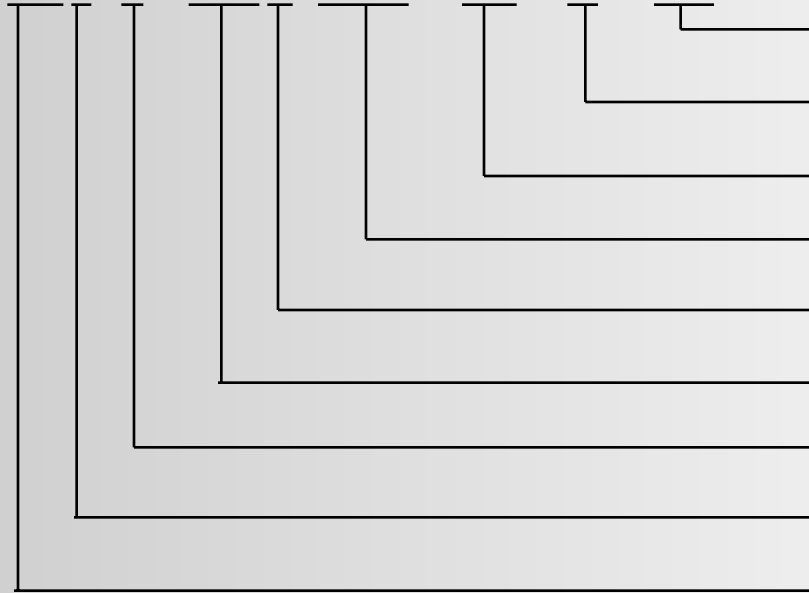


PART NUMBER SYSTEM

Example :

MINK 6 - CCP/L - PBOF - R/A - P - N/W



With Nut/Washer (Optional)

With Pigtails (Optional)

Right Angle (Optional)

Pressure Balanced, Oil-filled (Optional)

Long Shell*

Cable Connector Plug

Number of Contacts

Shell Size

Miniature Series (MINI-CON)

BCR	Bulkhead Connector Receptacle
FCR	Flange Connector Receptacle
CCR	Cable Connector Receptacle
CCP	Cable Connector Plug
FI	Field Installable
CIR	Connector Insert Receptacle (male insert only, fits into BCR/CCR/FCR shell)
CIP	Connector Insert Plug (female insert only, fits into CCP shell)
DSR	Dummy Sealing Receptacle
DSP	Dummy Sealing Plug
PSR	Plastic Splashproof Receptacle
PSP	Plastic Splashproof Plug

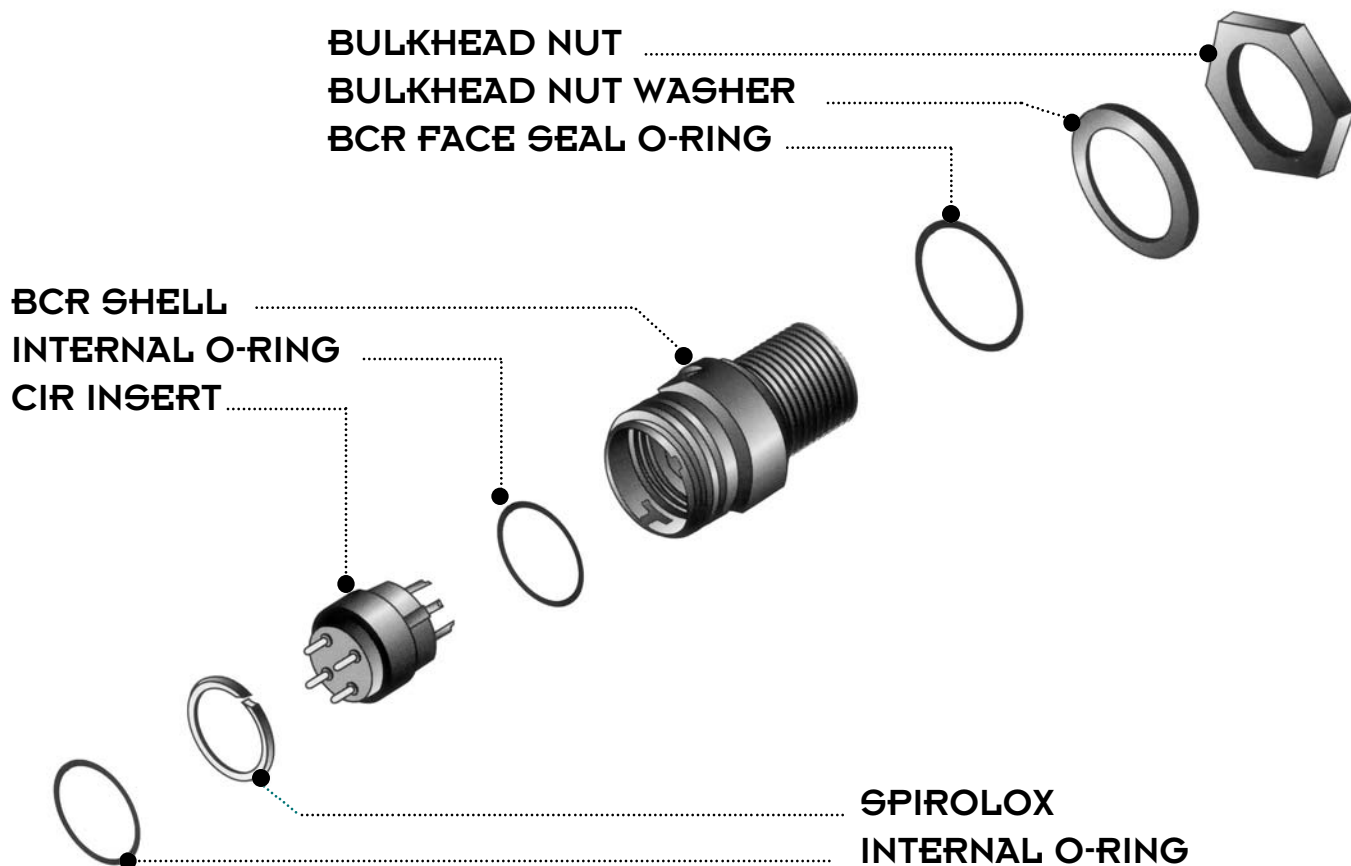
*WHAT THE 'L' IN THE PART MEANS

Basically, the MINI-CON connectors are made in two different lengths which we refer to as Regular (or standard), and Long. The long lengths are always necessary when the electrical insert for that given connector contains one or more contacts which are #16 AWG or larger, coaxial or Fiber Optic channels. If the electrical insert contains contacts which are all smaller than #16 AWG, the Regular length connector shell is utilized. The part numbers ending in "L", denote long shells.

When mating connectors, use only those with the same style, length and pin configurations.

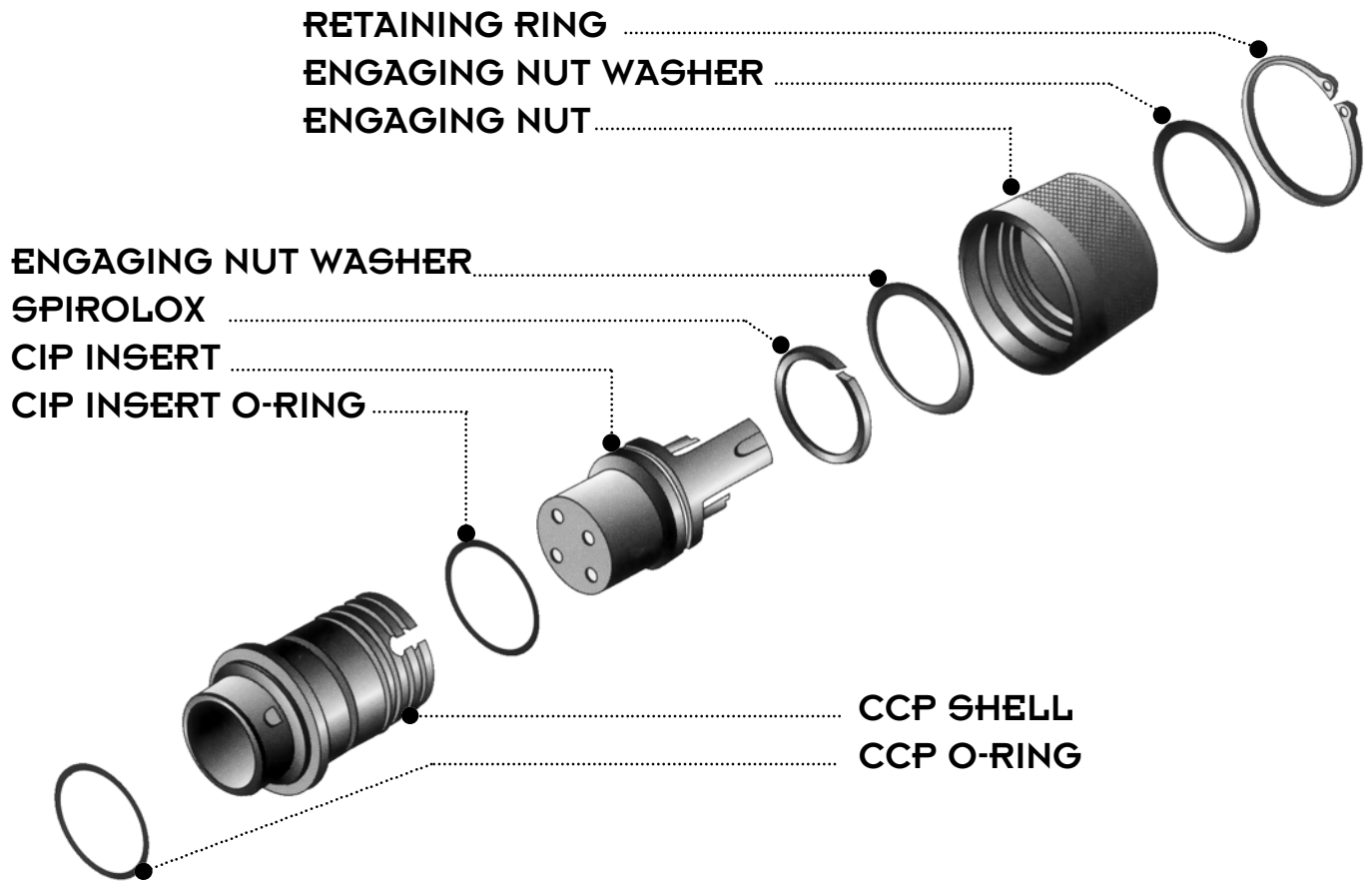
MINI-CON SERIES - BCR

EXPLODED VIEW



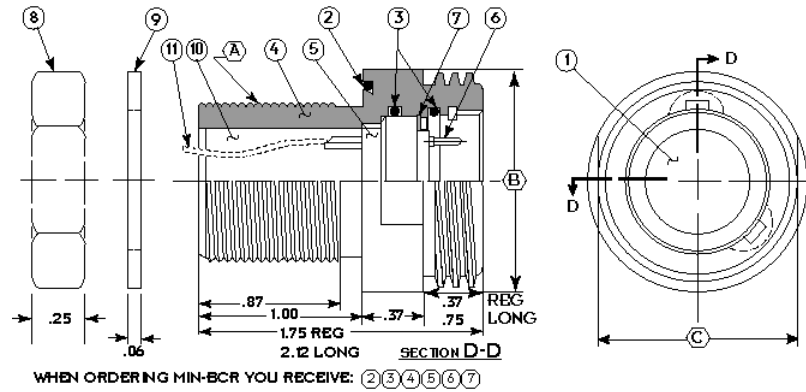
MINI-CON SERIES - CCP

EXPLODED VIEW



BULKHEAD CONNECTOR RECEPTACLE (BCR)

BCR (MATES TO CCP)



NOTE:

Reference pages 30-26 – 30-29 for pattern availability.

