



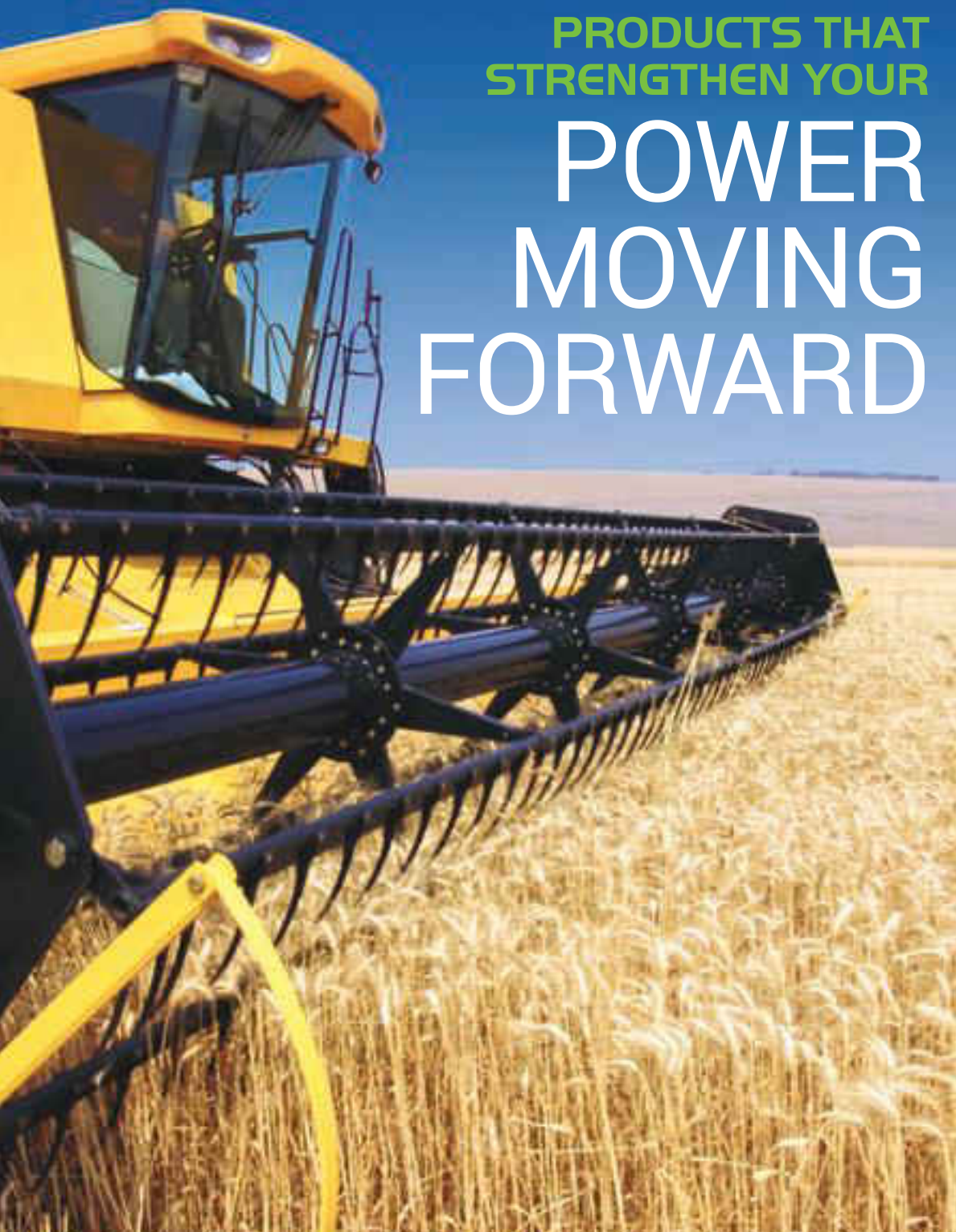
**PROPULSE™**  
A SCHIEFFER CO.

*POWER MOVING FORWARD™*





PRODUCTS THAT  
STRENGTHEN YOUR  
POWER  
MOVING  
FORWARD



# PROPULSE HYDRAULIC MANUAL

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If you have questions about the products contained in this catalog, or their applications, please contact:

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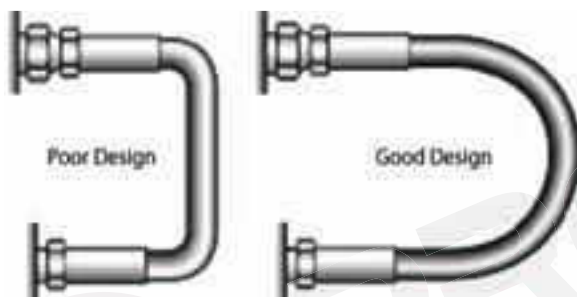


## HOSE INSTALLATION AND BEST PRACTICES

There are several items that play a role into the selection of the correct hose for your application. Hose selection should not be taken lightly. For instance, there are several different safety factors that are applied to different industries. An SAE designated hydraulic hose has a 4-1 safety factor where other industries may have other allowable safety factors that are less than 4 such as in some high pressure cleaning applications (3-1), jack hose applications (2-1), as well as in the sewer jetting industry (2.5-1). Be sure to pick the hose that meets the application requirements.

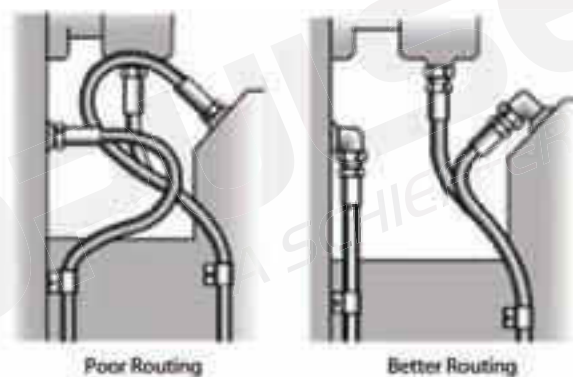
Other factors will also play a role in the life of the hose in an application. These include but are not limited to various application factors such as hose routing and various environments. Routings and environmental conditions can cause hoses to fail prematurely from the outside in. The ProPulse team can assist customers with these applications by providing the proper solution to meet your need. This can include ozone and uv resistant thermoplastic hose, Arm series hose with our Arm-A-Flex™ extreme duty cover, or even a hose wrap or nylon covering to help with stand the rigors of usage. In addition, the Propulse team can help with routing solutions and advice with the proper use of adapters and clamps to keep your hoses "happy" for years of trouble free service.

Following is a list of basic drawings that help with every day hose routing issues our customers face. This guide can help aid in the proper routing and installation of hose assemblies in various applications.



**FIGURE 1**

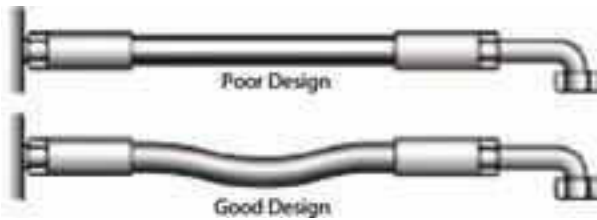
In the right picture of figure 1, the hose is too short not allowing for the hose to have the proper bend radius. This causes strain on the crimp joint. The top picture shows the correct hose length providing correct bend radius.



**FIGURE 2**

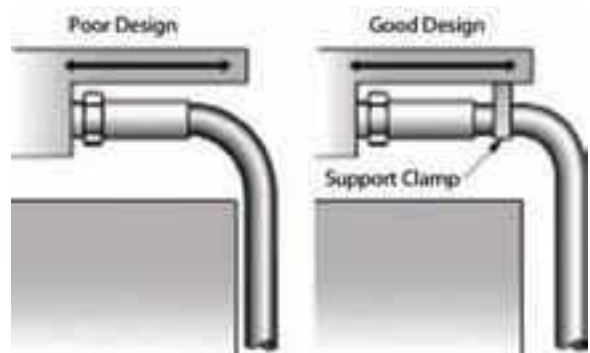
To the left shows a cluttered hose routing that could induce unnecessary hose wear and hose life. Better choice of end fittings and use of adapters helps clean up the routing facilitating longer hose life and is easier to maintain.





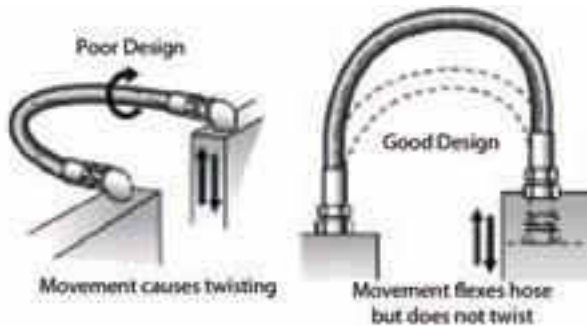
**FIGURE 3**

Hose length should be looked at closely to provide for the flexing of hose when there is contraction and expansion during use.



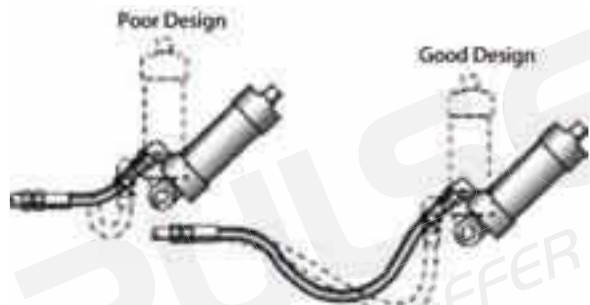
**FIGURE 6**

Support clamps are also a good tool to use when trying to limit hose wear due to abrasion. Clamps can be used to isolate hose and hold them away from abrasive surfaces or environments.



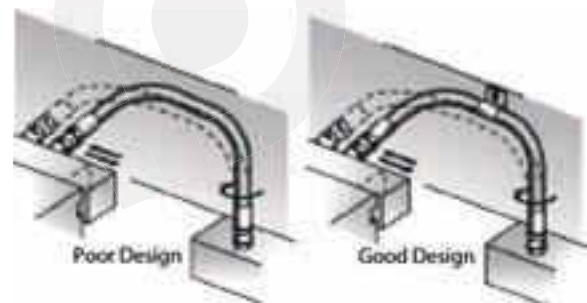
**FIGURE 4**

Be aware of hose routings that have torsion and twisting involved. Hoses should be routed to limit this torsion as it can have a negative effect on the crimp integrity and can reduce hose length. A good tip to help identify this issue is to look at the hose layline if there is torsion in the hose (even when installing the hose layline will appear twisted along the length of the hose). This condition will indicate torsion with the hose and could shorten the life.



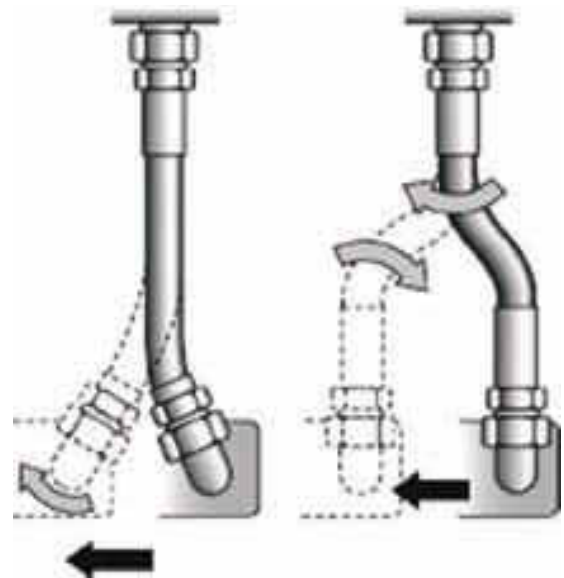
**Figure 7**

When routing hose, care must be given to note all areas that have movement and how the hose will move in the system. No part of the system movement should cause the hose bend radius to be exceeded or cause undue stress at the crimp joint.



**FIGURE 5**

The proper use of clamps can help relax when there is movement in more than one plane. Caution must be taken that the correct clamp is used as to not damage the cover of the hose and to provide enough length of hose on either side of the clamp to provide enough room for movement.



**FIGURE 8**

Choosing the correct fittings on the hose can also improve hose life. In this case swivel ends are used to limit torsion in the hose. Swivel ends can also aid in maintenance and replacement.

# PROPULSE HYDRAULIC MANUAL

## FLUID COMPATIBILITY CHART

| FLUID                                   | COMPATIBILITY |
|---|---------------|
| <b>A</b> Acetaldehyde                   | P             |
| Acetic acid (5%)                        | G             |
| Acetic acid (30%)                       | P             |
| Acetic acid glacial                     | *             |
| Acetone                                 | P             |
| Acetylene                               | G             |
| Air (100C)                              | G             |
| Air (150C)                              | P             |
| Alchols general                         | G             |
| Ammonia gas                             | E             |
| Ammonia liquid (70 °C)                  | G             |
| Ammonium Chloride (aq)                  | *             |
| Ammonium hydroxide (10% at 25°C)        | E             |
| Ammonium hydroxide (25-28% at 25°C)     | G             |
| Ammonium nitrate (in aqueous solution)  | G             |
| Ammonium phosphate (aq)                 | E             |
| Ammonium sulphate (in aqueous solution) | *             |
| Amyl acetate                            | P             |
| Aniline                                 | P             |
| Animal fat                              | E             |
| <b>B</b> Benzol or Benzene              | P             |
| Boric acid 10%, 100 °C                  | E             |
| Butane                                  | G             |
| Butyl acetate                           | P             |
| Butyl alcohol or Butanol                | E             |
| Bio Oil Avia Syntotluid PE-B-50 (1000C) | G             |
| Bio Oil Q8 Holbein Bio Plus (1000C)     | G             |
| <b>C</b> Calcium carbonate              | E             |
| Calcium Chloride                        | *             |
| Calcium Nitrate                         | *             |

E – Excellent / G – Good  
P – Poor / \* Not Tested

**⚠ WARNING:** This information shall be intended only as a guide to chemical compatibility with the internal fluid. Other operations factors may impact in the service life of the hose. This guide must not be used in conjunction with any other compatibility guides from previous or future catalog editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

# PROPULSE HYDRAULIC MANUAL

## FLUID COMPATIBILITY CHART

| FLUID                      | COMPATIBILITY |
|----------------------------|---------------|
| Carbon di sulphide         | P             |
| CARBON DIOXIDE             | E             |
| CARBONATES                 | *             |
| CASTER OIL                 | G             |
| CAUSTIC SODA               | *             |
| CHLORINATED SOLVENTS       | P             |
| CHLORINE                   | P             |
| CHLOROBENZENE              | P             |
| CYCLOHEXANE                | G             |
| Cyclohexanone              | P             |
| <b>D</b> DIESEL OILS       | *             |
| DIETHYLENE GLYCOL          | E             |
| DIMETHYL FORMAMIDE         | *             |
| Dimethyl ketone            | *             |
| <b>E</b> Ether             | *             |
| ETHYL ACETATE              | P             |
| ETHYL ALCOHOL              | E             |
| ETHYL CELLULOSE            | *             |
| ETHYL CLORIDE              | *             |
| ETHYLENE GLYCOL (50%)      | E             |
| <b>F</b> FLUORINE (LIQUID) | *             |
| Fluorine gas               | *             |
| FLUOROBORIC ACID           | *             |
| Formaldehyde               | G             |
| Freon 12                   | *             |
| Fuel Oils                  | G             |
| Freon 12                   |               |
| Fuel Oils                  |               |
| <b>G</b> GASOLINE          | P             |
| Glycerine or glycerol      | E             |

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# PROPULSE HYDRAULIC MANUAL

## FLUID COMPATIBILITY CHART

| FLUID                                  | COMPATIBILITY |
|--|---------------|
| <b>H</b> HEPG (POLYGLYCOLS ISO 6743-4) | E             |
| HEPR (ISO 6743-4)                      | E             |
| HEES (SYNTHETIC ESTER ISO 6743-4)      | E             |
| HEXANE                                 | *             |
| HYDROGEN PEROXIDE DIL.                 | *             |
| HYDRAZINE                              | G             |
| HYDROCHLORIC ACID (37%)                | *             |
| HYDROGEN GAS (100 °C)                  | G             |
| HYDROGEN PEROXIDE (DIL.)               | P             |
| Hydrogen peroxide conc.                | *             |
| Hydrogen sulphide (dry)                | *             |
| <b>I</b> Iso octance                   | E             |
| Isopropyl Acetate                      | *             |
| Isopropyl alcohol                      | E             |
| <b>L</b> Liquid oxygen                 | P             |
| LPG                                    | *             |
| LUBRICANT BASED ON FLUOROCARBON        | G             |
| Lubrication Oils                       | E             |
| <b>M</b> METHYL ACETATE                | P             |
| METHYL ALCOHOL OR METHANOL             | E             |
| METHYL CHLORIDE (COLD)                 | P             |
| METHYL ETHYL KETONE                    | P             |
| Mineral Oils                           | E             |
| <b>N</b> Naphtha                       | G             |
| Natural gas                            | *             |
| Nitric acid conc.                      | P             |
| Nitric acid dil.                       | P             |
| Nitro benzene                          | P             |
| <b>O</b> OLEIC ACID                    | E             |
| OXALIC ACID                            | P             |

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# PROPULSE HYDRAULIC MANUAL

## FLUID COMPATIBILITY CHART

| FLUID    |                             | E – Excellent / G – Good<br>P – Poor / * Not Tested<br>COMPATIBILITY |
|----------|-----------------------------|--|
| <b>P</b> | PENTANE                     | E  |
|          | PETROL                      | *  |
|          | PHENOL (CARBOLIC ACID)      | P  |
|          | PHOSPHORIC ACID (10%)       | G  |
|          | PHOSPHORIC ACID (70%)       | P  |
|          | Potassium Dichromate dilute | *  |
|          | POTASSIUM HYDROXIDE DILUTE  | *  |
|          | Propane                     | *  |
| <b>S</b> | Saturated Steam             | *  |
|          | SEA WATER                   | E  |
|          | SILICONE OILS               | E  |
|          | SODIUM HYDROXIDE (20%)      | G  |
|          | SODIUM HYPOCHLORITE (10%)   | *  |
|          | SULPHURIC ACID (50%)        | P  |
|          | Sulphuric acid (Dilute)     | P  |
| <b>T</b> | TOULENE                     | P  |
|          | TRI CHLORO ETHYLENE         | P  |
| <b>V</b> | Vegetable Oils (100°C)      | E  |
| <b>W</b> | Water (100°C)               | E  |
| <b>X</b> | Xylene                      | P  |

For all hoses except for the following:

HPW1 SHPW  
 HPW2 SJ  
 HPW3 100R7  
 HPWT 100R8

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# PROPULSE HYDRAULIC MANUAL

## CONVERSION TABLES

### METRIC to ENGLISH EQUIVALENTS ENGLISH to METRIC EQUIVALENTS






inches x 25.4 = millimeters (mm)  
 inches x 2.54 = centimeters (cm)  
 feet x .3048 = meters (m)  
 yard x .9144 = meters (m)  
 psi x .0689 = bar  
 psi x .0069 = Megapascals (MPa)  
 psi x .0703 = Kilogram force per square centimeter (Kgf/cm)  
 pound force x 4.448 = Newtons  
 pound inch x .113 = Newton meters N \* m  
 pound foot x 1.356 = Newton meters N \* m

millimeter x .0394 = inch (in)  
 centimeter x .3937 = inch (in)  
 meters x 3.281 = feet (ft)  
 meters x 1.0936 = yards (yd)  
 bar x 14.5 = psi  
 Megapascals x 145.0 = psi  
 Kilogram force per square centimeter x 14.22 = psi  
 Newtons x .2248 = pounds force (lbf)  
 Newton meter x 8.850 = pound \* inches (lb \* in)  
 Newton meter x .737 = pound feet (lb \* ft)

### HOSE SIZE CONVERSION TABLE

| HOSE SIZE |      |       |        |
|-----------|------|-------|--------|
| DN        | dash | mm    | inch   |
| 3         | -2   | 3.7   | 1/8"   |
| 5         | -3   | 4.8   | 3/16"  |
| 6         | -4   | 6.3   | 1/4"   |
| 8         | -5   | 8.0   | 5/16"  |
| 10        | -6   | 9.5   | 3/8"   |
| 12        | -8   | 12.7  | 1/2"   |
| 16        | -10  | 16.0  | 5/8"   |
| 19        | -12  | 19.0  | 3/4"   |
| 25        | 16   | 25.4  | 1"     |
| 31        | -20  | 32.0  | 1 1/4" |
| 38        | -24  | 38.0  | 1 1/2" |
| 51        | -32  | 50,8  | 2"     |
| 60        | -38  | 60.0  | 2 3/8" |
| 63        | -40  | 63,5  | 2 1/2" |
| 76        | -48  | 76.2  | 3"     |
| 89        | -56  | 88.9  | 3 1/2" |
| 102       | -64  | 101,6 | 4"     |

### SYMBOL MEANING

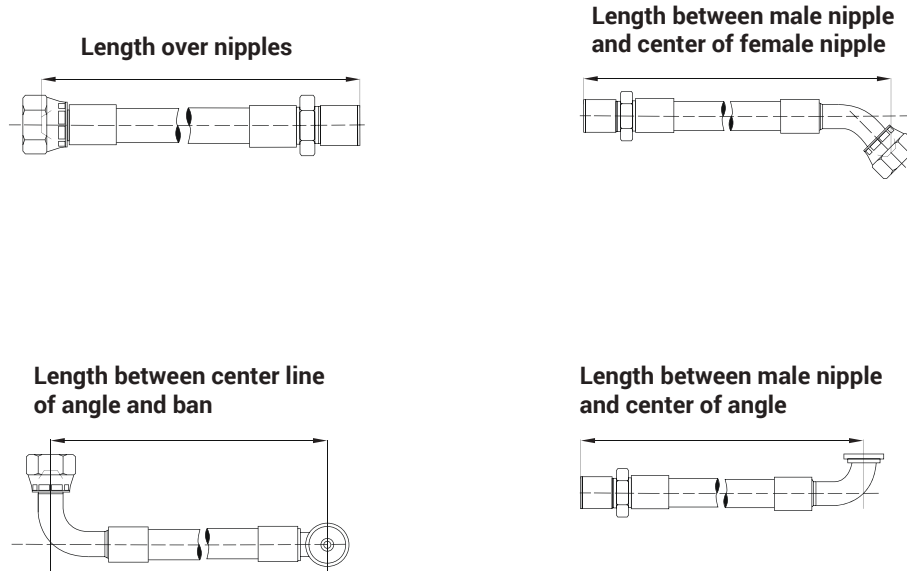
|                        |   |
|------------------------|---|
| Hose I.D.<br>(Max)     |    |
| Hose O.D.<br>(Max)     |  |
| Working Pressure       |  |
| Proof Pressure         |  |
| Minimum Burst Pressure |  |
| Minimum Bend Radius    |  |

# PROPULSE HYDRAULIC MANUAL

## HOW TO MEASURE ASSEMBLIES

### HOW TO MEASURE THE LENGTH OF A CRIMPED HOSE ASSEMBLY

The overall length of the hose assembly is measured to the sealing surface of straight fittings or to the centerline of elbow fittings. See below:



**LENGTH TOLERANCES FOR HOSE ASSEMBLIES**

| Overall Assembly Length                                  | Tolerance           |
|--|---------------------|
| Up to 300mm (11.811"), included                          | ± 3mm<br>(±0.118")  |
| Over 300mm (11.811") through 450mm (17.717"), included   | ± 5mm<br>(± 0.197") |
| 8 Over 450mm (17.717") through 900mm (35.433"), included | ± 7mm<br>(± 0.276") |
| Over 900mm (35.433")                                     | ± 1%                |

\*When not specified by customer print the above tolerances will be applied to all hose assemblies.

\*These tolerances are standard as specified by the SAE J517 standard for hydraulic hose.

