

# 3H Manufacturing, Inc.



Design & Manufacture Subsea  
Electro/Mechanical Connectors

Distributed outside of the United States by

**AGO** *ENVIRONMENTAL ELECTRONICS LTD*

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Cable assemblies



Dummy plugs



WOC connectors



SS & neoprene  
bulkhead  
connectors





Glass-filled epoxy  
bulkhead  
connectors



Locking collars

# CABLE ASSEMBLIES

		RMG	RMK	VMG	VMK
Pin style on male connectors		Exposed 		Shrouded 	
Matching bulkhead connectors	Stainless steel	RMG	RMK	VMG	VMK
	Glass-filled epoxy	XSG	XSK	VSG	VSK

General specifications	
Voltage rating	600VDC
Pressure rating when mated with matching cables	Up to 20,000psi (1370bar = 13,700 m water depth)
Materials	Neoprene rubber with gold-plated contacts
Standard conductor gauges <sup>1</sup>	#16, #18, #20 (type SO cable)

<sup>1</sup> Other gauges may be possible on special request

## Dimensions

Side view of RMG-#FS connector. Dimensions: total length 2.9, outer diameter Ø0.62, and inner diameter Ø0.75.

**RMG-#FS FACE VIEW**

Face view diagrams for RMG-#FS connector showing pin configurations for 2, 3, 4, and 5 pins.

Side view of RMG-#FS connector. Dimensions: total length 2.9, outer diameter Ø0.75, and inner diameter 2.3.

**RMK-#FS FACE VIEW**

Face view diagrams for RMK-#FS connector showing pin configurations for 2, 3, 4, 5, 6, 7, 8, and 9 pins.

Side view of RMK-#FS connector. Dimensions: total length 3.3, outer diameter Ø1.06, and inner diameter 2.6.

Side view of RMK-#FS connector. Dimensions: total length 3.5, outer diameter Ø0.87, and inner diameter Ø1.06.

**VMG-#FS FACE VIEW**

Face view diagrams for VMG-#FS connector showing pin configurations for 2, 3, and 4 pins.

Side view of VMG-#FS connector. Dimensions: total length 2.9, outer diameter Ø0.75, and inner diameter 2.3.

**VMK-#FS FACE VIEW**

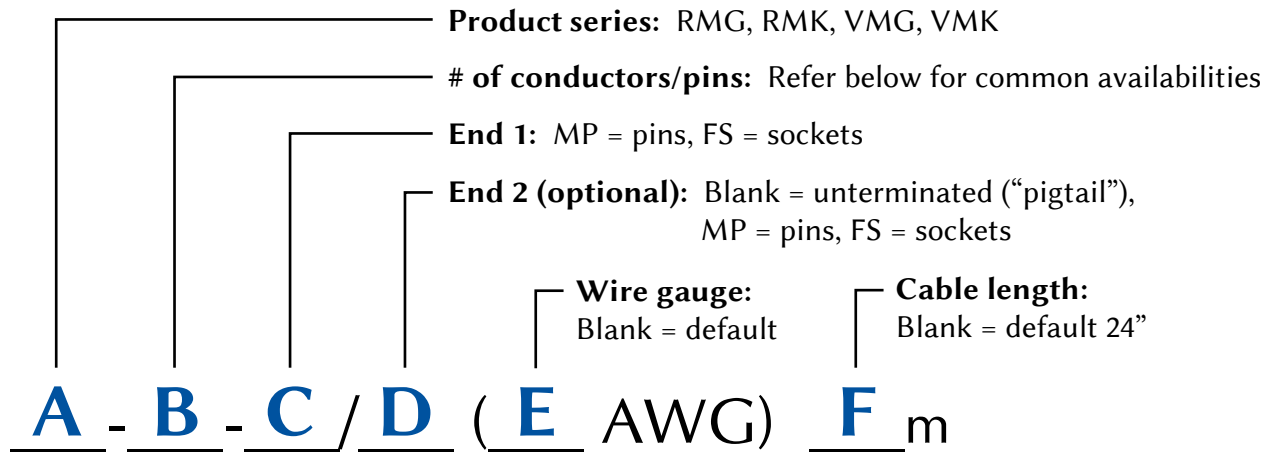
Face view diagrams for VMK-#FS connector showing pin configurations for 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13 pins.

