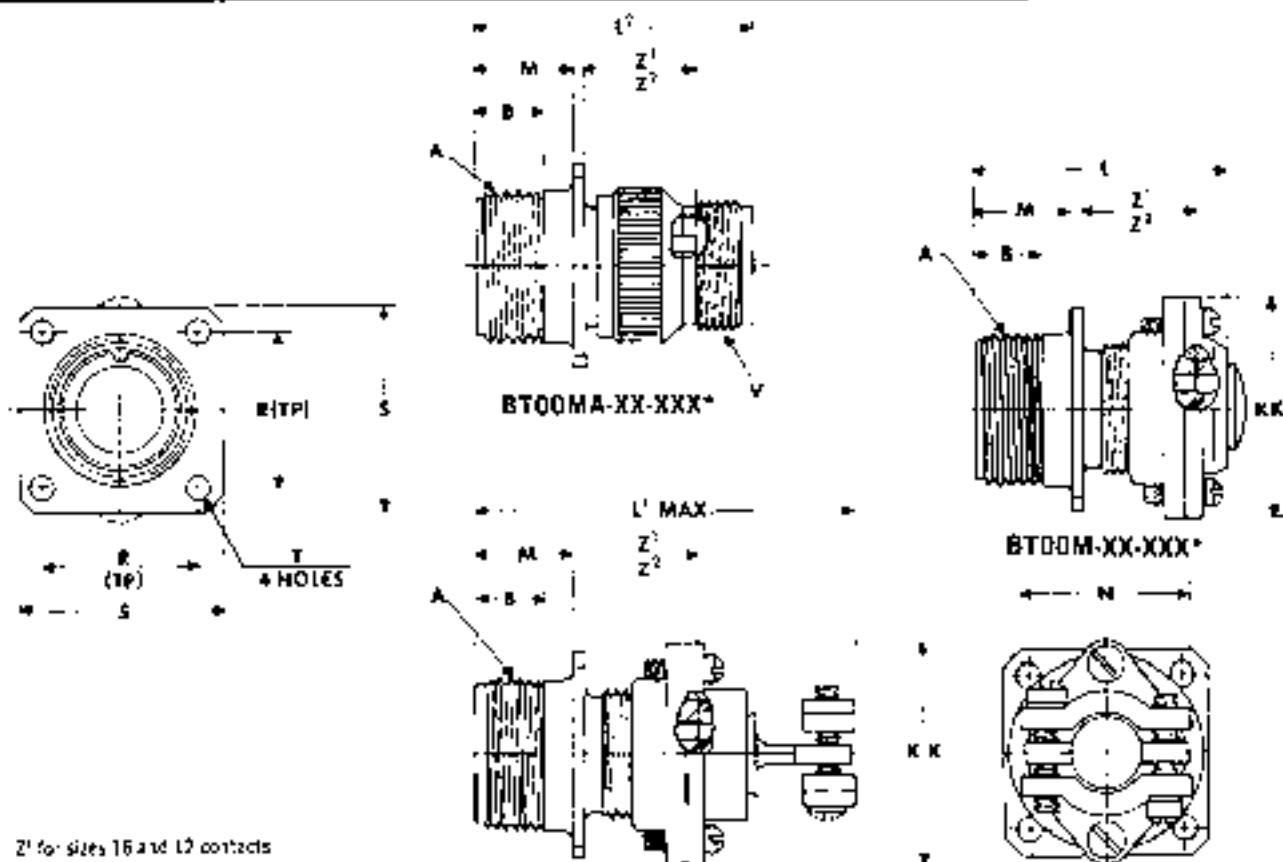
\*\*\*A, B, h, i - Inst. Balance - A

contact legend



# BT-M BT00

wall mounting receptacle



Z' for sizes 16 and 12 contacts  
Z'' for sizes 8 and 4 contacts

\* In complete order number, see page 7

BT00M-XX-XXX(SR)\*

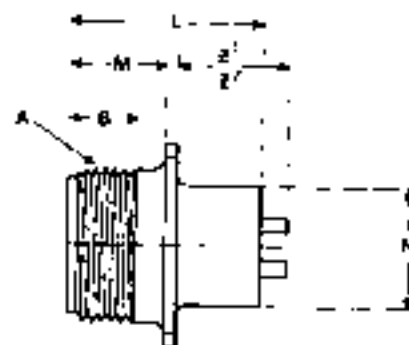
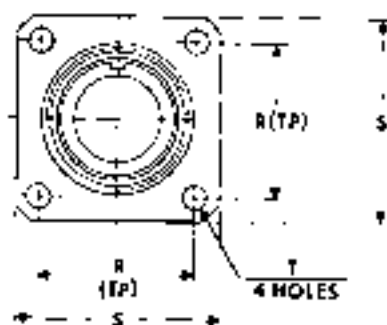
Shell Size	Thread Class 2A	Z, Min. Full	L +.025 -.025	L' Max	L'' ±.030	M +.115 -.505	R ±.025	S ±.020	T 0 to +.004 -.502	±.031	Z' +.045 -.071	Z'' +.040 -.065	H Mic	Y Thread Class 2A
10SL	.6250-24UNEF	.391	1.707	2.337	1.671	.562	.719	1.000	.150	1.297	.655		.884	.6250-24UNEF
12S	.7500-20UNEF	.391	1.677	2.306	1.609	.567	.812	1.094	.150	1.110	.655		.884	.6250-24UNEF
12	.7500-20UNFF	.625	1.906	2.541	1.844	.750	.812	1.094	.350	1.110	.781		.884	.6250-24UNEF
14S	.8750-20UNEF	.351	1.672	2.306	1.679	.562	.906	1.188	.150	1.297	.655		1.010	.7500-20UNEF
14	.8750-20UNEF	.625	1.906	2.541	1.844	.750	.906	1.188	.150	1.297	.781	.984	1.010	.7500-20UNEF
16S	1.0000-20UNEF	.331	1.572	2.305	1.609	.567	.959	1.283	.150	1.427	.656		1.134	.8750-20UNEF
16	1.0000-20UNEF	.625	1.906	2.541	1.844	.750	.959	1.283	.150	1.427	.781	.964	1.134	.8750-20UNEF
18	1.1250-18UNEF	.625	1.906	2.666	1.938	.750	1.067	1.375	.177	1.547	.749	.957	1.197	1.0000-20UNEF
20	1.2500-18UNEF	.625	1.906	2.666	1.844	.750	1.156	1.500	.177	1.734	.749	.957	1.443	1.1250-18UNEF
22	1.3750-18UNEF	.625	1.906	2.666	1.938	.750	1.250	1.625	.177	1.859	.749	.957	1.443	1.1250-18UNEF
24	1.5000-18UNEF	.625	1.984	2.745	1.959	.812	1.375	1.750	.177	1.984	.687	.890	1.536	1.4375-18UNEF
28	1.7500-18UNEF	.625	1.984	2.745	2.188	.812	1.562	2.000	.177	2.155	.687	.890	1.636	1.4375-18UNEF
32	2.0000-18UNEF	.625	2.067	3.133	2.157	.875	1.750	2.250	.209	2.531	.593	.796	2.222	1.7500-18UNEF

