## **GENERAL CONTACT INFO**

#### THE "MULTI-FINGER" CONTACT

Mill-Max makes pin receptacles by press-fitting a "multi-finger" spring contact into a machined shell. A selection of over 39 contact types are pre-tooled for those who wish to design custom receptacles. This extensive family of contacts will accept round pins ranging from .008" to .102" diameter, as well as rectangular component leads and square wraposts, where the effective diameter is taken as the diagonal dimension of the lead.

Many contacts are interchangeable within a given shell, and so the contact selector chart has been organized by alternate contact groupings. Standard receptacles found in this catalog can be easily assembled with alternate contacts to suit special applications, for example: low insertion force or high operating temperature.

Contact Groups	Contact Type	Accepts Minimum Pin Diameter	Accepts Maximum Pin Diameter	Contact Compliancy $\delta$	Contact Length	Number of Fingers	Contact Material	Current Rating ( For 10°C ∆T)
No Alternate	#04	.008	.013	.003	.053	3		2A
No Alternate	#10	.012	.017	.002	.060	6		ZA
A	#09	.015 .018	.018	.002	.051	3	BeCu	
	#11		.020	.003	.075			
	#21		.022					
	#31		.023	.004	.062	4		
	#05	.015	.022		.075	3		
	#25		.020	.003		3	BeNi BeCu	
В	#12		.022	.003	.062	4		3A
	#22			.005		6		-
С	#30		.025	.005	.083	4		
	#38			.004			BeNi	
	#32		.026	.009		6	BeCu	
	#35			.008				
	#43			.000				
К	#15	.020	.032	.005	.084			4.5A 8A
	#19			.003			BeNi	
D	#06	.022	.032	.007	.113	4	BeCu	
	#26			.005			BeNi	
	#16		.034	.006	.083	6	BeCu	
	#47	.025	.037	.011			Becu	
	#56			.009			BeNi	
L	#18	.037	.043	.004	.062		BeCu	
	#58			.003			BeNi	
E	#36	.022	.042	.022	.120		BeCu	
	#34	.032	.046	.010	.120	- 4		
	#49			.006	.125			
	#24			.009	.120		BeNi	
F	#02	.040	.050	.006	.088	6		
	#28	.042	.052	.005				
J	#42	.059	.063	.004	.150	4	BeCu	20A
	#03	.040	.060	.010		-		11.2A
G	#23	.045	.065	.008	.100	6		
	#13	.048	.064	.010	.127			
	#33			.008		4	BeNi	
Н	#07	.065	.082	.013	.150		BeCu	15A
	#27			.012			BeNi	
	#14		.085	.014	100		5.0	10.4
No Alternate	#08	.084	.102	.011	.122	6	BeCu	18A
No Alternate	#48	.037	.043	TBD	.092	4		20A





# **GENERAL CONTACT INFO**

## **CONTACT SPECIFICATIONS**

The Mill-Max "multi-finger" contact exhibits wide conformity, eg. the ability of any single contact to accept a broad range of round pins as well as rectangular or square leads.

The insertion/extraction force characteristics that follow were derived using  $30\mu''$  gold-plated contacts and bullet-shaped polished steel, gauge pins. The curves represent typical average values. The charts only guide you in selecting a clip that is close to your specification. Your results may vary, so for your specification, **visit www.mill-max.com to obtain complimentary** 

#### samples of a receptacle assembly for your evaluation.

#### COMPLIANCY ( $\delta$ )

The compliancy factor ( $\delta$ ) describes the re-configured operating range after inserting the largest permissible mating pin. For example: the # 34 contact has an initial operating range from .032" to .046" diameter pins. After insertion of a .046" pin, the contact is sized, and the minimum pin acceptance becomes .046" - .010" = .036". Thus, the new operating range becomes .036" to .046".