Side view of VMK-#FS connector. Dimensions: total length 3.3, outer diameter Ø1.06, and inner diameter 2.6.

Side view of VMK-#FS connector. Dimensions: total length 3.5, outer diameter Ø0.87, and inner diameter Ø1.06.

# CABLE ASSEMBLIES

## Part number format



## Example part numbers

RMG-4-FS	Default 24" long pigtail terminated with one 4-contact RMG-size connector with sockets (female) on one end. Default wire gauge.
RMK-8-FS/MP (12AWG) 10m	10m long cable terminated with 8-contact RMK-size connectors, sockets (female) on one end and pins (male) on the other end. 12AWG wire gauge.

Cable assemblies can also be ordered with locking collars by specifying "with locking collars" when ordering.

## # of conductors & pin sizes (commonly stocked by A.G.O.<sup>1</sup>)

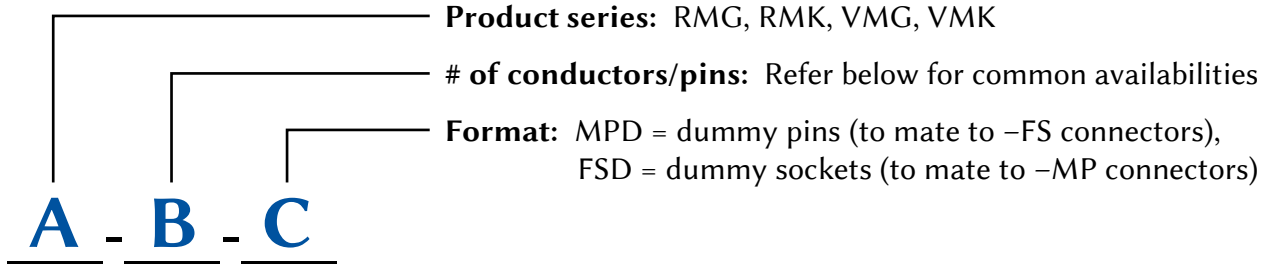
	2	3	4	5	6	7	8	12
RMG	1x #10 1x #14	1x #10 2x #14	1x #14 3x #16		1x #14 5x #16			
RMK	1x #10 1x #14	1x #10 2x #14	1x #10 3x #14	1x #10 4x #14	1x #14 5x #16	1x #14 6x #16	1x #14 7x #16	
VMG	1x #14 1x #16	1x #14 2x #16	1x #14 3x #16					
VMK	1x #14 1x #16	1x #14 2x #16	1x #14 3x #16	1x #14 4x #16	1x #14 5x #16	1x #14 6x #16		1x #14 11x #16

<sup>1</sup> Other configurations from the SEACON lineup may also be available on special request

# DUMMY PLUGS

Used to cover and protect exposed cable ends from exposure to the elements when not connected to other connectors.

