



HYDRAULIC HOSE

Product Presentation





INTRODUCTION

HOSE

Made from rubber material with reinforcement

FUNCTION

To transfer the fluids from one end to the other end

TYPE

1. Hydraulic Hose
2. Industrial Hose



INTRODUCTION



HYDRAULIC HOSE

- High Pressure
- Dynamic Pressure
- Smaller Size ID"



INDUSTRIAL HOSE

- Low Pressure
- Constant Pressure
- Bigger Size ID"

Passion for Products



INTRODUCTION

WHY HOSE?

Advantages of Hose Over Rigid Pipe and Tubing

- Lower Cost
- Lower Weight
- Absorbs Shock & Vibration
- Requires No Brazing or Specialized Bending
- Component Movement
- Sound Absorption
- Dampens Pressure Surges

A Tomkins Company

Passion for Products



INTRODUCTION

WHERE ARE HYDRAULIC HOSE USED?



MINING



INDUSTRIAL



FORESTRY



OIL & GAS



MATERIAL HANDLING



AGRI CULTURE



CONSTRUCTION

Passion for Products



HOSE SELECTION

Hose Construction

TUBE

Can be made from a variety of rubber compounds to resist degradation from the fluid being conveyed. The tube must also resist corrosion, deterioration and the effects of high or low temperatures. The inside diameter (I.D.) of the tube is the key measurement of hose size, and must convey the proper volume of fluid for the application. Typically, for an SAE specification hose, the smaller the tube's inside diameter, the higher the pressure it can handle.

COVER

Protects the tube and reinforcement from heat, abrasion, corrosion and extreme environmental conditions. The cover can be made of synthetic rubber, fiber braids or a combination of both depending on the application. Abrasion, which shortens hose life, occurs when hoses rub against each other or against other metal parts. To address this problem, Gates developed MegaTuff[®] and XtraTuff[®] abrasion-resistant hose covers.

REINFORCEMENT

Serves as the backbone of the hose by determining the working pressure of the assembly. The reinforcement can be a braided or spiral wrap, and can be constructed of natural fibers, synthetic materials or steel wire. Some hoses use a combination of fiber and steel wire or multiple layers of steel wire braids or spirals.



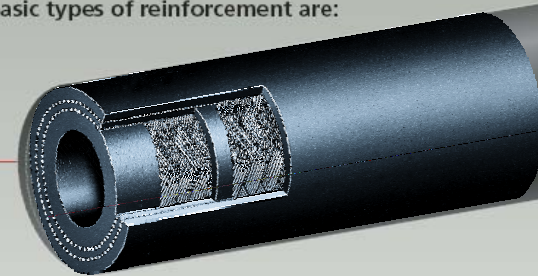
Hose Reinforcement

The reinforcement is the hose's muscle. It provides the necessary strength to resist internal pressure (or external pressure in the case of suction/vacuum).

The three basic types of reinforcement are:

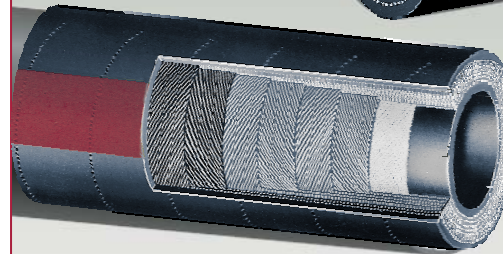
Braided

Reinforcement can be made of wire or textile, and can have one or multiple layers.



Spiraled

Reinforcement on hydraulic hose is typically wire, and has four or six layers (plies). Spiral-reinforced hose can typically handle more severe applications with longer impulse service life.



Helical

Coil reinforcement prevents the hose from collapsing during suction (vacuum).





HOSE SELECTION

100R1	1 Wire Braided	G1, G1H
100R2	2 Wire Braided	G2H, G2AT
100R3	2 Textile Braided	C3, G3H
100R4	2 Spiral Helical Wire	GMV, G4H
100R5	1 Polyester Braided	C5C
100R6	1 Textile Braided	GTH
100R7	Thermoplastic	GT7, GT7NC
100R8	Thermoplastic	GT8, GT8NC
100R9	4 Spiral Wire	M3K
100R10	4 Spiral Wire	M3K
100R11	4 Spiral Wire	G3K, G4K
100R12	4 Spiral Wire	C12, EFG4K
100R13	4 Spiral Wire	G5K, EFG5K
100R14	Teflon	C14
100R15	4 & 6 Spiral Wire	G6K, EFG6K
100R16	2 Wire Braided	CM2T, M2T
100R17	Constant Pressure Hose	M3K



