



WE THINK | WE BUILD | WE DELIVER

SRPPL

SURAKSHA RUBBER PRODUCTS PVT. LTD.

Sister Concern of **VANSH INDUSTRIES**
A Reliable & Trusted Name for Hoses
& Hose Assemblies

HYDRAULIC INDUSTRIAL AUTOMOTIVE HOSE ASSEMBLIES & HOSE END FITTINGS



SAE RECOMMENDED PRACTICES FOR HYDRAULIC HOSES & HOSE ASSEMBLIES

The SAE J1273 guidelines recommend practices while selecting, routing, fabricating, installing, replacing, maintaining and storing hose for Fluid Power Systems.

Following are the recommendations of good practices which can increase life of Hose Assembly.

The standard recommends that hose assemblies in use should be inspected regularly for leaks, kinks, cover blisters, cover abrasions and other damages. Damaged or, worn out assemblies must be replaced immediately. Not complying these recommendations may result in serious personal injury or, property damage.

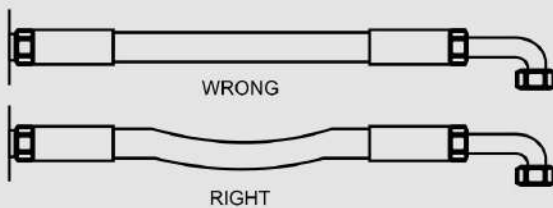
These recommended practices, take into account safety of human and system, maximising life of Hose & Hose Assemblies.

1. Select Proper Hose for the application. Simply matching ID/OD is not enough but it should be along with types of Hose.
2. Hydraulic Components selection should also be based on Application Temperature, Pressure and Bend Radius. Don't exceed recommended component limits.
3. Hose must not be Stretched. Kinked, Crushed, Twisted while installing or, during its use. Hose must not be bent to less than its recommended minimum bend Radius.
4. Follow proper hose storage for hose shelf life.

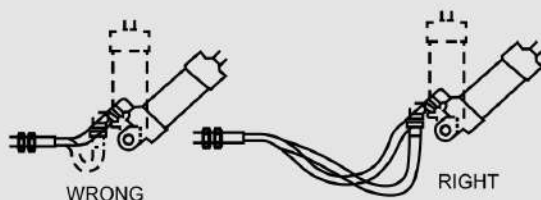
CORRECT HOSE ASSEMBLY INSTALLATION TIPS

Hose Assembly installation should comply with Hose routing standard SAE J 1273.

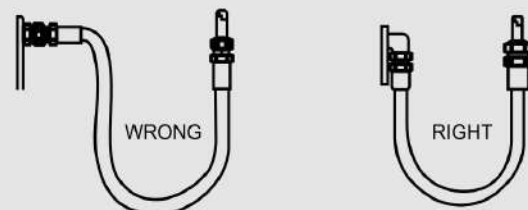
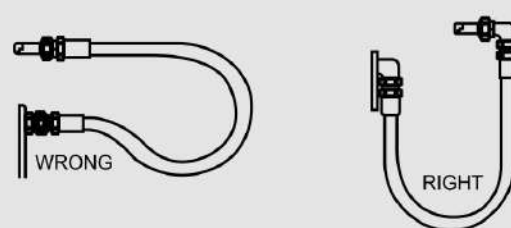
The Following Diagrams show Proper Hose installations which provide Maximum performance & cost savings.



When hose installation is straight allow enough slack in hose line to provide for length changes which will occur when pressure is applied.

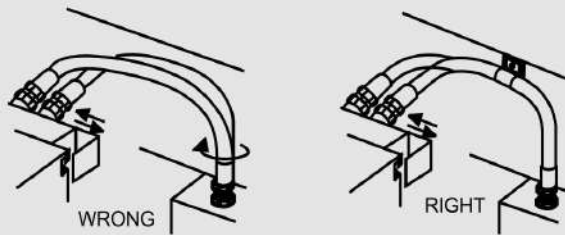


Adequate hose length is necessary to distribute movement on flexing applications and to avoid abrasion.

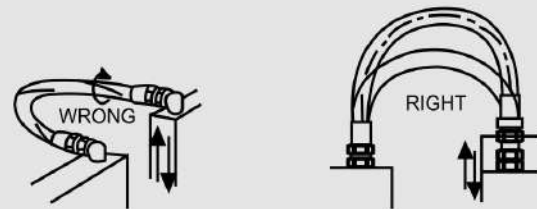


When radius is below the required minimum, use an angle adapter to avoid sharp bends. Exceeding minimum bend radius will greatly reduce hose assembly life.

