

# Stratoflex

*Non-Latching Automatic  
Self-Sealing Couplings  
for the Aerospace Industry*

*Catalog 106-NONLAT  
August 1999*



*The World Standard*

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FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

Before selecting or using any Parker hose or fittings or related accessories, it is important that you read and follow Parker Safety Guide for Selecting and Using Hoses, Fittings, and Related Accessories (Parker Publication No. 4400-B.1)

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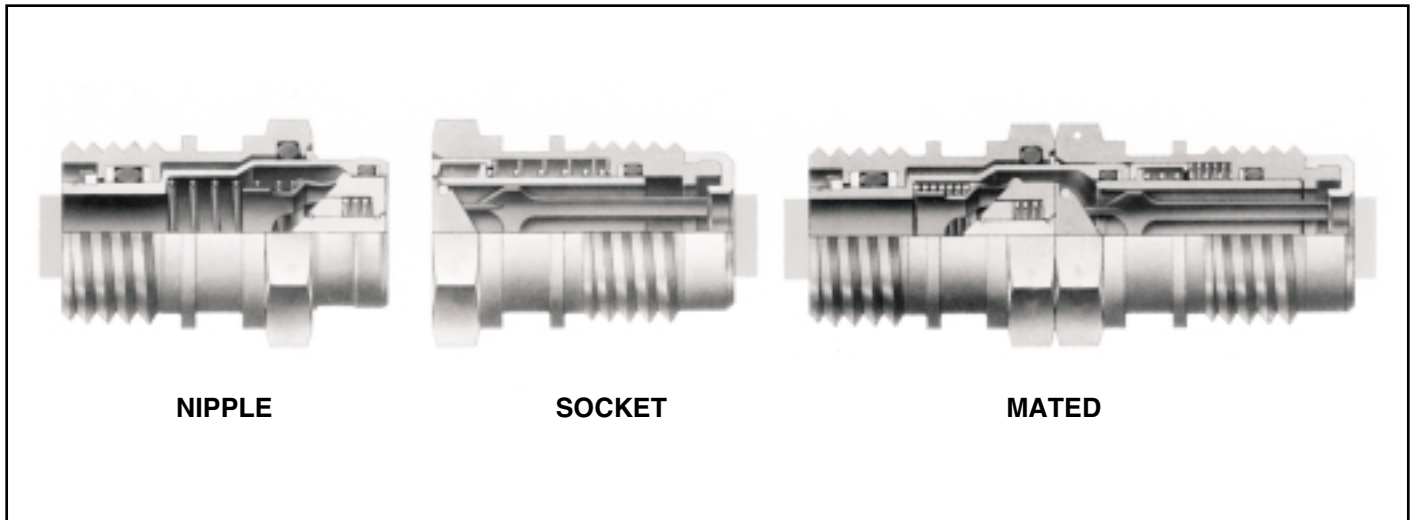
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# Stratoflex Non-Latching Automatic Self-Sealing Couplings



## APPLICATIONS:

Automatic couplings are recommended for use with today's advanced precision fluid systems for space flight, aircraft, ground and undersea applications. Current applications include: electronic cooling systems, hydraulic accumulators/cylinders, brake systems, manifolds, vapor cycle and cryogenic systems. Automatic couplings are best utilized where space is limited, and hands off operation is required. Small envelope, high performance and unsurpassed reliability are key features of Stratoflex non-latching couplings. For compatible mating flex hose applications, refer to Stratoflex catalog 106.

## SIZES:

Stratoflex automatic couplings are available from sub-miniature (see below) to one inch. Modifications and custom designs are available for special applications. Manifold configurations may also be modified to suit envelope.

## MATERIALS:

Available in aluminum alloy, stainless steel, titanium and other exotic materials.

## SPECIFICATIONS:

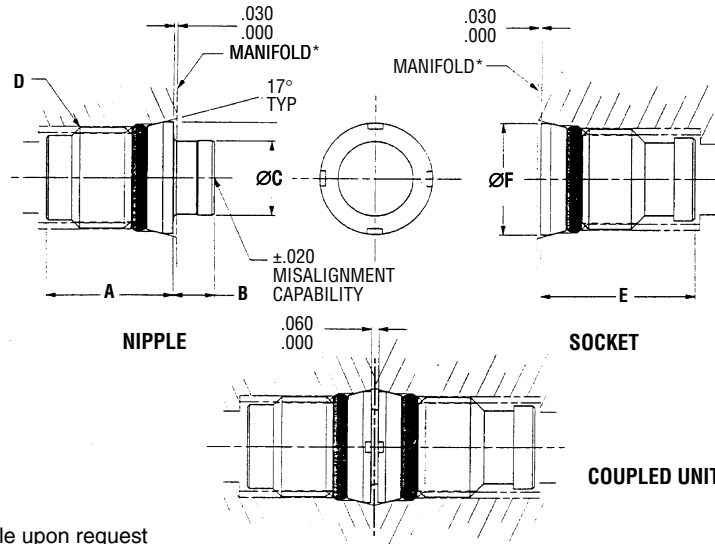
See SAE Aerospace Standards AS4251, AS5072/1/2/3.