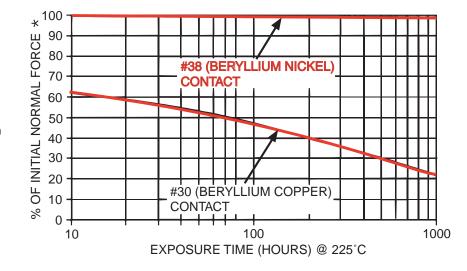
#### **CURRENT RATING**

Current rating for each contact group can be found in the contact selector chart on page 248. This current rating (for a 10° C temperature rise above ambient) is conservative, since it rates an individual pin/receptacle pair in free air. For all practical applications, the current rating will be higher because of the heat sinking ability of wires and circuit traces attached to the pins and receptacles.

Mill-Max receptacles are capable of 1,000 minimum insertion/extraction cycles for a broad range of applications. Mating pin size, shape and finish, along with application specific variables, will affect the life of a contact.

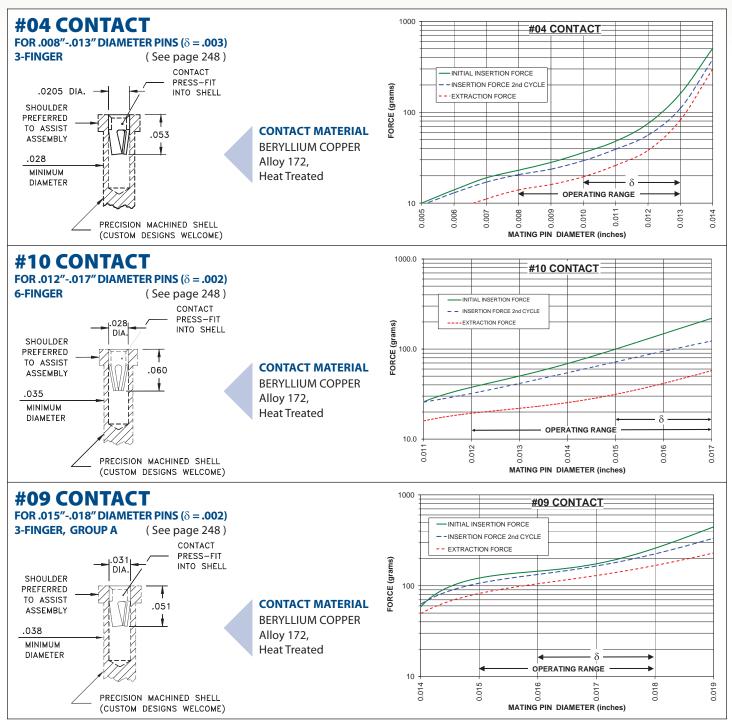
#### CONTACT MATERIAL AND STRESS RELAXATION AT HIGH TEMPERATURE

Mill-Max Mfg. contacts are made from either beryllium copper or beryllium nickel that has been heat treated to achieve ultimate spring properties. The graph illustrates how beryllium copper loses its spring properties over time at a high temperature (225°C). Thus, for burn-in applications and continuous operation above 150°C, beryllium nickel should be substituted for beryllium copper.





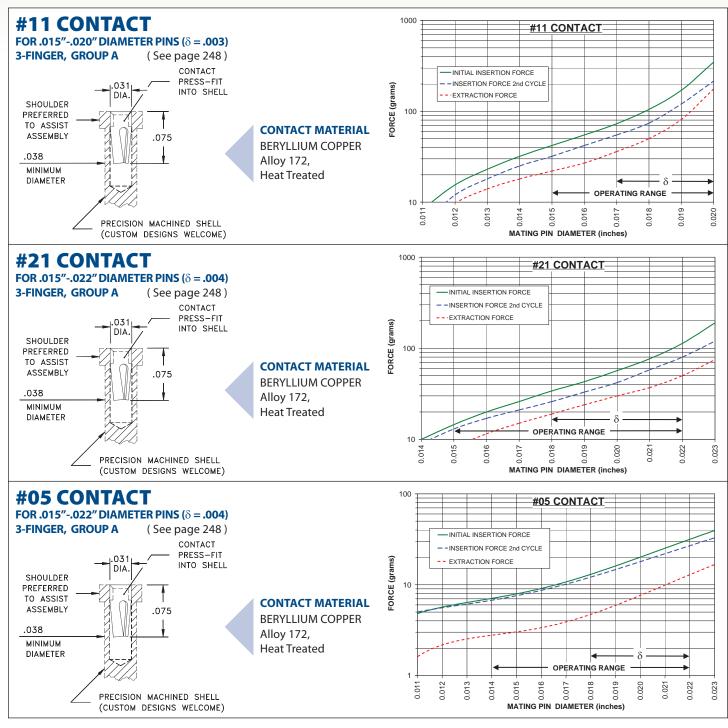




The insertion / extraction force characteristics above were derived using a 30 microinch gold-plated contact and polished steel gauge pins having a bullet-shaped tip.



