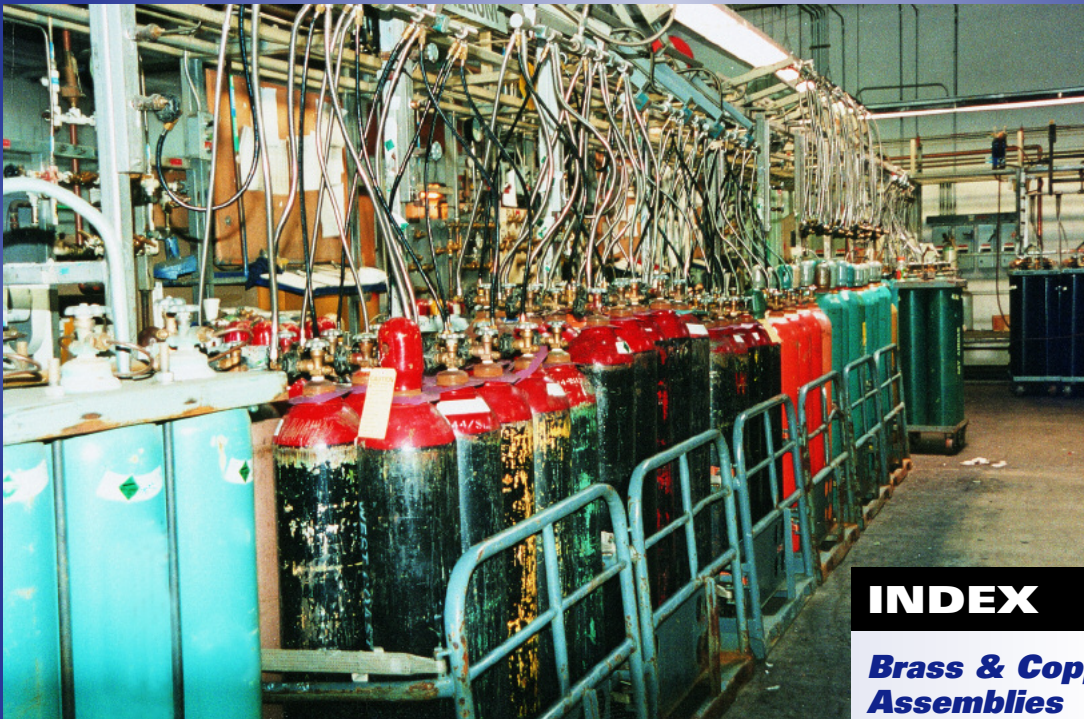


Hydrogen, Helium & Specialty Gas

Ratermann Manufacturing, Inc. carries a wide range of hydrogen, helium and specialty gas hoses for your high pressure requirements!



INDEX

Brass & Copper Pigtail Assemblies

- Rigid Pigtail Assemblies **5B-4**
- Rigid Stainless Steel
Fill Plant Leads **5B-4**

Pigtails - 316L Inner Core Hydrogen, Helium and Specialty Gas

- 4,500 PSI **5B-3**

Tsczel ETFE-Lined Pigtails

- 3,000 PSI **5B-2**



Manifold Hoses

PIGTAILS TSCZEL

ETFE-LINED STAINLESS STEEL BRAIDED PIGTAILS 3,000 PSI

Economical Low Effusion

Style TSCZEL Specifications

Not recommended for oxygen service

Liner: White ETFE

Reinforcement: Series 300 stainless steel exterior braid

Temperature: -100° F to +250° F

Branding: Manufacturer, materials of construction, pressure rating, date



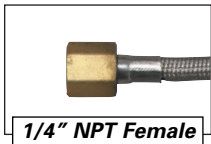
Style TSCZEL ETFE lined offers 75% less effusion than standard PTFE pigtails. Optional stainless steel armor casing provides additional life, safety and protection. Each assembly is tested to 1 1/2 times MAWP. Branded with MAWP, and month/year.

