

# SafeWay Hydraulics, Inc.

## WARNING STATEMENT



### **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.

# FFE49 Series

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

Document No. 7960 rev. 004



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Flush Face  
Non-Spill,  
International  
Standard  
ISO 16028  
Interchange

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## No Spillage, High Flow Reliable Quick Coupling

**SafeWay's FFE49 Series** is a non-spill, push-to-connect, fluid transfer quick coupling designed for use with most industrial fluids. This new series is interchangeable with quick couplings meeting International Standard ISO 16028 dimensional requirements, and our field proven, heavy-duty FF49 Series.

This series is available in all ISO body sizes from 1/4" through 1" in a variety of thread sizes and styles. The basic material is steel, zinc plated with yellow chromate finish for corrosion resistance. SafeWay's unique anti-blowout Nitrile and Teflon® seal reduces the likelihood of premature failure due to connecting under residual system pressure. Other seal materials are available upon request.

**Some basic applications include** skid-steer loaders, power utility equipment, construction equipment, agricultural equipment, and hydraulic hand tools. Use this quick coupling series whenever spillage can result in a safety or environmental hazard, when air inclusion during connection to a hydraulic system cannot be tolerated, and when international interchangeability with other brands is required.

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

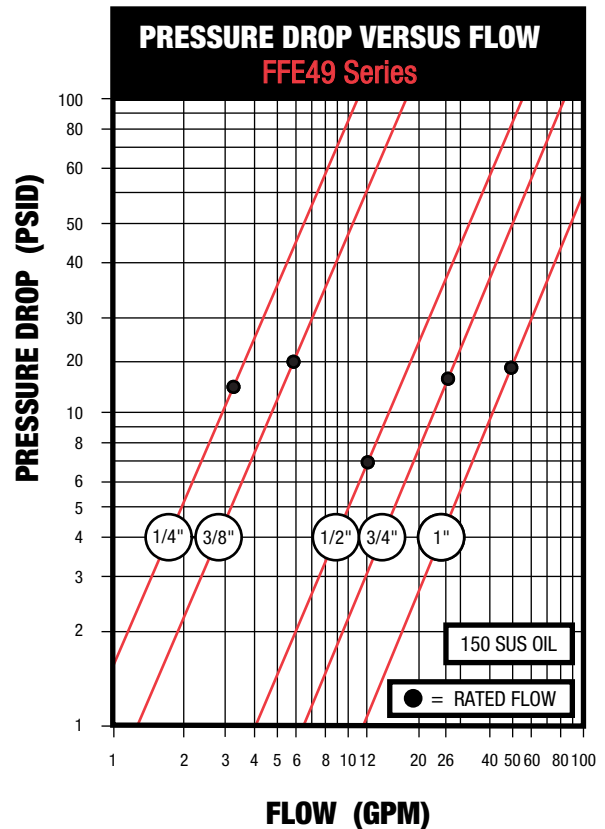
Complete Coupler No.	ISO Body Size (Inches)	Body Size (Inches)	Threaded Size and Description	Max. Operating Pressure (psi)	Max. Operating Pressure (BAR)	Rated Flow (gpm)	Rated Flow (Lpm)	Max. Spillage (cc)
FFE49-2	1/4	1/4	1/4" Female NPT	5,000	(345)	3	(12)	.01
FFE49-3	3/8	3/8	3/8" Female NPT	4,000	(276)	10	(38)	.02
FFE49-3-8	3/8	3/8	3/4"-16 Female ORB	4,000	(276)	10	(38)	.02
FFE49-4	1/2	3/4	1/2" Female NPT	4,000	(276)	12	(45)	.04
FFE49-4-3/4	1/2	3/4	3/4" Female NPT	4,000	(276)	12	(45)	.04
FFE49-4-10	1/2	3/4	7/8"-14 Female ORB	4,000	(276)	12	(45)	.04
FFE49-4-12	1/2	3/4	1-1/16"-12 Female ORB	4,000	(276)	12	(45)	.04
FFE49-6	3/4	1	3/4" Female NPT	4,000	(276)	26	(100)	.10
FFE49-6-1	3/4	1	1" Female NPT	4,000	(276)	26	(100)	.10
FFE49-6-16	3/4	1	1-5/16"-12 Female ORB	4,000	(276)	26	(100)	.10
FFE49-8	1	1-1/4	1" Female NPT	3,000	(207)	50	(189)	.20
FFE49-8-114	1	1-1/4	1-1/4" Female NPT	3,000	(207)	50	(189)	.20
FFE49-8-20	1	1-1/4	1-5/8"-12 Female ORB	3,000	(207)	50	(189)	.20