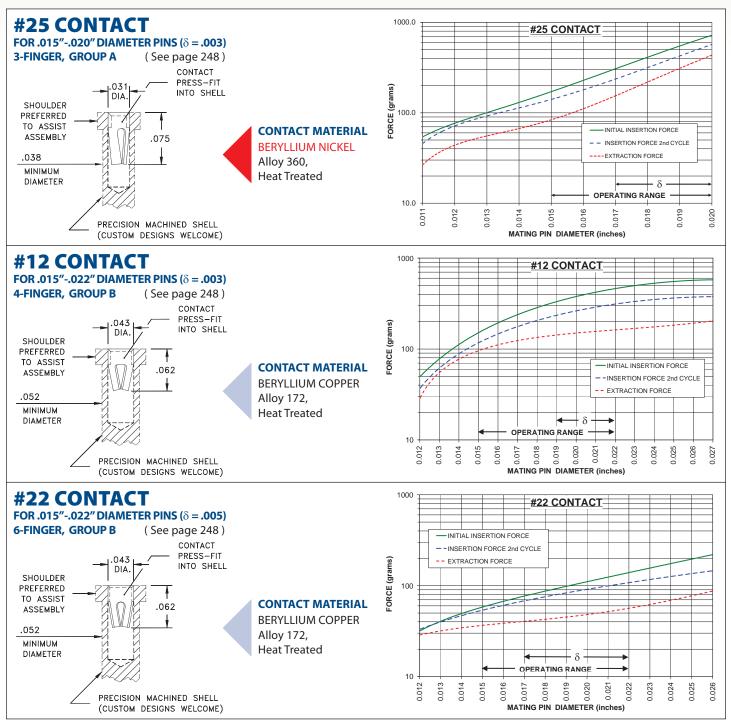




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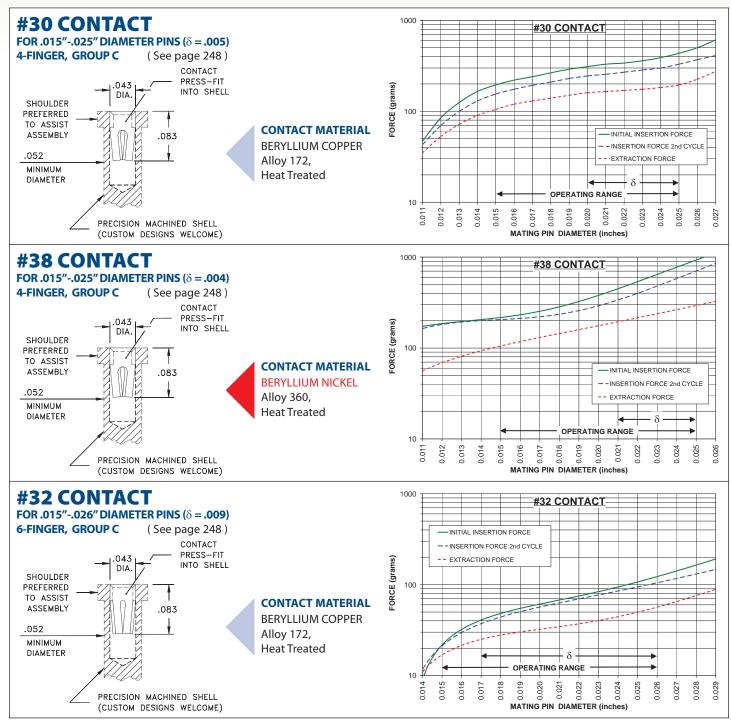