All dimensions for reference only

# BT-M BT02

box mounting receptacle

5



BT02MA-XX-XXX\*

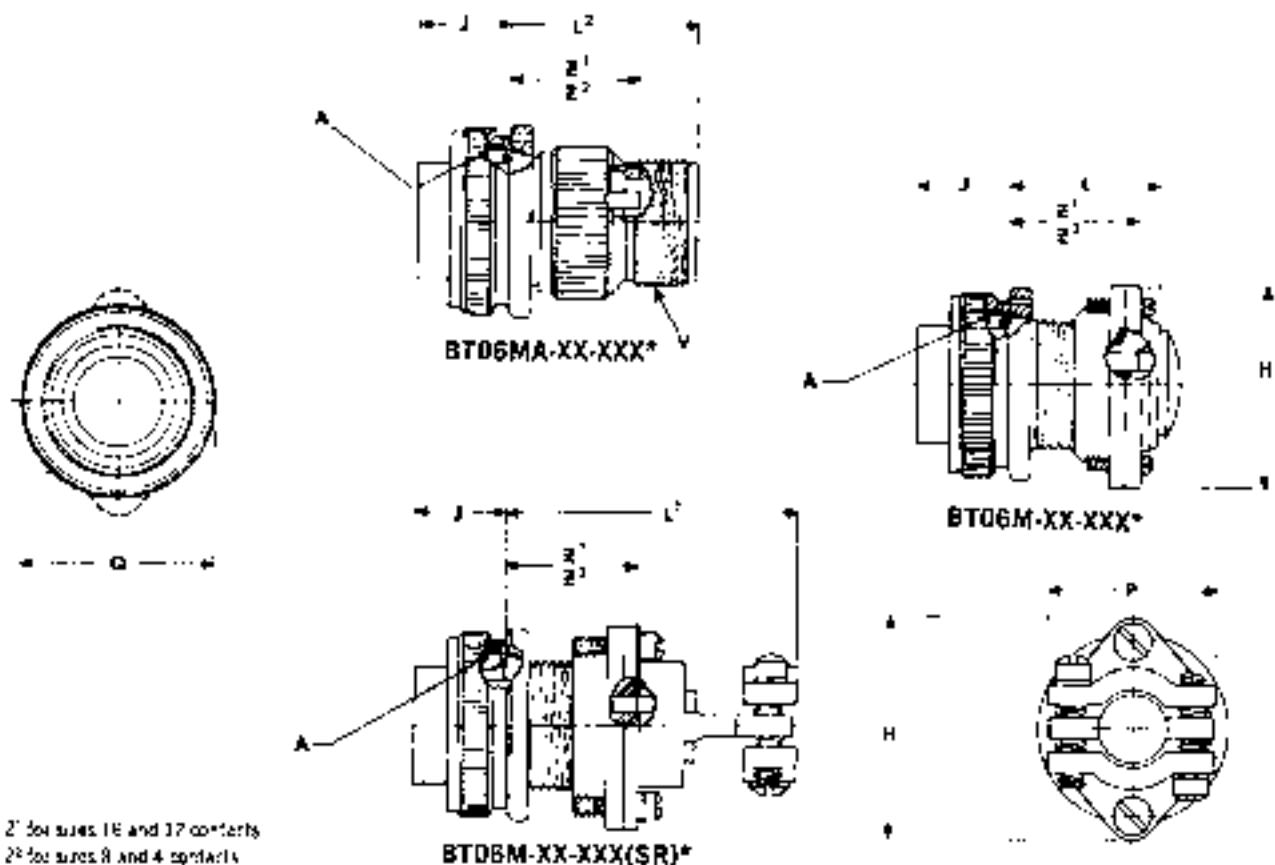
<sup>1</sup> for sizes 10 and 12 contacts  
<sup>2</sup> for sizes 8 and 4 contacts  
 \* to complete order number, see page 2