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

- Smooth, one hand, push-to-connect locking mechanism.
- Minimum air inclusion during connection and minimum fluid spillage during disconnection.
- Interchangeable half-for-half with Parker FEM Series, Aeroquip FD89, Holmbury FIRG & FIMC Series, Faster 2FFI Series, and others conforming to International Standard ISO 16028 dimensional requirements.
- Rugged Flush Face valving allows easy cleaning to minimize system contamination.
- Maximum flow for quick system response.
- Available in ISO 1/4" through ISO 1" body size in a variety of thread sizes and styles.
- Anti-blowout Buna and Teflon® seals reduce the likelihood of premature seal failure due to connecting under pressure. The maximum pressure at which a 3/8" body size can be connected is 250 PSI. The maximum pressure at which a 1/2" ISO body size and 3/4" ISO body size can be connected is 400 PSI.
- All FFE49 Series quick couplings are 100% bubble leak tested before leaving the factory.
- Heat treated surfaces resist wear.
- Sleeve lock option, to minimize accidental disconnect, is available upon request.
- Method of obtaining and presenting performance data conforms to ANSI (NFPA) T3.20.2.R2, Hydraulic fluid power - Quick action couplings - Test methods.



## 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.*

# I N T E R C H A N G E   D A T A

ISO Body Size (Inches)	Nominal Body Size (Inches)	Thread Size and Description	SafeWay Part Number	Aeroquip Part Number	Faster Part Number
1/4	1/4	1/4" F NPT - Body (Coupler)	FFE495-2	FD89-1001-04-04	2FFI14 NPT F
1/4	1/4	1/4" F NPT - Tip (Nipple)	FFE491-2	FD89-1002-04-04	2FFI14 NPT M
3/8	3/8	3/8" F NPT - Body (Coupler)	FFE495-3	FD89-1001-06-06	2FFN38 NPT F
3/8	3/8	3/8" F NPT - Tip (Nipple)	FFE491-3	FD89-1002-06-06	3FFI38 NPT M
3/8	3/8	3/4"-16 F ORB - Body (Coupler)	FFE495-3-8	—	2FFN38-12SAE F
3/8	3/8	3/4"-16 F ORB - Tip (Nipple)	FFE491-3-8	—	3FFI38-12SAE M
1/2	3/4	1/2" F NPT - Body (Coupler)	FFE495-4	FD89-1001-08-08	2FFI12-12 NPT F
1/2	3/4	1/2" F NPT - Tip (Nipple)	FFE491-4	FD89-1002-08-08	3FFI12-12 NPT M
1/2	3/4	3/4" F NPT - Body (Coupler)	FFE495-4-3/4	FD89-1001-12-08	2FFI12-34 NPT F
1/2	3/4	3/4" F NPT - Tip (Nipple)	FFE491-4-3/4	FD89-1002-12-08	3FFI12-34 NPT M
1/2	3/4	7/8"-14 F ORB (Coupler)	FFE495-4-10	FD89-1005-10-08	—
1/2	3/4	7/8"-14 F ORB (Nipple)	FFE491-4-10	FD89-1004-10-08	—
1/2	3/4	1-1/16"-12 F ORB - Body (Coupler)	FFE495-4-12	—	2FFI12-34SAE F
1/2	3/4	1-1/16"-12 F ORB - Tip (Nipple)	FFE491-4-12	—	3FFI12-34SAE M
3/4	1	3/4" F NPT - Body (Coupler)	FFE495-6	FD89-1001-12-12	2FFI34 NPT F
3/4	1	3/4" F NPT - Tip (Nipple)	FFE491-6	FD89-1002-12-12	3FFI34 NPT M
3/4	1	1" F NPT - Body (Coupler)	FFE495-6-1	FD89-1001-16-12	2FFI34-1NPT F
3/4	1	1" F NPT - Tip (Nipple)	FFE491-6-1	FD89-1002-16-12	3FFI34-1NPT M
3/4	1	1-5/16"-12 F ORB - Body (Coupler)	FFE495-6-16	—	2FFI34-1SAE F
3/4	1	1-5/16"-12 F ORB - Tip (Nipple)	FFE491-6-16	—	3FFI34-1SAE M
1	1-1/4	1" F NPT - Body (Coupler)	FFE495-8	FD89-1001-20-20	2FFI1 NPT F
1	1-1/4	1" F NPT - Tip (Nipple)	FFE491-8	FD89-1002-20-20	3FFI1 NPT M
1	1-1/4	1-1/4" F NPT - Body (Coupler)	FFE495-8-114	—	—
1	1-1/4	1-1/4" F NPT - Tip (Nipple)	FFE491-8-114	—	—
1	1-1/4	1-5/8"-12 F ORB - Body (Coupler)	FFE495-8-20	—	—
1	1-1/4	1-5/8"-12 F ORB - Tip (Nipple)	FFE491-8-20	—	—

