

S51 Series

S A F E W A Y H Y D R A U L I C S

Document No. 7951 rev. 003



Thread
Together,
Maximum
Flow with
Minimum
Spillage

Minimum Spill, High Flow, Heavy-Duty Quick Coupling

SafeWay's S51 Series is a minimum spill, thread-to-connect, fluid transfer quick coupling designed for use with most industrial fluids. It can be connected under full system pressure by rotating the female threaded heavy-duty ductile cast iron wing nut or brass hex nut onto the mating male threaded tip (nipple).

This series is available in 3/4", 1", and 1-1/4" body size with female pipe thread standard. The basic material consists of a brass body (coupler) and tip (nipple), each with a rugged flush face, bonded poppet valve that maximizes seal resistance to washout during connection and disconnection-under-pressure. Nitrile (Buna-N) seals are standard and offer wide fluid and temperature compatibility. Other seal compounds are available upon request. Simple bulkhead mounting of the tip (nipple) can be achieved through the use of a heavy-duty flange assembly. Field repair kits are available for all sizes.

Some basic applications include "wet-line kits" used widely on dump trailers, mobile drilling rigs, mining equipment, large mobile equipment, salt spreaders, and chemical transfer units.

Due to the wide range of use for this quick coupling series, numerous options and accessories are available. Obtaining the proper product for your application should be your prime concern. Please review this document, our current catalog at our website, or contact the factory for additional information regarding your particular requirement.



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PERFORMANCE DATA

Complete Coupler No.	Body Size (Inches)	Thread Size and Description	Threaded Union Style	Max. Operating Pressure psi (BAR)	NFPA Rated Flow gpm (Lpm)	Max. Spillage cc
S51W-4	3/4	1/2" Female Pipe	Cast Iron Wing	3,000 (207)	12 (45)	.15
S51W-6	3/4	3/4" Female Pipe	Cast Iron Wing	3,000 (207)	28 (106)	.15
S51W-8	1	1" Female Pipe	Cast Iron Wing	3,000 (207)	50 (189)	.20
S51W-8-STL*	1	1" Female Pipe	Cast Iron Wing	3,000 (207)	50 (189)	.20
S51W-10	1-1/4	1-1/4" Female Pipe	Cast Iron Wing	2,500 (172)	76 (288)	.50
S51H-4	3/4	1/2" Female Pipe	Machined Hex	3,000 (207)	12 (45)	.15
S51H-6	3/4	3/4" Female Pipe	Machined Hex	3,000 (207)	28 (106)	.15
S51H-8	1	1" Female Pipe	Machined Hex	3,000 (207)	50 (189)	.20
S51H-8-STL*	1	1" Female Pipe	Machined Hex	3,000 (207)	50 (189)	.20
S51H-10	1-1/4	1-1/4" Female Pipe	Machined Hex	2,500 (172)	76 (288)	.50

*Electroless nickel plated steel shell with standard internal parts.

Temperature Range: Standard Seals (Buna-N) -40° to +250° F. Viton® Option: -15° to +450° F. Other Seals Available.

Vacuum Data: 27.4 inches Hg. both connected and disconnected — all sizes.

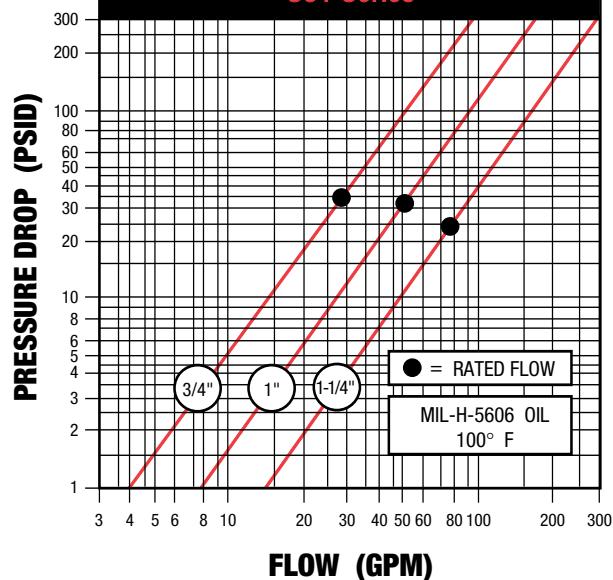
Pressure rating (Max. Operating Pressure) is based on Non-Pulsating, Low Cycle applications with essentially steady pressure during the operating cycle. Please consult factory regarding other applications.