Shell Size	A Thread Class 2A	B Max. Full Thread	L Ø ID	M + .025 - .000	R + .005	S - .20	T + .004 - .002	Z <sup>1</sup> + .245 - .071	Z <sup>2</sup> + .040 - .066	N Dia = Ø10
10SI	.5250-24UNEF	.391	1.109	.567	.719	1.000	.150	.655		.656
12S	.7500-20UNEF	.391	1.109	.562	.812	1.094	.150	.655		.594
17	.7500-20UNEF	.625	1.314	.750	.812	1.094	.150	.781		.594
14S	.8750-20UNEF	.391	1.109	.562	.906	1.188	.150	.665		.719
14	.8750-20UNEF	.625	1.344	.750	.906	1.188	.150	.781	.984	.719
15S	1.0000-20UNEF	.391	1.109	.562	.960	1.281	.150	.655		.844
16	1.0000-20UNEF	.625	1.344	.750	.960	1.281	.150	.781	.984	.844
18	1.1250-18UNEF	.625	1.344	.750	1.352	1.375	.177	.749	.952	.868
20	1.2500-18UNEF	.625	1.344	.750	1.556	1.500	.177	.749	.952	1.125
22	1.3750-18UNEF	.625	1.344	.750	1.250	1.675	.177	.749	.952	1.250
24	1.5000-18UNEF	.625	1.406	.812	1.375	1.750	.177	.687	.890	1.375
28	1.7500-18UNEF	.625	1.406	.812	1.562	2.000	.177	.687	.890	1.594
32	2.0000-18UNEF	.625	1.468	.875	1.750	2.250	.208	.593	.796	1.844

All dimensions for reference only

# BT-M BT06 straight plug

9



Z' for sizes 16 and 17 contacts

Z'' for sizes 8 and 4 contacts

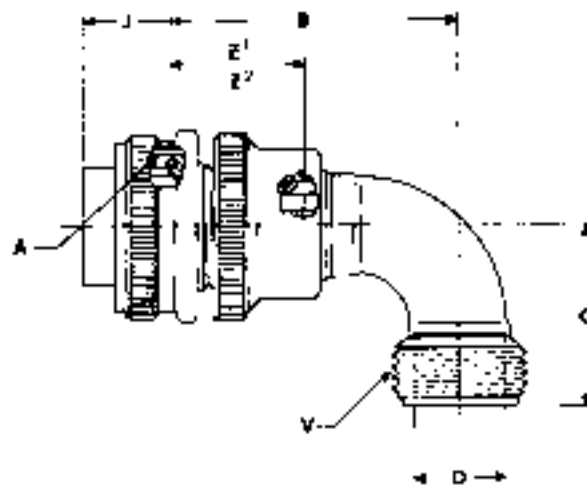
\*To complete order number, see page 2.

Shell Size	H ± .031	A Thread Class 2B	F ± .005	I ± .075 - .015	L' Max	L'' ± .030	P Max	Q Dia Max	Z' ± .002	Z'' ± .045	Y Thread Class 2A
10S1	1.297	6250-24UNEF	.531	1.171	1.812	1.340	.884	.978	.748		6250-24UNEF
12S	1.113	7500-20UNEF	.531	1.140	1.812	1.078	.884	1.010	.748		6250-24UNEF
12	1.113	7500-20UNEF	.719	1.187	1.797	1.125	.884	1.010	.874		6250-24UNEF
14S	1.297	8750-20UNEF	.531	1.140	1.812	1.078	1.010	1.135	.748		7500-20UNEF
14	1.297	8750-20UNEF	.719	1.187	1.797	1.125	1.010	1.135	.874	1.077	7500-20UNEF
16S	1.422	10000-20UNEF	.531	1.140	1.812	1.078	1.134	1.260	.748		8750-20UNEF
16	1.422	10000-20UNEF	.719	1.187	1.797	1.125	1.134	1.260	.874	1.077	8750-20UNEF
18	1.547	11250-18UNEF	.719	1.187	1.953	1.219	1.137	1.354	.874	1.077	10000-20UNEF
20	1.734	12500-18UNEF	.719	1.187	1.953	1.125	1.418	1.479	.874	1.077	11875-18UNEF
22	1.859	13750-18UNEF	.719	1.187	1.953	1.219	1.448	1.604	.874	1.077	11875-18UNEF
24	1.984	15000-18UNEF	.719	1.266	2.031	1.251	1.516	1.729	.874	1.077	14375-18UNEF
28	2.156	17500-18UNEF	.719	1.266	2.031	1.470	1.516	1.979	.874	1.077	14375-18UNEF
32	2.531	20000-18UNEF	.719	1.326	2.477	1.438	2.222	2.729	.874	1.077	17500-18UNEF

All dimensions for reference only

# BT-M BT08 90° plug

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BT08M-XX-XXX\*

E' for sizes 16 and 17 contacts

E'' for sizes 8 and 4 contacts

\*To complete order number, see page 2.

Shell Size	A Thread Class 2B	B Max	D Dia L 512 P02	J - 003	G Dia Max	V Thread Class 2A	Z' - 052	Z'' - 045	C - 125
10SL	.6250 24UNEF	1.554	.375	.531	.914	.6250 24UNEF	.748		.907
12S	.7500 20UNEF	1.953	.375	.531	1.010	.6750 24UNEF	.748		.907
12	.7500 20UNEF	1.500	.375	.713	1.010	.6250 24UNEF	.874		.907
14S	.8750 20UNEF	1.578	.500	.531	1.135	.7500 20UNEF	.748		1.012
14	.8750 20UNEF	1.625	.500	.719	1.135	.7500 20UNEF	.874	1.077	1.032
16S	1.0000 20UNEF	1.734	.625	.531	1.250	.8750 20UNEF	.748		1.288
16	1.0000 20UNEF	1.781	.625	.719	1.250	.8750 20UNEF	.874	1.077	1.198
18	1.1250 18UNEF	1.969	.750	.719	1.354	1.0000 20UNEF	.874	1.077	1.436
20	1.2500 18UNEF	2.062	.875	.719	1.479	1.1875 18UNEF	.874	1.077	1.500
22	1.3750 18UNEF	2.188	1.000	.719	1.614	1.1875 18UNEF	.874	1.077	1.625
24	1.5000 18UNEF	2.438	1.125	.719	1.729	1.4375 18UNEF	.874	1.077	1.812
28	1.7500 18UNEF	2.650	1.250	.719	1.979	1.4375 18UNEF	.874	1.077	2.278
32	2.0000 18UNEF	2.938	1.547	.719	2.229	1.7500 18UNEF	.874	1.077	2.282