# PROPULSE HYDRAULIC MANUAL

## PRESSURE CONVERSIONS

### PRESSURE CONVERSIONS

| Kilo-Pascals (kPa) | Mega-Pascals (MPa) | Bar (bar) | Kilograms per Square Centimeter (Kgf/cm <sup>2</sup> ) | Lbs per Square Inch (psi) |
|--------------------|--------------------|-----------|--|---------------------------|
| 100                | 0.1                | 1.00      | 1.0  | 14.50                     |
| 200                | 0.2                | 2.00      | 2.0  | 29.00                     |
| 300                | 0.3                | 3.00      | 3.1  | 43.50                     |
| 400                | 0.4                | 4.00      | 4.1  | 58.00                     |
| 500                | 0.5                | 5.00      | 5.1  | 72.50                     |
| 600                | 0.6                | 6.00      | 6.1  | 87.00                     |
| 700                | 0.7                | 7.00      | 7.1  | 101.50                    |
| 800                | 0.8                | 8.00      | 8.2  | 116.00                    |
| 900                | 0.9                | 9.00      | 9.2  | 130.50                    |
| 1000               | 1.0                | 10.00     | 10.2   | 145.00                    |
| 2000               | 2.0                | 20.00     | 20.4   | 290.10                    |
| 3000               | 3.0                | 30.00     | 30.6   | 435.10                    |
| 4000               | 4.0                | 40.00     | 40.8   | 580.20                    |
| 5000               | 5.0                | 50.00     | 51.0   | 725.20                    |
| 6000               | 6.0                | 60.00     | 61.2   | 870.20                    |
| 7000               | 7.0                | 70.00     | 71.4   | 1015.30                   |
| 8000               | 8.0                | 80.00     | 81.6   | 1160.30                   |
| 9000               | 9.0                | 90.00     | 91.8   | 1305.30                   |
| 10000              | 10.0               | 100.00    | 102.0  | 1450.00                   |
| 20000              | 20.0               | 200.00    | 204.0  | 2901.00                   |
| 30000              | 30.0               | 300.00    | 306.0  | 4351.00                   |
| 40000              | 40.0               | 400.00    | 408.0  | 5802.00                   |
| 50000              | 50.0               | 500.00    | 510.0  | 7252.00                   |
| 60000              | 60.0               | 600.00    | 612.0  | 8702.00                   |
| 70000              | 70.0               | 700.00    | 714.0  | 10153.00                  |
| 80000              | 80.0               | 800.00    | 816.0  | 11603.00                  |
| 90000              | 90.0               | 900.00    | 918.0  | 13053.00                  |
| 100000             | 100.0              | 1000.00   | 1020.0   | 14504.00                  |
| 200000             | 200.0              | 2000.00   | 2040.0   | 29008.00                  |
| 300000             | 300.0              | 3000.00   | 3060.0   | 43511.00                  |

| Lbs per Square Inch (psi) | Kilo-Pascals (kPa) | Mega-Pascals (MPa) | Bar (bar) | Kilograms per Square Centimeter (Kgf/cm <sup>2</sup> ) |
|---------------------------|--------------------|--------------------|-----------|--|
| 10                        | 68.9               | 0.07               | 0.7       | 0.70   |
| 20                        | 137.9              | 0.14               | 1.4       | 1.41   |
| 30                        | 206.8              | 0.21               | 2.1       | 2.11   |
| 40                        | 275.8              | 0.28               | 2.8       | 2.81   |
| 50                        | 344.7              | 0.34               | 3.4       | 3.52   |
| 60                        | 413.7              | 0.41               | 4.1       | 4.22   |
| 70                        | 482.6              | 0.48               | 4.8       | 4.92   |
| 80                        | 551.6              | 0.55               | 5.5       | 5.63   |
| 90                        | 620.5              | 0.62               | 6.2       | 6.33   |
| 100                       | 689.0              | 0.70               | 6.9       | 7.00   |
| 200                       | 1379.0             | 1.40               | 13.8      | 14.10  |
| 300                       | 2068.0             | 2.10               | 20.7      | 21.10  |
| 400                       | 2758.0             | 2.80               | 27.6      | 28.10  |
| 500                       | 3447.0             | 3.40               | 34.5      | 35.20  |
| 600                       | 4137.0             | 4.10               | 41.4      | 42.20  |
| 700                       | 4826.0             | 4.80               | 48.3      | 49.20  |
| 800                       | 5516.0             | 5.50               | 55.2      | 56.30  |
| 900                       | 6205.0             | 6.20               | 62.1      | 63.30  |
| 1000                      | 6895.0             | 6.90               | 68.9      | 70.30  |
| 2000                      | 13790.0            | 13.80              | 137.9     | 140.70   |
| 3000                      | 20684.0            | 20.70              | 206.8     | 211.00   |
| 4000                      | 27579.0            | 27.60              | 275.8     | 281.30   |
| 5000                      | 34474.0            | 34.50              | 344.7     | 351.60   |
| 6000                      | 41369.0            | 41.40              | 413.7     | 421.90   |
| 7000                      | 48263.0            | 48.30              | 482.6     | 492.30   |
| 8000                      | 55158.0            | 55.20              | 551.6     | 562.60   |
| 9000                      | 62053.0            | 62.10              | 620.5     | 632.90   |
| 10000                     | 68948.0            | 68.90              | 689.0     | 703.00   |
| 20000                     | 137895.0           | 137.90             | 1379.0    | 1406.00  |
| 30000                     | 206843.0           | 206.80             | 2068.0    | 2110.00  |
| 40000                     | 275790.0           | 275.80             | 2758.0    | 2813.00  |



# PROPULSE HYDRAULIC MANUAL

## WORKING PRESSURE HOSE SELECTION

|                     |      | WORKING PRESSURE (psi) |      |      |      |      |      |      |      |      |       |       |      |
|---------------------|------|------------------------|------|------|------|------|------|------|------|------|-------|-------|------|
| HOSE SIZE           | DN   | 3                      | 5    | 6    | 8    | 10   | 12   | 16   | 19   | 25   | 31    | 38    | 51   |
|                     | DASH | -2                     | -3   | -4   | -5   | -6   | -8   | -10  | -12  | -16  | -20   | -24   | -32  |
|                     | INCH | 1/8                    | 3/16 | 1/4  | 5/16 | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1 1/4 | 1 1/2 | 2    |
| <b>100 SERIES</b>   |      |                        | 3625 | 3262 | 3117 | 2610 | 2300 | 1885 | 1522 | 1276 | 913   | 725   | 580  |
| <b>200 SERIES</b>   |      |                        |      | 5800 | 5075 | 4785 | 3987 | 3625 | 3117 | 2392 | 1812  | 1305  | 1160 |
| <b>400 SERIES</b>   |      |                        |      |      |      |      |      |      | 300  | 250  | 200   | 150   | 100  |
| <b>700 SERIES</b>   |      | 3000                   | 3000 | 2750 | 2500 | 2250 | 2000 |      |      |      |       |       |      |
| <b>700NC SERIES</b> |      | 3000                   | 3000 | 2750 | 2500 | 2250 | 2000 |      |      |      |       |       |      |
| <b>800 SERIES</b>   |      | 6000                   | 5000 | 5000 |      | 4000 | 3500 |      |      |      |       |       |      |
| <b>800NC SERIES</b> |      | 6000                   | 5000 | 5000 |      | 4000 | 3500 |      |      |      |       |       |      |
| <b>1200 SERIES</b>  |      |                        |      |      |      | 4060 | 4060 | 4060 | 4060 | 4060 | 3045  |       |      |
| <b>1300 SERIES</b>  |      |                        |      |      |      |      |      |      | 5075 | 5075 | 5075  | 5075  | 5075 |
| <b>1500 SERIES</b>  |      |                        |      |      |      | 6090 | 6090 |      | 6090 | 6090 | 6090  | 6090  |      |
| <b>1600 SERIES</b>  |      |                        |      | 5800 | 5075 | 4785 | 3988 | 3625 | 3118 | 2393 | 1813  |       |      |
| <b>1700 SERIES</b>  |      |                        |      | 3045 | 3045 | 3045 | 3045 | 3045 | 3045 | 3045 |       |       |      |
| <b>1800 SERIES</b>  |      | 3045                   | 3045 | 3045 | 3045 | 3045 | 3045 | 3045 | 3045 | 3045 |       |       |      |
| <b>1900 SERIES</b>  |      |                        |      | 4060 |      | 4060 | 4060 | 4060 | 4060 |      |       |       |      |
| <b>1SC SERIES</b>   |      |                        |      | 3262 | 3117 | 2610 | 2320 | 1885 | 1522 | 1276 |       |       |      |
| <b>2SC SERIES</b>   |      |                        |      | 5800 | 5075 | 4785 | 3988 | 3625 | 3118 | 2393 |       |       |      |
| <b>4SH SERIES</b>   |      |                        |      |      |      |      |      |      | 6090 | 5510 | 4700  | 4200  | 3625 |
| <b>4SP SERIES</b>   |      |                        |      |      |      | 6450 | 6020 | 5075 | 5075 | 4060 | 3045  |       |      |
| <b>1TE SERIES</b>   |      |                        | 520  | 406  | 406  | 406  | 406  | 348  | 305  |      |       |       |      |
| <b>2TE SERIES</b>   |      |                        | 1160 | 1087 | 986  | 913  | 841  | 725  | 652  | 580  |       |       |      |
| <b>3TE SERIES</b>   |      |                        | 2320 | 2102 | 1885 | 1595 | 1348 | 1160 | 1015 | 797  |       |       |      |
| <b>ARM SERIES</b>   |      |                        |      | 5800 |      | 4785 | 3488 | 3625 | 3118 |      |       |       |      |

# PROPULSE HYDRAULIC MANUAL

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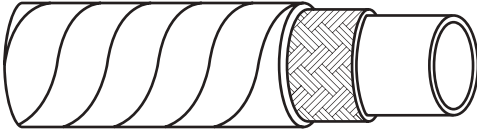
# PROPULSE HYDRAULIC MANUAL

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## SAE 100R1 / EN853 TYPE 1SN ISO 1463-1 / R1AT Rubber Hydraulic Hose

| 100<br>SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |       |
|---------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|-------|
|               | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch  |
| 100 - 03      | 5         | -3   | 3/16            | 5.4  | 0.21            | 12.5 | 0.49             | 250 | 3625           | 500 | 7250           | 1000 | 14500             | 90  | 3.54  |
| 100 - 04      | 6         | -4   | 1/4             | 7.0  | 0.28            | 14.1 | 0.56             | 225 | 3262           | 450 | 6524           | 900  | 13048             | 100 | 3.94  |
| 100 - 05      | 8         | -5   | 5/16            | 8.5  | 0.33            | 15.7 | 0.62             | 215 | 3117           | 430 | 6234           | 850  | 12468             | 115 | 4.53  |
| 100 - 06      | 10        | -6   | 3/8             | 10.1 | 0.40            | 18.1 | 0.71             | 180 | 2610           | 360 | 5220           | 720  | 10440             | 125 | 4.92  |
| 100 - 08      | 12        | -8   | 1/2             | 13.5 | 0.53            | 21.5 | 0.85             | 160 | 2300           | 320 | 4600           | 640  | 9200              | 180 | 7.09  |
| 100 - 10      | 16        | -10  | 5/8             | 16.7 | 0.66            | 24.7 | 0.97             | 130 | 1885           | 260 | 3770           | 520  | 7540              | 205 | 8.07  |
| 100 - 12      | 19        | -12  | 3/4             | 19.8 | 0.78            | 28.6 | 1.13             | 105 | 1522           | 210 | 3044           | 420  | 6088              | 240 | 9.45  |
| 100 - 16      | 25        | -16  | 1               | 26.4 | 1.04            | 36.6 | 1.44             | 88  | 1276           | 176 | 2552           | 350  | 2552              | 300 | 11.81 |
| 100 - 20      | 31        | -20  | 1 1/4           | 33.0 | 1.30            | 44.8 | 1.76             | 63  | 913            | 126 | 1826           | 250  | 3652              | 420 | 16.54 |
| 100 - 24      | 38        | -24  | 1 1/2           | 39.3 | 1.55            | 52.0 | 2.05             | 50  | 725            | 100 | 1450           | 200  | 2900              | 500 | 19.69 |
| 100 - 32      | 51        | -32  | 2               | 52.0 | 2.05            | 65.9 | 2.59             | 40  | 580            | 80  | 1160           | 160  | 2320              | 630 | 24.80 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil and water resistant synthetic rubber
- › Reinforcement: One layer of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Low to medium pressure hydraulic and return lines.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

### INTERMITTENT SERVICE:

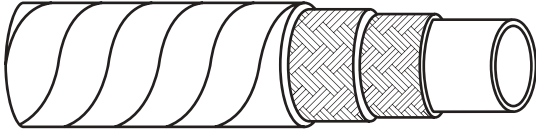
- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 853 1SN
- › ISO1436-1 1SN / R1AT
- › SAE 100R1AT
- › SAE 100R1S

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



SAE 100R2 / EN853 TYPE 2SN  
ISO 1436-1 2SN / R2AT Rubber Hydraulic Hose

| 200<br>SERIES | ↔         |      | ↔     |                 | ⊗    |                 | ⊙    |                  | ⊙    |                | ⚡ ⊙   |                | ⤵     |                   |       |
|---------------|-----------|------|-------|-----------------|------|-----------------|------|------------------|------|----------------|-------|----------------|-------|-------------------|-------|
|               | Hose Size |      |       | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |      | Proof Pressure |       | Burst Pressure |       | Bend Radius (Min) |       |
|               | DN        | dash | inch  | mm              | inch | mm              | inch | bar              | psi  | bar            | psi   | bar            | psi   | mm                | inch  |
| 200 - 04      | 06        | -04  | 1/4   | 7.0             | 0.28 | 15.7            | 0.62 | 400              | 5800 | 800            | 11600 | 1600           | 23200 | 100               | 3.94  |
| 200 - 05      | 08        | -05  | 5/16  | 8.5             | 0.33 | 17.3            | 0.68 | 350              | 5075 | 700            | 10150 | 1400           | 20300 | 115               | 4.53  |
| 200 - 06      | 10        | -06  | 3/8   | 10.1            | 0.40 | 19.7            | 0.78 | 330              | 4785 | 660            | 9570  | 1320           | 19140 | 125               | 4.92  |
| 200 - 08      | 12        | -08  | 1/2   | 13.5            | 0.53 | 23.0            | 0.91 | 275              | 3987 | 550            | 7974  | 1100           | 15948 | 180               | 7.09  |
| 200 - 10      | 16        | -10  | 5/8   | 16.7            | 0.66 | 26.2            | 1.03 | 250              | 3625 | 500            | 7250  | 1000           | 14500 | 205               | 8.07  |
| 200 - 12      | 19        | -12  | 3/4   | 19.8            | 0.78 | 30.1            | 1.19 | 215              | 3117 | 430            | 6234  | 860            | 12468 | 240               | 9.45  |
| 200 - 16      | 25        | -16  | 1     | 26.4            | 1.04 | 38.9            | 1.53 | 165              | 2392 | 330            | 4784  | 660            | 9568  | 300               | 11.81 |
| 200 - 20      | 31        | -20  | 1 1/4 | 33.0            | 1.30 | 49.5            | 1.95 | 125              | 1812 | 250            | 3624  | 500            | 7248  | 420               | 16.54 |
| 200 - 24      | 38        | -24  | 1 1/2 | 39.3            | 1.55 | 55.9            | 2.20 | 90               | 1305 | 180            | 2610  | 360            | 5220  | 500               | 19.69 |
| 200 - 32      | 51        | -32  | 2     | 52.0            | 2.05 | 68.6            | 2.70 | 80               | 1160 | 160            | 2320  | 320            | 4640  | 630               | 24.80 |

## HOSE CONSTRUCTION:

- › Inner Tube: Oil and water resistant synthetic rubber
- › Reinforcement: Two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Medium to high pressure hydraulic application.

## TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

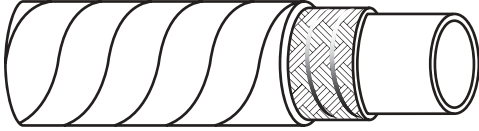
## INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

## FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 853 2SN
- › ISO 1436-1 2SN / R2AT
- › SAE 100R2AT
- › SAE 100R2S

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.



## SAE 100R4 Rubber Hydraulic Suction Hose

| 400<br>SERIES | Hose Size |      | Hose I.D.<br>(Max) |      | Hose O.D.<br>(Max) |      | Working<br>Pressure |      | Proof<br>Pressure |     | Burst<br>Pressure |     | Bend Radius<br>(Min) |     |      |
|---------------|-----------|------|--------------------|------|--------------------|------|---------------------|------|-------------------|-----|-------------------|-----|----------------------|-----|------|
|               | DN        | dash | inch               | mm   | inch               | mm   | inch                | bar  | psi               | bar | psi               | bar | psi                  | mm  | inch |
| 400 - 12      | 19        | -12  | 3/4                | 19.8 | 0.78               | 34.9 | 1.37                | 21   | 300               | 42  | 600               | 83  | 1200                 | 125 | 5    |
| 400 - 16      | 25        | -16  | 1                  | 26.2 | 1.03               | 41.3 | 1.63                | 17   | 250               | 34  | 500               | 69  | 1000                 | 150 | 6    |
| 400 - 20      | 31        | -20  | 1 1/4              | 33.0 | 1.30               | 50.8 | 2.00                | 14   | 200               | 28  | 400               | 55  | 800                  | 200 | 8    |
| 400 - 24      | 38        | -24  | 1 1/2              | 39.3 | 1.55               | 57.2 | 2.25                | 10.5 | 150               | 21  | 300               | 41  | 600                  | 254 | 10   |
| 400 - 32      | 51        | -32  | 2                  | 52.4 | 2.06               | 69.8 | 2.75                | 7    | 100               | 14  | 200               | 28  | 400                  | 300 | 12   |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: High tensile textile cords with embedded steel wire helixes
- › Cover: Neoprene, oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Low pressure hydraulic return or suction line.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

### INTERMITTENT SERVICE:

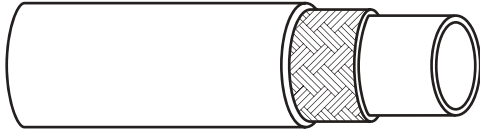
- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R4

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## SAE 100R7 / EN855 R7 Thermoplastic Hydraulic Hose

| 700 SERIES | Hose Size |       | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |     | Bend Radius (Min) |     |      |
|------------|-----------|-------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|-----|-------------------|-----|------|
|            | DN        | dash  | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar | psi               | mm  | inch |
| 700 - 02   | 03        | -02   | 1/8             | 3.7  | 0.15            | 8    | 0.31             | 210 | 3000           | 420 | 6000           | 840 | 12000             | 25  | 0.98 |
| 700 - DN4  | 04        | -02.5 | 1/8             | 4.1  | 0.16            | 9.5  | 0.37             | 210 | 3000           | 420 | 6000           | 840 | 12000             | 25  | 0.98 |
| 700 - 03   | 05        | -03   | 3/16            | 5.4  | 0.21            | 11.4 | 0.45             | 210 | 3000           | 420 | 6000           | 840 | 12000             | 90  | 3.54 |
| 700 - 04   | 06        | -04   | 1/4             | 7.0  | 0.28            | 13.7 | 0.54             | 192 | 2750           | 384 | 5500           | 768 | 11000             | 100 | 3.94 |
| 700 - 05   | 08        | -05   | 5/16            | 8.5  | 0.33            | 15.6 | 0.61             | 175 | 2500           | 350 | 5000           | 700 | 10000             | 115 | 4.53 |
| 700 - 06   | 10        | -06   | 3/8             | 10.3 | 0.41            | 18.4 | 0.72             | 157 | 2250           | 314 | 4500           | 628 | 9000              | 125 | 4.92 |
| 700 - 08   | 12        | -08   | 1/2             | 13.5 | 0.53            | 22.5 | 0.89             | 140 | 2000           | 280 | 4000           | 560 | 8000              | 180 | 7.09 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant thermoplastic
- › Reinforcement: One or two layers of high tenacity yarn
- › Cover: Thermoplastic elastomer with high ozone and abrasion resistance (pin pricked cover upon request)

**MAIN APPLICATIONS:** Medium pressure hydraulic applications that require high flexibility, tight bend radius, good abrasion resistance, and good resistance to ozone and weathering.

### TEMPERATURE RANGE:

- › -40°F / +200°F
- › -40°C / +93°C

### INTERMITTENT SERVICE:

- › -40°F / +212°F
- › -40°C / +100°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R7
- › EN 855 R7

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.





## SAE 100R7 / EN855 R7 NON CONDUCTIVE Thermoplastic Hydraulic Hose

| 700NC SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |     | Bend Radius (Min) |     |      |
|--------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|-----|-------------------|-----|------|
|              | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar | psi               | mm  | inch |
| 700NC - 02   | 03        | -02  | 1/8             | 3.7  | 0.15            | 8    | 0.31             | 210 | 3000           | 420 | 6000           | 840 | 12000             | 25  | 0.98 |
| 700NC - 03   | 05        | -03  | 3/16            | 5.4  | 0.21            | 11.4 | 0.45             | 210 | 3000           | 420 | 6000           | 840 | 12000             | 90  | 3.54 |
| 700NC - 04   | 06        | -04  | 1/4             | 7.0  | 0.28            | 13.7 | 0.54             | 192 | 2750           | 384 | 5500           | 768 | 11000             | 100 | 3.94 |
| 700NC - 05   | 08        | -05  | 5/16            | 8.5  | 0.33            | 15.6 | 0.61             | 175 | 2500           | 350 | 5000           | 700 | 10000             | 115 | 4.53 |
| 700NC - 06   | 10        | -06  | 3/8             | 10.3 | 0.41            | 18.4 | 0.72             | 157 | 2250           | 314 | 4500           | 628 | 9000              | 125 | 4.92 |
| 700NC - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 22.5 | 0.89             | 140 | 2000           | 280 | 4000           | 560 | 8000              | 180 | 7.09 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant thermoplastic
- › Reinforcement: One or two layers of high tenacity yarn
- › Cover: Thermoplastic elastomer with high ozone and abrasion resistance (cover **not** available pin pricked)
- › Cover Color: Orange
- › Complies with federal standard 595 and color chip reference #22510
- › Hose has passed Electrical Conductivity testing as dened in SAE J 517

**MAIN APPLICATIONS:** Medium pressure non-conductive hydraulic applications that require high flexibility, tight bend radius, good abrasion resistance, and good resistance to ozone and weathering such as lifts and cherry picker applications.

### TEMPERATURE RANGE:

- › -40°F / +200°F
- › -40°C / +93°C

### INTERMITTENT SERVICE:

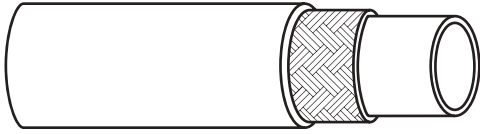
- › -40°F / +212°F
- › -40°C / +100°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R7 (Non Conductive)
- › EN 855 R7 (Non Conductive)

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## SAE 100R8 / EN855 R8 Thermoplastic Hydraulic Hose

| 800<br>SERIES |                        |     |      |                 |      |                 |      |                  |      |                |       |                |       |                   |      |
|---------------|------------------------|-----|------|-----------------|------|-----------------|------|------------------|------|----------------|-------|----------------|-------|-------------------|------|
|               | Hose Size              |     |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |      | Proof Pressure |       | Burst Pressure |       | Bend Radius (Min) |      |
|               | ProPulse Hose Part No. | DN  | dash | inch            | mm   | inch            | mm   | inch             | bar  | psi            | bar   | psi            | bar   | psi               | mm   |
| 800 - 02      | 03                     | -02 | 1/8  | 3.7             | 0.15 | 10.5            | 0.41 | 420              | 6000 | 840            | 12000 | 1680           | 24000 | 25                | 0.98 |
| 800 - 03      | 05                     | -03 | 3/16 | 5.4             | 0.21 | 14.6            | 0.57 | 350              | 5000 | 700            | 10000 | 1400           | 20000 | 90                | 3.54 |
| 800 - 04      | 06                     | -04 | 1/4  | 7.0             | 0.28 | 16.8            | 0.66 | 350              | 5000 | 700            | 10000 | 1400           | 20000 | 100               | 3.94 |
| 800 - 06      | 10                     | -06 | 3/8  | 10.3            | 0.41 | 20.3            | 0.80 | 280              | 4000 | 560            | 8000  | 1120           | 16000 | 125               | 4.92 |
| 800 - 08      | 12                     | -08 | 1/2  | 13.5            | 0.53 | 24.6            | 0.97 | 245              | 3500 | 490            | 7000  | 980            | 14000 | 180               | 7.09 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant thermoplastic
- › Reinforcement: One or two layers of high tenacity yarn
- › Cover: Thermoplastic elastomer with high ozone and abrasion resistance (pin pricked cover upon request)

**MAIN APPLICATIONS:** High pressure hydraulic applications that require high flexibility, tight bend radius, good abrasion resistance, and good resistance to ozone and weathering.

