GEOFLEX

HYDRAULIC
HOSES CATALOG

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GEOFLEX

Hydraulic Hoses

Flexible hoses catalogue January 2024 edition
GEOFLEX® reserves the right to change specification without notice

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HYDRAULIC HOSES

GEOFLEX® is a multinational company that has been operating in the Gulf and African markets for over a decade. Our extensive experience in the industry enables us to offer hydraulic solutions in various sectors, including mining, construction and earthmoving equipment, forestry and agriculture, fishing, naval and ports, industry, and automotive.

At GEOFLEX®, we use certified quality raw materials, standardized procedures with ISO 9001 certification, state-of-the-art production plants, a large team of specialized engineers in design and development, and strict quality policies validated in modern testing laboratories.

We offer a comprehensive portfolio of premium quality high-pressure hydraulic hoses and Fittings through a network of authorized distributors for various applications, including but not limited to industrial, agriculture, forest, energy, and construction. Sustainability is a fundamental aspect of our continuous improvement process, ensuring long-term results and strengthening our business performance and reputation.

Our primary strategy for international expansion is to establish a presence in countries where our primary clients operate, allowing for more efficient and timely product delivery. GEOFLEX® rubber hydraulic hoses and Fittings are manufactured to meet or exceed DIN EN, SAE, ISO and other industry requirements using high-quality raw materials and advanced manufacturing plants.

The GEOFLEX® team is dedicated to preventing defects or errors in manufactured products and ensuring problem-free delivery of solutions and services to customers. Quality assurance is applied to physical products during pre-production to verify that they meet GEOFLEX®'s specifications and requirements, and during manufacturing production by validating lot samples through specified quality controls.

Thermoplastic Hoses **Rubber Hydraulic Hoses**
Industrial Hoses Hydraulic Quick release coupling
Hydraulic Hoses Fittings & Adapters
Hose Processing Machines **Hose Protection** **Pneumatic Tubes**
Pressure washer Hoses