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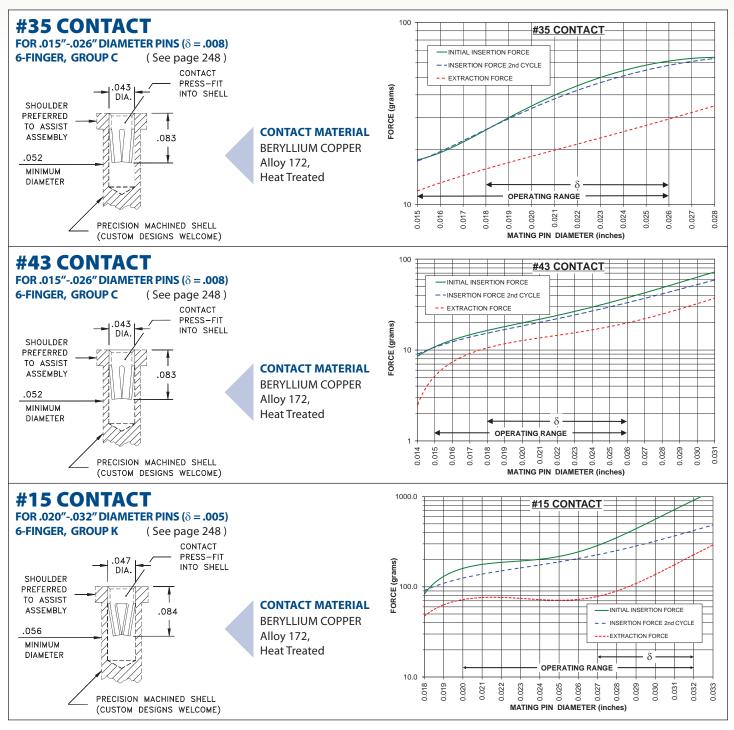




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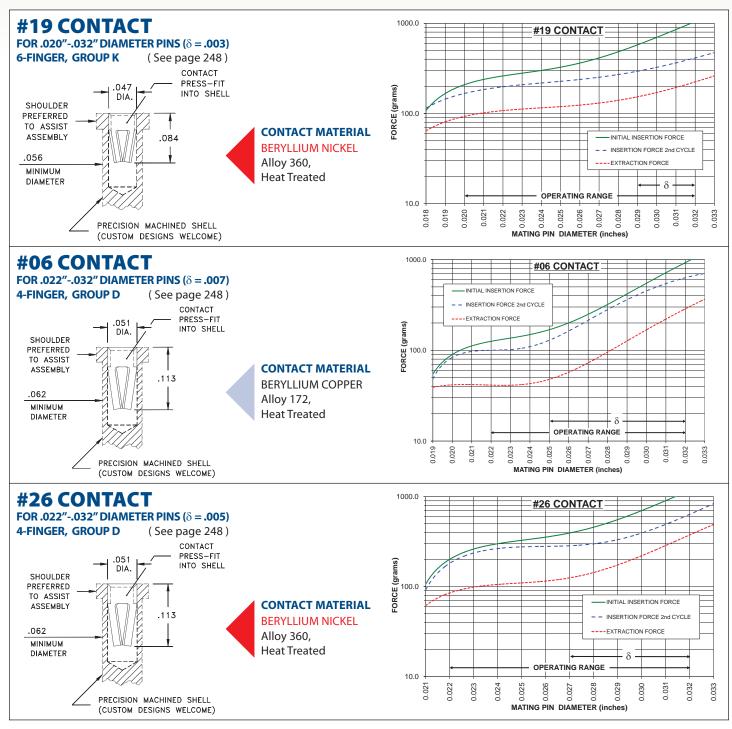