### TEMPERATURE RANGE:

- › -40°F / +200°F
- › -40°C / +93°C

### INTERMITTENT SERVICE:

- › -40°F / +212°F
- › -40°C / +100°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R8
- › EN 855 R8

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.



## SAE 100R8 / EN855 R8 NON CONDUCTIVE Thermoplastic Hydraulic Hose

| 800NC SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |      |
|--------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|------|
|              | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch |
| 800NC - 02   | 03        | -02  | 1/8             | 3.7  | 0.15            | 10.5 | 0.41             | 420 | 6000           | 840 | 12000          | 1680 | 24000             | 25  | 0.98 |
| 800NC - 03   | 05        | -03  | 3/16            | 5.4  | 0.21            | 14.6 | 0.57             | 350 | 5000           | 700 | 10000          | 1400 | 20000             | 90  | 3.54 |
| 800NC - 04   | 06        | -04  | 1/4             | 7.0  | 0.28            | 16.8 | 0.66             | 350 | 5000           | 700 | 10000          | 1400 | 20000             | 100 | 3.94 |
| 800NC - 06   | 10        | -06  | 3/8             | 10.3 | 0.41            | 20.3 | 0.80             | 280 | 4000           | 560 | 8000           | 1120 | 16000             | 125 | 4.92 |
| 800NC - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 24.6 | 0.97             | 245 | 3500           | 490 | 7000           | 980  | 14000             | 180 | 7.09 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant thermoplastic
- › Reinforcement: One or two layers of high tenacity yarn
- › Cover: Thermoplastic elastomer with high ozone and abrasion resistance (pin pricked cover **not** available)
- › Cover Color: Orange
- › Complies with federal standard 595 and color chip reference #22510
- › Hose has passed Electrical Conductivity testing as dened in SAE J 517

**MAIN APPLICATIONS:** High pressure non conductive hydraulic applications that require high flexibility, tight bend radius, good abrasion resistance, and good resistance to weather and ozone such as lifts and cherry picker applications.

### TEMPERATURE RANGE:

- › -40°F / +200°F
- › -40°C / +93°C

### INTERMITTENT SERVICE:

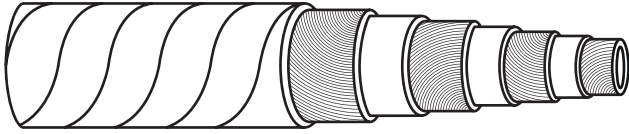
- › -40°F / +212°F
- › -40°C / +100°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R8 (Non Conductive)
- › EN 855 R8 (Non Conductive)

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## SAE 100R12 / EN856 R12 Multi-Spiral Rubber Hydraulic Hose

| 1200 SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |       |
|-------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|-------|
|             | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch  |
| 1200 - 06   | 10        | -06  | 3/8             | 10.1 | 0.40            | 21   | 0.83             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 125 | 4.92  |
| 1200 - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 24.6 | 0.97             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 180 | 7.09  |
| 1200 - 10   | 16        | -10  | 5/8             | 16.7 | 0.66            | 28.2 | 1.11             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 200 | 7.87  |
| 1200 - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 31.5 | 1.24             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 240 | 9.45  |
| 1200 - 16   | 25        | -16  | 1               | 26.4 | 1.04            | 39.2 | 1.54             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 300 | 11.81 |
| 1200 - 20   | 31        | -20  | 1 1/4           | 33.0 | 1.30            | 48.6 | 1.91             | 210 | 3045           | 420 | 6090           | 840  | 12180             | 420 | 16.54 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four high tensile steel spirals
- › Cover: Abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Medium pressure heavy duty, high impulse, high temperature.

### TEMPERATURE RANGE:

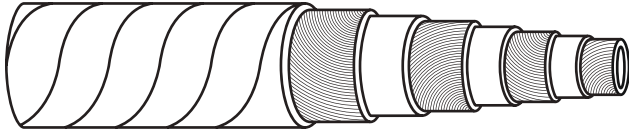
- › -40°F / +250°F
- › -40°C / +121°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R12
- › EN 856 R12
- › ISO 3862-1 R12

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.





**SAE 100R13 / EN856 R13  
Multi-Spiral Rubber Hydraulic Hose**

| 1300<br>SERIES | Hose Size |      | Hose I.D.<br>(Max) |      | Hose O.D.<br>(Max) |      | Working<br>Pressure |     | Proof<br>Pressure |     | Burst<br>Pressure |      | Bend Radius<br>(Min) |     |       |
|----------------|-----------|------|--------------------|------|--------------------|------|---------------------|-----|-------------------|-----|-------------------|------|----------------------|-----|-------|
|                | DN        | dash | inch               | mm   | inch               | mm   | inch                | bar | psi               | bar | psi               | bar  | psi                  | mm  | inch  |
| 1300 - 12      | 19        | -12  | 3/4                | 19.8 | 0.78               | 33.2 | 1.31                | 350 | 5075              | 700 | 10150             | 1400 | 20300                | 240 | 9.45  |
| 1300 - 16      | 25        | -16  | 1                  | 26.4 | 1.04               | 39.8 | 1.57                | 350 | 5075              | 700 | 10150             | 1400 | 20300                | 300 | 11.81 |
| 1300 - 20      | 31        | -20  | 1 1/4              | 33.0 | 1.30               | 51.3 | 2.02                | 350 | 5075              | 700 | 10150             | 1400 | 24300                | 420 | 16.54 |
| 1300 - 24      | 38        | -24  | 1 1/2              | 39.3 | 1.55               | 58.8 | 2.31                | 350 | 5075              | 700 | 10150             | 1400 | 24300                | 500 | 19.69 |
| 1300 - 32      | 51        | -32  | 2                  | 52.0 | 2.05               | 72.7 | 2.86                | 350 | 5075              | 700 | 10150             | 1400 | 24300                | 640 | 25.20 |

#### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four or six high tensile steel spirals
- › Cover: Abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** High pressure, heavy duty, high impulse, high temperature.

#### TEMPERATURE RANGE:

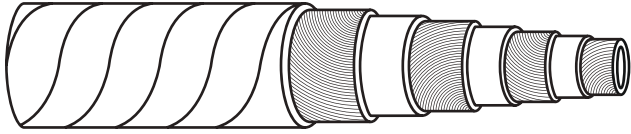
- › -40°F / +250°F
- › -40°C / +121°C
- ›

#### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R13
- › EN 856 R13
- › ISO 3862-1 R13

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## SAE 100R15 Multi-Spiral Rubber Hydraulic Hose

| 1500 SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |       |
|-------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|-------|
|             | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch  |
| 1500 - 06   | 10        | -06  | 3/8             | 10.1 | 0.40            | 23.3 | 0.92             | 420 | 6090           | 840 | 12180          | 1680 | 24360             | 150 | 5.90  |
| 1500 - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 26.8 | 1.06             | 420 | 6090           | 840 | 12180          | 1680 | 24360             | 200 | 7.87  |
| 1500 - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 36.1 | 1.42             | 420 | 6090           | 840 | 12180          | 1680 | 24360             | 265 | 10.43 |
| 1500 - 16   | 25        | -16  | 1               | 26.4 | 1.04            | 42.9 | 1.69             | 420 | 6090           | 840 | 12180          | 1680 | 24360             | 330 | 12.99 |
| 1500 - 20   | 31        | -20  | 1 1/4           | 33.0 | 1.30            | 51.5 | 2.03             | 420 | 6090           | 840 | 12180          | 1680 | 24360             | 445 | 17.52 |
| 1500 - 24   | 38        | -24  | 1 1/2           | 39.3 | 1.55            | 59.6 | 2.35             | 420 | 6090           | 840 | 12180          | 1680 | 24360             | 530 | 20.87 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four or six high tensile steel spirals
- › Cover: Abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** High pressure, heavy duty, high impulse, high temperature.

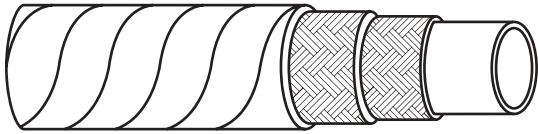
### TEMPERATURE RANGE:

- › -40°F / +250°F
- › -40°C / +121°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R15
- › ISO 3862-1 R15

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.



## SAE 100R16 Compact Rubber Hydraulic Hose

| 1600 SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |      |
|-------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|------|
|             | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch |
| 1600 - 04   | 6         | -04  | 1/4             | 7.0  | 0.28            | 14.5 | 0.57             | 400 | 5800           | 700 | 10150          | 1400 | 20300             | 50  | 1.97 |
| 1600 - 05   | 8         | -05  | 5/16            | 8.5  | 0.33            | 15.7 | 0.62             | 350 | 5075           | 594 | 8600           | 1188 | 17200             | 55  | 2.17 |
| 1600 - 06   | 10        | -06  | 3/8             | 10.1 | 0.40            | 18.8 | 0.74             | 330 | 4785           | 560 | 8120           | 1120 | 16240             | 65  | 2.56 |
| 1600 - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 22.0 | 0.87             | 275 | 3988           | 490 | 7100           | 980  | 14200             | 90  | 3.54 |
| 1600 - 10   | 16        | -10  | 5/8             | 16.7 | 0.66            | 25.4 | 1.00             | 250 | 3625           | 384 | 5568           | 768  | 11136             | 100 | 3.94 |
| 1600 - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 29.0 | 1.14             | 215 | 3118           | 314 | 4500           | 628  | 9000              | 120 | 4.72 |
| 1600 - 16   | 25        | -16  | 1               | 26.4 | 1.04            | 36.6 | 1.44             | 165 | 2393           | 280 | 4060           | 560  | 8120              | 150 | 5.91 |
| 1600 - 20   | 31        | -20  | 1 1/4           | 33.0 | 1.30            | 44.3 | 1.74             | 125 | 1813           | 226 | 3260           | 452  | 6520              | 210 | 8.27 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: One or two layers of high tensile steel braid
- › Cover: Abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Medium to high pressure applications. This hose is similar to the SAE100R2 / EN853 2SN, but has a smaller bend radius for lighter weight and compactness when minimal space is available.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

### INTERMITTENT SERVICE:

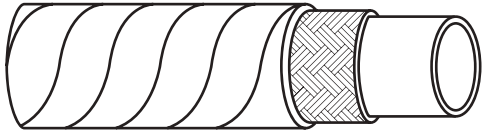
- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R16 type S
- › ISO 11237-1 R16
- › ISO11237-1 2SC

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## SAE 100R17 Compact Rubber Hydraulic Hose

| 1700<br>SERIES | ↔         |      | ↔    |                 | ⊗    |                 | ⊙    |                  | ⊙    |                | ⚡ ⊙  |                | ⤵     |                   |      |
|----------------|-----------|------|------|-----------------|------|-----------------|------|------------------|------|----------------|------|----------------|-------|-------------------|------|
|                | Hose Size |      |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |      | Proof Pressure |      | Burst Pressure |       | Bend Radius (Min) |      |
|                | DN        | dash | inch | mm              | inch | mm              | inch | bar              | psi  | bar            | psi  | bar            | psi   | mm                | inch |
| 1700 - 04      | 06        | -04  | 1/4  | 7.0             | 0.27 | 13.2            | 0.52 | 210              | 3045 | 420            | 6090 | 840            | 12180 | 50                | 1.97 |
| 1700 - 05      | 08        | -05  | 5/16 | 8.5             | 0.33 | 15.0            | 0.59 | 210              | 3045 | 420            | 6090 | 840            | 12180 | 55                | 2.17 |
| 1700 - 06      | 10        | -06  | 3/8  | 10.1            | 0.39 | 17.0            | 0.67 | 210              | 3045 | 420            | 6090 | 840            | 12180 | 65                | 2.56 |
| 1700 - 08      | 12        | -08  | 1/2  | 13.5            | 0.53 | 21.1            | 0.83 | 210              | 3045 | 420            | 6090 | 840            | 12180 | 90                | 3.54 |
| 1700 - 10      | 16        | -10  | 5/8  | 16.7            | 0.66 | 25.9            | 1.02 | 210              | 3045 | 420            | 6090 | 840            | 12180 | 100               | 3.94 |
| 1700 - 12      | 19        | -12  | 3/4  | 19.8            | 0.78 | 30.3            | 1.19 | 210              | 3045 | 420            | 6090 | 840            | 12180 | 120               | 4.72 |
| 1700 - 16      | 25        | -16  | 1    | 26.4            | 1.03 | 38.6            | 1.52 | 210              | 3045 | 420            | 6090 | 840            | 12180 | 150               | 5.91 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: One or two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Medium pressure small bend radius hose that is highly flexible and specially designed for use when installation constraints are present.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

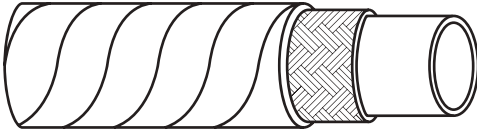
### INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R17
- › ISO 11237-1 R17

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.



## SAE 100R18 Thermoplastic Hydraulic Hose

| 1800<br>SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |     | Bend Radius (Min) |     |      |
|----------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|-----|-------------------|-----|------|
|                | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar | psi               | mm  | inch |
| 1800 - 02      | 03        | -02  | 1/8             | 4.0  | 0.16            | 9.5  | 0.37             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 25  | 0.98 |
| 1800 - 03      | 05        | -03  | 3/16            | 5.4  | 0.21            | 10.8 | 0.43             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 30  | 1.18 |
| 1800 - 04      | 06        | -04  | 1/4             | 7.0  | 0.28            | 13.5 | 0.53             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 45  | 1.77 |
| 1800 - 05      | 08        | -05  | 5/16            | 8.5  | 0.33            | 16.6 | 0.65             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 50  | 1.97 |
| 1800 - 06      | 10        | -06  | 3/8             | 10.3 | 0.41            | 18.4 | 0.72             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 75  | 2.95 |
| 1800 - 08      | 12        | -08  | 1/2             | 13.5 | 0.53            | 22.8 | 0.90             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 90  | 3.54 |
| 1800 - 10      | 16        | -10  | 5/8             | 16.8 | 0.66            | 27.2 | 1.07             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 125 | 4.92 |
| 1800 - 12      | 19        | -12  | 3/4             | 19.8 | 0.78            | 31.5 | 1.24             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 165 | 6.50 |
| 1800 - 16      | 25        | -16  | 1               | 26.4 | 1.04            | 40.4 | 1.59             | 210 | 3045           | 420 | 6090           | 840 | 12180             | 250 | 9.84 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant thermoplastic
- › Reinforcement: One or two layers of high tenacity yarn
- › Cover: Oil resistant thermoplastic elastomer with high ozone and abrasion resistance (pin pricked cover upon request)

**MAIN APPLICATIONS:** Medium pressure hydraulic application that requires high flexibility, tight bend radius and good abrasion resistance to weather and ozone.

### TEMPERATURE RANGE:

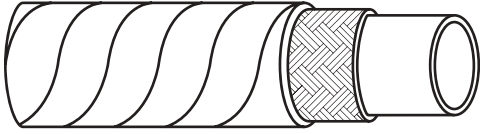
- › -40°F / +200°F
- › -40°C / +93°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R18

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## SAE 100R19 Compact Rubber Hydraulic Hose

| 1900 SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |      |
|-------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|------|
|             | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch |
| 1900 - 04   | 06        | -04  | 1/4             | 7.0  | 0.27            | 14.4 | 0.57             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 50  | 1.97 |
| 1900 - 06   | 10        | -06  | 3/8             | 10.1 | 0.39            | 18.0 | 0.71             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 65  | 2.56 |
| 1900 - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 22.6 | 0.89             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 90  | 3.54 |
| 1900 - 10   | 16        | -10  | 5/8             | 16.7 | 0.66            | 27.5 | 1.08             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 100 | 3.94 |
| 1900 - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 32.5 | 1.28             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 120 | 4.72 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: One or two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** High pressure small bend radius hose that is highly flexible and specifically designed for use when installation constraints are present.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

### INTERMITTENT SERVICE:

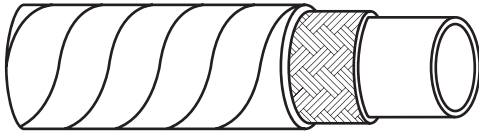
- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R19

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.





## EN857 1SC Compact Rubber Hydraulic Hose

| 1SC SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |     | Bend Radius (Min) |     |      |
|------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|-----|-------------------|-----|------|
|            | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar | psi               | mm  | inch |
| 1SC - 04   | 06        | -04  | 1/4             | 6.9  | 0.27            | 13.5 | 0.53             | 225 | 3262           | 450 | 6524           | 900 | 13048             | 75  | 2.95 |
| 1SC - 05   | 08        | -05  | 5/16            | 8.5  | 0.33            | 14.5 | 0.57             | 215 | 3117           | 430 | 6235           | 860 | 12420             | 85  | 3.35 |
| 1SC - 06   | 10        | -06  | 3/8             | 10.1 | 0.40            | 16.9 | 0.67             | 180 | 2610           | 360 | 5220           | 720 | 10440             | 90  | 3.54 |
| 1SC - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 20.4 | 0.80             | 160 | 2320           | 320 | 4640           | 640 | 9280              | 130 | 5.12 |
| 1SC - 10   | 16        | -10  | 5/8             | 16.7 | 0.66            | 23.0 | 0.91             | 130 | 1885           | 260 | 3770           | 520 | 7540              | 150 | 5.91 |
| 1SC - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 26.7 | 1.05             | 105 | 1522           | 210 | 3045           | 420 | 6090              | 180 | 7.09 |
| 1SC - 16   | 25        | -16  | 1               | 26.4 | 1.04            | 34.9 | 1.37             | 88  | 1276           | 176 | 2552           | 352 | 5104              | 230 | 9.06 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: One layer of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Low to medium pressure lines that require tight bend radius.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

### INTERMITTENT SERVICE:

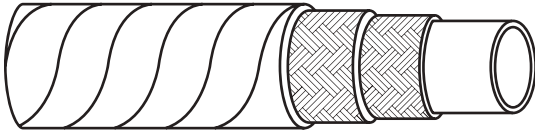
- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 857 1SC
- › ISO 11237-1 1SC

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## EN857 2SC Compact Rubber Hydraulic Hose

| 2SC SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |      |
|------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|------|
|            | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch |
| 2SC - 04   | 06        | -04  | 1/4             | 6.9  | 0.27            | 14.2 | 0.56             | 400 | 5800           | 800 | 11600          | 1600 | 23200             | 75  | 2.95 |
| 2SC - 05   | 08        | -05  | 5/16            | 8.5  | 0.33            | 16.0 | 0.63             | 350 | 5075           | 700 | 10150          | 1400 | 20300             | 85  | 3.35 |
| 2SC - 06   | 10        | -06  | 3/8             | 10.1 | 0.40            | 18.3 | 0.72             | 330 | 4785           | 660 | 9570           | 1320 | 19140             | 90  | 3.54 |
| 2SC - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 21.5 | 0.85             | 275 | 3988           | 550 | 7975           | 1100 | 15950             | 130 | 5.12 |
| 2SC - 10   | 16        | -10  | 5/8             | 16.7 | 0.66            | 24.7 | 0.97             | 250 | 3625           | 500 | 7250           | 1000 | 14500             | 170 | 6.69 |
| 2SC - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 28.6 | 1.13             | 215 | 3118           | 430 | 6235           | 860  | 12470             | 200 | 7.87 |
| 2SC - 16   | 25        | -16  | 1               | 26.4 | 1.04            | 36.6 | 1.44             | 165 | 2393           | 330 | 4786           | 660  | 9572              | 250 | 9.84 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Medium to high pressure lines that require tight bend radius.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

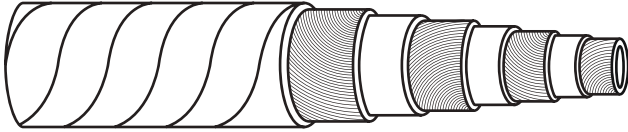
### INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 857 2SC
- › ISO 11237-1 2SC
- › SAE 100 R16 type S

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.



## EN856 4SH Multi-Spiral Rubber Hydraulic Hose

| 4SH SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |       |
|------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|-------|
|            | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch  |
| 4SH - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 33.0 | 1.30             | 420 | 6090           | 840 | 12180          | 1680 | 24360             | 280 | 11.02 |
| 4SH - 16   | 25        | -16  | 1               | 26.4 | 1.04            | 39.9 | 1.57             | 380 | 5510           | 760 | 11020          | 1520 | 22040             | 340 | 13.39 |
| 4SH - 20   | 31        | -20  | 1 1/4           | 33.0 | 1.30            | 47.1 | 1.85             | 325 | 4700           | 650 | 9400           | 1296 | 18800             | 460 | 18.11 |
| 4SH - 24   | 38        | -24  | 1 1/2           | 39.3 | 1.55            | 55.1 | 2.17             | 290 | 4200           | 580 | 8400           | 1160 | 16800             | 560 | 22.04 |
| 4SH - 32   | 51        | -32  | 2               | 52.0 | 2.05            | 69.7 | 2.74             | 250 | 3625           | 500 | 7250           | 1000 | 14500             | 700 | 27.56 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four spiral wire plies wrapped in alternating directions separated by an insulating layer of synthetic rubber
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** High pressure power/drive lines. Severe abrasion resistance and good resistance to harsh environmental conditions.

### TEMPERATURE RANGE:

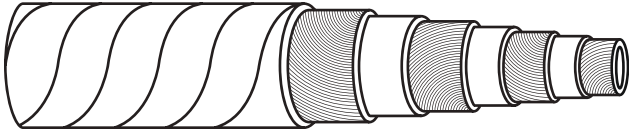
- › -40°F / +250°F
- › -40°C / +121°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 856 4SH
- › ISO 3862-1 4SH

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## EN856 4SP Multi-Spiral Rubber Hydraulic Hose

| 4SP SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |       |
|------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|-------|
|            | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch  |
| 4SP - 06   | 10        | -06  | 3/8             | 10.1 | 0.40            | 22.2 | 0.87             | 445 | 6450           | 890 | 12900          | 1780 | 25806             | 180 | 7.09  |
| 4SP - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 25.4 | 1.00             | 415 | 6020           | 830 | 12035          | 1660 | 24070             | 230 | 9.06  |
| 4SP - 10   | 16        | -10  | 5/8             | 16.7 | 0.66            | 29.0 | 1.14             | 350 | 5075           | 700 | 10150          | 1400 | 20300             | 250 | 9.84  |
| 4SP - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 33.0 | 1.30             | 350 | 5075           | 700 | 10150          | 1400 | 20300             | 300 | 11.81 |
| 4SP - 16   | 25        | -16  | 1               | 26.4 | 1.04            | 40.9 | 1.61             | 280 | 4060           | 560 | 8120           | 1120 | 16240             | 340 | 13.39 |
| 4SP - 20   | 31        | -20  | 1 1/4           | 33.0 | 1.30            | 52.4 | 2.06             | 210 | 3045           | 420 | 6090           | 840  | 12180             | 460 | 18.11 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four spiral wire plies wrapped in alternating directions separated by an insulating layer of synthetic rubber
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** High pressure power/drive lines. Severe abrasion resistance and good resistance to harsh environmental conditions.

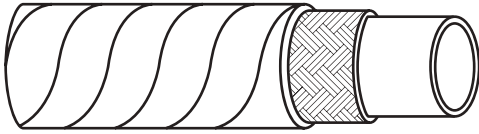
### TEMPERATURE RANGE:

- › -40°F / +250°F
- › -40°C / +121°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 856 4SP
- › ISO 3862-1 4SP

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.