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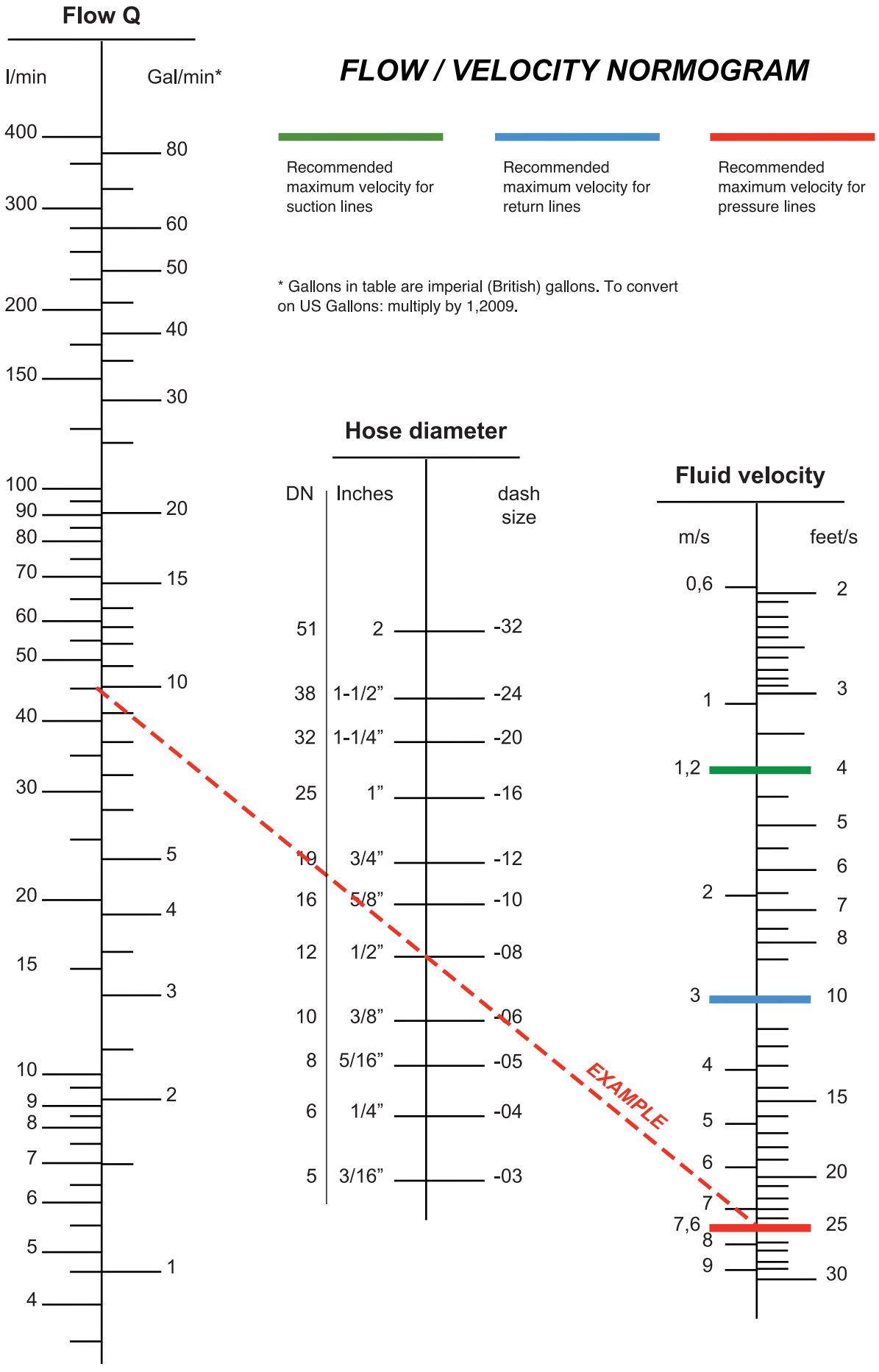
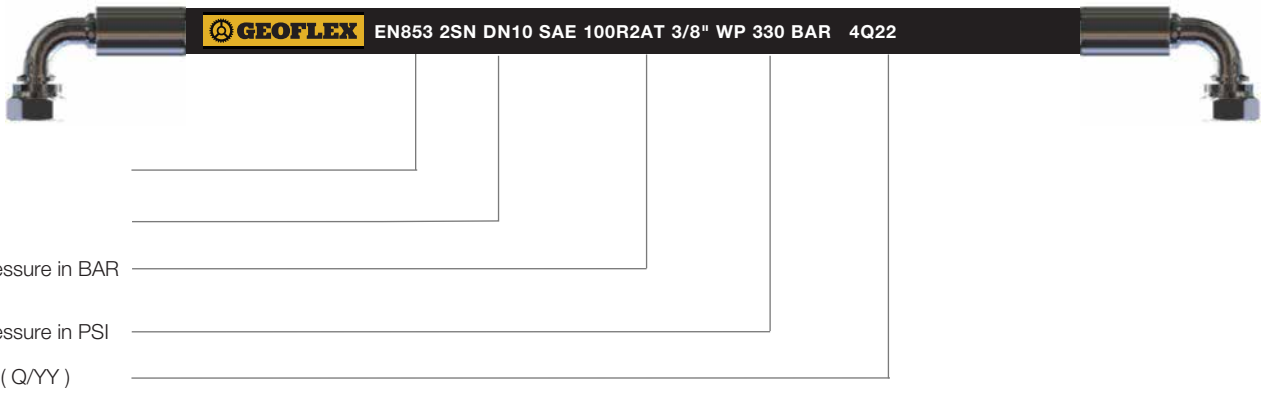
Recommended Hose Size





With the exception of the hose featuring a wire braided exterior, a single stripe runs parallel to the longitudinal axis, ensuring legible markings along the entire length. These comprehensive markings encompass vital information, such as the hose specification number, type designation (if applicable), metric hose size number, maximum working pressure, and the date of manufacture. This meticulous approach to marking ensures clarity and compliance with professional standards.