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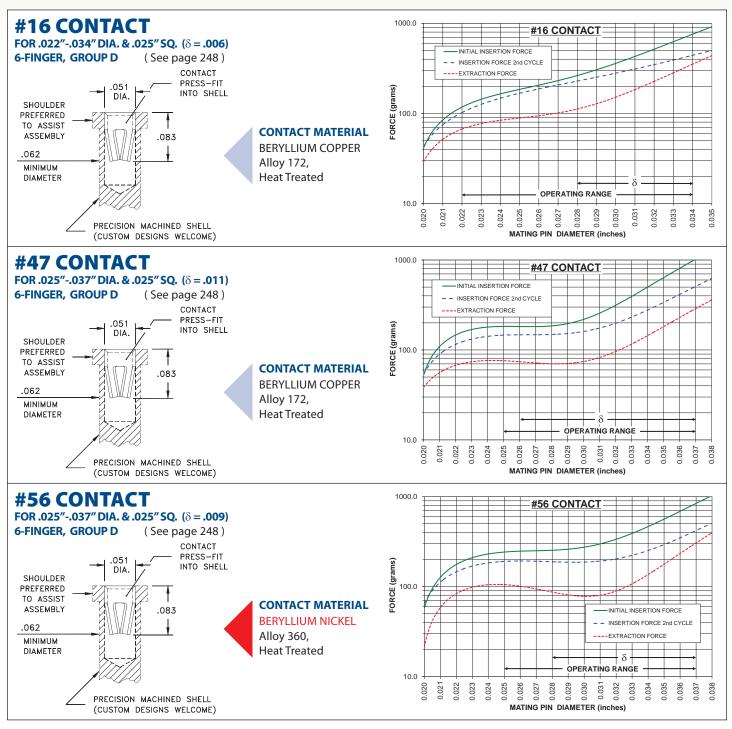




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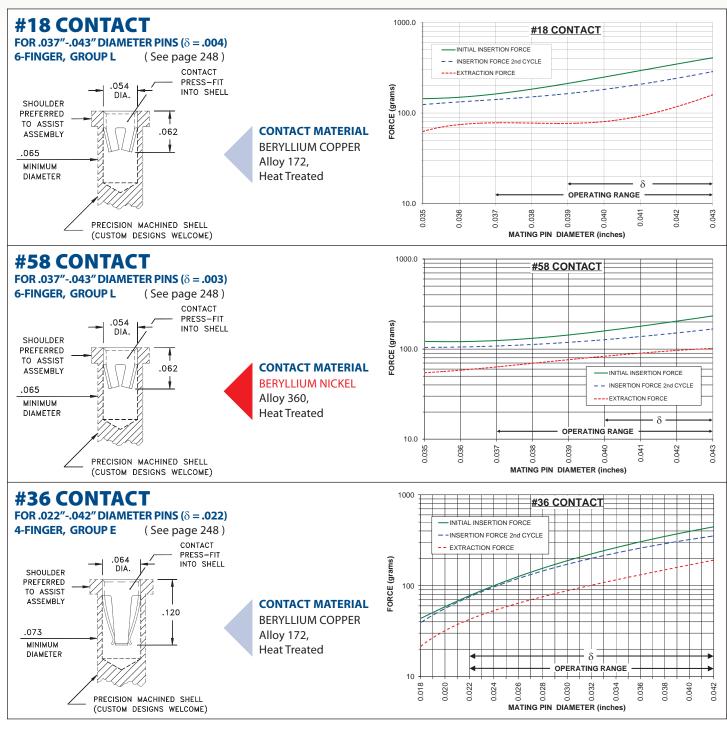