## EN854 1TE Rubber Hydraulic Hose

| 1TE SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |     | Bend Radius (Min) |     |      |
|------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|-----|-------------------|-----|------|
|            | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar | psi               | mm  | inch |
| 1TE - 03   | 05        | -03  | 3/16            | 5.2  | 0.20            | 11.6 | 0.46             | 25  | 363            | 50  | 725            | 100 | 1450              | 35  | 1.97 |
| 1TE - 04   | 06        | -04  | 1/4             | 6.9  | 0.27            | 13.2 | 0.52             | 25  | 363            | 50  | 725            | 100 | 1450              | 45  | 2.56 |
| 1TE - 05   | 08        | -05  | 5/16            | 8.4  | 0.33            | 14.7 | 0.58             | 20  | 290            | 40  | 580            | 80  | 1160              | 65  | 3.15 |
| 1TE - 06   | 10        | -06  | 3/8             | 10.0 | 0.39            | 16.3 | 0.64             | 20  | 290            | 40  | 580            | 80  | 1160              | 75  | 3.15 |
| 1TE - 08   | 12        | -08  | 1/2             | 13.3 | 0.52            | 19.7 | 0.76             | 16  | 232            | 32  | 464            | 64  | 928               | 90  | 3.94 |
| 1TE - 10   | 16        | -10  | 5/8             | 16.5 | 0.65            | 23.9 | 0.94             | 16  | 232            | 32  | 464            | 64  | 928               | 115 | 4.92 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: High tensile textile cords
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Low pressure return lines and drain lines.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

### INTERMITTENT SERVICE:

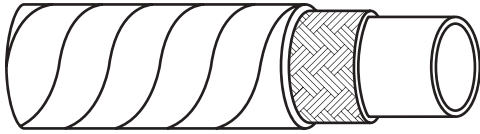
- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 854 1TE / R6
- › ISO 4079-1 1TE/R6
- › SAE 100R6

**NOTE:** 1TE and 100R6 hose types are predominately used for low pressure applications, so they are not subjected to impulse test and vacuum resistance test. Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE HOSE SOLUTIONS



## EN854 2TE Rubber Hydraulic Hose

| 2TE SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |     | Bend Radius (Min) |     |      |
|------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|-----|-------------------|-----|------|
|            | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar | psi               | mm  | inch |
| 2TE - 03   | 05        | -03  | 3/16            | 5.2  | 0.20            | 12.6 | 0.50             | 80  | 1160           | 160 | 2320           | 320 | 4640              | 35  | 1.38 |
| 2TE - 04   | 06        | -04  | 1/4             | 6.9  | 0.27            | 14.2 | 0.56             | 75  | 1087           | 150 | 2174           | 300 | 4348              | 40  | 1.57 |
| 2TE - 05   | 08        | -05  | 5/16            | 8.4  | 0.33            | 15.7 | 0.62             | 68  | 986            | 136 | 1972           | 272 | 3944              | 50  | 1.97 |
| 2TE - 06   | 10        | -06  | 3/8             | 10.0 | 0.39            | 17.3 | 0.68             | 63  | 913            | 126 | 1826           | 252 | 3652              | 60  | 2.36 |
| 2TE - 08   | 12        | -08  | 1/2             | 13.3 | 0.52            | 20.7 | 0.81             | 58  | 841            | 116 | 1682           | 232 | 3364              | 70  | 2.76 |
| 2TE - 10   | 16        | -10  | 5/8             | 16.5 | 0.65            | 24.9 | 0.98             | 50  | 725            | 100 | 1450           | 200 | 2900              | 90  | 3.54 |
| 2TE - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 28.0 | 1.10             | 45  | 652            | 90  | 1304           | 180 | 2608              | 110 | 4.33 |
| 2TE - 16   | 25        | -16  | 1               | 26.2 | 1.03            | 35.9 | 1.41             | 40  | 580            | 80  | 1160           | 160 | 2320              | 150 | 5.91 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: High tensile textile cords
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Low pressure return lines and drain lines.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

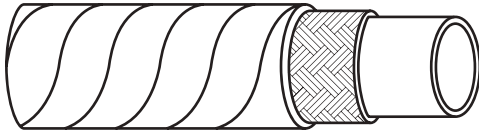
### INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 854 2TE
- › ISO 4079-1 2TE

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.



## EN854 3TE Rubber Hydraulic Hose

| 3TE SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |     | Bend Radius (Min) |     |      |
|------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|-----|-------------------|-----|------|
|            | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar | psi               | mm  | inch |
| 3TE - 03   | 05        | -03  | 3/16            | 5.2  | 0.20            | 13.6 | 0.54             | 160 | 2320           | 320 | 4640           | 640 | 9280              | 40  | 1.57 |
| 3TE - 04   | 06        | -04  | 1/4             | 6.9  | 0.27            | 15.2 | 0.60             | 145 | 2102           | 290 | 4204           | 580 | 8408              | 45  | 1.77 |
| 3TE - 05   | 08        | -05  | 5/16            | 8.4  | 0.33            | 17.7 | 0.70             | 130 | 1885           | 260 | 3770           | 520 | 7540              | 55  | 2.17 |
| 3TE - 06   | 10        | -06  | 3/8             | 10.0 | 0.39            | 19.3 | 0.76             | 110 | 1595           | 220 | 3190           | 440 | 6380              | 70  | 2.76 |
| 3TE - 08   | 12        | -08  | 1/2             | 13.3 | 0.52            | 22.7 | 0.89             | 93  | 1348           | 186 | 2696           | 372 | 5392              | 85  | 3.35 |
| 3TE - 10   | 16        | -10  | 5/8             | 16.5 | 0.65            | 26.9 | 1.06             | 80  | 1160           | 160 | 2320           | 320 | 4640              | 105 | 4.13 |
| 3TE - 12   | 19        | -12  | 3/4             | 19.8 | 0.78            | 30.0 | 1.18             | 70  | 1015           | 140 | 2030           | 280 | 4060              | 130 | 5.12 |
| 3TE - 16   | 25        | -16  | 1               | 26.2 | 1.03            | 37.4 | 1.47             | 55  | 797            | 110 | 1594           | 220 | 3188              | 150 | 5.91 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: High tensile textile cords
- › Cover: Oil, abrasion and weather resistant synthetic rubber

**MAIN APPLICATIONS:** Low pressure return lines and drain lines.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

### INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

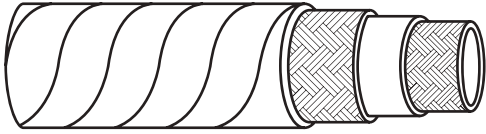
### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 854 3TE
- › ISO 4079-1 3TE

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.



# PROPULSE HOSE SOLUTIONS



## EN857 2SC Arm-A-Flex Rubber Hose

| ARM SERIES | Hose Size |      | Hose I.D. (Max) |      | Hose O.D. (Max) |      | Working Pressure |     | Proof Pressure |     | Burst Pressure |      | Bend Radius (Min) |     |      |
|------------|-----------|------|-----------------|------|-----------------|------|------------------|-----|----------------|-----|----------------|------|-------------------|-----|------|
|            | DN        | dash | inch            | mm   | inch            | mm   | inch             | bar | psi            | bar | psi            | bar  | psi               | mm  | inch |
| Arm - 04   | 06        | -04  | 1/4             | 6.9  | 0.27            | 14.2 | 0.55             | 400 | 5800           | 690 | 10000          | 1380 | 20000             | 75  | 2.95 |
| Arm - 06   | 10        | -06  | 3/8             | 10.1 | 0.39            | 18.3 | 0.72             | 330 | 4785           | 760 | 9570           | 1520 | 19140             | 90  | 2.56 |
| Arm - 08   | 12        | -08  | 1/2             | 13.5 | 0.53            | 21.5 | 0.84             | 279 | 3988           | 592 | 8560           | 1184 | 17120             | 130 | 5.11 |
| Arm - 10   | 16        | -10  | 5/8             | 16.7 | 0.65            | 24.7 | 0.97             | 250 | 3625           | 500 | 7250           | 1000 | 14500             | 170 | 6.69 |
| Arm - 12   | 20        | -12  | 3/4             | 19.8 | 0.77            | 28.6 | 1.12             | 215 | 3118           | 430 | 6236           | 860  | 12473             | 200 | 7.87 |

### HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber manufactured with an additional plastic coating that is highly resistant to abrasion

**MAIN APPLICATIONS:** Medium to high pressure lines that require tight bend radius. Hose is very resistant to abrasion.

### TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

### INTERMITTENT SERVICE:

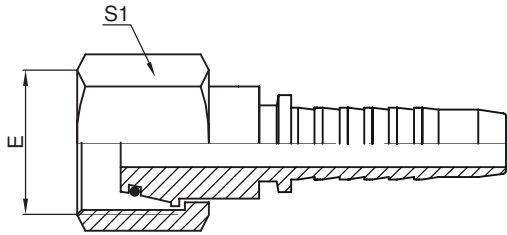
- › -40°F / +257°F (may reduce life of this hose)
- › -40°C / +125°C

### FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 857 2SC
- › ISO 11237-1 2SC
- › SAE 100R16 types

**NOTE:** Not all sizes stocked at all times. Some specifications may vary.

# PROPULSE FITTING SOLUTIONS

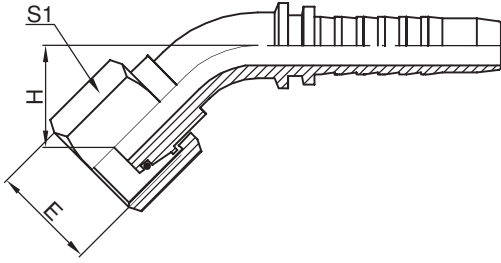


**Metric Female 24° Cone O-Ring DKOL Straight  
DIN 20066/3865**

| 22611<br>SERIES           | Thread  | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|---------|-----------|-----------|-----------------|-----------|
|                           |         | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |         |           |           |                 |           |
| S22611-10-02              | M10X1.0 | 4         | 2         | 12              |           |
| S22611-12-02              | M12X1.5 | 4         | 2         | 14              |           |
| S22611-12-04              | M12X1.5 | 6         | 4         | 17              |           |
| S22611-14-04              | M14X1.5 | 6         | 4         | 17              |           |
| S22611-16-04              | M16X1.5 | 6         | 4         | 22              |           |
| S22611-18-04              | M18X1.5 | 6         | 4         | 22              |           |
| S22611-14-05              | M14X1.5 | 8         | 5         | 17              |           |
| S22611-16-05              | M16X1.5 | 8         | 5         | 19              |           |
| S22611-18-05              | M18X1.5 | 8         | 5         | 22              |           |
| S22611-22-05              | M22X1.5 | 8         | 5         | 27              |           |
| S22611-14-06              | M14X1.5 | 10        | 6         | 19              |           |
| S22611-16-06              | M16X1.5 | 10        | 6         | 22              |           |
| S22611-18-06              | M18X1.5 | 10        | 6         | 22              |           |
| S22611-22-06              | M22X1.5 | 10        | 6         | 27              |           |
| S22611-18-08              | M18X1.5 | 12        | 8         | 24              |           |
| S22611-22-08              | M22X1.5 | 12        | 8         | 27              |           |
| S22611-22-10              | M22X1.5 | 16        | 10        | 27              |           |
| S22611-26-10              | M26X1.5 | 16        | 10        | 32              |           |
| S22611-30-10              | M30X2   | 16        | 10        | 36              |           |
| S22611-26-12              | M26X1.5 | 19        | 12        | 32              |           |
| S22611-30-12              | M30X2   | 19        | 12        | 36              |           |
| S22611-36-12              | M36X2   | 19        | 12        | 41              |           |
| S22611-30-16              | M30X2   | 25        | 16        | 36              |           |
| S22611-36-16              | M36X2   | 25        | 16        | 41              |           |
| S22611-45-16              | M45X2   | 25        | 16        | 50              |           |
| S22611-36-20              | M36X2   | 32        | 20        | 41              |           |
| S22611-45-20              | M45X2   | 32        | 20        | 50              |           |
| S22611-52-20              | M52X2   | 32        | 20        | 60              |           |
| S22611-52-24              | M52X2   | 38        | 24        | 60              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

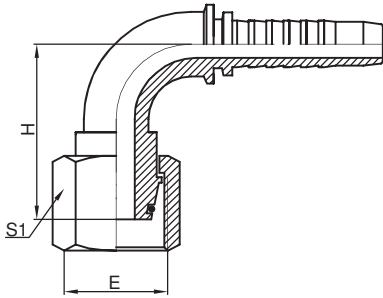


**Metric Female 24° Cone O-Ring DKOL 45° Elbow  
DIN 20066/3865**

| 22641<br>SERIES           | Thread  | Hose Bore |           | Dimensions (mm) |           |          |
|---------------------------|---------|-----------|-----------|-----------------|-----------|----------|
|                           |         | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> | <i>H</i> |
| ProPulse Fitting Part No. |         |           |           |                 |           |          |
| S22641-14-04              | M14X1.5 | 6         | 4         | 19              | 16        |          |
| S22641-16-05              | M16X1.5 | 8         | 5         | 19              | 17        |          |
| S22641-18-05              | M18X1.5 | 8         | 5         | 22              | 18.5      |          |
| S22641-22-05              | M22X1.5 | 8         | 5         | 27              | 19.5      |          |
| S22641-16-06              | M16X1.5 | 10        | 6         | 19              | 17        |          |
| S22641-18-06              | M18X1.5 | 10        | 6         | 22              | 18.5      |          |
| S22641-22-06              | M22X1.5 | 10        | 6         | 27              | 19.5      |          |
| S22641-22-08              | M22X1.5 | 12        | 8         | 27              | 19.5      |          |
| S22641-26-08              | M26X1.5 | 12        | 8         | 32              | 23.5      |          |
| S22641-26-10              | M26X1.5 | 16        | 10        | 32              | 23.5      |          |
| S22641-30-10              | M30X2   | 16        | 10        | 36              | 25.5      |          |
| S22641-26-12              | M26X1.5 | 19        | 12        | 32              | 23.5      |          |
| S22641-30-12              | M30X2   | 19        | 12        | 36              | 25.5      |          |
| S22641-36-12              | M36X2   | 19        | 12        | 41              | 32        |          |
| S22641-36-16              | M36X2   | 25        | 16        | 41              | 32        |          |
| S22641-45-20              | M45X2   | 32        | 20        | 50              | 38        |          |
| S22641-52-20              | M52X2   | 32        | 20        | 60              | 44.5      |          |
| S22641-52-24              | M52X2   | 38        | 24        | 60              | 44.5      |          |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

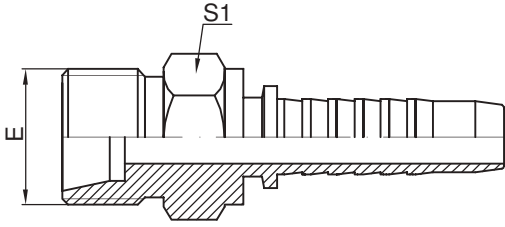


**Metric Female 24° Cone O-Ring DKOL 90° Elbow  
DIN 20066/3865**

| 22691<br>SERIES           | Thread  | Hose Bore |      | Dimensions (mm) |      |
|---------------------------|---------|-----------|------|-----------------|------|
|                           |         | DN        | Dash | S1              | H    |
| ProPulse Fitting Part No. | E       |           |      |                 |      |
| S22691-12-04              | M12X1.5 | 6         | 4    | 14              | 30   |
| S22691-14-04              | M14X1.5 | 6         | 4    | 17              | 30.5 |
| S22691-16-04              | M16X1.5 | 6         | 4    | 22              | 33   |
| S22691-14-05              | M14X1.5 | 8         | 5    | 17              | 30.5 |
| S22691-16-05              | M16X1.5 | 8         | 5    | 19              | 33   |
| S22691-18-05              | M18X1.5 | 8         | 5    | 22              | 36   |
| S22691-16-06              | M16X1.5 | 10        | 6    | 19              | 36   |
| S22691-18-06              | M18X1.5 | 10        | 6    | 22              | 36   |
| S22691-22-06              | M22X1.5 | 10        | 6    | 27              | 40.5 |
| S22691-22-08              | M22X1.5 | 12        | 8    | 27              | 40.5 |
| S22691-26-08              | M26X1.5 | 12        | 8    | 32              | 51.5 |
| S22691-26-10              | M26X1.5 | 16        | 10   | 32              | 51.5 |
| S22691-30-10              | M30X2   | 16        | 10   | 36              | 56   |
| S22691-26-12              | M26X1.5 | 19        | 12   | 32              | 51.5 |
| S22691-30-12              | M30X2   | 19        | 12   | 36              | 56   |
| S22691-36-12              | M36X2   | 19        | 12   | 41              | 68.5 |
| S22691-30-16              | M30X2   | 25        | 16   | 36              | 56   |
| S22691-36-16              | M36X2   | 25        | 16   | 41              | 68.5 |
| S22691-45-16              | M45X2   | 25        | 16   | 50              | 78.5 |
| S22691-36-20              | M36X2   | 32        | 20   | 41              | 68.5 |
| S22691-45-20              | M45X2   | 32        | 20   | 50              | 78.5 |
| S22691-52-20              | M52X2   | 32        | 20   | 60              | 95   |
| S22691-52-24              | M52X2   | 38        | 24   | 60              | 95   |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

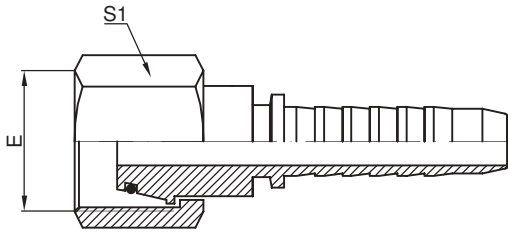


**Metric Male 24° Cone Seat DKOL Straight  
DIN 20066/3861**

| 12611<br>SERIES           | Thread  | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|---------|-----------|-----------|-----------------|-----------|
|                           |         | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |         |           |           |                 |           |
| S12611-12-04              | M12X1.5 | 6         | 4         | 14              |           |
| S12611-14-04              | M14X1.5 | 6         | 4         | 17              |           |
| S12611-16-04              | M16X1.5 | 6         | 4         | 17              |           |
| S12611-14-05              | M14X1.5 | 8         | 5         | 17              |           |
| S12611-16-05              | M16X1.5 | 8         | 5         | 17              |           |
| S12611-18-05              | M18X1.5 | 8         | 5         | 19              |           |
| S12611-16-06              | M16X1.5 | 10        | 6         | 17              |           |
| S12611-18-06              | M18X1.5 | 10        | 6         | 19              |           |
| S12611-22-06              | M22X1.5 | 10        | 6         | 24              |           |
| S12611-22-08              | M22X1.5 | 12        | 8         | 24              |           |
| S12611-26-08              | M26X1.5 | 12        | 8         | 27              |           |
| S12611-22-10              | M22X1.5 | 16        | 10        | 22              |           |
| S12611-26-10              | M26X1.5 | 16        | 10        | 27              |           |
| S12611-30-10              | M30X2   | 16        | 10        | 32              |           |
| S12611-30-12              | M30X2   | 19        | 12        | 32              |           |
| S12611-36-16              | M36X2   | 25        | 16        | 41              |           |
| S12611-45-20              | M45X2   | 32        | 20        | 46              |           |
| S12611-52-24              | M52X2   | 38        | 24        | 55              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

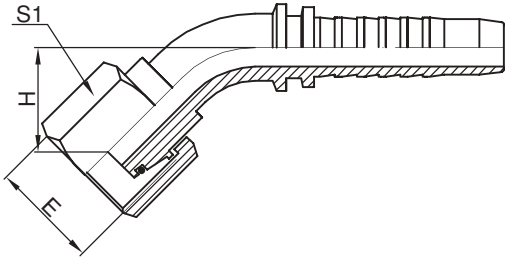


**Metric Female 24° Cone O-Ring DKOS Straight  
DIN 20066/3865**

| 22711<br>SERIES           | Thread   | Hose Bore |             | Dimensions (mm) |  |
|---------------------------|----------|-----------|-------------|-----------------|--|
|                           |          | <i>DN</i> | <i>Dash</i> | <i>S1</i>       |  |
| ProPulse Fitting Part No. | <i>E</i> |           |             |                 |  |
| S22711-14-04              | M14X1.5  | 6         | 4           | 19              |  |
| S22711-16-04              | M16X1.5  | 6         | 4           | 19              |  |
| S22711-18-04              | M18X1.5  | 6         | 4           | 22              |  |
| S22711-16-05              | M16X1.5  | 8         | 5           | 19              |  |
| S22711-20-05              | M20X1.5  | 8         | 5           | 24              |  |
| S22711-18-06              | M18X1.5  | 10        | 6           | 22              |  |
| S22711-20-06              | M20X1.5  | 10        | 6           | 24              |  |
| S22711-22-06              | M22X1.5  | 10        | 6           | 27              |  |
| S22711-24-06              | M24X1.5  | 10        | 6           | 30              |  |
| S22711-20-08              | M20X1.5  | 12        | 8           | 24              |  |
| S22711-22-08              | M22X1.5  | 12        | 8           | 27              |  |
| S22711-24-08              | M24X1.5  | 12        | 8           | 30              |  |
| S22711-30-10              | M30X2    | 16        | 10          | 36              |  |
| S22711-30-12              | M30X2    | 19        | 12          | 36              |  |
| S22711-36-12              | M36X2    | 19        | 12          | 46              |  |
| S22711-42-12              | M42X2    | 19        | 12          | 50              |  |
| S22711-36-16              | M36X2    | 25        | 16          | 46              |  |
| S22711-42-16              | M42X2    | 25        | 16          | 50              |  |
| S22711-52-20              | M52X2    | 32        | 20          | 60              |  |
| S22711-52-24              | M52X2    | 38        | 24          | 60              |  |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



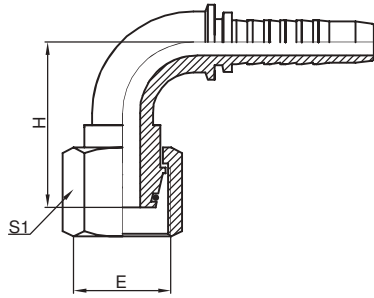
**Metric Female 24° Cone O-Ring DKOS 45° Elbow  
DIN 20066/3865**

| <b>22741<br/>SERIES</b>          | <b>Thread</b> | <b>Hose Bore</b> |             | <b>Dimensions (mm)</b> |          |
|----------------------------------|---------------|------------------|-------------|------------------------|----------|
|                                  |               | <b>DN</b>        | <b>Dash</b> | <b>S1</b>              | <b>H</b> |
| <b>ProPulse Fitting Part No.</b> | <b>E</b>      |                  |             |                        |          |
| S22741-14-04                     | M14X1.5       | 6                | 4           | 19                     | 17       |
| S22741-16-04                     | M16X1.5       | 6                | 4           | 19                     | 17       |
| S22741-18-04                     | M18X1.5       | 6                | 4           | 22                     | 17       |
| S22741-16-05                     | M16X1.5       | 8                | 5           | 19                     | 17       |
| S22741-18-06                     | M18X1.5       | 10               | 6           | 22                     | 17       |
| S22741-20-06                     | M20X1.5       | 10               | 6           | 24                     | 18       |
| S22741-22-06                     | M22X1.5       | 10               | 6           | 27                     | 21       |
| S22741-20-08                     | M20X1.5       | 12               | 8           | 24                     | 18.5     |
| S22741-22-08                     | M22X1.5       | 12               | 8           | 27                     | 21       |
| S22741-24-08                     | M24X1.5       | 12               | 8           | 30                     | 21       |
| S22741-24-10                     | M24X1.5       | 16               | 10          | 30                     | 21       |
| S22741-30-10                     | M30X2         | 16               | 10          | 36                     | 25       |
| S22741-30-12                     | M30X2         | 19               | 12          | 36                     | 25       |
| S22741-36-12                     | M36X2         | 19               | 12          | 46                     | 30.5     |
| S22741-42-16                     | M42X2         | 25               | 16          | 50                     | 35.5     |
| S22741-52-20                     | M52X2         | 32               | 20          | 60                     | 42       |
| S22741-52-25                     | M52X2         | 38               | 24          | 60                     | 42       |

\*Dimensions provided are nominal for reference only and may vary based on current supply.