FEATURES

- Minimum air inclusion during connection and minimum fluid spillage during disconnection.
- Interchangeable half-for-half with Parker 6100 Series, Aeroquip FD51 Series, Snap-tite 78 Series, Faster FB Series.
- Brass body and tip components combined with a rugged steel flush face poppet valve assembly for corrosion resistant durability.
- Some sizes are also available in rugged electroless nickel plated steel (-STL) with standard internal parts, wing or hex nut.
- Connection-under-pressure can be accomplished due to our heavy-duty poppet assembly with bonded valve seals.
- Available with either a ductile cast iron wing nut or heavy duty brass hex nut to perform a threaded connection.
- SafeWay's Ductile Cast Iron Wing Nut is specially built to withstand hammer blows associated with connection and disconnection-under-pressure.
- All S51 Series quick couplings are 100% bubble leak tested before leaving the factory.
- Completely field serviceable with field repair kits.
- Available heavy-duty flange provides a simple and reliable method of bulkhead mounting the male half.
- Method of obtaining and presenting performance data conforms to ANSI (NFPA) T3.20.2.R2, Hydraulic fluid power - Quick action couplings - Test methods.

Viton® is a registered trademark of DuPont Dow Elastomers.

PRESSURE DROP VERSUS FLOW S51 Series



INTERCHANGE DISCLAIMER

The interchange chart on the following page lists those products that interconnect due to dimensional compatibility within this accepted interchange; it does not take into account substantial differences in product performance between brands, or specific features unique to a given brand. Product part numbers and specifications change frequently. Please consult our website or our Customer Service Department if you have any questions regarding interchangeability and technical information.



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I N T E R C H A N G E D A T A

Body Size (Inches)	Thread Size and Description	Union Style	SafeWay Part Number	Aeroquip Part Number	FASTER Part Number	Hansen Part Number
3/4	1/2" F NPT - Complete	Wing	S51W-4	5101-10B	—	—
3/4	1/2" F NPT - Body (Coupler)	Wing	S515W-4	5100-S5-10B	FB12/12NPTF5	—
3/4	1/2" F NPT - Tip (Nipple)	Wing	S511-4	5100-S2-10B	FB12/12NPTM5	—
3/4	1/2" F NPT - Complete	Hex	S51H-4	5111-10B	—	—
3/4	1/2" F NPT - Body (Coupler)	Hex	S515H-4	5110-S5-10B	—	—
3/4	1/2" F NPT - Tip (Nipple)	Hex	S511-4	5100-S2-10B	—	—
3/4	3/4" F NPT - Complete	Wing	S51W-6	5101-12B	—	—
3/4	3/4" F NPT - Body (Coupler)	Wing	S515W-6	5100-S5-12B	FB12/34NPTF5	96-S31
3/4	3/4" F NPT - Tip (Nipple)	Wing	S511-6	5100-S2-12B	FB12/34NPTM5	96-P31
3/4	3/4" F NPT - Complete	Hex	S51H-6	5111-12B	—	—
3/4	3/4" F NPT - Body (Coupler)	Hex	S515H-6	5110-S5-12B	—	—
3/4	3/4" F NPT - Tip (Nipple)	Hex	S511-6	5100-S2-12B	—	—
1	1" F NPT - Complete	Wing	S51W-8	5101-16B	—	—
1	1" F NPT - Body (Coupler)	Wing	S515W-8	5100-S5-16B	FB16/1NPTF5	96-S36
1	1" F NPT - Tip (Nipple)	Wing	S511-8	5100-S2-16B	FB16/1NPTM5	96-P36
1	1" F NPT - Complete	Hex	S51H-8	5111-16B	—	—
1	1" F NPT - Body (Coupler)	Hex	S515H-8	5110-S5-16B	—	—
1	1" F NPT - Tip (Nipple)	Hex	S511-8	5100-S2-16B	—	—
1	1" F NPT - Complete	Wing	S51W-8-STL	5101-16B	—	—
1	1" F NPT - Body (Coupler)	Wing	S515W-8-STL	5100-S5-16B	FB16/1NPTF5	96-S36
1	1" F NPT - Tip (Nipple)	Wing	S511-8-STL	5100-S2-16B	FB16/1NPTM5	96-P36
1	1" F NPT - Complete	Hex	S51H-8-STL	5111-16B	—	—
1	1" F NPT - Body (Coupler)	Hex	S515H-8-STL	5110-S5-16B	—	—
1	1" F NPT - Tip (Nipple)	Hex	S511-8-STL	5100-S2-16B	—	—
1-1/4	1-1/4" F NPT - Complete	Wing	S51W-10	5101-20B	—	—
1-1/4	1-1/4" F NPT - Body (Coupler)	Wing	S515W-10	5100-S5-20B	FB20/114NPTF5	96-S41
1-1/4	1-1/4" F NPT - Tip (Nipple)	Wing	S511-10	5100-S2-20B	FB20/114NPTM5	96-P41
1-1/4	1-1/4" F NPT - Complete	Hex	S51H-10	5111-20B	—	—
1-1/4	1-1/4" F NPT - Body (Coupler)	Hex	S515H-10	5110-S5-20B	—	—
1-1/4	1-1/4" F NPT - Tip (Nipple)	Hex	S511-10	5100-S2-20B	—	—