## Part number format



## Example part number

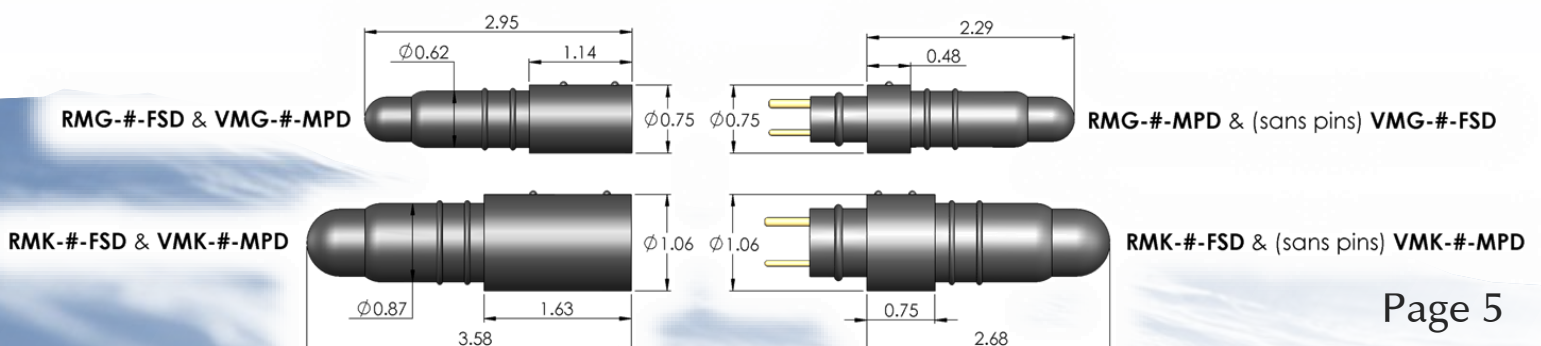
RMG-4-FSD

Socketed (female) dummy plug for mating to an RMG-4-MP cable.

## Configurations commonly stocked at A.G.O.<sup>1</sup>

# of contacts	Pinned dummy plugs (to mate to -FS connectors)				Socketed dummy plugs (to mate to -MP connectors)			
	RMG	RMK	VMG	VMK	RMG	RMK	VMG	VMK
2	RMG-2-MPD	RMK-2-MPD	VMG-2-MPD	VMK-2-MPD	RMG-2-FSD	RMK-2-FSD	VMG-2-FSD	VMK-2-FSD
3	RMG-3-MPD	RMK-3-MPD	VMG-3-MPD	VMK-3-MPD	RMG-3-FSD	RMK-3-FSD	VMG-3-FSD	VMK-3-FSD
4	RMG-4-MPD	RMK-4-MPD	VMG-4-MPD	VMK-4-MPD	RMG-4-FSD	RMK-4-FSD	VMG-4-FSD	VMK-4-FSD
5		RMK-5-MPD		VMK-5-MPD		RMK-5-FSD		VMK-5-FSD
6	RMG-6-MPD	RMK-6-MPD		VMK-6-MPD	RMG-6-FSD	RMK-6-FSD		VMK-6-FSD
7		RMK-7-MPD		VMK-7-MPD		RMK-7-FSD		VMK-7-FSD
8		RMK-8-MPD				RMK-8-FSD		
12				VMK-12-MPD				VMK-12-FSD

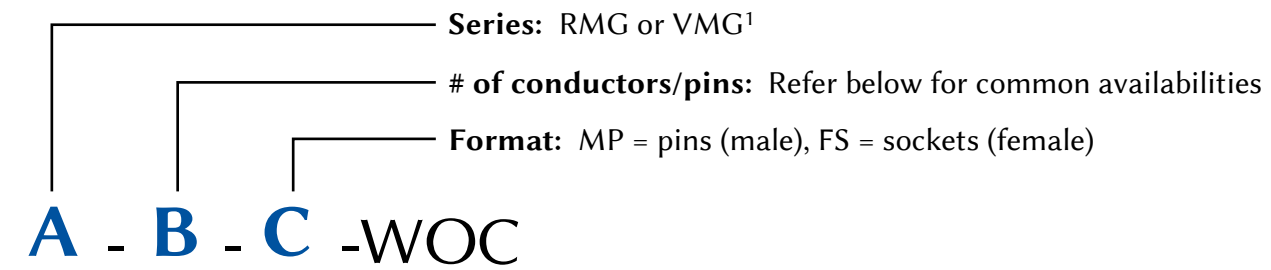
<sup>1</sup> Other configurations from the SEACON lineup may also be available on special request



# WOC CONNECTORS

Without-Cable connectors come with solder cups and a potting sleeve to fit over the soldered connections and backfill with a suitable urethane rubber potting compound to terminate any cable with an RMG connector. WOC connectors are useful for field-repairing RMG-series cable assemblies, or for custom-terminating any cable with an RMG-series connector as a more affordable alternative to splicing on a pigtail.