WHEN ORDERING MIN-BCR YOU RECEIVE: ②③④⑤⑥⑦

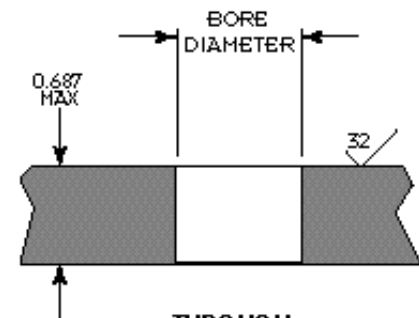
PART	① THREAD	② INCHES	③ O-RING	④ SPIROLOX	⑤ O-RING	⑥ INCHES	⑦ HEX NUT ACROSS FLATS INCHES	⑧ HEX NUT ACROSS POINTS INCHES	⑨ WASHER OD INCHES
MING-BCR	5/8-24 UNEF-2A	1.00	2-018	UR50	2-014	0.87	0.88	1.00	0.88
MINK-BCR	3/4-20 UNEF-2A	1.12	2-019	UR62	2-016	1.00	1.00	1.16	1.00
MINL-BCR	7/8-20 UNEF-2A	1.25	2-021	UR75	2-018	1.12	1.13	1.31	1.13
MINM-BCR	1-20 UNEF-2A	1.37	2-023	UR81	2-019	1.25	1.25	1.44	1.25
MINO-BCR	1 1/8-16 UN-2A	1.62	2-026	UR106	2-023	1.50	1.50	1.75	1.50
MINP-BCR	1 1/4-16 UN-2A	1.75	2-028	UR118	2-025	1.62	1.63	1.88	1.63
MINQ-BCR	1 3/8-16 UN-2A	1.87	2-029	UR137	2-028	1.75	1.75	2.00	1.75
MINR-BCR	1 1/2-16 UN-2A	2.00	2-029	UR150	2-029	1.87	1.88	2.16	1.88
MINT-BCR	1 1/2-16 UN-2A	2.50	2-034	UR175	2-031	2.37	2.38	2.75	2.38
MINU-BCR	2 1/4-16 UN-2A	2.75	2-036	UR200	2-033	2.62	2.63	3.03	2.63
MINX-BCR	2 3/4-16 UN-2A	3.50	2-041	UR250	2-037	3.15	3.16	3.63	3.16

BCR MOUNTING REQUIREMENTS

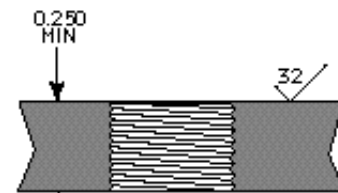
SIZE	BORE Ø +0.015" - 0.000"
G	0.625"
K	0.750"
L	0.875"
M	1.000"
O	1.125"
P	1.250"
Q	1.375"
R	1.500"
T	2.000"
U	2.250"
X	2.750"

NOTES:

1. Bore must be perpendicular to spot face.
2. Spotface diameter to be equal or greater than the connector diameter.
3. If threaded mount is used, lead thread chamfer is not to exceed diameter shown in bore column.



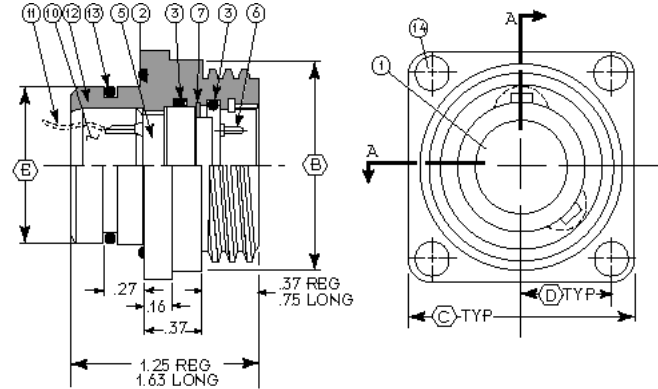
THROUGH BORE MOUNTING OPTION



THREADED MOUNTING OPTION

FLANGED CONNECTOR RECEPTACLE (FCR)

FCR (MATES TO CCP)



NOTE:

Reference pages 30-26 – 30-29 for pattern availability.

WHEN ORDERING A MIN-FCR YOU RECEIVE: 2 3 5 6 7 13 14 3

PART NAME	B INCHES	C INCHES	D INCHES	E INCHES	MOUNTING HOLE DIAMETER*	13 O-RING	7 SPIROLOX	2 O-RING	14 SUCKER HEAD CAPSCREW	3 O-RING
MING-FCR	1.00	1.12	0.453	0.685	0.689/0.687	2-015	UR50	2-018	4-40 UNC-2A	2-014
MINK-FCR	1.12	1.25	0.510	0.748	0.752/0.750	2-016	UR62	2-019	6-32 UNC-2A	2-016
MINL-FCR	1.25	1.37	0.562	0.873	0.877/0.875	2-018	UR75	2-021	6-32 UNC-2A	2-018
MINM-FCR	1.37	1.50	0.593	0.998	1.002/1.000	2-020	UR81	2-023	8-32 UNC-2A	2-019
MINO-FCR	1.62	1.75	0.723	1.123	1.127/1.125	2-022	UR106	2-026	8-32 UNC-2A	2-023
MINP-FCR	1.75	1.87	0.777	1.248	1.252/1.250	2-024	UR118	2-028	8-32 UNC-2A	2-025
MINQ-FCR	1.87	2.00	0.831	1.373	1.377/1.375	2-026	UR137	2-029	10-24 UNC-2A	2-028
MINR-FCR	2.00	2.12	0.884	1.498	1.502/1.500	2-028	UR150	2-029	10-24 UNC-2A	2-029
MINT-FCR	2.50	2.62	1.043	1.998	2.002/2.000	2-032	UR175	2-034	1/4-20 UNC-2A	2-031
MINU-FCR	2.75	2.87	1.130	2.248	2.252/2.250	2-034	UR200	2-036	1/4-20 UNC-2A	2-033
MINX-FCR	3.50	3.62	1.470	2.748	2.752/2.750	2-038	UR250	2-041	3/8-16 UNC-2A	2-037

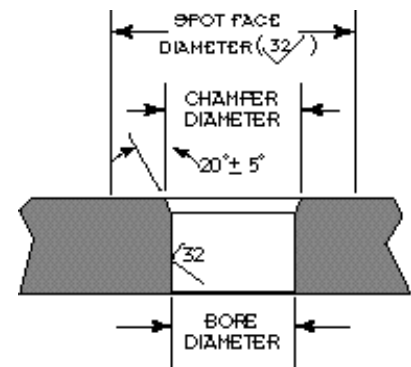
FCR MOUNTING REQUIREMENTS

SIZE	BORE Ø +0.002" - 0.000"	CHAMFER Ø (± .010")	*SPOTFACE Ø (± 0.015")	**SPOTFACE Ø (± 0.015")
G	0.687"	0.727"	1.00"	1.56"
K	0.750"	0.800"	1.12"	1.75"
L	0.875"	0.915"	1.25"	1.87"
M	1.000"	1.040"	1.31"	2.12"
O	1.125"	1.175"	1.50"	2.44"
P	1.250"	1.290"	1.62"	2.62"
Q	1.375"	1.425"	1.81"	2.81"
R	1.500"	1.540"	1.87"	3.00"
T	2.000"	2.050"	2.50"	3.75"
U	2.250"	2.290"	2.75"	4.00"
X	2.750"	2.800"	3.31"	5.06"

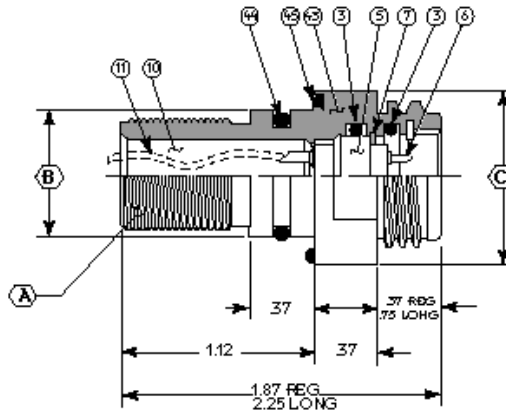
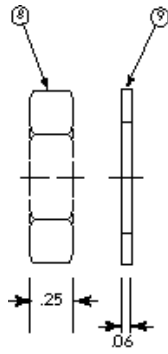
NOTE: CHAMFER IS TO BE 20° ± 5°

* This dimension is to be used if spotface is less than or equal to 0.001 inches deep.

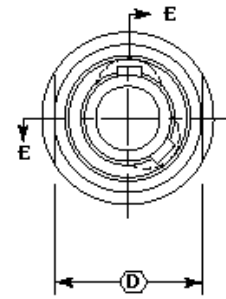
**This dimension is to be used if spotface is greater than 0.001 inches deep.