ASSEMBLY INSTRUCTIONS



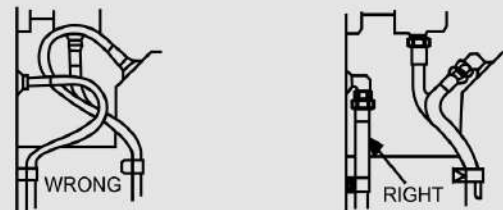
Avoid twisting of hose lines bent in two planes by clamping hose at change of plane



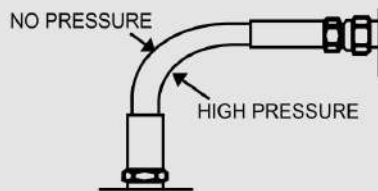
Hose is weakened when installed in twisted position. Prevent twisting and distortion by bending hose in same plane as the motion of the port to which hose is connected



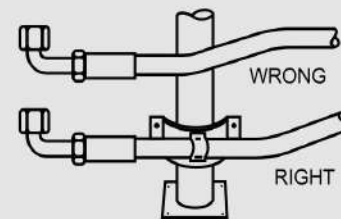
Reduce number of pipe thread joints by using hydraulic adapters instead of pipe fittings



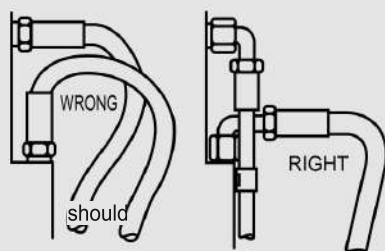
Route hose directly by using 45° and/or 90° adapter fittings. Avoid excessive hose length to improve appearance & neater installation for easier maintenance.



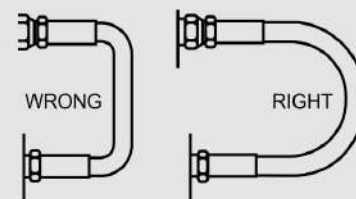
To allow for length changes when hose is pressurized do not clamp at bends so that curves will absorb changes. Do not clamp high and low pressure lines together.



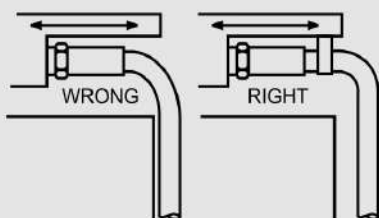
High ambient temperatures shorten hose life, so make sure hose is kept away from hot parts. If this is not possible, insulate hose with sleeves.



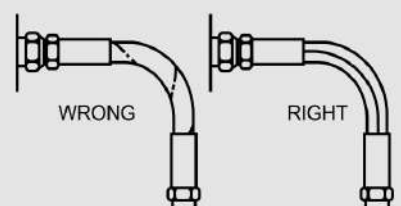
Elbows and adapters should be used to relieve strain on the assembly, and to provide neater installations which will be more accessible for inspection and maintenance.



To avoid hose collapse and flow restriction, keep hose bend radius as large as possible. Refer to hose specification tables for minimum bend radius.



Run hose in the installation so that it avoids rubbing and abrasion. Often, clamps are required to support long hose runs or to keep hose away from moving parts. Use clamps of the correct size. A clamp too large allows hose to move inside the clamp and causes abrasion.

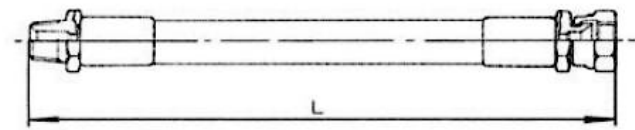


When installing hose, make sure it is not twisted. Pressure applied to a twisted hose can result in hose failure or loosening of connections.