HOSE SELECTION

Dash Numbers

Dash No.	Hose I.D. (inches)	
	All except C5 series, C14, and Refrigerant	C5 series, C14, and Refrigerant
	Inches	Inches
-3	3/16	--
-4	1/4	3/16
-5	5/16	1/4
-6	3/8	5/16
-8	1/2	13/32
-10	5/8	1/2
-12	3/4	5/8
-14	7/8	--
-16	1	7/8
-20	1-1/4	1-1/8
-24	1-1/2	1-3/8
-32	2	1-13/16
-40	2-1/2	2-3/8
-48	3	--
-56	3-1/2	--
-64	4	--



HOSE SELECTION

STAMPED

- Size ID, OD and length
- Temperature Minimum and Maximum
- Application How and where used
- Material Liquid, Gas Fuels, Fuel Oil
- Pressure Maximum rated WP (PSI)
- Ends End connection type
- Delivery When, Where, quantity





HOSE SELECTION

GATES HOSE NOMENCLATURE

Gates 8M3K-XTF Hydraulic Hose

- 8 - Dash Size in 1/16" (8/16"=1/2")
- M - MegaSys®
- 3K - 3,000 PSI
- XTF - XtraTuff®



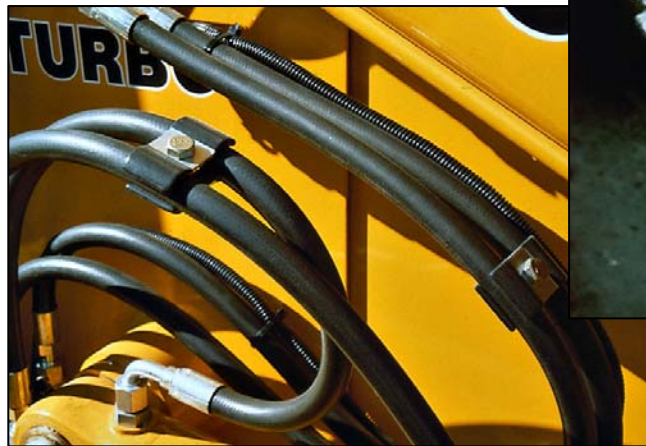
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HOSE SELECTION

HOSE PERFORMANCE CHARACTERISTICS

- Working Pressure
- Temperature Range
- Fluid Compatibility
- Hose Application
- Hose Size





HOSE SELECTION

MARKET SPECIFIC PRODUCTS



G1 100R1 Type AT



EFG6K 100R15 6000PSI



G2 100R2 Type AT



100R7 Thermoplastic



EFG3K 100R12 3000PSI



100R7 Non Conductive



EFG4K 100R12 4000PSI



Wire Braide Jack Hose



EFG5K 100R13 5000PSI



MegaTuff® Hose
300 times the abrasion
resistance

MegaTuff® - For your toughest abrasion problems!

Passion for Products



HOSE SELECTION

MARKET SPECIFIC PRODUCTS

Global Constant Pressure Hoses

Any Customer, anywhere in the world can buy a Gates product which looks and performs the same regardless of where in the Gates world it was built.

- ◆ M3K & G3K 3000PSI 1/4" - 2"
- ◆ M4K & G4K 4000PSI 1/4" - 1-1/4"
- ◆ M5K & G5K 5000PSI 1/4" - 2"
- ◆ M6K & G6K 6000PSI 1/4" - 1-1/2"





HOSE SELECTION

MARKET SPECIFIC PRODUCTS

For your toughest abrasion problems!

300 times the abrasion resistance of
standard hydraulic hoses!



Passion for Products



COUPLING SELECTION

BROADEST COUPLING LINE IN THE INDUSTRY!

North American

- ◆ NPT
- ◆ JIC
- ◆ SAE 45 flare
- ◆ O-ring Boss
- ◆ O-ring Flat Face
- ◆ Flareless Tube
- ◆ SAE Inverted Flare
- ◆ SAE Code 61 & 62
- ◆ Staple Type

British

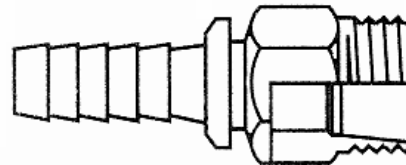
- ◆ BSPP
- ◆ BSPT

Japanese

- ◆ JIS 30 Flare
- ◆ JIS Tapered Pipe
- ◆ Komatsu Style 30 Flare
- ◆ Komatsu Flange

German

- ◆ DIN 24 Cone
- ◆ DIN 60 Cone
- ◆ DIN 3852 Cone





COUPLING SELECTION

TWO ENDS OF A COUPLING

- Hose End
- Thread End

MegaCrimp[®]

Couplings - 2 Wire

GlobalSpiral[®]