All dimensions for reference only

# BT-M application tools

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Size	Part No.	Crimp Tool	Locator	Attachment	Tool No. Details Mfg. Corp.	Service Instructions
16	10-407019-159 10-407018-15T 10-101649-16P 10-74670	11-6943-4 MS3191-4 MS3191-4 M22520/1-01	11-5932-40 11-7771-23	Screw 11-7670	W 122 TH 122	L-730, L-406 L-406
16	10-407019-159 10-407019-15T 10-101649-16S 10-74675	11-6943-4 MS3191-4 MS3191-4 M22520/1-01	11-6932-40 11-7771-23	Screw 11-7670	W 122 TH 122	L-730, L-406 L-406
16L	10-407018-169 10-407018-16T 10-101649-17P 10-74681	11-6943 MS3191-4 MS3191-4 M22520/1-01	11-6932-5 11-7771-22	Screw 11-7670	W 122 TH 122	L-730, L-406 L-406
16L	10-407019-169 10-407019-16T 10-101649-17S 10-74683	11-6943 MS3191-4 MS3191-4 M22520/1-01	11-5932-28 11-7771-24	Screw 11-7670	W 122 TH 122	L-730, L-406 L-406
12	10-407018-179 10-407018-12T 10-101649-17P 10-74691	11-6943 MS3191-4 M22520/1-01	11-5932-5	Screw 11-7570	W 122 TH 122	L-730, L-406
12	10-407019-129 10-407019-12T 10-101649-12S 10-74695	11-6943 MS3191-4 M22520/1-01	11-5932-5	Screw 11-7570	W 122 TH 122	L-730, L-406
8	10-407018-89 10-407018-8T 10-101649-8P 10-74665	11-7702-10	11-7740-5	Yoke 11-8444		L-738, L-406
8	10-407019-89 10-407019-8T 10-101649-8S 10-74666	11-7702-10	11-7740-5	Yoke 11-8444		L-738, L-406
4	10-407018-49 10-407018-4T 10-101649-4P 10-74678	11-7702-11	11-7740-5	Yoke 11-8444		L-738, L-406
4	10-407019-49 10-407019-4T 10-101649-4S 10-74684	11-7702-11	11-7740-5	Yoke 11-8444		L-738, L-406

BT M, BT MA Tool Data — Reference Assy. Drawing 10-205XXX. Reference Service Instructions L-406.

# BT-RA

## high temperature rear release, rear removable

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The Bendix BT-RA connector meets the applicable requirements of Class A connectors to MIL-C-5015D and will operate continuously at temperatures up to 1000°F. Interchangeability and interchangeability with MIL-C-5015 connectors is assured. This connector series features rear removable crimp type contacts to ease assembly procedures and provides very little change in millivolt drop (contact resistance) during and after exposure to high temperature and vibration.

### COMPONENTS

- Shells and coupling nuts are fabricated from stainless steel to provide durability and resistance to corrosion and high temperature.
- Contacts are machined from nickel and are heavy gold plated for excellent electrical properties at high temperatures.
- Inserts are ceramic moldings and contain spring clips for retaining contacts.

This combination of materials and plating also provides resistance to radiation and oxidation.

### HOW TO ORDER

To more easily illustrate ordering procedure, part number BT06RA-12S-3SW (118) is shown as follows:

BT      06      RA      -      12S      -      3      S      W      (118)  
1          2          3          -          4          -          5          6          7          8

1. Connector type
2. Shell style  
00 designates wall mount receptacle  
06 designates straight plug
3. Service class
4. Shell size  
10 thru 28 are available (page 13)
5. Insert arrangement  
Complete listing of insert patterns (page 14)
6. Contacts  
P designates pins, S designates sockets
7. A female insert rotation (page 13). No letter required for normal rotation.
8. Long contact with insulation cup, if required (pages 15, 16)



# specifications and insert availability, identification, alternate positions

13

Contact Size	Conductor Wt. Oz.	Co. Thickness Wt. Oz./sq.
16	+ .002	+ .031
	-.000	-.000
12	+ .004	+ .031
	-.000	-.000

Contact Size	Wt. Diameter	
	Conductor	Insulator
16	+ .002	+ .002
	-.000	-.000
12	+ .004	+ .002
	-.000	-.000

Wall Depth	
Conductor	Insulator
+ .037	+ .006
-.000	-.000
+ .037	+ .006
-.000	-.000

Contact Size	Rated Current	*Test Current	Material Class Wt. Volts Max. 1
16	13	13	30
12	23	23	30

\*Measured end to end

Service Rating	Suggested Operating Voltage (See Table)		Test Voltage AC rms
	DC	AC rms	
Inst.	250	200	1000
A	700	500	2000
D	1250	900	2800
E	1750	1250	3500
B	2450	1750	4500
C	4200	3000	7000

## INSERT IDENTIFICATION



POSITION 1



POSITION 2



POSITION 3



POSITION 4

Views looking into front face of pin insert or rear of socket insert.