How to calculate the Assembly Length

- End to End of both fittings

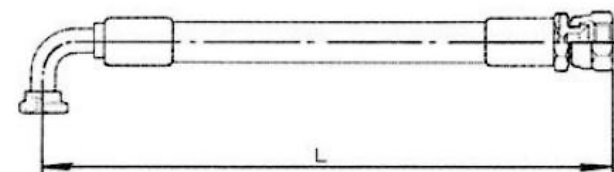
Case 1)



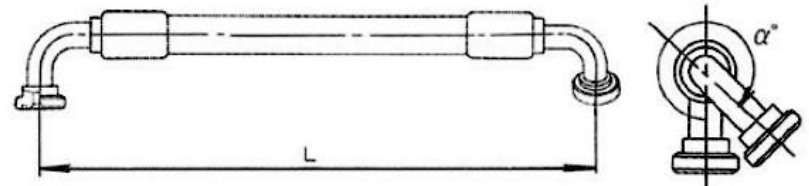
Case 2)



Case 3)



Case 4)



Hose Protective Material

1. SPRING

For Protection of Small bending at the end of end fittings.

2. SPRING GUARD

For whole Hose Length Surface Protection

3. WIRE BRAID

For the protection of whole hose from Metal Cutting Powder, Stone and Sharp Edged & Chips

4. GLASS WOOL WIRE BRAID

For protection of High Temperature and Heat.

5. VINYLCOVER

For the Protection from Abrasion or Damage.

6. PLASTIC /PU PROTECTION / SLEEVE / COIL

For the protection from Abrasion.

TIGHTENING TORQUE (HOSE FITTING)

While fixing the fitting of hose assemblies, it should be tightened with suitable torque otherwise there would be leakage of fluid or breakage of fitting.

SIZE	Metric Size	3.2	5	6.3	8	10	12.5	16	19	25	31.5	38	51
	mm Size	3	5	6	8	9	12	15	19	25	32	38	50
	Dash Size	-02	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32

JIS THREAD	1/8	1/4	1/4	3/8	3/8	1/2	3/4	3/4	1	1-1/4	1-1/2	2
Tightening torque N.m	15	25	25	34	34	64	132	132	196	225	255	316
UNF Thread	-	-	7/16-20	1/2-20	9/16-18	3/4-16	7/8-14	1-1/16-12	1-5/16-12	1-5/8-12	1-7/8-12	2-1/2-12
Tightening torque N.m	-	-	25	29	39	49	69	118	137	167	212	296
DIN DKO (Light)	-	-	M 12 x 1.5	M14 x 1.5	M16 x 1.5	M18 x 1.5	M22 x 1.5	M26 x 1.5	M36 x 2.0	M36 x 2.0	M45 x 2.0	-
Tightening torque N.m	-	-	15	25	35	40	60	85	105	135	250	-
DIN DKO (Heavy)	-	-	-	M16 x 1.5	M18 x 1.5	M20 x 1.5	M24 x 1.5	M30 x 2.0	M36 x 2.0	M42 x 2.0	M52 x 2.0	-
Tightening torque N.m	-	-	-	35	40	45	74	105	135	205	270	-
SSFST/45/90 (M)	-	-	-	-	-	M8 x 1.25	-	M10 x 1.5	M10 x 1.5	M12 x 1.75	M14 x 2.0	M14 x 2.0
Tightening torque N.m	-	-	-	-	-	20~25	-	28~40	37~48	48~62	62~79	73~90
SSFT/45/90 (UNF)	-	-	-	-	-	5/16-18	-	3/8-16	3/8-16	7/16-14	1/2-13	1/2-13
Tightening torque N.m	-	-	-	-	-	20~25	-	28~40	37~48	48~62	62~79	73~90
HSFST/45/90 (M)	-	-	-	-	-	M8 x 1.25	-	M10 x 1.5	M12 x 1.75	M14 x 2.0	M16 x 2.0	M20 x 2.5
Tightening torque N.m	-	-	-	-	-	20~25	-	34~45	56~68	85~102	158~181	271~294
HSFST/45/90 (UNF)	-	-	-	-	-	5/16-18	-	3/8-16	7/16-14	1/2-13	5/8-11	3/4-10
Tightening torque N.m	-	-	-	-	-	20~25	-	34~45	56~68	85~102	158~181	271~294
ORFS	-	-	9/16-18	-	11/16-16	13/16-16	1-14	1-3/16-12	1-7/16-12	1-11/16-12	2-12	-
Tightening torque N.m	-	-	15	-	26	45	64	93	130	180	213	-

Allowance of hose assembly length (Based on JIS.B. 8360/8362)