# PROPULSE FITTING SOLUTIONS

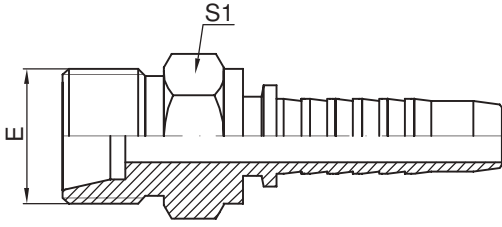


**Metric Female 24° Cone O-Ring DKOS 90° Elbow  
DIN 20066/3865**

| 22791<br>SERIES           | Thread   | Hose Bore |             | Dimensions (mm) |          |
|---------------------------|----------|-----------|-------------|-----------------|----------|
|                           |          | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>H</i> |
| ProPulse Fitting Part No. | <i>E</i> |           |             |                 |          |
| S22791-14-04              | M14X1.5  | 6         | 4           | 19              | 32       |
| S22791-16-04              | M16X1.5  | 6         | 4           | 19              | 32       |
| S22791-18-04              | M18X1.5  | 6         | 4           | 22              | 32       |
| S22791-16-05              | M16X1.5  | 8         | 5           | 19              | 32       |
| S22791-18-05              | M18X1.5  | 8         | 5           | 22              | 32       |
| S22791-20-05              | M20X1.5  | 8         | 5           | 24              | 34       |
| S22791-18-06              | M18X1.5  | 10        | 6           | 22              | 32       |
| S22791-20-06              | M20X1.5  | 10        | 6           | 24              | 35.5     |
| S22791-22-06              | M22X1.5  | 10        | 6           | 27              | 35.5     |
| S22791-20-08              | M20X1.5  | 12        | 8           | 24              | 35.5     |
| S22791-22-08              | M22X1.5  | 12        | 8           | 27              | 35.5     |
| S22791-24-08              | M24X1.5  | 12        | 8           | 30              | 43       |
| S22791-30-08              | M30X2    | 12        | 8           | 36              | 49.5     |
| S22791-24-10              | M24X1.5  | 16        | 10          | 30              | 43       |
| S22791-30-10              | M30X2    | 16        | 10          | 36              | 49.5     |
| S22791-30-12              | M30X2    | 19        | 12          | 36              | 49.5     |
| S22791-36-12              | M36X2    | 19        | 12          | 46              | 59       |
| S22791-42-16              | M42X2    | 25        | 16          | 50              | 70       |
| S22791-52-20              | M52X2    | 32        | 20          | 60              | 87       |
| S22791-52-24              | M52X2    | 38        | 24          | 60              | 87       |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

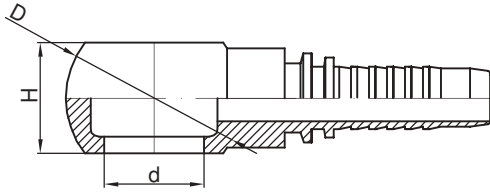


**Metric Male 24° Cone Seat DKOS Straight  
DIN 20066/3861**

| 12711<br>SERIES           | Thread  | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|---------|-----------|-----------|-----------------|-----------|
|                           |         | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |         |           |           |                 |           |
| S12711-14-04              | M14X1.5 | 6         | 4         | 17              |           |
| S12711-16-04              | M16X1.5 | 6         | 4         | 17              |           |
| S12711-18-04              | M18X1.5 | 6         | 4         | 19              |           |
| S12711-20-05              | M20X1.5 | 8         | 5         | 22              |           |
| S12711-22-05              | M22X1.5 | 8         | 5         | 24              |           |
| S12711-20-06              | M20X1.5 | 10        | 6         | 22              |           |
| S12711-22-06              | M22X1.5 | 10        | 6         | 24              |           |
| S12711-22-08              | M22X1.5 | 12        | 8         | 24              |           |
| S12711-24-08              | M24X1.5 | 12        | 8         | 27              |           |
| S12711-30-10              | M30X2   | 16        | 10        | 32              |           |
| S12711-36-12              | M36X2   | 19        | 12        | 41              |           |
| S12711-36-16              | M36X2   | 25        | 16        | 41              |           |
| S12711-42-16              | M42X2   | 25        | 16        | 46              |           |
| S12711-42-20              | M42X2   | 32        | 20        | 46              |           |
| S12711-52-20              | M52X2   | 32        | 20        | 55              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

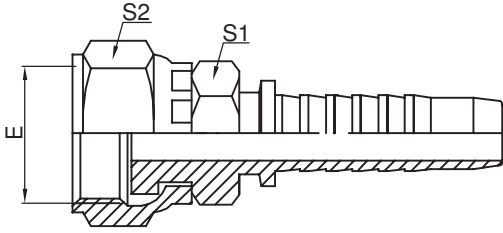


**Metric Banjo  
DIN 7642**

| 72211<br>SERIES | Thread  | Hose Bore |           | Dimensions (mm) |          |          |          |
|-----------------|---------|-----------|-----------|-----------------|----------|----------|----------|
|                 |         | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>d</i> | <i>D</i> | <i>H</i> |
| S72211-10-03    | M10X1   |           | 5         | 3               | 10.1     | 17       | 10       |
| S72211-10-04    | M10X1   |           | 6         | 4               | 10.1     | 17       | 10       |
| S72211-12-04    | M12X1.5 |           | 6         | 4               | 12.1     | 20       | 12       |
| S72211-14-04    | M14X1.5 |           | 6         | 4               | 14.1     | 24       | 14       |
| S72211-16-04    | M16X1.5 |           | 6         | 4               | 16.1     | 28       | 16       |
| S72211-18-04    | M18X1.5 |           | 6         | 4               | 18.1     | 32       | 20       |
| S72211-12-05    | M12X1.5 |           | 8         | 5               | 12.1     | 20       | 12       |
| S72211-14-05    | M14X1.5 |           | 8         | 5               | 14.1     | 24       | 14       |
| S72211-16-05    | M16X1.5 |           | 8         | 5               | 16.1     | 28       | 16       |
| S72211-18-05    | M18X1.5 |           | 8         | 5               | 18.1     | 32       | 20       |
| S72211-12-06    | M12X1.5 |           | 10        | 6               | 12.1     | 20       | 12       |
| S72211-14-06    | M14X1.5 |           | 10        | 6               | 14.1     | 24       | 14       |
| S72211-16-06    | M16X1.5 |           | 10        | 6               | 16.1     | 28       | 16       |
| S72211-18-06    | M18X1.5 |           | 10        | 6               | 18.1     | 32       | 20       |
| S72211-22-06    | M22X1.5 |           | 10        | 6               | 22.1     | 39       | 25       |
| S72211-18-08    | M18X1.5 |           | 12        | 8               | 18.1     | 32       | 20       |
| S72211-22-08    | M22X1.5 |           | 12        | 8               | 22.1     | 39       | 25       |
| S72211-22-10    | M22X1.5 |           | 16        | 10              | 22.1     | 39       | 25       |
| S72211-26-12    | M26X1.5 |           | 19        | 12              | 26.1     | 46       | 30       |
| S72211-30-16    | M30X1.5 |           | 25        | 16              | 30.1     | 54       | 36       |
| S72211-30-20    | M30X1.5 |           | 32        | 20              | 30.1     | 54       | 36       |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



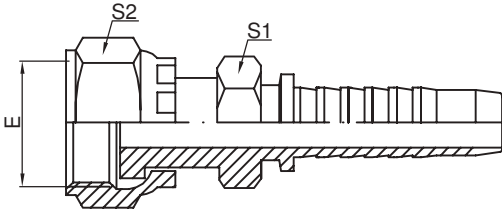
**ORFS Female Short Straight  
SAE J1453/J516**

| 26411S<br>SERIES          | Thread      | Hose Bore |           | Dimensions (mm) |           |           |
|---------------------------|-------------|-----------|-----------|-----------------|-----------|-----------|
|                           |             | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> | <i>S2</i> |
| ProPulse Fitting Part No. |             |           |           |                 |           |           |
| S26411S-04-04             | 9/16"X18    | 6         | 4         | 13              | 17        |           |
| S26411S-06-04             | 11/16"X16   | 6         | 4         | 17              | 22        |           |
| S26411S-04-05             | 9/16"X18    | 8         | 5         | 17              | 19        |           |
| S26411S-06-05             | 11/16"X16   | 8         | 5         | 17              | 22        |           |
| S26411S-08-05             | 13/16"X16   | 8         | 5         | 19              | 24        |           |
| S26411S-04-06             | 9/16"X18    | 10        | 6         | 13              | 17        |           |
| S26411S-06-06             | 11/16"X16   | 10        | 6         | 17              | 22        |           |
| S26411S-08-06             | 13/16"X16   | 10        | 6         | 22              | 24        |           |
| S26411S-06-08             | 11/16"X16   | 12        | 8         | 17              | 22        |           |
| S26411S-08-08             | 13/16"X16   | 12        | 8         | 22              | 24        |           |
| S26411S-10-08             | 1"X14       | 12        | 8         | 24              | 30        |           |
| S26411S-12-08             | 1.3/16"X12  | 12        | 8         | 28              | 36        |           |
| S26411S-08-10             | 13/16"X16   | 16        | 10        | 22              | 24        |           |
| S26411S-10-10             | 1"X14       | 16        | 10        | 24              | 30        |           |
| S26411S-12-10             | 1.3/16"X12  | 16        | 10        | 28              | 36        |           |
| S26411S-10-12             | 1"X14       | 19        | 12        | 24              | 30        |           |
| S26411S-12-12             | 1.3/16"X12  | 19        | 12        | 28              | 36        |           |
| S26411S-16-12             | 1.7/16"X12  | 19        | 12        | 36              | 41        |           |
| S26411S-12-16             | 1.3/16"X12  | 25        | 16        | 28              | 36        |           |
| S26411S-16-16             | 1.7/16"X12  | 25        | 16        | 36              | 41        |           |
| S26411S-20-16             | 1.11/16"X12 | 25        | 16        | 41              | 50        |           |
| S26411S-16-20             | 1.7/16"X12  | 32        | 20        | 36              | 41        |           |
| S26411S-20-20             | 1.11/16"X12 | 32        | 20        | 41              | 50        |           |
| S26411S-24-20             | 2"X12       | 32        | 20        | 50              | 60        |           |
| S26411S-20-24             | 1.11/16"X12 | 38        | 24        | 41              | 50        |           |
| S26411S-24-24             | 2"X12       | 38        | 24        | 50              | 60        |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

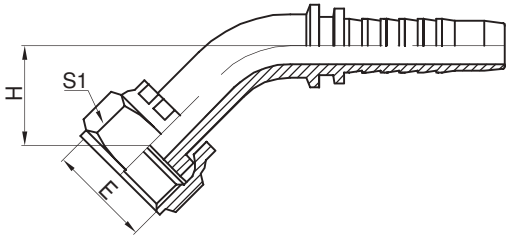
## ORFS Female Long Straight SAE J1453/J516



| 26411L<br>SERIES          | Thread      | Hose Bore |           | Dimensions (mm) |           |           |
|---------------------------|-------------|-----------|-----------|-----------------|-----------|-----------|
|                           |             | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> | <i>S2</i> |
| ProPulse Fitting Part No. |             |           |           |                 |           |           |
| S26411L-04-04             | 9/16"X18    | 6         | 4         | 13              | 19        |           |
| S26411L-06-04             | 11/16"X16   | 6         | 4         | 17              | 22        |           |
| S26411L-04-05             | 9/16"X18    | 8         | 5         | 13              | 17        |           |
| S26411L-06-05             | 11/16"X16   | 8         | 5         | 17              | 22        |           |
| S26411L-06-06             | 11/16"X16   | 10        | 6         | 17              | 22        |           |
| S26411L-08-06             | 13/16"X16   | 10        | 6         | 19              | 27        |           |
| S26411L-06-08             | 11/16"X16   | 12        | 8         | 19              | 22        |           |
| S26411L-08-08             | 13/16"X16   | 12        | 8         | 22              | 24        |           |
| S26411L-10-08             | 1"X14       | 12        | 8         | 24              | 30        |           |
| S26411L-12-08             | 1.3/16"X12  | 12        | 8         | 28              | 36        |           |
| S26411L-10-10             | 1"X14       | 16        | 10        | 24              | 30        |           |
| S26411L-12-10             | 1.3/16"X12  | 16        | 10        | 28              | 36        |           |
| S26411L-10-12             | 1"X14       | 19        | 12        | 28              | 30        |           |
| S26411L-12-12             | 1.3/16"X12  | 19        | 12        | 28              | 36        |           |
| S26411L-16-12             | 1.7/16"X12  | 19        | 12        | 36              | 41        |           |
| S26411L-12-16             | 1.3/16"X12  | 25        | 16        | 28              | 36        |           |
| S26411L-16-16             | 1.7/16"X12  | 25        | 16        | 36              | 41        |           |
| S26411L-20-16             | 1.11/16"X12 | 25        | 16        | 41              | 50        |           |
| S26411L-20-20             | 1.11/16"X12 | 32        | 20        | 41              | 50        |           |
| S26411L-24-24             | 2"X12       | 38        | 24        | 50              | 60        |           |
| S26411S-20-16             | 1.11/16"X12 | 25        | 16        | 41              | 50        |           |
| S26411S-16-20             | 1.7/16"X12  | 32        | 20        | 36              | 41        |           |
| S26411S-20-20             | 1.11/16"X12 | 32        | 20        | 41              | 50        |           |
| S26411S-24-20             | 2"X12       | 32        | 20        | 50              | 60        |           |
| S26411S-20-24             | 1.11/16"X12 | 38        | 24        | 41              | 50        |           |
| S26411S-24-24             | 2"X12       | 38        | 24        | 50              | 60        |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



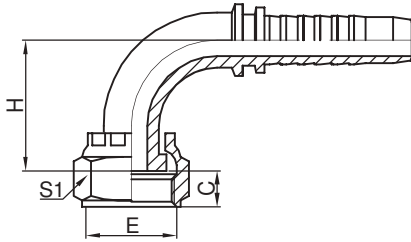
**ORFS Female 45° Elbow  
SAE J1453/J516**

| 26441<br>SERIES           | Thread      | Hose Bore | Dimensions (mm) |    |
|---------------------------|-------------|-----------|-----------------|----|
|                           |             |           | S1              | H  |
| ProPulse Fitting Part No. | E           | DN        | S1              | H  |
| S26441-04-04              | 9/16"X18    | 6         | 19              | 10 |
| S26441-06-04              | 11/16"X16   | 6         | 22              | 11 |
| S26441-04-05              | 9/16"X18    | 8         | 19              | 10 |
| S26441-06-05              | 11/16"X16   | 8         | 22              | 11 |
| S26441-04-06              | 9/16"X18    | 10        | 19              | 10 |
| S26441-06-06              | 11/16"X16   | 10        | 22              | 11 |
| S26441-08-06              | 13/16"X16   | 10        | 24              | 15 |
| S26441-06-08              | 11/16"X16   | 12        | 22              | 11 |
| S26441-08-08              | 13/16"X16   | 12        | 24              | 15 |
| S26441-10-08              | 1"X14       | 12        | 30              | 16 |
| S26441-12-08              | 1.3"/16X12  | 12        | 36              | 21 |
| S26441-08-10              | 13/16"X16   | 16        | 24              | 15 |
| S26441-10-10              | 1"X14       | 16        | 30              | 16 |
| S26441-12-10              | 1.3/16"X12  | 16        | 36              | 21 |
| S26441-10-12              | 1"X14       | 19        | 30              | 16 |
| S26441-12-12              | 1.3/16"X12  | 19        | 36              | 21 |
| S26441-16-12              | 1.7/16"X12  | 19        | 41              | 24 |
| S26441-12-16              | 1.3/16"X12  | 25        | 36              | 21 |
| S26441-16-16              | 1.7/16"X12  | 25        | 41              | 24 |
| S26441-20-16              | 1.11/16"X12 | 25        | 50              | 25 |
| S26441-16-20              | 1.7/16"X12  | 32        | 41              | 24 |
| S26441-20-20              | 1.11/16"X12 | 32        | 50              | 25 |
| S26441-24-20              | 2"X12       | 32        | 60              | 27 |
| S26441-20-24              | 1.11/16"X12 | 38        | 50              | 25 |
| S26441-24-24              | 2"X12       | 38        | 60              | 27 |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

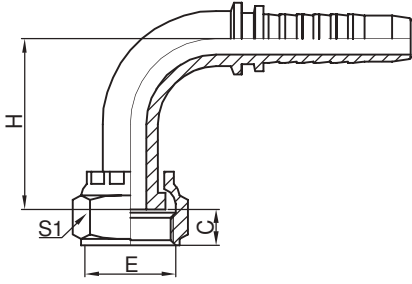
## ORFS Female 90° Elbow SAE J1453/J516



| 26491<br>SERIES           | Thread      | Hose Bore |             | Dimensions (mm) |          |
|---------------------------|-------------|-----------|-------------|-----------------|----------|
|                           |             | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>H</i> |
| ProPulse Fitting Part No. | <i>E</i>    |           |             |                 |          |
| S26491-04-04              | 9/16"X18    | 6         | 4           | 19              | 21       |
| S26491-06-04              | 11/16"X16   | 6         | 4           | 22              | 23       |
| S26491-04-05              | 9/16"X18    | 8         | 5           | 19              | 21       |
| S26491-06-05              | 11/16"X16   | 8         | 5           | 22              | 23       |
| S26491-04-06              | 9/16"X18    | 10        | 6           | 19              | 21       |
| S26491-06-06              | 11/16"X16   | 10        | 6           | 22              | 23       |
| S26491-08-06              | 13/16"X16   | 10        | 6           | 24              | 29       |
| S26491-06-08              | 11/16"X16   | 12        | 8           | 22              | 23       |
| S26491-08-08              | 13/16"X16   | 12        | 8           | 24              | 29       |
| S26491-10-08              | 1"X14       | 12        | 8           | 30              | 32       |
| S26491-08-10              | 13/16"X16   | 16        | 10          | 24              | 29       |
| S26491-10-10              | 1"X14       | 16        | 10          | 30              | 32       |
| S26491-12-10              | 1.3/16"X12  | 16        | 10          | 36              | 48       |
| S26491-10-12              | 1"X14       | 19        | 12          | 30              | 32       |
| S26491-12-12              | 1.3/16"X12  | 19        | 12          | 36              | 48       |
| S26491-16-12              | 1.7/16"X12  | 19        | 12          | 41              | 56       |
| S26491-12-16              | 1.3/16"X12  | 25        | 16          | 36              | 48       |
| S26491-16-16              | 1.7/16"X12  | 25        | 16          | 41              | 56       |
| S26491-20-16              | 1.11/16"X12 | 25        | 16          | 50              | 64       |
| S26491-16-20              | 1.7/16"X12  | 32        | 20          | 41              | 56       |
| S26491-20-20              | 1.11/16"X12 | 32        | 20          | 50              | 64       |
| S26491-24-20              | 2"X12       | 32        | 20          | 60              | 69       |
| S26491-20-24              | 1.11/16"X12 | 38        | 24          | 50              | 64       |
| S26491-24-24              | 2"X12       | 38        | 24          | 60              | 69       |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



**ORFS Female 90° Elbow Medium Drop  
SAE J1453/J516**

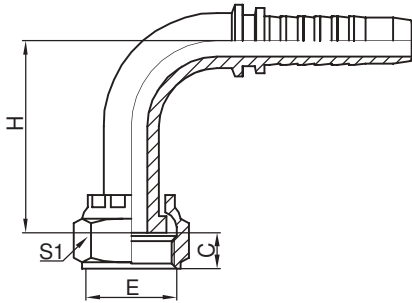
| 26491M<br>SERIES          | Thread      | Hose Bore |           | Dimensions (mm) |           |          |
|---------------------------|-------------|-----------|-----------|-----------------|-----------|----------|
|                           |             | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> | <i>H</i> |
| ProPulse Fitting Part No. |             |           |           |                 |           |          |
| S26491M-04-04             | 9/16"X18    | 6         | 4         | 19              | 32        |          |
| S26491M-06-04             | 11/16"X16   | 6         | 4         | 22              | 38        |          |
| S26491M-06-06             | 11/16"X16   | 10        | 6         | 22              | 38        |          |
| S26491M-08-06             | 13/16"X16   | 10        | 6         | 24              | 41        |          |
| S26491M-08-08             | 13/16"X16   | 12        | 8         | 24              | 41        |          |
| S26491M-10-08             | 1"X14       | 12        | 8         | 30              | 47        |          |
| S26491M-10-10             | 1"X14       | 16        | 10        | 30              | 47        |          |
| S26491M-10-12             | 1"X14       | 19        | 12        | 30              | 47        |          |
| S26491M-12-12             | 1.3/16"X12  | 19        | 12        | 36              | 58        |          |
| S26491M-16-16             | 1.7/16"X12  | 25        | 16        | 41              | 71        |          |
| S26491M-20-20             | 1.11/16"X12 | 32        | 20        | 50              | 78        |          |
| S26491M-24-24             | 2"X12       | 38        | 24        | 60              | 86        |          |

\*Dimensions provided are nominal for reference only and may vary based on current supply.



# PROPULSE FITTING SOLUTIONS

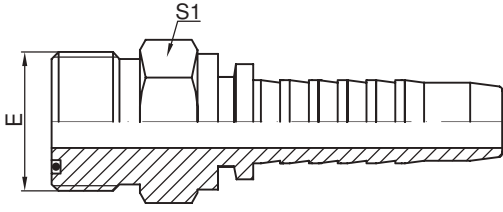
## ORFS Female 90° Elbow Long Drop SAE J1453/J516



| 26491L<br>SERIES          | Thread      | Hose Bore |             | Dimensions (mm) |          |
|---------------------------|-------------|-----------|-------------|-----------------|----------|
|                           |             | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>H</i> |
| ProPulse Fitting Part No. | <i>E</i>    |           |             |                 |          |
| S26491L-04-04             | 9/16"X18    | 6         | 4           | 17              | 46       |
| S26491L-06-06             | 11/16"X16   | 10        | 6           | 22              | 54       |
| S26491L-08-06             | 13/16"X16   | 10        | 6           | 24              | 64       |
| S26491L-08-08             | 13/16"X16   | 12        | 8           | 24              | 64       |
| S26491L-10-08             | 1"X14       | 12        | 8           | 30              | 70       |
| S26491L-10-10             | 1"X14       | 16        | 10          | 30              | 70       |
| S26491L-10-12             | 1"X14       | 19        | 12          | 30              | 70       |
| S26491L-12-12             | 1.3/16"X12  | 19        | 12          | 36              | 96       |
| S26491L-16-16             | 1.7/16"X12  | 25        | 16          | 41              | 114      |
| S26491L-20-20             | 1.11/16"X12 | 31        | 20          | 50              | 129      |
| S26491L-24-24             | 2"X12       | 38        | 24          | 60              | 141      |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

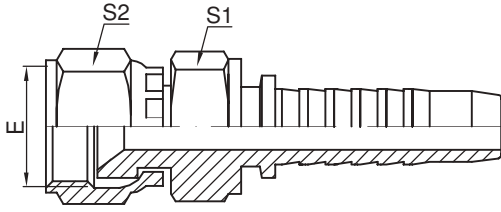


**ORFS Male Straight  
SAE J1453/J516**

| 16411<br>SERIES           | Thread      | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|-------------|-----------|-----------|-----------------|-----------|
|                           |             | <i>E</i>  | <i>Dn</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |             |           |           |                 |           |
| S16411-04-04              | 9/16"X18    | 6         | 4         | 17              |           |
| S16411-06-04              | 11/16"X16   | 6         | 4         | 19              |           |
| S16411-06-06              | 11/16"X16   | 10        | 6         | 19              |           |
| S16411-08-06              | 13/16"X16   | 10        | 6         | 22              |           |
| S16411-08-08              | 13/16"X16   | 12        | 8         | 22              |           |
| S16411-10-08              | 1"X14       | 12        | 8         | 27              |           |
| S16411-12-08              | 1.3/16"X12  | 12        | 8         | 32              |           |
| S16411-08-10              | 13/16"X16   | 16        | 10        | 22              |           |
| S16411-10-10              | 1"X14       | 16        | 10        | 27              |           |
| S16411-12-10              | 1.3/16"X12  | 16        | 10        | 32              |           |
| S16411-12-12              | 1.3/16"X12  | 19        | 12        | 32              |           |
| S16411-16-12              | 1.7/16"X12  | 19        | 12        | 41              |           |
| S16411-16-16              | 1.7/16"X12  | 25        | 16        | 41              |           |
| S16411-20-20              | 1.11/16"X12 | 32        | 20        | 46              |           |
| S16411-24-24              | 2"X12       | 38        | 24        | 55              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