Fluid compatibility

FLUID	LEVEL	FLUID	LEVEL	FLUID	LEVEL
ACETIC ACID (30%)	LIMITED	ETHILENE GLYCOL	EXCELLENT	NITRIC ACID (CONC.)	INADEQUATE
ACETONE	INADEQUATE	ETHILENEOXIDE	INADEQUATE	NITRIC ACID (DIL.)	INADEQUATE
ACETYLENE	EXCELLENT	FLUORINE	INADEQUATE	NITROBENZEN	INADEQUATE
AMMONIA GAS (HOT)	LIMITED	FORMALDEHYDE	EXCELLENT	OIL OF TURPENTINE	INADEQUATE
AMMONIA LIQUID	EXCELLENT	FORMALDEHYDE (40%)	EXCELLENT	OLEIC ACID	INADEQUATE
AMYLACETATE	INADEQUATE	FUEL OIL	EXCELLENT	OXALIC ACID	INADEQUATE
ANILINE	INADEQUATE	GASEOUS HYDROGEN	LIMITED	PERCHLOROETHILENE	INADEQUATE
ANIMAL OILS	EXCELLENT	GASOLINE	LIMITED	PHENOL	INADEQUATE
BENZOL/BENZENE	INADEQUATE	GLYCERIN/GLYCEROL	EXCELLENT	PHOSPHATE ESTER BASE OIL	INADEQUATE
BUTANE	LIMITED	GLYCOL TO 66' C	EXCELLENT	PHOSPHORIC ACID (10%)	EXCELLENT
BUTYLACETATE	EXCELLENT	HEXANE	EXCELLENT	PHOSPHORIC ACID 70%	INADEQUATE
BUTYLACOHOL/BUTANOL	EXCELLENT	HYDRAULIC OIL	EXCELLENT	SATURATEDD STEAM	INADEQUATE
CARBON DIOXIDE	EXCELLENT	HYDROCHLORIC ACID 37%	INADEQUATE	SEA WATER	EXCELLENT
CARBON DISULFIDE	INADEQUATE	HYDR.PEROXIDE (CONC.)	LIMITED	SILICONE OILS	EXCELLENT
CARBONATES	LIMITED	HRDR.PEROXIDE (DIL.)	EXCELLENT	SOAP SOLUTIONS	LIMITED
CAUSTIC SODA	EXCELLENT	IRUS902 (water oil emulsion)	EXCELLENT	SODA	EXCELLENT
CHLORINATED SOLVENTS	INADEQUATE	ISOPROPILALCOHOL	EXCELLENT	SODIUM CHLORIDE SOLUTIONS	EXCELLENT
CHLORINE	INADEQUATE	KEROSENE	EXCELLENT	SODIUM IDROXIDE 20%	EXCELLENT
CHLOROFORM	INADEQUATE	LIQUID OXIGEN	INADEQUATE	SODIUM HYPOCHLORYDE 10 %	LIMITED
COMPRESSED AIR	EXCELLENT	LPG	LIMITED	SULPHUR	EXCELLENT
CRITIC ACID SOLUTION	EXCELLENT	LUBRIFICATING OILS	EXCELLENT	SULPHURE DIOXIDE	INADEQUATE
CRUDE PETROLIUM OIL	LIMITED	MERCURY	EXCELLENT	SULPHURIC ACID ABOVE 50 %	INADEQUATE
CYCLOEXANE	LIMITED	METHIL ALCOHOL/METHANOL	EXCELLENT	SULPHURIC PETROLIUM UPTO 50 %	INADEQUATE
DIESEL FUEL	LIMITED	METHIL CHLORIDE (COOL)	INADEQUATE	TOLUENE	INADEQUATE
ETHERS	LIMITED	METHIL ETHIL KETHONE	INADEQUATE	TRICHLOROETHYLENE	INADEQUATE
ETHILACETATE	INADEQUATE	MINERAL OILS	EXCELLENT	VEGETABLE GREASES	EXCELLENT
ETHILALCOHOL	EXCELLENT	NAPHTHA	EXCELLENT	WATER	EXCELLENT
ETHIL CELLULOSE	EXCELLENT	NAPHTHALENE	INADEQUATE	XYLENE	INADEQUATE
ETHIL CHLORIDE	INADEQUATE	NATURAL GAS	EXCELLENT		

EXCELLENT: Excellent chemical resistance, with minimum or no properties changement,
LIMITED: Limited chemical resistance, with moderately acceptable properties changements,
INADEQUATE: Inadequate resistance, with drastic collapse of all the characteristics,

The chart is intended as a guide only and is not a quarantee, Final selection of the proper material of a components is further dependent on many factors including pressure, temperature, fluid concentration, duration of exposure etc. Contact the technical office for a case study.