Hoses for Following Gases

3000 PSIG MAWP Rated - Brass End Fittings

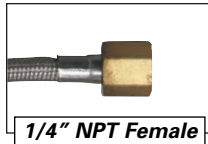
Permeation rate that is 75% lower than PTEE lined pigtails

INLET



1/4" NPT Female

OUTLET



1/4" NPT Female

Standard Hose

Hose Length	Part #
24"	FPZ-24F14
36"	FPZ-36F14
48"	FPZ-48F14
72"	FPZ-72F14

With Armor Casing Anti-Kink, Anti-Whip

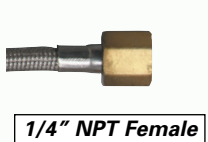
Hose Length	Part #
24"	FPZ-A-24F14
36"	FPZ-A-36F14
48"	FPZ-A-48F14
72"	FPZ-A-72F14

INLET



1/4" NPT Male

OUTLET



1/4" NPT Female

Standard Hose

Hose Length	Part #
24"	FPZ-24M14F14
36"	FPZ-36M14F14
48"	FPZ-48M14F14
72"	FPZ-72M14F14

With Armor Casing Anti-Kink, Anti-Whip

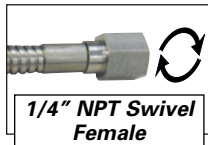
Hose Length	Part #
24"	FPZ-A-24M14F14
36"	FPZ-A-36M14F14
48"	FPZ-A-48M14F14
72"	FPZ-A-72M14F14

INLET



1/4" NPT Male Non-Swivel End

OUTLET



1/4" NPT Swivel Female

Standard Hose

Hose Length	Part #
24"	FPZ-24M14F14S
36"	FPZ-36M14F14S
48"	FPZ-48M14F14S

With Armor Casing Anti-Kink, Anti-Whip

Hose Length	Part #
24"	FPZ-A-24M14F14S
36"	FPZ-A-36M14F14S
48"	FPZ-A-48M14F14S

* Only Female NPT ends swivel. Male NPT ends do not rotate.

CUSTOM LENGTH HOSES - TSCZEL ETFE-LINED

3,000 PSI

*Custom length hoses are not returnable for either credit or refund.

ORDER CUSTOM LENGTH HOSE

Teflon Hose

With or Without Armor Casing

FPZ

Armor Standard Pt # A

Non-Armor Standard Pt # N

Length Hose

Inches

Pt # _____ IN

INLET

Choose Your Hose End Pt #

1/4" NPT Male Pt # M14

1/4" NPT Female Pt # F14

1/4" NPT Swivel Female Pt # F14S

OUTLET

Choose Your Hose End Pt #

1/4" NPT Male Pt # M14

1/4" NPT Female Pt # F14

1/4" NPT Swivel Female Pt # F14S

FPZ - _____ IN - _____



Hoses for Following Gases

PIGTAILS - 316L INNER CORE

HYDROGEN, HELIUM & SPECIALTY GAS APPLICATIONS 4,500 PSI

Hydrogen, Helium and Specialty Gas Application up to Working Pressure of 4,500 PSI

Ratermann's Type 316L stainless steel inner core, double braided hose is extremely flexible and durable. The all-stainless steel, all-welded construction makes this hose ideal for Hydrogen and Helium. Extreme high pressure design.

Stamped with 4,500 PSIG MAWP, and month/year of manufacturer.



Photo shown with armour

Female to Female

Standard Hose

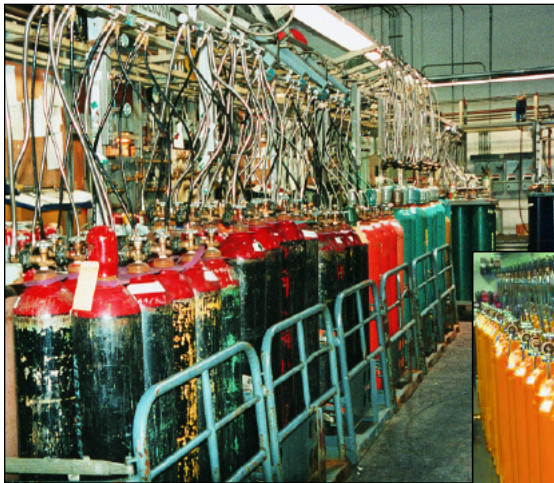
Hose Length	Part #
24"	FPS-48P24F14
36"	FPS-48P36F14
48"	FPS-48P48F14

1/4" F x 1/4" M hoses available

With Armor Casing Anti-Kink, Anti-Whip

Hose Length	Part #
24"	FPS-A-48P24F14
36"	FPS-A-48P36F14
48"	FPS-A-48P48F14

72" & 10' hoses available



Manifold Hoses



Male to Female

Standard Hose

Hose Length	Part #
24"	FPS-48P24F14M14
36"	FPS-48P36F14M14
48"	FPS-48P48F14M14

1/4" F x 1/4" M hoses available



With Armor Casing Anti-Kink, Anti-Whip

Hose Length	Part #
24"	FPS-A-48P24F14M14
36"	FPS-A-48P36F14M14
48"	FPS-A-48P48F14M14

72" & 10' hoses available

CUSTOM LENGTH HOSES - 316L SS INNER CORE

4,500 PSI

*Custom length hoses are not returnable for either credit or refund.