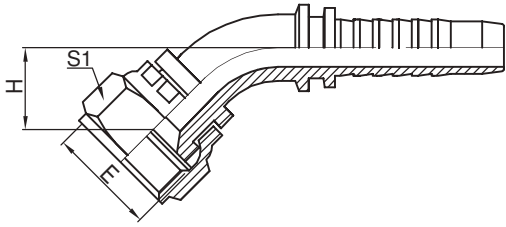


**JIC Female 37° Cone Double Hex Straight  
SAE J514/J516**

| 28911D<br>SERIES          | Thread     | Hose Bore |             | Dimensions (mm) |           |
|---------------------------|------------|-----------|-------------|-----------------|-----------|
|                           |            | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>S2</i> |
| ProPulse Fitting Part No. | <i>E</i>   | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>S2</i> |
| S28911D-03-04             | 7/16"X20   | 6         | 4           | 16              | 14        |
| S28911D-04-03             | 7/16"X20   | 5         | 3           | 17              | 17        |
| S28911D-04-04             | 7/16"X20   | 6         | 4           | 17              | 17        |
| S28911D-05-04             | 1/2"X20    | 6         | 4           | 17              | 17        |
| S28911D-06-04             | 9/16"X18   | 6         | 4           | 19              | 19        |
| S28911D-05-05             | 1/2"X20    | 8         | 5           | 17              | 17        |
| S28911D-06-05             | 9/16"X18   | 8         | 5           | 17              | 19        |
| S28911D-08-05             | 3/4"X16    | 8         | 5           | 19              | 24        |
| S28911D-04-06             | 7/16"X20   | 10        | 6           | 17              | 17        |
| S28911D-05-06             | 1/2"X20    | 10        | 6           | 17              | 17        |
| S28911D-06-06             | 9/16"X18   | 10        | 6           | 19              | 19        |
| S28911D-08-06             | 3/4"X16    | 10        | 6           | 19              | 24        |
| S28911D-10-06             | 7/8"X14    | 10        | 6           | 22              | 27        |
| S28911D-06-08             | 9/16"X18   | 12        | 8           | 19              | 19        |
| S28911D-08-08             | 3/4"X16    | 12        | 8           | 22              | 24        |
| S28911D-10-08             | 7/8"X14    | 12        | 8           | 22              | 27        |
| S28911D-12-08             | 1.1/16"X12 | 12        | 8           | 27              | 32        |
| S28911D-08-10             | 3/4"X16    | 16        | 10          | 24              | 24        |
| S28911D-10-10             | 7/8"X14    | 16        | 10          | 24              | 27        |
| S28911D-12-10             | 1.1/16"X12 | 16        | 10          | 27              | 32        |
| S28911D-08-12             | 3/4"X16    | 19        | 12          | 24              | 24        |
| S28911D-10-12             | 7/8"X14    | 19        | 12          | 27              | 27        |
| S28911D-12-12             | 1.1/16"X12 | 19        | 12          | 27              | 32        |
| S28911D-16-12             | 1.5/16"X12 | 19        | 12          | 32              | 41        |
| S28911D-12-16             | 1.1/16"X12 | 25        | 16          | 32              | 32        |
| S28911D-16-16             | 1.5/16"X12 | 25        | 16          | 41              | 41        |
| S28911D-20-16             | 1.5/8"X12  | 25        | 16          | 41              | 50        |
| S28911D-20-20             | 1.5/8"X12  | 32        | 20          | 50              | 50        |
| S28911D-24-24             | 1.7/8"X12  | 38        | 24          | 60              | 60        |
| S28911D-32-32             | 2.1/2"X12  | 50        | 32          | 75              | 75        |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



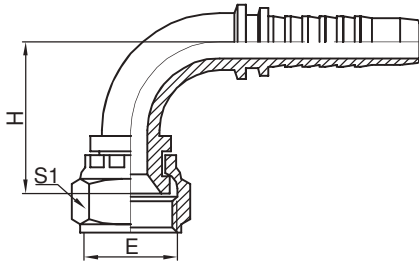
**JIC Female 37° Cone 45° Elbow  
SAE J514/J516**

| 28941<br>SERIES           | Thread     | Hose Bore |           | Dimensions (mm) |           |          |
|---------------------------|------------|-----------|-----------|-----------------|-----------|----------|
|                           |            | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> | <i>H</i> |
| ProPulse Fitting Part No. |            |           |           |                 |           |          |
| S28941-04-03              | 7/16"X20   | 5         | 3         | 17              | 10        |          |
| S28941-04-04              | 7/16"X20   | 6         | 4         | 17              | 10        |          |
| S28941-05-04              | 1/2"X20    | 6         | 4         | 17              | 10        |          |
| S28941-06-04              | 9/16"X18   | 6         | 4         | 19              | 11        |          |
| S28941-05-05              | 1/2"X20    | 8         | 5         | 17              | 10        |          |
| S28941-06-05              | 9/16"X18   | 8         | 5         | 19              | 11        |          |
| S28941-05-06              | 1/2"X20    | 10        | 6         | 17              | 10        |          |
| S28941-06-06              | 9/16"X18   | 10        | 6         | 19              | 11        |          |
| S28941-08-06              | 3/4"X16    | 10        | 6         | 24              | 15        |          |
| S28941-06-08              | 9/16"X18   | 12        | 8         | 19              | 11        |          |
| S28941-08-08              | 3/4"X16    | 12        | 8         | 24              | 15        |          |
| S28941-10-08              | 7/8"X14    | 12        | 8         | 27              | 16        |          |
| S28941-12-08              | 1.1/16"X12 | 12        | 8         | 32              | 21        |          |
| S28941-10-10              | 7/8"X14    | 16        | 10        | 27              | 16        |          |
| S28941-12-10              | 1.1/16"X12 | 16        | 10        | 32              | 21        |          |
| S28941-10-12              | 7/8"X14    | 19        | 12        | 27              | 16        |          |
| S28941-12-12              | 1.1/16"X12 | 19        | 12        | 32              | 21        |          |
| S28941-14-12              | 1.3/16"X12 | 19        | 12        | 36              | 21        |          |
| S28941-16-12              | 1.5/16"X12 | 19        | 12        | 41              | 24        |          |
| S28941-12-16              | 1.1/16"X12 | 25        | 16        | 32              | 21        |          |
| S28941-16-16              | 1.5/16"X12 | 25        | 16        | 41              | 24        |          |
| S28941-16-20              | 1.5/16"X12 | 32        | 20        | 41              | 24        |          |
| S28941-20-20              | 1.5/8"X12  | 32        | 20        | 50              | 25        |          |
| S28941-24-20              | 1.7/8"X12  | 32        | 20        | 60              | 27        |          |
| S28941-24-24              | 1.7/8"X12  | 38        | 24        | 60              | 27        |          |
| S28941-32-32              | 2.1/2"X12  | 50        | 32        | 75              | 34        |          |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

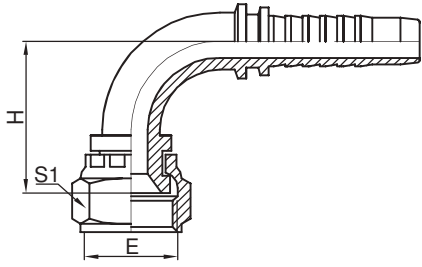
## JIC Female 37° Cone 90° Elbow SAE J514/J516



| 28991<br>SERIES           | Thread     | Hose Bore |             | Dimensions (mm) |          |
|---------------------------|------------|-----------|-------------|-----------------|----------|
|                           |            | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>H</i> |
| ProPulse Fitting Part No. | <i>E</i>   |           |             |                 |          |
| S28991-04-04              | 7/16"X20   | 6         | 4           | 17              | 21       |
| S28991-05-04              | 1/2"X20    | 6         | 4           | 17              | 21       |
| S28991-06-04              | 9/16"X18   | 6         | 4           | 19              | 23       |
| S28991-05-05              | 1/2"X20    | 8         | 5           | 17              | 21       |
| S28991-06-05              | 9/16"X18   | 8         | 5           | 19              | 23       |
| S28991-05-06              | 1/2"X20    | 10        | 6           | 17              | 21       |
| S28991-06-06              | 9/16"X18   | 10        | 6           | 19              | 23       |
| S28991-08-06              | 3/4"X16    | 10        | 6           | 24              | 29       |
| S28991-06-08              | 9/16"X18   | 12        | 8           | 19              | 23       |
| S28991-08-08              | 3/4"X16    | 12        | 8           | 24              | 29       |
| S28991-10-08              | 7/8"X14    | 12        | 8           | 27              | 32       |
| S28991-12-08              | 1.1/16"X12 | 12        | 8           | 32              | 48       |
| S28991-08-10              | 3/4"X16    | 16        | 10          | 24              | 29       |
| S28991-10-10              | 7/8"X14    | 16        | 10          | 27              | 32       |
| S28991-12-10              | 1.1/16"X12 | 16        | 10          | 32              | 48       |
| S28991-10-12              | 7/8"X14    | 19        | 12          | 27              | 32       |
| S28991-12-12              | 1.1/16"X12 | 19        | 12          | 32              | 48       |
| S28991-14-12              | 1.3/16"X12 | 19        | 12          | 36              | 51       |
| S28991-16-12              | 1.5/16"X12 | 19        | 12          | 41              | 56       |
| S28991-12-16              | 1.1/16"X12 | 25        | 16          | 32              | 48       |
| S28991-16-16              | 1.5/16"X12 | 25        | 16          | 41              | 56       |
| S28991-20-16              | 1.5/8"X12  | 25        | 16          | 50              | 60       |
| S28991-16-20              | 1.5/16"X12 | 32        | 20          | 41              | 56       |
| S28991-20-20              | 1.5/8"X12  | 32        | 20          | 50              | 64       |
| S28991-24-20              | 1.7/8"X12  | 32        | 20          | 60              | 69       |
| S28991-24-24              | 1.7/8"X12  | 38        | 24          | 60              | 69       |
| S28991-32-32              | 2.1/2"X12  | 50        | 32          | 75              | 88       |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

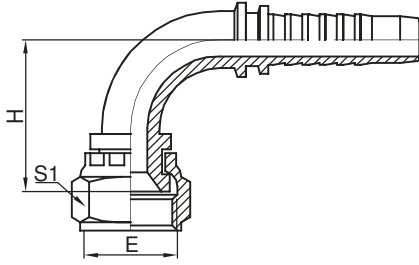


**JIC Female 37° Cone 90° Elbow Medium Drop  
SAE J514/J516**

| 28991M<br>SERIES          | Thread     | Hose Bore |             | Dimensions (mm) |          |
|---------------------------|------------|-----------|-------------|-----------------|----------|
|                           |            | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>H</i> |
| ProPulse Fitting Part No. | <i>E</i>   |           |             |                 |          |
| S28991M-04-04             | 7/16"X20   | 6         | 4           | 17              | 32       |
| S28991M-06-06             | 9/16"X18   | 10        | 6           | 19              | 38       |
| S28991M-08-06             | 3/4"X16    | 10        | 6           | 24              | 41       |
| S28991M-08-08             | 3/4"X16    | 12        | 8           | 24              | 41       |
| S28991M-12-10             | 1.1/16"X12 | 16        | 10          | 32              | 58       |
| S28991M-12-12             | 1.1/16"X12 | 19        | 12          | 32              | 58       |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

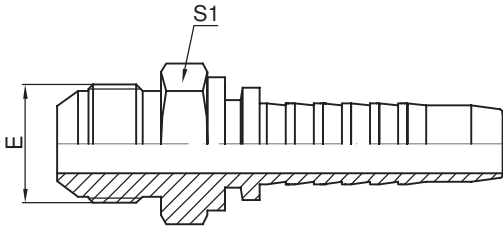


**JIC Female 37° Cone 90° Elbow Long Drop  
SAE J514/J516**

| 28991L<br>SERIES          | Thread     | Hose Bore |             | Dimensions (mm) |          |
|---------------------------|------------|-----------|-------------|-----------------|----------|
|                           |            | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>H</i> |
| ProPulse Fitting Part No. | <i>E</i>   |           |             |                 |          |
| S28991L-04-04             | 7/16"X20   | 6         | 4           | 17              | 46       |
| S28991L-05-04             | 1/2"X20    | 6         | 4           | 17              | 46       |
| S28991L-06-06             | 9/16"X18   | 10        | 6           | 19              | 54       |
| S28991L-08-06             | 3/4"X16    | 10        | 6           | 24              | 64       |
| S28991L-08-08             | 3/4"X16    | 12        | 8           | 24              | 64       |
| S28991L-10-10             | 7/8"X14    | 16        | 10          | 27              | 70       |
| S28991L-12-12             | 1.1/16"X12 | 19        | 12          | 32              | 93       |
| S28991L-14-12             | 1.3/16"X12 | 19        | 12          | 36              | 100      |
| S28991L-16-16             | 1.5/16"X12 | 25        | 16          | 41              | 114      |
| S28991L-20-20             | 1.5/8"X12  | 32        | 20          | 50              | 129      |
| S28991L-24-24             | 1.7/8"X12  | 38        | 24          | 60              | 141      |
| S28991L-32-32             | 2.1/2"X12  | 50        | 32          | 75              | 222      |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



**JJIC Male 37° Cone Straight  
SAE J514/J516**

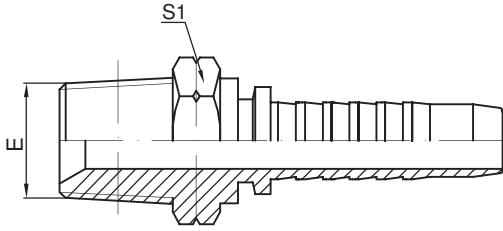
| 18911<br>SERIES           | Thread     | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|------------|-----------|-----------|-----------------|-----------|
|                           |            | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |            |           |           |                 |           |
| S18911-04-03              | 7/16"X20   | 5         | 3         | 14              |           |
| S18911-04-04              | 7/16"X20   | 6         | 4         | 14              |           |
| S18911-05-04              | 1/2"X20    | 6         | 4         | 14              |           |
| S18911-06-04              | 9/16"X18   | 6         | 4         | 17              |           |
| S18911-05-05              | 1/2"X20    | 8         | 5         | 14              |           |
| S18911-06-05              | 9/16"X18   | 8         | 5         | 17              |           |
| S18911-05-06              | 1/2"X20    | 10        | 6         | 17              |           |
| S18911-06-06              | 9/16"X18   | 10        | 6         | 17              |           |
| S18911-08-06              | 3/4"X16    | 10        | 6         | 22              |           |
| S18911-10-06              | 7/8"X14    | 10        | 6         | 24              |           |
| S18911-08-08              | 3/4"X16    | 12        | 8         | 22              |           |
| S18911-10-08              | 7/8"X14    | 12        | 8         | 24              |           |
| S18911-12-08              | 1.1/16"X12 | 12        | 8         | 27              |           |
| S18911-10-10              | 7/8"X14    | 16        | 10        | 24              |           |
| S18911-12-10              | 1.1/16"X12 | 16        | 10        | 27              |           |
| S18911-14-10              | 1.3/16"X12 | 16        | 10        | 32              |           |
| S18911-12-12              | 1.1/16"X12 | 19        | 12        | 27              |           |
| S18911-14-12              | 1.3/16"X12 | 19        | 12        | 32              |           |
| S18911-16-12              | 1.5/16"X12 | 19        | 12        | 36              |           |
| S18911-12-16              | 1.1/16"X12 | 25        | 16        | 27              |           |
| S18911-16-16              | 1.5/16"X12 | 25        | 16        | 36              |           |
| S18911-20-16              | 1.5/8"X12  | 25        | 16        | 46              |           |
| S18911-20-20              | 1.5/8"X12  | 32        | 20        | 46              |           |
| S18911-24-20              | 1.7/8"X12  | 32        | 20        | 50              |           |
| S18911-24-24              | 1.7/8"X12  | 38        | 24        | 50              |           |
| S18911-32-32              | 2.1/2"X12  | 50        | 32        | 65              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.



# PROPULSE FITTING SOLUTIONS

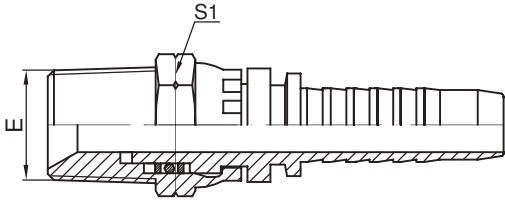
## NPTF Male 30° Cone Straight SAE J516



| 17811<br>SERIES           | Thread      | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|-------------|-----------|-----------|-----------------|-----------|
|                           |             | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |             |           |           |                 |           |
| S17811-02-03              | 1/8"X27     | 5         | 3         | 14              |           |
| S17811-04-03              | 1/4"X18     | 5         | 3         | 14              |           |
| S17811-02-04              | 1/8"X27     | 6         | 4         | 14              |           |
| S17811-04-04              | 1/4"X18     | 6         | 4         | 14              |           |
| S17811-06-04              | 3/8"X18     | 6         | 4         | 19              |           |
| S17811-08-04              | 1/2"X14     | 6         | 4         | 22              |           |
| S17811-04-05              | 1/4"X18     | 8         | 5         | 17              |           |
| S17811-06-05              | 3/8"X18     | 8         | 5         | 19              |           |
| S17811-04-06              | 1/4"X18     | 10        | 6         | 17              |           |
| S17811-06-06              | 3/8"X18     | 10        | 6         | 19              |           |
| S17811-08-06              | 1/2"X14     | 10        | 6         | 22              |           |
| S17811-06-08              | 3/8"X18     | 12        | 8         | 22              |           |
| S17811-08-08              | 1/2"X14     | 12        | 8         | 22              |           |
| S17811-12-08              | 3/4"X14     | 12        | 8         | 27              |           |
| S17811-08-10              | 1/2"X14     | 16        | 10        | 22              |           |
| S17811-12-10              | 3/4"X14     | 16        | 10        | 27              |           |
| S17811-16-10              | 1"X11.5     | 16        | 10        | 36              |           |
| S17811-12-12              | 3/4"X14     | 19        | 12        | 27              |           |
| S17811-16-12              | 1"X11.5     | 19        | 12        | 36              |           |
| S17811-12-16              | 3/4"X14     | 25        | 16        | 27              |           |
| S17811-16-16              | 1"X11.5     | 25        | 16        | 36              |           |
| S17811-20-16              | 1.1/4"X11.5 | 25        | 16        | 46              |           |
| S17811-20-20              | 1.1/4"X11.5 | 32        | 20        | 46              |           |
| S17811-24-24              | 1.1/2"X11.5 | 38        | 24        | 50              |           |
| S17811-32-32              | 2"X11.5     | 50        | 32        | 65              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

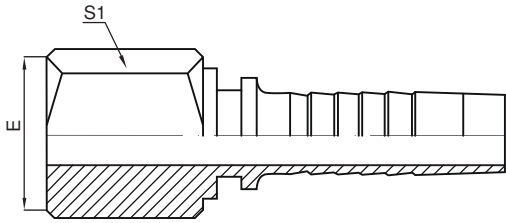


**NPTF Swivel Male 30° Cone Straight  
SAE J516**

| 17811W<br>SERIES          | Thread  | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|---------|-----------|-----------|-----------------|-----------|
|                           |         | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |         |           |           |                 |           |
| S17811W-02-04             | 1/8"X27 | 6         | 4         | 14              |           |
| S17811W-04-04             | 1/4"X18 | 6         | 4         | 17              |           |
| S17811W-06-04             | 3/8"X18 | 6         | 4         | 19              |           |
| S17811W-06-05             | 3/8"X18 | 8         | 5         | 19              |           |
| S17811W-04-06             | 1/4"X18 | 10        | 6         | 17              |           |
| S17811W-06-06             | 3/8"X18 | 10        | 6         | 19              |           |
| S17811W-08-06             | 1/2"X14 | 10        | 6         | 22              |           |
| S17811W-08-08             | 1/2"X14 | 12        | 8         | 22              |           |
| S17811W-12-12             | 3/4"X14 | 19        | 12        | 27              |           |
| S17811W-16-16             | 1"X11.5 | 25        | 16        | 36              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

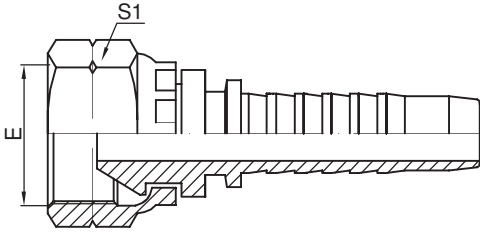
## NPT Female Solid Straight



| 27811<br>SERIES           | Thread   | Hose Bore |             | Dimensions (mm) |  |
|---------------------------|----------|-----------|-------------|-----------------|--|
|                           |          | <i>DN</i> | <i>Dash</i> | <i>S1</i>       |  |
| ProPulse Fitting Part No. | <i>E</i> |           |             |                 |  |
| S27811-04-04              | 1/4"X18  | 6         | 4           | 19              |  |
| S27811-04-06              | 1/4"X18  | 10        | 6           | 19              |  |
| S27811-06-06              | 3/8"18   | 10        | 6           | 22              |  |
| S27811-08-06              | 1/2"X14  | 10        | 6           | 25.4            |  |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

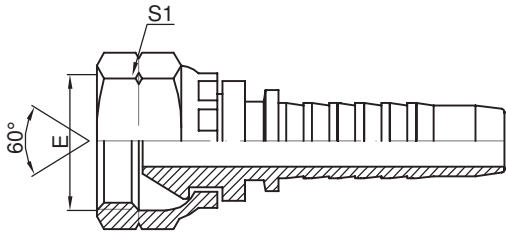


## NPSM Female 30° Cone Straight

| 23811 SERIES              | Thread      | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|-------------|-----------|-----------|-----------------|-----------|
|                           |             | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |             |           |           |                 |           |
| S23811-04-03              | 1/4"X18     | 5         | 3         | 19              |           |
| S23811-04-04              | 1/4"X18     | 6         | 4         | 19              |           |
| S23811-06-04              | 3/8"X18     | 6         | 4         | 22              |           |
| S23811-06-05              | 3/8"X18     | 8         | 5         | 22              |           |
| S23811-04-06              | 1/4"X18     | 10        | 6         | 19              |           |
| S23811-06-06              | 3/8"X18     | 10        | 6         | 22              |           |
| S23811-08-08              | 1/2"X14     | 12        | 8         | 27              |           |
| S23811-12-10              | 3/4"X14     | 16        | 10        | 32              |           |
| S23811-12-12              | 3/4"X14     | 19        | 12        | 32              |           |
| S23811-16-12              | 1"X11.5     | 19        | 12        | 41              |           |
| S23811-16-16              | 1"X11.5     | 25        | 16        | 41              |           |
| S23811-20-20              | 1.1/4"X11.5 | 32        | 20        | 50              |           |
| S23811-24-20              | 1.1/2"X11.5 | 32        | 20        | 55              |           |
| S23811-24-24              | 1.1/2"X11.5 | 38        | 24        | 55              |           |
| S23811-32-32              | 2"X11.5     | 50        | 32        | 70              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

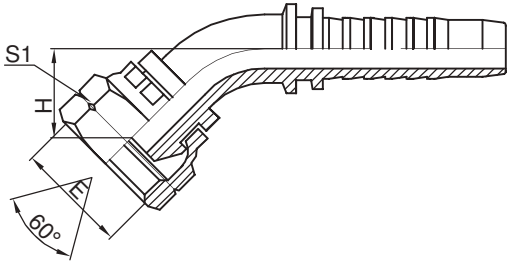
## BSP Female 60° Cone Straight



| 24811 SERIES<br>ProPulse Fitting Part No. | Thread<br><i>E</i> | Hose Bore |             | Dimensions (mm) |  |
|---|--------------------|-----------|-------------|-----------------|--|
|   |                    | <i>DN</i> | <i>Dash</i> | <i>S1</i>       |  |
| S24811-02-03                              | 1/8"X28            | 5         | 3           | 14              |  |
| S24811-04-03                              | 1/4"X19            | 5         | 3           | 19              |  |
| S24811-02-04                              | 1/8"X28            | 6         | 4           | 14              |  |
| S24811-04-04                              | 1/4"X19            | 6         | 4           | 19              |  |
| S24811-06-04                              | 3/8"X19            | 6         | 4           | 22              |  |
| S24811-04-05                              | 1/4"X19            | 8         | 5           | 19              |  |
| S24811-06-05                              | 3/8"X19            | 8         | 5           | 22              |  |
| S24811-04-06                              | 1/4"X19            | 10        | 6           | 19              |  |
| S24811-06-06                              | 3/8"X19            | 10        | 6           | 22              |  |
| S24811-08-06                              | 1/2"X14            | 10        | 6           | 27              |  |
| S24811-06-08                              | 3/8"X14            | 12        | 8           | 22              |  |
| S24811-08-08                              | 1/2"X14            | 12        | 8           | 27              |  |
| S24811-10-08                              | 5/8"X14            | 12        | 8           | 30              |  |
| S24811-12-08                              | 3/4"X14            | 12        | 8           | 32              |  |
| S24811-10-10                              | 5/8"X14            | 16        | 10          | 30              |  |
| S24811-12-10                              | 3/4"X14            | 16        | 10          | 32              |  |
| S24811-12-12                              | 3/4"X14            | 19        | 12          | 32              |  |
| S24811-16-12                              | 1"X11              | 19        | 12          | 41              |  |
| S24811-16-16                              | 1"X11              | 25        | 16          | 41              |  |
| S24811-20-16                              | 1.1/4"X11          | 32        | 16          | 50              |  |
| S24811-20-20                              | 1.1/4"X11          | 32        | 20          | 50              |  |
| S24811-24-20                              | 1.1/2"X11          | 32        | 20          | 60              |  |
| S24811-24-24                              | 1.1/2"X11          | 38        | 24          | 60              |  |
| S24811-32-24                              | 2"X11              | 38        | 24          | 70              |  |
| S24811-32-32                              | 2"X11              | 50        | 32          | 70              |  |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