Warning

ATTENTION TO ALL DISTRIBUTORS AND CUSTOMERS

THE GEO-FLEX® hoses and fittings are **designed as integral parts of hose assembly system to be used together** and they should only be used together or in conjunction with other types of fittings for GEO-FLEX®

Failures to do so may result in reducing the hose assembly life or other failures which can result in serious bodily injury or property damage.

Product selection,product installation and hose integration guide lines are essential to the proper operation and safe use of GEO-FLEX® hoses, fittings,hose assemblies and related equipments.

Improper installation of the hoses, fittings and hose assemblies can result in serious injury or property damage.

The main international standards ISO 17165-2 and SAE J1273 strictly warn not to mix hose with fittings from different manufacturers without their approval.

Before using any product, it is important that **you analyze all aspects of your application and review the information explained in the current catalogue.**

GEO-FLEX® shall not be responsible for any default other than hose, fittings, or hose assembly we supply.

GEO-FLEX® does not represent or warrant any default taken place due to the improper use of hose, fittings or hose assembly. [EX] Hard piping layout,crimping,using inadequate liquid for hose, and so on.

GEO-FLEX® reserves the right to modify any data. Eventual and any kind of modifications can be carried out without any notice.

For more details on the hose shown in this catalog and their application,please be advised to contact your GEO-FLEX® customer service listed above.

Precaution

Safety instruction : Please be advised to read these safety instruction before use carefully.

1, Warning ※This symbol indicates failure to comply with the indication may cause personal death or injury.

-1 **Do not kink the hose.**
Kink the hose causes burst and do not use kinked hose.

-2 **Avoid applications where the hose assembly is twisted or pulled.**
Twisting or stretching hose under pressure causes stress concentration of hose or fitting which leads to hose bursting or fitting blow-off.

-3 **Protect hose from abrasions.**
If the hose reinforcement is exposed, it causes rust and accelerated damage which leads to hose burst.

-4 **Do not touch hose assembly and fittings under pressure.**
If hose or fittings are burst or broken, and a fluid touch the skins, a serious injury including burns may be caused.

-5 **Do not repair or rework a hose assembly.**
Repair or rework does not have the same physical characteristics shown in this catalogue, and leading to hose burst or fitting blow-off.

-6 **System pressure should not exceed the rated working pressure of the hose assembly.**
Exceeding the rated pressure of hose causes the hose bursting or fitting blow-off.

-7 **Avoid the usage exceeding applicable temperature.**
The usage exceeding fluid/ambient temperature cause the hose bursting or fitting blow-off.

-8 **Use compatible hydraulic fluid specified on this catalogue.**
The use of an incompatible hydraulic fluid will deteriorate inner tube rubber or thermoplastic and the reinforcement (wire or yarn) resulting in the hose bursting or fitting blow-off.

-9 **Avoid the usage exceeding the minimum bending radius.**
The usage of exceeding the minimum bending radius causes the hose burst.

-10 **The usages that our products are not intended for.**
- Avoid vacuum pressure and external pressure which lead to hose burst or a serious injury.
- Excessive vacuum pressure or external pressure causes the inner tube peel-off or kink which leads to hose failure and reduce service life.
- Avoid submerging hose assemblies in water or high humid. Usage under these condition cause the outer cover peel-off and the rust of wire braded which leads to determination of strength.
- Do not apply an electrical current to a hose assembly. Electrifying a hose leads to a hose failure or an electric shock.
- Avoid excessive vibration. Excessive vibration causes fatigue which leads to leakage or burst.

-11 **Selection of hose assembly length.**
- Have an enough slack in the hose to allow for changes in length that occur when pressure is applied.
- No slacks in the hose length causes high tension which leads to hose burst or fitting blow-off.

2, Caution ※This symbol indicates failure to comply with the indication may cause personal injury or property damage.

-1 **Avoid sealing material going into the fitting or hose.**
Sealing material going into the fitting or hose causes clog or reducing fluid speed.

-2 **Prior to assembly, inspect the fitting and sealing surface for foreign object or any other visible objects.**
If any foreign objects on the fitting and sealing surface are not removed, it leads to leakage of fluid.

-3 **Tighten hose assemblies to the recommended torque shown in this catalogue.**
If tightening is improper, it cause leakage, joint portion breakage and separation.