BULKHEAD CONNECTOR RECEPTACLE



DUAL O RING (BCR-DO)



BCR-DO (MATES TO CCP)

SECTION E-E

WHEN ORDERING MIN-BCR-DO YOU RECEIVE: (2)(3)(5)(6)(7)(12)(43)(44)(45)

PART NAME	THREAD	INCHES	INCHES	INCHES	O-RING	O-RING	O-RING	SPIROLOX	HEX NUT ACROSS FLATS INCHES	HEX NUT ACROSS POINTS INCHES	WASHER OD INCHES
MING-BCR	5/8-24 UNEF-2A	0.685	1.06	0.93	2-015	2-019	2-014	UR50	0.87	1.00	0.88
MINK-BCR	3/4-20 UNEF-2A	0.810	1.18	1.06	2-017	2-020	2-016	UR62	1.00	1.16	1.00
MINL-BCR	7/8-20 UNEF-2A	0.935	1.31	1.18	2-019	2-022	2-018	UR75	1.12	1.31	1.13
MINM-BCR	1-20 UNEF-2A	1.060	1.43	1.31	2-021	2-024	2-019	UR81	1.25	1.44	1.25
MINO-BCR	1 1/8-16 UN-2A	1.185	1.68	1.56	2-023	2-027	2-023	UR106	1.50	1.75	1.50
MINP-BCR	1 1/4-16 UN-2A	1.310	1.81	1.68	2-025	2-029	2-025	UR118	1.62	1.88	1.63
MINQ-BCR	1 3/8-16 UN-2A	1.435	1.93	1.81	2-027	2-030	2-028	UR137	1.75	2.00	1.75
MINR-BCR	1 1/2-16 UN-2A	1.623	2.06	1.93	2-029	2-031	2-029	UR150	1.87	2.16	1.88
MINT-BCR	2-16 UN-2A	2.123	2.62	2.43	2-033	2-035	2-031	UR175	2.37	2.75	2.38
MINU-BCR	2 1/4-16 UN-2A	2.373	3.00	2.68	2-035	2-037	2-033	UR200	2.75	3.03	2.63
MINX-BCR	2 3/4-16 UN2A	2.873	3.62	3.22	2-039	2-041	2-037	UR250	3.25	3.63	3.16

NOTE:

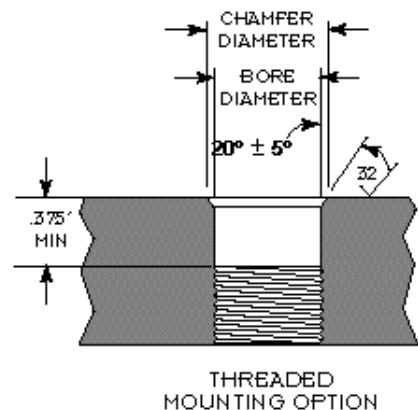
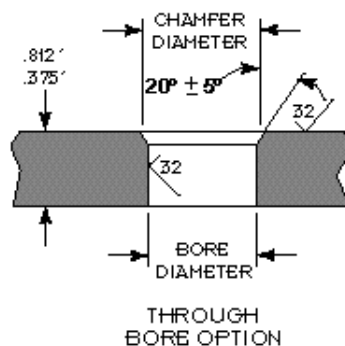
Reference pages 30-26 – 30-29 for pattern availability.

The Bulkhead Connector Receptacle Dual O-ring (BCR-DO) is a recent addition to the MINI-CON line. It combines the ease of installation of the standard BCR with the added safety of the redundant seal found in the FCR.

BCR-DO MOUNTING REQUIREMENTS

SIZE BORE Ø + .002" CHAMFER 0 ± .010" - .000"

G	0.687"	0.737"
K	0.812"	0.862"
L	0.937"	0.987"
M	1.062"	1.112"
O	1.187"	1.237"
P	1.312"	1.362"
Q	1.437"	1.487"
R	1.625"	1.675"
T	2.125"	2.175"
U	2.375"	2.425"
X	2.875"	2.925"

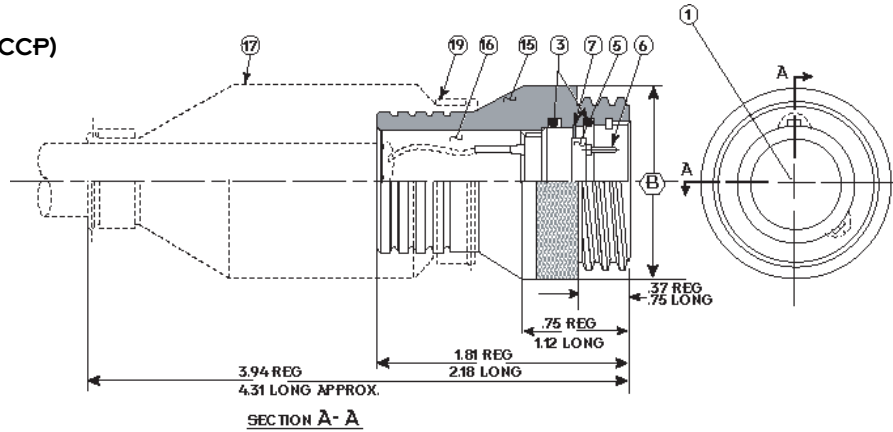


NOTES:

1. Bore must be perpendicular to spot face.
2. Spotface diameter to be equal to greater than the connector diameter.
3. If threaded mount is used, thread must be concentric with bore.

CABLE CONNECTOR RECEPTACLE (CCR)

CCR (MATES TO CCP)



NOTE:

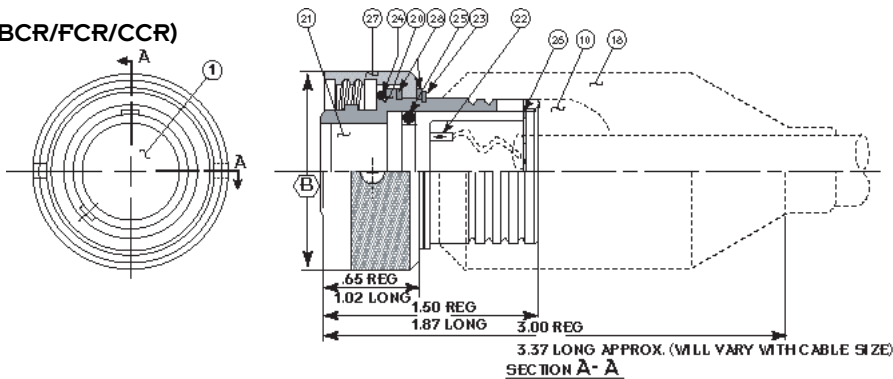
Reference pages 30-26 – 30-29
for pattern availability

SECTION A-A
WHEN ORDERING A MIN-CCR YOU RECEIVE: ③ ⑤ ⑥ ⑦ ⑮

PART NAME	⑥ INCHES	⑦ SPIROLOX	③ O - RING
MING-CCR	1.00	UR50	2-014
MINK-CCR	1.12	UR62	2-016
MINL-CCR	1.25	UR75	2-018
MINM-CCR	1.37	UR81	2-019
MINO-CCR	1.62	UR106	2-023
MINP-CCR	1.75	UR118	2-025
MINQ-CCR	1.87	UR137	2-028
MINR-CCR	2.00	UR150	2-029
MINT-CCR	2.50	UR175	2-031
MINU-CCR	2.75	UR200	2-033
MINX-CCR	3.50	UR250	2-037

CABLE CONNECTOR PLUG (CCP)

CCP (MATES TO BCR/FCR/CCR)



NOTE:

Reference pages 30-26 – 30-29
for pattern availability

SECTION A-A
WHEN ORDERING MIN-CCP YOU RECEIVE: ②① ②② ②③ ②④ ②⑤ ②⑥ ②⑦ ②⑧

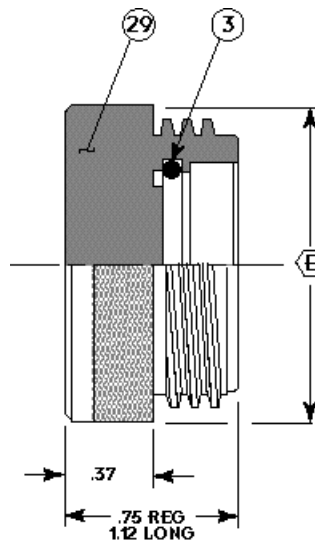
PART NAME	⑥ INCHES	②④ O-RING	②③ RETAINING RING	②⑤ O-RING	②⑥ SPIROLOX	R/A HEIGHT INCHES
MING-CCP	1.00	2-015	5100-68	2-013	UR56	2.63/3.00
MINK-CCP	1.12	2-017	5100-78	2-015	UR68	2.63/3.00
MINL-CCP	1.25	2-019	5100-87	2-016	UR75	2.63/3.00
MINM-CCP	1.37	2-020	5100-100	2-018	UR87	2.81/3.18
MINO-CCP	1.62	2-024	5100-118	2-020	UR100	2.81/3.18
MINP-CCP	1.75	2-027	5100-131	2-022	UR112	3.00/3.37
MINQ-CCP	1.87	2-028	5100-150	2-025	UR131	3.00/3.37
MINR-CCP	2.00	2-029	5100-156	2-026	UR137	3.19/3.56
MINT-CCP	2.50	2-032	5100-187	2-029	UR162	varies w/cable
MINU-CCP	2.75	2-033	5100-206	2-023	UR187	varies w/cable
MINX-CCP	3.50	2-038	5100-268	2-033	UR212	varies w/cable

DUMMY SEALING RECEPTACLE (DSR)

DSR (MATES TO CCP)

DSRL (MATES TO CCPL)

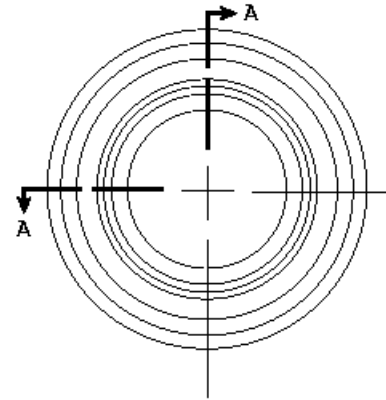
PART NAME	 INCHES	 O-RING
MING-DSR (DSRL)	1.00	2-014
MINK-DSR (DSRL)	1.12	2-016
MINL-DSR (DSRL)	1.25	2-018
MINM-DSR (DSRL)	1.37	2-019
MINO-DSR (DSRL)	1.62	2-023
MINP-DSR (DSRL)	1.75	2-025
MINQ-DSR (DSRL)	1.87	2-028
MINR-DSR (DSRL)	2.00	2-029
MINT-DSR (DSRL)	2.50	2-031
MINU-DSR (DSRL)	2.75	2-033
MINX-DSR (DSRL)	3.50	2-037



SECTION A-A

WHEN ORDERING MIN-DSR YOU RECEIVE:  

WHEN ORDERING MIN-DSRL YOU RECEIVE:  

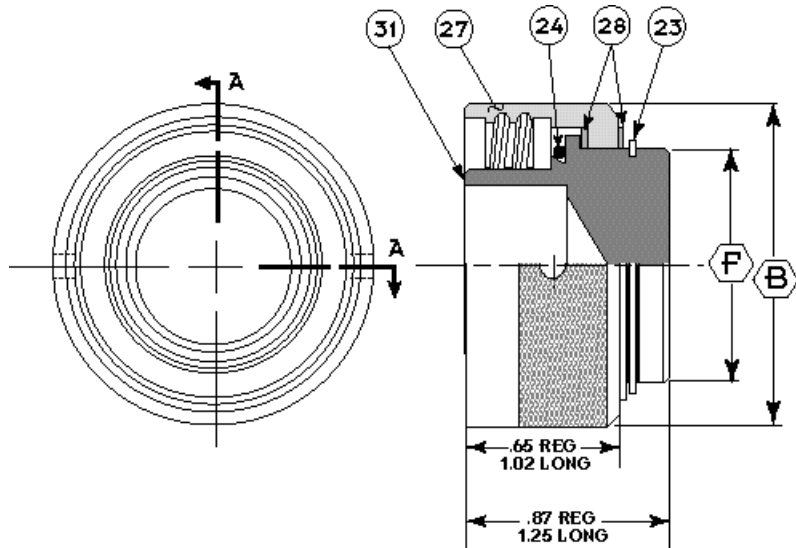


DUMMY SEALING PLUG (DSP)