## Part number format



## Example part number

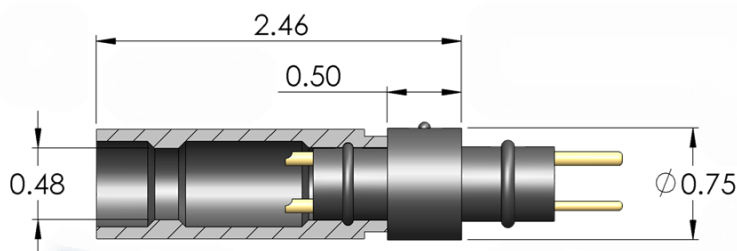
RMG-6-MP-WOC

RMG-size 6-contact pinned (male) WOC connector.

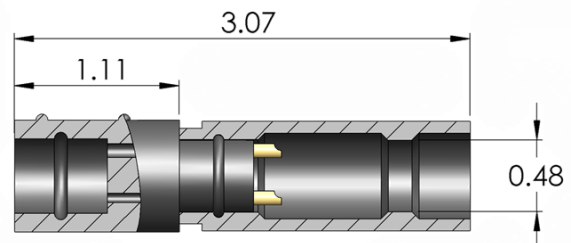
## Configurations commonly stocked at A.G.O.<sup>1</sup>

# of contacts	Pinned (male) WOC's		Socketed (female) WOC's	
	RMG-series	VMG-series	RMG-series	VMG-series
2	RMG-2-MP-WOC	VMG-2-MP-WOC	RMG-2-FS-WOC	VMG-2-FS-WOC
3	RMG-3-MP-WOC	VMG-3-MP-WOC	RMG-3-FS-WOC	VMG-3-FS-WOC
4	RMG-4-MP-WOC	VMG-4-MP-WOC	RMG-4-FS-WOC	VMG-4-FS-WOC
6	RMG-6-MP-WOC		RMG-6-FS-WOC	

<sup>1</sup> Other configurations from the SEACON lineup may also be available on special request, including WOCs for the RMK, VMG, and VMK product lines.



**RMG-#-MP-WOC**  
& (sans pins) **VMG-#-FS-WOC**

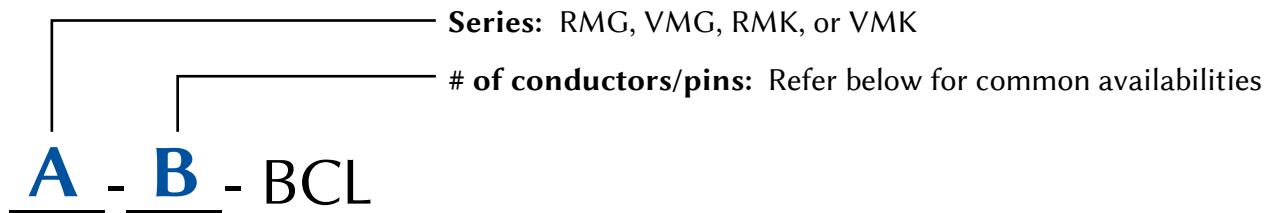


**RMG-#-FS-WOC**  
& **VMG-#-MP-WOC**

# BULKHEAD CONNECTORS

## Stainless Steel & Neoprene series

### Part number format



### Example part number

VMK-4-BCL

VMK-size 4-contact pinned (male) bulkhead connector with thread for locking collar.