## SUB-MINIATURE BLIND MATE COUPLINGS

Sub-miniature couplings offer proven high performance in a very compact size. Designed specifically for use in liquid flow through modules of (Standard Electronics size) and similar constructions. These units can be used in even the smallest of plug-in electronics cooling applications.

# Stratoflex Non-Latching Automatic Self-Sealing Couplings



\*Manifold dimensions available upon request

## TABLE OF COUPLING ENVELOPE DIMENSIONS

Tube Size* (Inches)	Nipple Basic Number	Socket Basic Number	Dimensions in Inches (Millimeters)					
			A MAX	B	C DIA	D THREAD	E MAX	F DIA
1/4	565604-1	565604-2	1.13 (28.7)	0.42 (10.7)	0.48 (12.2)	.625-18	1.38 (35.1)	.73 (18.5)
3/8	565606-1	565606-2	1.25 (31.8)	0.45 (11.4)	0.61 (15.5)	.813-16	1.40 (35.6)	.89 (22.6)
1/2	565608-1	565608-2	1.31 (33.3)	0.48 (12.2)	0.75 (19.1)	1.000-12	1.56 (39.6)	1.06 (26.9)
5/8	565610-1	565610-2	1.47 (37.3)	0.51 (13.0)	0.88 (22.4)	1.187-12	1.64 (41.7)	1.26 (32.0)
3/4	565612-1	565612-2	1.65 (41.9)	0.54 (13.7)	1.08 (27.4)	1.312-12	1.88 (47.8)	1.39 (35.3)

\*Note: Also available in small 1/8-inch body size and larger sizes above 3/4 inch.

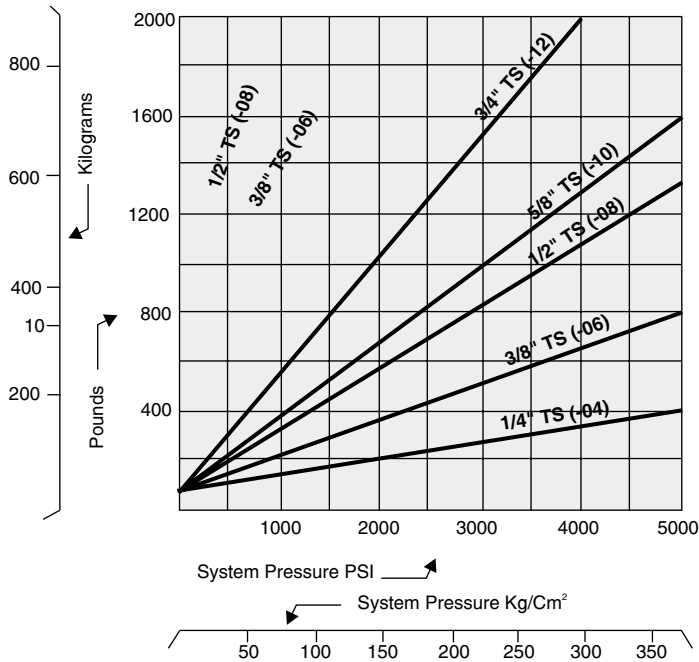
## TABLE OF COUPLING OPERATING CHARACTERISTICS

Tube Size (Inches)	Nipple Basic Number	Socket Basic Number	Operating Pressure	Max. Pressure During Coupling	Flow Rated GPM (lpm)	Fluid Loss CC	Air Inclusion CC	CRES Nipple Weight* LBS (gms)	CRES Coupler Weight* LBS (gms)
			PSI (Kgms/cm <sup>2</sup> )						
1/4	565604-1	565604-2	4000	400	1.20 (4.5)	.002	.005	0.06 (27.2)	0.05 (22.7)
			(281)	(28)					
3/8	565606-1	565606-2	4000	200	3.50 (13.2)	.003	.005	0.12 (54.4)	0.11 (49.9)
			(281)	(14)					
1/2	565608-1	565608-2	4000	120	6.00 (22.7)	.004	.006	0.18 (81.6)	0.16 (75.6)
			(281)	(8.4)					
5/8	565610-1	565610-2	4000	100	10.50 (39.7)	.004	.008	0.25 (113.4)	0.22 (99.8)
			(281)	(7)					
3/4	565612-1	565612-2	4000	60	16.00 (60.5)	.004	.01	0.38 (172.4)	0.34 (154.2)
			(281)	(4)					

\*Note: Weights are for CRES material and represent typical envelope shown above. Titanium and aluminum construction will have lower unit weights. Aluminum will have lower operating pressure range.