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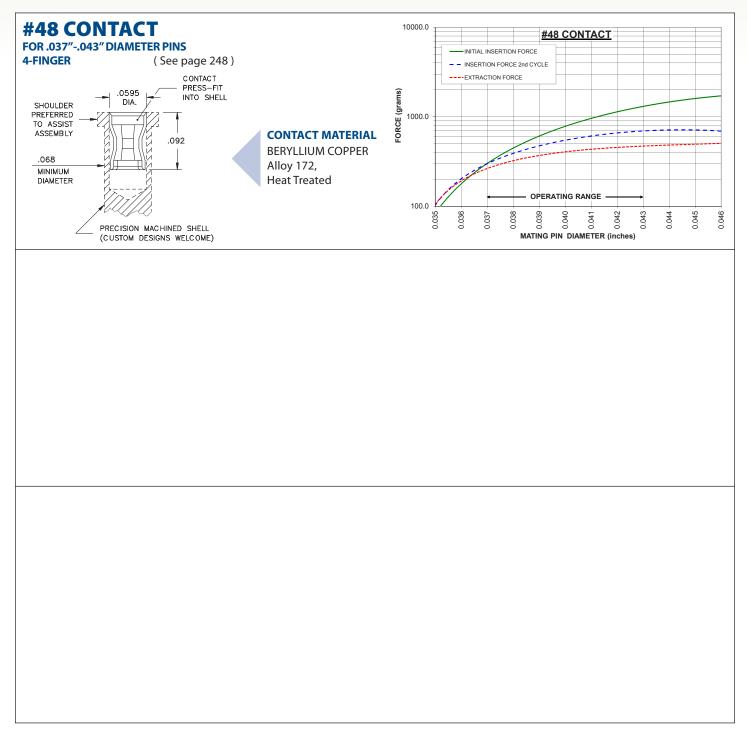




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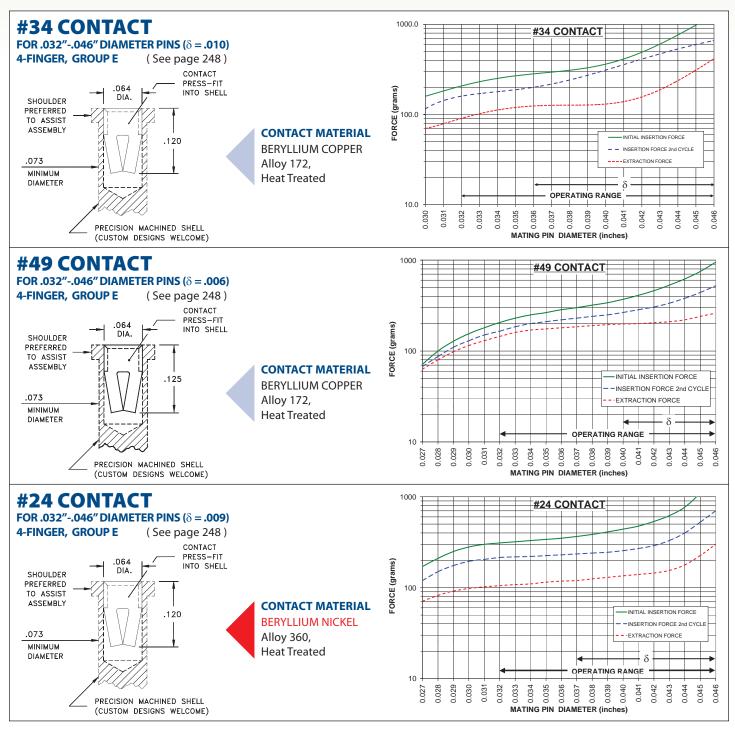




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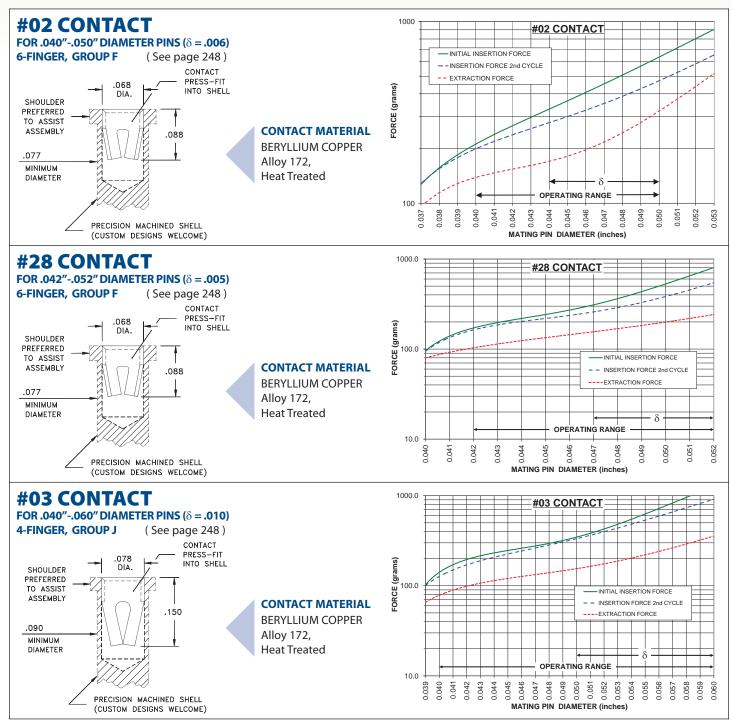