ISO Body Size (Inches)	Nominal Body Size (Inches)	Thread Size and Description	SafeWay Part Number	Holmbury Part Number	Parker Part Number
1/4	1/4	1/4" F NPT - Body (Coupler)	FFE495-2	FIRG14-NPT-1/4-F	FEM-251-4FP-NL
1/4	1/4	1/4" F NPT - Tip (Nipple)	FFE491-2	FIRG14-NPT-1/4-M	FEM-252-4FP
3/8	3/8	3/8" F NPT - Body (Coupler)	FFE495-3	FIRG38-NPT-3/8-F	FEM-371-6FP-NL
3/8	3/8	3/8" F NPT - Tip (Nipple)	FFE491-3	FIRG38-NPT-3/8-M	FEM-372-6FP
3/8	3/8	3/4"-16 F ORB - Body (Coupler)	FFE495-3-8	FIRG38-SAE-1/2-F	FEM-371-8FO-NL
3/8	3/8	3/4"-16 F ORB - Tip (Nipple)	FFE491-3-8	FIRG38-SAE-1/2-M	FEM-372-8FO
1/2	3/4	1/2" F NPT - Body (Coupler)	FFE495-4	FIRG34-NPT-1/2-F	FEM-501-8FP-NL
1/2	3/4	1/2" F NPT - Tip (Nipple)	FFE491-4	FIRG34-NPT-1/2-M	FEM-502-8FP
1/2	3/4	3/4" F NPT - Body (Coupler)	FFE495-4-3/4	FIRG34-NPT-3/4-F	—
1/2	3/4	3/4" F NPT - Tip (Nipple)	FFE491-4-3/4	FIRG34-NPT-3/4-M	—
1/2	3/4	7/8"-14 F ORB (Coupler)	FFE495-4-10	—	FEM-501-10FO-NL
1/2	3/4	7/8"-14 F ORB (Nipple)	FFE491-4-10	—	FEM-502-10FO
1/2	3/4	1-1/16"-12 F ORB - Body (Coupler)	FFE495-4-12	FIRG34-SAE-3/4-F	FEM-501-12FO-NL
1/2	3/4	1-1/16"-12 F ORB - Tip (Nipple)	FFE491-4-12	FIRG34-SAE-3/4-M	FEM-502-12FO
3/4	1	3/4" F NPT - Body (Coupler)	FFE495-6	FIRG100-NPT-3/4-F	FEM-751-12FP-NL
3/4	1	3/4" F NPT - Tip (Nipple)	FFE491-6	FIRG100-NPT-3/4-M	FEM-752-12FP
3/4	1	1" F NPT - Body (Coupler)	FFE495-6-1	FIRG100-NPT-1-F	—
3/4	1	1" F NPT - Tip (Nipple)	FFE491-6-1	FIRG100-NPT-1-M	—
3/4	1	1-5/16"-12 F ORB - Body (Coupler)	FFE495-6-16	FIRG100-SAE-1-F	—
3/4	1	1-5/16"-12 F ORB - Tip (Nipple)	FFE491-6-16	FIRG100-SAE-1-M	—
1	1-1/4	1" F NPT - Body (Coupler)	FFE495-8	FIRG114-NPT-1-F	FEM-1001-16FP-NL
1	1-1/4	1" F NPT - Tip (Nipple)	FFE491-8	FIRG114-NPT-1-M	FEM-1002-16FP
1	1-1/4	1-1/4" F NPT - Body (Coupler)	FFE495-8-114	FIRG114-NPT-1-1/4-F	—
1	1-1/4	1-1/4" F NPT - Tip (Nipple)	FFE491-8-114	FIRG114-NPT-1-1/4-M	—
1	1-1/4	1-5/8"-12 F ORB - Body (Coupler)	FFE495-8-20	FIRG114-SAE-1-1/4-F	—
1	1-1/4	1-5/8"-12 F ORB - Tip (Nipple)	FFE491-8-20	FIRG114-SAE-1-1/4-M	—