Couplings - 4 Spiral

PCM Couplings - 6 Spiral



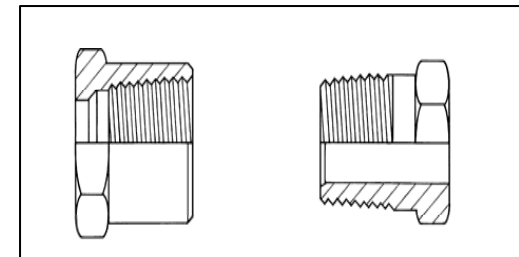


COUPLING SELECTION

THREE COUPLING SEALING METHODS

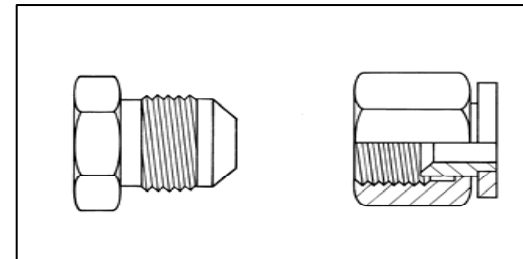
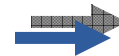
- THREAD SEAL

- NPT



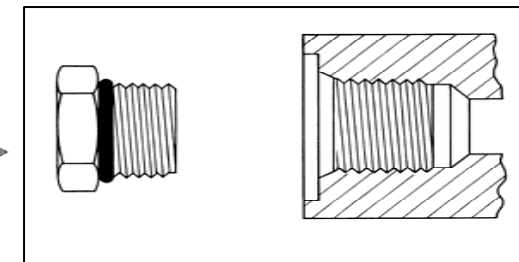
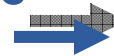
- SEAT ANGLE SEAL