Hose Assembly Length (mm)	Allowance (mm)
Under 500	+10 0
Over 500 to Under 1,000	+15 0
Over 1,000 to Under 2,000	+20 0
Over 2,000 to Under 5,000	+1.0% 0
Over 5,000	+2.0% 0

Hose Assemblies

SPECIFICATION : Hydraulics (MSHA Certified)



Usage / Application	Earth Movers, Constructions & Infrastructure, Coal Sector, Metal Mines & Plant, Steel Plant, Railways
Size/ Type	1/4" to 2" in Single & Double Wire braided SAE 100 R1, R2, R3, R6 Or J30 R6 and Jack Hose
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	28 to 330 bar
Material	Hydraulic Oil Resistant Rubber
Fitting Specification	Standard Swage (BSP, JIC, ORFS, METRIC, JIS and NPT) SKIVE AND NON SKIVE
Surface Protection	Optional

SPECIFICATION : STEERING (MSHA Certified)



Usage / Application	Tractors/ Passenger Vehicle/ Commercial Vehicles
Size/ Type	1/4" 3/8" or 1/2" in Single or Double Wire Braiding & R6 Rayon Braiding
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	28 bar to 330 bar
Material	Hydraulic Oil Resistant Rubber
Fitting Specification	Standard Swage (BSP, JIC, ORFS, METRIC, JIS, NPT, AND FLANGE) SKIVE AND NON SKIVE
Surface Protection	Spring Gaurd

SPECIFICATION : TRACTOR TROLLEY HOSES



Usage / Application	Loading & Unloading of Material from Trolley Attached to Tractor
Size/ Type	3/8" & 1/2" in Single & Double Wire Braided
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	138 bar -260 bar
Material	Weather, Oil & Abrasion Resistance Synthetic Rubber Blend.
Fitting Specification	Crimp / Swivel (BSP & NPT)
Surface protection	Optional

SPECIFICATION : Fire Extinguisher Applications



Usage / Application	Fire Extinguishing Application
Size/ Type	3/8" or 1/2" in Single Wire Braiding
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	180 to 300 bar
Material	Co ₂ Gas Resistant Synthetic Rubber
Fitting Specification	1/4" BSP & 1/2" fix Male/Female with 7/8 NPT swivel
Surface Protection	Optional

Hose Assemblies

SPECIFICATION : FUEL DISPENSING (BS EN 1360) (ATEX UK CERTIFIED)

Usage / Application	Fuel Dispensing / Transfer Applications
Size/Type	5/8", 3/4" & 1.0" in Single Wire Braid, BS EN 1360
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	16 bar Max
Material	Gasoline and Diesel Synthetic Rubber
Fitting Specification	Crimp / Reusable (BSP & NPT) - Mild Steel/Brass
Surface Protection	N.A.

**FUEL DISPENSING
HOSE ASSEMBLY**



CNG HOSE ASSEMBLY



SPECIFICATION : CNG HOSE (SAE J30 R6 & 15722 (Class 1)) (ARAI APPROVED)

Usage / Application	Industrial & Automotive CNG Applications
Size/Type	3/16", 1/4" , 5/16" & 1/2"
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	21 bar Max
Material	Fuel Resistant Synthetic Rubber
Fitting Specification	Crimp / Reusable (BSP & NPT) - Mild Steel/Brass
Surface Protection	N.A.

Hose Assemblies

SPECIFICATION : LPG HOSE : IS 9573 - Part-1 (Industrial/ Commercial Hoses LERC Approved)



Usage / Application	LPG Transfer & Handling for Industrial/Commercial Application
Size / Type	Nominal Size : 1/4" , 5/16", 3/8", 1/2", 5/8", 3/4", 1" Single wire braided
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	25 bar Max.
Material	Ozone, Weather, LPG & Abrasion Resistance Synthetic Rubber Blend
Fitting Specification	Crimp / Swivel (BSP & NPT)/ Male
Surface protection	N.A.

SPECIFICATION : LPG HOSE : IS 9573 - Part - 2



Usage / Application	LPG Transfer & Handling for Industrial Low to Medium Pressure Application
Size / Type	5/16" Single Wire braided
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	10 bar
Material	Ozone, weather, LPG & abrasion resistance synthetic rubber blend.
Fitting Specification	Crimp / Male Swivel (BSP & NPT)
Surface protection	N.A.