DSP (MATES TO BCR/FCR/CCR)

DSPL (MATES TO BCRL/FCRL/CCRL)

PART NAME	 INCHES	 INCHES	 O-RING	 RETAINING RING
MING-DSP (DSPL)	1.00	0.69	2-015	5100-68
MINK-DSP (DSPL)	1.12	0.78	2-017	5100-78
MINL-DSP (DSPL)	1.25	0.87	2-019	5100-87
MINM-DSP (DSPL)	1.37	1.00	2-020	5100-100
MINO-DSP (DSPL)	1.62	1.18	2-024	5100-118
MINP-DSP (DSPL)	1.75	1.31	2-027	5100-131
MINQ-DSP (DSPL)	1.87	1.50	2-028	5100-150
MINR-DSP (DSPL)	2.00	1.56	2-029	5100-156
MINT-DSP (DSPL)	2.50	1.87	2-032	5100-187
MINU-DSP (DSPL)	2.75	2.06	2-033	5100-206
MINX-DSP (DSPL)	3.50	2.68	2-038	5100-268



SECTION A-A

WHEN ORDERING MING-DSP YOU RECEIVE:     

WHEN ORDERING MING-DSPL YOU RECEIVE:     

PLASTIC SPLASHPROOF RECEPTACLE (PSR)

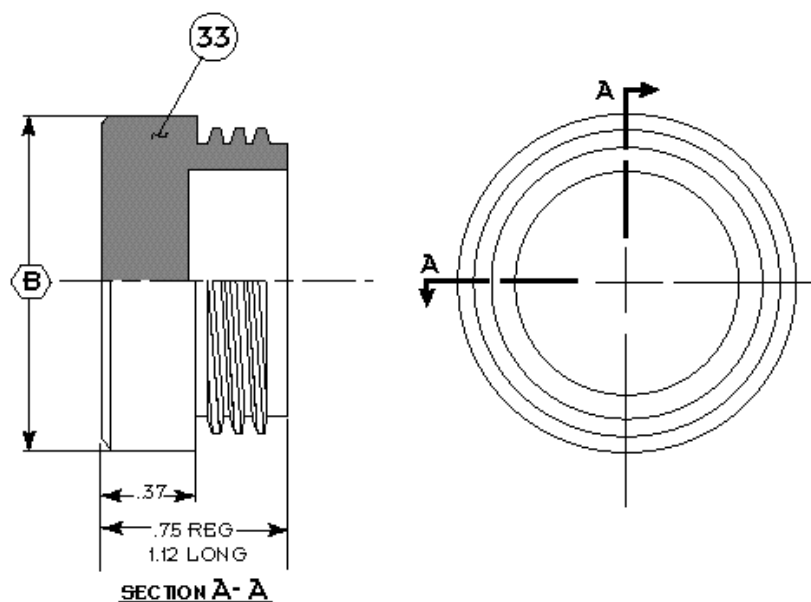
PSR (MATES TO CCP)

PSRL (MATES TO CCPL)

PART
NAME


INCHES

MING-PSR (PSRL)	1.00
MINK-PSR (PSRL)	1.12
MINL-PSR (PSRL)	1.25
MINM-PSR (PSRL)	1.37
MINO-PSR (PSRL)	1.62
MINP-PSR (PSRL)	1.75
MINQ-PSR (PSRL)	1.87
MINR-PSR (PSRL)	2.00
MINT-PSR (PSRL)	2.50
MINU-PSR (PSRL)	2.75
MINX-PSR (PSRL)	3.50



WHEN ORDERING MIN-PSR YOU RECEIVE: 

WHEN ORDERING MIN-PSRL YOU RECEIVE: 

PLASTIC SPLASHPROOF PLUG (PSP)

PSP (MATES TO BCR/FCR/CCR)

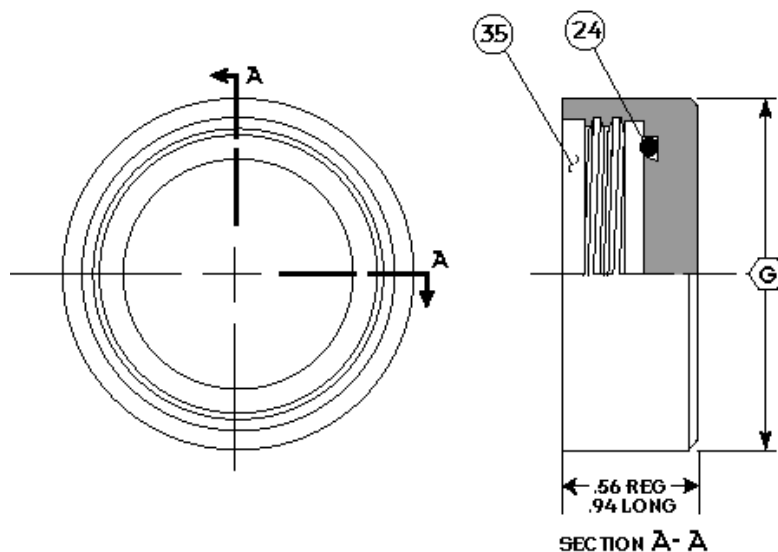
PSPL (MATES TO BCR/FCRL/CCRL)

PART
NAME


INCHES


O-RING

MING-PSP (PSPL)	1.06	2-015
MINK-PSP (PSPL)	1.20	2-017
MINL-PSP (PSPL)	1.31	2-019
MINM-PSP (PSPL)	1.44	2-020
MINO-PSP (PSPL)	1.68	2-024
MINP-PSP (PSPL)	1.81	2-027
MINQ-PSP (PSPL)	1.94	2-028
MINR-PSP (PSPL)	2.12	2-029
MINT-PSP (PSPL)	2.62	2-032
MINU-PSP (PSPL)	2.87	2-033
MINX-PSP (PSPL)	3.62	2-038



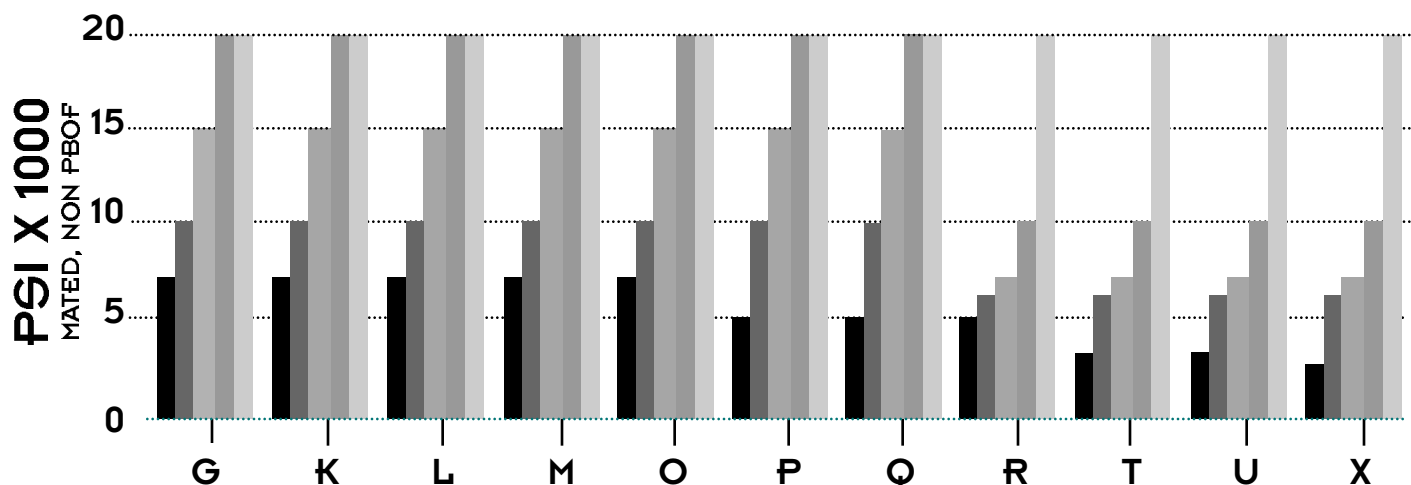
WHEN ORDERING MIN-PSP OR MIN-PSPL YOU RECEIVE:  

PRESSURE RATINGS

All MINI-CON connectors and dummies, when mated, are pressure rated as follows:

These pressure ratings are for our standard 316 stainless steel connectors. Higher ratings may be achieved with alternate materials. Please call factory for further information

SIZE	NON-PBOF	PBOF
G through O	7500 PSI	3000 PSI
P through R	5000 PSI	2000 PSI
T through U	3000 PSI	1500 PSI
X	2500 PSI	1000 PSI



SHELL SIZES, G-X

316SS
 Ti GR 2
 NI 50
 7075-T6 Al
 Ti 6Al4V

VOLTAGE RATINGS

600 VDC is standard; many of the above can handle higher voltage rating. Please contact factory for specific voltage ratings.

ESTIMATED WEIGHT OF MINI-CON CONNECTORS IN AIR

The following tables contain all the information to estimate the weight of a MINI-CON connector. The estimated weight of the standard shells may be found in Tables 1, 2, 3, 4, 5, 7, and 8. These tables contain the weight in four base metals; 316 Stainless Steel, Nitronic 50, 7075-T6 Aluminum, or Titanium (Grade 2 and 6Al 4V are approximately equal). The electrical insert weight may be found in Table 6.

In order to estimate the weight of the connector find the estimated weight for the insert in Table 6 and add it to the corresponding shell size estimated weight in Table 1, 2, 3, 4 or 5. The DSR and DSP do not use inserts.

Example: shell weight + insert weight = total weight of connector

NOTE: THE CIR WILL BE INSTALLED INTO THE BCR/FCR/CCR
THE CIP WILL BE INSTALLED INTO THE CCP OR CCP PBOF

TABLE 1

Shows the estimated weight of the BCR shells, both the standard and the long. Be sure to select the correct shell size, length, and material when reading the table.

**MINI-CON BULKHEAD RECEPTACLE CONNECTORS (BCR)
ESTIMATED WEIGHT IN AIR**

SIZE	EQUIVALENT VOLUME(CU IN)		316 SST (POUNDS)		NI 50 (POUNDS)		TITANIUM (POUNDS)		7075-T6 (POUNDS)	
	STD	LONG	STD	LONG	STD	LONG	STD	LONG	STD	LONG
G-BCR	0.378	0.491	0.110	0.142	0.108	0.140	0.060	0.079	0.038	0.050
K-BCR	0.457	0.578	0.133	0.168	0.130	0.165	0.073	0.092	0.046	0.058
L-BCR	0.562	0.678	0.163	0.197	0.160	0.193	0.090	0.108	0.057	0.068
M-BCR	0.767	0.940	0.222	0.273	0.219	0.268	0.123	0.150	0.077	0.095
O-BCR	0.826	1.079	0.240	0.313	0.235	0.308	0.132	0.173	0.083	0.109
P-BCR	0.928	1.210	0.269	0.351	0.264	0.345	0.148	0.194	0.094	0.122
Q-BCR	0.905	1.188	0.262	0.345	0.258	0.339	0.145	0.190	0.091	0.120
R-BCR	1.034	1.293	0.300	0.375	0.295	0.369	0.165	0.207	0.104	0.131

TABLE 2

Shows the estimated weight of the FCR shells, both the standard and the long. Be sure to select the correct shell size, length, and material when reading the table.