- JIC
- SAE
- Flareless Tube
- SAE Inverted Flare



- O-RING SEAL

- O-Ring Boss
- Flat-Face O-Ring
- O-Ring Flange
- Staple Type

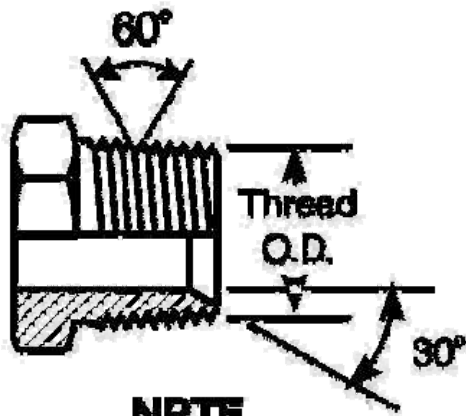




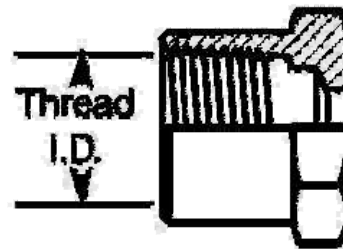
COUPLING SELECTION

THREAD SEAL

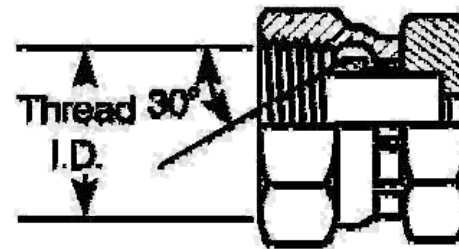
NPT Pipe Thread



**NPTF
Solid Male
(MP)**



**NPTF or NPSF
Solid Female
(FP)**

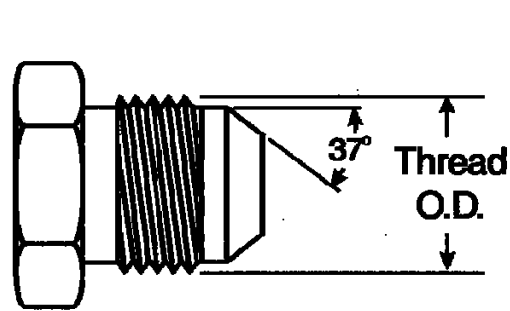


**NPSM
Swivel Female
(FPX)**

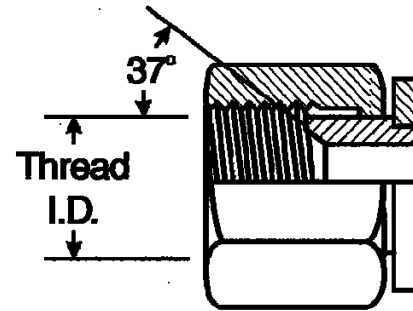


COUPLING SELECTION

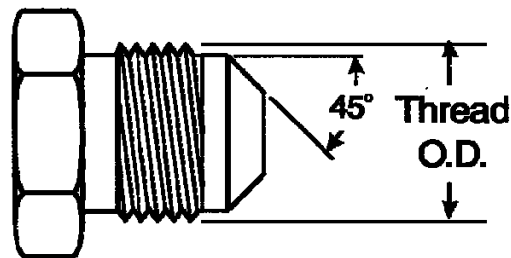
MECHANICAL SEAL / SEAT ANGLE



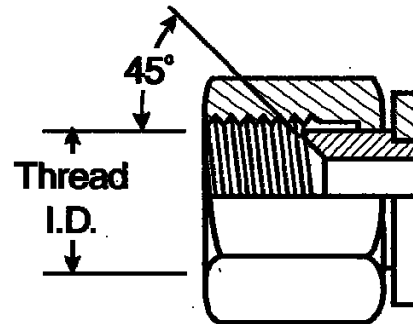
JIC 37° Male



JIC 37° Flare Female



**SAE 45° Flare Male
(MS)**



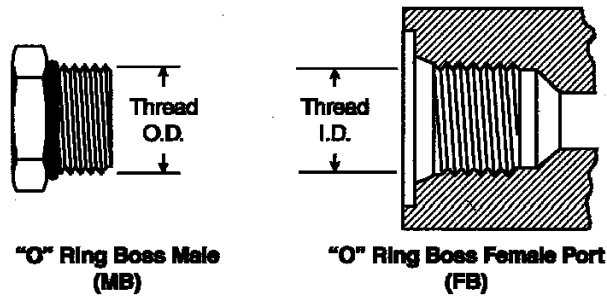
**SAE 45° Flare Swivel Female
(FSX)**



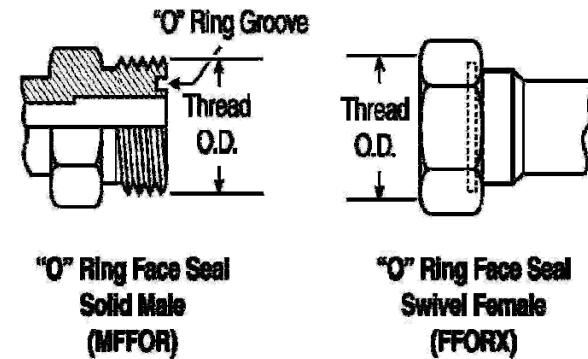
COUPLING SELECTION

O RING SEAL

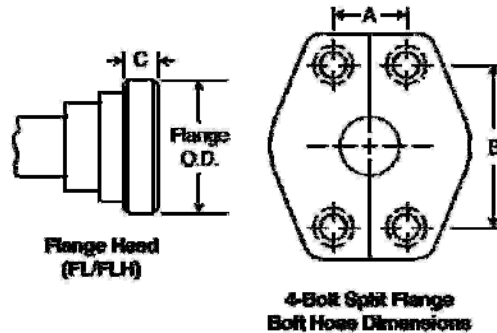
O-Ring Boss Seal



Flat-Face O-Ring Seal



O-Ring Flange Seal





COUPLING SELECTION

GATES FERRULE NOMENCLATURE

6GS1F-4

- 6 - Dash Size
- GS - Stem Type
- 1 - No Skive
- F - Ferrule
- 4 - Four Spiral





COUPLING SELECTION

GATES STEM & THREAD

NOMENCLATURE

4G-6FJX

- 4G - 1/4" MegaCrimp[®]
- 6 - 3/8" Nominal Thread Size
- FJX - Female JIC Swivel





COUPLING SELECTION

OTHER FACTORS TO CONSIDER WHEN SELECTING COUPLINGS

- Corrosion Resistance
- Vibration
- Temperature
- Fluid Compatibility
- Pressure
- Use of Adapters





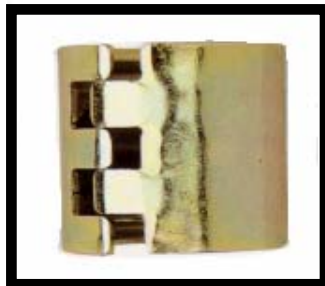
COUPLING SELECTION

MARKET SPECIFIC PRODUCTS

MegaCrimp[®] Coupling

An all around better fit!

- ◆ Easy to assemble one-piece wire-braid coupling
- ◆ Patented “C-insert” ensures no leak paths
- ◆ Superior Performance



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COUPLING SELECTION

MARKET SPECIFIC PRODUCTS

GS - Global Spiral Couplings

- ◆ Works with all Gates spiral hoses
- ◆ No skiving
- ◆ Easy to assemble
- ◆ Full back nut
- ◆ No braze flanges
- ◆ Non leaded steel
- ◆ Reduces inventory cost
- ◆ Tested beyond normal standards





THANK YOU



Join the Winning Team!

HYDRAULICS

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