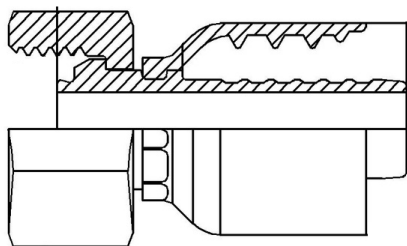
SPECIFICATION : BS EN 1762 Type-D / BS 4089 (Industrial & Commercial)



Usage / Application	LPG Transfer and Handling for Industrial High Pressure Application
Size / Type	1/2", 5/8", 3/4", 1.0", 1-1/4", 1-1/2", 2" in Single Wire Braid as per BS EN 1762-2017 Type -D / BS - 4089
Hose Assembly Length	As per Customer Requirement
Maximum Working Pressure	25 bar Max
Material	Ozone, Weather, LPG & Abrasion Resistance Synthetic Rubber Blend.
Fitting Specification	Crimp (BSP & NPT)
Surface protection	N.A.

END CONNECTORS

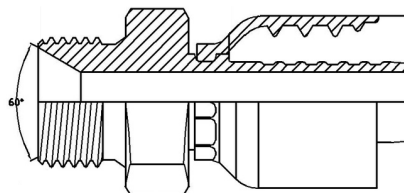
BSP Female Straight Fitting



Standard - ISO 8434-6
Used for hose-
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON

O- Ring - NBR
Cone - 60° Type

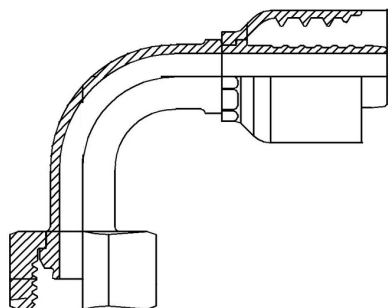
BSP Male straight / 90 degree bend Fitting



Standard - ISO 8434-6
Used for hose-
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON

Cone - 60° (Inside)

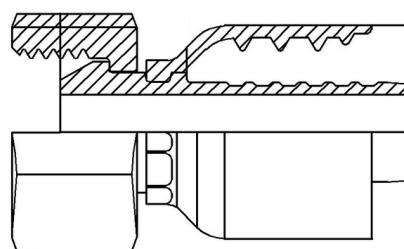
BSP Female 90 degree bend Fitting



Standard - ISO 8434-6
Used for hose-
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON

O- Ring - NBR
Cone - 60° Type

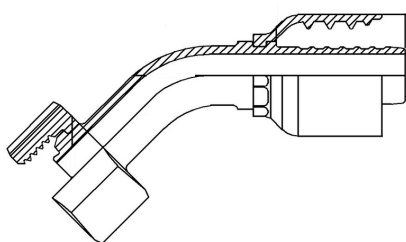
BSP Female Straight Skive Type Fitting



Standard - ISO 8434-6
Used for hose-
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON

O- Ring - NBR
Cone - 60°

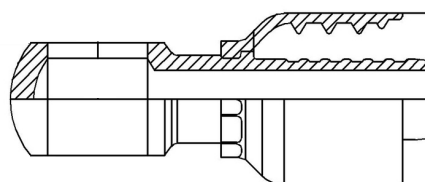
BSP Female 45 degree bend Fitting



Standard - ISO 8434-6
Used for hose-
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON

O- Ring - NBR
Cone - 60° Type

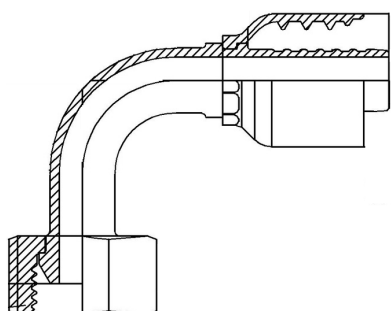
BANJO Straight Fitting



Standard - DN-7642
Used for hose-
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON

WITHOUT BOLT

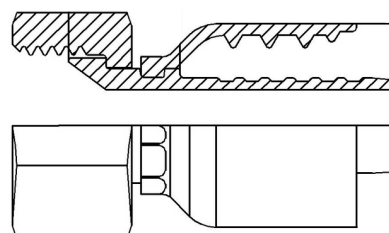
BSP Female 90 degree bend Skive type Fitting



Standard - ISO 8434-6
Used for hose-
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON