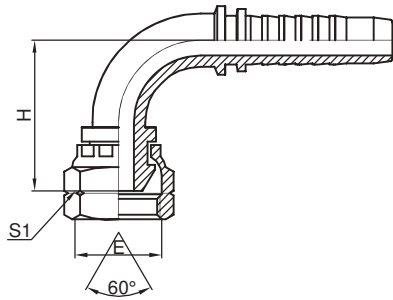
# PROPULSE FITTING SOLUTIONS



**BSP Female 60° Cone 45° Elbow**

| 24841<br>SERIES           | Thread    | Hose Bore |           | Dimensions (mm) |           |          |
|---------------------------|-----------|-----------|-----------|-----------------|-----------|----------|
|                           |           | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> | <i>H</i> |
| ProPulse Fitting Part No. |           |           |           |                 |           |          |
| S24841-04-04              | 1/4"X19   | 6         | 4         | 19              | 15        |          |
| S24841-06-04              | 3/8"X19   | 6         | 4         | 22              | 16        |          |
| S24841-06-05              | 3/8"X19   | 8         | 5         | 22              | 15        |          |
| S24841-06-06              | 3/8"X19   | 10        | 6         | 22              | 15        |          |
| S24841-08-06              | 1/2"X14   | 10        | 6         | 27              | 16        |          |
| S24841-08-08              | 1/2"X14   | 12        | 8         | 27              | 17        |          |
| S24841-10-08              | 5/8"X14   | 12        | 8         | 30              | 22.5      |          |
| S24841-12-08              | 3/4"X14   | 12        | 8         | 32              | 26        |          |
| S24841-10-10              | 5/8"X14   | 16        | 10        | 30              | 26        |          |
| S24841-12-10              | 3/4"X14   | 16        | 10        | 32              | 27        |          |
| S24841-12-12              | 3/4"X14   | 19        | 12        | 32              | 28        |          |
| S24841-16-12              | 1"X11     | 19        | 12        | 41              | 30        |          |
| S24841-16-16              | 1"X11     | 25        | 16        | 41              | 37        |          |
| S24841-20-16              | 1.1/4"X11 | 25        | 16        | 50              | 31        |          |
| S24841-20-20              | 1.1/4"X11 | 32        | 20        | 50              | 39        |          |
| S24841-24-24              | 1.1/2"X11 | 38        | 24        | 60              | 45        |          |
| S24841-32-32              | 2"X11     | 50        | 32        | 70              | 47        |          |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

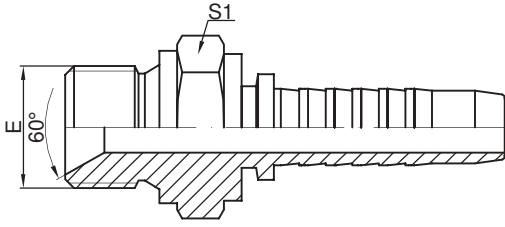


**BSP Female 60° Cone 90° Elbow**

| 24891<br>SERIES           | Thread    | Hose Bore |             | Dimensions (mm) |          |
|---------------------------|-----------|-----------|-------------|-----------------|----------|
|                           |           | <i>DN</i> | <i>Dash</i> | <i>S1</i>       | <i>H</i> |
| ProPulse Fitting Part No. | <i>E</i>  |           |             |                 |          |
| S24891-04-04              | 1/4"X19   | 6         | 4           | 19              | 29       |
| S24891-06-04              | 3/8"X19   | 6         | 4           | 22              | 31       |
| S24891-04-05              | 1/4"X19   | 8         | 5           | 19              | 29.5     |
| S24891-06-05              | 3/8"X19   | 8         | 5           | 22              | 27.5     |
| S24891-04-06              | 1/4"X19   | 10        | 6           | 17              | 31.5     |
| S24891-06-06              | 3/8"X19   | 10        | 6           | 22              | 31.5     |
| S24891-08-06              | 1/2"X14   | 10        | 6           | 27              | 32       |
| S24891-06-08              | 3/8"X19   | 12        | 8           | 22              | 41       |
| S24891-08-08              | 1/2"X14   | 12        | 8           | 27              | 36       |
| S24891-10-08              | 5/8"X14   | 12        | 8           | 30              | 44       |
| S24891-12-08              | 3/4"X14   | 12        | 8           | 32              | 45.5     |
| S24891-08-10              | 1/2"X14   | 16        | 10          | 27              | 55       |
| S24891-10-10              | 5/8"X14   | 16        | 10          | 30              | 53.5     |
| S24891-12-10              | 3/4"X14   | 16        | 10          | 32              | 55       |
| S24891-12-12              | 3/4"X14   | 19        | 12          | 32              | 60       |
| S24891-16-12              | 1"X11     | 19        | 12          | 41              | 62       |
| S24891-16-16              | 1"X11     | 25        | 16          | 41              | 76       |
| S24891-20-16              | 1.1/4"X11 | 25        | 16          | 50              | 78       |
| S24891-20-20              | 1.1/4"X11 | 32        | 20          | 50              | 84       |
| S24891-20-24              | 1.1/4"X11 | 38        | 24          | 70              | 90       |
| S24891-24-24              | 1.1/2"X11 | 38        | 24          | 60              | 99       |
| S24891-32-24              | 2"X11     | 40        | 24          | 70              | 125      |
| S24891-32-32              | 2"X11     | 50        | 32          | 70              | 110      |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



**BSP Male 60° Cone Straight**

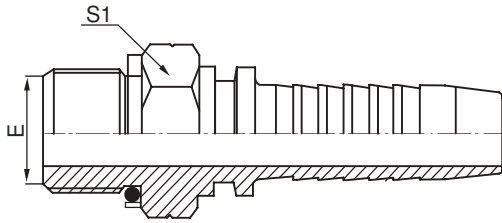
| 14811<br>SERIES           | Thread    | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|-----------|-----------|-----------|-----------------|-----------|
|                           |           | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |           |           |           |                 |           |
| S14811-02-03              | 1/8"X28   | 5         | 3         | 14              |           |
| S14811-02-04              | 1/8"X28   | 6         | 4         | 14              |           |
| S14811-04-04              | 1/4"X19   | 6         | 4         | 19              |           |
| S14811-06-04              | 3/8"X19   | 6         | 4         | 22              |           |
| S14811-06-05              | 3/8"X19   | 8         | 5         | 22              |           |
| S14811-04-06              | 1/4"X19   | 10        | 6         | 19              |           |
| S14811-06-06              | 3/8"X19   | 10        | 6         | 22              |           |
| S14811-08-06              | 1/2"X14   | 10        | 6         | 27              |           |
| S14811-06-08              | 3/8"X19   | 12        | 8         | 22              |           |
| S14811-08-08              | 1/2"X14   | 12        | 8         | 27              |           |
| S14811-10-08              | 5/8"X14   | 12        | 8         | 30              |           |
| S14811-12-08              | 3/4"X14   | 12        | 8         | 32              |           |
| S14811-10-10              | 5/8"X14   | 16        | 10        | 30              |           |
| S14811-12-10              | 3/4"X14   | 16        | 10        | 32              |           |
| S14811-12-12              | 3/4"X14   | 19        | 12        | 32              |           |
| S14811-16-12              | 1"X11     | 19        | 12        | 41              |           |
| S14811-16-16              | 1"X11     | 25        | 16        | 41              |           |
| S14811-20-16              | 1.1/4"X11 | 25        | 16        | 50              |           |
| S14811-20-20              | 1.1/4"X11 | 32        | 20        | 50              |           |
| S14811-24-20              | 1.1/2"X11 | 32        | 20        | 60              |           |
| S14811-24-24              | 1.1/2"X11 | 38        | 24        | 60              |           |
| S14811-32-32              | 2"X11     | 50        | 32        | 70              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.



# PROPULSE FITTING SOLUTIONS

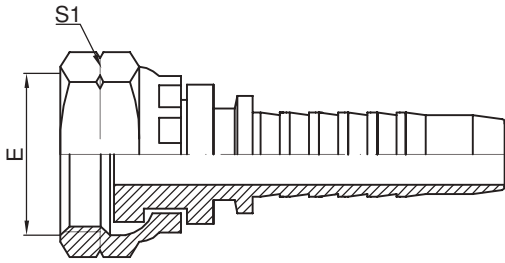
## BSPB Male O-Ring Flat Seal Straight



| 14411<br>SERIES           | Thread    | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|-----------|-----------|-----------|-----------------|-----------|
|                           |           | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |           |           |           |                 |           |
| S14411-04-04              | 1/4"X19   | 6         | 4         | 17              |           |
| S14411-08-04              | 1/2"X14   | 6         | 4         | 27              |           |
| S14411-04-06              | 1/4"X19   | 10        | 6         | 19              |           |
| S14411-06-06              | 3/8"X19   | 10        | 6         | 22              |           |
| S14411-08-06              | 1/2"X14   | 10        | 6         | 27              |           |
| S14411-08-08              | 1/2"X14   | 12        | 8         | 27              |           |
| S14411-10-10              | 5/8"X14   | 16        | 10        | 30              |           |
| S14411-12-10              | 3/4"X14   | 16        | 10        | 32              |           |
| S14411-12-12              | 3/4"X14   | 19        | 12        | 32              |           |
| S14411-12-16              | 3/4"X14   | 25        | 16        | 32              |           |
| S14411-16-16              | 1"X11     | 25        | 16        | 41              |           |
| S14411-20-20              | 1.1/4"X11 | 32        | 20        | 50              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS

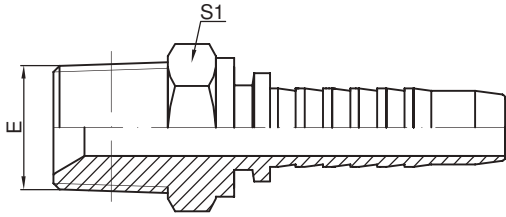


## BSP Female Flat Seal Straight

| 24411<br>SERIES           | Thread    | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|-----------|-----------|-----------|-----------------|-----------|
|                           |           | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |           |           |           |                 |           |
| S24411-04-04              | 1/4"X19   | 6         | 4         | 19              |           |
| S24411-06-04              | 3/8"X19   | 6         | 4         | 22              |           |
| S24411-06-05              | 3/8"X19   | 8         | 5         | 22              |           |
| S24411-04-06              | 1/4"X19   | 10        | 6         | 19              |           |
| S24411-06-06              | 3/8"X19   | 10        | 6         | 22              |           |
| S24411-08-06              | 1/2"X14   | 10        | 6         | 27              |           |
| S24411-06-08              | 3/8"X19   | 12        | 8         | 22              |           |
| S24411-08-08              | 1/2"X14   | 12        | 8         | 27              |           |
| S24411-10-08              | 5/8"X14   | 12        | 8         | 30              |           |
| S24411-12-08              | 3/4"X14   | 12        | 8         | 32              |           |
| S24411-10-10              | 5/8"X14   | 16        | 10        | 30              |           |
| S24411-12-10              | 5/8"X14   | 16        | 10        | 30              |           |
| S24411-12-12              | 3/4"X14   | 19        | 12        | 32              |           |
| S24411-16-12              | 1"X11     | 19        | 12        | 41              |           |
| S24411-16-16              | 1"X11     | 25        | 16        | 41              |           |
| S24411-20-20              | 1.1/4"X11 | 32        | 20        | 50              |           |
| S24411-24-24              | 1.1/2"X11 | 38        | 24        | 60              |           |
| S24411-32-32              | 2"X11     | 50        | 32        | 70              |           |

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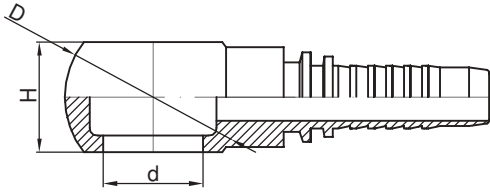
## BSPT Male Straight



| 15211 SERIES              | Thread    | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|-----------|-----------|-----------|-----------------|-----------|
|                           |           | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |           |           |           |                 |           |
| S15211-02-04              | 1/8"X28   | 6         | 4         | 12              |           |
| S15211-04-04              | 1/4"X19   | 6         | 4         | 14              |           |
| S15211-06-04              | 3/8"X19   | 6         | 4         | 19              |           |
| S15211-04-05              | 1/4"X19   | 8         | 5         | 14              |           |
| S15211-06-05              | 3/8"X19   | 8         | 5         | 19              |           |
| S15211-04-06              | 1/4"X19   | 10        | 6         | 14              |           |
| S15211-06-06              | 3/8"X19   | 10        | 6         | 19              |           |
| S15211-08-06              | 1/2"X14   | 10        | 6         | 22              |           |
| S15211-06-08              | 3/8"X19   | 12        | 8         | 19              |           |
| S15211-08-08              | 1/2"X14   | 12        | 8         | 22              |           |
| S15211-12-08              | 3/4"X14   | 12        | 8         | 27              |           |
| S15211-08-10              | 1/2"X14   | 16        | 10        | 22              |           |
| S15211-12-10              | 3/4"X14   | 16        | 10        | 27              |           |
| S15211-08-12              | 1/2"X14   | 19        | 12        | 22              |           |
| S15211-12-12              | 3/4"X14   | 19        | 12        | 27              |           |
| S15211-16-12              | 1"X11     | 19        | 12        | 36              |           |
| S15211-12-16              | 3/4"X14   | 25        | 16        | 27              |           |
| S15211-16-16              | 1"X11     | 25        | 16        | 36              |           |
| S15211-20-20              | 1.1/4"X11 | 32        | 20        | 46              |           |
| S15211-24-24              | 1.1/2"X11 | 38        | 24        | 50              |           |
| S15211-32-24              | 2"X11     | 38        | 24        | 65              |           |
| S15211-32-32              | 2"X11     | 50        | 32        | 65              |           |

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# PROPULSE FITTING SOLUTIONS



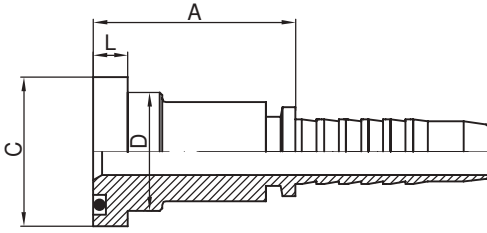
BSP Banjo

| 74211<br>SERIES<br>ProPulse Fitting Part No. | Bolt Size | Hose Bore |      | Dimensions (mm) |    |    |
|--|-----------|-----------|------|-----------------|----|----|
|  |           | DN        | Dash | d               | D  | H  |
| S74211-02-03                                 | 1/8"X28   | 5         | 3    | 9.9             | 22 | 16 |
| S74211-04-03                                 | 1/4"X19   | 5         | 3    | 13.3            | 24 | 15 |
| S74211-02-04                                 | 1/8"X28   | 6         | 4    | 9.9             | 22 | 16 |
| S74211-04-04                                 | 1/4"X19   | 6         | 4    | 13.3            | 24 | 15 |
| S74211-03-04                                 | 3/8"X19   | 6         | 4    | 16.7            | 29 | 20 |
| S74211-04-05                                 | 1/4"X19   | 8         | 5    | 13.3            | 24 | 15 |
| S74211-06-05                                 | 3/8"X19   | 8         | 5    | 16.7            | 29 | 20 |
| S74211-08-05                                 | 1/2"X14   | 8         | 5    | 21              | 38 | 25 |
| S74211-04-06                                 | 1/4"X19   | 10        | 6    | 13.3            | 24 | 15 |
| S74211-06-06                                 | 3/8"X19   | 10        | 6    | 16.7            | 29 | 20 |
| S74211-08-06                                 | 1/2"X14   | 10        | 6    | 21              | 38 | 25 |
| S74211-06-08                                 | 3/8"X19   | 12        | 8    | 16.7            | 29 | 20 |
| S74211-08-08                                 | 1/2"X14   | 12        | 8    | 21              | 38 | 25 |
| S74211-16-08                                 | 1"X11     | 12        | 8    | 33.3            | 60 | 42 |
| S74211-08-10                                 | 1/2"X14   | 16        | 10   | 21              | 38 | 25 |
| S74211-10-10                                 | 5/8"X14   | 16        | 10   | 23              | 40 | 27 |
| S74211-12-10                                 | 3/4"X14   | 16        | 10   | 26.5            | 48 | 31 |
| S74211-12-12                                 | 3/4"X14   | 19        | 12   | 26.5            | 48 | 31 |
| S74211-16-12                                 | 1"X11     | 19        | 12   | 33.3            | 60 | 42 |
| S74211-16-16                                 | 1"X11     | 25        | 16   | 33.3            | 60 | 42 |

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# PROPULSE FITTING SOLUTIONS

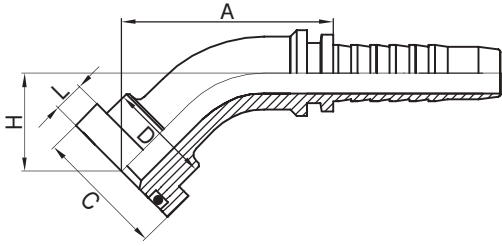
SAE Code 61 3000PSI Flange Straight  
SAE J516/J518



| 89511<br>SERIES<br><br>ProPulse Fitting Part No. | Flange Size | Hose Bore |      | Dimensions (mm) |      |      |      |
|--|-------------|-----------|------|-----------------|------|------|------|
|  |             | DN        | Dash | A               | C    | D    | L    |
| S89511-08-08                                     | 1/2"        | 12        | 8    | 46              | 30.2 | 24   | 6.73 |
| S89511-12-08                                     | 3/4"        | 12        | 8    | 47              | 38.1 | 31.7 | 6.73 |
| S89511-12-10                                     | 3/4"        | 16        | 10   | 48              | 38.1 | 31.7 | 6.73 |
| S89511-12-12                                     | 3/4"        | 19        | 12   | 48              | 38.1 | 31.7 | 6.73 |
| S89511-16-12                                     | 1"          | 19        | 12   | 51              | 44.5 | 38   | 8    |
| S89511-12-16                                     | 3/4"        | 25        | 16   | 49              | 38.1 | 31.7 | 6.73 |
| S89511-16-16                                     | 1"          | 25        | 16   | 52              | 44.5 | 38   | 8    |
| S89511-20-16                                     | 1.1/4"      | 25        | 16   | 57              | 50.8 | 43   | 8    |
| S89511-16-20                                     | 1"          | 32        | 20   | 53              | 44.5 | 38   | 8    |
| S89511-20-20                                     | 1.1/4"      | 32        | 20   | 58              | 50.8 | 43   | 8    |
| S89511-24-20                                     | 1.1/2"      | 32        | 20   | 68              | 60.3 | 50   | 8    |
| S89511-24-24                                     | 1.1/2"      | 38        | 24   | 68              | 60.3 | 50   | 8    |
| S89511-32-24                                     | 2"          | 38        | 24   | 70              | 71.4 | 62   | 9.53 |
| S89511-32-32                                     | 2"          | 50        | 32   | 70              | 71.4 | 62   | 9.53 |

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# PROPULSE FITTING SOLUTIONS



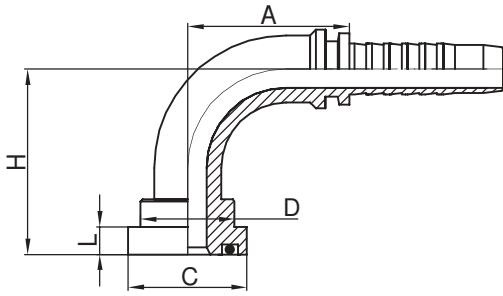
SAE Code 61 3000PSI Flange 45° Elbow  
SAE J516/J518

| 89541<br>SERIES<br>ProPulse Fitting Part No. | Flange Size | Hose Bore |      | Dimensions (mm) |      |      |    |      |
|--|-------------|-----------|------|-----------------|------|------|----|------|
|  |             | DN        | Dash | A               | C    | D    | H  | L    |
| S89541-08-08                                 | 1/2"        | 12        | 8    | 58.2            | 30.2 | 24   | 19 | 6.73 |
| S89541-12-08                                 | 3/4"        | 12        | 8    | 58.9            | 38.1 | 31.7 | 26 | 6.73 |
| S89541-12-10                                 | 3/4"        | 16        | 10   | 70.1            | 38.1 | 31.7 | 26 | 6.73 |
| S89541-12-12                                 | 3/4"        | 19        | 12   | 77              | 38.1 | 31.7 | 26 | 6.73 |
| S89541-16-12                                 | 1"          | 19        | 12   | 77              | 44.5 | 38   | 28 | 8    |
| S89541-16-16                                 | 1"          | 25        | 16   | 85.2            | 44.5 | 38   | 28 | 8    |
| S89541-20-16                                 | 1.1/4"      | 25        | 16   | 85.2            | 50.8 | 43   | 32 | 8    |
| S89541-16-20                                 | 1"          | 32        | 20   | 94.5            | 44.5 | 38   | 28 | 8    |
| S89541-20-20                                 | 1.1/4"      | 32        | 20   | 94.5            | 50.8 | 43   | 32 | 8    |
| S89541-24-20                                 | 1.1/2"      | 32        | 20   | 95.9            | 60.3 | 50   | 38 | 8    |
| S89541-24-24                                 | 1.1/2"      | 38        | 24   | 109.9           | 60.3 | 50   | 38 | 8    |
| S89541-32-24                                 | 2"          | 38        | 24   | 109.9           | 71.4 | 62   | 52 | 9.53 |
| S89541-32-32                                 | 2"          | 50        | 32   | 129.3           | 71.4 | 62   | 52 | 9.53 |

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# PROPULSE FITTING SOLUTIONS

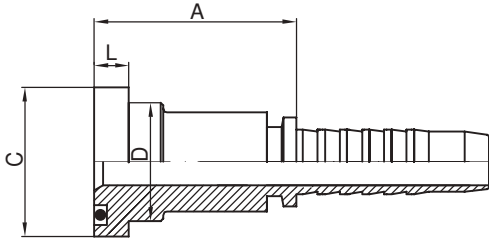
SAE Code 61 3000PSI Flange 90° Elbow  
SAE J516/J518



| 89591<br>SERIES | Flange Size | Hose Bore                 |    | Dimensions (mm) |      |      |     |      |
|-----------------|-------------|---------------------------|----|-----------------|------|------|-----|------|
|                 |             | ProPulse Fitting Part No. | DN | Dash            | A    | C    | D   | H    |
| S89591-08-08    | 1/2"        | 12                        | 8  | 41              | 30.2 | 24   | 40  | 6.73 |
| S89591-12-08    | 3/4"        | 12                        | 8  | 41              | 38.1 | 31.7 | 58  | 6.73 |
| S89591-12-10    | 3/4"        | 16                        | 10 | 56.5            | 38.1 | 31.7 | 58  | 6.73 |
| S89591-12-12    | 3/4"        | 19                        | 12 | 66.2            | 38.1 | 31.7 | 58  | 6.73 |
| S89591-16-12    | 1"          | 19                        | 12 | 66.2            | 44.5 | 38   | 61  | 8    |
| S89591-12-16    | 3/4"        | 25                        | 16 | 76.7            | 38.1 | 31.7 | 58  | 6.73 |
| S89591-16-16    | 1"          | 25                        | 16 | 78              | 44.5 | 38   | 61  | 8    |
| S89591-20-16    | 1.1/4"      | 25                        | 16 | 78              | 50.8 | 43   | 68  | 8    |
| S89591-16-20    | 1"          | 32                        | 20 | 91.5            | 44.5 | 38   | 61  | 8    |
| S89591-20-20    | 1.1/4"      | 32                        | 20 | 91.5            | 50.8 | 43   | 68  | 8    |
| S89591-24-20    | 1.1/2"      | 32                        | 20 | 91.5            | 60.3 | 50   | 81  | 8    |
| S89591-20-24    | 1.1/4"      | 38                        | 24 | 108.5           | 50.8 | 43   | 68  | 8    |
| S89591-24-24    | 1.1/2"      | 38                        | 24 | 109.4           | 60.3 | 50   | 81  | 8    |
| S89591-32-24    | 2"          | 38                        | 24 | 109.4           | 71.4 | 62   | 120 | 9.53 |
| S89591-32-32    | 2"          | 50                        | 32 | 131.8           | 71.4 | 62   | 120 | 9.53 |
| S89591-40-32    | 2.1/2"      | 50                        | 32 | 131.8           | 84.1 | 74.4 | 118 | 9.53 |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