### General specifications

Voltage rating

600VDC

Pressure rating when mated with matching cables

Up to 5,000psi (340bar = 3,400 m water depth)

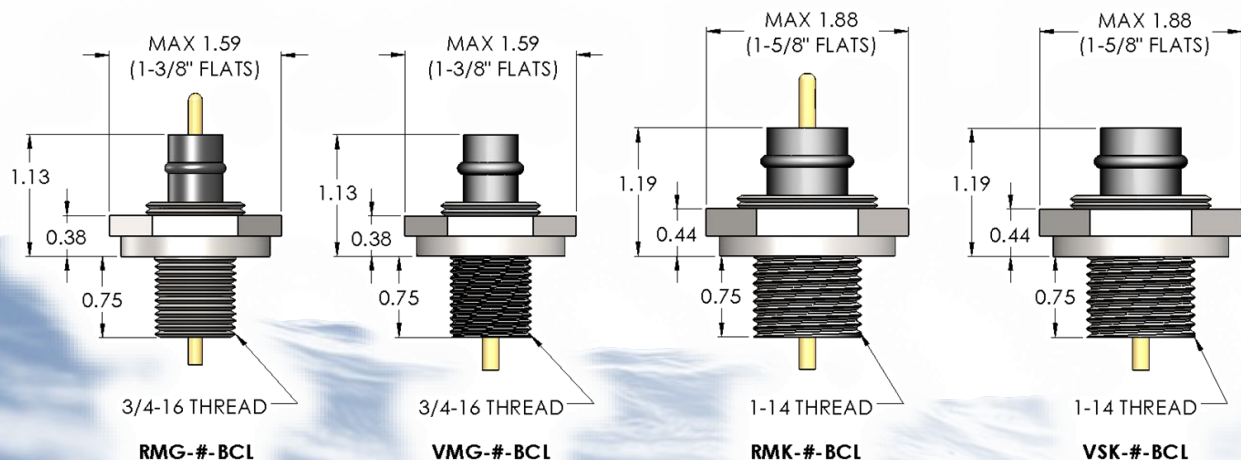
Materials

316 stainless steel body with internal glass-filled epoxy water block insert overmolded with neoprene rubber.  
Gold-plated contacts.

### Configurations commonly stocked at A.G.O.<sup>1</sup>

Bulkhead series	RMG-#-BCL	VMG-#-BCL	RMK-#-BCL	VMK-#-BCL
Mates to...	RMG-#-FS w/ locking collar	VMG-#-MP w/ locking collar	RMK-#-FS w/ locking collar	VMK-#-MP w/ locking collar
# of contacts available	2, 3, 4, 6	2, 3, 4	2, 3, 4, 5, 6, 7, 8	2, 3, 4, 5, 6, 7, 12

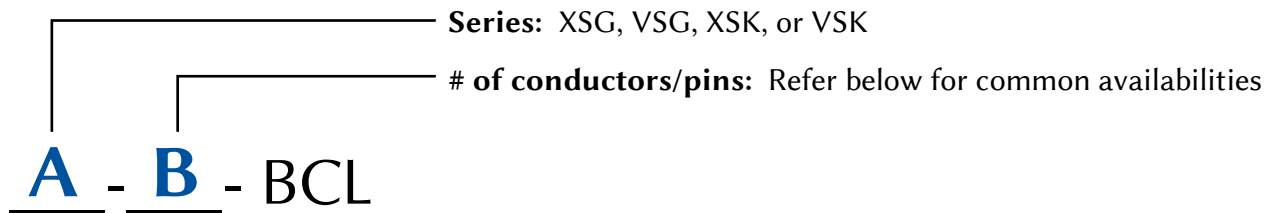
<sup>1</sup> Other configurations from the SEACON lineup may also be available on special request



# BULKHEAD CONNECTORS

## Glass-Filled Epoxy series

### Part number format



### Example part number

XSG-3-BCL

XSG-size 3-contact pinned (male) bulkhead connector with thread for locking collar.