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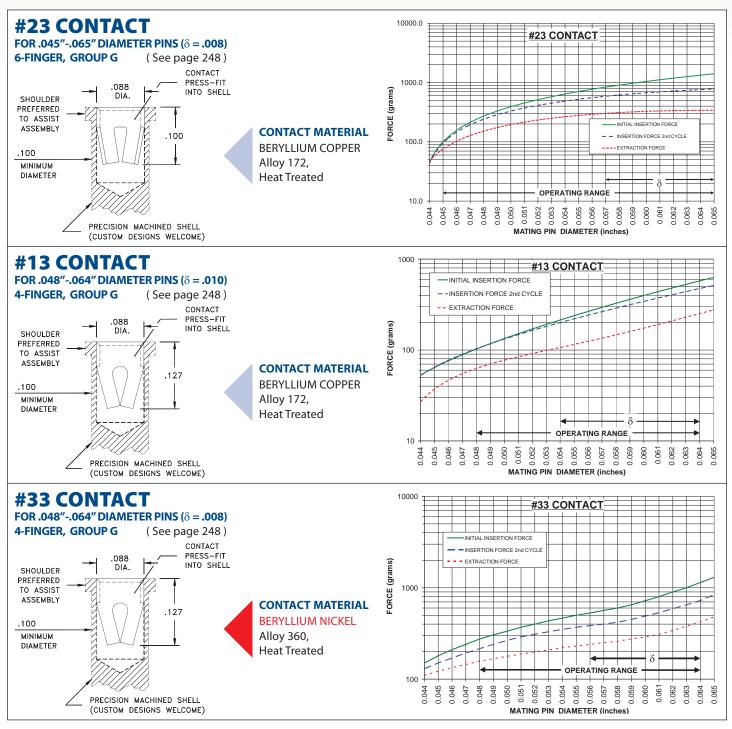




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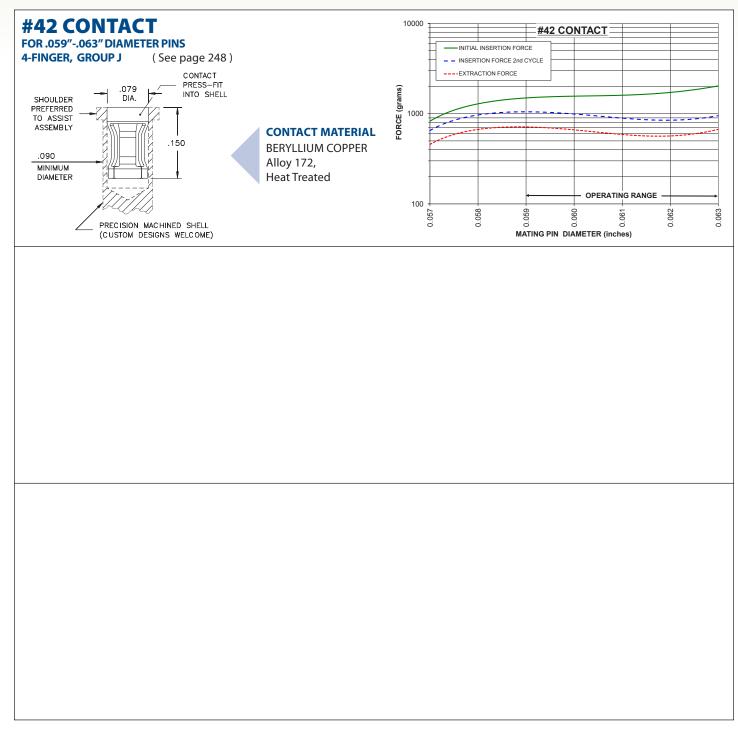