**MINI-CON FLANGE MOUNTED RECEPTACLE (FCR)
ESTIMATED WEIGHT IN AIR**

SIZE	EQUIVALENT VOLUME (CU IN)		316 SST (POUNDS)		NI 50 (POUNDS)		TITANIUM (POUNDS)		7075-T6 (POUNDS)	
	STD	LONG	STD	LONG	STD	LONG	STD	LONG	STD	LONG
G-FCR	0.436	0.550	0.126	0.160	0.124	0.157	0.070	0.088	0.044	0.056
K-FCR	0.488	0.614	0.142	0.178	0.139	0.175	0.078	0.098	0.049	0.062
L-FCR	0.588	0.757	0.171	0.220	0.168	0.216	0.094	0.121	0.059	0.076
M-FCR	0.753	0.966	0.218	0.280	0.215	0.275	0.120	0.155	0.076	0.098
O-FCR	0.898	1.169	0.260	0.339	0.256	0.333	0.144	0.187	0.091	0.118
P-FCR	0.991	1.284	0.287	0.372	0.282	0.366	0.159	0.205	0.100	0.130
Q-FCR	1.069	1.279	0.310	0.371	0.305	0.365	0.171	0.205	0.108	0.129
R-FCR	1.147	1.384	0.333	0.401	0.327	0.394	0.184	0.221	0.116	0.140

ESTIMATED WEIGHT OF MINI-CON CONNECTORS IN AIR

TABLE 3

Shows the estimated weight of the CCR shell, both the standard and the long. Be sure to select the correct shell size, length, and material when reading the table.

MINI-CON CABLE CONNECTORS RECEPTACLE (CCR) ESTIMATED WEIGHT IN AIR										
SIZE	EQUIVALENT VOLUME(CU IN)		316 SST (POUNDS)		NI 50 (POUNDS)		TITANIUM (POUNDS)		7075-T6 (POUNDS)	
	STD	LONG	STD	LONG	STD	LONG	STD	LONG	STD	LONG
G-CCR	0.560	0.664	0.162	0.193	0.160	0.189	0.090	0.106	0.057	0.067
K-CCR	0.621	0.767	0.180	0.222	0.177	0.219	0.099	0.123	0.063	0.077
L-CCR	0.743	0.926	0.215	0.269	0.212	0.264	0.119	0.148	0.075	0.094
M-CCR	0.948	1.133	0.275	0.329	0.270	0.323	0.152	0.181	0.096	0.114
O-CCR	1.245	1.479	0.361	0.429	0.355	0.422	0.199	0.237	0.126	0.149
P-CCR	1.379	1.617	0.400	0.469	0.393	0.461	0.221	0.259	0.139	0.163
Q-CCR	1.459	1.690	0.423	0.490	0.416	0.482	0.233	0.270	0.147	0.171
R-CCR	1.492	1.778	0.433	0.516	0.425	0.507	0.239	0.284	0.151	0.180

TABLE 4

Shows the estimated weight of the CCP shells, both the standard and the long. Be sure to select the correct shell size, length, and material when reading the table.

MINI-CON CABLE PLUGS (CCP) ESTIMATED WEIGHT IN AIR (Including Engaging Nut in Material Indicated)										
SIZE	EQUIVALENT VOLUME(CU IN)		316 SST (POUNDS)		NI 50 (POUNDS)		TITANIUM (POUNDS)		7075-T6 (POUNDS)	
	STD	LONG	STD	LONG	STD	LONG	STD	LONG	STD	LONG
G-CCP	0.307	0.414	0.089	0.120	0.087	0.118	0.049	0.066	0.031	0.042
K-CCP	0.338	0.467	0.098	0.135	0.096	0.133	0.054	0.075	0.034	0.047
L-CCP	0.434	0.592	0.126	0.172	0.124	0.169	0.069	0.095	0.044	0.060
M-CCP	0.472	0.641	0.137	0.186	0.135	0.183	0.076	0.103	0.048	0.065
O-CCP	0.761	1.012	0.221	0.293	0.217	0.288	0.122	0.162	0.077	0.102
P-CCP	0.838	1.084	0.243	0.314	0.239	0.309	0.134	0.173	0.085	0.109
Q-CCP	0.916	1.153	0.266	0.334	0.261	0.329	0.147	0.184	0.093	0.116
R-CCP	1.055	1.391	0.306	0.403	0.301	0.396	0.169	0.223	0.107	0.140

ESTIMATED WEIGHT OF MINI-CON CONNECTORS IN AIR

**MINI-CON PBOF CABLE PLUG (CCP-PBOF)
ESTIMATED WEIGHT IN AIR
(Including Engaging Nut in Material Indicated)**

SIZE	SHELL STYLE	EQUIVALENT VOLUME (CU IN)		<u>Shell Material</u>		<u>Engaging Nut Material</u>		TITANIUM (POUNDS)		7075-T6 (POUNDS)	
				316 SST	NI 50	CA 630	NI 60				
				STD	LONG	STD	LONG	STD	LONG	STD	LONG
				STD	LONG	STD	LONG	STD	LONG	STD	LONG
G-CCP	STR	1.143	1.260	0.331	0.365	0.326	0.359	0.183	0.202	0.115	0.127
	RA	1.210	1.330	0.351	0.386	0.345	0.379	0.194	0.213	0.122	0.134
	30 DEG	1.290	1.410	0.374	0.409	0.368	0.402	0.206	0.226	0.130	0.142
K-CCP	STR	0.929	1.030	0.269	0.299	0.265	0.294	0.149	0.165	0.094	0.104
	RA	1.000	1.100	0.290	0.319	0.285	0.314	0.160	0.176	0.101	0.111
	30 DEG	1.080	1.180	0.313	0.342	0.308	0.336	0.173	0.189	0.109	0.119
L-CCP	STR	1.350	1.460	0.392	0.423	0.385	0.416	0.216	0.234	0.136	0.147
	RA	1.420	1.530	0.412	0.444	0.405	0.436	0.227	0.245	0.143	0.155
	30 DEG	1.500	1.610	0.435	0.467	0.428	0.459	0.240	0.258	0.152	0.163
M-CCP	STR	1.520	1.690	0.441	0.490	0.433	0.482	0.243	0.270	0.154	0.171
	RA	1.590	1.760	0.461	0.510	0.453	0.502	0.254	0.282	0.161	0.178
	30 DEG	1.670	1.840	0.484	0.534	0.476	0.524	0.267	0.294	0.169	0.186
O-CCP	STR	2.079	2.260	0.603	0.655	0.593	0.644	0.333	0.362	0.210	0.228
	RA	2.150	2.320	0.623	0.673	0.613	0.661	0.344	0.371	0.217	0.234
	30 DEG	2.230	2.400	0.647	0.696	0.636	0.684	0.357	0.384	0.225	0.242
P-CCP	STR	2.670	2.900	0.774	0.841	0.761	0.826	0.427	0.464	0.270	0.293
	RA	2.740	2.970	0.795	0.861	0.781	0.846	0.438	0.475	0.277	0.300
	30 DEG	2.821	3.050	0.818	0.884	0.804	0.869	0.451	0.488	0.285	0.308
Q-CCP	STR	2.900	3.210	0.841	0.931	0.826	0.915	0.464	0.514	0.293	0.324
	RA	2.970	3.280	0.861	0.951	0.846	0.935	0.475	0.525	0.300	0.331
	30 DEG	3.050	3.360	0.884	0.974	0.869	0.958	0.488	0.538	0.308	0.339
R-CCP	STR	3.200	3.540	0.928	1.027	0.912	1.009	0.512	0.566	0.323	0.358
	RA	3.270	3.610	0.948	1.047	0.932	1.029	0.523	0.578	0.330	0.365
	30 DEG	3.350	3.690	0.971	1.070	0.955	1.052	0.536	0.590	0.338	0.373

TABLE 5

Shows the estimated weight of the CCP-PBOF shells, both the standard and the long. Be sure to select the correct shell size, length, and material when reading the table.

ESTIMATED WEIGHT OF MINI-CON CONNECTORS IN AIR

TABLE 6

Shows the estimated weight of the inserts which go into the shell listed in Tables 1 through 5. The inserts listed are examples for the given connector size and length (CIR/CIP or CIRL/CIPL). If the inserts you are looking for are not listed, estimate the weight by comparing the contact density to those shown in the table. Be sure to note whether the insert is a standard or long. If the insert has a #16 awg contact or larger, Fiber Optic, or Coax it will be a "long" insert.

MINI-CON INSERTS ESTIMATED WEIGHT IN AIR NOTE: STANDARD AND LONG EXAMPLES SHOWN					
SIZE	STD	CIR (POUNDS) LONG	STD	CIP (POUNDS) LONG	
MING-CIR/CIP					
3#22	0.005		0.011		
10#22	0.008		0.014		
MING-CIRL/CIPL					
3#16		0.009			0.029
MINK-CIR/CIP					
6#20	0.010		0.017		
19#22	0.014		0.022		
MINK-CIRL/CIPL					
4#16		0.013			0.031
2#14 / 8#20		0.015			0.036
MINL-CIR/CIP					
12#22	0.014		0.023		
24#22	0.018		0.029		
MINM-CIR/CIP					
25#20	0.023		0.037		
37#22	0.026		0.040		
MINM-CIRL/CIPL					
3#14		0.018			0.045
3#16 / 21#22		0.026			0.054
MINO-CIR/CIP					
52#22	0.039		0.056		
56#22	0.041		0.057		
MINO-CIRL/CIPL					
4#14		0.028			0.065
8#14 / 13#20		0.041			0.097
MINP-CIR/CIP					
28#20 / 24#22	0.050		0.068		
76#22	0.054		0.075		
MINP-CIRL/CIPL					
25#16		0.060			0.134
MINQ-CIR/CIP					
90#22	0.067		0.096		
106#22	0.073		0.102		
MINQ-CIRL/CIPL					
3#14 / 2#16 / 13#22			0.048		0.112
MINR-CIR/CIP					
56#20	0.064		0.090		
131#22	0.089		0.119		
MINR-CIRL/CIPL					
20#16		0.068			0.153
4#10 / 6#16 / 74#22		0.088			0.176

ESTIMATED WEIGHT OF MINI-CON CONNECTORS IN AIR

**MINI-CON DUMMY SEALING RECEPTACLE (DSR)
ESTIMATED WEIGHT IN AIR**

SIZE	EQUIVALENT VOLUME (CU IN)		316 SST (POUNDS)		NI 50 (POUNDS)		TITANIUM (POUNDS)	
	STD	LONG	STD	LONG	STD	LONG	STD	LONG
G-DSR	0.292	0.405	0.085	0.117	0.083	0.115	0.047	0.065
K-DSR	0.436	0.557	0.126	0.162	0.124	0.159	0.070	0.089
L-DSR	0.590	0.702	0.171	0.204	0.168	0.200	0.094	0.112
M-DSR	0.667	0.840	0.193	0.244	0.190	0.239	0.107	0.134
O-DSR	0.876	1.129	0.254	0.327	0.250	0.322	0.140	0.181
P-DSR	0.994	1.276	0.288	0.370	0.283	0.364	0.159	0.204
Q-DSR	1.067	1.350	0.309	0.392	0.304	0.385	0.171	0.216
R-DSR	1.175	1.434	0.341	0.416	0.335	0.409	0.188	0.229

TABLE 7

Shows the estimated weight of the DSR shells, both the standard and the long. Be sure to select the correct shell size, length, and material when reading the table.