# Stratoflex Non-Latching Automatic Self-Sealing Couplings

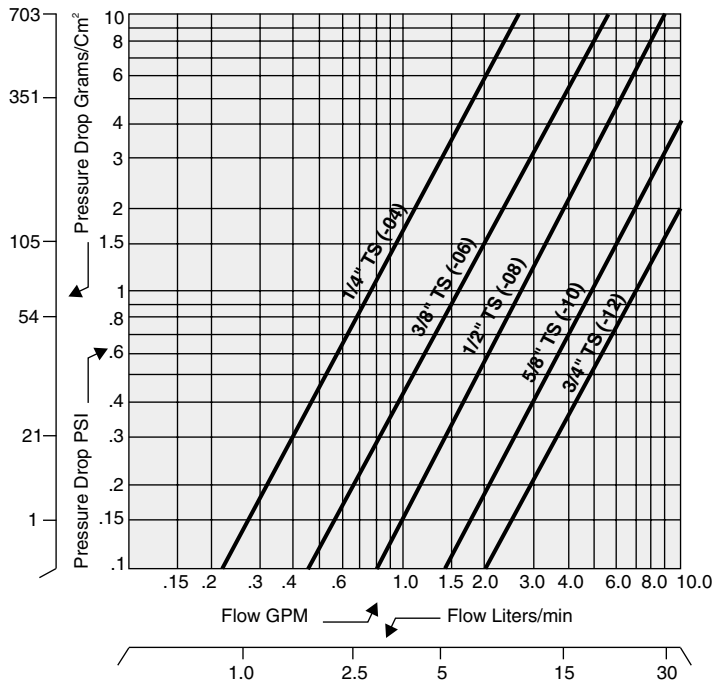
## COUPLING FORCE AND SEPARATING FORCE VS SYSTEM PRESSURE



## FLOW DATA

THE FOLLOWING INFORMATION IS BASED ON MIL-H-83282 HYDRAULIC FLUID AT 100°F (38°C)

### FLOW VS PRESSURE DROP CURVE



### FLOW COEFFICIENT (Cv FACTOR)

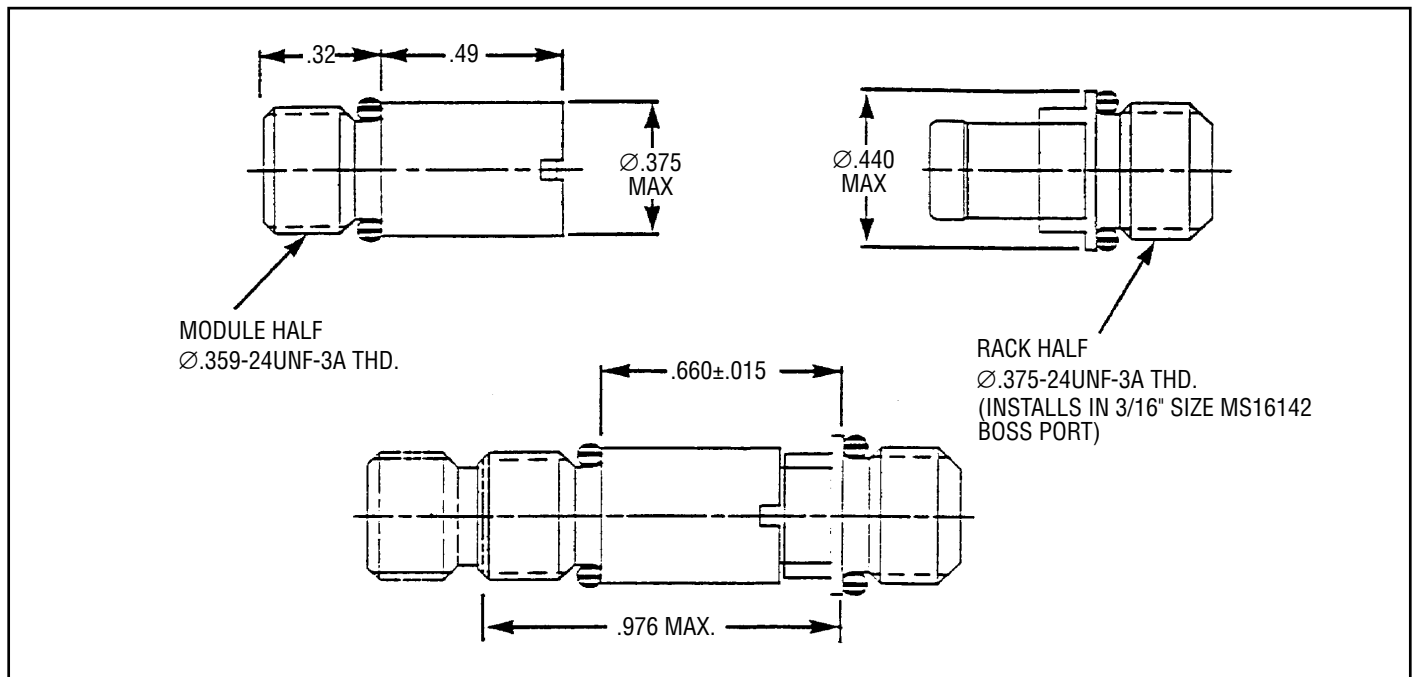
Tube Size (Inches)	Cv Factor
1/4	.7
3/8	1.4
1/2	2.9
5/8	5.0
3/4	7.0