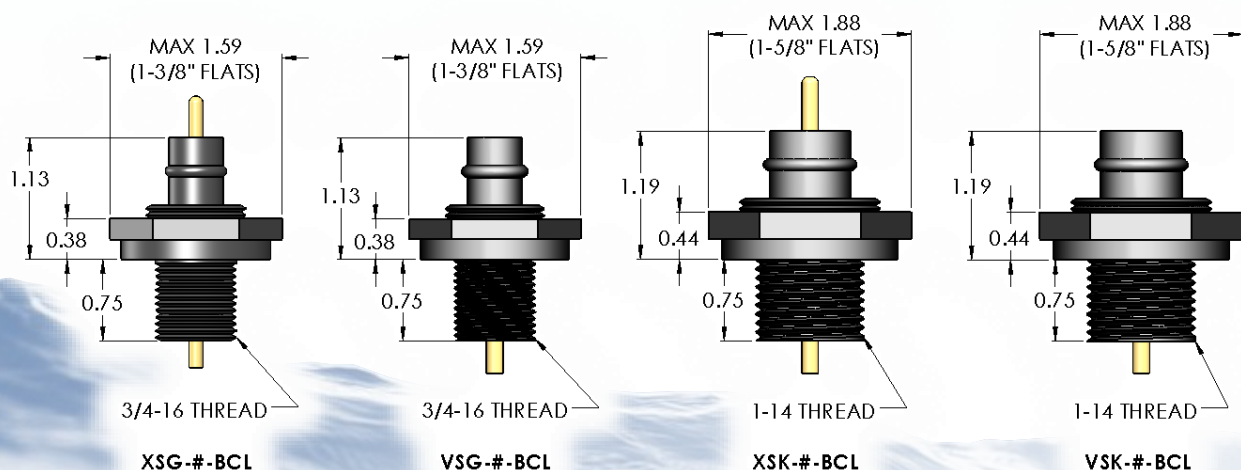
### General specifications

Voltage rating	600VDC
Pressure rating when mated with matching cables	Up to 20,000psi (1370bar = 13,700 m water depth)
Materials	Molded glass-filled epoxy. Gold-plated contacts.

### Configurations commonly stocked at A.G.O.<sup>1</sup>


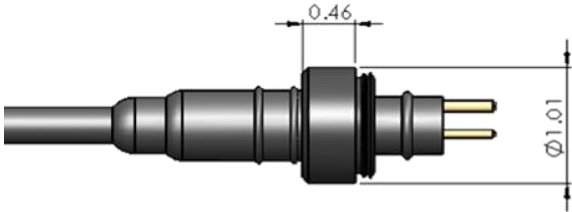

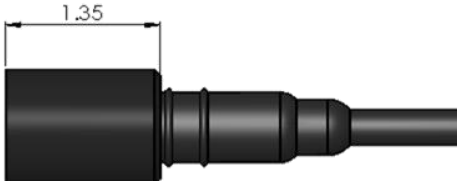
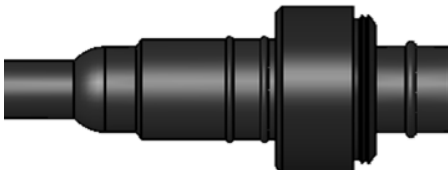
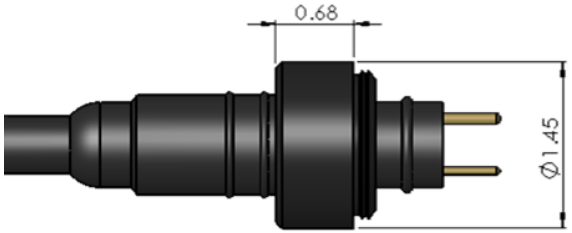
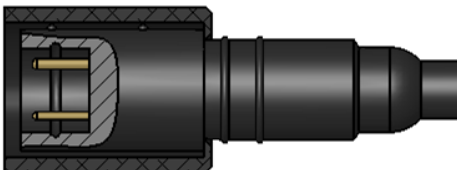
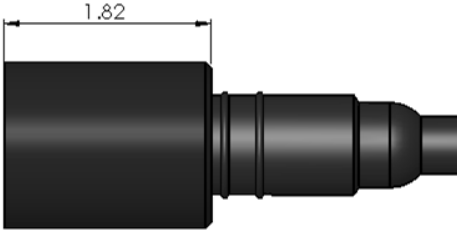
Bulkhead series	XSG-#-BCL	VSG-#-BCL	XSK-#-BCL	VSK-#-BCL
Mates to...	RMG-#-FS w/ locking collar	VMG-#-MP w/ locking collar	RMK-#-FS w/ locking collar	VMK-#-MP w/ locking collar
# of contacts available	2, 3, 4, 6	2, 3, 4	2, 3, 4, 5, 6, 7, 8	2, 3, 4, 5, 6, 7, 12