-4 **Select proper hose assembly matching the opponent joint portion.**
The hose assembly using improper fittings will lead to leakage or hose fitting blow-off.

-5 **If the period of hose assembly usage exceeds 2 years, the hose assembly is recommended to replace a new one.**

-6 **When hose assembly stored over one month, rust proofing for metal of fitting is recommended.**
Rust covered fitting cause contamination of fluid leading to leakage.

-7 **Store hose and hose assembly in good condition.**
Store hose and hose assembly in dry room under the temperature of +40°C (+104°F).
Protect hose against direct sun light and humidity commendation. The usage under these condition lead to reduce service life or the rust of wire braded.

-8 **Avoid damage or deform of hose and hose fitting.**
Keep hose in stress free shape never bent below the min. bend radius.
Do not heavy stuff on hose assembly leading to burst or breakage.

-9 **Keep clean the inside of hose assembly.**
Hose assemblies fittings should be capped against damage and contamination. If not, it lead to trouble of fluid for hydraulic circuits.

-10 **Storage period of hose should not exceed one year.**
Hose stored in good shape does not stop deterioration of its original characteristic. If not, it lead to deterioration of hose.

3, Items related to visual inspection of hose and hose fitting recommended by ISO 17165-2.

Hose and hose fittings shall be inspected for the items below listed, which also gives information as to the main causes and corrective action to be taken for each item.

Failure Symptom		Main cause	Corrective action
Leakage from threaded connector		Defective connector seat due to presence of flaw, dirt or other foreign objects	Clean connector seat
		Loose connector or O-ring wear	Tighten the connector or replace O-ring
		Mismatching of seat surface	Replace the connector as necessary
Leakage from flange connection		Loose fixture bolt or deterioration of O-rings or other seals	Tighten the bolt or replace O-rings or other seals
Leakage from hose / connection assembly, hose fitting slippage hose		Deterioration of hose (due to heat, oil,long use, etc.)	Replace the hose
		Improper routing	Avoid sharp bending at the assembly part
Deformation	**Kink or dent**	External impact	Prevent or protect from impact
	Swell or bulge	Oil spillage (leak)	Replace the hose
Visible defects (damaged, cut or abraded cover, exposed reinforcement; kinked, crushed, lattened, or twisted hose; blistered, soft, degraded, or loose cover;cracked,damaged,or badly corroded hose fitting; wear flaws; scratch etc.)		Component interference / Eternal impact	Prevent or protect from impact / Replace the hose
Visible external cracks		Ozone, radiation, paint other fluids	Protect the exterior / Replace the hose
Unusual hose movement at starting of operation		Improper hose length Improper hose routing	Replace the hose Correct routing or use adaptive devices
Hardening / softening, heat cracked, or Charred hose		Deterioration due to fluid or temperature mismatch	Replace the hose as necessary
Unusual noise, odor, heat		Improper circuitry	Check the circuit
Rusting of joints		Sand dust, water, air salinity	Use protective paint (but not on the exterior surface of the hose)

2-1 How to calculate the Assembly Length

• **End to End** of both fittings

Case 1)

Case 2)

Case 3)

Case 4)

2-2 Hose Protective Materials

1) 1012 Spring

Use to protect too small bending at end of fitting.

← Length →

Hose Length		L (mm)	Hose Length		L (mm)	Hose Length		L (mm)
mm	Dash		mm	Dash		mm	Dash	
6	-04	200	15	-10	300	32	-20	300
9	-06	200	19	-12	300	38	-24	350
12	-08	200	25	-16	300	50	-32	350

2) Spring Guard (SP)

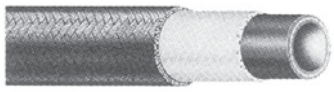
Use to protect whole hose length from stones or striking objects.

3) Wire Braid (WB)

Use to protect whole hose length from metal cutting powder or sharp chips.

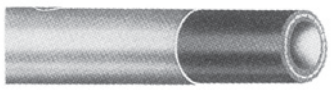
4) Grass Wool Wire Braid (1G-1W)

Use Grass Wool wire braid at high ambient temperature to protect hose from the heat.



5) Vinyl Cover

Use Vinyl Cover to protect hose from abrasion or damage.



6) Plastic protective coil sleeve

Use to protect hose from abraision.