NOTE: The flow coefficient is approximate within 10%.

# Stratoflex Non-Latching Automatic Self-Sealing Couplings

## PERFORMANCE SPECIFICATION DATA

Stratoflex series: 4656-102 miniature blind mate couplings.



### MATERIAL:

Aluminum alloy 6061-T6, corrosion resistant steel 15-5 PH, and 300 series.

### SPRINGS:

Corrosion resistant steel 17-7 PH

### SEALS:

Size - NAS1611

Ethylene Propylene NAS1613

### SURFACE FINISH:

Aluminum alloy anodize per MIL-A-8625E, CRES-passivate per QQ-P-35

### WEIGHT:

0.012 lbs. per set (one male and one female)

### DIMENSIONS:

Refer to drawing 4656-102-1 (See above)

### CONFIGURATION:

Rack half, part number 4656-102-5. Module half, part number 4656-102-6 includes relieve valve.

### MISALIGNMENT:

±.025 inch radial, ±2° angular

## PERFORMANCE DATA

### Pressure

**Operating:** 0-185 PSIG

**Proof:** 250 PSIG

**Burst:** 500 PSIG minimum (except relieve valve half when uncoupled)

**Fluid:** Ethylene Glycol/Water

**Temperature:** -65°F to +200°F

**Leakage:** Zero

**Spillage:** 0.005 cc/mate-demate cycle, maximum (less than one drop in 100 mate/demate cycles)

**Air Inclusion:** 0.005 cc/mate-demate cycle, maximum

**Flow rate:** 0 - 0.6 gpm

**Pressure drop:** 0.6 psid maximum at 0.16 gpm and 70°F

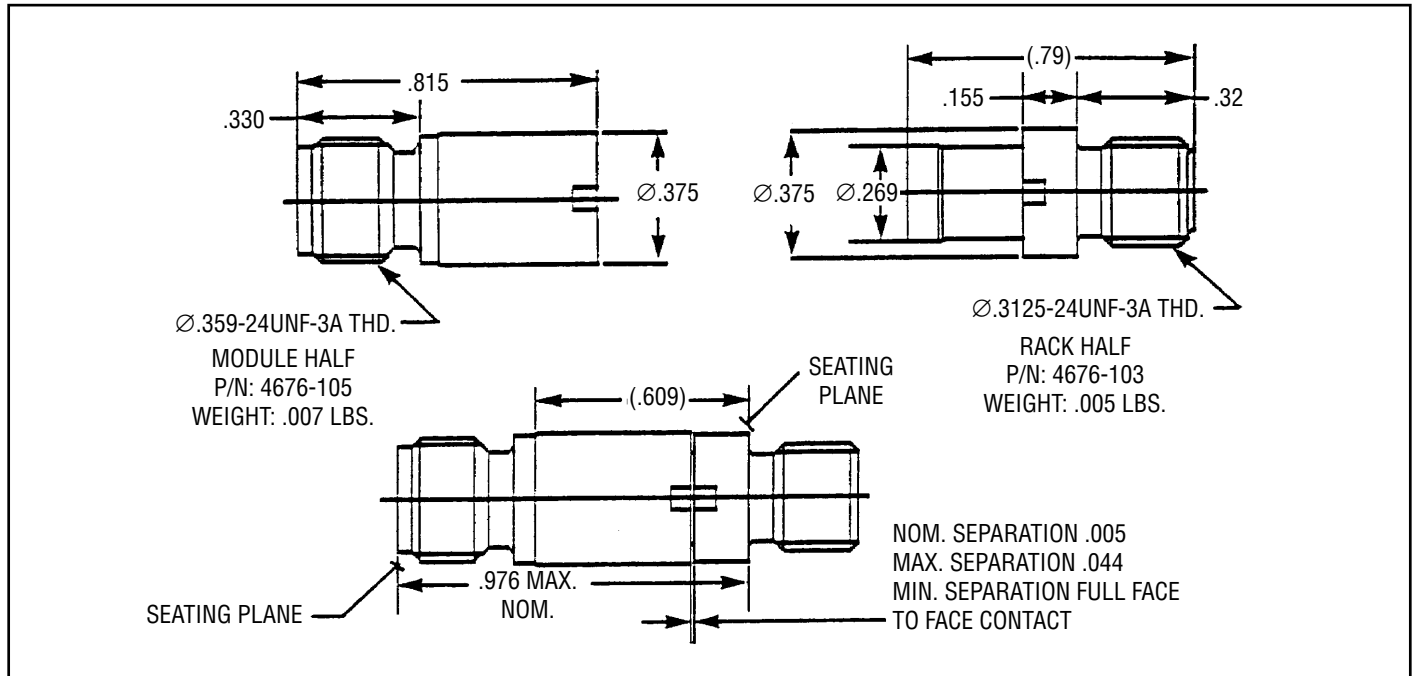
**Relief valve:** (P/N 4645-102-6 only)  
crack < 200 PSIG,  
reset 50 PSI minimum

Note: Special configurations available; Contact Stratoflex.

# Stratoflex Non-Latching Automatic Self-Sealing Couplings

## PERFORMANCE SPECIFICATION DATA

Stratoflex series: 4676-101 miniature blind mate couplings for liquid flow thru SEM-E service in PAO fluid.



### MATERIAL:

Aluminum alloy 6061-T6, corrosion resistant steel 15-5 PH, 18-8.

### SPRINGS:

Corrosion resistant steel 17-7 PH

### SEALS:

Fluorosilicone MIL-R-25988

### SURFACE FINISH:

Aluminum alloy anodize per MIL-A-8625E, CRES-passivate per QQ-P-35

### WEIGHT:

0.012 lbs. per set (one male and one female)

### DIMENSIONS:

Refer to drawing 4676-101 (See above)

### CONFIGURATION:

Rack half, part number 4676-103. Module half, part number 4676-105 includes relieve valve.

### MISALIGNMENT:

$\pm .025$  inch radial