Insert Arrangement	Total Contacts	Contact Size		Service Rating	Alternate Position by Degrees			
		12	16		W	X	Y	Z
10SL-2	3		3	A	*	*	*	*
10SL-4	2		2	A	*	*	*	*
12S-3	2		2	A	70	145	215	290
12S-10	4		4	Inst.	*	*	*	*
14S-2	4		4	Inst.	*	170	240	*
14S-7	3		3	A	90	180	270	*
16S-1	7		7	A	*	*	*	280
16S-8	5		5	A	*	170	265	*
18-1	10		10	**	70	145	215	290
20-28	27		17	A	80	*	*	280
22-14	19		19	A	60	110	250	280
25-20	14	10	4	A	80	110	250	280
25-21	37		37	A	80	110	250	280

\*Indicated positions are not available.

\*\*B, C, F, S - A, Balance - Inst.

# BT-RA insert arrangements

14



insert arrangement  
number of contacts  
size of contacts  
service rating

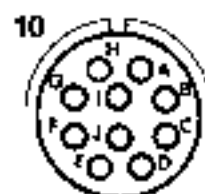
14S-2  
2  
2, 16  
A

16S-3  
2  
2, 16  
A

16SL-3  
3  
3, 16  
A

14S-7  
3  
3, 16  
A

16S-10  
4  
4, 16  
max.



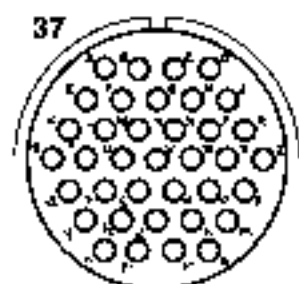
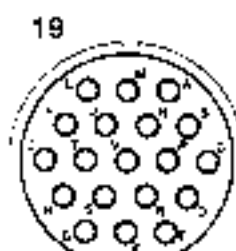
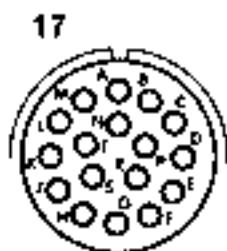
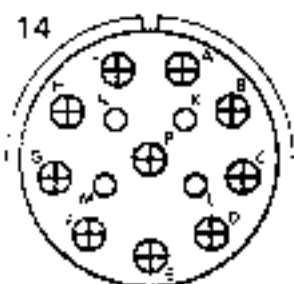
insert arrangement  
number of contacts  
size of contacts  
service rating

14S-2  
4  
4, 16  
max.

16S-8  
5  
5, 16  
A

16S-7  
7  
7, 16  
A

18-1  
10  
10, 16  
max.



insert arrangement  
number of contacts  
size of contacts  
service rating

18 20  
14  
12, 13, 4, 16  
A

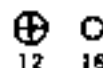
20 29  
17  
17, 16  
A

22 34  
19  
19, 16  
A

28 21  
37  
37, 16  
A

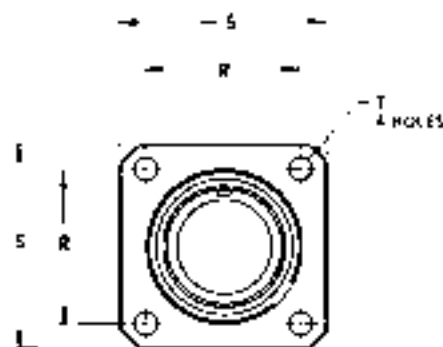
\*R, C, F, G -- A, Balance -- Int.