How to determine correct assembly length

For most assemblies, the correct assembly length may be determined by direct measurement of the equipment or by drawing. The recommended minimum. bend radius must be observed. The correct hose length can be determined by the formula given below. Please consult our customer service if you have any question.

[L] = the overall length of the hydraulic hose assembly

[A]= an allowance for a min.straight section of hydraulic hose at each end of the assembly measured from the inner end of each fitting. These two straight sections are necessary to prevent excessive stress concentration directly back of the fitting. See table below.

[B] = the length of fitting

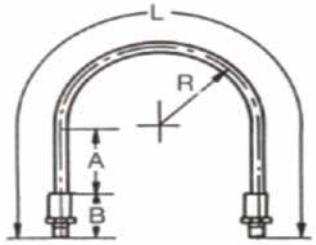
[R] = the bend radius of hose. See each hose specification table.

[T] = the length of travel

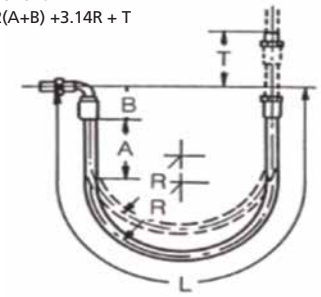
Dimension table

Hose I.D.	inch	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	1-1/4	1-1/2	2
	(mm)	(5)	(6)	(8)	(9)	(12)	(15)	(19)	(25)	(32)	(38)	(50)
	(dash)	(-03)	(-04)	(-05)	(-06)	(-08)	(-10)	(-12)	(-16)	(-20)	(-24)	(-32)
A	inch	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	2-1/2	2-3/4	3-1/4	4	4-3/4	5-1/2
	(mm)	(30)	(30)	(40)	(40)	(40)	(60)	(70)	(80)	(100)	(120)	(140)
	(dash)	(-03)	(-04)	(-05)	(-06)	(-08)	(-10)	(-12)	(-16)	(-20)	(-24)	(-32)

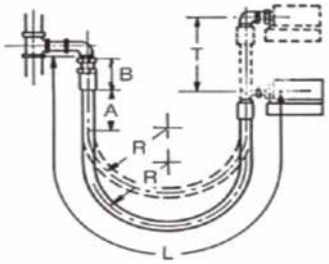
1
When both ends of assemblies are fixed.
L=2(A+B) +3.14R



2
When one end of assemblies moves parallel to the other end.
L=2(A+B) +3.14R + T

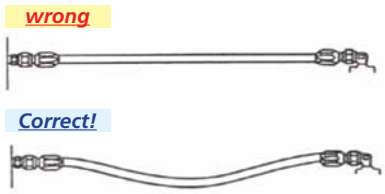


3
When one end of assemblies moves to parallel and symmetrical to the other end of assemblies.
L=2(A+B) + 3.14R + 1/2T

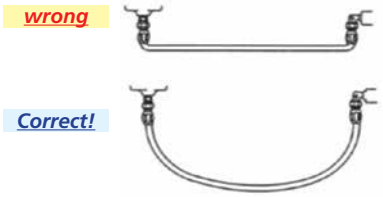


Correct assembly installation

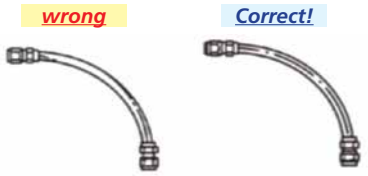
1,
Under pressure, hose may change in length from-4% to +2%(or 4%). So always provide sufficient slack in hose to allow for shrinkage or expansion.



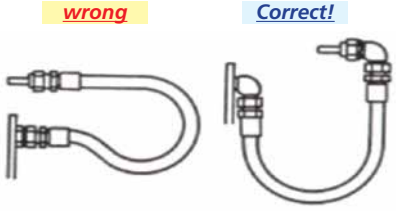
2,
Do not use hose at bend radius less than the required min. bend radius. Provide sufficient length for a wide radius curve. To tight a bend pinches the hose and restricts the flow.



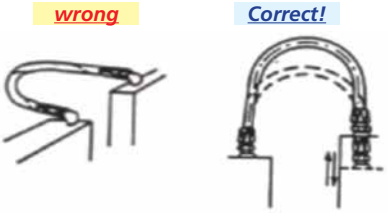
3,
Do not install hose with a twist in tends to be straightened under high operation pressure. This causes loosen of fitting out or even burst of hose at the point of strain.