**MINI-CON DUMMY SEALING PLUG (DSP)
ESTIMATED WEIGHT IN AIR
(Including Engaging Nut in Material Indicated)**

SIZE	EQUIVALENT VOLUME (CU IN)		316 SST (POUNDS)		NI 50 (POUNDS)		TITANIUM (POUNDS)	
	STD	LONG	STD	LONG	STD	LONG	STD	LONG
G-DSP	0.333	0.440	0.097	0.128	0.095	0.125	0.053	0.070
K-DSP	0.430	0.559	0.125	0.162	0.123	0.159	0.069	0.089
L-DSP	0.512	0.670	0.148	0.194	0.146	0.191	0.082	0.107
M-DSP	0.661	0.780	0.177	0.226	0.174	0.222	0.098	0.125
O-DSP	0.783	1.034	0.227	0.300	0.223	0.295	0.125	0.165
P-DSP	1.054	1.300	0.306	0.377	0.300	0.371	0.169	0.208
Q-DSP	1.313	1.550	0.381	0.449	0.374	0.442	0.210	0.248
R-DSP	1.462	1.798	0.424	0.521	0.417	0.512	0.234	0.288

TABLE 8

Shows the estimated weight of the DSP shells, both the standard and the long. Be sure to select the correct shell size, length, and material when reading the table.

MAXIMUM CABLE DIAMETERS

FOR USE WITH MINI-CON CONNECTORS

MING-CCP	9/16" (0.562)
MING-CCP R/A	3/4" (0.750)
MING-CCR	9/16" (0.562)
MINK-CCP	7/8" (0.875)
MINK-CCP R/A	5/8" (0.625)
MINK-CCR	7/8" (0.875)
MINL-CCP	1" (1.000)
MINL-CCP R/A	5/8" (0.625)
MINL-CCR	1" (1.000)
MINM-CCP	1" (1.000)
MINM-CCP R/A	29/32" (0.906)
MINM-CCR	1" (1.000)
MINO-CCP	1 1/4" (1.250)
MINO-CCP R/A	3/4" (0.750)
MINO-CCR	1 1/4" (1.250)

MINP-CCP	1" (1.000)
MINP-CCP R/A	27/32" (0.843)
MINP-CCR	1" (1.000)
MINQ-CCP	1 1/4" (1.250)
MINQ-CCP R/A	7/8" (0.875)
MINQ-CCR	1 1/4" (1.250)
MINR-CCP	1 1/4" (1.250)
MINR-CCP R/A	1" (1.000)
MINR-CCR	1 1/4" (1.250)
MINT-CCP	1 1/2" (1.500)
MINT-CCP R/A	1 1/4" (1.250)
MINT-CCR	1 1/2" (1.500)
MINU-CCP	1 11/16" (1.687)
MINU-CCP R/A	1 3/8" (1.375)
MINU-CCR	1 11/16" (1.687)



RECOMMENDED TIGHTENING TORQUE

1. Only qualified technicians should perform engagement and torquing operations.
2. Torque values listed below are maximum value. Valves given are for dry threads (nonlubricated). The BCR torque rating assumes a dry, metal customer housing. If a non-metallic housing is used, torque requirements will be lower. Consult factory for additional information.
3. Utilize inspection hole in engaging nuts to ensure complete engagement.
- 4.* During engagement it may be necessary to use up to 50% of the engaging nut torque value.
5. After complete engagement a torque of up to the maximum listed value may be applied to ensure engaging nut will not disengage during use.

Connector	BCR/L Mounting Torque (Inch-Pounds)	CCP/L & DSP/L Engaging Nut Torque* (Inch- Pounds)
MING	65-85	40-50
MINK	75-100	40-60
MINL	90-110	50-70
MINM	120-150	65-95
MINO	130-160	75-105
MINP	140-170	80-110
MINQ	150-180	85-115
MINR	170-220	90-120
MINT	210-250	125-150
MINU	220-260	135-160
MINX	240-280	155-180

QUALITY CONFORMANCE TESTING

The MINI-CON series has been subjected to, and successfully passed, a variety of environmental, physical, and electrical tests. These Quality Conformance tests were performed to ensure the operational integrity of this series under a variety of conditions.

ENVIRONMENTAL TESTS

Salt Spray (Corrosion)

- Tested in Accordance with MIL-STD-202, Method 101.

Humidity (Steady State)

- Tested in Accordance with MIL-STD-202, Method 103.

Thermal Shock

- Tested in Accordance with MIL-STD-202, Method 107.

Hydrostatic Pressure

- Tested in Accordance with MIL-STD-1344, Method 1006.

PHYSICAL TEST

Underwater Explosion Shock Test

- Tested in accordance with MIL-S-901,
High Impact/Heavy Weight.

Vibration (Mechanical)

- Tested in accordance with MIL-STD-167, Type 1.

ELECTRICAL TESTS

Dielectric Withstanding Voltage

- Tested in accordance with MIL-STD-202, Method 301.

Insulation Resistance

- Tested in accordance with MIL-STD-202, Method 302.



Our Quality Control Department is responsible for quality management and administration, quality engineering, quality plans and procedures, and inspection tests.

This department is composed of the Product Assurance Manager, Quality Control Manager, Document Administrator and several inspectors. The Quality System meets and exceeds the requirements of MIL-45208 and has met the standards of MIL-Q-9858 on some specific programs. The calibration system is completely computerized and satisfies the specifications of MIL-STD-45662.

All of our soldering personnel along with four inspectors are certified to MIL-STD-2000.

SEA CON®'s Quality Department maintains a quality manual as well as a quality departmental procedures manual. The procedures manual defines in detail the operations and testing requirements used by quality personnel. The quality personnel have witnessed and/or performed electrical, mechanical (destructive/non-destructive) and environmental testing and/or inspection to the following standards: MIL-STD-202, MIL-202, MIL-STD-454, MIL-STD-1344, Federal Test Method Standard 228, MIL-S-901, MIL-STD-167, and MIL-STD-2000.

Our connectors are put through four stringent testing procedures which include:

1. ELECTRICAL TESTING:

Hipot up to 20,000 VAC at 5mA
Insulation Resistance of up to 100G at 2500 VDC
DC resistances in $\mu\Omega$

2. DIMENSIONAL:

Non contact measuring (OMIS II) with accuracy to 40 millionths of an inch and Optical Comparator with accuracy to 400 millionths of an inch. We maintain a full compliment of standard measuring instruments.

3. ENVIRONMENTAL:

Four Hydrostatic Pressure Vessels capable of testing underwater components to 1,000 PSI, 10,000 PSI, 18,000 PSI, and 20,000 PSI. Connectors can be tested mated, or in an open face condition and tests can be performed in water or oil. Electrical properties can often be monitored during the pressure cycling process.

4. MECHANICAL:

Pull tests up to 1,000 lbs in 5 lb. increments, flex testing, debonding, dissection and chemical analysis.

PRESSURE BALANCED OIL-FILLED (PBOF) CONNECTORS

The MINI-CON series has expanded into our PBOF range of connectors to allow for easy field repairs and length adjustments on short cable assemblies. The MINI-CON PBOF series does not utilize a valve in the cable plug. Therefore, the connector interface does not flood with oil through an orifice but, traces of oil may be visible after pressurization. Elimination of the valve enables the MINI-CON characteristics (a high density-small diameter) to be used in the PBOF system. The pressure range for the PBOF series is shown on Page 30-10.

There are two basic styles of MINI-CON PBOF cable connector plugs (CCP): straight and right angles (R/A). Additionally, SEA CON® has developed 30° and 45° CCP-PBOF for use where cable packaging is critically tight. We have built many PBOF connectors for tubing sizes other than our standard. WYE transitions and PBOF to rubber molded transitions have also been furnished by SEA CON®.

Mating connectors for the CCP PBOF are the MINI-CON Bulkhead connector receptacle (BCR-PBOF), flange connector receptacle (FCR-PBOF), and cable connector receptacle (CCR-PBOF). The BCR and FCR

connectors have identical dimensions to our standard connectors, but additional steps are taken to ensure that they are capable of handling the extra stresses that are imposed by the PBOF system. Be sure to state BCR-PBOF or FCR-PBOF when ordering Bulkhead connectors for this system. The CCR-PBOF is designed to use the same size tubing as the corresponding CCP-PBOF. However, other tubing sizes can be accommodated by special order.

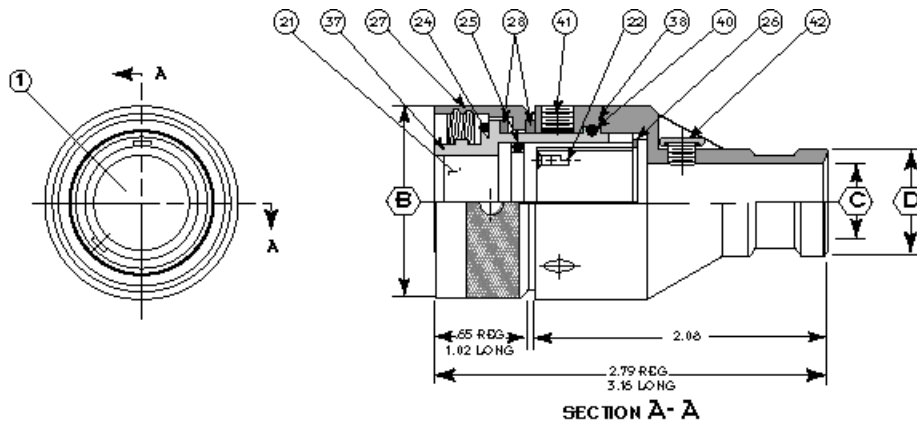
Some advantages of a Pressure Balanced, Oil Filled System:

- The cable connector plug (CCP-PBOF) and cable connector receptacle (CCR-PBOF) are easily assembled in the field as no potting or molding is required.
- Since conventional molding of the connector to the cable is not necessary in this system, problems such as open circuits caused by wires being broken or pulled out of the terminals, and undue stress being placed on the conductor's terminations are eliminated.
- Fatigue and failure of termination joints caused by pressure cycling is nonexistent because the PBOF pressure compensated system eliminates the pistoning action of conductors.
- Various cable combinations are easily obtainable since assembly consists merely of installing insulated conductors within commercially available tubing, securing to the connector shell with hose clamps, and filling with oil.
- Pin holes or cracks in the tubing become obvious prior to usage, evidenced by the leakage of oil.
- Should the tubing be cut during use the system would continue to operate for a considerable period of time until the oil is forced out.
- Rapid and inexpensive cable repair can be accomplished in the field.
- For more information on PBOF's, please refer to Section 70.