O- Ring - NBR
Cone - 60° Type

JIC Female Straight Fitting

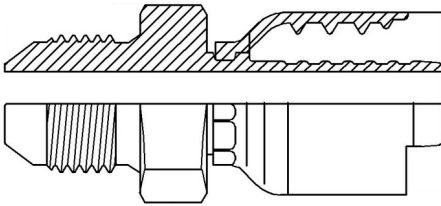


Standard - ISO 8434-2
Used for hose-
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON

Cone - 37° Type

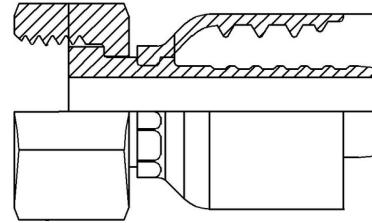
END CONNECTORS

JIC Male straight Fitting



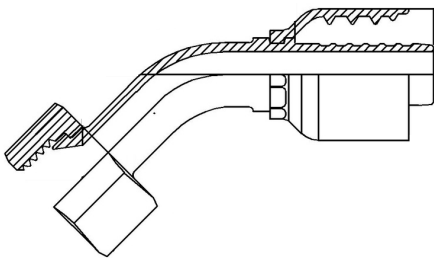
Standard - ISO 8434-2
Used for hose -
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON
Cone - 37° Type

ORFS Female Straight Fitting



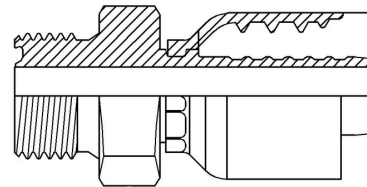
Standard - ISO 8434-3
Used for hose -
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON
Cone - Flat Face Type

JIC Female 45 degree bend Fitting



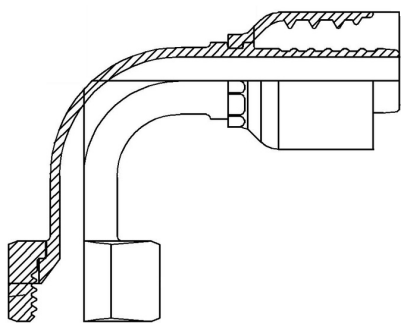
Standard - ISO 8434-2
Used for hose -
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON
Cone - 37° Type

ORFS Male Straight Fitting



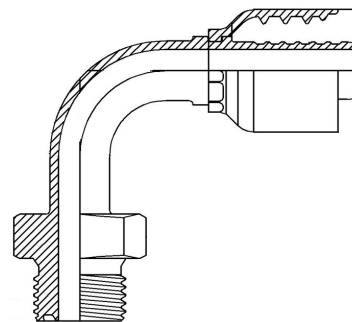
Standard - ISO 8434-3
Used for hose -
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON
Cone - Flat Face Type

JIC Female 90 degree bend Fitting



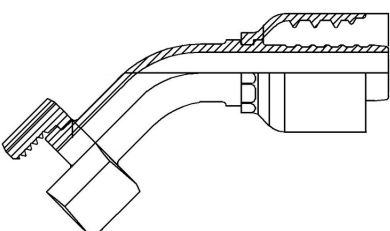
Standard - ISO 8434-2
Used for hose -
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON
Cone - 37° Type

ORFS Male 90 degree bend Fitting



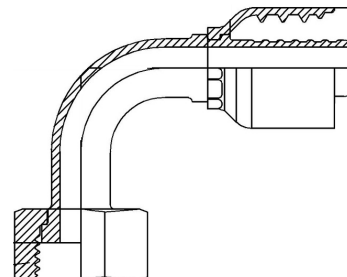
Standard - ISO 8434-3
Used for hose -
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON
Cone - Flat Face Type

ORFS Female 45 degree bend Fitting



Standard - ISO 8434-3
Used for hose -
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON
Cone - Flat Face Type

ORFS Female 90 degree bend Fitting

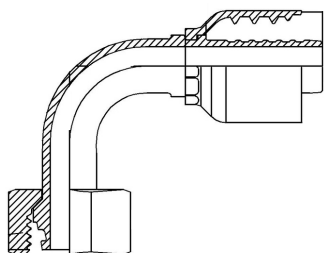


Standard - ISO 8434-3
Used for hose -
 SAE 100 R1, R2, R16,
 R17, R19, R7, R6, R4,
 TEFLON
Cone - Flat Face Type