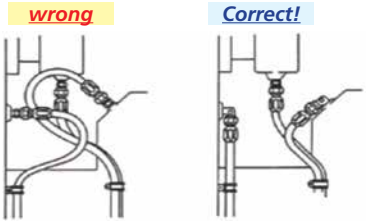
4,
Where the radius falls below the required min. bend radius, an angle adapter must be used as below to avoid sharp bends in hose.



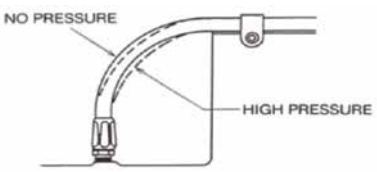
5,
Hose must be bent in the same plane as the motion of the boss to which the hose is connected.



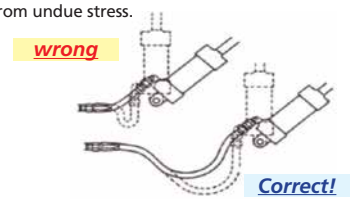
6,
Obtain direct routing of hose through use of 45°and 90°adapters and fittings. Make appearance neater by avoiding excess hose length.



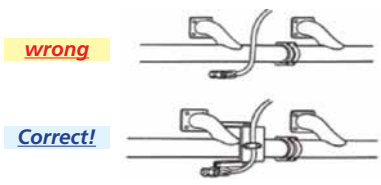
7,
If hose is installed in bent position,curves absorb changes according to change in hose length under pressure.So do not clamp at bend.



8,
In applications where there is considerable vibration or flexing, provide sufficient hose length to avoid hose bend radius smaller than the recommended min. amount. Also proper installation protects metal parts from undue stress.



9,
Service life of hose becomes short if subjected to abnormally high temperature. Use heat resistant boots, fire sleeves or metal baffles when hose lines pass near heat source. In any application, brackets and cramps keep hose in place and reduce abrasion.



DATA SHEET

EN853 1SN

FEATURES:	Exceed 1SN, meet ISO 18752 AC 200000 cycles,much more flexible,using for frequent bending areas.
CONSTRUCTION:	This hose shall consists of an inner tube of oil resistant synthetic rubber,a single steel wire braid reinforcement, and an oil and weather resistant synthetic rubber cover.
APPLICATION:	This section covers hose for use with petroleum base hydraulic fluids within a temperature range -40°C ~to +100°C

HOSE PART NO.	I.D		O.D		W.P		MIN B.P		MIN B.R		WEIGHT
	INCH	MM	INCH	MM	PSI	MPA	PSI	MPA	INCH	MM	KG/M
GF-04-R1	1/4"	6.3	0.48	12.3	3262.5	22.5	13050	90	3.94	100	0.19
GF-05-R1	5/16"	7.9	0.55	13.9	3117.5	21.5	12470	86	4.53	115	0.21
GF-06-R1	3/8"	9.5	0.62	15.7	2610	18	10440	72	5.12	130	0.25
GF-08-R1	1/2"	12.5	0.74	18.9	2320	16	9280	64	7.09	180	0.33
GF-10-R1	5/8"	15.9	0.88	22.4	1885	13	7540	52	7.87	200	0.40
GF-12-R1	3/4"	19.1	1.02	25.9	1522.5	10.5	6090	42	9.45	240	0.50
GF-16-R1	1"	25.4	1.32	33.5	1276	8.8	5104	35.2	11.81	300	0.74

*Also available in smooth cover

DATA SHEET

EN853 2SN

FEATURES:	Exceed 2SN, exceed ISO 18752 AC 300000 cycles,much more flexible,using for frequent bending areas
CONSTRUCTION:	This hose shall consists of an inner tube of oil resistant synthetic rubber, two braids of steel wire reinforcement, and an oil and weather resistant synthetic rubber cover.
APPLICATION:	This section covers hose for use with petroleum base hydraulic fluids within a temperature range -40°C ~to +100°C