contact legend

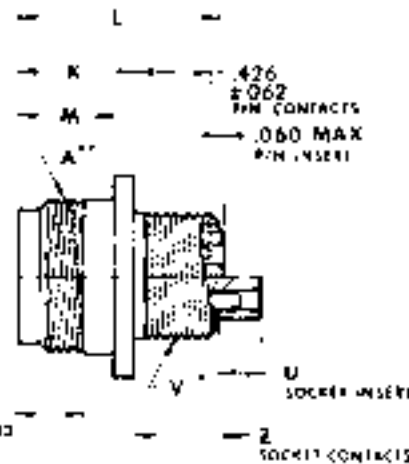


# BT-RA BT-ORA

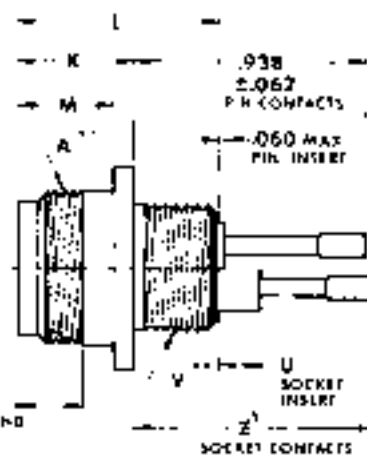
## wall mounting receptacle



BT00RA-XX-XXX\*



BT00RA-XX-XXX(118)\*



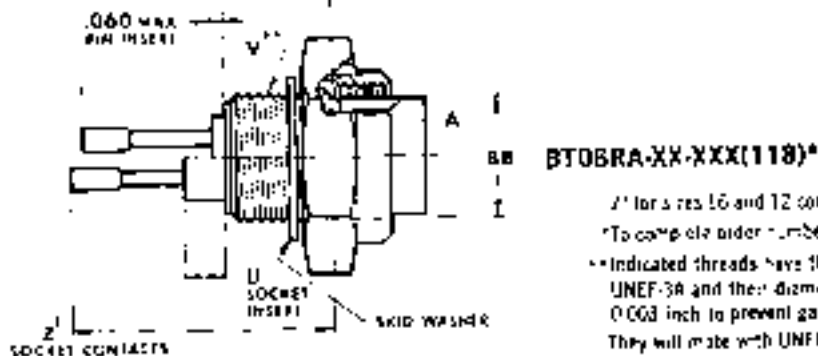
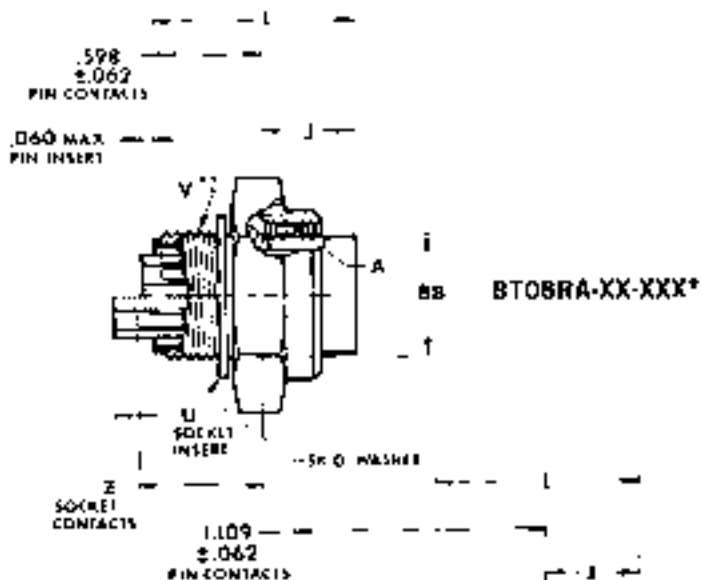
\* for sizes 16 and 12 contacts

\* To complete order number, see page 12

\* Indicated threads have the basic thread form of UNF/2 JA and their diameters have been reduced .0005 inch to prevent galling at high temperature. They will mate with UNF 2B or UNF-3B threads.

Shell Size	A Hr. Stud Form Special Size	B Min.	A	L	M	K	S	L Dia. 1.254 - .007	L' Max.	L - L' Min. Kind Dr. Prod. Form Special Size	L	L'
10SL	.5750 24	.791	.672	1.156	.562	.719	1.000	.150	.263	.6250 24	.629	1.141
12S	.7500 20	.191	.672	1.156	.562	.617	1.051	.150	.263	.6250 24	.629	1.141
12	.7500 20	.675	.850	1.344	.750	.617	1.094	.150	.075	.6250 24	.442	.953
14S	.8750 20	.391	.672	1.156	.562	.906	1.188	.150	.263	.7500 20	.629	1.141
14	.8750 20	.675	.850	1.344	.750	.906	1.188	.150	.075	.7500 20	.442	.953
16S	1.0000 20	.391	.672	1.156	.562	.909	1.281	.150	.263	.8750 20	.629	1.141
16	1.0000 20	.675	.860	1.344	.750	.909	1.281	.150	.075	.8750 20	.442	.953
18	1.1250 18	.675	.850	1.344	.750	1.062	1.375	.177	.075	1.0000 20	.442	.953
20	1.2500 18	.675	.850	1.344	.750	1.156	1.500	.177	.075	1.1250 18	.442	.953
22	1.3750 18	.675	.850	1.344	.750	1.250	1.625	.177	.075	1.2500 18	.442	.953
24	1.5000 18	.675	.860	1.344	.750	1.375	1.750	.177	.075	1.3750 18	.442	.953
28	1.7500 18	.675	.860	1.344	.750	1.562	2.000	.177	.075	1.6250 18	.442	.953

All dimensions for reference only



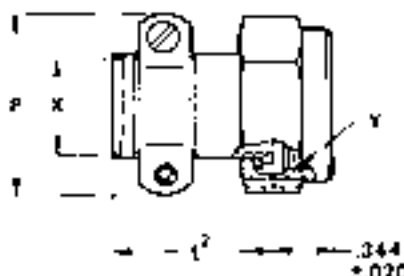
- \*Z for sizes 16 and 12 contacts
- \*To complete order number see page 12
- \*\*Indicated threads have the basic thread form of UNEF-3A and their diameters have been reduced 0.003 inch to prevent galling at high temperature. They will mate with UNEF 2B or UNEF JB L-threads.

Size	A Thread Class 2B	J	L	Q Max	U Max	V Left Hand U-Head Form Special Size	Z - .007	Z' - .007	BB Dist. to Dia
11SL	.6250 24UNEF	.519	1.156	.875 ± .001	.763	.6250 24	.786	1.287	.490
175	.7500 20UNEF	.715	1.156	.875 ± .002	.763	.6250 24	.796	1.287	.604
12	.7500 20UNEF	.703	1.344	.875 ± .002	.075	.6250-24	.586	1.109	.604
145	.8750 20UNEF	.516	1.156	1.000 ± .002	.753	.7500 20	.753	1.297	.729
14	.8750 20UNEF	.733	1.344	1.000 ± .002	.375	.7500 20	.688	1.109	.729
168	1.0000 20UNEF	.516	1.156	1.125 ± .002	.763	.8750 20	.786	1.297	.854
16	1.0000 20UNEF	.703	1.344	1.125 ± .003	.075	.8750 20	.598	1.109	.854
18	1.1250 18UNEF	.703	1.344	1.250 ± .003	.075	1.0000 20	.598	1.109	.917
20	1.2500 18UNEF	.703	1.344	1.375 ± .003	.075	1.1250-18	.598	1.109	1.097
22	1.3750 18UNEF	.703	1.344	1.500 ± .003	.075	1.2500 18	.598	1.109	1.222
24	1.5000 18UNEF	.703	1.344	1.625 ± .003	.075	1.3750 18	.598	1.109	1.347
28	1.7500 18UNEF	.703	1.344	1.875 ± .003	.075	1.6250 18	.598	1.109	1.566