CABLE CONNECTOR PLUG (CCP-PBOF)

CCP-PBOF(MATES TO BCR-PBOF/FCR-PBOF/CCR-PBOF)



WHEN ORDERING MIN-CCP-PBOF YOU RECEIVE: (21)(22)(24)(25)(26)(27)(28)(37)(38)(40)(41)(42)

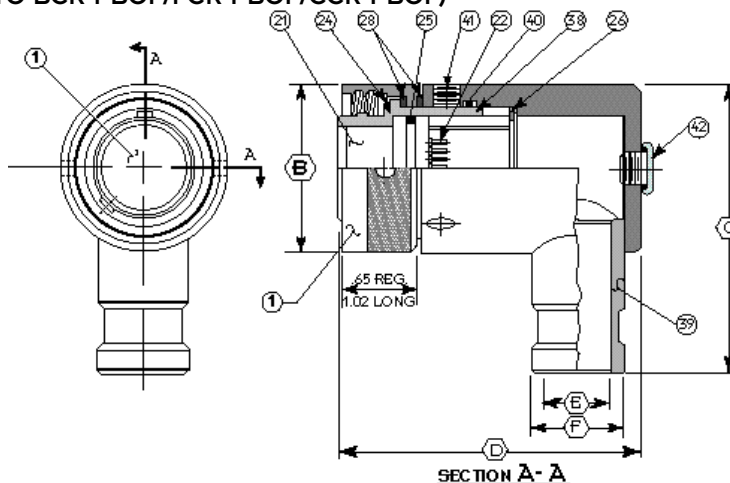
NOTE:

Reference pages 30-26 – 30-29
for pattern availability.

PART NAME	(B) INCHES	(C) INCHES	(D) INCHES	(24) O-RING	(25) O-RING	(26) SPIROLOX	(40) O-RING	RECOMMENDED TUBE I.D. SIZE
MING-CCP-PBOF	1.00	0.50	0.62	2-015	2-013	UR56	2-017	0.50
MINK-CCP-PBOF	1.12	0.50	0.62	2-017	2-015	UR68	2-116	0.50
MINL-CCP-PBOF	1.25	0.56	0.75	2-019	2-016	UR75	2-020	0.63
MINM-CCP-PBOF	1.37	0.56	0.75	2-020	2-018	UR87	2-022	0.63
MINO-CCP-PBOF	1.62	0.94	1.12	2-024	2-020	UR100	2-025	1.00
MINP-CCP-PBOF	1.75	0.94	1.12	2-027	2-022	UR112	2-027	1.00
MINQ-CCP-PBOF	1.87	1.06	1.25	2-028	2-025	UR131	2-029	1.13
MINR-CCP-PBOF	2.00	1.06	1.25	2-029	2-026	UR137	5-009	1.13

CABLE CONNECTOR PLUG (CCP-PBOF-R/A)

CCP-PBOF-R/A(MATES TO BCR-PBOF/FCR-PBOF/CCR-PBOF)



WHEN ORDERING MIN-CCP-PBOF-R/A YOU RECEIVE: (21)(22)(24)(25)(26)(27)(28)(38)(39)(40)(41)(42)

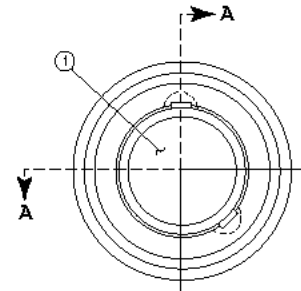
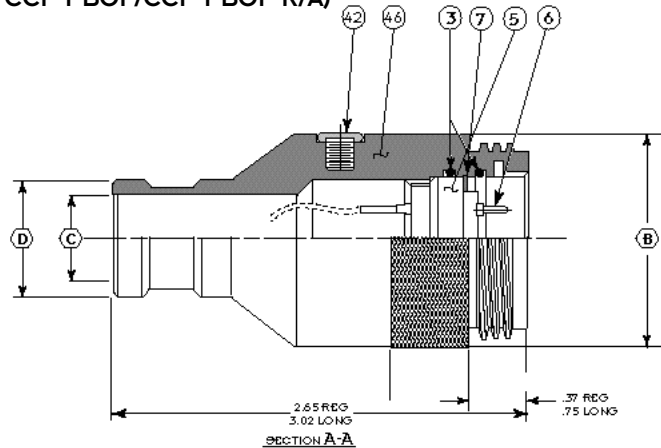
NOTE:

Reference pages 30-26 – 30-29
for pattern availability.

PART NAME	 INCHES	 INCHES	 INCHES		 INCHES	 INCHES	 O-RING	 O-RING	 SPIROLOX	 O-RING	RECOMMENDED TUBE I.D. SIZE
			STD	LONG							
MING-CCP-R/A-PBOF	1.00	2.20	2.37	2.75	0.50	0.62	2-015	2-013	UR56	2-017	0.50
MINK-CCP-R/A-PBOF	1.12	2.20	2.37	2.75	0.50	0.62	2-017	2-015	UR68	2-116	0.50
MINL-CCP-R/A-PBOF	1.25	2.37	2.50	2.87	0.56	0.75	2-019	2-016	UR75	2-020	0.63
MINM-CCP-R/A-PBOF	1.37	2.37	2.50	2.87	0.56	0.75	2-020	2-018	UR87	2-022	0.63
MINO-CCP-R/A-PBOF	1.62	3.00	3.03	3.40	0.94	1.12	2-024	2-020	UR100	2-025	1.00
MINP-CCP-R/A-PBOF	1.75	3.00	3.03	3.40	0.94	1.12	2-027	2-022	UR112	2-027	1.00
MINQ-CCP-R/A-PBOF	1.87	3.20	3.15	3.52	1.06	1.25	2-028	2-025	UR131	2-029	1.13
MINR-CCP-R/A-PBOF	2.00	3.20	3.15	3.52	1.06	1.25	2-029	2-026	UR137	5-009	1.13

CABLE CONNECTOR RECEPTACLE (CCR-PBOF)

CCR-PBOF (MATES TO CCP PBOF/CCP-PBOF-R/A)



NOTE:

Reference pages 30-26 – 30-29 for pattern availability.

WHEN ORDERING MIN-CCR-PBOF YOU RECEIVE: ③ ⑤ ⑥ ⑦ ④② ④③

PART NAME	⑥ INCHES	⑤ INCHES	④ INCHES	⑦ SPIROLOX	③ O-RING	RECOMMENDED TUBE I.D. SIZE
MING-CCR-PBOF	1.00	0.50	0.62	UR50	2-014	0.50
MINK-CCR-PBOF	1.12	0.50	0.62	UR62	2-016	0.50
MINL-CCR-PBOF	1.25	0.56	0.75	UR75	2-018	0.62
MINM-CCR-PBOF	1.37	0.56	0.75	UR81	2-019	0.62
MINO-CCR-PBOF	1.62	0.94	1.12	UR106	2-023	1.00
MINP-CCR-PBOF	1.75	0.94	1.12	UR118	2-025	1.00
MINQ-CCR-PBOF	1.87	1.06	1.25	UR137	2-028	1.12
MINR-CCR-PBOF	2.00	1.06	1.25	UR150	2-029	1.12

REVERSED MINIATURE CONNECTORS (VMIN)

The 'V' before the MIN prefix represents a reversed miniature insert. Many of our bulkhead connectors are available with sockets instead of pins, and the corresponding cable plugs have pins instead of sockets.

VMIN is an option for those applications which require design of cabling/harnessing systems to be

electrically sound with respect to "power on" safety requirements.

It should be noted that reversal of sockets and pins may not be required as the pins in standard bulkhead connectors are recessed approximately one quarter of an inch. Contact the factory for recommendations on your specific application.



Based on a natural extension of the MINI-CON product line, SEA CON® has developed a family of fiber optic connectors built to withstand a variety of environmental conditions, including: hydrostatic pressure, thermal and explosive shock, and vibration. With the absence of any universal specifications for underwater fiber optic connectors, product development has concentrated on adding fiber optic capabilities to existing electrical connector designs.

In accordance with these



design objectives, SEA CON® has successfully built and delivered several configurations of MINI-CON electro-optic connectors, many of which have been qualification tested and are in operation.

As with any underwater connection system, the shells or housing remain a critical feature. The inclusion of fiber optics in a connector design is best achieved with a proven underwater shell design like SEA CON®'s MINI-CON line. This series is one of the few underwater connector designs which have been qualification tested to the requirements of military sub sea specifications.

Furthermore, reliability and repeatability in electro-optic connectors are best achieved by adapting commercially available fiber optic contacts into the traditional electrical insert.

Aside from providing an optical retrofit for established systems, this method builds on the successful history of common optical products like ST or FC connectors.

SEA CON® has taken this development a step further by adding open face pressure capability to the list of features in its electro-optic series. This is almost always recommended for the receptacle in a connector set, and thus provides an added level of seal redundancy. SEA CON® has also provided cable plugs with similar open face pressure ratings.

The optical/electrical hybrid connectors have been customized to terminate several cable designs including various types of both loose and tight buffered cables. In order to maximize the efficiency of the design and optimize reliability, all hybrid terminations are engineered to accommodate a specific cable.

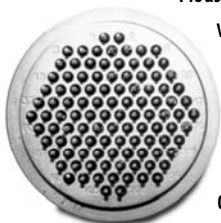
For more information, go to the FIBER OPTICS section of the catalog.

MINI-CON™ SPECIAL CONNECTORS

SELF WIPING MINIATURES

On applications where high voltage miniature connectors are required MINI-CON series offers a Self Wiping (SW) feature.

The SW feature ensures that the insulating areas are wiped clean and dry during the mating process. Without this feature the high voltage arcing path would have to be increased dramatically, thus requiring the use of a large connector.



Please contact the factory with your high voltage requirements. We will either recommend an existing MINI-CON SW connector or a design suited to your specific needs.

HIGH PRESSURE CONNECTORS.

For higher mated pressure ratings than those shown on page 30-10, the MINI-CON can be manufactured with titanium shells. Titanium shells increase the pressure rating to 20,000 PSI, mated.

For high open face pressure ratings, most MINI-CON bulkhead connectors can be manufactured with a Glass Sealed Contact Insert Receptacle (CIR). These inserts consist of gold plated pins, compression glass sealed, in a type 316L stainless steel contact web. Our standard Glass Seal MINI-CON is rated at 13,500 PSI, open face. For higher pressures, contact the factory. These inserts are a direct replacement for our standard epoxy inserts and may be ordered separately. They may be used in the titanium shells, above, or in standard MINI-CON shells.