## PERFORMANCE DATA

### Pressure

**Operating:** 0-146 PSIG

**Proof:** 220 PSIG

**Burst:** 366 PSIG minimum (except relieve valve module half)

**Fluid:** Polyalphaolefin MIL-C-87252

**Temperature:** -65°F to +300°F

**Leakage:** Zero

**Spillage:** 0.005 cc/mate-demate cycle, maximum (less than one drop in 100 mate/demate cycles)

**Air Inclusion:** 0.005 cc/mate-demate cycle, maximum

**Flow rate:** 0 - 0.6 gpm

**Pressure drop:** 0.6 psid maximum at 0.16 gpm PAO and 75°F

**Relief valve:** (P/N 4676-105 only)  
crack  $165 \pm 20$  PSI,  
reset 50 PSI minimum

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**2. Payment:** Payment shall be made by Buyer net 30 days from the date of delivery of the items purchased hereunder. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer's receipt of the shipment.

**3. Delivery:** Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

**4. Warranty:** Seller warrants that the items sold thereunder shall be free from defects in material or workmanship for a period of 365 days from the date of shipment to Buyer, or 2,000 hours of use, whichever expires first. **THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GAURANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.**

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**6. Changes, Reschedules and Cancellations:** Buyer may request to modify the designs or specifications for the items sold herunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

**7. Special Tooling:** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

**8. Buyer's Property:** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

**9. Taxes:** Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller of if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

**10. Indemnity For Infringement of Intellectual Property Rights:** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter "Intellectual Property Rights"). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes in the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and options, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

**11. Force Majeure:** Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter "Events of Force Majeure"). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.

**12. Entire Agreement/Governing Law:** The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.



## ***Stratoflex Products Division Sales Offices***

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