<sup>1</sup> Other configurations from the SEACON lineup may also be available on special request



# LOCKING COLLARS

Used to secure mated connections between cables and/or bulkheads together to resist tension

Part number format		
<div><div><div>A</div><div>-</div><div>B</div><div>-</div><div>D</div></div><div><div>Product series:</div><div>G = for RMG or VMG series connectors</div><div>K = for RMK or VMK series connectors</div><div>Thread gender:</div><div>FLS = Female</div><div>MLS = Male</div></div></div>		
Example part number		
G-FLS-D	G-size locking collar with female thread to go on socketed RMG or pinned VMG connector.	
Compatible connectors		
G-series	<div>G-FLS-D: Pinned RMG and socketed VMG</div> <div></div>	<div>G-MLS-D: Socketed RMG and pinned VMG</div> <div></div>
	<div>K-FLS-D: Pinned RMK and socketed VMK</div> <div></div>	<div>K-MLS-D: Socketed RMK and pinned VMK</div> <div></div>

# REFERENCE INDEX

Rubber molded connector product codes:			RMG	VMG	RMK	VMK
Commonly available # of contacts			2, 3, 4, 6	2, 3, 4	2, 3, 4, 5, 6, 7, 8	2, 3, 4, 5, 6, 7, 12
Cable assemblies	Male pigtails	-MP	RMG-#-MP-[length]	VMG-#-MP-[length]	RMK-#-MP-[length]	VMK-#-MP-[length]
	Female pigtails	-FS	RMG-#-FS-[length]	VMG-#-FS-[length]	RMK-#-FS-[length]	VMK-#-FS-[length]
	Male/female extension	-MP/FS	RMG-#-MP/FS-[length]	VMG-#-MP/FS-[length]	RMK-#-MP/FS-[length]	VMK-#-MP/FS-[length]
	Male/male extension	-MP/MP	RMG-#-MP/MP-[length]	VMG-#-MP/MP-[length]	RMK-#-MP/MP-[length]	VMK-#-MP/MP-[length]
	Female/female extension	-FS/FS	RMG-#-FS/FS-[length]	VMG-#-FS/FS-[length]	RMK-#-FS/FS-[length]	VMK-#-FS/FS-[length]
Dummy plugs	Male (pinned)	-MPD	RMG-#-MPD	VMG-#-MPD	RMK-#-MPD	VMK-#-MPD
	Female (socketed)	-FSD	RMG-#-FSD	VMG-#-FSD	RMK-#-FSD	VMK-#-FSD
WOC connectors	Male (pinned)	-MP-WOC	RMG-#-MP-WOC	VMG-#-MP-WOC		
	Female (socketed)	-FS-WOC	RMG-#-FS-WOC	VMG-#-FS-WOC		
SS & Neoprene bulkhead connectors	W/ thread for locking collar	-BCL	RMG-#-BCL (Male/pinned)	VMG-#-BCL (Female/socketed)	RMK-#-BCL (Male/pinned)	VMK-#-BCL (Female/socketed)
Glass-filled epoxy bulkhead product codes:			XSG	VSG	XSK	VSK
Glass-filled epoxy bulkhead connectors	W/ thread for locking collar	-BCL	XSG-BCL (Male/pinned)	VSG-BCL (Female/socketed)	XSK-BCL (Male/pinned)	VSK-BCL (Female/socketed)
Locking collars product codes:			G		K	
For <b>male</b> connectors in the associated product series			G-MLS-D	G-FLS-D	K-MLS-D	K-FLS-D
For <b>female</b> connectors in the associated product series			G-FLS-D	G-MLS-D	K-FLS-D	K-MLS-D

The products listed here are commonly stocked and ordered by A.G.O. Other products from the SEACON lineup not listed here may also be available from 3H Manufacturing on special request.