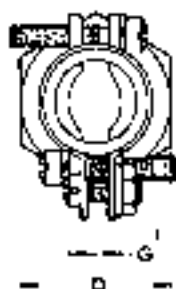
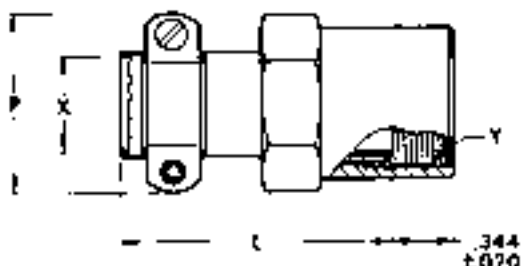
All dimensions for reference only



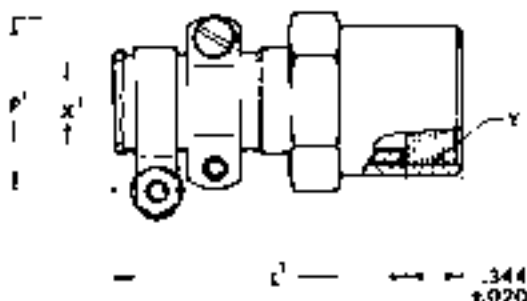
**10-466019-XX\*\***  
straight, no spacer, for non (118) types



**10-466022-XX\***  
straight, with spacer for (118) types



**10-466062-XX\***  
straight, with spacer for (118) types,  
and braid attachment



\*Typical part number. To complete order number, add shield arrangement. See page 17.

\*\*Complete order number listed below.

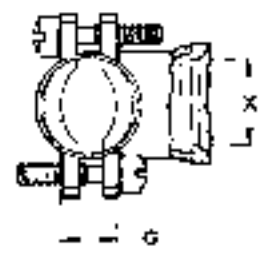
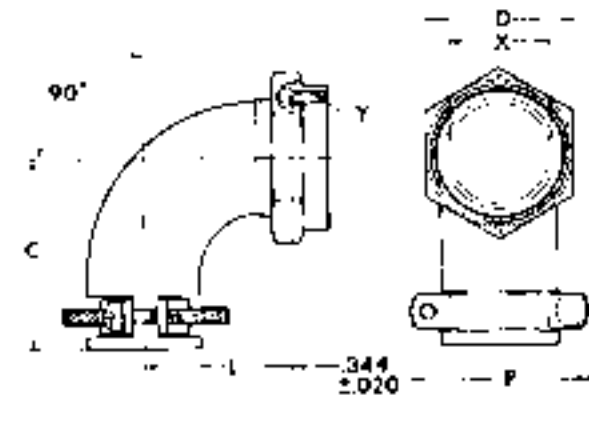
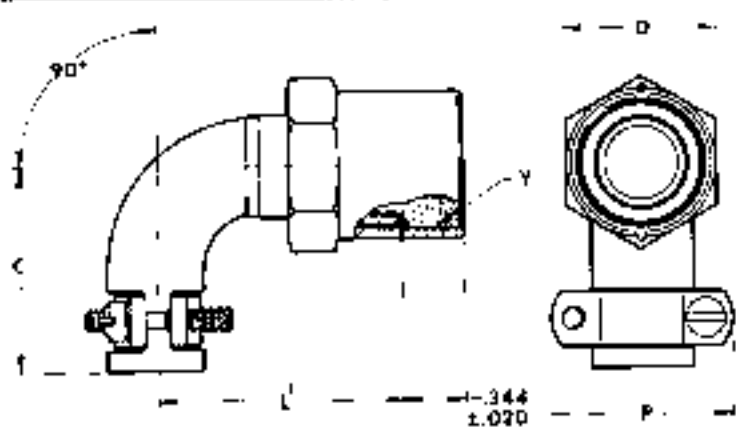
Part Number (118) Type with Spacer	Part Number (118) Type with Spacer & Braid Attach	Part Number Non-118 Type	Shield Size	D	G	D'	L	L'	L''	P	P'	X	X'	Y Thread, No.	Mod End
				Inch	Max. Closed	Max. Closed	±.010 -.010	±.010	Max	Min	O.A. Min	O.A. Min	Size Dist. 78	Weld-lead Min. Dia.	
10-466022	10-466062	10-466019-11	10G1	.750	.341	.748	1.422	1.568		.984	.891	.454	.386	.6250-24UNEF	.588-.593
10-466073	10-466063	10-466019-12	12S	.750	.342	.748	1.423	1.568	.915	.984	.871	.454	.386	.6250-24UNEF	.588-.593
10-466024	10-466064	10-466019-13	12	.750	.342	.748	1.225	1.522	.750	.984	.851	.454	.386	.6250-24UNEF	.588-.593
10-466075	10-466065	10-466019-14	14S	.875	.336	.842	1.413	1.648	.915	1.109	1.000	.531	.490	.7500-20UNEF	.705-.710
10-466076	10-466066	10-466019-15	14	.875	.336	.842	1.225	1.522	.750	1.109	1.000	.531	.490	.7500-20UNEF	.705-.710
10-466077	10-466067	10-466019-16	16S	1.000	.386	.936	1.411	1.658	.915	1.172	1.109	.656	.587	.8750-20UNEF	.830-.835
10-466078	10-466068	10-466019-17	16	1.000	.386	.936	1.225	1.522	.750	1.172	1.109	.656	.587	.8750-20UNEF	.830-.835
10-466029	10-466069	10-466019-18	18	1.125	.580	.450	1.225	1.577	.750	1.472	1.203	.775	.687	1.0000-20UNEF	.955-.960
10-466090	10-466070	10-466019-20	20	1.250	.595	.580	1.225	1.522	.750	1.509	1.427	.931	.823	1.1250-18UNEF	1.080-1.085
10-466031	10-466071	10-466019-22	22	1.375	.718	.530	1.225	1.577	.750	1.703	1.609	1.026	.918	1.2500-18UNEF	1.201-1.206
10-466037	10-466077	10-466019-24	24	1.500	.726	.512	1.225	1.577	.750	1.859	1.763	1.153	1.053	1.3750-18UNEF	1.310-1.315
10-466033	10-466073	10-466019-28	28	1.750	.780	.718	1.225	1.522	.750	2.016	1.891	1.372	1.190	1.6250-18UNEF	1.576-1.581

All dimensions for reference only.