ORDER CUSTOM LENGTH HOSE

Teflon
Hose

With or Without
Armor Casing

FPS-48P

- Armor Standard
Pt # A
- Non-Armor
Standard Pt # N

Length Hose

Inches
Pt # _____ IN

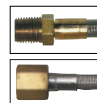
All hoses are
cleaned for
Oxygen Service

INLET

Choose Your Hose End Pt #

1/4" NPT Male Pt # M14

1/4" NPT Female Pt # F14

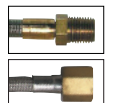


OUTLET

Choose Your Hose End Pt #

1/4" NPT Male Pt # M14

1/4" NPT Female Pt # F14



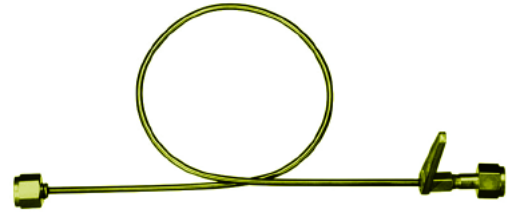
FPS-48P - _____ IN - _____

BRASS AND COPPER PIGTAIL ASSEMBLIES

RIGID PIGTAIL ASSEMBLIES WITH SINGLE 6-1/2" LOOP (Approximately 20" Overall Length)



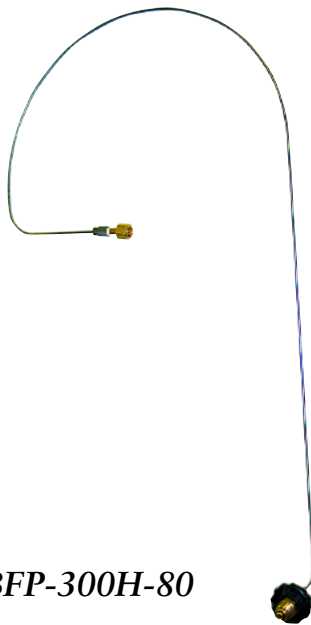
PTH-4540



PTW-4320

CGA No.	Operating Pressure	Standard Pigtail	Plastic H.T. Nut-One End	Brass Handle-One End	S.S. Tube & S.S. Ends	S.S. Tube & Brass Ends
300	250 psig	PT-3300	PTH-3300	PTW-3300	N/A	PT-2300
320	3000 psig	PT-4320	PTH-4320	PTW-4320	PT-320SS	PT-2320
326	3000 psig	PT-4326	PTH-4326	PTW-4326	PT-326SS	PT-2326
346	3000 psig	PT-4346	PTH-4346	PTW-4346	PT-346SS	PT-2346
350	3000 psig	PT-4350	PTH-4350	PTW-4350	PT-350SS	PT-2350
510	500 psig	PT-4510	PTH-4510	PTW-4510	PT-510SS	PT-2510
510-90°	250 psig	PT-3510	PTH-3510	PTW-3510	N/A	N/A
540	3000 psig	PT-4540	PTH-4540	PTW-4540	PT-540SS	PT-2540
580	3000 psig	PT-4580	PTH-4580	PTW-4580	PT-580SS	PT-2580
590	3000 psig	PT-4590	PTH-4590	PTW-4590	PT-590SS	PT-2590

RIGID STAINLESS STEEL FILL PLANT LEADS



BFP-300H-80

These fill leads offer an alternative to flexible pigtails in your fill plant. They offer extra long service life and are a good choice for filling high purity cylinders. The stainless steel tubing & end fittings allow for zero diffusion of air, moisture or hydrocarbons maintaining the integrity of high purity gases.

- *Tig welded end connections*
- *Replaceable CGA ends*
- *Stainless steel tube & fittings*
- *Other CGA/gas services available*

Gas Service	CGA	BFP Series
Commercial Acetylene	CGA 300	BFP-300H-80
Carbon Dioxide	CGA 320	BFP-320H-80
Nitrous Oxide	CGA 326	BFP-326H-80
Air	CGA 346	BFP-346H-80
Air (6000 PSI)	CGA 347	BFP-347H-80
Hydrogen	CGA 350	BFP-350H-80
Propane / Acetylene	CGA 510	BFP-510H-80
Oxygen	CGA 540	BFP-540H-80
Inert Gases	CGA 580	BFP-580H-80