SAE Code 62 6000PSI Flange Straight  
SAE J516/J518

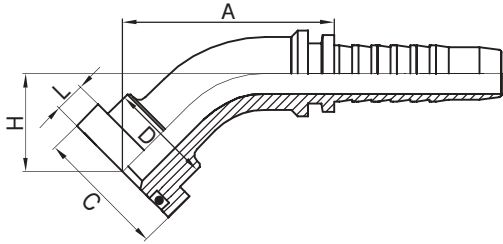
| 89811<br>SERIES<br><br>ProPulse Fitting Part No. | Flange Size | Hose Bore |      | Dimensions (mm) |      |    |       |      |
|--|-------------|-----------|------|-----------------|------|----|-------|------|
|  |             | DN        | Dash | A               | C    | D  | H     | L    |
| S89811-08-08                                     | 1/2"        | 12        | 8    | 47              | 31.8 | 24 | 7.75  | 6.73 |
| S89811-12-10                                     | 3/4"        | 16        | 10   | 51              | 41.3 | 32 | 8.76  | 6.73 |
| S89811-12-12                                     | 3/4"        | 19        | 12   | 51              | 41.3 | 32 | 8.76  | 6.73 |
| S89811-16-12                                     | 1"          | 19        | 12   | 56              | 47.6 | 38 | 9.53  | 6.73 |
| S89811-16-16                                     | 1"          | 25        | 16   | 57              | 47.6 | 38 | 9.53  | 8    |
| S89811-20-16                                     | 1.1/4"      | 25        | 16   | 65              | 54   | 44 | 10.29 | 8    |
| S89811-16-20                                     | 1"          | 32        | 20   | 61              | 47.6 | 38 | 9.53  | 8    |
| S89811-20-20                                     | 1.1/4"      | 32        | 20   | 66              | 54   | 44 | 10.29 | 8    |
| S89811-24-20                                     | 1.1/2"      | 32        | 20   | 75              | 63.5 | 51 | 12.57 | 8    |
| S89811-24-24                                     | 1.1/2"      | 38        | 24   | 75              | 63.5 | 51 | 12.57 | 8    |
| S89811-32-24                                     | 2"          | 38        | 24   | 85              | 79.4 | 67 | 12.57 | 8    |
| S89811-32-32                                     | 2"          | 50        | 32   | 85              | 79.4 | 67 | 12.57 | 9.53 |

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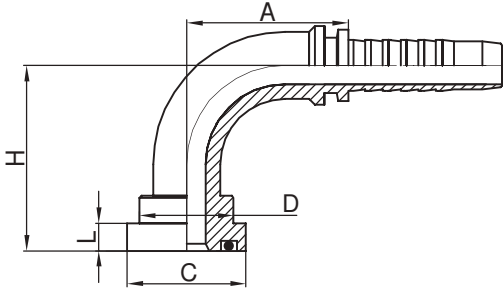
SAE Code 62 6000PSI Flange 45° Elbow  
SAE J516/J518



| 89841<br>SERIES<br><br>ProPulse Fitting Part No. | Flange Size | Hose Bore |      | Dimensions (mm) |      |    |    |       |
|--|-------------|-----------|------|-----------------|------|----|----|-------|
|  |             | DN        | Dash | A               | C    | D  | H  | L     |
| S89841-08-08                                     | 1/2"        | 12        | 8    | 58.9            | 31.8 | 24 | 19 | 7.75  |
| S89841-12-10                                     | 3/4"        | 16        | 10   | 72.5            | 41.3 | 32 | 26 | 8.76  |
| S89841-08-12                                     | 1/2"        | 19        | 12   | 74.9            | 31.8 | 24 | 26 | 7.75  |
| S89841-12-12                                     | 3/4"        | 19        | 12   | 79.2            | 41.3 | 32 | 26 | 8.76  |
| S89841-16-12                                     | 1"          | 19        | 12   | 79.2            | 47.6 | 38 | 28 | 9.53  |
| S89841-16-16                                     | 1"          | 25        | 16   | 90.2            | 47.6 | 38 | 28 | 9.53  |
| S89841-20-16                                     | 1.1/4"      | 25        | 16   | 96.2            | 54   | 44 | 32 | 10.29 |
| S89841-20-20                                     | 1.1/4"      | 32        | 20   | 103.8           | 54   | 44 | 32 | 10.29 |
| S89841-24-20                                     | 1.1/2"      | 32        | 20   | 105.8           | 63.5 | 51 | 38 | 12.57 |
| S89841-24-24                                     | 1.1/2"      | 38        | 24   | 116.2           | 63.5 | 51 | 38 | 12.57 |
| S89841-32-24                                     | 2"          | 38        | 24   | 125.4           | 79.4 | 67 | 52 | 12.57 |
| S89841-32-32                                     | 2"          | 50        | 32   | 135.7           | 79.4 | 67 | 52 | 12.57 |

\*Dimensions provided are nominal for reference only and may vary based on current supply.

# PROPULSE FITTING SOLUTIONS



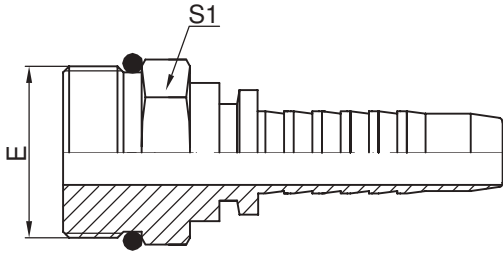
SAE Code 62 6000PSI Flange 90° Elbow  
SAE J516/J518

| 89891<br>SERIES<br>ProPulse Fitting Part No. | Flange Size | Hose Bore |      | Dimensions (mm) |      |    |     |       |
|--|-------------|-----------|------|-----------------|------|----|-----|-------|
|  |             | DN        | Dash | A               | C    | D  | H   | L     |
| S89891-08-08                                 | 1/2"        | 12        | 8    | 41              | 31.8 | 24 | 40  | 7.75  |
| S89891-12-10                                 | 3/4"        | 16        | 10   | 56.5            | 41.3 | 32 | 58  | 8.76  |
| S89891-12-12                                 | 3/4"        | 19        | 12   | 66.2            | 41.3 | 32 | 58  | 8.76  |
| S89891-16-12                                 | 1"          | 19        | 12   | 66.2            | 47.6 | 38 | 70  | 9.53  |
| S89891-16-16                                 | 1"          | 25        | 16   | 78              | 47.6 | 38 | 61  | 9.53  |
| S89891-20-16                                 | 1.1/4"      | 25        | 16   | 78              | 54   | 44 | 68  | 10.29 |
| S89891-16-20                                 | 1"          | 32        | 20   | 91.5            | 47.6 | 38 | 61  | 9.53  |
| S89891-20-20                                 | 1.1/4"      | 32        | 20   | 91.5            | 54   | 44 | 68  | 10.29 |
| S89891-24-20                                 | 1.1/2"      | 32        | 20   | 91.5            | 63.5 | 51 | 81  | 12.57 |
| S89891-24-24                                 | 1.1/2"      | 38        | 24   | 109.4           | 63.5 | 51 | 81  | 12.57 |
| S89891-32-24                                 | 2"          | 38        | 24   | 109.4           | 79.4 | 67 | 120 | 12.57 |
| S89891-32-32                                 | 2"          | 50        | 32   | 131.8           | 79.4 | 67 | 120 | 12.57 |

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# PROPULSE FITTING SOLUTIONS

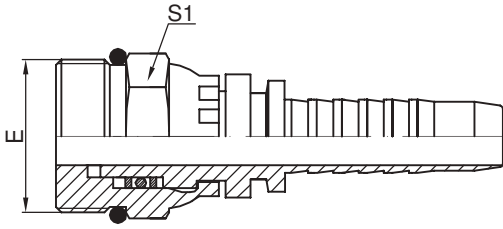
Standard ORB Male Solid  
SAE J514/J516



| 18211 SERIES<br>ProPulse Fitting Part No. | Thread     | Hose Bore |      | Dimensions (mm) |  |
|---|------------|-----------|------|-----------------|--|
|   |            | DN        | Dash | S1              |  |
| S18211-04-04                              | 7/16"X20   | 6         | 4    | 14              |  |
| S18211-05-04                              | 1/2"X20    | 6         | 4    | 17              |  |
| S18211-06-05                              | 9/16"X18   | 8         | 5    | 17              |  |
| S18211-06-06                              | 9/16"X18   | 10        | 6    | 17              |  |
| S18211-08-06                              | 3/4"X16    | 10        | 6    | 22              |  |
| S18211-08-08                              | 3/4"X16    | 12        | 8    | 22              |  |
| S18211-10-08                              | 7/8"X14    | 12        | 8    | 27              |  |
| S18211-10-10                              | 7/8"X14    | 16        | 10   | 27              |  |
| S18211-12-10                              | 1.1/16"X12 | 16        | 10   | 32              |  |
| S18211-12-12                              | 1.1/16"X12 | 19        | 12   | 32              |  |
| S18211-16-16                              | 1.5/16"X12 | 25        | 16   | 41              |  |

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# PROPULSE FITTING SOLUTIONS



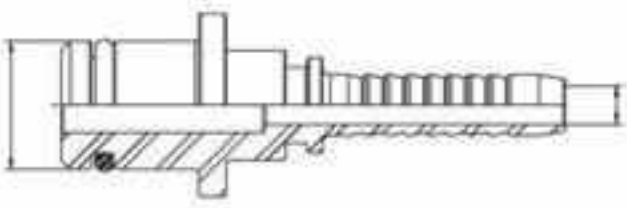
Standard ORB Male Swivel  
SAE J514/J516

| 18211W<br>SERIES          | Thread     | Hose Bore |             | Dimensions (mm) |  |
|---------------------------|------------|-----------|-------------|-----------------|--|
|                           |            | <i>DN</i> | <i>Dash</i> | <i>S1</i>       |  |
| ProPulse Fitting Part No. |            |           |             |                 |  |
| S18211W-04-04             | 7/16"X20   | 6         | 4           | 14              |  |
| S18211W-06-04             | 9/16"X18   | 6         | 4           | 17              |  |
| S18211W-06-06             | 9/16"X18   | 10        | 6           | 17              |  |
| S18211W-08-06             | 3/4"X16    | 10        | 6           | 22              |  |
| S18211W-08-08             | 3/4"X16    | 12        | 8           | 22              |  |
| S18211W-10-08             | 7/8"X14    | 12        | 8           | 27              |  |
| S18211W-12-08             | 1.1/16"X12 | 12        | 8           | 32              |  |
| S18211W-10-10             | 7/8"X14    | 16        | 10          | 27              |  |
| S18211W-12-12             | 1.1/16"X12 | 19        | 12          | 32              |  |

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# PROPULSE FITTING SOLUTIONS

## Pressure Washer Nipple

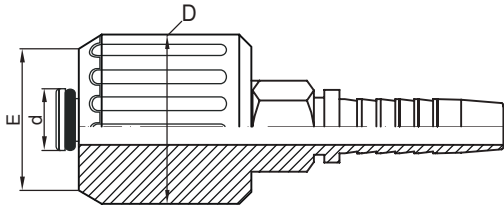


| 33313<br>SERIES           | Nominal<br>Correction | Hose Bore |             | Dimensions (mm) |             |
|---------------------------|-----------------------|-----------|-------------|-----------------|-------------|
|                           |                       | <i>DN</i> | <i>Dash</i> | <i>Shoulder</i> | <i>I.D.</i> |
| ProPulse Fitting Part No. | <i>NC</i>             |           |             |                 |             |
| S33313-14-04              | 14                    | 6         | 4           | 20              | 4.0         |
| S33313-14-05              | 14                    | 8         | 5           | 20              | 6.0         |
| S33313-14-06              | 14                    | 10        | 6           | 20              | 7.0         |
| S33313-15-04              | 15                    | 6         | 4           | 20              | 4.0         |
| S33313-15-08              | 15                    | 8         | 5           | 20              | 6.3         |

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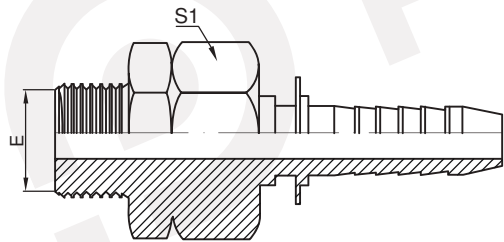
# PROPULSE FITTING SOLUTIONS

## M22 Live Swivel



| 23313LS<br>SERIES         | Thread  | Hose Bore |           | Dimensions (mm) |          |          |
|---------------------------|---------|-----------|-----------|-----------------|----------|----------|
|                           |         | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>d</i> | <i>D</i> |
| ProPulse Fitting Part No. |         |           |           |                 |          |          |
| S23313LS-22-08            | M22X1.5 | 8         | 5         | 14              | 37.5     |          |
| S23313LS-22-10            | M22X1.5 | 10        | 6         | 14              | 37.5     |          |

## NPT Live Swivel



| 178163LS<br>SERIES        | Thread  | Hose Bore |           | Dimensions (mm) |           |
|---------------------------|---------|-----------|-----------|-----------------|-----------|
|                           |         | <i>E</i>  | <i>DN</i> | <i>Dash</i>     | <i>S1</i> |
| ProPulse Fitting Part No. |         |           |           |                 |           |
| S17813LS-06-06            | 3/8"X18 | 10        | 6         | 27              |           |

\*Dimensions provided are nominal for reference only and may vary based on current supply.



## WARNING

Improper selection or improper use of hose, fittings, assemblies or related accessories ("Products") can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- › Fittings thrown off at high speed.
- › High velocity fluid discharge.
- › Explosion or burning of the conveyed fluid.
- › Electrocutation from high voltage electric powerlines.
- › Contact with suddenly moving or falling objects that are controlled by the conveyed fluid.
- › Injections by high-pressure fluid discharge.
- › Dangerously whipping Hose.
- › Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- › Sparking or explosion caused by static electricity buildup or other sources of electricity.
- › Sparking or explosion while spraying paint or flammable liquids.
- › Injuries resulting from inhalation, ingestion or exposure to fluids.

Before selecting or using any ProPulse Products, it is important that you read and understand the following.



## IF YOU SEE "IT" – STOP "IT"

FAILURE TO PROPERLY REPAIR OR REPLACE HOSE AFTER EXPOSING BRAID. REINFORCEMENT LAYER CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE. LIKE STRANDS IN A BRIDGE CABLE, EACH REINFORCEMENT FIBER PLAYS AN EXACT ROLE IN THE ULTIMATE BURST STRENGTH OF THE HOSE. A MINOR SLICE OR NICK IN THE REINFORCEMENT CAN RESULT IN TOTAL HOSE FAILURE.

THE AGE OF THE HOSE DOES NOT MATTER! IT IS UNFORTUNATE, BUT EVEN HOSE USED ONE (1) TIME CAN BE DAMAGED IN SEVERE APPLICATIONS. THESE HOSES MUST BE IMMEDIATELY REMOVED FROM SERVICE.

## HOSE BASICS

1. NEVER EXCEED THE MAXIMUM WORKING PRESSURE.
2. NEVER EXCEED THE MAXIMUM WORKING TEMPERATURE.
3. NEVER APPLY PRESSURE TO A DAMAGED HOSE.
4. HIGH PRESSURE HOSES ARE DESIGNED TO USE SPECIFIC FITTINGS OR TOOLING. NEVER USE A DIFFERENT BRAND OF FITTINGS TO TOOLING. FAILURE TO DO SO CAN CAUSE DEATH, PERSONAL INJURY AND/OR PROPERTY DAMAGE.
5. A KINKED, CRUSHED, OR BLISTERED HOSE WILL EVENTUALLY FAIL – DO NOT RISK INJURY. IMMEDIATELY REPAIR OR REMOVE HOSE FROM SERVICE.
6. FOLLOW THE PUMP/EQUIPMENT MANUFACTURERS INSTRUCTIONS FOR PRESSURIZED HOSE TESTING.

# PROPULSE LIMITED WARRANTY

Subject to the limitations stated herein, Schieffer Co. International, L.C., dba ProPulse (Seller) warrants that the products manufactured by Seller identified below shall be free from material defects in materials and workmanship and shall perform the services for which they are intended when properly installed, under normal use, and under ordinary conditions, for:

**HYDRAULIC HOSE:** A period of 365 days from the date of shipment of the product to BUYER.

**HIGH PRESSURE CLEANING HOSE:** A period of 180 days from the shipment of the product to the BUYER.

Buyer must notify Seller in writing of a potentially defective product as soon as possible, which notice must provide the appropriate marked date codes, part numbers of the product and a description of the potential defect. Upon receipt of such notice, Seller shall, at its option and at its expense, examine such product at Seller's factory or such other location as Seller shall determine. Should Seller agree to a return of the product, Buyer shall follow in every respect the packaging and transportation instructions provided by Seller. In no case shall a product be returned without first obtaining the permission of Seller. If a product is proven to the satisfaction of Seller to be defective, then Seller shall, at its option and at its expense, repair or replace such product or reimburse Buyer for the price paid by Buyer for such product, and credit will be issued to Buyer to offset the expense of the return shipment to Seller for shipments within the continental United States. The cost of shipping to Buyer a repaired or replaced product shall be paid by Seller on the same shipping terms as the original shipment of such product to Buyer. Except as stated herein, Buyer shall assume all responsibility and expense for any dismantling, removal, reinstallation, and shipping in connection with this Limited Warranty, and no claims will be allowed for labor, shipping, materials, incidental, consequential, or other costs incident to the repair, replacement, or return of a product.

THIS LIMITED WARRANTY IS THE ONLY WARRANTY PROVIDED BY SELLER AND IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND THOSE ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING.

NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON PRODUCTS BUILT OR ACQUIRED WHOLLY OR PARTIALLY TO BUYER'S DESIGNS OR SPECIFICATIONS.

SELLER'S LIABILITY IS LIMITED TO REPAIR, REPLACEMENT, OR REIMBURSEMENT AS PROVIDED ABOVE, AND IN NO EVENT SHALL

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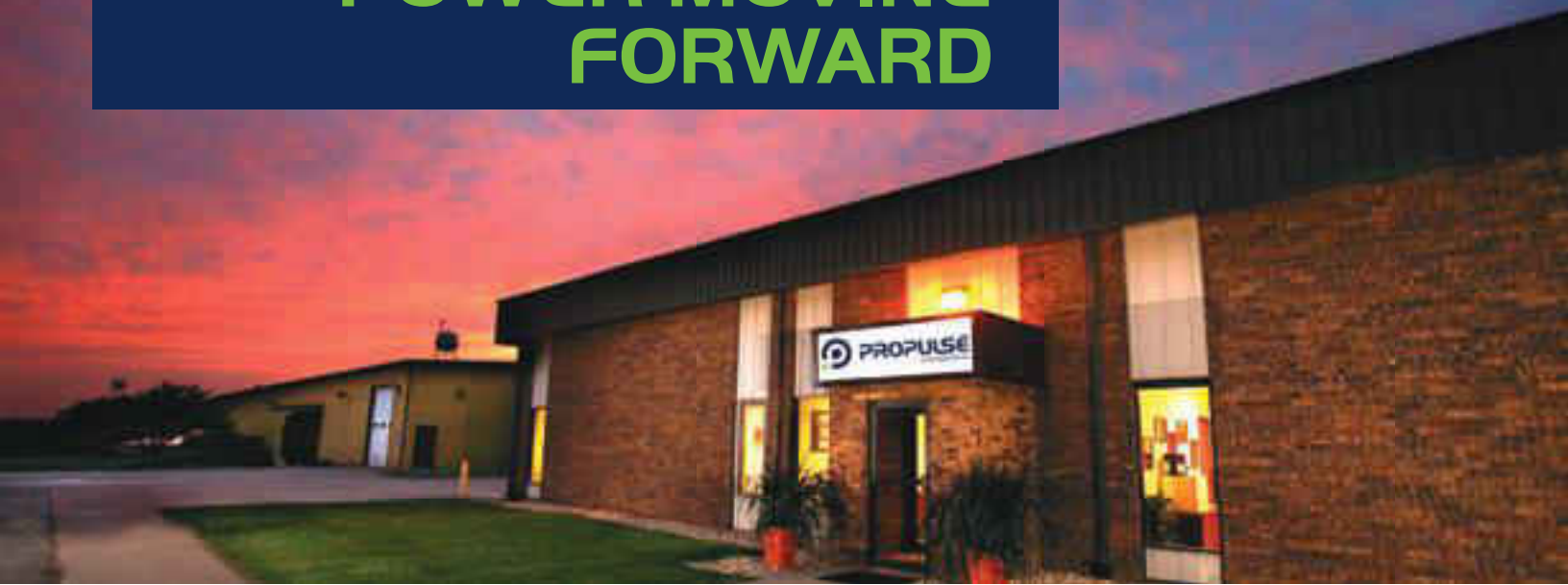
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This Limited Warranty shall not apply to product failure or defect: caused by external or internal abrasion, kinking, twisting, cutting, pulling, impact, use for the transfer or spray of flammable materials (including solvents, petroleum, and gases of any kind), use with fluids which exceed the product's labeled pressure or temperature limits, storm, fire, wind, accident, or similar casualty; where the product has been modified without the prior written authority of Seller; caused by installation or use of the product contrary to any instructions or specifications provided by Seller; caused by the improper installation, use, application, maintenance, repair, transportation, handling, or storage of the product; caused by the fault or negligence of anyone other than Seller or any other act or event beyond the control of Seller. Seller makes no warranties as to any products or product parts or components that are not manufactured by Seller, and such items may be warranted only to the extent of the original manufacturer's warranty, if any. The limitations of liability contained in this Limited Warranty shall be effective without regard to Seller's performance or failure or delay of performance under any other term or condition of any trade customs, warranty, or other agreement. No employee, representative, or agent of Seller, nor any other person, has authority to assume or incur on behalf of Seller any liability, obligation, or responsibility in place of or in addition to this Limited Warranty.



Our location, outstanding products and customer support are the main ingredients that will keep your

**POWER MOVING FORWARD**



## VALUE YOU CAN EXPECT

- › **Continued Growth and Expansion.** The company began as an importer and assembler of hoses for hydraulic actuation and high pressure cleaning applications as Schieffer Co. International in 1998. ProPulse, a Schieffer Co. (rebranded in 2014) now occupies 65,000 square feet in Peosta, IA, and is looking at yet another expansion.
- › **A Fully Integrated North American Manufacturer Partner Active in the Reshoring Renaissance.** Since 1998, the company has moved from being a simple buyer and assembler of outsourced hoses toward being a fully integrated manufacturer of value added high pressure hose systems. The manufacture of thermoplastic yarn reinforced hose started in 2005. The wire braiding process began in 2012.
- › **Factory Direct Purchasing of Finished Assemblies with a Logistical Advantage.** Our advantage is also logistical. ProPulse is located in the virtual geographic center of North America (Peosta, Iowa) which allows short delivery times to production lines. In other words: factory to factory and production line to production line. No middle man. As a manufacturer, shouldn't you be buying hose assemblies directly from the manufacturer?
- › **ISO 9001:2008 Certification.** Certified in 2012, the company continues to implement and embrace the most modern practices of quality, lean manufacturing principles and continuous process improvement.
- › **Exceptional Customer Service & Support.** Another innovation for top customers is the "VIP" program, whereby, a quarterly self-assessment is supplied. This "report card" self-assesses ProPulse performance on the basis of quality, on time delivery and customer service. Further, every report includes an opportunity for a specific Value Improvement Program (VIP). Examples of VIP include opportunities for hard cost savings by using a different product (for example), or for soft savings such as returnable packaging, Kan Ban, kitting and the like. Customers can look forward to always receiving something new and creative every quarter.
- › **Product Development Focus.** ProPulse has obtained multiple patents and applications pending for innovative high pressure hose types. Efforts to improve existing products and develop new and innovative products remains the highest priority.



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