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I N T E R C H A N G E D A T A (C O N T .)

Body Size (Inches)	Thread Size and Description	Union Style	SafeWay Part Number	Parker Part Number	Snap-tite Part Number	TOMCO Part Number
3/4	1/2 F NPT - Complete	Wing	S51W-4	6120-08	—	—
3/4	1/2" F NPT - Body (Coupler)	Wing	S515W-4	6125-08	—	51W-8
3/4	1/2" F NPT - Tip (Nipple)	Wing	S511-4	6105-08	—	51P-8
3/4	1/2 F NPT - Complete	Hex	S51H-4	6130-08	—	—
3/4	1/2" F NPT - Body (Coupler)	Hex	S515H-4	6135-08	—	51H-8
3/4	1/2" F NPT - Tip (Nipple)	Hex	S511-4	6105-08	—	51P-8
3/4	3/4" F NPT - Complete	Wing	S51W-6	6120-12	—	—
3/4	3/4" F NPT - Body (Coupler)	Wing	S515W-6	6125-12	B78C12-12F	51W-12
3/4	3/4" F NPT - Tip (Nipple)	Wing	S511-6	6105-12	B78N12-12F	51P-12
3/4	3/4" F NPT - Complete	Hex	S51H-6	6130-12	—	—
3/4	3/4" F NPT - Body (Coupler)	Hex	S515H-6	6135-12	B78HC12-12F	51H-12
3/4	3/4" F NPT - Tip (Nipple)	Hex	S511-6	6105-12	B78N12-12F	51P-12
1	1" F NPT - Complete	Wing	S51W-8	6120-16	—	—
1	1" F NPT - Body (Coupler)	Wing	S515W-8	6125-16	B78C16-16F	51W-16
1	1" F NPT - Tip (Nipple)	Wing	S511-8	6105-16	B78N16-16F	51P-16
1	1" F NPT - Complete	Hex	S51H-8	6130-16	—	—
1	1" F NPT - Body (Coupler)	Hex	S515H-8	6135-16	B78HC16-16F	51H-16
1	1" F NPT - Tip (Nipple)	Hex	S511-8	6105-16	B78N16-16F	51P-16
1	1" F NPT - Complete	Wing	S51W-8-STL	6120-16	—	—
1	1" F NPT - Body (Coupler)	Wing	S515W-8-STL	6125-16	B78C16-16F	51W-16
1	1" F NPT - Tip (Nipple)	Wing	S511-8-STL	6105-16	B78N16-16F	51P-16
1	1" F NPT - Complete	Hex	S51H-8-STL	6130-16	—	—
1	1" F NPT - Body (Coupler)	Hex	S515H-8-STL	6135-16	B78HC16-16F	51H-16
1	1" F NPT - Tip (Nipple)	Hex	S511-8-STL	6105-16	B78N16-16F	51P-16
1-1/4	1-1/4" F NPT - Complete	Wing	S51W-10	6120-20	—	—
1-1/4	1-1/4" F NPT - Body (Coupler)	Wing	S515W-10	6125-20	B78C20-20F	51W-20
1-1/4	1-1/4" F NPT - Tip (Nipple)	Wing	S511-10	6105-20	B78N20-20F	51P-20
1-1/4	1-1/4" F NPT - Complete	Hex	S51H-10	6130-20	—	—
1-1/4	1-1/4" F NPT - Body (Coupler)	Hex	S515H-10	6135-20	B78HC20-20F	51H-20
1-1/4	1-1/4" F NPT - Tip (Nipple)	Hex	S511-10	6105-20	B78N20-20F	51P-20



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SafeWay Hydraulics, Inc.