END CONNECTORS

METRIC Female 90 degree bend with O-Ring

Din Metric 24° Cone Female bend 90°



Standard - Din EN ISO 8434-1
Used for hose -

SAE 100 R1, R2, R16,
R17, R19, R7, R6, R4,
TEFLON

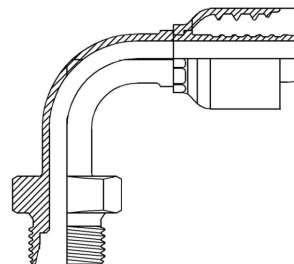
O-ring -NBR

Light series - FDLO

Heavy series - FDHO

METRIC Male 90 degree bend

Din Metric 24° Cone Male bend 90°



Standard - Din EN ISO 8434-1
Used for hose -

SAE 100 R1, R2, R16,
R17, R19, R7, R6, R4,
TEFLON

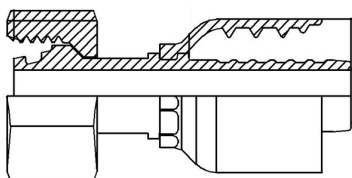
O-ring -NBR

Light series - FDLO

Heavy series - FDHO

METRIC Female Straight with O-Ring

Din Metric 24° Cone Female Straight



Standard - Din EN ISO 8434-1
Used for hose -

SAE 100 R1, R2, R16,
R17, R19, R7, R6, R4,
TEFLON

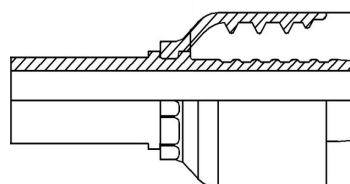
O-ring -NBR

Light series - FDLO

Heavy series - FDHO

Metric Stand Pipe

Din Metric Stand Pipe

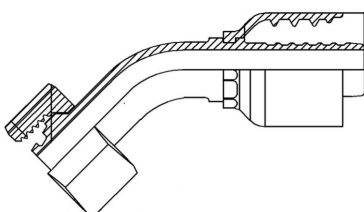


Standard - Din EN ISO 8434-1
Used for hose -

SAE 100 R1, R2, R16,
R17, R19, R7, R6, R4,
TEFLON

METRIC Female 45 degree bend with O-Ring

Din Metric 24° Cone Female bend 45°



Standard - Din EN ISO 8434-1
Used for hose -

SAE 100 R1, R2, R16,
R17, R19, R7, R6, R4,
TEFLON

O-ring -NBR

Light series - FDLO

Heavy series - FDHO

Flange Code 61 Straight

Standard - SAE 6162-1
3000 PSI CODE 61

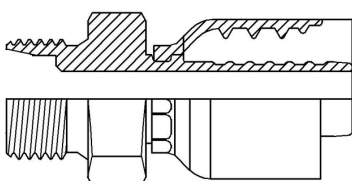
Used for hose -

SAE 100 R1, R2, R16,
R17, R19, R7, R6, R4,
TEFLON

O-ring -NBR

METRIC Male Straight

Din Metric 24° Cone Male Straight



Standard - Din EN ISO 8434-1
Used for hose -

SAE 100 R1, R2, R16,
R17, R19, R7, R6, R4,
TEFLON

O-ring -NBR

Light series - FDLO

Heavy series - FDHO

Flange Code 61 bend 90 degree

Standard - SAE 6162-1
3000 PSI CODE 61

Used for hose -

SAE 100 R1, R2, R16,
R17, R19, R7, R6, R4,
TEFLON

O-ring -NBR



SRPPL

SURAKSHA RUBBER PRODUCTS PVT. LTD.

Sister Concern of **VANSI INDUSTRIES**



OFFICE :

C-108 & 109, First floor, Urbtech Trade Centre
Near Jaypee Hospital Sector 132, Express Way
Noida, Gautam Buddh Nagar UP-201304



WORKS :

Killa No 25/13 & 18, Village-Ramnagar,
Tehsil-Gannaur, District Sonapat, Haryana - 131039



+91-9650539534/ 9311219496/ 9318008061/ 9810104697



rrvarshneya@surakshaproduct.in , info@surakshaproduct.in



www.surakshaproduct.in, www.vanshindustries.in

Distributed by



DEC./2023