HOSE PART NO.	I.D		O.D		W.P		MIN B.P		MIN B.R		WEIGHT
	INCH	MM	INCH	MM	PSI	MPA	PSI	MPA	INCH	MM	KG/M
GF-04-R2	1/4"	6.3	0.55	14	5800	40	23200	160	3.94	100	0.29
GF-05-R2	5/16"	7.9	0.62	15.7	5075	35	20300	140	4.53	115	0.34
GF-06-R2	3/8"	9.5	0.70	17.7	4785	33	19140	132	5.12	130	0.39
GF-08-R2	1/2"	12.5	0.82	20.9	3987.5	27.5	15950	110	7.09	180	0.48
GF-10-R2	5/8"	15.9	0.96	24.5	3625	25	14500	100	7.87	200	0.64
GF-12-R2	3/4"	19.1	1.10	28	3117.5	21.5	12470	86	9.45	240	0.74
GF-16-R2	1"	25.4	1.40	35.6	2392.5	16.5	9570	66	11.81	300	1.02

*Also available in smooth cover

DATA SHEET

DIN EN856 4SH

INNER TUBE:	Oil resistant synthetic rubber
REINFORCEMENT:	Four High tensile steel wire spiral layers
COVER:	Abrasion, ozone and weather resistant synthetic rubber
TEMPERATURE RANGE:	-40°C to +100°C
APPLICATION:	Petroleum based hydraulic fluid, water, lubricating oils, glycol, mineral oils, and more

HOSE PART NO	SIZE		SAE	INSIDE Ø MM		OUTSIDE Ø MM		WORKING PRESSURE		BURST PRESSURE		BEND RADIUS	LENGTH	WEIGHT
	MM	INCH	DASH	MIN	MAX	MAX		BAR	PSI	BAR	PSI	MM	M	KG/M
GF-12-4SH	19	3/4	-12	18.6	19.8	31.4	33.0	420	6000	1680	24000	280	20/40	1.61
GF-16-4SH	25	1	-16	25.0	26.4	37.5	39.9	380	5500	1520	22000	340	20/40	2.00
GF-20-4SH	31.5	1 1/4	-20	31.0	33.0	43.9	47.1	325	4700	1300	18800	460	20/40	2.64
GF-24-4SH	38	1 1/2	-24	37.7	39.3	51.9	55.1	290	4200	1160	16800	560	20/40	3.36
GF-32-4SH	51	2	-32	50.4	52.0	66.5	69.7	250	3600	1000	14400	700	20/40	4.98

DATA SHEET

DIN EN856 4SP

INNER TUBE:	Oil resistant synthetic rubber
REINFORCEMENT:	Four High tensile steel wire spiral layers
COVER:	Abrasion, ozone and weather resistant synthetic rubber
TEMPERATURE RANGE:	-40°C to +100°C
APPLICATION:	Petroleum based hydraulic fluid, water, lubricating oils, glycol, mineral oils, and more

HOSE PART NO.	SIZE		SAE	INSIDE Ø MM		OUTSIDE Ø MM		WORKING PRESSURE		BURST PRESSURE		BEND RADIUS	LENGTH	WEIGHT
	MM	INCH	DASH	MIN	MAX	MIN	MAX	BAR	PSI	BAR	PSI	MM	M	KG/M
GF-06-4SP	10	3/8	-06	9.3	10.1	20.6	22.2	445	6450	180	26000	180	50	0.78
GF-08-4SP	12.5	1/2	-08	12.3	13.5	23.8	25.4	415	6000	166	24000	230	50	0.89
GF-10-4SP	16	5/8	-10	15.5	16.7	27.4	29.0	350	5000	140	20000	250	50	1.10
GF-12-4SP	19	3/4	-12	18.6	19.8	31.4	33.0	350	5000	140	20000	300	20/40	1.59
GF-16-4SP	25	1	-16	25.0	26.4	38.5	40.9	280	4000	112	16000	340	20/40	2.02
GF-20-4SP	31.5	1 1/4	-20	31.4	33.0	49.2	52.4	210	3000	84	12000	460	20/40	3.32
GF-24-4SP	38	1 1/2	-24	37.7	39.3	55.6	58.8	185	3650	74	10800	560	20/40	3.70
GF-32-4SP	51	2	-32	50.4	52.0	68.2	71.4	165	2360	66	9600	660	20/40	5.47

GEOFLEX

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