WARNING STATEMENT



WARNING

FAILURE, IMPROPER USE OR IMPROPER SELECTION OF THE SYSTEMS AND/OR COMPONENTS DESCRIBED HEREIN MAY CAUSE DEATH, PERSONAL INJURY AND/OR PROPERTY DAMAGE.

This document, as well as all other catalogs, price lists and information provided by SafeWay Hydraulics, Inc., its subsidiaries or authorized distributors, is intended to provide product information and/or system options for further consideration by users having substantial technical expertise. It is imperative that all aspects of any intended use be analyzed and all pertinent information reviewed concerning the component or system in a current product catalog. Due to the variety of operating conditions and applications for these components and systems, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and systems and ensuring that all safety, warning and performance requirements of the application or use are met.

The components described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of SafeWay Hydraulics, Inc. and its subsidiaries at any time without notice.

SAFETY GUIDE — QUICK ACTION COUPLINGS

1. QUICK COUPLINGS CAN FAIL WITHOUT WARNING FOR A VARIETY OF REASONS. ALL EQUIPMENT AND SYSTEMS SHOULD BE OF A FAIL-SAFE DESIGN TO AVOID ENDANGERING PERSONS AND PROPERTY.
2. ANY PERSON RESPONSIBLE FOR SELECTING OR USING QUICK COUPLINGS SHOULD READ AND UNDERSTAND THIS SAFETY GUIDE AND HAVE A GOOD UNDERSTANDING OF FLUID SYSTEM DESIGN AND MAINTENANCE.
3. SAFEWAY, ITS REPRESENTATIVES AND DISTRIBUTORS DO NOT REPRESENT OR WARRANT THAT ANY QUICK COUPLING IS SUITABLE FOR ANY SPECIFIC USE. THE USER, THROUGH ITS OWN TESTING AND EVALUATION, IS SOLELY RESPONSIBLE FOR FINAL SELECTION OF THE PRODUCTS AND SYSTEMS AND ENSURING THAT ALL SAFETY, WARNING AND PERFORMANCE REQUIREMENTS OF THE APPLICATION OR USE ARE MET.

Coupler Installation

Quick couplings should be located so as not to expose the operator to moving parts, hot parts, the potential of falling, slipping, or other hazardous conditions. Precautions should be taken to not over tighten mating threaded parts during installation.

Locking Mechanism

Ball locking quick couplings can unintentionally disconnect if they are dragged over obstructions while on the end of a hose, or if the sleeve is bumped or moved enough to cause disconnect. Sleeves designed with flanges, to provide better gripping for gloved hands, are especially susceptible to accidental disconnect and should not be used where these conditions exist. THE SLEEVE LOCK OPTION SHOULD BE CONSIDERED WHERE THERE IS A POTENTIAL FOR UNINTENDED UNCOUPLING.

Coupler Size

Transmission of power by means of pressurized fluid varies with the system pressure and flow rate. The body size of the coupler must be adequate to keep pressure loss to a minimum to avoid damage due to heat generation or excessive fluid velocity.

Mechanical Loads

Excessive axial and side forces or vibration can reduce coupler life or cause failure.

Pressure

When selecting your quick coupling, make sure its maximum operating pressure is equal to, or greater than, the maximum possible system pressure. DO NOT EXCEED THE LIMITS OF THE COUPLER. Pressure impulse can shorten the life of a coupler.

Hose Whip

A short length of hose between the tool and the coupler half should be used instead of a rigid mount. This reduces the potential for coupler damage and provides some isolation from mechanical vibration which could cause accidental uncoupling. Never try to connect or disconnect the coupler when there is pressure in the system unless you are using a quick coupling designed for that purpose.

Environment

Environmental conditions including, but not limited to, moisture, water, chemicals, ozone, ultraviolet radiation and air pollutants can cause degradation of coupling components and premature quick coupling failure. Choose the proper body material for use in the environment in which the system is placed.

Vacuum

Not all quick couplings are suitable or recommended for vacuum service. Quick couplings used in vacuum applications must be selected to ensure that the quick coupling will withstand the vacuum and pressure of the system.

Fluid and Temperature

Quick coupling body and seal materials must be compatible with the media and ambient temperature, both steady and transient. DO NOT EXCEED THE LIMITS OF THE COUPLER.

Fluid Leaks

DO NOT GO NEAR FLUID LEAKS. High pressure leaks of fluid such as oil easily puncture skin and can cause serious injury, gangrene or death. Relieve pressure before loosening fittings. Do not use fingers or skin to check for leaks. If injured, seek emergency medical help. Immediate surgery is required to remove oil.