# BT-PA

## Accessories

### 90° Elbow



**10-466042-XX\***  
90° elbow, with spacer for (118) types

**10-466018-XX\*\***  
90° elbow, no spacer, for non (118) types

\*Typical part number. To complete order number add insert arrangement. See page 12.  
\*\*Complete order number listed below

Part Number (118) Type with Spacer	Part Number Non (118) Type	Screw Size	L	D Hex	n Max. (Close)	L ±.01 -.016	L' ±.01	P Max.	X D + Max.	Y Thread (118) Modified	
										Size Class 2B	Mod. Hex Max. Dia.
10-466042	10-466018-11	10S	1.094	.750	.342	.972	1.453	.984	.386	0750-24UNEF	588 .593
10-466041	10-466018-12	12S	1.094	.750	.342	.922	1.453	.964	.386	.6250-24UNEF	588 .593
10-466044	10-466018-13	17	1.094	.750	.342	.878	1.266	.984	.386	.6250-24UNEF	588 .593
10-466045	10-466018-14	14S	1.219	.875	.356	1.047	1.578	1.109	.490	.7500-20UNEF	705 .710
10-466046	10-466018-15	14	1.219	.875	.386	.963	1.391	1.109	.490	.7500-20UNEF	705 .710
10-466047	10-466018-16	16S	1.281	1.000	.386	1.109	1.641	1.372	.587	.8750-20UNEF	830 .835
10-466048	10-466018-17	16	1.281	1.000	.386	1.016	1.453	1.372	.587	.8750-20UNEF	830 .835
10-466049	10-466018-18	18	1.466	1.125	.580	1.166	1.578	1.427	.687	1.0000-20UNEF	955 .960
10-466050	10-466018-20	20	1.500	1.250	.580	1.281	1.672	1.609	.823	1.1250-18UNEF	1.070-1.085
10-466051	10-466018-22	22	1.625	1.375	.718	1.406	1.797	1.703	.938	1.2500-18UNEF	1.200-1.206
10-466052	10-466018-24	24	1.632	1.500	.718	1.594	1.984	1.859	1.063	1.3750-18UNEF	1.330-1.335
10-466053	10-466018-28	28	2.378	1.750	.750	1.859	2.250	2.016	1.290	1.6250-18UNEF	1.575-1.581

All dimensions for reference only

# BT-RA application tools

19

Contract Part No. (With Inlet Size or Qty)	Buchanan Group Code	Buchanan Post Code	Part No. Circuit Foot	Part No. Terminal Head	Reqs.		M. Spec Invent on Removal
					Inlet Size	Quantity	
12P 10 407493-12	11743	7009133	M22570-1 01	TH309			NAS 1664 MB3723/31-12
12S 10 407491-12	11743	7009132	M22570-1 01	TH309			NAS 1664 MB3723/31-12
16P 10 407493-16	11743	7008568 7008563	M22520-1 01	TH309			NAS 1664 MB3723/31-16
16S 10 407491-16	11743	7008569 7008564	M22520-1 01	TH309			NAS 1664 MB3723/31-16
1672CP 10 407134-16	11743	7008563	M22520-1 01	TH309			NAS 1664 MB3723/31-16
1672CS 10 407194-16	11743	7008564	M22520-1 01	TH309			NAS 1664 MB3723/31-16
No Inlet Qty							
12P 10 407422-12	11743				LL 8674 12	LL 8675 12	NAS 1664 MB3723/31-12
12S 10 407423-12	11743				LL 8674 12	LL 8675 12	NAS 1664 MB3723/31-12
16P 10 407422-16	11743	7008571 7008570	M22520-1 01	TH309	LL 8674 16	LL 8675 16	NAS 1664 MB3723/31-16
16S 10 407423-16	11743	7008573 7008572	M22520-1 01	TH309	LL 8674 16	LL 8675 16	NAS 1664 MB3723/31-16
1672CP 10 407088-16	11743	7008570	M22520-1 01	TH309	LL 8674-16		NAS 1664 MB3723/31-16
1672CS 10 407089-16	11743	7008572	M22520-1 01	TH309	LL 8674 16		NAS 1664 MB3723/31-16

BT-RA Tool Data - Reference Assy. Drawing UC-47640X

Buchanan Post Code:

≠ 7009133 used with wire size 17 and 14  
 ≠ 7009132 used with wire size 12 and 14  
 ≠ 7008568 used with wire size 16 and 18  
 ≠ 7008563 used with wire size 20  
 ≠ 7008569 used with wire size 16 and 18  
 ≠ 7008564 used with wire size 20  
 ≠ 7008563 used with wire size 20 and 22

≠ 7008564 used with wire size 20 and 22  
 ≠ 7008571 used with wire size 16 and 18  
 ≠ 7008570 used with wire size 20  
 ≠ 7008573 used with wire size 16 and 18  
 ≠ 7008572 used with wire size 20  
 ≠ 7008570 used with wire size 20 and 22  
 ≠ 7008572 used with wire size 20 and 22