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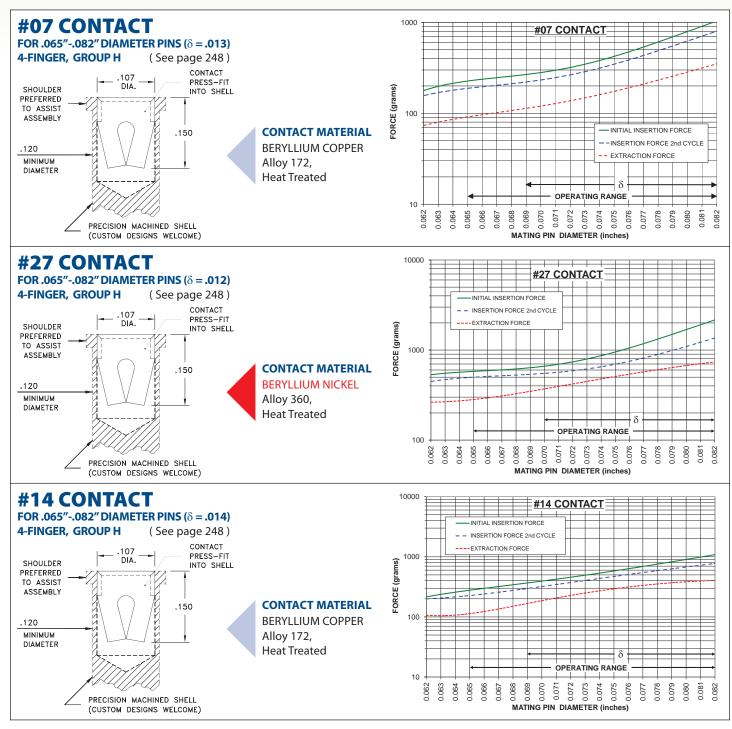




**The insertion / extraction force characteristics above** were derived using a 30 microinch gold-plated contact and polished steel gauge pins having a bullet-shaped tip.



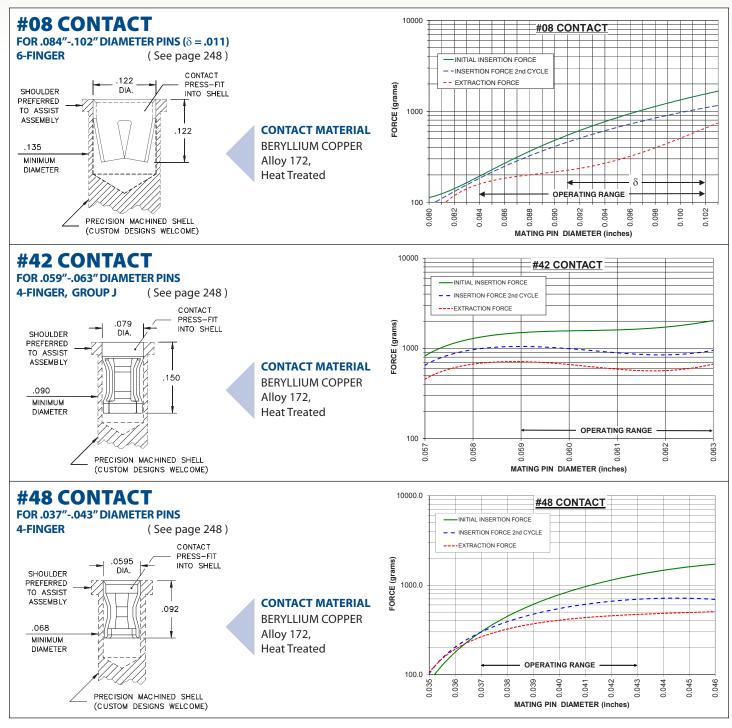




**The insertion / extraction force characteristics above** were derived using a 30 microinch gold-plated contact and polished steel gauge pins having a bullet-shaped tip.







**The insertion / extraction force characteristics above** were derived using a 30 microinch gold-plated contact and polished steel gauge pins having a bullet-shaped tip.