As SEA CON® continues to design for custom applications, we are always adding to our chart of available contact configurations. Our current configuration availability is enclosed as an insert to the back inside panel of this brochure. If another pattern is required, please contact the factory.

MINI-CON MASTER PARTS LIST

ITEM	QTY	PART / DESCRIPTION	NOTES		
①	—	INSERT FACE PATTERN		11	
②	1	O-RING	6		13
③	AR	O-RING		6	
④	1	MIN-BCR	1		13
⑤	1	MIN-CIR		2	
⑥	AR	CONTACT PINS	3		11
⑦	1	SPIROLOX		5	
⑧	1	BULKHEAD HEX NUT (OPTIONAL)		5	
⑨	1	BULKHEAD WASHER (OPTIONAL)		5	
⑩	AR	EPOXY (OPTIONAL)		7	
⑪	AR	HOO-K-UP WIRE (OPTIONAL PIGTAILS)		8	
⑫	1	MIN-FCR	1		13
⑬	1	O-RING		6	
⑭	4	SOCKET CAP HEX SCREW (OPTIONAL)		5	
⑮	1	MIN-CCR		1	
⑯	AR	FILL COMPOUND REQUIRED		14	
⑰	1	MIN-CCP/CCR FI BOOT (OPTIONAL)	4		12
⑱	AR	OVERMOLD (OPTIONAL)	4		12
⑲	2	NYLON CABLE TIE (OPTIONAL)		12	
⑳	1	MIN-CCP	1		13
㉑	1	MIN-CIP		2	
㉒	AR	CONTACT SOCKETS	3		11
㉓	1	RETAINING RING		5	
㉔	1	O-RING	6		13
㉕	1	O-RING		6	
㉖	1	SPIROLOX		5	
㉗	1	ENGAGING NUT		10	
㉘	2	ENGAGING NUT WASHER		9	
㉙	1	MIN-DSR		1	
㉚	1	MIN-DSRL (REFER TO ㉙)		1	
㉛	1	MIN-DSP		1	
㉜	1	MIN-DSPL (REFER TO ㉛)		1	
㉝	1	MIN-PSR		9	
㉞	1	MIN-PSRL (REFER TO ㉝)		9	
㉟	1	MIN-PSP		9	
㊱	1	MIN-PSPL (REFER TO ㉟)		9	
㊲	1	MIN-CCP-PBOF-FWD END		1	
㊳	1	MIN-CCP-PBOF-AFT END		1	
㊴	1	MIN-CCP-PBOF-R/A AFT END		1	
㊵	1	O-RING		6	
㊶	3	8-32 UNC-2A HEX SOCKET SET SCREW/CUP POINT		5	
㊷	1	10-24 UNC-2A SLOTTED PAN HEAD SCREW WITH O-RING		5	
㊸	1	MIN-BCR DUAL O-RING	1		13
㊹	1	O-RING		6	
㊺	1	O-RING	6		13
㊻	1	MIN-CCR-PBOF		1	
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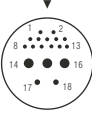
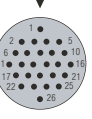
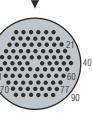
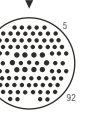
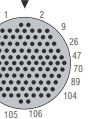
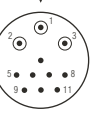
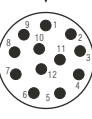
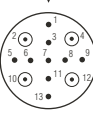
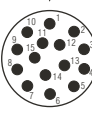
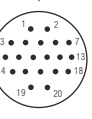
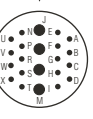
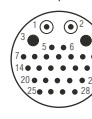
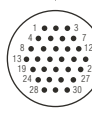
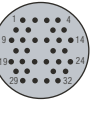
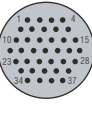
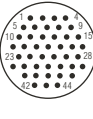
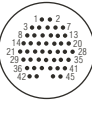
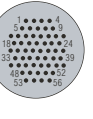
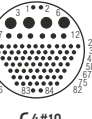
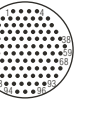
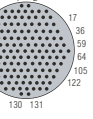
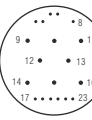
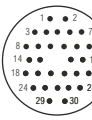
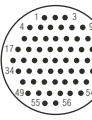
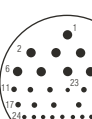
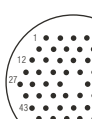
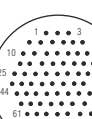
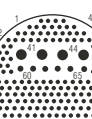
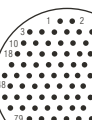
MINI-CON MASTER PARTS LIST

NOTES:

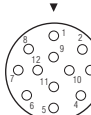
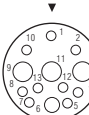
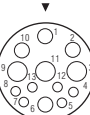
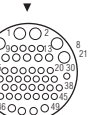
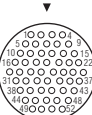
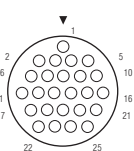
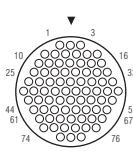
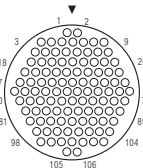
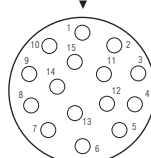
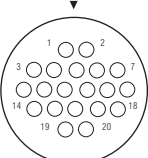
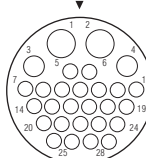
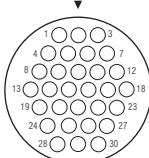
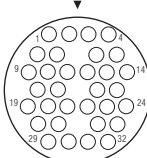
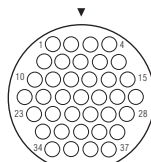
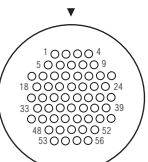
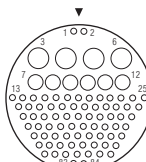
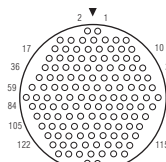
- 1 MATERIAL: 316 STAINLESS STEEL PER MIL-S-862.
- 2 MATERIAL: GLASS REINFORCED EPOXY, SEA CON® XS-27748
- 3 MATERIAL: COPPER ALLOY & GOLD PLATE PER MIL-G-45204.
- 4 MATERIAL: NEOPRENE MOLDING PER SEA CON® X-5727.
- 5 MATERIAL: HIGH GRADE STAINLESS STEEL.
- 6 MATERIAL: BUNA-N, 70 DUROMETER.
- 7 MATERIAL: EPON 828/CIBA 840.
- 8 MATERIAL: AS SPECIFIED BY CUSTOMER.
- 9 MATERIAL: BLACK DELRIN.
- 10 MATERIAL: COPPER ALLOY 630.
- 11 REF FACE CONFIGURATIONS FOR SIZE OF CONTACTS AND LOCATIONS.
- 12 AN OVERMOLD OR FIELD INSTALLABLE BOOT IS OPTIONAL ON BOTH THE CCP AND THE CCR.
- 13 DOVETAIL GROOVE TO PREVENT LOSS OF O-RING.
- 14 NOT SUPPLIED.

SIZE	MINI-CON SERIES CONTACT CONFIGURATIONS AVAILABLE											
G	 3#16 LONG	 3#22	 4#22	 5#22	 6#22	 7#20	 10#22					
K	 4#16 LONG	 5#16 LONG	 6#20	 7 { 1#10 6#20 LONG	 8 { 2#14 6#22 LONG	 10#20	 10 { 2#14 8#20 LONG	 12#22	 16 { 6#20 10#22	 19#22		
L	 2#22/20 COAX LONG	 2#20	 5 { 1#22/20 COAX 4#20 LONG	 6 { 3#10 3#22 LONG	 7#16 LONG	 9 { 3#14 6#22 LONG	 12#22	 18#22	 18 { 8#20 10#22	 20 { 6#20 14#22	 24#22	
M	 3#14 LONG	 4#10 LONG	 7#16 LONG	 10#16 LONG	 12 { 4#16 8#20 LONG	 15 { 3#16 12#22 LONG	 16#22	 22 { 3#16 19#22 LONG	 24 { 3#16 21#22 LONG	 25#20	 26#20	 37#22
O	 4#14 LONG	 8#14 LONG	 12#20	 13 { 3#10 4#14 6#22 LONG	 13 { 3#10 1#14 9#22 LONG							
	 16#22	 21 { 8#14 13#20 LONG	 44#20	 49 { 6#16 9#20 34#22 LONG	 52#22	 56#22						
P	 6 { 4#14 2#20 LONG	 6 { 1#16 5#22 LONG	 7#10 LONG	 25#16 LONG	 25 { 1#22/20 COAX 2#14 3#20 19#22 LONG	 39 { 3#16 36#20 LONG						
	 40#20	 51 { 3#16 48#22 LONG	 52 { 28#20 24#22	 57#20	 64 { 10#20 54#22	 76#22	 79#22					

NOTES: All configurations shown are the face view of the receptacle connector (BCR/FCR/CCR).
Shaded face patterns available as Glass Sealed style connectors.
600 VDC is standard; many of the above can handle higher voltage ratings.
Please contact our factory for specific voltage ratings.

SIZE	MINI-CON SERIES CONTACT CONFIGURATIONS AVAILABLE									
Q	     									
R	                									
T	    									
U	    									
X										

NOTES: All configurations shown are the face view of the receptacle connector (BCR/FCR/CCR).
Shaded face patterns available as Glass Sealed style connectors.
600 VDC is standard; many of the above can handle higher voltage ratings.
Please contact our factory for specific voltage ratings.

SIZE	REVERSED MINI-CON SERIES (VMIN) CONTACT CONFIGURATIONS AVAILABLE									
G	 10#22	K	 12#22	 16 { 10#22 6#20	 19#22					
L	 7#16 LONG	 18#22								
M	 3#14 LONG	 4#10 LONG	 7#16 LONG	 10#16 LONG	 26#20	 37#22				
O	 4#14 LONG	 8#14 LONG	 12#20	 13 { 3#10 1#14 9#22 LONG	 13 { 3#10 4#14 6#22 LONG	 16#22	 21 { 13#20 8#14 LONG	 49 { 6#16 9#20 34#22 LONG	 52#22	
P	 25#16 LONG	 76#22								
Q	 106#22									
R	 15#10 LONG	 20#16 LONG	 28 { 2#22/20 ~COAX 2#10 24#16 LONG	 30#16 LONG	 32#16 LONG					
	 37#16 LONG	 56#20	 84 { 4#10 6#16 74#22 LONG	 131#22 LONG						

NOTES: All configurations shown are the face view of the receptacle connector (BCR/FCR/CCR).
600 VDC is standard; many of the above can handle higher voltage ratings.
Please contact our factory for specific voltage ratings.